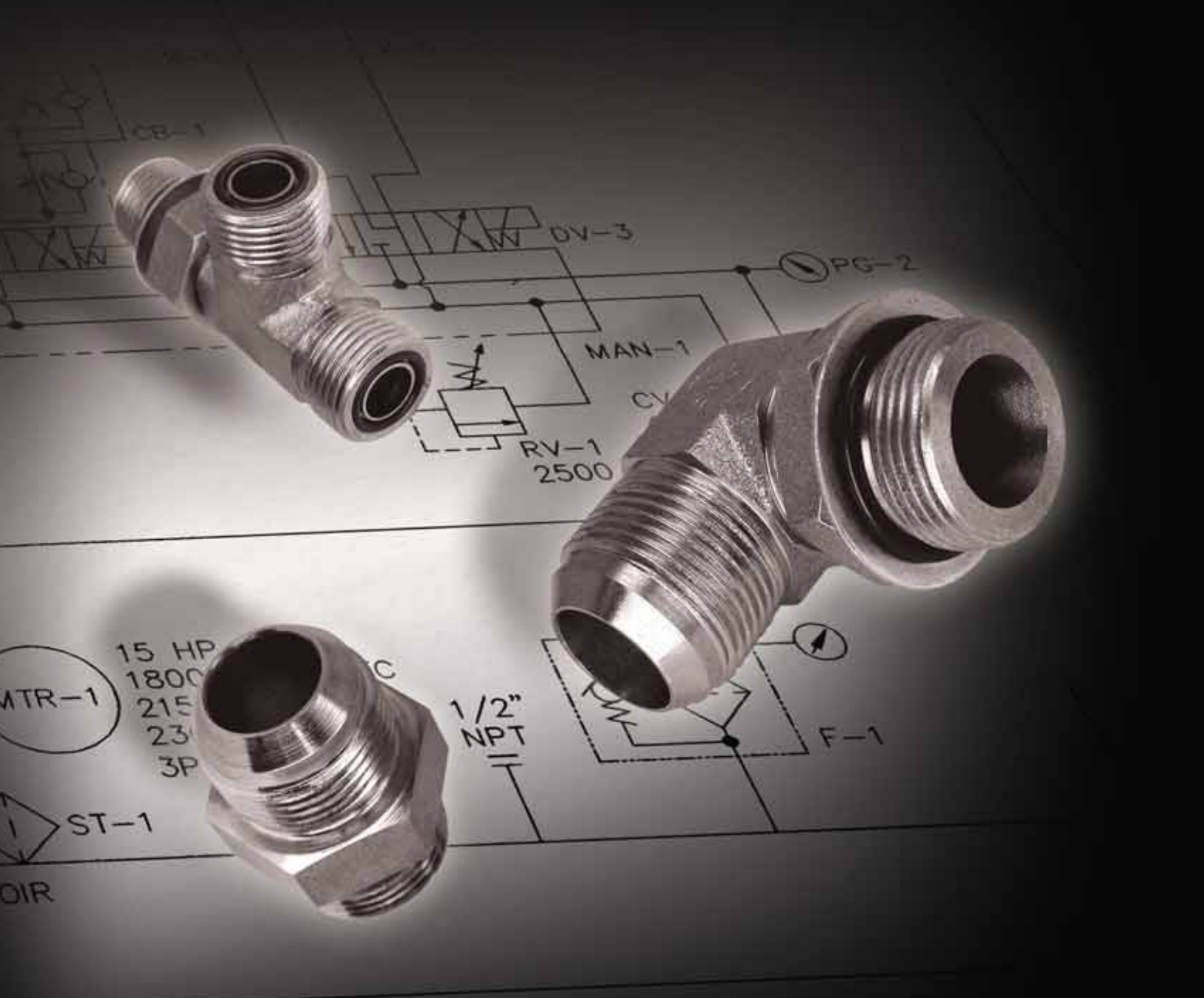




Fluid Power Connectors



Your Fluid Power Headquarters



Fluid Power Connectors

Our Commitment

Need Stainless Steel or Brass Adapters?

Many of the Hydraulic Headquarters' products listed are also available in stainless steel or brass. Use the part number for the steel part followed by a "-SS" for stainless steel or "-B" for brass.

Need a Special Fitting?

Hydraulic Headquarters is very competitive on special adapters. We can design fittings to meet your needs.

We Stand Behind Our Product!

We have a standard one-year warranty on all of our products. We take great pride in the quality of our parts.

Same Day Shipping?

Hydraulic Headquarters guarantees same day shipping on all orders received before 4:00 p.m. CST for all our stock products.

IOS 9001:2000 Certified!

Hydraulic Headquarters is an ISO 9001:2000 certified company. Our ISO 9001:2000 quality system ensures quality parts and consistent on-time deliveries. We make sure this is reflected in the business we do with our customers.



Get Connected

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Notes

Glossary of Terms

BHS: *Beaded Hose Stem*

BKHD: *Bulkhead*

BSP: *British Standard Pipe*

BSPP: *BSP Parallel*

BW: *Butt Weld*

C: *(before number) Flareless Bite Type*

C: *(after number) Cap*

F: *(before number) Flare O-Ring*

F: *(after number) Flareless*

FB: *Female Boss*

FBSPP: *Female BSP Parallel*

FBSPPX: *Female BSP Parallel Swivel*

FBSPT: *Female BSP Tapered*

FF: *Flat Face*

FFOR: *Female Flat Face O-Ring*

FFORX: *Female Flat Face O-Ring Swivel*

FIF: *Female Inverted Flare*

FJ: *Female JIC*

FJIS: *Female JIS*

FJX: *Female JIC Swivel*

FK: *Female Komatsu*

FL: *Flange, Code 61*

FLH: *Flange, Code 62*

FLS: *Flareless*

FLSBKHD: *Flareless Bulkhead*

FLSX: *Flareless Swivel*

FMX: *Female Metric Swivel*

FO: *Flare O-Ring*

FOBKHD: *Flare O-Ring Bulkhead*

FPX: *Female Pipe Swivel*

FSAEX: *Female SAE Swivel, 45°*

H: *Hollow Hex O-Ring Plug*

HHP: *Hollow Hex Plug*

HP: *High Pressure*

HSP: *Hex Socket Plug*

JIC: *Joint Industrial Council, 37° Flare*

JIS: *Japanese Industrial Standard, 30° Flare*

LH: *Large Hex*

L: *Light (7005-04-L08-14)*

L: *Long (6801-L-06-06-NWO)*

LL: *Extra Long*

LLL: *Extra Extra Long*

LN: *Locknut*

MB: *Male Boss*

Glossary of Terms

MBSPP: *Male BSP Parallel*

MBSPPADJ: *Male BSP Parallel Adjustable*

MBSPT: *Male BSP Tapered*

MFFOR: *Male Flat Face O-Ring*

MIFX: *Male Inverted Flare Swivel*

MJ: *Male JIC*

MJBKHD: *Male JIC Bulkhead*

MJIS: *Male JIS*

MK: *Male Komatsu*

MM: *Male Metric*

MM: *Millimeters*

MMADJ: *Male Metric Adjustable*

MP: *Male Pipe*

MPX: *Male Pipe Swivel*

N: *Locknut for NWO assembly (0306-N-04)*

N: *Extended Length (5404-N-04x2.000)*

NWO: *Nut Washer O-Ring*

NPTF: *National Pipe Taper Fuel*

O: *O-Ring*

OD: *Outside Diameter*

ORB: *O-Ring Boss*

ORFS: *O-Ring Face Seal*

P: *Plug*

PO: *Push-On*

S: *Stem*

S: *Heavy (7007-04-S06-14)*

SAE: *Society of Automotive Engineering*

SF: *Split Flange*

SHP: *Square Head Plug*

SSP: *Square Socket Plug*


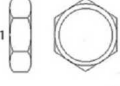



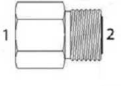





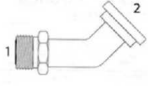
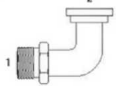


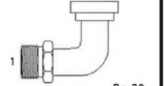
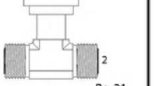
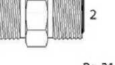
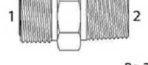
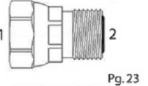


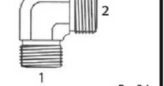
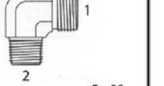
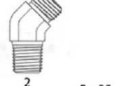
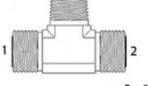
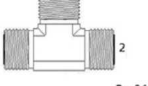
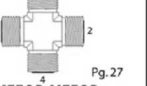



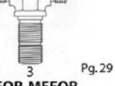
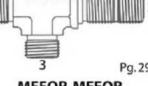
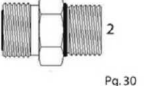
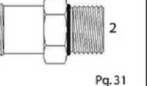

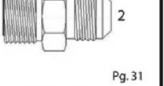


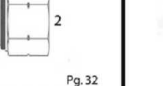
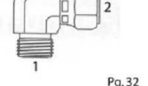
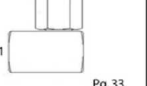
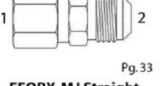
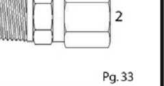
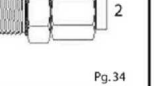
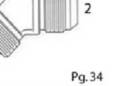
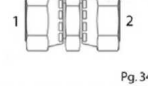
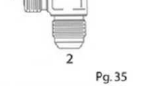
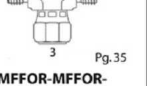
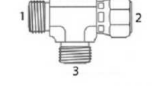
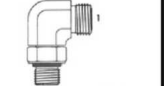



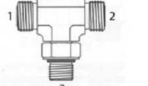
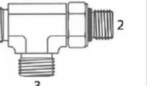
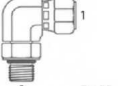






STN: *Short Tube Nut*

T: *Tube*



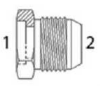
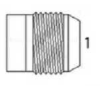
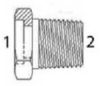
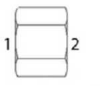
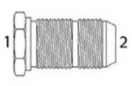


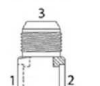
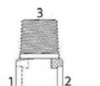
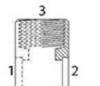
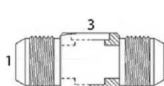
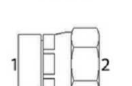
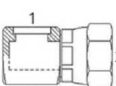
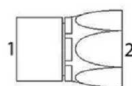
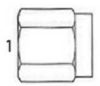

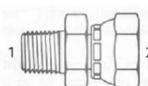
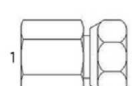
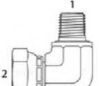

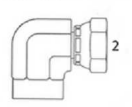
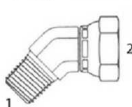
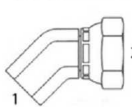
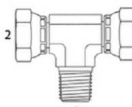
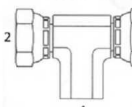
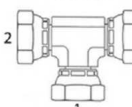
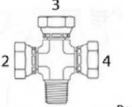
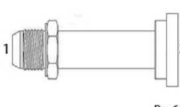
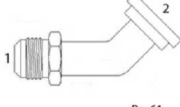
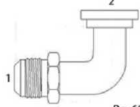
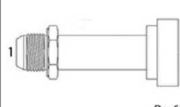
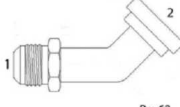
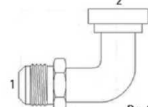
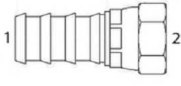
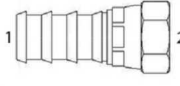
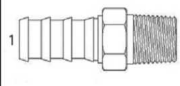
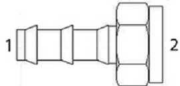
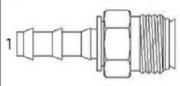
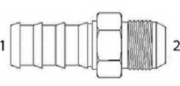
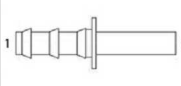
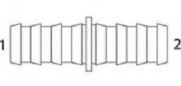
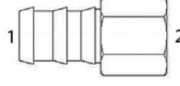
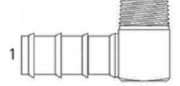
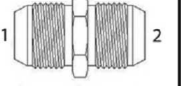
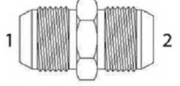
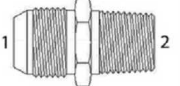
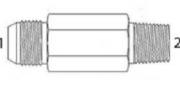
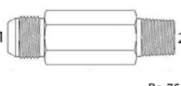
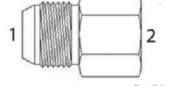
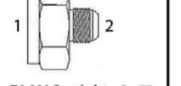
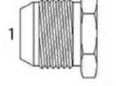
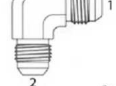
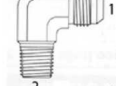
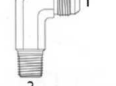


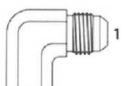



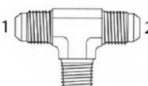
TN: *Tube Nut*

TS: *Tube Spud*

Visual Identification Chart

<p>FF0304-C (520112)</p>  <p>Pg. 15 FFOR-Cap</p>	<p>FF0306 (520118)</p>  <p>Pg. 15 FFOR-Bulkhead Lock Nut</p>	<p>FF0306-N</p>  <p>Pg. 15 FFOR-Backup Lock Nut</p>	<p>FF0318 (520110)</p>  <p>Pg. 16 FFOR-Nut</p>	<p>FF0319 (520115)</p>  <p>Pg. 16 FFOR-Sleeve</p>	<p>FF0403 (520104)</p>  <p>Pg. 17 Bore-MFFOR Straight</p>	<p>FF0403-TS</p>  <p>Pg. 17 MFFOR-Tube Spud</p>
<p>FF0418</p>  <p>Pg. 18 FFOR-Flareless Nut</p>	<p>FF0419</p>  <p>Pg. 18 FFOR-Flareless Sleeve</p>	<p>FF0719</p>  <p>Pg. 18 FFOR-Flareless Ferrule</p>	<p>FF1700</p>  <p>Pg. 19 MFFOR-FL Straight Code 61</p>	<p>FF1703</p>  <p>Pg. 19 MFFOR-FL 45° Code 61</p>	<p>FF1704</p>  <p>Pg. 19 MFFOR-FL 90° Code 61</p>	<p>FF1800</p>  <p>Pg. 20 MFFOR-FLH Straight Code 62</p>
<p>FF1803</p>  <p>Pg. 20 MFFOR-FLH 45° Code 62</p>	<p>FF1804</p>  <p>Pg. 20 MFFOR-FLH 90° Code 62</p>	<p>FF1805</p>  <p>Pg. 21 MFFOR-MFFOR-FLH</p>	<p>FF2403 (520101)</p>  <p>Pg. 21 MFFOR-MFFOR Straight</p>	<p>FF2404 (520102)</p>  <p>Pg. 22 MFFOR-MP Straight</p>	<p>FF2406</p>  <p>Pg. 23 FFOR-MFFOR Tube End Reducer</p>	<p>FF2407 (520123)</p>  <p>Pg. 23 FFOR-MFFOR Insert Reducer</p>
<p>FF2408 (520109)</p>  <p>Pg. 24 MFFOR-Plug</p>	<p>FF2500 (520201)</p>  <p>Pg. 24 MFFOR-MFFOR 90°</p>	<p>FF2501 (520202)</p>  <p>Pg. 25 MFFOR-MP 90°</p>	<p>FF2503 (520302)</p>  <p>Pg. 25 MFFOR-MP 45°</p>	<p>FF2601 (520425)</p>  <p>Pg. 26 MFFOR-MFFOR-MP Tee</p>	<p>FF2603 (520425)</p>  <p>Pg. 26 MFFOR-MFFOR-MFFOR Tee</p>	<p>FF2650 (520501)</p>  <p>Pg. 27 MFFOR-MFFOR-MFFOR Cross</p>
<p>FF2700 (520601)</p>  <p>Pg. 27 MFFOR-MFFOR Bulkhead Union</p>	<p>FF2701 (520701)</p>  <p>Pg. 28 MFFOR-MFFOR Bulkhead 90°</p>	<p>FF2702 (520801)</p>  <p>Pg. 28 MFFOR-MFFOR Bulkhead 45°</p>	<p>FF2703</p>  <p>Pg. 29 MFFOR-MFFOR-MFFOR Bulkhead Tee</p>	<p>FF2704 (520958)</p>  <p>Pg. 29 MFFOR-MFFOR-MFFOR Bulkhead Run Tee</p>	<p>FF6400-O (520120)</p>  <p>Pg. 30 MFFOR-MB Straight</p>	<p>FF6400-L-O (520120)</p>  <p>Pg. 31 MFFOR-MB Straight Long</p>
<p>FF6402</p>  <p>Pg. 31 MFFOR-FJX Straight</p>	<p>FF6403</p>  <p>Pg. 31 MFFOR-MJ Straight</p>	<p>FF6408</p>  <p>Pg. 32 MB External Hex Plug High Pressure</p>	<p>FF6409</p>  <p>Pg. 32 MB Hollow Hex Plug High Pressure</p>	<p>FF6410</p>  <p>Pg. 32 MB-FB High Pressure</p>	<p>FF6500 (520221)</p>  <p>Pg. 32 MFFOR-FFORX 90°</p>	<p>FF6503</p>  <p>Pg. 33 FP-FFORX 90°</p>
<p>FF6504 (520801)</p>  <p>Pg. 33 FFORX-MJ Straight</p>	<p>FF6505</p>  <p>Pg. 33 MP-FFORX Straight</p>	<p>FF6540</p>  <p>Pg. 34 MB-FFORX Straight</p>	<p>FF6545</p>  <p>Pg. 34 MFFOR-MJ 45°</p>	<p>FF6565</p>  <p>Pg. 34 FFORX-FFORX Straight</p>	<p>FF6590</p>  <p>Pg. 35 MFFOR-MJ 90°</p>	<p>FF6600 (520433)</p>  <p>Pg. 35 MFFOR-MFFOR-FFORX Branch Tee</p>
<p>FF6602 (520432)</p>  <p>Pg. 35 MFFOR-FFORX-MFFOR Tee</p>	<p>FF6801-NWO (520220)</p>  <p>Pg. 36 MFFOR-MB 90°</p>	<p>FF6801-L-NWO</p>  <p>Pg. 36 MFFOR-MB 90° Long</p>	<p>FF6801-LL-NWO</p>  <p>Pg. 37 MFFOR-MB 90° X-Long</p>	<p>FF6802-NWO (520320)</p>  <p>Pg. 37 MFFOR-MB 45°</p>	<p>FF6803-NWO (520429)</p>  <p>Pg. 38 MFFOR-MFFOR-MB Tee</p>	<p>FF6804-NWO (520428)</p>  <p>Pg. 38 MFFOR-MB-MFFOR Tee</p>
<p>FF6809-NWO (520281)</p>  <p>Pg. 39 FFORX-MB 90°</p>	<p>FF7202-NWO</p>  <p>Pg. 39 MFFOR-MBSPP 90°</p>	<p>0302</p>  <p>Pg. 40 Short Tube Nut</p>	<p>0304 (070111)</p>  <p>Pg. 40 Tube Nut</p>	<p>0304-C (070111)</p>  <p>Pg. 41 FJ-Cap Nut</p>	<p>0306 (070118)</p>  <p>Pg. 41 Bulkhead Locknut</p>	<p>0306-N (070117)</p>  <p>Pg. 42 Backup Locknut</p>

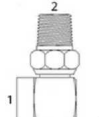
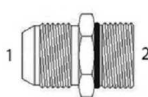
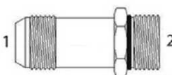
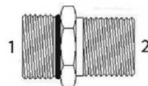
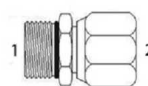
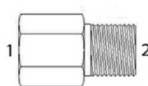
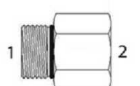

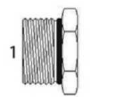


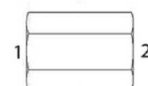
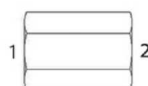
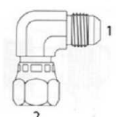
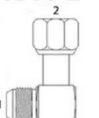
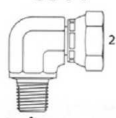
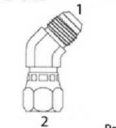
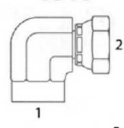
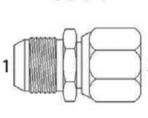
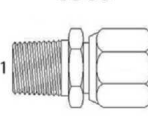
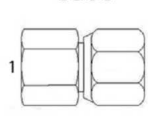
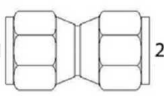
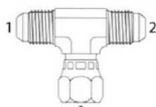
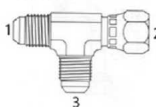
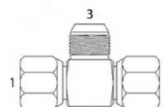
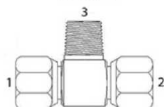
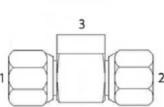
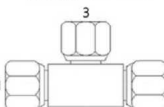
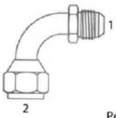
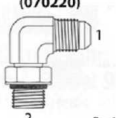
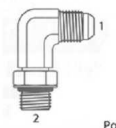
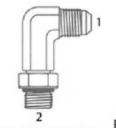
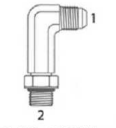

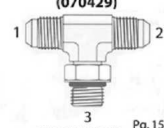
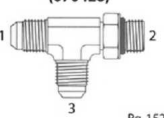
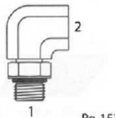
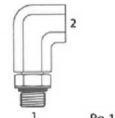
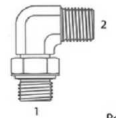
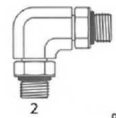
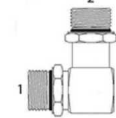
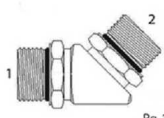
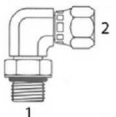
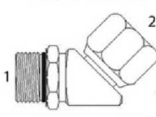
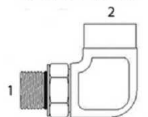
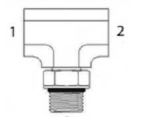
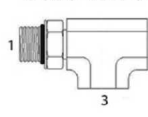
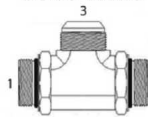
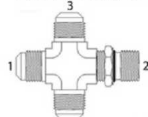
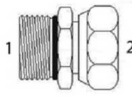
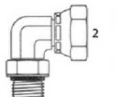
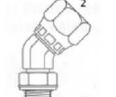
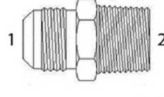
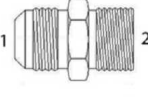
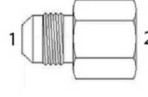
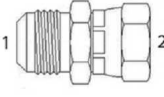
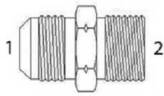
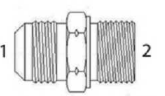
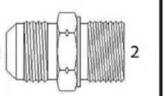
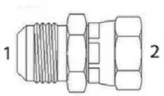
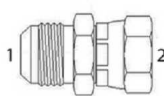
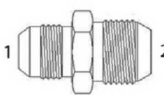
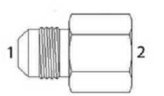
Visual Identification Chart

<p>0318 (070110)</p>  <p>Pg.42 FJ-Tube Sleeve Nut</p>	<p>0319 (070115)</p>  <p>Pg.43 FJ-Tube Sleeve</p>	<p>0403</p>  <p>Pg.44 Bore-MJ Straight</p>	<p>0403-TS</p>  <p>Pg.45 MJ Tube Spud</p>	<p>0404</p>  <p>Pg.45 Bore-MP Straight</p>	<p>0405</p>  <p>Pg.46 Bore-FP Straight</p>	<p>0406</p>  <p>Pg.46 Bore-MJ Bulkhead Straight</p>
<p>0500</p>  <p>Pg.47 Bore-MJ 90°</p>	<p>0501</p>  <p>Pg.47 Bore-MP 90°</p>	<p>0600</p>  <p>Pg.47 Bore-Bore MJ Tee</p>	<p>0601</p>  <p>Pg.48 Bore-Bore MP Tee</p>	<p>0602</p>  <p>Pg.48 Bore-Bore FP Tee</p>	<p>0702</p>  <p>Pg.48 Bore-MJ-MJ Tee</p>	<p>0800</p>  <p>Pg.49 Bore-FPX Straight</p>
<p>0801</p>  <p>Pg.49 Bore-FPX 90°</p>	<p>0900</p>  <p>Pg.49 Bore-MP Straight</p>	<p>0418</p>  <p>Pg.51 FJ-Flareless Tube Sleeve Nut</p>	<p>0419</p>  <p>Pg.51 FJ-Flareless Tube Sleeve</p>	<p>1404 (140130)</p>  <p>Pg.53 MP-FPX Straight</p>	<p>1405 (140131)</p>  <p>Pg.54 FP-FPX Straight</p>	<p>1501 (140230)</p>  <p>Pg.55 MP-FPX 90°</p>
<p>1501-L</p>  <p>Pg.55 MP-FPX 90° Long</p>	<p>1502 (140231)</p>  <p>Pg.56 FP-FPX 90°</p>	<p>1503 (140330)</p>  <p>Pg.57 MP-FPX 45°</p>	<p>1504 (140331)</p>  <p>Pg.58 FP-FPX 45°</p>	<p>1601</p>  <p>Pg.58 MP-MP-FPX Tee</p>	<p>1602</p>  <p>Pg.59 FP-FPX-FPX Tee</p>	<p>1603</p>  <p>Pg.59 FPX-FPX-FPX Tee</p>
<p>1604</p>  <p>Pg.59 MP-FPX-FPX-FPX Tee</p>	<p>1700</p>  <p>Pg.61 MJ-FL Straight Code 61</p>	<p>1703</p>  <p>Pg.61 MJ-FL 45° Code 61</p>	<p>1704</p>  <p>Pg.62 MJ-FL 90° Code 61</p>	<p>1800</p>  <p>Pg.62 MJ-FLH Straight Code 62</p>	<p>1803</p>  <p>Pg.63 MJ-FLH 45° Code 62</p>	<p>1804</p>  <p>Pg.63 MJ-FLH 90° Code 62</p>
<p>2111</p>  <p>Pg.65 PO-FJX Straight</p>	<p>2112</p>  <p>Pg.65 PO-FSAEX Straight</p>	<p>2113</p>  <p>Pg.66 PO-MP Straight</p>	<p>2114</p>  <p>Pg.66 PO-FIF Straight</p>	<p>2115</p>  <p>Pg.67 PO-MIFX Straight</p>	<p>2116</p>  <p>Pg.67 PO-SAE Straight</p>	<p>2117</p>  <p>Pg.67 PO-Stem Straight</p>
<p>2118</p>  <p>Pg.68 PO-PO Straight</p>	<p>2119</p>  <p>Pg.68 PO-FP Straight</p>	<p>2120</p>  <p>Pg.68 PO-MP 90°</p>	<p>2403 (070101)</p>  <p>Pg.71 MJ-MJ Straight</p>	<p>2403-LH (070101)</p>  <p>Pg.72 MJ-MJ Straight Large Hex</p>	<p>2404 (070102)</p>  <p>Pg.73 MJ-MP Straight</p>	<p>2404-L</p>  <p>Pg.74 MJ-MP Straight Long</p>
<p>2404-LL</p>  <p>Pg.75 MJ-MP Straight X-Long</p>	<p>2405 (070103)</p>  <p>Pg.76 MJ-FP Straight</p>	<p>2406 (070123)</p>  <p>Pg.77 FJ-MJ Straight Reducer/Expander</p>	<p>2408 (070109)</p>  <p>Pg.78 MJ Plug</p>	<p>2500 (070201)</p>  <p>Pg.79 MJ-MJ 90°</p>	<p>2501 (070202)</p>  <p>Pg.80 MJ-MP 90°</p>	<p>2501-L (070101)</p>  <p>Pg.81 MJ-MP 90° Long</p>
<p>2501-LL (070602)</p>  <p>Pg.82 MJ-MP 90° X-Long</p>	<p>2501-LLL</p>  <p>Pg.82 MJ-MP 90° XX-Long</p>	<p>2502 (070203)</p>  <p>Pg.83 MJ-FP 90°</p>	<p>2503 (070302)</p>  <p>Pg.84 MJ-MP 45°</p>	<p>2504</p>  <p>Pg.85 MJ-MJ 45°</p>	<p>2505</p>  <p>Pg.85 MJ-FP 45°</p>	<p>2601 (070425)</p>  <p>Pg.86 MJ-MJ-MP Tee</p>

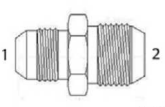
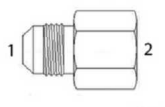
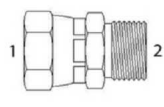
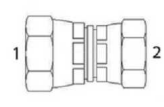
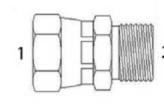
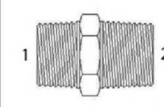
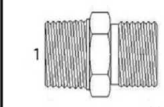
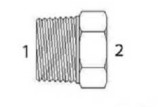
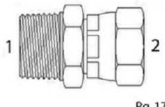
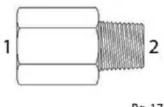
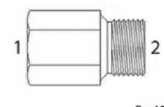
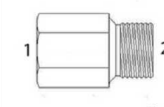
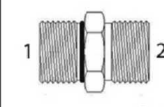
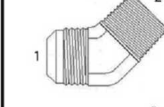
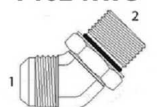
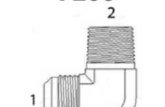
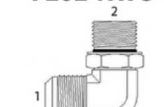
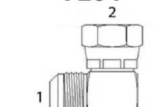
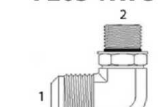
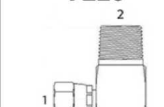
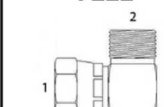
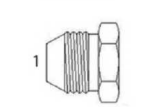
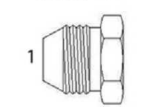
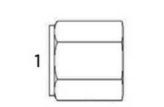
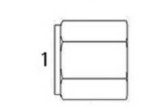
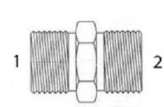
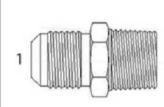
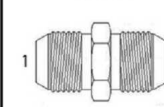
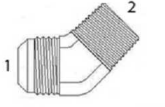
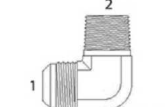
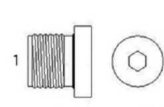
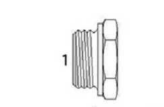
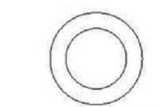
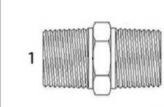
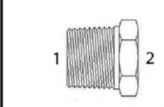
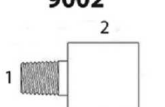
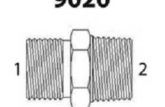
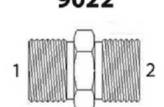
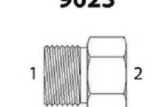
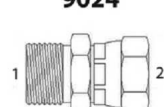
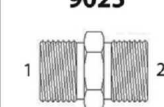
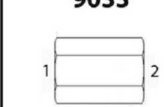
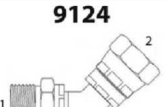

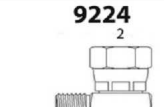
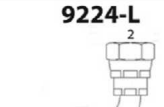
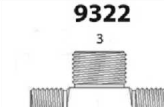
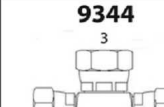
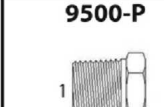
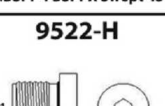
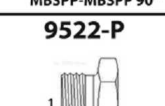
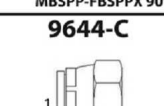

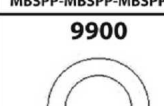
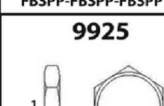
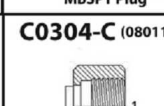







Visual Identification Chart

<p>2602 (070427)</p> <p>MJ-MJ-FP Tee Pg.87</p>	<p>2603 (070401)</p> <p>MJ-MJ-MJ Tee Pg.88</p>	<p>2605 (070424)</p> <p>MJ-MP-MJ Tee Pg.89</p>	<p>2606 (070426)</p> <p>MJ-FP-MJ Tee Pg.90</p>	<p>2607</p> <p>MJ-MP-MP Tee Pg.90</p>	<p>2608</p> <p>MJ-FP-MP Tee Pg.91</p>	<p>2609</p> <p>MJ-FP-FP Tee Pg.91</p>
<p>2610</p> <p>MP-MP-MJ Tee Pg.91</p>	<p>2611</p> <p>MJ-MP-FP Tee Pg.92</p>	<p>2612</p> <p>FP-FP-MJ Tee Pg.92</p>	<p>2613</p> <p>MP-FP-MJ Tee Pg.92</p>	<p>2650 (070501)</p> <p>MJ-MJ-MJ-MJ Cross Pg.93</p>	<p>2651</p> <p>MJ-MP-MJ-MJ Cross Pg.93</p>	<p>2652</p> <p>MJ-MP-MJ-MJ Cross Pg.93</p>
<p>2653</p> <p>MJ-MJ-MP-MP Cross Pg.94</p>	<p>2654</p> <p>MJ-MP-MJ-MP Cross Pg.94</p>	<p>2700 (070601)</p> <p>MJ-MJ Bulkhead Straight Pg.96</p>	<p>2701 (070701)</p> <p>MJ-MJ Bulkhead 90° Pg.96</p>	<p>2702 (070801)</p> <p>MJ-MJ Bulkhead 45° Pg.97</p>	<p>2703 (070959)</p> <p>MJ-MJ-MJ Bulkhead Tee Pg.97</p>	<p>2704 (070958)</p> <p>MJ-MJ-MJ Bulkhead Run Tee Pg.98</p>
<p>2705</p> <p>FP-MJ Bulkhead Straight Pg.98</p>	<p>2706</p> <p>MP-MJ Bulkhead Straight Pg.99</p>	<p>4404 (140160)</p> <p>BHS-MP Straight Pg.101</p>	<p>4501 (140260)</p> <p>BHS-MP 90° Pg.102</p>	<p>4503 (140360)</p> <p>BHS-MP 45° Pg.103</p>	<p>4504</p> <p>BHS-BHS-BHS Tee Pg.103</p>	<p>4505</p> <p>BHS-MP-BHS Tee Pg.104</p>
<p>4506</p> <p>BHS-BHS-MP Tee Pg.104</p>	<p>4601-NWO (090292)</p> <p>BHS-MB 90° Pg.105</p>	<p>4603-NWO (090392)</p> <p>BHS-MB 45° Pg.106</p>	<p>4604-O (090192)</p> <p>BHS-MB Straight Pg.107</p>	<p>5000 (140138)</p> <p>FP-FP Straight Pg.110</p>	<p>5304</p> <p>MP-BW Weld-on Fitting 304SS Pg.110</p>	<p>5316</p> <p>MP-BW Weld-on Fitting 316SS Pg.111</p>
<p>5404 (140137)</p> <p>MP-MP Hex Nipple Pg.111</p>	<p>5404-N</p> <p>MP-MP Straight Nipple Long Pg.112</p>	<p>5405 (140139)</p> <p>MP-FP Straight Expander Pg.114</p>	<p>5406 (140140)</p> <p>MP-FP Reducer Bushing Pg.115</p>	<p>5406-C</p> <p>FP Cap Pg.116</p>	<p>5406-HHP (130109)</p> <p>MP Hollow Hex Plug Pg.116</p>	<p>5406-P (130109E)</p> <p>MP-External Hex Pipe Plug Pg.116</p>
<p>5406-SHP (130109A)</p> <p>MP-Square Head Pipe Plug Pg.117</p>	<p>5408-SSP</p> <p>MP-Square Socket Pipe Plug Pg.117</p>	<p>5409-HSP</p> <p>MP-Hex Socket Pipe Plug Pg.117</p>	<p>5500 (140237)</p> <p>MP-MP 90° Elbow Pg.118</p>	<p>5501 (140237)</p> <p>MP-MP 45° Elbow Pg.118</p>	<p>5502 (140239)</p> <p>MP-FP 90° Street Elbow Pg.119</p>	<p>5503 (140339)</p> <p>MP-FP 45° Street Elbow Pg.119</p>
<p>5504 (140238)</p> <p>FP-FP 90° Elbow Pg.120</p>	<p>5505 (140338)</p> <p>FP-FP 45° Elbow Pg.120</p>	<p>5600 (140437)</p> <p>MP-MP-MP Tee Pg.121</p>	<p>5601 (140427)</p> <p>MP-MP-FP Tee Pg.121</p>	<p>5602 (140424)</p> <p>MP-FP-FP Street Tee Pg.121</p>	<p>5603 (140426)</p> <p>MP-FP-MP Run Tee Pg.122</p>	<p>5604 (140425)</p> <p>FP-FP-MP Tee Pg.122</p>
<p>5605 (140438)</p> <p>FP-FP-FP Tee Pg.123</p>	<p>5650 (140537)</p> <p>MP-MP-MP-MP Cross Pg.123</p>	<p>5652 (140538)</p> <p>FP-FP-FP-FP Cross Pg.123</p>	<p>5653</p> <p>MP-MP-FP-FP Cross Pg.124</p>	<p>5655</p> <p>MP-FP-FP-FP Cross Pg.124</p>	<p>5700</p> <p>MP-MPX 90° Elbow Pg.124</p>	<p>5701</p> <p>MJ-MPX 90° Elbow Pg.125</p>

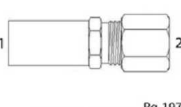
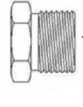
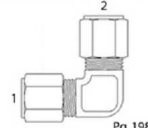
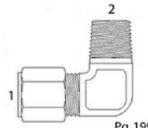
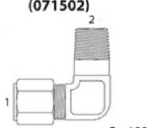
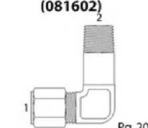
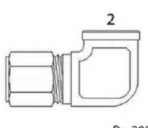
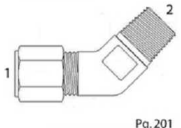
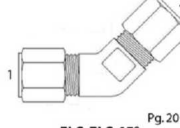
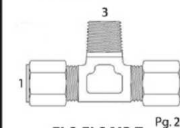
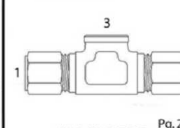
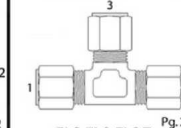
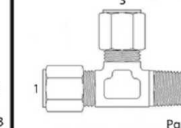
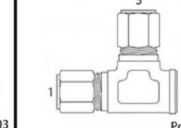
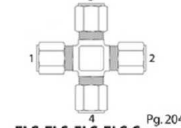
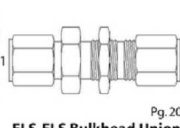



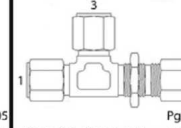
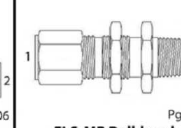
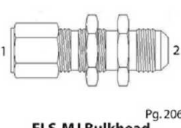
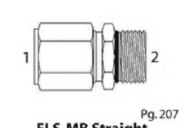
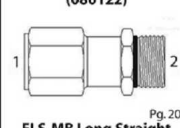

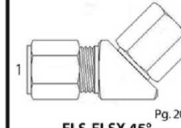
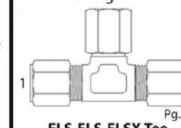
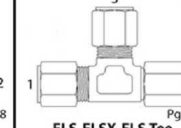
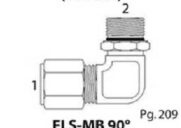
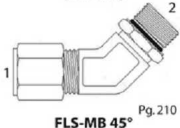
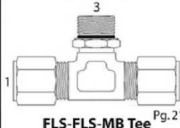
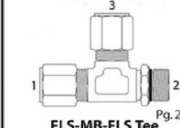
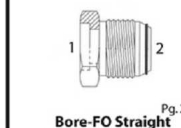

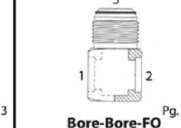
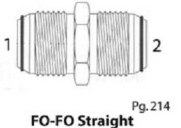
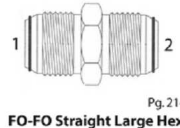
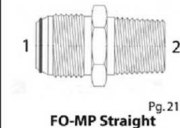
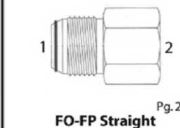

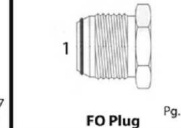


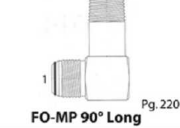
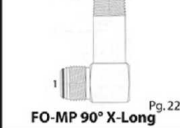

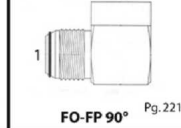
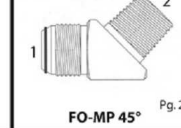
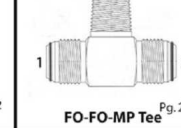
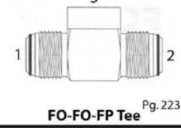
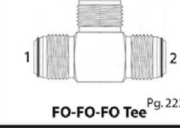
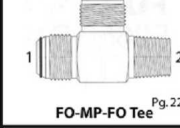
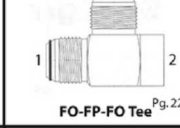
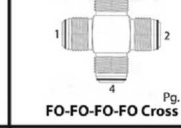
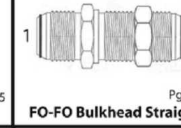
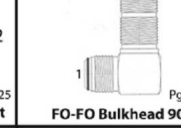



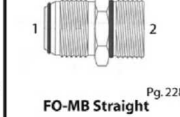
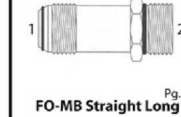

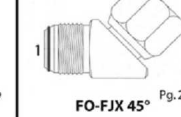
Visual Identification Chart

<p>5702</p>  <p>Pg. 125</p> <p>FP-MPX 90° Elbow</p>	<p>6400-O (070120)</p>  <p>Pg. 127</p> <p>MJ-MB Straight</p>	<p>6400-L-O (070122)</p>  <p>Pg. 128</p> <p>MJ-MB Straight Long</p>	<p>6401-O</p>  <p>Pg. 129</p> <p>MB-MP Straight</p>	<p>6402-O (140230)</p>  <p>Pg. 130</p> <p>MB-FJX Straight</p>	<p>6404</p>  <p>Pg. 131</p> <p>FB-MP Straight</p>	<p>6405-O</p>  <p>Pg. 132</p> <p>MB-FP Straight</p>
<p>6407-NWO</p>  <p>Pg. 133</p> <p>MB-MB Straight</p>	<p>6408-O (090109A)</p>  <p>Pg. 134</p> <p>MB-External Hex Plug</p>	<p>6409-O (090109B)</p>  <p>Pg. 134</p> <p>MB-Hollow Hex Plug</p>	<p>6410-O</p>  <p>Pg. 135</p> <p>MB-FB Straight Reducer/Expander</p>	<p>6420</p>  <p>Pg. 136</p> <p>FB-FP Straight</p>	<p>6425</p>  <p>Pg. 136</p> <p>FB-FB Straight</p>	<p>6500 (070221)</p>  <p>Pg. 138</p> <p>MJ-FJX 90°</p>
<p>6500-L</p>  <p>Pg. 138</p> <p>MJ-FJX 90° Long</p>	<p>6501</p>  <p>Pg. 139</p> <p>MP-FJX 90°</p>	<p>6502 (070321)</p>  <p>Pg. 139</p> <p>MP-FJX 45°</p>	<p>6503</p>  <p>Pg. 140</p> <p>FP-FJX 90°</p>	<p>6504</p>  <p>Pg. 140</p> <p>MJ-FJX Straight</p>	<p>6505</p>  <p>Pg. 141</p> <p>MP-FJX Straight</p>	<p>6506</p>  <p>Pg. 141</p> <p>FP-FJX Straight</p>
<p>6565</p>  <p>Pg. 142</p> <p>FJX-FJX Straight</p>	<p>6600 (070433)</p>  <p>Pg. 142</p> <p>MJ-MJ-FJX Tee</p>	<p>6602 (070432)</p>  <p>Pg. 143</p> <p>MJ-FJX-MJ Tee</p>	<p>6603</p>  <p>Pg. 143</p> <p>FJX-FJX-MJ Tee</p>	<p>6604</p>  <p>Pg. 144</p> <p>FJX-FJX-MP Tee</p>	<p>6605</p>  <p>Pg. 144</p> <p>FJX-FJX-FP Tee</p>	<p>6606 (070432)</p>  <p>Pg. 144</p> <p>FJX-FJX-FJX Tee</p>
<p>6701 (070432)</p>  <p>Pg. 145</p> <p>MJ-FJX Bent Tube 90°</p>	<p>6801-NWO (070220)</p>  <p>Pg. 147</p> <p>MJ-MB 90°</p>	<p>6801-L-NWO</p>  <p>Pg. 148</p> <p>MJ-MB 90° Long</p>	<p>6801-LL-NWO</p>  <p>Pg. 149</p> <p>MJ-MB 90° X-Long</p>	<p>6801-LLL-NWO</p>  <p>Pg. 149</p> <p>MJ-MB 90° XX-Long</p>	<p>6802-NWO (070320)</p>  <p>Pg. 150</p> <p>MJ-MB 45°</p>	<p>6803-NWO (070429)</p>  <p>Pg. 151</p> <p>MJ-MJ-MB Tee</p>
<p>6804-NWO (070428)</p>  <p>Pg. 152</p> <p>MJ-MB-MJ Tee</p>	<p>6805-NWO</p>  <p>Pg. 153</p> <p>MB-FP 90°</p>	<p>6805-L-NWO</p>  <p>Pg. 153</p> <p>MB-FP 90° Long</p>	<p>6806-NWO</p>  <p>Pg. 154</p> <p>MB-MP 90°</p>	<p>6807-NWO</p>  <p>Pg. 154</p> <p>MB-MB 90°</p>	<p>6807-LL-NWO</p>  <p>Pg. 155</p> <p>MB-MB 90° X-Long</p>	<p>6808-NWO</p>  <p>Pg. 155</p> <p>MB-MB 45°</p>
<p>6809-NWO</p>  <p>Pg. 155</p> <p>MB-FJX 90°</p>	<p>6810-NWO</p>  <p>Pg. 156</p> <p>MB-FJX 45°</p>	<p>6815-NWO</p>  <p>Pg. 156</p> <p>MB-FB 90°</p>	<p>6832-NWO</p>  <p>Pg. 156</p> <p>FB-FB-MB Tee</p>	<p>6835-NWO</p>  <p>Pg. 157</p> <p>MB-FB-FB Tee</p>	<p>6840-NWO</p>  <p>Pg. 157</p> <p>MB-MB-MJ Tee</p>	<p>6850-NWO</p>  <p>Pg. 157</p> <p>MJ-MJ-MB-MJ Cross</p>
<p>6900-O (140157)</p>  <p>Pg. 158</p> <p>MB-FJX Straight</p>	<p>6901-NWO (140251)</p>  <p>Pg. 159</p> <p>MB-FPX 90°</p>	<p>6902-NWO (140357)</p>  <p>Pg. 160</p> <p>MB-FPX 45°</p>	<p>7000</p>  <p>Pg. 162</p> <p>MJ-MBSPT</p>	<p>7002</p>  <p>Pg. 163</p> <p>MJ-MBSPP</p>	<p>7003</p>  <p>Pg. 164</p> <p>MJ-FBSPP</p>	<p>7004</p>  <p>Pg. 164</p> <p>MJ-FBSPPX</p>
<p>7005</p>  <p>Pg. 165</p> <p>MJ-MM Port Metric</p>	<p>7005-L</p>  <p>Pg. 165</p> <p>MJ-MM Light Metric</p>	<p>7005-S</p>  <p>Pg. 166</p> <p>MJ-MM Heavy Metric</p>	<p>7007-L</p>  <p>Pg. 166</p> <p>MJ-FMX Light Metric</p>	<p>7007-S</p>  <p>Pg. 167</p> <p>MJ-FMX Heavy Metric</p>	<p>7008</p>  <p>Pg. 167</p> <p>MJ-MJIS Union</p>	<p>7008-F</p>  <p>Pg. 167</p> <p>MJ-FJIS Union</p>

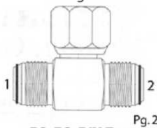
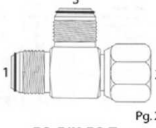

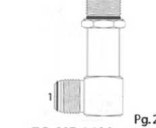
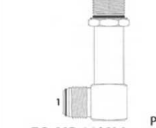
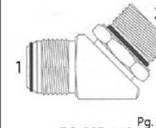
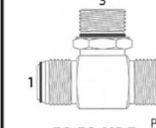
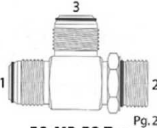
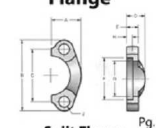
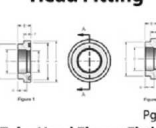
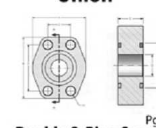
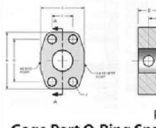
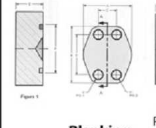
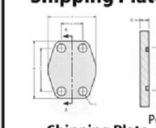
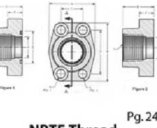
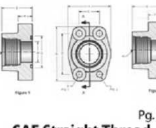
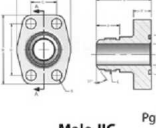
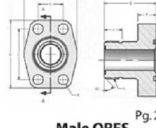
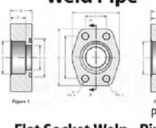
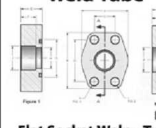
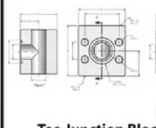
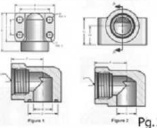
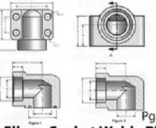
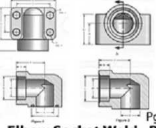
Visual Identification Chart

<p>7009</p>  <p>Komatsu MJ-MK Union Pg. 168</p>	<p>7009-F</p>  <p>Komatsu MJ-FK Union Pg. 168</p>	<p>7022</p>  <p>FJX-MBSPP Pg. 168</p>	<p>7023</p>  <p>FJX-FBSPP Pg. 169</p>	<p>7025</p>  <p>FJX-MM Metric Pg. 169</p>	<p>7030</p>  <p>MP-MBSPT Nipple Pg. 169</p>	<p>7032</p>  <p>MP-MBSPP Nipple Pg. 170</p>
<p>7033</p>  <p>MP-FBSPP Pg. 171</p>	<p>7034</p>  <p>MP-FBSPPX Pg. 171</p>	<p>7040</p>  <p>FP-MBSPT Pg. 171</p>	<p>7042</p>  <p>FP-MBSPP Pg. 172</p>	<p>7045</p>  <p>FP-MM Metric Pg. 173</p>	<p>7062</p>  <p>MB-MBSPP Pg. 174</p>	<p>7100</p>  <p>MJ-MBSPT 45° Pg. 174</p>
<p>7102-NWO</p>  <p>MJ-MBSPPADJ 45° Pg. 175</p>	<p>7200</p>  <p>MJ-MBSPT 90° Pg. 175</p>	<p>7202-NWO</p>  <p>MJ-MBSPPADJ 90° Pg. 176</p>	<p>7204</p>  <p>MJ-FBSPPX 90° Pg. 176</p>	<p>7205-NWO</p>  <p>MJ-MMADJ 90° Pg. 177</p>	<p>7220</p>  <p>FJX-MBSPT 90° Pg. 177</p>	<p>7222</p>  <p>FJX-MBSPP 90° Pg. 177</p>
<p>7588-P</p>  <p>MJIS Plug Pg. 178</p>	<p>7599-P</p>  <p>Komatsu MK Plug Pg. 178</p>	<p>7688-C</p>  <p>FJIS Cap Pg. 178</p>	<p>7699-C</p>  <p>Komatsu FK Cap Pg. 179</p>	<p>8055</p>  <p>MM-MM Metric Nipple Pg. 179</p>	<p>8080</p>  <p>MJIS-MBSPT Pg. 179</p>	<p>8088</p>  <p>MJIS-MJIS Union Pg. 180</p>
<p>8180</p>  <p>MJIS-MBSPT 45° Union Pg. 180</p>	<p>8280</p>  <p>MJIS-MBSPT 90° Union Pg. 180</p>	<p>8555-H</p>  <p>MM Metric Hollow Hex Plug Pg. 181</p>	<p>8555-P</p>  <p>MM Metric Plug 1.5 Pitch Pg. 181</p>	<p>8800</p>  <p>Metric Bonded Seal Pg. 182</p>	<p>9000</p>  <p>MBSPT-MBSPT Nipple Pg. 182</p>	<p>9001</p>  <p>MBSPT-FBSPT Bushing Pg. 183</p>
<p>9002</p>  <p>MBSPT-FBSPT 90° Pg. 183</p>	<p>9020</p>  <p>MBSPP-MBSPT Straight Pg. 183</p>	<p>9022</p>  <p>MBSPP-MBSPP Nipple Pg. 184</p>	<p>9023</p>  <p>MBSPP-FBSPP Pg. 185</p>	<p>9024</p>  <p>MBSPP-FBSPPX Pg. 186</p>	<p>9025</p>  <p>MBSPP-MM Metric Nipple Pg. 186</p>	<p>9033</p>  <p>FBSPP-FBSPP Coupling Pg. 187</p>
<p>9124</p>  <p>MBSPP-FBSPPX Swept 45° Pg. 187</p>	<p>9222</p>  <p>MBSPP-MBSPP 90° Pg. 187</p>	<p>9224</p>  <p>MBSPP-FBSPPX 90° Pg. 188</p>	<p>9224-L</p>  <p>MBSPP-FBSPPX 90° Long Pg. 188</p>	<p>9322</p>  <p>MBSPP-MBSPP-MBSPP Tee Pg. 188</p>	<p>9344</p>  <p>FBSPP-FBSPP-FBSPP Tee Pg. 189</p>	<p>9500-P</p>  <p>MBSPT Plug Pg. 189</p>
<p>9522-H</p>  <p>MBSPP Hollow Hex Plug Pg. 189</p>	<p>9522-P</p>  <p>MBSPP Hex Plug Pg. 190</p>	<p>9644-C</p>  <p>FBSPP Cap Pg. 190</p>	<p>9722-LN</p>  <p>MBSPP-MBSPP Bulkhead Pg. 191</p>	<p>9900</p>  <p>British Bond Seal Pg. 191</p>	<p>9925</p>  <p>BSPP Locknut Pg. 191</p>	<p>C0304-C (080112)</p>  <p>FLS Cap Nut Pg. 193</p>
<p>C0318 (080110)</p>  <p>FLS Nut Pg. 193</p>	<p>C0319 (080115A)</p>  <p>FLS Ferrule Pg. 194</p>	<p>C2402</p>  <p>FLS-MJ Straight Pg. 194</p>	<p>C2403 (080101)</p>  <p>FLS-FLS Tube Union Straight Pg. 195</p>	<p>C2403-LH (080119)</p>  <p>FLS-FLS Tube Union Large Hex Straight Pg. 195</p>	<p>C2404 (080102)</p>  <p>FLS-MP Straight Pg. 196</p>	<p>C2405 (080103)</p>  <p>FLS-FP Straight Pg. 197</p>

Visual Identification Chart

<p>C2406</p>  <p>Tube-FLS Reducer Pg.197</p>	<p>C2408 (080109)</p>  <p>FLS-Plug Pg.198</p>	<p>C2500 (080201)</p>  <p>FLS-FLS 90° Pg.198</p>	<p>C2501 (080202)</p>  <p>FLS-MP 90° Pg.199</p>	<p>C2501-L (071502)</p>  <p>FLS-MP 90° Long Pg.199</p>	<p>C2501-LL (081602)</p>  <p>FLS-MP 90° X-Long Pg.200</p>	<p>C2502 (080203)</p>  <p>FLS-FP 90° Pg.200</p>
<p>C2503 (080302)</p>  <p>FLS-MP 45° Pg.201</p>	<p>C2504</p>  <p>FLS-FLS 45° Pg.201</p>	<p>C2601 (080425)</p>  <p>FLS-FLS MP Tee Pg.202</p>	<p>C2602 (080427)</p>  <p>FLS-FLS-FP Tee Pg.202</p>	<p>C2603 (080401)</p>  <p>FLS-FLS-FLS Tee Pg.203</p>	<p>C2605 (080424)</p>  <p>FLS-MP-FLS Tee Pg.203</p>	<p>C2606 (080426)</p>  <p>FLS-FP-FLS Tee Pg.204</p>
<p>C2650 (080501)</p>  <p>FLS-FLS-FLS-FLS Cross Pg.204</p>	<p>C2700</p>  <p>FLS-FLS Bulkhead Union Pg.204</p>	<p>C2701 (080701)</p>  <p>FLS-FLS 90° Bulkhead Union Pg.205</p>	<p>C2702 (080801)</p>  <p>FLS-FLS 45° Bulkhead Union Pg.205</p>	<p>C2703 (080959)</p>  <p>FLS-FLS-FLS Bulkhead Tee Pg.205</p>	<p>C2704 (080958)</p>  <p>FLS-FLS-FLS Bulkhead Tee Pg.206</p>	<p>C2706</p>  <p>FLS-MP Bulkhead Pg.206</p>
<p>C2707</p>  <p>FLS-MJ Bulkhead Pg.206</p>	<p>C6400-O (080120)</p>  <p>FLS-MB Straight Pg.207</p>	<p>C6400-L-O (080122)</p>  <p>FLS-MB Long Straight Pg.207</p>	<p>C6500 (080221)</p>  <p>FLS-FLSX 90° Pg.208</p>	<p>C6502 (080321)</p>  <p>FLS-FLSX 45° Pg.208</p>	<p>C6600 (080433)</p>  <p>FLS-FLS-FLSX Tee Pg.208</p>	<p>C6602 (080432)</p>  <p>FLS-FLSX-FLS Tee Pg.209</p>
<p>C6801-NWO (080220)</p>  <p>FLS-MB 90° Pg.209</p>	<p>C6802-NWO (080320)</p>  <p>FLS-MB 45° Pg.210</p>	<p>C6803-NWO (080429)</p>  <p>FLS-FLS-MB Tee Pg.210</p>	<p>C6804-NWO (080428)</p>  <p>FLS-MB-FLS Tee Pg.210</p>	<p>F0403</p>  <p>Bore-FO Straight Pg.213</p>	<p>F0500</p>  <p>Bore-FO 90° Pg.213</p>	<p>F0600</p>  <p>Bore-Bore-FO Pg.213</p>
<p>F2403</p>  <p>FO-FO Straight Pg.214</p>	<p>F2403-LH</p>  <p>FO-FO Straight Large Hex Pg.214</p>	<p>F2404</p>  <p>FO-MP Straight Pg.215</p>	<p>F2405</p>  <p>FO-FP Straight Pg.216</p>	<p>F2406</p>  <p>FJ-FO Straight Reducer Pg.217</p>	<p>F2408</p>  <p>FO Plug Pg.217</p>	<p>F2500</p>  <p>FO-FO 90° Pg.218</p>
<p>F2501</p>  <p>FO-MP 90° Pg.219</p>	<p>F2501-L</p>  <p>FO-MP 90° Long Pg.220</p>	<p>F2501-LL</p>  <p>FO-MP 90° X-Long Pg.220</p>	<p>F2501-LLL</p>  <p>FO-MP 90° XX-Long Pg.221</p>	<p>F2502</p>  <p>FO-FP 90° Pg.221</p>	<p>F2503</p>  <p>FO-MP 45° Pg.222</p>	<p>F2601</p>  <p>FO-FO-MP Tee Pg.222</p>
<p>F2602</p>  <p>FO-FO-FP Tee Pg.223</p>	<p>F2603</p>  <p>FO-FO-FO Tee Pg.223</p>	<p>F2605</p>  <p>FO-MP-FO Tee Pg.224</p>	<p>F2606</p>  <p>FO-FP-FO Tee Pg.224</p>	<p>F2650</p>  <p>FO-FO-FO-FO Cross Pg.225</p>	<p>F2700</p>  <p>FO-FO Bulkhead Straight Pg.225</p>	<p>F2701</p>  <p>FO-FO Bulkhead 90° Pg.226</p>
<p>F2702</p>  <p>FO-FO Bulkhead 45° Pg.226</p>	<p>F2703</p>  <p>FO-FO-FO Bulkhead Tee Pg.227</p>	<p>F2706</p>  <p>MP-FO Bulkhead Straight Pg.227</p>	<p>F6400-O</p>  <p>FO-MB Straight Pg.228</p>	<p>F6400-L-O</p>  <p>FO-MB Straight Long Pg.229</p>	<p>F6500</p>  <p>FO-FJX 90° Pg.229</p>	<p>F6502</p>  <p>FO-FJX 45° Pg.229</p>

Visual Identification Chart

<p>F6600</p>  <p>FO-FO-FJX Tee Pg. 230</p>	<p>F6602</p>  <p>FO-FJX-FO Tee Pg. 230</p>	<p>F6801-NWO</p>  <p>FO-MB 90° Pg. 231</p>	<p>F6801-L-NWO</p>  <p>FO-MB 90° Long Pg. 232</p>	<p>F6801-LL-NWO</p>  <p>FO-MB 90° X-Long Pg. 232</p>	<p>F6802-NWO</p>  <p>FO-MB 45° Pg. 233</p>	<p>F6803-NWO</p>  <p>FO-FO-MB Tee Pg. 233</p>
<p>F6804-NWO</p>  <p>FO-MB-FO Tee Pg. 234</p>	<p>SAE J518 Split Flange</p>  <p>Split Flange Pg. 236</p>	<p>Tube Flange Head Fitting</p>  <p>Tube Head Flange Fitting Pg. 237</p>	<p>Double O-Ring Union</p>  <p>Double O-Ring Union Pg. 238</p>	<p>Gage Port Spacer</p>  <p>Gage Port O-Ring Spacer Pg. 239</p>	<p>Blanking</p>  <p>Blanking Pg. 240</p>	<p>Zero PSI Shipping Plate</p>  <p>Shipping Plate Pg. 241</p>
<p>NPTF Thread</p>  <p>NPTF Thread Pg. 242</p>	<p>SAE Thread</p>  <p>SAE Straight Thread Pg. 243</p>	<p>Male Thread (JIC)</p>  <p>Male JIC Pg. 244</p>	<p>Male Thread (ORFS)</p>  <p>Male ORFS Pg. 245</p>	<p>Flat Socket Weld Pipe</p>  <p>Flat Socket Welp - Pipe Pg. 246</p>	<p>Flat Socket Weld Tube</p>  <p>Flat Socket Welp - Tube Pg. 247</p>	<p>Tee Junction Block</p>  <p>Tee Junction Block Pg. 248</p>
<p>Threaded Elbow</p>  <p>Elbow SAE Straight Thread Elbow NPTF Thread Pg. 249</p>	<p>Socket Weld Elbow</p>  <p>Elbow Socket Weld - Pipe Elbow Socket Weld - Tube Pg. 250</p>	<p>Socket Weld Elbow</p>  <p>Elbow Socket Weld - Pipe Elbow Socket Weld - Tube Pg. 251</p>				

Anaerobic Threadlockers

Solution 10

Medium Strength Blue Threadlocker

MEDIUM STRENGTH BLUE THREADLOCKER

Removable general purpose threadlocker for locking/sealing fasteners. May be disassembled with hand tools. Meets MIL-S-46163A TYPE II GRADE N.

10 ml – Part # 40100, 50 ml – Part # 40101, 250 ml – Part # 40102



Solution 12

High Strength Green Penetrating Threadlocker

HIGH STRENGTH GREEN PENETRATING THREADLOCKER

Permanent threadlocker for locking and sealing preassembled fasteners. Also use to seal weld and casting porosity. Disassembly difficult. Meets MIL-S-46163A TYPE III GRADE R.

10 ml – Part # 40106, 50 ml – Part # 40107, 250 ml – Part # 40108



Solution 16

High Strength High Temp. Red Threadlocker

HIGH STRENGTH HIGH TEMP. RED THREADLOCKER

Withstands temperatures to 450°F. Permanent threadlocker for locking and sealing fasteners up to 1-1/2" in diameter. Disassembly will be difficult.

50 ml – Part # 40118, 250 ml – Part # 40119



Sealants/ Retaining Compounds

Solution 30

Pipe Sealant With Teflon

PIPE SEALANT WITH TEFLON

Low strength, non-migrating paste seals instantly. Forms seal for fluid and gas pressurized pipe fittings. Intended for use on tapered threads.

May be disassembled with hand tools. Temperature resistant to 400°F and rated to 10,000psi.

50 ml – Part # 40301, 250 ml – Part # 40302



Solution 425

Pipe Sealing Paste With PTFE

PIPE SEALING PASTE WITH PTFE

Pipe Sealing Paste is a Premium, Teflon enhanced compound which provides superior sealing for most threaded metal or plastic pipe. SOLUTION 425 will prevent leaks and seal most common fluids and gases, including fuels, oils, water, refrigerants, steam and inert gases. Non-hardening formula will not crack, shred, or contaminate most systems. Eases assembly and disassembly of metal and plastic fittings. Seals to bursting pressure of pipe and is rated to 10,000psi. Not recommended for potable water systems or for use in oxygen service. MRO Solutions 425 Pipe Sealant Paste contains only ingredients recognized by the FDA as safe for Incidental Food Contact as published in 21 CFR, Parts 170-190. packaged in easy to use brush top cans.

4 oz. Brush Top Can – Part # 10701

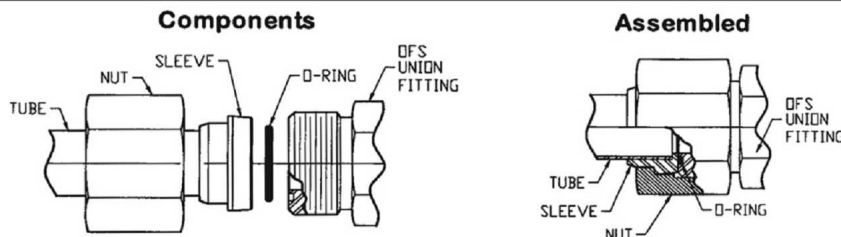
8 oz. Brush Top Can – Part # 10702

1 lb. Brush Top Can – Part # 10706



O-Ring Face Seal

O-Ring Face Seal



O-ring Face Seal (OFS) fittings were designed to eliminate leakage problems and still handle the greater pressure of today's hydraulic systems. They are dimensionally standardized by SAE under J1453. It utilizes a Buna-N, 90 Durometer O-ring that seats into a groove on the body and compresses against a flat face sleeve on the end of a tube. The sleeve also prevents twisting of the tube and supports it during the assembly process. When the sleeve comes in contact with the body and starts compressing the O-ring, a noticeable rise in torque is required to complete the assembly. This deters over-torque abuse and avoids distortion making a leak-proof, full flow connection. The OFS design can be used multiple times by just simply replacing the O-ring.

Assembly Steps:

1. Inspect the tubing to make sure that it is free of defects, nicks, dings, scratches, etc.
2. Cut off the tube square $\pm 1^\circ$. A tubing cutter is highly recommended to ensure the cut off is square.
3. De-burr the inside and outside of the tube and make sure the tube is free of debris.

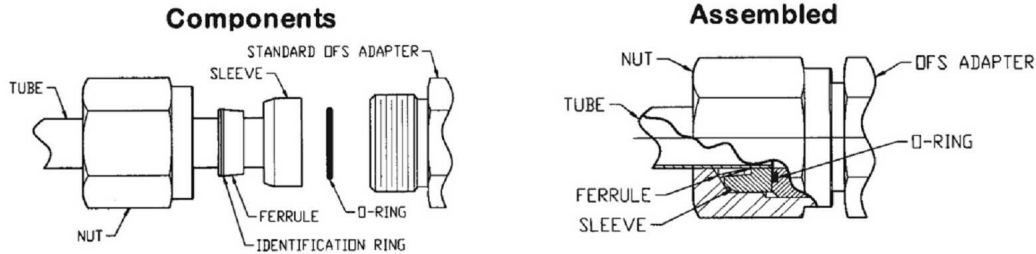
If using the No-Braze OFS nut, sleeve, and ferrule skip to step 13 below.

When de-burring, make sure an angle of no more than 45° by 0.020" on the outside of the tube appears.

4. Prepare the tube end, braze sleeve, and silver braze ring by dipping them all in a cleaning solvent.
5. Polish $1/2"$ of the outside of the tube using an aluminum-free, silicon carbide emery cloth and dust it off afterwards. Avoid even touching it as any impurities such as oil, grease, and oxidation will impair the flow of silver, and reduce the strength of the braze joint.
6. Slide the nut onto the tube and secure the tube in a vise for brazing in an upright position. This will allow gravity to pull the braze sleeve down on the tube as the silver braze ring melts.
7. Verify that the braze sleeve is free of rust and apply a high temperature flux ($+700^\circ$ to $+1800^\circ$ F range) to the outside of the tube and the inside of the braze sleeve socket where the tube slips in. Flux must be applied to any area that is to be heated or needs to be clean for a proper braze joint.
8. Insert the silver braze ring into the braze sleeve socket and slip the braze sleeve onto the prepared tube end. Braze rings come in both pre-formed sizes and wire rolls that are at least 45% silver alloy. Cut a section of wire that is just shy of 3 times the braze sleeve socket diameter and bend it in to a circle.
9. With the silver braze ring inserted and the braze sleeve installed on the tube, completely coat the assembly with additional flux. Flux prevents oxidation of the metal during the heating process and cleans the surfaces to help the silver flow evenly throughout the braze joint. It also serves as a temperature monitor as heat is applied. See the chart at bottom of next page.
10. Begin the brazing process. **CAUTION: Brazing on plated surfaces can give off toxic fumes resulting in personal injury and/or death.** A single flame torch can be used, however, a multiple flamed torch is recommended for sizes $3/4"$ and up. Adjust the flame to a blue base with an occasional yellow flicker. Direct the base of the flame at the braze sleeve so that the assembly will heat up evenly. Due to different expansion rates the tubing and the braze sleeve should be of the same material. As the assembly heats up, and the silver braze ring begins to melt, the braze sleeve will drop on the tube and become fully seated. Slight force may be needed.
11. After the silver flows throughout the joint remove the flame so as not to char the flux. Allow to cool for approximately 10 seconds and then cool the assembly by dipping it into hot water ($+140^\circ$ to $+180^\circ$ F). This will crack the flux residue for removal with a wire brush, but be careful not to scratch the flat face. If a post braze cleaner, or flux remover, has been added to the water it may cause premature rusting. Therefore, neutralize them by dipping the assembly in a cleaning solvent afterwards. A light coating of penetrating oil can also be applied.
12. A final inspection of the braze joint should reveal a silver fillet all the way around the tube/braze sleeve. Silver braze should also be found in the other end of the braze sleeve without any excess on the flat face. A void in the fillet could mean a leak path and an excess of silver on the flat face will interfere with a good seal. Small amounts of excess can be sanded, but if the flat face cannot be restored it will have to be re-brazed using a new braze sleeve.
13. Now that the connection is ready to be made, inspect the components for dirt, grit, nicks, dings, and scratches, etc. that might interfere with a good seal.
14. Lubricate the O-ring and the threads with 10W hydraulic oil and insert the O-ring into its groove.
15. With the nut already slid onto the tube and the No-Braze ferrule identification ring towards the nut, if applicable, position the sleeve flat face up to the O-ring on the body and hand tighten the nut onto the threads.
16. Torque to the specified value to complete the connection, or for the No-Braze OFS skip to step 6 on next page.

O-Ring Face Seal

No-Braze O-Ring Face Seal



Cuts connection time by 85%

No expensive tools or machines

No pre-cleaning, post cleaning or x-ray operations required

No dangerous or costly chemicals

No torque wrench, tightens with the T.P.H.T. method

Nut, Sleeve and Ferrule components are reusable

No health risks associated with Brazing

Financial savings of not having to buy braze materials

No-Braze O-Ring Face Seal is a compression style nut, ferrule, and sleeve design that works with standard O-Ring Face Seal fittings. No-Braze has all of the advantages of the standard OFS design without the hassles of brazing. The components can even be reused. It can also be used with any wall thickness tubing that is specified by SAE J356, J524, J525, and J526 with a hardness not exceeding Rockwell B65. No-Braze assembles in almost the same manner as the standard OFS, but eliminates the hazardous steps involved with brazing. Thereby, eliminating the health risks associated with brazing on plated parts. Since there is no braze joint, there is no time spent preparing the components, or cleaning up afterwards. Likewise, the financial savings from not having to buy torches, silver braze, flux, chemicals, solvents for clean up, and all of the other related items is a great benefit. The No-Braze connection literally eliminates the time consuming steps of brazing. Another advantage is that there is no need for a torque wrench. It tightens by a Turns method rather than by torque values. To temporarily plug off a connection, use a FF-2408.

Assembly Steps:

1. Inspect the tubing and components to make sure that they are all free of defects, nicks, dings, scratches, etc. which might interfere with a good seal.
2. Cut off the tube square $\pm 1^\circ$. A tubing cutter is highly recommended to ensure the cut off is square.
3. De-burr the inside and outside of the tube and make sure the tube is free of debris.
4. Slide the nut, ferrule and sleeve onto the tube. Make sure that the ferrule identification ring is towards the nut.
5. Lubricate the O-ring and the threads of the body with 10W hydraulic oil and insert the O-ring into its groove. Position the sleeve flat face up to the O-ring on the body and hand tighten the nut onto the threads.
6. It is important to make sure that the tubing is fully seated against the body. At this point, make alignment marks on the nut and on the body and tighten the nut 1 1/2 turns more past hand tight to complete the assembly.
7. If re-using the components hand tighten until a rise in torque is noticeable and tighten approximately another 1/4 of a turn past the hand tight position. This completes the assembly for re-use. CAUTION: Excessive tightening will reduce the level of performance.


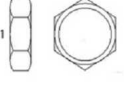



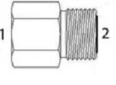




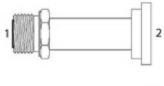
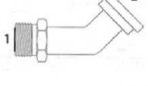
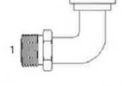
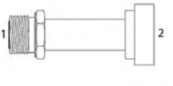
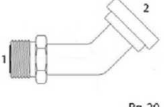
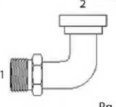
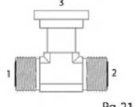
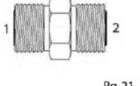
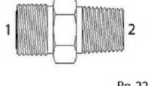



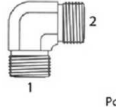
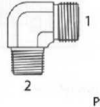
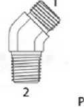
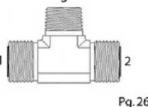
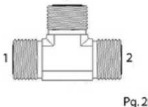
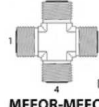
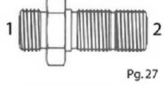

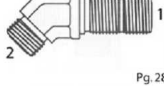
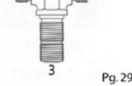
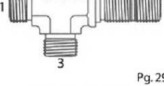
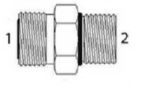
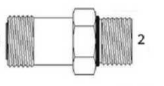
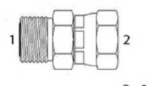
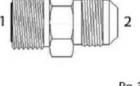


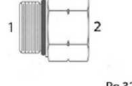
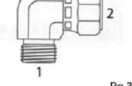
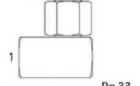
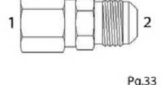



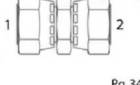
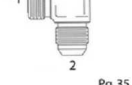
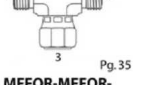
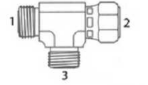




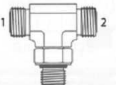
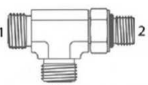


O-Ring Face Seal Torque Values

OFS Torque Values		As the temperature rises....		
Size - lb-ft min./max.				
-04	10-12	-12	65-70	+212° F = Water boils off
-06	18-20	-16	92-100	+600° F = Flux starts to bubble
-08	32-35	-20	125-140	+800° F = Flux become translucent
-10	46-50	-24	150-165	+1100° F = Flux thins and becomes clear and dark
				+1124° F = Silver braze ring melts
				+1140° F = Silver flows evenly throughout the joint allowing the braze sleeve to drop and be fully seated. At this point the metal will take on a dark reddish look.

Torque values specified are for threads lubricated with 10W hydraulic oil.

O-Ring Face Seal

O-Ring Face Seal Fittings - Visual Identification Chart

<p>FF0304-C (520112)</p>  <p>Pg. 15 FFOR-Cap</p>	<p>FF0306 (520118)</p>  <p>Pg. 15 FFOR-Bulkhead Lock Nut</p>	<p>FF0306-N</p>  <p>Pg. 15 FFOR-Backup Lock Nut</p>	<p>FF0318 (520110)</p>  <p>Pg. 16 FFOR-Nut</p>	<p>FF0319 (520115)</p>  <p>Pg. 16 FFOR-Sleeve</p>	<p>FF0403 (520104)</p>  <p>Pg. 17 Bore-MFFOR Straight</p>	<p>FF0403-TS</p>  <p>Pg. 17 MFFOR-Tube Spud</p>
<p>FF0418</p>  <p>Pg. 18 FFOR-Flareless Nut</p>	<p>FF0419</p>  <p>Pg. 18 FFOR-Flareless Sleeve</p>	<p>FF0719</p>  <p>Pg. 18 FFOR-Flareless Ferrule</p>	<p>FF1700</p>  <p>Pg. 19 MFFOR-FL Straight Code 61</p>	<p>FF1703</p>  <p>Pg. 19 MFFOR-FL 45° Code 61</p>	<p>FF1704</p>  <p>Pg. 19 MFFOR-FL 90° Code 61</p>	<p>FF1800</p>  <p>Pg. 20 MFFOR-FLH Straight Code 62</p>
<p>FF1803</p>  <p>Pg. 20 MFFOR-FLH 45° Code 62</p>	<p>FF1804</p>  <p>Pg. 20 MFFOR-FLH 90° Code 62</p>	<p>FF1805</p>  <p>Pg. 21 MFFOR-MFFOR-FLH</p>	<p>FF2403 (520101)</p>  <p>Pg. 21 MFFOR-MFFOR Straight</p>	<p>FF2404 (520102)</p>  <p>Pg. 22 MFFOR-MP Straight</p>	<p>FF2406</p>  <p>Pg. 23 FFOR-MFFOR Tube End Reducer</p>	<p>FF2407 (520123)</p>  <p>Pg. 23 FFOR-MFFOR Insert Reducer</p>
<p>FF2408 (520109)</p>  <p>Pg. 24 MFFOR-Plug</p>	<p>FF2500 (520201)</p>  <p>Pg. 24 MFFOR-MFFOR 90°</p>	<p>FF2501 (520202)</p>  <p>Pg. 25 MFFOR-MP 90°</p>	<p>FF2503 (520302)</p>  <p>Pg. 25 MFFOR-MP 45°</p>	<p>FF2601 (520425)</p>  <p>Pg. 26 MFFOR-MFFOR-MP Tee</p>	<p>FF2603 (520425)</p>  <p>Pg. 26 MFFOR-MFFOR-MFFOR Tee</p>	<p>FF2650 (520501)</p>  <p>Pg. 27 MFFOR-MFFOR-MFFOR Cross</p>
<p>FF2700 (520601)</p>  <p>Pg. 27 MFFOR-MFFOR Bulkhead Union</p>	<p>FF2701 (520701)</p>  <p>Pg. 28 MFFOR-MFFOR Bulkhead 90°</p>	<p>FF2702 (520801)</p>  <p>Pg. 28 MFFOR-MFFOR Bulkhead 45°</p>	<p>FF2703</p>  <p>Pg. 29 MFFOR-MFFOR-MFFOR Bulkhead Tee</p>	<p>FF2704 (520958)</p>  <p>Pg. 29 MFFOR-MFFOR-MFFOR Bulkhead Run Tee</p>	<p>FF6400-O (520120)</p>  <p>Pg. 30 MFFOR-MB Straight</p>	<p>FF6400-L-O (520120)</p>  <p>Pg. 31 MFFOR-MB Straight Long</p>
<p>FF6402</p>  <p>Pg. 31 MFFOR-FJX Straight</p>	<p>FF6403</p>  <p>Pg. 31 MFFOR-MJ Straight</p>	<p>FF6408</p>  <p>Pg. 32 MB External Hex Plug High Pressure</p>	<p>FF6409</p>  <p>Pg. 32 MB Hollow Hex Plug High Pressure</p>	<p>FF6410</p>  <p>Pg. 32 MB-FB High Pressure</p>	<p>FF6500 (520221)</p>  <p>Pg. 32 MFFOR-FFORX 90°</p>	<p>FF6503</p>  <p>Pg. 33 FP-FFORX 90°</p>
<p>FF6504 (520801)</p>  <p>Pg. 33 FFORX-MJ Straight</p>	<p>FF6505</p>  <p>Pg. 33 MP-FFORX Straight</p>	<p>FF6540</p>  <p>Pg. 34 MB-FFORX Straight</p>	<p>FF6545</p>  <p>Pg. 34 MFFOR-MJ 45°</p>	<p>FF6565</p>  <p>Pg. 34 FFORX-FFORX Straight</p>	<p>FF6590</p>  <p>Pg. 35 MFFOR-MJ 90°</p>	<p>FF6600 (520433)</p>  <p>Pg. 35 MFFOR-MFFOR-FFORX Branch Tee</p>
<p>FF6602 (520432)</p>  <p>Pg. 35 MFFOR-FFORX-MFFOR Tee</p>	<p>FF6801-NWO (520220)</p>  <p>Pg. 36 MFFOR-MB 90°</p>	<p>FF6801-L-NWO</p>  <p>Pg. 36 MFFOR-MB 90° Long</p>	<p>FF6801-LL-NWO</p>  <p>Pg. 37 MFFOR-MB 90° X-Long</p>	<p>FF6802-NWO (520320)</p>  <p>Pg. 37 MFFOR-MB 45°</p>	<p>FF6803-NWO (520429)</p>  <p>Pg. 38 MFFOR-MFFOR-MB Tee</p>	<p>FF6804-NWO (520428)</p>  <p>Pg. 38 MFFOR-MB-MFFOR Tee</p>
<p>FF6809-NWO (520281)</p>  <p>Pg. 39 FFORX-MB 90°</p>	<p>FF7202-NWO</p>  <p>Pg. 39 MFFOR-MBSPP 90°</p>					

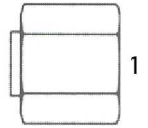
O-Ring Face Seal

FF0304-C Series

FFOR-Cap

SAE 520112

Item Number	HH Item Number	Tube OD	1 Female FFOR
FF0304-C-04	4FFOR-CAP	1/4	9/16-18
FF0304-C-06	6FFOR-CAP	3/8	11/16-16
FF0304-C-08	8FFOR-CAP	1/2	13/16-16
FF0304-C-10	10FFOR-CAP	5/8	1-14
FF0304-C-12	12FFOR-CAP	3/4	1 3/16-12
FF0304-C-16	16FFOR-CAP	1	1 7/16-12
FF0304-C-20	20FFOR-CAP	1 1/4	1 11/16-12
FF0304-C-24	24FFOR-CAP	1 1/2	2-12

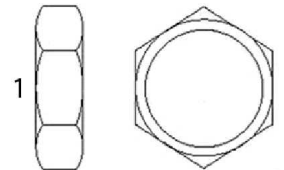


FF0306 Series

FFOR-Bulkhead Lock Nut

SAE 520118

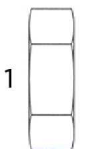
Item Number	HH Item Number	Tube OD	1 Thread Size
FF0306-04	04 BULKHEAD LOCKNUT-FF	1/4	9/16-18
FF0306-06	06 BULKHEAD LOCKNUT-FF	3/8	11/16-16
FF0306-08	08 BULKHEAD LOCKNUT-FF	1/2	13/16-16
FF0306-10	10 BULKHEAD LOCKNUT-FF	5/8	1-14
FF0306-12	12 BULKHEAD LOCKNUT-FF	3/4	1 3/16-12
FF0306-16	16 BULKHEAD LOCKNUT-FF	1	1 7/16-12
FF0306-20	20 BULKHEAD LOCKNUT-FF	1 1/4	1 11/16-12
FF0306-24	24 BULKHEAD LOCKNUT-FF	1 1/2	2-12



FF0306-N Series

FFOR-Backup Lock Nut

Item Number	HH Item Number	Tube OD	1 Thread Size
FF0306-N-04	04 BACKUP LOCKNUT-FF	1/4	9/16-18
FF0306-N-06	06 BACKUP LOCKNUT-FF	3/8	11/16-16
FF0306-N-12	12 BACKUP LOCKNUT-FF	3/4	1 3/16-12
FF0306-N-16	16 BACKUP LOCKNUT-FF	1	1 7/16-12
FF0306-N-20	20 BACKUP LOCKNUT-FF	1 1/4	1 11/16-12
FF0306-N-24	24 BACKUP LOCKNUT-FF	1 1/2	2-12



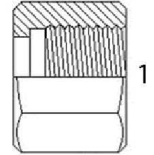
O-Ring Face Seal

FF0318 Series

FFOR-Nut

SAE 520110

Item Number	HH Item Number	Tube OD	1 Female FFOR
FF0318-04	4FFOR-NUT	1/4	9/16-18
FF0318-06	6FFOR-NUT	3/8	11/16-16
FF0318-08	8FFOR-NUT	1/2	13/16-16
FF0318-10	10FFOR-NUT	5/8	1-14
FF0318-12	12FFOR-NUT	3/4	1 3/16-12
FF0318-16	16FFOR-NUT	1	1 7/16-12
FF0318-20	20FFOR-NUT	1 1/4	1 11/16-12
FF0318-24	24FFOR-NUT	1 1/2	2-12



FF0319 Series

FFOR-Sleeve

SAE 520115

Item Number	HH Item Number	Tube OD
FF0319-04	4FFOR-SLEEVE	1/4
FF0319-06	6FFOR-SLEEVE	3/8
FF0319-08	8FFOR-SLEEVE	1/2
FF0319-10	10FFOR-SLEEVE	5/8
FF0319-12	12FFOR-SLEEVE	3/4
FF0319-16	16FFOR-SLEEVE	1
FF0319-20	20FFOR-SLEEVE	1 1/4
FF0319-24	24FFOR-SLEEVE	1 1/2



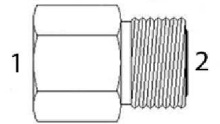
O-Ring Face Seal

FF0403 Series

Bore-MFFOR Straight

SAE 520104

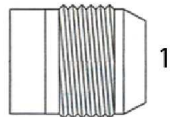
Item Number	HH Item Number	Tube OD	1 Bore	2 Male MFFOR
FF0403-04-04	4BORE-4MFFOR	1/4	1/4	9/16-18
FF0403-04-06	4BORE-6MFFOR	1/4	1/4	11/16-16
FF0403-06-04	6BORE-4MFFOR	3/8	3/8	9/16-18
FF0403-06-06	6BORE-6MFFOR	3/8	3/8	11/16-16
FF0403-06-08	6BORE-8MFFOR	3/8	3/8	13/16-16
FF0403-08-06	8BORE-6MFFOR	1/2	1/2	11/16-16
FF0403-08-08	8BORE-8MFFOR	1/2	1/2	13/16-16
FF0403-08-10	8BORE-10MFFOR	1/2	1/2	1-14
FF0403-08-12	8BORE-12MFFOR	1/2	1/2	1 3/16-12
FF0403-10-08	10BORE-8MFFOR	5/8	5/8	13/16-16
FF0403-10-10	10BORE-10MFFOR	5/8	5/8	1-14
FF0403-10-12	10BORE-12MFFOR	5/8	5/8	1 3/16-12
FF0403-12-08	12BORE-8MFFOR	3/4	3/4	13/16-16
FF0403-12-10	12BORE-10MFFOR	3/4	3/4	1-14
FF0403-12-12	12BORE-12MFFOR	3/4	3/4	1 3/16-12
FF0403-12-16	12BORE-16MFFOR	3/4	3/4	1 7/16-12
FF0403-16-12	16BORE-12MFFOR	1	1	1 3/16-12
FF0403-16-16	16BORE-16MFFOR	1	1	1 7/16-12
FF0403-16-20	16BORE-20MFFOR	1	1	1 11/16-12
FF0403-20-16	20BORE-16MFFOR	1 1/4	1 1/4	1 7/16-12
FF0403-20-20	20BORE-20MFFOR	1 1/4	1 1/4	1 11/16-12
FF0403-20-24	20BORE-24MFFOR	1 1/4	1 1/4	2-12
FF0403-24-20	24BORE-20MFFOR	1 1/2	1 1/2	1 11/16-12
FF0403-24-24	24BORE-24MFFOR	1 1/2	1 1/2	2-12



FF0403-TS Series

MFFOR-Tube Spud

Item Number	HH Item Number	Tube OD	1 Male MFFOR
FF0403-TS-08-08	8MFFOR-TUBE SPUD	1/2	13/16-16
FF0403-TS-10-10	10MFFOR-TUBE SPUD	5/8	1-14
FF0403-TS-12-12	12MFFOR-TUBE SPUD	3/4	1 3/16-12

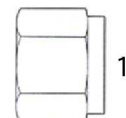


O-Ring Face Seal

FF0418 Series

FFOR-No Braze Nut

Item Number	HH Item Number	Tube OD	1 Female FFOR
FF0418-04	4FFOR-NUT-NB	1/4	9/16-18
FF0418-06	6FFOR-NUT-NB	3/8	11/16-16
FF0418-08	8FFOR-NUT-NB	1/2	13/16-16
FF0418-10	10FFOR-NUT-NB	5/8	1-14
FF0418-12	12FFOR-NUT-NB	3/4	1 3/16-12
FF0418-16	16FFOR-NUT-NB	1	1 7/16-12
FF0418-20	20FFOR-NUT-NB	1 1/4	1 11/16-12
FF0418-24	24FFOR-NUT-NB	1 1/2	2-12



FF0419 Series

FFOR-No Braze Sleeve

Item Number	HH Item Number	Tube OD
FF0419-04	4FFOR-SLEEVE-NB	1/4
FF0419-06	6FFOR-SLEEVE-NB	3/8
FF0419-08	8FFOR-SLEEVE-NB	1/2
FF0419-10	10FFOR-SLEEVE-NB	5/8
FF0419-12	12FFOR-SLEEVE-NB	3/4
FF0419-16	16FFOR-SLEEVE-NB	1
FF0419-20	20FFOR-SLEEVE-NB	1 1/4
FF0419-24	24FFOR-SLEEVE-NB	1 1/2



FF0719 Series

FFOR-No Braze Ferrule

Item Number	HH Item Number	Tube OD
FF0719-04	4FFOR-FERRULE-NB	1/4
FF0719-06	6FFOR-FERRULE-NB	3/8
FF0719-08	8FFOR-FERRULE-NB	1/2
FF0719-10	10FFOR-FERRULE-NB	5/8
FF0719-12	12FFOR-FERRULE-NB	3/4
FF0719-16	16FFOR-FERRULE-NB	1
FF0719-20	20FFOR-FERRULE-NB	1 1/4
FF0719-24	24FFOR-FERRULE-NB	1 1/2

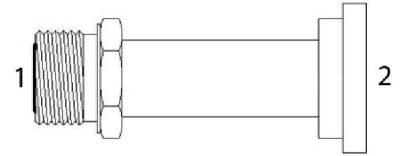


O-Ring Face Seal

FF1700 Series

MFFOR-FL Straight Code 61

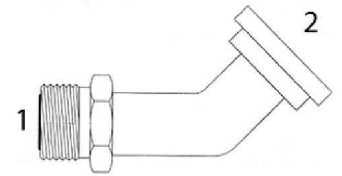
Item Number	HH Item Number	Tube OD	1 Male FFOR	2 Flange Size
FF1700-08-08	8MFFOR-8FL	1/2	13/16-16	1/2
FF1700-12-12	12MFFOR-12FL	3/4	1 3/16-12	3/4
FF1700-12-16	12MFFOR-16FL	3/4	1 3/16-12	1
FF1700-16-16	16MFFOR-16FL	1	1 7/16-12	1
FF1700-20-20	20MFFOR-20FL	1 1/4	1 11/16-12	1 1/4
FF1700-24-24	24MFFOR-24FL	1 1/2	2-12	1 1/2



FF1703 Series

MFFOR-FL 45° Code 61

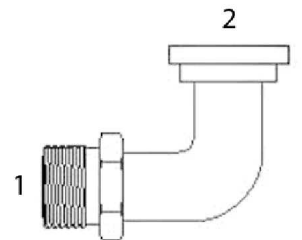
Item Number	HH Item Number	Tube OD	1 Male FFOR	2 Flange Size
FF1703-12-12	12MFFOR-12FL45	3/4	1 3/16-12	3/4
FF1703-12-16	12MFFOR-16FL45	3/4	1 3/16-12	1
FF1703-16-16	16MFFOR-16FL45	1	1 7/16-12	1
FF1703-20-20	20MFFOR-20FL45	1 1/4	1 11/16-12	1 1/4
FF1703-24-24	24MFFOR-24FL45	1 1/2	2-12	1 1/2



FF1704 Series

MFFOR-FL 90° Code 61

Item Number	HH Item Number	Tube OD	1 Male FFOR	2 Flange Size
FF1704-12-12	12MFFOR-12FL90	3/4	1 3/16-12	3/4
FF1704-12-16	12MFFOR-16FL90	3/4	1 3/16-12	1
FF1704-16-16	16MFFOR-16FL90	1	1 7/16-12	1
FF1704-20-20	20MFFOR-20FL90	1 1/4	1 11/16-12	1 1/4
FF1704-24-24	24MFFOR-24FL90	1 1/2	2-12	1 1/2

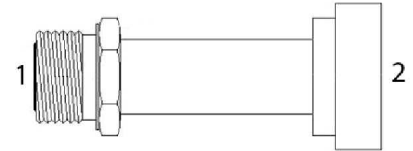


O-Ring Face Seal

FF1800 Series

MFFOR-FLH Straight Code 62

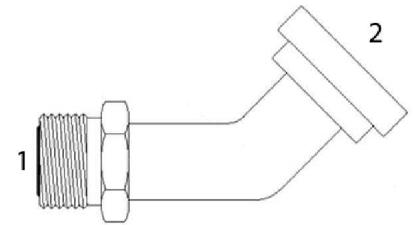
Item Number	HH Item Number	Tube OD	1 Male FFOR	2 Flange Size
FF1800-08-08	8MFFOR-8FLH	1/2	13/16-16	1/2
FF1800-12-12	12MFFOR-12FLH	3/4	1 3/16-12	3/4
FF1800-16-12	16MFFOR-12FLH	1	1 7/16-12	3/4
FF1800-16-16	16MFFOR-16FLH	1	1 7/16-12	1
FF1800-16-20	16MFFOR-20FLH	1	1 7/16-12	1 1/4
FF1800-20-20	20MFFOR-20FLH	1 1/4	1 11/16-12	1 1/4
FF1800-20-24	20MFFOR-24FLH	1 1/4	1 11/16-12	1 1/2
FF1800-24-24	24MFFOR-24FLH	1 1/2	2-12	1 1/2



FF1803 Series

MFFOR-FLH 45° Code 62

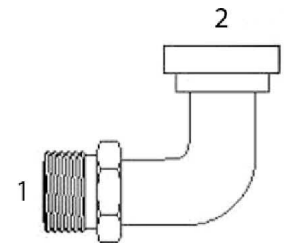
Item Number	HH Item Number	Tube OD	1 Male FFOR	2 Flange Size
FF1803-12-12	12MFFOR-12FLH45	3/4	1 3/16-12	3/4
FF1803-16-16	16MFFOR-16FLH45	1	1 7/16-12	1
FF1803-20-20	20MFFOR-20FLH45	1 1/4	1 11/16-12	1 1/4
FF1803-24-24	24MFFOR-24FLH45	1 1/2	2-12	1 1/2



FF1804 Series

MFFOR-FLH 90° Code 62

Item Number	HH Item Number	Tube OD	1 Male FFOR	2 Flange Size
FF1804-12-12	12MFFOR-12FLH90	3/4	1 3/16-12	3/4
FF1804-16-16	16MFFOR-16FLH90	1	1 7/16-12	1
FF1804-20-20	20MFFOR-20FLH90	1 1/4	1 11/16-12	1 1/4
FF1804-24-24	24MFFOR-24FLH90	1 1/2	2-12	1 1/2

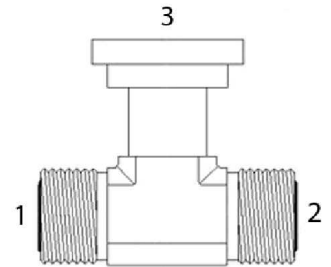


O-Ring Face Seal

FF1805 Series

MFFOR-MFFOR-FLH

Item Number	HH Item Number	Tube OD	1 Male FFOR	2 Male FFOR	3 Flange Size
FF1805-12-12-16	12MFFOR-12MFFOR-16FLH	3/4	1 3/16-12	1 3/16-12	1
FF1805-16-16-16	16MFFOR-16MFFOR-16FLH	1	1 7/16-12	1 7/16-12	1

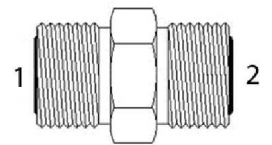


FF2403 Series

MFFOR-MFFOR Straight

SAE 520101

Item Number	HH Item Number	Tube OD	1 Male FFOR	2 Male FFOR
FF2403-04-04	4MFFOR-4MFFOR	1/4	9/16-18	9/16-18
FF2403-06-04	6MFFOR-4MFFOR	3/8 x 1/4	11/16-16	9/16-18
FF2403-06-06	6MFFOR-6MFFOR	3/8	11/16-16	11/16-16
FF2403-08-06	8MFFOR-6MFFOR	1/2 x 3/8	13/16-16	11/16-16
FF2403-08-08	8MFFOR-8MFFOR	1/2	13/16-16	13/16-16
FF2403-10-08	10MFFOR-8MFFOR	5/8 x 1/2	1-14	13/16-16
FF2403-10-10	10MFFOR-10MFFOR	5/8	1-14	1-14
FF2403-12-08	12MFFOR-8MFFOR	3/4 x 1/2	1 3/16-12	13/16-16
FF2403-12-10	12MFFOR-10MFFOR	3/4 x 5/8	1 3/16-12	1-14
FF2403-12-12	12MFFOR-12MFFOR	3/4	1 3/16-12	1 3/16-12
FF2403-16-12	16MFFOR-12MFFOR	1 x 3/4	1 7/16-12	1 3/16-12
FF2403-16-16	16MFFOR-16MFFOR	1	1 7/16-12	1 7/16-12
FF2403-20-16	20MFFOR-16MFFOR	1 1/4 x 1	1 11/16-12	1 7/16-12
FF2403-20-20	20MFFOR-20MFFOR	1 1/4	1 11/16-12	1 11/16-12
FF2403-24-20	24MFFOR-20MFFOR	1 1/2 x 1 1/4	2-12	1 11/16-12
FF2403-24-24	24MFFOR-24MFFOR	1 1/2	2-12	2-12



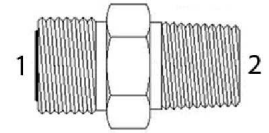
O-Ring Face Seal

FF2404 Series

MFFOR-MP Straight

SAE 520102

Item Number	HH Item Number	Tube OD	1 Male FFOR	2 Male Pipe
FF2404-04-02	4MFFOR-2MP	1/4	9/16-18	1/8-27
FF2404-04-04	4MFFOR-4MP	1/4	9/16-18	1/4-18
FF2404-04-06	4MFFOR-6MP	1/4	9/16-18	3/8-18
FF2404-04-08	4MFFOR-8MP	1/4	9/16-18	1/2-14
FF2404-06-02	6MFFOR-2MP	3/8	11/16-16	1/8-27
FF2404-06-04	6MFFOR-4MP	3/8	11/16-16	1/4-18
FF2404-06-06	6MFFOR-6MP	3/8	11/16-16	3/8-18
FF2404-06-08	6MFFOR-8MP	3/8	11/16-16	1/2-14
FF2404-08-04	8MFFOR-4MP	1/2	13/16-16	1/4-18
FF2404-08-06	8MFFOR-6MP	1/2	13/16-16	3/8-18
FF2404-08-08	8MFFOR-8MP	1/2	13/16-16	1/2-14
FF2404-08-12	8MFFOR-12MP	1/2	13/16-16	3/4-14
FF2404-08-16	8MFFOR-16MP	1/2	13/16-16	1-11 1/2
FF2404-10-08	10MFFOR-8MP	5/8	1-14	1/2-14
FF2404-10-12	10MFFOR-12MP	5/8	1-14	3/4-14
FF2404-10-16	10MFFOR-16MP	5/8	1-14	1-11 1/2
FF2404-12-08	12MFFOR-8MP	3/4	1 3/16-12	1/2-14
FF2404-12-12	12MFFOR-12MP	3/4	1 3/16-12	3/4-14
FF2404-12-16	12MFFOR-16MP	3/4	1 3/16-12	1-11 1/2
FF2404-16-12	16MFFOR-12MP	1	1 7/16-12	3/4-14
FF2404-16-16	16MFFOR-16MP	1	1 7/16-12	1-11 1/2
FF2404-16-20	16MFFOR-20MP	1	1 7/16-12	1 1/4-11 1/2
FF2404-16-24	16MFFOR-24MP	1	1 7/16-12	1 1/2-11 1/2
FF2404-20-16	20MFFOR-16MP	1 1/4	1 11/16-12	1-11 1/2
FF2404-20-20	20MFFOR-20MP	1 1/4	1 11/16-12	1 1/4-11 1/2
FF2404-24-24	24MFFOR-24MP	1 1/2	2-12	1 1/2-11 1/2

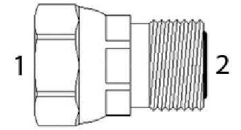


O-Ring Face Seal

FF2406 Series

FFOR-MFFOR Tube End Reducer

Item Number	HH Item Number	Tube OD	1 Female FFOR	2 Male FFOR
FF2406-06-04	6FFOR-4MFFOR-T	3/8 x 1/4	11/16-16	9/16-18
FF2406-08-04	8FFOR-4MFFOR-T	1/2 x 1/4	13/16-16	9/16-18
FF2406-08-06	8FFOR-6MFFOR-T	1/2 x 3/8	13/16-16	11/16-16
FF2406-08-12	8FFOR-12MFFOR-T	1/2 x 3/4	13/16-16	1 3/16-12
FF2406-10-04	10FFOR-4MFFOR-T	5/8 x 1/4	1-14	9/16-18
FF2406-10-06	10FFOR-6MFFOR-T	5/8 x 3/8	1-14	11/16-16
FF2406-10-08	10FFOR-8MFFOR-T	5/8 x 1/2	1-14	13/16-16
FF2406-10-12	10FFOR-12MFFOR-T	5/8 x 3/4	1-14	1 3/16-12
FF2406-12-04	12FFOR-4MFFOR-T	3/4 x 1/4	1 3/16-12	9/16-18
FF2406-12-06	12FFOR-6MFFOR-T	3/4 x 3/8	1 3/16-12	11/16-16
FF2406-12-08	12FFOR-8MFFOR-T	3/4 x 1/2	1 3/16-12	13/16-16
FF2406-12-10	12FFOR-10MFFOR-T	3/4 x 5/8	1 3/16-12	1-14
FF2406-12-16	12FFOR-16MFFOR-T	3/4 x 1	1 3/16-12	1 7/16-12
FF2406-16-06	16FFOR-6MFFOR-T	1 x 1	1 7/16-12	11/16-16
FF2406-16-08	16FFOR-8MFFOR-T	1 x 1/2	1 7/16-12	13/16-16
FF2406-16-10	16FFOR-10MFFOR-T	1 x 5/8	1 7/16-12	1-14
FF2406-16-12	16FFOR-12MFFOR-T	1 x 3/4	1 7/16-12	1 3/16-12
FF2406-16-20	16FFOR-20MFFOR-T	1 x 1 1/4	1 7/16-12	1 11/16-12
FF2406-20-12	20FFOR-12MFFOR-T	1 1/4 x 3/4	1 11/16-12	1 3/16-12
FF2406-20-16	20FFOR-16MFFOR-T	1 1/4 x 1	1 11/16-12	1 7/16-12
FF2406-20-24	20FFOR-24MFFOR-T	1 1/4 x 1 1/2	1 11/16-12	2-12
FF2406-24-12	24FFOR-12MFFOR-T	1 1/2 x 3/4	2-12	1 3/16-12
FF2406-24-16	24FFOR-16MFFOR-T	1 1/2 x 1	2-12	1 7/16-12
FF2406-24-20	24FFOR-20MFFOR-T	1 1/2 x 1 1/4	2-12	1 11/16-12

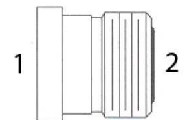


FF2407 Series

FFOR-MFFOR Insert Reducer

SAE 520123

Item Number	HH Item Number	Tube OD	1 Female FFOR	2 Male FFOR
FF2407-08-04	8FFOR-4MFFOR	1/2 x 1/4	13/16-16	9/16-18
FF2407-08-06	8FFOR-6MFFOR	1/2 x 3/8	13/16-16	11/16-16
FF2407-10-04	10FFOR-4MFFOR	5/8 x 1/4	1-14	9/16-18
FF2407-10-06	10FFOR-6MFFOR	5/8 x 3/8	1-14	11/16-16
FF2407-10-08	10FFOR-8MFFOR	5/8 x 1/2	1-14	13/16-16
FF2407-12-04	12FFOR-4MFFOR	3/4 x 1/4	1 3/16-12	9/16-18
FF2407-12-06	12FFOR-6MFFOR	3/4 x 3/8	1 3/16-12	11/16-16
FF2407-12-08	12FFOR-8MFFOR	3/4 x 1/2	1 3/16-12	13/16-16
FF2407-16-08	16FFOR-8MFFOR	1 x 1/2	1 7/16-12	13/16-16
FF2407-16-10	16FFOR-10MFFOR	1 x 5/8	1 7/16-12	1-14



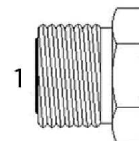
O-Ring Face Seal

FF2408 Series

MFFOR-Plug

SAE 520109

Item Number	HH Item Number	Tube OD	1 Male FFOR
FF2408-04	4MFFOR-PLUG	1/4	9/16-18
FF2408-06	6MFFOR-PLUG	3/8	11/16-16
FF2408-08	8MFFOR-PLUG	1/2	13/16-16
FF2408-10	10MFFOR-PLUG	5/8	1-14
FF2408-12	12MFFOR-PLUG	3/4	1 3/16-12
FF2408-16	16MFFOR-PLUG	1	1 7/16-12
FF2408-20	20MFFOR-PLUG	1 1/4	1 11/16-12
FF2408-24	24MFFOR-PLUG	1 1/2	2-12

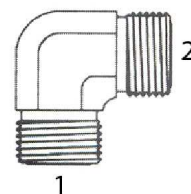


FF2500 Series

MFFOR-MFFOR 90°

SAE 520201

Item Number	HH Item Number	Tube OD	1 Male FFOR	2 Male FFOR
FF2500-04-04	4MFFOR-4MFFOR90	1/4	9/16-18	9/16-18
FF2500-06-06	6MFFOR-6MFFOR90	3/8	11/16-16	11/16-16
FF2500-08-08	8MFFOR-8MFFOR90	1/2	13/16-16	13/16-16
FF2500-10-10	10MFFOR-10MFFOR90	5/8	1-14	1-14
FF2500-12-08	12MFFOR-8MFFOR90	3/4 x 1/2	1 3/16-12	13/16-16
FF2500-12-12	12MFFOR-12MFFOR90	3/4	1 3/16-12	1 3/16-12
FF2500-16-12	16MFFOR-12MFFOR90	1 x 3/4	1 7/16-12	1 3/16-12
FF2500-16-16	16MFFOR-16MFFOR90	1	1 7/16-12	1 7/16-12
FF2500-20-16	20MFFOR-16MFFOR90	1 1/4 x 1	1 11/16-12	1 7/16-12
FF2500-20-20	20MFFOR-20MFFOR90	1 1/4	1 11/16-12	1 11/16-12
FF2500-24-20	24MFFOR-20MFFOR90	1 1/2 x 1 1/4	2-12	1 11/16-12
FF2500-24-24	24MFFOR-24MFFOR90	1 1/2	2-12	2-12



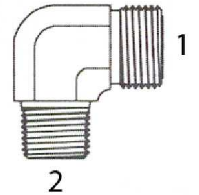
O-Ring Face Seal

FF2501 Series

MFFOR-MP 90°

SAE 520202

Item Number	HH Item Number	Tube OD	1 Male FFOR	2 Male Pipe
FF2501-04-02	4MFFOR-2MP90	1/4	9/16-18	1/8-27
FF2501-04-04	4MFFOR-4MP90	1/4	9/16-18	1/4-18
FF2501-04-06	4MFFOR-6MP90	1/4	9/16-18	3/8-18
FF2501-06-02	6MFFOR-2MP90	3/8	11/16-16	1/8-27
FF2501-06-04	6MFFOR-4MP90	3/8	11/16-16	1/4-18
FF2501-06-06	6MFFOR-6MP90	3/8	11/16-16	3/8-18
FF2501-06-08	6MFFOR-8MP90	3/8	11/16-16	1/2-14
FF2501-08-04	8MFFOR-4MP90	1/2	13/16-16	1/4-18
FF2501-08-06	8MFFOR-6MP90	1/2	13/16-16	3/8-18
FF2501-08-08	8MFFOR-8MP90	1/2	13/16-16	1/2-14
FF2501-08-12	8MFFOR-12MP90	1/2	13/16-16	3/4-14
FF2501-10-06	10MFFOR-6MP90	5/8	1-14	3/8-18
FF2501-10-08	10MFFOR-8MP90	5/8	1-14	1/2-14
FF2501-10-12	10MFFOR-12MP90	5/8	1-14	3/4-14
FF2501-12-08	12MFFOR-8MP90	3/4	1 3/16-12	1/2-14
FF2501-12-12	12MFFOR-12MP90	3/4	1 3/16-12	3/4-14
FF2501-12-16	12MFFOR-16MP90	3/4	1 3/16-12	1-11 1/2
FF2501-16-12	16MFFOR-12MP90	1	1 7/16-12	3/4-14
FF2501-16-16	16MFFOR-16MP90	1	1 7/16-12	1-11 1/2
FF2501-16-20	16MFFOR-20MP90	1	1 7/16-12	1 1/4-11 1/2
FF2501-20-16	20MFFOR-16MP90	1 1/4	1 11/16-12	1-11 1/2
FF2501-20-20	20MFFOR-20MP90	1 1/4	1 11/16-12	1 1/4-11 1/2
FF2501-24-24	24MFFOR-24MP90	1 1/2	2-12	1 1/2-11 1/2

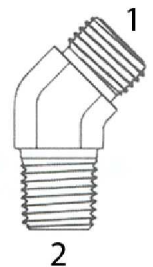


FF2503 Series

MFFOR-MP 45°

SAE 520302

Item Number	HH Item Number	Tube OD	1 Male FFOR	2 Male Pipe
FF2503-04-02	4MFFOR-2MP45	1/4	9/16-18	1/8-27
FF2503-04-04	4MFFOR-4MP45	1/4	9/16-18	1/4-18
FF2503-06-04	6MFFOR-4MP45	3/8	11/16-16	1/4-18
FF2503-06-06	6MFFOR-6MP45	3/8	11/16-16	3/8-18
FF2503-06-08	6MFFOR-8MP45	3/8	11/16-16	1/2-14
FF2503-08-06	8MFFOR-6MP45	1/2	13/16-16	3/8-18
FF2503-08-08	8MFFOR-8MP45	1/2	13/16-16	1/2-14
FF2503-08-12	8MFFOR-12MP45	1/2	13/16-16	3/4-14
FF2503-10-08	10MFFOR-8MP45	5/8	1-14	1/2-14
FF2503-12-08	12MFFOR-8MP45	3/4	1 3/16-12	1/2-14
FF2503-12-12	12MFFOR-12MP45	3/4	1 3/16-12	3/4-14
FF2503-16-16	16MFFOR-16MP45	1	1 7/16-12	1-11 1/2
FF2503-20-20	20MFFOR-20MP45	1 1/4	1 11/16-12	1 1/4-11 1/2



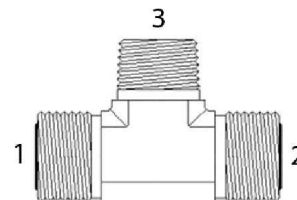
O-Ring Face Seal

FF2601 Series

MFFOR-MFFOR-MP Tee

SAE 520425

Item Number	HH Item Number	Tube OD	1 Male FFOR	2 Male FFOR	3 Male Pipe
FF2601-04-04-02	4MFFOR-4MFFOR-2MP	1/4	9/16-18	9/16-18	1/8-27
FF2601-04-04-04	4MFFOR-4MFFOR-4MP	1/4	9/16-18	9/16-18	1/4-18
FF2601-06-06-04	6MFFOR-6MFFOR-4MP	3/8	11/16-16	11/16-16	1/4-18
FF2601-06-06-06	6MFFOR-6MFFOR-6MP	3/8	11/16-16	11/16-16	3/8-18
FF2601-08-08-06	8MFFOR-8MFFOR-6MP	1/2	13/16-16	13/16-16	3/8-18
FF2601-08-08-08	8MFFOR-8MFFOR-8MP	1/2	13/16-16	13/16-16	1/2-14
FF2601-10-10-08	10MFFOR-10MFFOR-8MP	5/8	1-14	1-14	1/2-14
FF2601-12-12-12	12MFFOR-12MFFOR-12MP	3/4	1 3/16-12	1 3/16-12	3/4-14
FF2601-16-16-16	16MFFOR-16MFFOR-16MP	1	1 7/16-12	1 7/16-12	1-11 1/2
FF2601-20-20-20	20MFFOR-20MFFOR-20MP	1 1/4	1 11/16-12	1 11/16-12	1 1/4-11 1/2

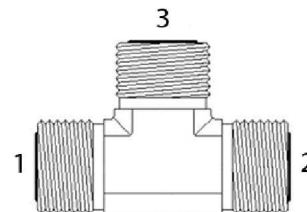


FF2603 Series

MFFOR-MFFOR-MFFOR Tee

SAE 520425

Item Number	HH Item Number	Tube OD	1 Male FFOR	2 Male FFOR	3 Male FFOR
FF2603-04-04-04	4MFFOR-4MFFOR-4MFFOR	1/4	9/16-18	9/16-18	9/16-18
FF2603-06-06-06	6MFFOR-6MFFOR-6MFFOR	3/8	11/16-16	11/16-16	11/16-16
FF2603-06-06-08	6MFFOR-6MFFOR-8MFFOR	3/8	11/16-16	11/16-16	13/16-16
FF2603-06-08-08	6MFFOR-8MFFOR-8MFFOR	3/8	11/16-16	13/16-16	13/16-16
FF2603-08-08-08	8MFFOR-8MFFOR-8MFFOR	1/2	13/16-16	13/16-16	13/16-16
FF2603-08-08-10	8MFFOR-8MFFOR-10MFFOR	1/2	13/16-16	13/16-16	1-14
FF2603-10-10-10	10MFFOR-10MFFOR-10MFFOR	5/8	1-14	1-14	1-14
FF2603-12-12-12	12MFFOR-12MFFOR-12MFFOR	3/4	1 3/16-12	1 3/16-12	1 3/16-12
FF2603-16-16-16	16MFFOR-16MFFOR-16MFFOR	1	1 7/16-12	1 7/16-12	1 7/16-12
FF2603-20-20-20	20MFFOR-20MFFOR-20MFFOR	1 1/4	1 11/16-12	1 11/16-12	1 11/16-12
FF2603-24-24-24	24MFFOR-24MFFOR-24MFFOR	1 1/2	2-12	2-12	2-12



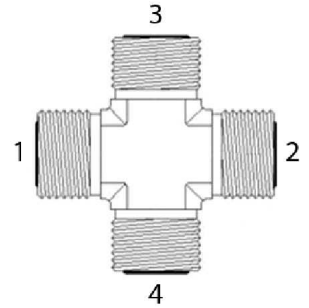
O-Ring Face Seal

FF2650 Series

MFFOR-MFFOR-MFFOR-MFFOR Cross

SAE 520501

Item Number	HH Item Number	Tube OD	1 Male FFOR	2 Male FFOR	3 Male FFOR	4 Male FFOR
FF2650-04-04-04-04	4MFFOR-4MFFOR-4MFFOR-4MFFOR	1/4	9/16-18	9/16-18	9/16-18	9/16-18
FF2650-06-06-06-06	6MFFOR-6MFFOR-6MFFOR-6MFFOR	3/8	11/16-16	11/16-16	11/16-16	11/16-16
FF2650-08-08-08-08	8MFFOR-8MFFOR-8MFFOR-8MFFOR	1/2	13/16-16	13/16-16	13/16-16	13/16-16
FF2650-10-10-10-10	10MFFOR-10MFFOR-10MFFOR-10MFFOR	5/8	1-14	1-14	1-14	1-14
FF2650-12-12-12-12	12MFFOR-12MFFOR-12MFFOR-12MFFOR	3/4	1 3/16-12	1 3/16-12	1 3/16-12	1 3/16-12
FF2650-16-16-16-16	16MFFOR-16MFFOR-16MFFOR-16MFFOR	1	1 7/16-12	1 7/16-12	1 7/16-12	1 7/16-12
FF2650-20-20-20-20	20MFFOR-20MFFOR-20MFFOR-20MFFOR	1 1/4	1 11/16-12	1 11/16-12	1 11/16-12	1 11/16-12
FF2650-24-24-24-24	24MFFOR-24MFFOR-24MFFOR-24MFFOR	1 1/2	2-12	2-12	2-12	2-12

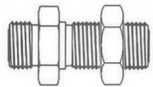
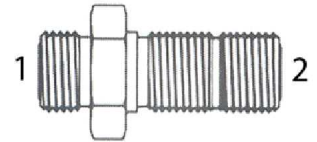


FF2700 Series

MFFOR-MFFOR Bulkhead Union

SAE 520601

Item Number	HH Item Number	Tube OD	1 Male FFOR	2 Male FFOR
FF2700-04-04	4MFFOR-4MFFOR-BKHD	1/4	9/16-18	9/16-18
FF2700-06-06	6MFFOR-6MFFOR-BKHD	3/8	11/16-16	11/16-16
FF2700-06-08	6MFFOR-8MFFOR-BKHD	3/8	11/16-16	13/16-16
FF2700-08-08	8MFFOR-8MFFOR-BKHD	1/2	13/16-16	13/16-16
FF2700-10-10	10MFFOR-10MFFOR-BKHD	5/8	1-14	1-14
FF2700-12-12	12MFFOR-12MFFOR-BKHD	3/4	1 3/16-12	1 3/16-12
FF2700-16-16	16MFFOR-16MFFOR-BKHD	1	1 7/16-12	1 7/16-12
FF2700-20-20	20MFFOR-20MFFOR-BKHD	1 1/4	1 11/16-12	1 11/16-12
FF2700-24-24	24MFFOR-24MFFOR-BKHD	1 1/2	2-12	2-12



All of our bulkhead fittings are available with the locknut #FF0306 (pg. 15), assembled on the body.

Just add an "LN" suffix to the series number (part number example: FF2700LN-12-12).

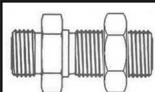
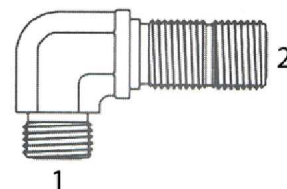
O-Ring Face Seal

FF2701 Series

MFFOR-MFFOR Bulkhead 90°

SAE 520701

Item Number	HH Item Number	Tube OD	1 Male FFOR	2 Male FFOR
FF2701-04-04	4MFFOR-4MFFOR-BKHD90	1/4	9/16-18	9/16-18
FF2701-06-06	6MFFOR-6MFFOR-BKHD90	3/8	11/16-16	11/16-16
FF2701-06-08	6MFFOR-8MFFOR-BKHD90	3/8	11/16-16	13/16-16
FF2701-08-08	8MFFOR-8MFFOR-BKHD90	1/2	13/16-16	13/16-16
FF2701-08-10	8MFFOR-10MFFOR-BKHD90	1/2	13/16-16	1-14
FF2701-10-10	10MFFOR-10MFFOR-BKHD90	5/8	1-14	1-14
FF2701-12-12	12MFFOR-12MFFOR-BKHD90	3/4	1 3/16-12	1 3/16-12
FF2701-16-16	16MFFOR-16MFFOR-BKHD90	1	1 7/16-12	1 7/16-12
FF2701-20-20	20MFFOR-20MFFOR-BKHD90	1 1/4	1 11/16-12	1 11/16-12
FF2701-24-24	24MFFOR-24MFFOR-BKHD90	1 1/2	2-12	2-12



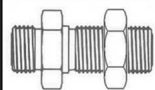
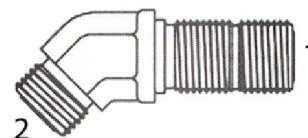
All of our bulkhead fittings are available with the locknut #FF0306 (pg. 15), assembled on the body.
Just add an "LN" suffix to the series number (part number example: FF2701LN-12-12).

FF2702 Series

MFFOR-MFFOR Bulkhead 45°

SAE 520801

Item Number	HH Item Number	Tube OD	1 Male FFOR	2 Male FFOR
FF2702-04-04	4MFFOR-4MFFOR-BKHD45	1/4	9/16-18	9/16-18
FF2702-06-06	6MFFOR-6MFFOR-BKHD45	3/8	11/16-16	11/16-16
FF2702-08-08	8MFFOR-8MFFOR-BKHD45	1/2	13/16-16	13/16-16
FF2702-10-08	10MFFOR-8MFFOR-BKHD45	5/8	1-14	13/16-16
FF2702-10-10	10MFFOR-10MFFOR-BKHD45	5/8	1-14	1-14
FF2702-12-12	12MFFOR-12MFFOR-BKHD45	3/4	1 3/16-12	1 3/16-12
FF2702-16-16	16MFFOR-16MFFOR-BKHD45	1	1 7/16-12	1 7/16-12
FF2702-20-20	20MFFOR-20MFFOR-BKHD45	1 1/4	1 11/16-12	1 11/16-12
FF2702-24-24	24MFFOR-24MFFOR-BKHD45	1 1/2	2-12	2-12



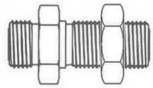
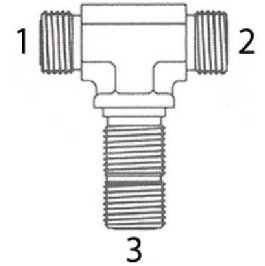
All of our bulkhead fittings are available with the locknut #FF0306 (pg. 15), assembled on the body.
Just add an "LN" suffix to the series number (part number example: FF2702LN-12-12).

O-Ring Face Seal

FF2703 Series

MFFOR-MFFOR-MFFOR Bulkhead Tee

Item Number	HH Item Number	Tube OD	1 Male FFOR	2 Male FFOR	3 Male FFOR
FF2703-04-04-04	4MFFOR-4MFFOR-4MFFOR-BKHD	1/4	9/16-18	9/16-18	9/16-18
FF2703-06-06-06	6MFFOR-6MFFOR-6MFFOR-BKHD	3/8	11/16-16	11/16-16	11/16-16
FF2703-08-08-08	8MFFOR-8MFFOR-8MFFOR-BKHD	1/2	13/16-16	13/16-16	13/16-16
FF2703-12-12-12	12MFFOR-12MFFOR-12MFFOR-BKHD	3/4	1 3/16-12	1 3/16-12	1 3/16-12
FF2703-16-16-16	16MFFOR-16MFFOR-16MFFOR-BKHD	1	1 7/16-12	1 7/16-12	1 7/16-12



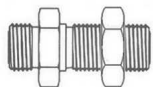
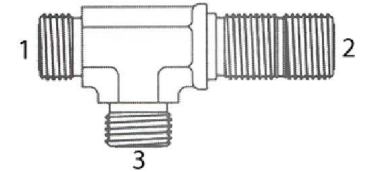
All of our bulkhead fittings are available with the locknut #FF0306 (pg. 15), assembled on the body.
Just add an "LN" suffix to the series number (part number example: FF2703LN-12-12).

FF2704 Series

MFFOR-MFFOR-MFFOR Bulkhead Run Tee

SAE 520958

Item Number	HH Item Number	Tube OD	1 Male FFOR	2 Male FFOR	3 Male FFOR
FF2704-04-04-04	4MFFOR-4MFFOR-BKHD-4MFFOR	1/4	9/16-18	9/16-18	9/16-18
FF2704-06-06-06	6MFFOR-6MFFOR-BKHD-6MFFOR	3/8	11/16-16	11/16-16	11/16-16
FF2704-08-08-08	8MFFOR-8MFFOR-BKHD-8MFFOR	1/2	13/16-16	13/16-16	13/16-16
FF2704-10-10-10	10MFFOR-10MFFOR-BKHD-10MFFOR	5/8	1-14	1-14	1-14
FF2704-12-12-12	12MFFOR-12MFFOR-BKHD-12MFFOR	3/4	1 3/16-12	1 3/16-12	1 3/16-12
FF2704-16-16-16	16MFFOR-16MFFOR-BKHD-16MFFOR	1	1 7/16-12	1 7/16-12	1 7/16-12
FF2704-20-20-20	20MFFOR-20MFFOR-BKHD-20MFFOR	1 1/4	1 11/16-12	1 11/16-12	1 11/16-12
FF2704-24-24-24	24MFFOR-24MFFOR-BKHD-24MFFOR	1 1/2	2-12	2-12	2-12



All of our bulkhead fittings are available with the locknut #FF0306 (pg. 15), assembled on the body.
Just add an "LN" suffix to the series number (part number example: FF2704LN-12-12).

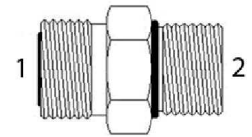
O-Ring Face Seal

FF6400-O Series

MFFOR-MB Straight

SAE 520120

Item Number	HH Item Number	Tube OD	1 Male FFOR	2 Male ORB
FF6400-04-04-O	4MFFOR-4MB	1/4	9/16-18	7/16-20
FF6400-04-05-O	4MFFOR-5MB	1/4	9/16-18	1/2-20
FF6400-04-06-O	4MFFOR-6MB	1/4	9/16-18	9/16-18
FF6400-04-08-O	4MFFOR-8MB	1/4	9/16-18	3/4-16
FF6400-04-10-O	4MFFOR-10MB	1/4	9/16-18	7/8-14
FF6400-04-12-O	4MFFOR-12MB	1/4	9/16-18	1 1/16-12
FF6400-06-03-O	6MFFOR-3MB	3/8	11/16-16	5/16-24
FF6400-06-04-O	6MFFOR-4MB	3/8	11/16-16	7/16-20
FF6400-06-05-O	6MFFOR-5MB	3/8	11/16-16	1/2-20
FF6400-06-06-O	6MFFOR-6MB	3/8	11/16-16	9/16-18
FF6400-06-08-O	6MFFOR-8MB	3/8	11/16-16	3/4-16
FF6400-06-10-O	6MFFOR-10MB	3/8	11/16-16	7/8-14
FF6400-06-12-O	6MFFOR-12MB	3/8	11/16-16	1 1/16-12
FF6400-06-16-O	6MFFOR-16MB	3/8	11/16-16	1 5/16-12
FF6400-08-04-O	8MFFOR-4MB	1/2	13/16-16	7/16-20
FF6400-08-06-O	8MFFOR-6MB	1/2	13/16-16	9/16-18
FF6400-08-08-O	8MFFOR-8MB	1/2	13/16-16	3/4-16
FF6400-08-10-O	8MFFOR-10MB	1/2	13/16-16	7/8-14
FF6400-08-12-O	8MFFOR-12MB	1/2	13/16-16	1 1/16-12
FF6400-08-16-O	8MFFOR-16MB	1/2	13/16-16	1 5/16-12
FF6400-10-06-O	10MFFOR-6MB	5/8	1-14	9/16-18
FF6400-10-08-O	10MFFOR-8MB	5/8	1-14	3/4-16
FF6400-10-10-O	10MFFOR-10MB	5/8	1-14	7/8-14
FF6400-10-12-O	10MFFOR-12MB	5/8	1-14	1 1/16-12
FF6400-10-16-O	10MFFOR-16MB	5/8	1-14	1 5/16-12
FF6400-12-06-O	12MFFOR-6MB	3/4	1 3/16-12	9/16-18
FF6400-12-08-O	12MFFOR-8MB	3/4	1 3/16-12	3/4-16
FF6400-12-10-O	12MFFOR-10MB	3/4	1 3/16-12	7/8-14
FF6400-12-12-O	12MFFOR-12MB	3/4	1 3/16-12	1 1/16-12
FF6400-12-16-O	12MFFOR-16MB	3/4	1 3/16-12	1 5/16-12
FF6400-12-20-O	12MFFOR-20MB	3/4	1 3/16-12	1 5/8-12
FF6400-16-10-O	16MFFOR-10MB	1	1 7/16-12	7/8-14
FF6400-16-12-O	16MFFOR-12MB	1	1 7/16-12	1 1/16-12
FF6400-16-14-O	16MFFOR-14MB	1	1 7/16-12	1 3/16-12
FF6400-16-16-O	16MFFOR-16MB	1	1 7/16-12	1 5/16-12
FF6400-16-20-O	16MFFOR-20MB	1	1 7/16-12	1 5/8-12
FF6400-20-16-O	20MFFOR-16MB	1 1/4	1 11/16-12	1 5/16-12
FF6400-20-20-O	20MFFOR-20MB	1 1/4	1 11/16-12	1 5/8-12
FF6400-20-24-O	20MFFOR-24MB	1 1/4	1 11/16-12	1 7/8-12
FF6400-24-20-O	24MFFOR-20MB	1 1/2	2-12	1 5/8-12
FF6400-24-24-O	24MFFOR-24MB	1 1/2	2-12	1 7/8-12



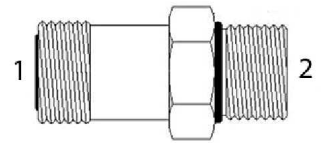
O-Ring Face Seal

FF6400-L-O Series

MFFOR-MB Straight Long

SAE 520122

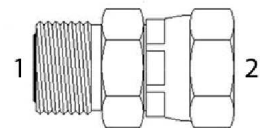
Item Number	HH Item Number	Tube OD	1 Male FFOR	2 Male ORB
FF6400-L-04-04-O	4MFFOR-4MBL	1/4	9/16-18	7/16-20
FF6400-L-06-06-O	6MFFOR-6MBL	3/8	11/16-16	9/16-18
FF6400-L-08-08-O	8MFFOR-8MBL	1/2	13/16-16	3/4-16
FF6400-L-10-10-O	10MFFOR-10MBL	5/8	1-14	7/8-14
FF6400-L-12-12-O	12MFFOR-12MBL	3/4	1 3/16-12	1 1/16-12
FF6400-L-16-16-O	16MFFOR-16MBL	1	1 7/16-12	1 5/16-12
FF6400-L-20-20-O	20MFFOR-20MBL	1 1/4	1 11/16-12	1 5/8-12
FF6400-L-24-24-O	24MFFOR-24MBL	1 1/2	2-12	1 7/8-12



FF6402 Series

MFFOR-FJX Straight

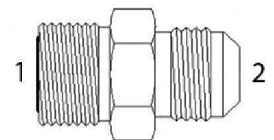
Item Number	HH Item Number	Tube OD	1 Male FFOR	2 Female JIC Swivel
FF6402-04-04	4MFFOR-4FJX	1/4	9/16-18	7/16-20
FF6402-06-06	6MFFOR-6FJX	3/8	11/16-16	9/16-18
FF6402-08-08	8MFFOR-8FJX	1/2	13/16-16	3/4-16
FF6402-10-10	10MFFOR-10FJX	5/8	1-14	7/8-14
FF6402-12-12	12MFFOR-12FJX	3/4	1 3/16-12	1 1/16-12
FF6402-16-16	16MFFOR-16FJX	1	1 7/16-12	1 5/16-12
FF6402-20-20	20MFFOR-20FJX	1 1/4	1 11/16-12	1 5/8-12



FF6403 Series

MFFOR-MJ Straight

Item Number	HH Item Number	Tube OD	1 Male FFOR	2 Male JIC
FF6403-04-04	4MFFOR-4MJ	1/4	9/16-18	7/16-20
FF6403-06-06	6MFFOR-6MJ	3/8	11/16-16	9/16-18
FF6403-08-08	8MFFOR-8MJ	1/2	13/16-16	3/4-16
FF6403-10-10	10MFFOR-10MJ	5/8	1-14	7/8-14
FF6403-12-12	12MFFOR-12MJ	3/4	1 3/16-12	1 1/16-12
FF6403-16-16	16MFFOR-16MJ	1	1 7/16-12	1 5/16-12
FF6403-20-20	20MFFOR-20MJ	1 1/4	1 11/16-12	1 5/8-12

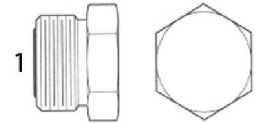


O-Ring Face Seal

FF6408 Series

MB External Hex Plug High Pressure

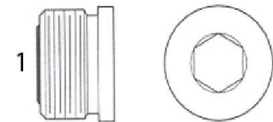
Item Number	HH Item Number	Tube OD	1 Male ORB
FF6408-16	16MB-PLUG-HP	1	1 5/16-12
FF6408-24	24MB-PLUG-HP	1 1/2	1 7/8-12



FF6409 Series

MB Hollow Hex Plug High Pressure

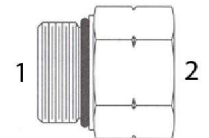
Item Number	HH Item Number	Tube OD	1 Male ORB
FF6409-16	16MB-HHP-HP	1	1 5/16-12
FF6409-24	24MB-HHP-HP	1 1/2	1 7/8-12



FF6410 Series

MB-FB High Pressure

Item Number	HH Item Number	Tube OD	1 Male ORB	2 Female ORB
FF6410-04-04-O	4MB-4FB-HP	1/4	7/16-20	7/16-20
FF6410-08-08-O	8MB-8FB-HP	1/2	3/4-16	3/4-16
FF6410-12-16-O	12MB-16FB-HP	3/4	1 1/16-12	1 5/16-12
FF6410-16-12-O	16MB-12FB-HP	1	1 5/16-12	1 1/16-12
FF6410-16-16-O	16MB-16FB-HP	1	1 5/16-12	1 5/16-12
FF6410-24-24-O	24MB-24FB-HP	1 1/2	1 7/8-12	1 7/8-12

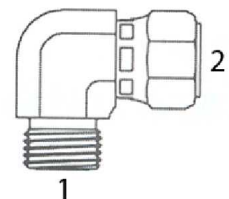


FF6500 Series

MFFOR-FFORX 90°

SAE 520221

Item Number	HH Item Number	Tube OD	1 Male FFOR	2 Female FFOR Swivel
FF6500-04-04	4MFFOR-4FFORX90	1/4	9/16-18	9/16-18
FF6500-06-06	6MFFOR-6FFORX90	3/8	11/16-16	11/16-16
FF6500-08-08	8MFFOR-8FFORX90	1/2	13/16-16	13/16-16
FF6500-10-10	10MFFOR-10FFORX90	5/8	1-14	1-14
FF6500-12-12	12MFFOR-12FFORX90	3/4	1 3/16-12	1 3/16-12
FF6500-16-16	16MFFOR-16FFORX90	1	1 7/16-12	1 7/16-12
FF6500-20-20	20MFFOR-20FFORX90	1 1/4	1 11/16-12	1 11/16-12
FF6500-24-24	24MFFOR-24FFORX90	1 1/2	2-12	2-12

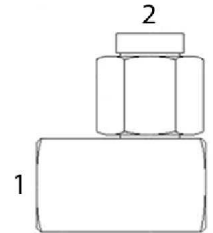


O-Ring Face Seal

FF6503 Series

FP-FFORX 90°

Item Number	HH Item Number	Tube OD	1 Female Pipe	2 Female FFOR Swivel
FF6503-04-04	4FP-4FFORX90	1/4	1/4-18	9/16-18
FF6503-06-06	6FP-6FFORX90	3/8	3/8-18	11/16-16

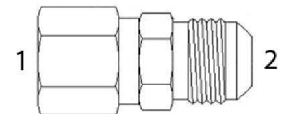


FF6504 Series

FFORX-MJ Straight

SAE 520801

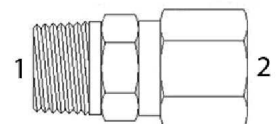
Item Number	HH Item Number	Tube OD	1 Female FFOR Swivel	2 Male JIC
FF6504-04-04	4FFORX-4MJ	1/4	9/16-18	7/16-20
FF6504-06-04	6FFORX-4MJ	3/8	11/16-16	7/16-20
FF6504-06-06	6FFORX-6MJ	3/8	11/16-16	9/16-18
FF6504-08-04	8FFORX-4MJ	1/2	13/16-16	7/16-20
FF6504-08-08	8FFORX-8MJ	1/2	13/16-16	3/4-16
FF6504-08-12	8FFORX-12MJ	1/2	13/16-16	1 1/16-12
FF6504-10-04	10FFORX-4MJ	5/8	1-14	7/16-20
FF6504-10-10	10FFORX-10MJ	5/8	1-14	7/8-14
FF6504-10-12	10FFORX-12MJ	5/8	1-14	1 1/16-12
FF6504-12-04	12FFORX-4MJ	3/4	1 3/16-12	7/16-20
FF6504-12-12	12FFORX-12MJ	3/4	1 3/16-12	1 1/16-12
FF6504-16-04	16FFORX-4MJ	1	1 7/16-12	7/16-20
FF6504-16-16	16FFORX-16MJ	1	1 7/16-12	1 5/16-12
FF6504-20-20	20FFORX-20MJ	1 1/4	1 11/16-12	1 5/8-12
FF6504-24-24	24FFORX-24MJ	1 1/2	2-12	1 7/8-12



FF6505 Series

MP-FFORX Straight

Item Number	HH Item Number	Tube OD	1 Male Pipe	2 Female FFOR Swivel
FF6505-04-06	4MP-6FFORX	1/4	1/4-18	11/16-16

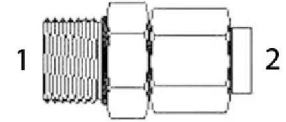


O-Ring Face Seal

FF6540 Series

MB-FFORX Straight

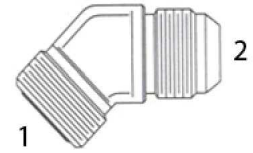
Item Number	HH Item Number	Tube OD	1 Male ORB	2 Female FFOR Swivel
FF6540-04-04-O	4MB-4FFORX	1/4	7/16-20	9/16-18
FF6540-06-06-O	6MB-6FFORX	3/8	9/16-18	11/16-16
FF6540-08-06-O	8MB-6FFORX	1/2	3/4-16	11/16-16
FF6540-08-08-O	8MB-8FFORX	1/2	3/4-16	13/16-16
FF6540-12-12-O	12MB-12FFORX	3/4	1 1/16-12	1 3/16-12
FF6540-16-16-O	16MB-16FFORX	1	1 5/16-12	1 7/16-12
FF6540-20-20-O	20MB-20FFORX	1 1/4	1 5/8-12	1 11/16-12
FF6540-24-24-O	24MB-24FFORX	1 1/2	1 7/8-12	2-12



FF6545 Series

MFFOR-MJ 45°

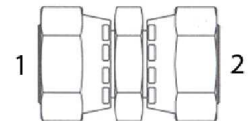
Item Number	HH Item Number	Tube OD	1 Male FFOR	2 Male JIC
FF6545-04-04-O	4MFFOR-4MJ45	1/4	9/16-18	7/16-20
FF6545-06-06-O	6MFFOR-6MJ45	3/8	11/16-16	9/16-18
FF6545-08-08-O	8MFFOR-8MJ45	1/2	13/16-16	3/4-16
FF6545-10-10-O	10MFFOR-10MJ45	5/8	1-14	7/8-14
FF6545-12-12-O	12MFFOR-12MJ45	3/4	1 3/16-12	1 1/16-12
FF6545-16-16-O	16MFFOR-16MJ45	1	1 7/16-12	1 5/16-12



FF6565 Series

FFORX-FFORX Straight

Item Number	HH Item Number	Tube OD	1 Female FFOR Swivel	2 Female FFOR Swivel
FF6565-04-04	4FFORX-4FFORX	1/4	9/16-18	9/16-18
FF6565-06-06	6FFORX-6FFORX	3/8	11/16-16	11/16-16
FF6565-08-08	8FFORX-8FFORX	1/2	13/16-16	13/16-16
FF6565-10-10	10FFORX-10FFORX	5/8	1-14	1-14
FF6565-12-12	12FFORX-12FFORX	3/4	1 3/16-12	1 3/16-12
FF6565-16-16	16FFORX-16FFORX	1	1 7/16-12	1 7/16-12

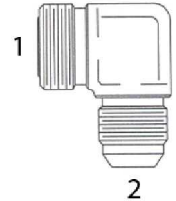


O-Ring Face Seal

FF6590 Series

MFFOR-MJ 90°

Item Number	HH Item Number	Tube OD	1 Male FFOR	2 Male JIC
FF6590-04-04-O	4MFFOR-4MJ90	1/4	9/16-18	7/16-20
FF6590-06-06-O	6MFFOR-6MJ90	3/8	11/16-16	9/16-18
FF6590-08-08-O	8MFFOR-8MJ90	1/2	13/16-16	3/4-16
FF6590-10-10-O	10MFFOR-10MJ90	5/8	1-14	7/8-14
FF6590-12-12-O	12MFFOR-12MJ90	3/4	1 3/16-12	1 1/16-12
FF6590-16-16-O	16MFFOR-16MJ90	1	1 7/16-12	1 5/16-12

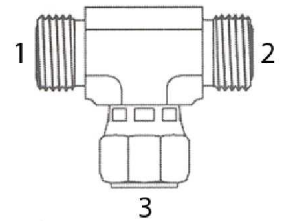


FF6600 Series

MFFOR-MFFOR-FFORX Branch Tee

SAE 520433

Item Number	HH Item Number	Tube OD	1 Male FFOR	2 Male FFOR	3 Female FFOR Swivel
FF6600-04-04-04	4MFFOR-4MFFOR-4FFORX	1/4	9/16-18	9/16-18	9/16-18
FF6600-04-04-06	4MFFOR-4MFFOR-6FFORX	1/4	9/16-18	9/16-18	11/16-16
FF6600-06-06-06	6MFFOR-6MFFOR-6FFORX	3/8	11/16-16	11/16-16	11/16-16
FF6600-08-08-08	8MFFOR-8MFFOR-8FFORX	1/2	13/16-16	13/16-16	13/16-16
FF6600-10-10-10	10MFFOR-10MFFOR-10FFORX	5/8	1-14	1-14	1-14
FF6600-12-12-12	12MFFOR-12MFFOR-12FFORX	3/4	1 3/16-12	1 3/16-12	1 3/16-12
FF6600-16-16-16	16MFFOR-16MFFOR-16FFORX	1	1 7/16-12	1 7/16-12	1 7/16-12
FF6600-20-20-20	20MFFOR-20MFFOR-20FFORX	1 1/4	1 11/16-12	1 11/16-12	1 11/16-12
FF6600-24-24-24	24MFFOR-24MFFOR-24FFORX	1 1/2	2-12	2-12	2-12

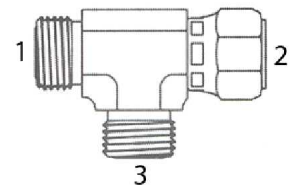


FF6602 Series

MFFOR-FFORX-MFFOR Tee

SAE 520432

Item Number	HH Item Number	Tube OD	1 Male FFOR	2 Female FFOR Swivel	3 Male FFOR
FF6602-04-04-04	4MFFOR-4FFORX-4MFFOR	1/4	9/16-18	9/16-18	9/16-18
FF6602-06-06-04	6MFFOR-6FFORX-4MFFOR	3/8	11/16-16	11/16-16	9/16-18
FF6602-06-06-06	6MFFOR-6FFORX-6MFFOR	3/8	11/16-16	11/16-16	11/16-16
FF6602-06-08-06	6MFFOR-8FFORX-6MFFOR	3/8	11/16-16	13/16-16	11/16-16
FF6602-06-08-08	6MFFOR-8FFORX-8MFFOR	3/8	11/16-16	13/16-16	13/16-16
FF6602-08-08-06	8MFFOR-8FFORX-6MFFOR	1/2	13/16-16	13/16-16	11/16-16
FF6602-08-08-08	8MFFOR-8FFORX-8MFFOR	1/2	13/16-16	13/16-16	13/16-16
FF6602-10-10-10	10MFFOR-10FFORX-10MFFOR	5/8	1-14	1-14	1-14
FF6602-12-12-12	12MFFOR-12FFORX-12MFFOR	3/4	1 3/16-12	1 3/16-12	1 3/16-12
FF6602-16-16-16	16MFFOR-16FFORX-16MFFOR	1	1 7/16-12	1 7/16-12	1 7/16-12
FF6602-20-20-20	20MFFOR-20FFORX-20MFFOR	1 1/4	1 11/16-12	1 11/16-12	1 11/16-12
FF6602-24-24-24	24MFFOR-24FFORX-24MFFOR	1 1/2	2-12	2-12	2-12



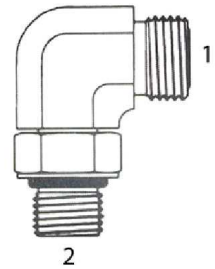
O-Ring Face Seal

FF6801-NWO Series

MFFOR-MB 90°

SAE 520220

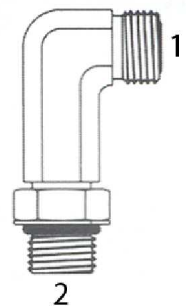
Item Number	HH Item Number	Tube OD	1 Male FFOR	2 Male ORB
FF6801-04-04-NWO	4MFFOR-4MB90	1/4	9/16-18	7/16-20
FF6801-04-05-NWO	4MFFOR-5MB90	1/4	9/16-18	1/2-20
FF6801-04-06-NWO	4MFFOR-6MB90	1/4	9/16-18	9/16-18
FF6801-04-08-NWO	4MFFOR-8MB90	1/4	9/16-18	3/4-16
FF6801-06-04-NWO	6MFFOR-4MB90	3/8	11/16-16	7/16-20
FF6801-06-05-NWO	6MFFOR-5MB90	3/8	11/16-16	1/2-20
FF6801-06-06-NWO	6MFFOR-6MB90	3/8	11/16-16	9/16-18
FF6801-06-08-NWO	6MFFOR-8MB90	3/8	11/16-16	3/4-16
FF6801-06-10-NWO	6MFFOR-10MB90	3/8	11/16-16	7/8-14
FF6801-06-12-NWO	6MFFOR-12MB90	3/8	11/16-16	1 1/16-12
FF6801-08-06-NWO	8MFFOR-6MB90	1/2	13/16-16	9/16-18
FF6801-08-08-NWO	8MFFOR-8MB90	1/2	13/16-16	3/4-16
FF6801-08-10-NWO	8MFFOR-10MB90	1/2	13/16-16	7/8-14
FF6801-08-12-NWO	8MFFOR-12MB90	1/2	13/16-16	1 1/16-12
FF6801-10-08-NWO	10MFFOR-8MB90	5/8	1-14	3/4-16
FF6801-10-10-NWO	10MFFOR-10MB90	5/8	1-14	7/8-14
FF6801-10-12-NWO	10MFFOR-12MB90	5/8	1-14	1 1/16-12
FF6801-12-08-NWO	12MFFOR-8MB90	3/4	1 3/16-12	3/4-16
FF6801-12-10-NWO	12MFFOR-10MB90	3/4	1 3/16-12	7/8-14
FF6801-12-12-NWO	12MFFOR-12MB90	3/4	1 3/16-12	1 1/16-12
FF6801-12-16-NWO	12MFFOR-16MB90	3/4	1 3/16-12	1 5/16-12
FF6801-16-12-NWO	16MFFOR-12MB90	1	1 7/16-12	1 1/16-12
FF6801-16-16-NWO	16MFFOR-16MB90	1	1 7/16-12	1 5/16-12
FF6801-16-20-NWO	16MFFOR-20MB90	1	1 7/16-12	1 5/8-12
FF6801-16-24-NWO	16MFFOR-24MB90	1	1 7/16-12	1 7/8-12
FF6801-20-12-NWO	20MFFOR-12MB90	1 1/4	1 11/16-12	1 1/16-12
FF6801-20-16-NWO	20MFFOR-16MB90	1 1/4	1 11/16-12	1 5/16-12
FF6801-20-20-NWO	20MFFOR-20MB90	1 1/4	1 11/16-12	1 5/8-12
FF6801-20-24-NWO	20MFFOR-24MB90	1 1/4	1 11/16-12	1 7/8-12
FF6801-24-20-NWO	24MFFOR-20MB90	1 1/2	2-12	1 5/8-12
FF6801-24-24-NWO	24MFFOR-24MB90	1 1/2	2-12	1 7/8-12



FF6801-L-NWO Series

MFFOR-MB 90° Long

Item Number	HH Item Number	Tube OD	1 Male FFOR	2 Male ORB
FF6801-L-04-04-NWO	4MFFOR-4MB90L	1/4	9/16-18	7/16-20
FF6801-L-06-06-NWO	6MFFOR-6MB90L	3/8	11/16-16	9/16-18
FF6801-L-08-08-NWO	8MFFOR-8MB90L	1/2	13/16-16	3/4-16
FF6801-L-10-10-NWO	10MFFOR-10MB90L	5/8	1-14	7/8-14
FF6801-L-12-12-NWO	12MFFOR-12MB90L	3/4	1 3/16-12	1 1/16-12
FF6801-L-16-16-NWO	16MFFOR-16MB90L	1	1 7/16-12	1 5/16-12

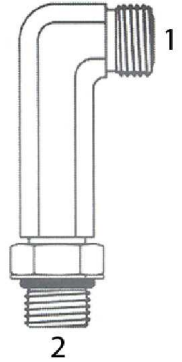


O-Ring Face Seal

FF6801-LL-NWO Series

MFFOR-MB 90° X-Long

Item Number	HH Item Number	Tube OD	1 Male FFOR	2 Male ORB
FF6801-LL-08-08-NWO	8MFFOR-8MB90LL	1/2	13/16-16	3/4-16
FF6801-LL-12-12-NWO	12MFFOR-12MB90LL	3/4	1 3/16-12	1 1/16-12
FF6801-LL-16-16-NWO	16MFFOR-16MB90LL	1	1 7/16-12	1 5/16-12

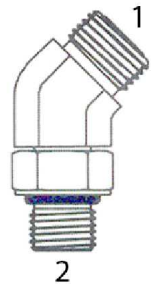


FF6802-NWO Series

MFFOR-MB 45°

SAE 520320

Item Number	HH Item Number	Tube OD	1 Male FFOR	2 Male ORB
FF6802-04-04-NWO	4MFFOR-4MB45	1/4	9/16-18	7/16-20
FF6802-04-06-NWO	4MFFOR-6MB45	1/4	9/16-18	9/16-18
FF6802-04-08-NWO	4MFFOR-8MB45	1/4	9/16-18	3/4-16
FF6802-06-04-NWO	6MFFOR-4MB45	3/8	11/16-16	7/16-20
FF6802-06-06-NWO	6MFFOR-6MB45	3/8	11/16-16	9/16-18
FF6802-06-08-NWO	6MFFOR-8MB45	3/8	11/16-16	3/4-16
FF6802-06-10-NWO	6MFFOR-10MB45	3/8	11/16-16	7/8-14
FF6802-08-06-NWO	8MFFOR-6MB45	1/2	13/16-16	9/16-18
FF6802-08-08-NWO	8MFFOR-8MB45	1/2	13/16-16	3/4-16
FF6802-08-10-NWO	8MFFOR-10MB45	1/2	13/16-16	7/8-14
FF6802-08-12-NWO	8MFFOR-12MB45	1/2	13/16-16	1 1/16-12
FF6802-10-08-NWO	10MFFOR-8MB45	5/8	1-14	3/4-16
FF6802-10-10-NWO	10MFFOR-10MB45	5/8	1-14	7/8-14
FF6802-10-12-NWO	10MFFOR-12MB45	5/8	1-14	1 1/16-12
FF6802-12-08-NWO	12MFFOR-8MB45	3/4	1 3/16-12	3/4-16
FF6802-12-10-NWO	12MFFOR-10MB45	3/4	1 3/16-12	7/8-14
FF6802-12-12-NWO	12MFFOR-12MB45	3/4	1 3/16-12	1 1/16-12
FF6802-12-16-NWO	12MFFOR-16MB45	3/4	1 3/16-12	1 5/16-12
FF6802-16-12-NWO	16MFFOR-12MB45	1	1 7/16-12	1 1/16-12
FF6802-16-16-NWO	16MFFOR-16MB45	1	1 7/16-12	1 5/16-12
FF6802-16-20-NWO	16MFFOR-20MB45	1	1 7/16-12	1 5/8-12
FF6802-20-16-NWO	20MFFOR-16MB45	1 1/4	1 11/16-12	1 5/16-12
FF6802-20-20-NWO	20MFFOR-20MB45	1 1/4	1 11/16-12	1 5/8-12
FF6802-24-24-NWO	24MFFOR-24MB45	1 1/2	2-12	1 7/8-12



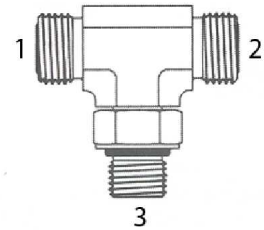
O-Ring Face Seal

FF6803-NWO Series

MFFOR-MFFOR-MB Tee

SAE 520429

Item Number	HH Item Number	Tube OD	1 Male FFOR	2 Male FFOR	3 Male ORB
FF6803-04-04-04-NWO	4MFFOR-4MFFOR-4MB	1/4	9/16-18	9/16-18	7/16-20
FF6803-06-06-06-NWO	6MFFOR-6MFFOR-6MB	3/8	11/16-16	11/16-16	9/16-18
FF6803-06-06-08-NWO	6MFFOR-6MFFOR-8MB	3/8	11/16-16	11/16-16	3/4-16
FF6803-08-08-08-NWO	8MFFOR-8MFFOR-8MB	1/2	13/16-16	13/16-16	3/4-16
FF6803-10-10-10-NWO	10MFFOR-10MFFOR-10MB	5/8	1-14	1-14	7/8-14
FF6803-12-12-12-NWO	12MFFOR-12MFFOR-12MB	3/4	1 3/16-12	1 3/16-12	1 1/16-12
FF6803-16-16-16-NWO	16MFFOR-16MFFOR-16MB	1	1 7/16-12	1 7/16-12	1 5/16-12
FF6803-20-20-20-NWO	20MFFOR-20MFFOR-20MB	1 1/4	1 11/16-12	1 11/16-12	1 5/8-12
FF6803-24-24-24-NWO	24MFFOR-24MFFOR-24MB	1 1/2	2-12	2-12	1 7/8-12

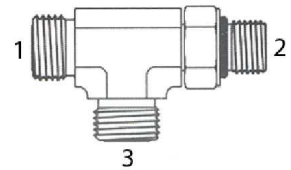


FF6804-NWO Series

MFFOR-MB-MFFOR Tee

SAE 520428

Item Number	HH Item Number	Tube OD	1 Male FFOR	2 Male ORB	3 Male FFOR
FF6804-04-04-04-NWO	4MFFOR-4MB-4MFFOR	1/4	9/16-18	7/16-20	9/16-18
FF6804-04-06-04-NWO	4MFFOR-6MB-4MFFOR	1/4	9/16-18	9/16-18	9/16-18
FF6804-06-04-06-NWO	6MFFOR-4MB-6MFFOR	3/8	11/16-16	7/16-20	11/16-16
FF6804-06-06-06-NWO	6MFFOR-6MB-6MFFOR	3/8	11/16-16	9/16-18	11/16-16
FF6804-06-08-06-NWO	6MFFOR-8MB-6MFFOR	3/8	11/16-16	3/4-16	11/16-16
FF6804-08-06-08-NWO	8MFFOR-6MB-8MFFOR	1/2	13/16-16	9/16-18	13/16-16
FF6804-08-08-04-NWO	8MFFOR-8MB-4MFFOR	1/2	13/16-16	3/4-16	9/16-18
FF6804-08-08-08-NWO	8MFFOR-8MB-8MFFOR	1/2	13/16-16	3/4-16	13/16-16
FF6804-08-12-04-NWO	8MFFOR-12MB-4MFFOR	1/2	13/16-16	1 1/16-12	9/16-18
FF6804-08-12-08-NWO	8MFFOR-12MB-8MFFOR	1/2	13/16-16	1 1/16-12	13/16-16
FF6804-10-10-10-NWO	10MFFOR-10MB-10MFFOR	5/8	1-14	7/8-14	1-14
FF6804-10-12-10-NWO	10MFFOR-12MB-10MFFOR	5/8	1-14	1 1/16-12	1-14
FF6804-12-08-12-NWO	12MFFOR-8MB-12MFFOR	3/4	1 3/16-12	3/4-16	1 3/16-12
FF6804-12-12-08-NWO	12MFFOR-12MB-8MFFOR	3/4	1 3/16-12	1 1/16-12	13/16-16
FF6804-12-12-12-NWO	12MFFOR-12MB-12MFFOR	3/4	1 3/16-12	1 1/16-12	1 3/16-12
FF6804-12-12-16-NWO	12MFFOR-12MB-16MFFOR	3/4	1 3/16-12	1 1/16-12	1 7/16-12
FF6804-16-16-16-NWO	16MFFOR-16MB-16MFFOR	1	1 7/16-12	1 5/16-12	1 7/16-12
FF6804-20-20-20-NWO	20MFFOR-20MB-20MFFOR	1 1/4	1 11/16-12	1 5/8-12	1 11/16-12
FF6804-24-24-24-NWO	24MFFOR-24MB-24MFFOR	1 1/2	2-12	1 7/8-12	2-12



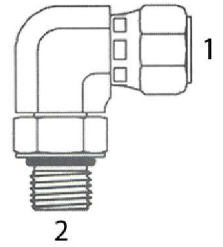
O-Ring Face Seal

FF6809-NWO Series

FFORX-MB 90°

SAE 520281

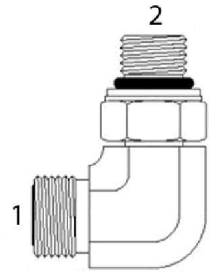
Item Number	HH Item Number	Tube OD	1 Female FFOR Swivel	2 Male ORB
FF6809-04-04-NWO	4FFORX-4MB90	1/4	9/16-18	7/16-20
FF6809-06-06-NWO	6FFORX-6MB90	3/8	11 1/6-16	9/16-18
FF6809-08-08-NWO	8FFORX-8MB90	1/2	13/16-16	3/4-16
FF6809-10-10-NWO	10FFORX-10MB90	5/8	1-14	7/8-14
FF6809-12-12-NWO	12FFORX-12MB90	3/4	1 3/16-12	1 1/16-12
FF6809-16-16-NWO	16FFORX-16MB90	1	1 7/16-12	1 5/16-12
FF6809-20-20-NWO	20FFORX-20MB90	1 1/4	1 11/16-12	1 5/8-12



FF7202-NWO Series




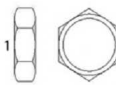
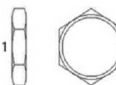


MFFOR-MBSPP 90°

Item Number	HH Item Number	Tube OD	1 Male MFFOR	2 Male BSP Parallel
FF7202-04-02-NWO	4MFFOR-2MBSPP90	1/4	9/16-18	1/8-28
FF7202-04-04-NWO	4MFFOR-4MBSPP90	1/4	9/16-18	1/4-19
FF7202-04-06-NWO	4MFFOR-6MBSPP90	1/4	9/16-18	3/8-19
FF7202-06-04-NWO	6MFFOR-4MBSPP90	3/8	11/16-16	1/4-19
FF7202-06-06-NWO	6MFFOR-6MBSPP90	3/8	11/16-16	3/8-19
FF7202-08-04-NWO	8MFFOR-4MBSPP90	1/2	13/16-16	1/4-19
FF7202-08-06-NWO	8MFFOR-6MBSPP90	1/2	13/16-16	3/8-19
FF7202-08-08-NWO	8MFFOR-8MBSPP90	1/2	13/16-16	1/2-14
FF7202-08-12-NWO	8MFFOR-12MBSPP90	1/2	13/16-16	3/4-14
FF7202-10-06-NWO	10MFFOR-6MBSPP90	5/8	1-14	3/8-19
FF7202-10-08-NWO	10MFFOR-8MBSPP90	5/8	1-14	1/2-14
FF7202-10-12-NWO	10MFFOR-12MBSPP90	5/8	1-14	3/4-14
FF7202-10-16-NWO	10MFFOR-16MBSPP90	5/8	1-14	1-11
FF7202-12-08-NWO	12MFFOR-8MBSPP90	3/4	1 3/16-12	1/2-14
FF7202-12-12-NWO	12MFFOR-12MBSPP90	3/4	1 3/16-12	3/4-14
FF7202-12-16-NWO	12MFFOR-16MBSPP90	3/4	1 3/16-12	1-11
FF7202-16-12-NWO	16MFFOR-12MBSPP90	1	1 7/16-12	3/4-14
FF7202-16-16-NWO	16MFFOR-16MBSPP90	1	1 7/16-12	1-11
FF7202-16-20-NWO	16MFFOR-20MBSPP90	1	1 7/16-12	1 1/4-11
FF7202-20-16-NWO	20MFFOR-16MBSPP90	1 1/4	1 11/16-12	1-11
FF7202-20-20-NWO	20MFFOR-20MBSPP90	1 1/4	1 11/16-12	1 1/4-11
FF7202-20-24-NWO	20MFFOR-24MBSPP90	1 1/4	1 11/16-12	1 1/2-11
FF7202-24-24-NWO	24MFFOR-24MBSPP90	1 1/2	2-12	1 1/2-11



37° JIC Flare (Nuts)

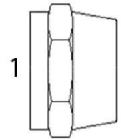
37° JIC Flare (Nuts) - Visual Identification Chart

0302  Pg. 40 Short Tube Nut	0304 (070111)  Pg. 40 Tube Nut	0304-C (070111)  Pg. 41 FJ-Cap Nut	0306 (070118)  Pg. 41 Bulkhead Locknut	0306-N (070117)  Pg. 42 Backup Locknut	0318 (070110)  Pg. 42 FJ-Tube Sleeve Nut	0319 (070115)  Pg. 43 FJ-Tube Sleeve
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0302 Series

Short Tube Nut

Item Number	HH Item Number	Tube OD	1 Female JIC
0302-04	4FJ-STN	1/4	7/16-20
0302-05	5FJ-STN	5/16	1/2-20
0302-06	6FJ-STN	3/8	9/16-18
0302-08	8FJ-STN	1/2	3/4-16
0302-10	10FJ-STN	5/8	7/8-14
0302-12	12FJ-STN	3/4	1 1/16-12
0302-14	14FJ-STN	7/8	1 3/16-12
0302-16	16FJ-STN	1	1 5/16-12
0302-20	20FJ-STN	1 1/4	1 5/8-12
0302-24	24FJ-STN	1 1/2	1 7/8-12
0302-32	32FJ-STN	2	2 1/2-12

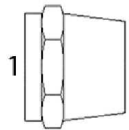


0304 Series

Tube Nut

SAE 070111

Item Number	HH Item Number	Tube OD	1 Female JIC
0304-03	3FJ-TN	3/16	3/8-24
0304-04	4FJ-TN	1/4	7/16-20
0304-05	5FJ-TN	5/16	1/2-20
0304-06	6FJ-TN	3/8	9/16-18
0304-08	8FJ-TN	1/2	3/4-16
0304-10	10FJ-TN	5/8	7/8-14
0304-12	12FJ-TN	3/4	1 1/16-12
0304-14	14FJ-TN	7/8	1 3/16-12
0304-16	16FJ-TN	1	1 5/16-12
0304-20	20FJ-TN	1 1/4	1 5/8-12
0304-24	24FJ-TN	1 1/2	1 7/8-12
0304-32	32FJ-TN	2	2 1/2-12



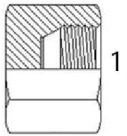
37° JIC Flare (Nuts)

0304-C Series

FJ-Cap Nut

SAE 070112

Item Number	HH Item Number	Tube OD	1 Female JIC
0304-C-02	2FJ-CAP	1/8	5/16-24
0304-C-03	3FJ-CAP	3/16	3/8-24
0304-C-04	4FJ-CAP	1/4	7/16-20
0304-C-05	5FJ-CAP	5/16	1/2-20
0304-C-06	6FJ-CAP	3/8	9/16-18
0304-C-08	8FJ-CAP	1/2	3/4-16
0304-C-10	10FJ-CAP	5/8	7/8-14
0304-C-12	12FJ-CAP	3/4	1 1/16-12
0304-C-14	14FJ-CAP	7/8	1 3/16-12
0304-C-16	16FJ-CAP	1	1 5/16-12
0304-C-20	20FJ-CAP	1 1/4	1 5/8-12
0304-C-24	24FJ-CAP	1 1/2	1 7/8-12
0304-C-32	32FJ-CAP	2	2 1/2-12

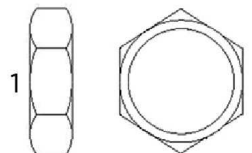


0306 Series

Bulkhead Locknut

SAE 070118

Item Number	HH Item Number	Tube OD	1 Thread Size
0306-02	02 BULKHEAD LOCKNUT	1/8	5/16-24
0306-03	03 BULKHEAD LOCKNUT	3/16	3/8-24
0306-04	04 BULKHEAD LOCKNUT	1/4	7/16-20
0306-05	05 BULKHEAD LOCKNUT	5/16	1/2-20
0306-06	06 BULKHEAD LOCKNUT	3/8	9/16-18
0306-08	08 BULKHEAD LOCKNUT	1/2	3/4-16
0306-10	10 BULKHEAD LOCKNUT	5/8	7/8-14
0306-12	12 BULKHEAD LOCKNUT	3/4	1 1/16-12
0306-14	14 BULKHEAD LOCKNUT	7/8	1 3/16-12
0306-16	16 BULKHEAD LOCKNUT	1	1 5/16-12
0306-20	20 BULKHEAD LOCKNUT	1 1/4	1 5/8-12
0306-24	24 BULKHEAD LOCKNUT	1 1/2	1 7/8-12
0306-32	32 BULKHEAD LOCKNUT	2	2 1/2-12



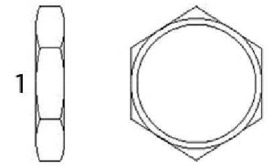
37° JIC Flare (Nuts)

0306-N Series

Backup Locknut

SAE 070117

Item Number	HH Item Number	Tube OD	1 Thread Size
0306-N-02	02 BACKUP LOCKNUT	1/8	5/16-24
0306-N-03	03 BACKUP LOCKNUT	3/16	3/8-24
0306-N-04	04 BACKUP LOCKNUT	1/4	7/16-20
0306-N-05	05 BACKUP LOCKNUT	5/16	1/2-20
0306-N-06	06 BACKUP LOCKNUT	3/8	9/16-18
0306-N-08	08 BACKUP LOCKNUT	1/2	3/4-16
0306-N-10	10 BACKUP LOCKNUT	5/16	7/8-14
0306-N-12	12 BACKUP LOCKNUT	3/4	1 1/16-12
0306-N-14	14 BACKUP LOCKNUT	7/8	1 3/16-12
0306-N-16	16 BACKUP LOCKNUT	1	1 5/16-12

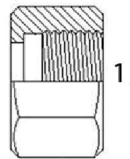


0318 Series

FJ-Tube Sleeve Nut

SAE 070110

Item Number	HH Item Number	Tube OD	1 Female JIC
0318-02	2FJ-NUT	1/8	5/16-24
0318-03	3FJ-NUT	3/16	3/8-24
0318-04	4FJ-NUT	1/4	7/16-20
0318-05	5FJ-NUT	5/16	1/2-20
0318-06	6FJ-NUT	3/8	9/16-18
0318-08	8FJ-NUT	1/2	3/4-16
0318-10	10FJ-NUT	5/8	7/8-14
0318-12	12FJ-NUT	3/4	1 1/16-12
0318-14	14FJ-NUT	7/8	1 3/16-12
0318-16	16FJ-NUT	1	1 5/16-12
0318-20	20FJ-NUT	1 1/4	1 5/8-12
0318-24	24FJ-NUT	1 1/2	1 7/8-12
0318-32	32FJ-NUT	2	2 1/2-12



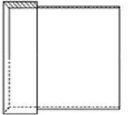
37° JIC Flare (Nuts)

0319 Series

FJ-Tube Sleeve








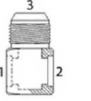
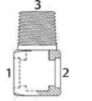
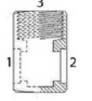
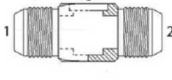



SAE 070115

Item Number	HH Item Number	Tube OD
0319-02	2FJ-SLEEVE	1/8
0319-03	3FJ-SLEEVE	3/16
0319-04	4FJ-SLEEVE	1/4
0319-05	5FJ-SLEEVE	5/16
0319-06	6FJ-SLEEVE	3/8
0319-08	8FJ-SLEEVE	1/2
0319-10	10FJ-SLEEVE	5/8
0319-12	12FJ-SLEEVE	3/4
0319-14	14FJ-SLEEVE	7/8
0319-16	16FJ-SLEEVE	1
0319-20	20FJ-SLEEVE	1 1/4
0319-24	24FJ-SLEEVE	1 1/2
0319-32	32FJ-SLEEVE	2



Braze-On Fittings

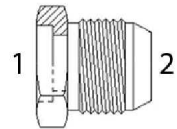
Braze-On Fittings - Visual Identification Chart

<p>0403</p>  <p>Bore-MJ Straight Pg. 44</p>	<p>0403-TS</p>  <p>MJ Tube Spud Pg. 45</p>	<p>0404</p>  <p>Bore-MP Straight Pg. 45</p>	<p>0405</p>  <p>Bore-FP Straight Pg. 46</p>	<p>0406</p>  <p>Bore-MJ Bulkhead Straight Pg. 46</p>	<p>0500</p>  <p>Bore-MJ 90° Pg. 47</p>	<p>0501</p>  <p>Bore-MP 90° Pg. 47</p>
<p>0600</p>  <p>Bore-Bore MJ Tee Pg. 47</p>	<p>0601</p>  <p>Bore-Bore MP Tee Pg. 48</p>	<p>0602</p>  <p>Bore-Bore FP Tee Pg. 48</p>	<p>0702</p>  <p>Bore-MJ-MJ Tee Pg. 48</p>	<p>0800</p>  <p>Bore-FPX Straight Pg. 49</p>	<p>0801</p>  <p>Bore-FPX 90° Pg. 49</p>	<p>0900</p>  <p>Bore-MP Straight Pg. 49</p>

0403 Series

Bore-MJ Straight

Item Number	HH Item Number	Tube OD	1 Bore	2 Male JIC
0403-04-04	4BORE-4MJ	1/4	1/4	7/16-20
0403-05-04	5BORE-4MJ	5/16	5/16	7/16-20
0403-05-05	5BORE-5MJ	5/16	5/16	1/2-20
0403-06-06	6BORE-6MJ	3/8	3/8	9/16-18
0403-06-08	6BORE-8MJ	3/8	3/8	3/4-16
0403-08-06	8BORE-6MJ	1/2	1/2	9/16-18
0403-08-08	8BORE-8MJ	1/2	1/2	3/4-16
0403-08-10	8BORE-10MJ	1/2	1/2	7/8-14
0403-10-08	10BORE-8MJ	5/8	5/8	3/4-16
0403-10-10	10BORE-10MJ	5/8	5/8	7/8-14
0403-10-12	10BORE-12MJ	5/8	5/8	1 1/16-12
0403-12-08	12BORE-8MJ	3/4	3/4	3/4-16
0403-12-10	12BORE-10MJ	3/4	3/4	7/8-14
0403-12-12	12BORE-12MJ	3/4	3/4	1 1/16-12
0403-14-14	14BORE-14MJ	7/8	7/8	1 3/16-12
0403-16-12	16BORE-12MJ	1	1	1 1/16-12
0403-16-16	16BORE-16MJ	1	1	1 5/16-12
0403-16-20	16BORE-20MJ	1	1	1 5/8-12
0403-20-16	20BORE-16MJ	1 1/4	1 1/4	1 5/16-12
0403-20-20	20BORE-20MJ	1 1/4	1 1/4	1 5/8-12
0403-20-24	20BORE-24MJ	1 1/4	1 1/4	1 7/8-12
0403-24-20	24BORE-20MJ	1 1/4	1 1/4	1 5/8-12
0403-24-24	24BORE-24MJ	1 1/2	1 1/2	1 7/8-12
0403-32-32	32BORE-32MJ	2	2	2 1/2-12

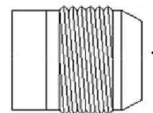


Braze-On Fittings

0403-TS Series

MJ Tube Spud

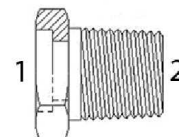
Item Number	HH Item Number	Tube OD	1 Male JIC
0403-TS-04-04	4MJ-TUBE SPUD	1/4	7/16-20
0403-TS-06-06	6MJ-TUBE SPUD	3/8	9/16-18
0403-TS-08-08	8MJ-TUBE SPUD	1/2	3/4-16
0403-TS-10-10	10MJ-TUBE SPUD	5/8	7/8-14
0403-TS-12-12	12MJ-TUBE SPUD	3/4	1 1/16-12
0403-TS-16-16	16MJ-TUBE SPUD	1	1 5/8-12
0403-TS-20-20	20MJ-TUBE SPUD	1 1/4	1 5/8-12
0403-TS-24-24	24MJ-TUBE SPUD	1 1/2	1 7/8-12



0404 Series

Bore-MP Straight

Item Number	HH Item Number	Tube OD	1 Bore	2 Male Pipe
0404-04-02	4BORE-2MP	1/4	1/4	1/8-27
0404-04-04	4BORE-4MP	1/4	1/4	1/4-18
0404-06-04	6BORE-4MP	3/8	3/8	1/4-18
0404-06-06	6BORE-6MP	3/8	3/8	3/8-18
0404-06-08	6BORE-8MP	3/8	3/8	1/2-14
0404-08-06	8BORE-6MP	1/2	1/2	3/8-18
0404-08-08	8BORE-8MP	1/2	1/2	1/2-14
0404-10-06	10BORE-6MP	5/8	5/8	3/8-18
0404-10-08	10BORE-8MP	5/8	5/8	1/2-14
0404-12-08	12BORE-8MP	3/4	3/4	1/2-14
0404-12-12	12BORE-12MP	3/4	3/4	3/4-14
0404-16-12	16BORE-12MP	1	1	3/4-16
0404-16-16	16BORE-16MP	1	1	1-11 1/2
0404-20-16	20BORE-16MP	1 1/4	1 1/4	1-11 1/2
0404-20-20	20BORE-20MP	1 1/4	1 1/4	1 1/4-11 1/2
0404-24-20	24BORE-20MP	1 1/2	1 1/2	1 1/4-11 1/2
0404-24-24	24BORE-24MP	1 1/2	1 1/2	1 1/2-11 1/2
0404-32-32	32BORE-32MP	2	2	2-11 1/2

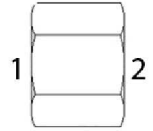


Braze-On Fittings

0405 Series

Bore-FP Straight

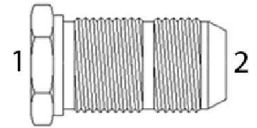
Item Number	HH Item Number	Tube OD	1 Bore	2 Female Pipe
0405-04-02	4BORE-2FP	1/4	1/4	1/8-27
0405-04-04	4BORE-4FP	1/4	1/4	1/4-18
0405-06-04	6BORE-4FP	3/8	3/8	1/4-18
0405-06-06	6BORE-6FP	3/8	3/8	3/8-18
0405-08-06	8BORE-6FP	1/2	1/2	3/8-18
0405-12-08	12BORE-8FP	3/4	3/4	1/2-14
0405-12-12	12BORE-12FP	3/4	3/4	3/4-14
0405-16-16	16BORE-16FP	1	1	1-11 1/2
0405-20-20	20BORE-20FP	1 1/4	1 1/4	1 1/4-11 1/2
0405-24-24	24BORE-24FP	1 1/2	1 1/2	1 1/2-11 1/2



0406 Series

Bore-MJ Bulkhead Straight

Item Number	HH Item Number	Tube OD	1 Bore	2 Male JIC
0406-04-04	4BORE-4MJBKHD	1/4	1/4	7/16-20
0406-05-05	5BORE-5MJBKHD	5/16	5/16	1/2-20
0406-06-06	6BORE-6MJBKHD	3/8	3/8	9/16-18
0406-08-08	8BORE-8MJBKHD	1/2	1/2	3/4-16
0406-10-10	10BORE-10MJBKHD	5/8	5/8	7/8-14
0406-12-12	12BORE-12MJBKHD	3/4	3/4	1 1/16-12
0406-14-14	14BORE-14MJBKHD	7/8	7/8	1 3/16-12
0406-16-16	16BORE-16MJBKHD	1	1	1 5/16-12
0406-20-20	20BORE-20MJBKHD	1 1/4	1 1/4	1 5/8-12
0406-24-24	24BORE-24MJBKHD	1 1/2	1 1/2	1 7/8-12
0406-32-32	32BORE-32MJBKHD	2	2	2 1/2-12

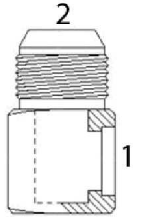


Braze-On Fittings

0500 Series

Bore-MJ 90°

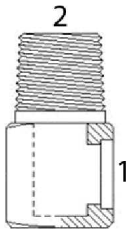
Item Number	HH Item Number	Tube OD	1 Bore	2 Male JIC
0500-04-04	4BORE-4MJ90	1/4	1/4	7/16-20
0500-05-05	5BORE-5MJ90	5/16	5/16	1/2-20
0500-06-04	6BORE-4MJ90	3/8	3/8	7/16-20
0500-06-06	6BORE-6MJ90	3/8	3/8	9/16-18
0500-08-08	8BORE-8MJ90	1/2	1/2	3/4-16
0500-10-08	10BORE-8MJ90	5/8	5/8	3/4-16
0500-10-10	10BORE-10MJ90	5/8	5/8	7/8-14
0500-12-08	12BORE-8MJ90	3/4	3/4	3/4-16
0500-12-12	12BORE-12MJ90	3/4	3/4	1 1/16-12
0500-14-14	14BORE-14MJ90	7/8	7/8	1 3/16-12
0500-16-12	16BORE-12MJ90	1	1	1 1/16-12
0500-16-16	16BORE-16MJ90	1	1	1 5/16-12
0500-20-16	20BORE-16MJ90	1 1/4	1 1/4	1 5/16-12
0500-20-20	20BORE-20MJ90	1 1/4	1 1/4	1 5/8-12
0500-24-20	24BORE-20MJ90	1 1/2	1 1/2	1 5/8-12
0500-24-24	24BORE-24MJ90	1 1/2	1 1/2	1 7/8-12
0500-32-32	32BORE-32MJ90	2	2	2 1/2-12



0501 Series

Bore-MP 90°

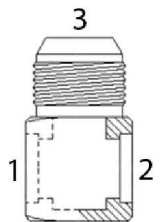
Item Number	HH Item Number	Tube OD	1 Bore	2 Male Pipe
0501-06-04	6BORE-4MP90	3/8	3/8	1/4-18
0501-08-08	8BORE-8MP90	1/2	1/2	1/2-14
0501-10-08	10BORE-8MP90	5/8	5/8	1/2-14
0501-20-16	20BORE-16MP90	1 1/4	1 1/4	1-11 1/2



0600 Series

Bore-Bore-MJ Tee

Item Number	HH Item Number	Tube OD	1 Bore	2 Bore	3 Male JIC
0600-04-04-04	4BORE-4BORE-4MJ	1/4	1/4	1/4	7/16-20
0600-05-05-05	5BORE-5BORE-5MJ	5/16	5/16	5/16	1/2-20
0600-06-06-06	6BORE-6BORE-6MJ	3/8	3/8	3/8	9/16-18
0600-08-08-08	8BORE-8BORE-8MJ	1/2	1/2	1/2	3/4-16
0600-10-10-10	10BORE-10BORE-10MJ	5/8	5/8	5/8	7/8-14
0600-12-12-12	12BORE-12BORE-12MJ	3/4	3/4	3/4	1 1/16-12
0600-14-14-14	14BORE-14BORE-14MJ	7/8	7/8	7/8	1 3/16-12
0600-16-16-16	16BORE-16BORE-16MJ	1	1	1	1 5/16-12
0600-20-20-20	20BORE-20BORE-20MJ	1 1/4	1 1/4	1 1/4	1 5/8-12
0600-24-24-24	24BORE-24BORE-24MJ	1 1/2	1 1/2	1 1/2	1 7/8-12

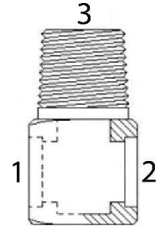


Braze-On Fittings

0601 Series

Bore-Bore-MP Tee

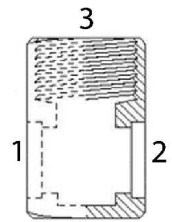
Item Number	HH Item Number	Tube OD	1 Bore	2 Bore	3 Male Pipe
0601-16-16-16	16BORE-16BORE-16MP	1	1	1	1-11 1/2



0602 Series

Bore-Bore-FP Tee

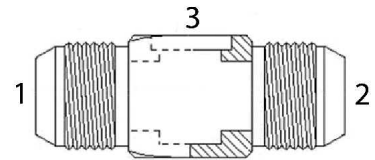
Item Number	HH Item Number	Tube OD	1 Bore	2 Bore	3 Female Pipe
0602-06-06-02	6BORE-6BORE-2FP	3/8	3/8	3/8	1/8-27
0602-06-06-04	6BORE-6BORE-4FP	3/8	3/8	3/8	1/4-18
0602-10-10-12	10BORE-10BORE-12FP	5/8	5/8	5/8	3/4-14
0602-12-12-12	12BORE-12BORE-12FP	3/4	3/4	3/4	3/4-14
0602-16-16-16	16BORE-16BORE-16FP	1	1	1	1-11 1/2



0702 Series

Bore-MJ-MJ Tee

Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male JIC	3 Bore
0702-05-05-05	5BORE-5MJ-5MJ	5/16	1/2-20	1/2-20	5/16
0702-06-05-05	6BORE-5MJ-5MJ	3/8	1/2-20	1/2-20	3/8
0702-06-06-06	6BORE-6MJ-6MJ	3/8	9/16-18	9/16-18	3/8
0702-08-08-08	8BORE-8MJ-8MJ	1/2	3/4-16	3/4-16	1/2
0702-10-10-10	10BORE-10MJ-10MJ	5/8	7/8-14	7/8-14	5/8
0702-12-12-12	12BORE-12MJ-12MJ	3/4	1 1/16-12	1 1/16-12	3/4
0702-16-16-16	16BORE-16MJ-16MJ	1	1 5/16-12	1 5/16-12	1

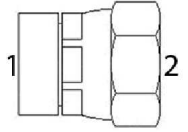


Braze-On Fittings

0800 Series

Bore-FPX Straight

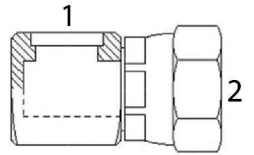
Item Number	HH Item Number	Tube OD	1 Bore	2 Female Pipe Swivel
0800-06-04	6BORE-4FPX	3/8	3/8	1/4-18
0800-06-06	6BORE-6FPX	3/8	3/8	3/8-18
0800-08-06	8BORE-6FPX	1/2	1/2	3/8-18
0800-10-08	10BORE-8FPX	5/8	5/8	1/2-14
0800-12-08	12BORE-8FPX	3/4	3/4	1/2-14
0800-12-12	12BORE-12FPX	3/4	3/4	3/4-14
0800-16-12	16BORE-12FPX	1	1	3/4-14
0800-16-16	16BORE-16FPX	1	1	1-11 1/2
0800-20-12	20BORE-12FPX	1 1/4	1 1/4	3/4-14
0800-20-16	20BORE-16FPX	1 1/4	1 1/4	1-11 1/2
0800-20-20	20BORE-20FPX	1 1/4	1 1/4	1 1/4-11 1/2



0801 Series

Bore-FPX 90°

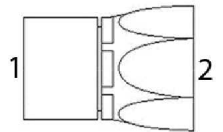
Item Number	HH Item Number	Tube OD	1 Bore	2 Female Pipe Swivel
0801-06-04	6BORE-4FPX	3/8	3/8	1/4-18
0801-12-08	12BORE-8FPX	3/4	3/4	1/2-14
0801-16-12	16BORE-12FPX	1	1	3/4-14



0900 Series

Bore-FJX Straight

Item Number	HH Item Number	Tube OD	1 Bore	2 Female JIC Swivel
0900-04-04	4BORE-4FJX	1/4	1/4	7/16-20
0900-05-05	5BORE-5FJX	1/3	1/3	1/2-20
0900-06-05	6BORE-5FJX	3/8	3/8	1/2-20
0900-06-06	6BORE-6FJX	3/8	3/8	9/16-18
0900-08-08	8BORE-8FJX	1/2	1/2	3/4-16
0900-10-10	10BORE-10FJX	5/8	5/8	7/8-14
0900-12-12	12BORE-12FJX	3/4	3/4	1 1/16-12
0900-14-14	14BORE-14FJX	7/8	7/8	1 3/16-12
0900-16-16	16BORE-16FJX	1	1	1 5/16-12
0900-20-16	20BORE-16FJX	1 1/4	1 1/4	1 5/16-12
0900-20-20	20BORE-20FJX	1 1/4	1 1/4	1 5/8-12
0900-24-24	24BORE-24FJX	1 1/2	1 1/2	1 7/8-12
0900-32-32	32BORE-32FJX	2	2	2 1/2-12



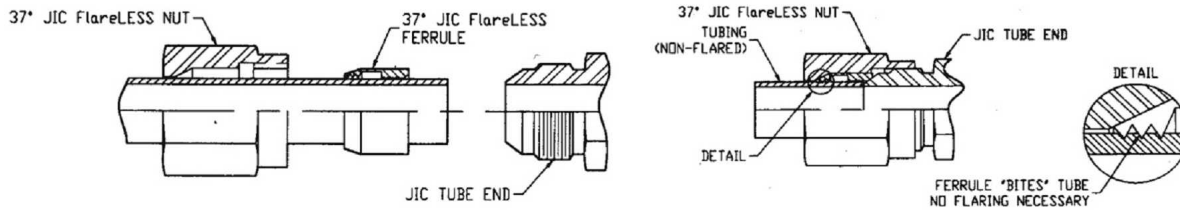
37° JIC Flareless

37° JIC Flareless

Connects a JIC Flare fitting WITHOUT flaring the tube.

Components

Assembled



The 37° JIC Flareless nuts and ferrules are interchangeable with Aeroquip part numbers FC2875 and FF9605. This flareless connection allows you to convert any male 37° JIC fitting into a flareless tube fitting. Assembly is simplified because no special tools are required. Not even a flaring tool is needed since there is no need to flare the tube. Errors are minimized because the ferrule cannot be assembled in the wrong direction. All the sizes assemble in the same manner and on different tube wall thickness. You will effectively be able to reduce your inventory, because you will be utilizing your standard 37° JIC parts that you already have in stock. Save time and money by not having to order or stock flareless fittings.

37° JIC Flareless Torque Values

"Turns Past Hand Tight" Method		Assembly Steps with a Visual Check
Size	Turns	
-04	1 1/4	<ol style="list-style-type: none"> 1. Tubing must be cut square and deburred inside and out. No Flaring Required. 2. Clean the tubing and threads and lubricate all mating surfaces with 10W hydraulic oil. 3. Hand tighten the nut/ferrule (approx. 30 lb-in.). 4. Make alignment marks on the nut and fitting. 5. Proceed to tighten to Turns Value. 6. When fully tightened make a 2nd set of alignment marks at the fully tightened position. <p>This completes a 37° JIC Flareless connection with visual marks for a quick reference.</p>
-05	1 1/4	
-06	1 1/4	
-08	1 1/4	
-10	1 1/4	
-12	1 1/2	
-14	1 1/2	
-16	1 1/2	
-20	1 1/2	

Torque values specified are for threads lubricated with 10W hydraulic oil.

37° JIC Flareless - Visual Identification Chart

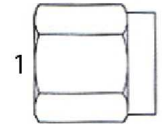
0418	0419					
 <p>FJ-Flareless Tube Sleeve Nut Pg. 51</p>	 <p>FJ-Flareless Tube Sleeve Pg. 51</p>					

37° JIC Flareless

0418 Series

FJ-Flareless Tube Sleeve Nut

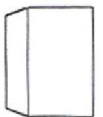
Item Number	HH Item Number	Tube OD	1 Female JIC
0418-03	3FJ-NUT-F	3/16	3/8-24
0418-04	4FJ-NUT-F	1/4	7/16-20
0418-05	5FJ-NUT-F	5/16	1/2-20
0418-06	6FJ-NUT-F	3/8	9/16-18
0418-08	8FJ-NUT-F	1/2	3/4-16
0418-10	10FJ-NUT-F	5/8	7/8-14
0418-12	12FJ-NUT-F	3/4	1 1/16-12
0418-16	16FJ-NUT-F	1	1 5/16-12
0418-20	20FJ-NUT-F	1 1/4	1 5/8-12
0418-24	24FJ-NUT-F	1 1/2	1 7/8-12
0418-32	32FJ-NUT-F	2	2 1/2-12



0419 Series

FJ-Flareless Tube Sleeve

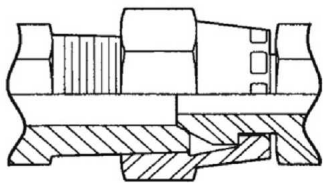
Item Number	HH Item Number	Tube OD
0419-03	3FJ-SLEEVE-F	3/16
0419-04	4FJ-SLEEVE-F	1/4
0419-05	5FJ-SLEEVE-F	5/16
0419-06	6FJ-SLEEVE-F	3/8
0419-08	8FJ-SLEEVE-F	1/2
0419-10	10FJ-SLEEVE-F	5/8
0419-12	12FJ-SLEEVE-F	3/4
0419-16	16FJ-SLEEVE-F	1
0419-20	20FJ-SLEEVE-F	1 1/4
0419-24	24FJ-SLEEVE-F	1 1/2
0419-32	32FJ-SLEEVE-F	2



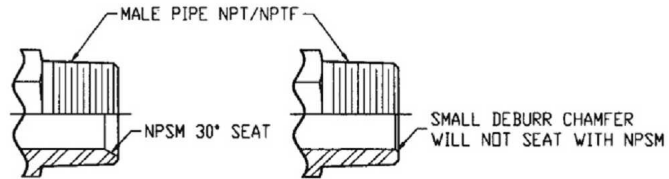
Pipe Swivels

Pipe Swivels

Assembled



NPSM 30° Seat vs. Deburr



The NPSM (American (National) Standard Pipe Straight Mechanical) Pipe Swivel was designed to eliminate hose stress from twisting during assembly and reduce the number of different hose fittings required. It is used with NPT and NPTF male pipe threads. But unlike the NPT and NPTF pipe threads, which seal on the threads themselves, the NPSM Pipe Swivel has a 30° seat (flare) down inside of the swivel nut. This swivel nut is permanently attached to the body and mates with a male pipe thread that has a 30° seat (chamfer) machined into the end of it. Thus bringing both 30° seats (flare and chamfer) together for a metal-to-metal seal. It should be noted that not all NPT and NPTF male pipe threads have this 30° chamfer. It is optional according to SAE standards under J514. The 30° seat is a rather large chamfer machined into the inside diameter of a male pipe thread and should not be confused with a small deburr chamfer.

Pipe Swivels - Visual Identification Chart

<p>1404 (140130)</p> <p>Pg. 53</p> <p>MP-FPX Straight</p>	<p>1405 (140131)</p> <p>Pg. 54</p> <p>FP-FPX Straight</p>	<p>1501 (140230)</p> <p>Pg. 55</p> <p>MP-FPX 90°</p>	<p>1501-L</p> <p>Pg. 55</p> <p>MP-FPX 90° Long</p>	<p>1502 (140231)</p> <p>Pg. 56</p> <p>FP-FPX 90°</p>	<p>1503 (140330)</p> <p>Pg. 57</p> <p>MP-FPX 45°</p>	<p>1504 (140331)</p> <p>Pg. 58</p> <p>FP-FPX 45°</p>
<p>1601</p> <p>Pg. 58</p> <p>MP-MP-FPX Tee</p>	<p>1602</p> <p>Pg. 59</p> <p>FP-FPX-FPX Tee</p>	<p>1603</p> <p>Pg. 59</p> <p>FPX-FPX-FPX Tee</p>	<p>1604</p> <p>Pg. 59</p> <p>MP-FPX-FPX-FPX Tee</p>			

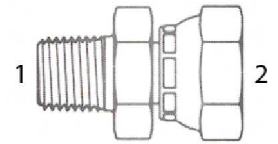
Pipe Swivels

1404 Series

MP-FPX Straight

SAE 140130

Item Number	HH Item Number	1 Male Pipe	2 Female Pipe Swivel
1404-02-02	2MP-2FPX	1/8-27	1/8-27
1404-02-04	2MP-4FPX	1/8-27	1/4-18
1404-04-02	4MP-2FPX	1/4-18	1/8-27
1404-04-04	4MP-4FPX	1/4-18	1/4-18
1404-04-06	4MP-6FPX	1/4-18	3/8-18
1404-04-08	4MP-8FPX	1/4-18	1/2-14
1404-06-04	6MP-4FPX	3/8-18	1/4-18
1404-06-06	6MP-6FPX	3/8-18	3/8-18
1404-06-08	6MP-8FPX	3/8-18	1/2-14
1404-06-12	6MP-12FPX	3/8-18	3/4-14
1404-08-04	8MP-4FPX	1/2-14	1/4-18
1404-08-06	8MP-6FPX	1/2-14	3/8-18
1404-08-08	8MP-8FPX	1/2-14	1/2-14
1404-08-12	8MP-12FPX	1/2-14	3/4-14
1404-08-16	8MP-16FPX	1/2-14	1-11 1/2
1404-12-06	12MP-6FPX	3/4-14	3/8-18
1404-12-08	12MP-8FPX	3/4-14	1-2-14
1404-12-12	12MP-12FPX	3/4-14	3/4-14
1404-12-16	12MP-16FPX	3/4-14	1-11 1/2
1404-12-20	12MP-20FPX	3/4-14	1 1/4-11 1/2
1404-16-06	16MP-6FPX	1-11 1/2	3/8-18
1404-16-08	16MP-8FPX	1-11 1/2	1/2-14
1404-16-12	16MP-12FPX	1-11 1/2	3/4-14
1404-16-16	16MP-16FPX	1-11 1/2	1-11 1/2
1404-16-20	16MP-20FPX	1-11 1/2	1 1/4-11 1/2
1404-16-24	16MP-24FPX	1-11 1/2	1 1/2-11 1/2
1404-20-12	20MP-12FPX	1 1/4-11 1/2	3/4-14
1404-20-16	20MP-16FPX	1 1/4-11 1/2	1-11 1/2
1404-20-20	20MP-20FPX	1 1/4-11 1/2	1 1/4-11 1/2
1404-20-24	20MP-24FPX	1 1/4-11 1/2	1 1/2-11 1/2
1404-24-20	24MP-20FPX	1 1/2-11 1/2	1 1/4-11 1/2
1404-24-24	24MP-24FPX	1 1/2-11 1/2	1 1/2-11 1/2
1404-24-32	24MP-32FPX	1 1/2-11 1/2	2-11 1/2
1404-32-32	32MP-32FPX	2-11 1/2	2-11 1/2



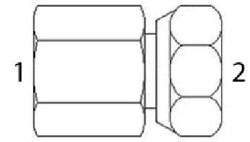
Pipe Swivels

1405 Series

FP-FPX Straight

SAE 140131

Item Number	HH Item Number	1 Female Pipe	2 Female Pipe Swivel
1405-02-02	2FP-2FPX	1/8-27	1/8-27
1405-02-04	2FP-4FPX	1/8-27	1/4-18
1405-04-02	4FP-2FPX	1/4-18	1/8-27
1405-04-04	4FP-4FPX	1/4-18	1/4-18
1405-04-06	4FP-6FPX	1/4-18	3/8-18
1405-04-08	4FP-8FPX	1/4-18	1/2-14
1405-06-04	6FP-4FPX	3/8-18	1/4-18
1405-06-06	6FP-6FPX	3/8-18	3/8-18
1405-06-08	6FP-8FPX	3/8-18	1/2-14
1405-08-04	8FP-4FPX	1/2-14	1/4-18
1405-08-06	8FP-6FPX	1/2-14	3/8-18
1405-08-08	8FP-8FPX	1/2-14	1/2-14
1405-08-12	8FP-12FPX	1/2-14	3/4-14
1405-12-08	12FP-8FPX	3/4-14	1-2-14
1405-12-12	12FP-12FPX	3/4-14	3/4-14
1405-12-16	12FP-16FPX	3/4-14	1-11 1/2
1405-16-12	16FP-12FPX	1-11 1/2	3/4-14
1405-16-16	16FP-16FPX	1-11 1/2	1-11 1/2
1405-20-20	20FP-20FPX	1 1/4-11 1/2	1 1/4-11 1/2
1405-24-16	24FP-16FPX	1 1/2-11 1/2	1-11 1/2
1405-24-20	24FP-20FPX	1 1/2-11 1/2	1 1/4-11 1/2
1405-24-24	24FP-24FPX	1 1/2-11 1/2	1 1/2-11 1/2
1405-32-32	32FP-32FPX	2-11 1/2	2-11 1/2



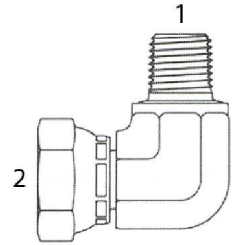
Pipe Swivels

1501 Series

MP-FPX 90°

SAE 140230

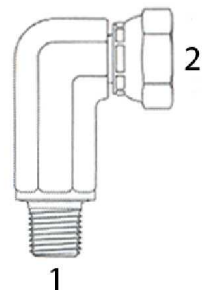
Item Number	HH Item Number	1 Male Pipe	2 Female Pipe Swivel
1501-02-02	2MP-2FPX90	1/8-27	1/8-27
1501-02-04	2MP-4FPX90	1/8-27	1/4-18
1501-04-02	4MP-2FPX90	1/4-18	1/8-27
1501-04-04	4MP-4FPX90	1/4-18	1/4-18
1501-04-06	4MP-6FPX90	1/4-18	3/8-18
1501-04-08	4MP-8FPX90	1/4-18	1/2-14
1501-06-04	6MP-4FPX90	3/8-18	1/4-18
1501-06-06	6MP-6FPX90	3/8-18	3/8-18
1501-06-08	6MP-8FPX90	3/8-18	1/2-14
1501-06-12	6MP-12FPX90	3/8-18	3/4-14
1501-08-04	8MP-4FPX90	1/2-14	1/4-18
1501-08-06	8MP-6FPX90	1/2-14	3/8-18
1501-08-08	8MP-8FPX90	1/2-14	1/2-14
1501-08-12	8MP-12FPX90	1/2-14	3/4-14
1501-12-04	12MP-4FPX90	3/4-14	1/4-18
1501-12-06	12MP-6FPX90	3/4-14	3/8-18
1501-12-08	12MP-8FPX90	3/4-14	1/2-14
1501-12-12	12MP-12FPX90	3/4-14	3/4-14
1501-12-16	12MP-16FPX90	3/4-14	1-11 1/2
1501-12-20	12MP-20FPX90	3/4-14	1 1/4-11 1/2
1501-16-08	16MP-8FPX90	1-11 1/2	1/2-14
1501-16-12	16MP-12FPX90	1-11 1/2	3/4-14
1501-16-16	16MP-16FPX90	1-11 1/2	1-11 1/2
1501-16-20	16MP-20FPX90	1-11 1/2	1 1/4-11 1/2
1501-20-12	20MP-12FPX90	1 1/4-11 1/2	3/4-14
1501-20-16	20MP-16FPX90	1 1/4-11 1/2	1-11 1/2
1501-20-20	20MP-20FPX90	1 1/4-11 1/2	1 1/4-11 1/2
1501-20-24	20MP-24FPX90	1 1/4-11 1/2	1 1/2-11 1/2
1501-24-20	24MP-20FPX90	1 1/2-11 1/2	1 1/4-11 1/2
1501-24-24	24MP-24FPX90	1 1/2-11 1/2	1 1/2-11 1/2
1501-32-32	32MP-32FPX90	2-11 1/2	2-11 1/2



1501-L Series

MP-FPX 90° Long

Item Number	HH Item Number	1 Male Pipe	2 Female Pipe Swivel
1501-L-02-02	2MP-2FPX90L	1/8-27	1/8-27
1501-L-04-04	4MP-4FPX90L	1/4-18	1/4-18
1501-L-06-06	6MP-6FPX90L	3/8-18	3/8-18
1501-L-06-08	6MP-8FPX90L	3/8-18	1/2-14
1501-L-08-06	8MP-6FPX90L	1/2-14	3/8-18
1501-L-08-08	8MP-8FPX90L	1/2-14	1/2-14
1501-L-12-12	12MP-12FPX90L	3/4-14	3/4-14
1501-L-16-16	16MP-16FPX90L	1 1/2-11 1/2	1 1/2-11 1/2



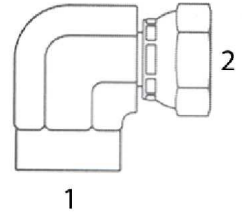
Pipe Swivels

1502 Series

FP-FPX 90°

SAE 140231

Item Number	HH Item Number	Female Pipe Female Pipe Swivel	
		1	2
1502-02-02	2FP-2FPX90	1/8-27	1/8-27
1502-02-04	2FP-4FPX90	1/8-27	1/4-18
1502-04-02	4FP-2FPX90	1/4-18	1/8-27
1502-04-04	4FP-4FPX90	1/4-18	1/4-18
1502-04-06	4FP-6FPX90	1/4-18	3/8-18
1502-04-08	4FP-8FPX90	1/4-18	1/2-14
1502-06-04	6FP-4FPX90	3/8-18	1/4-18
1502-06-06	6FP-6FPX90	3/8-18	3/8-18
1502-06-08	6FP-8FPX90	3/8-18	1/2-14
1502-08-04	8FP-4FPX90	1/2-14	1/4-18
1502-08-06	8FP-6FPX90	1/2-14	3/8-18
1502-08-08	8FP-8FPX90	1/2-14	1/2-14
1502-08-12	8FP-12FPX90	1/2-14	3/4-14
1502-12-08	12FP-8FPX90	3/4-14	1/2-14
1502-12-12	12FP-12FPX90	3/4-14	3/4-14
1502-12-16	12FP-16FPX90	3/4-14	1-11 1/2
1502-16-12	16FP-12FPX90	1-11 1/2	3/4-14
1502-16-16	16FP-16FPX90	1-11 1/2	1-11 1/2
1502-20-16	20FP-16FPX90	1 1/4-11 1/2	1-11 1/2
1502-20-20	20FP-20FPX90	1 1/4-11 1/2	1 1/4-11 1/2
1502-24-24	24FP-24FPX90	1 1/2-11 1/2	1 1/2-11 1/2
1502-32-32	32FP-32FPX90	2-11 1/2	2-11 1/2



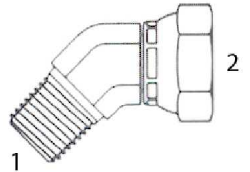
Pipe Swivels

1503 Series

MP-FPX 45°

SAE 140330

Item Number	HH Item Number	1 Male Pipe	2 Female Pipe Swivel
1503-02-02	2MP-2FPX45	1/8-27	1/8-27
1503-02-04	2MP-4FPX45	1/8-27	1/4-18
1503-04-02	4MP-2FPX45	1/4-18	1/8-27
1503-04-04	4MP-4FPX45	1/4-18	1/4-18
1503-04-06	4MP-6FPX45	1/4-18	3/8-18
1503-04-08	4MP-8FPX45	1/4-18	1/2-14
1503-06-04	6MP-4FPX45	3/8-18	1/4-18
1503-06-06	6MP-6FPX45	3/8-18	3/8-18
1503-06-08	6MP-8FPX45	3/8-18	1/2-14
1503-08-04	8MP-4FPX45	1/2-14	1/4-18
1503-08-06	8MP-6FPX45	1/2-14	3/8-18
1503-08-08	8MP-8FPX45	1/2-14	1/2-14
1503-08-12	8MP-12FPX45	1/2-14	3/4-14
1503-12-06	12MP-6FPX45	3/4-14	3/8-18
1503-12-08	12MP-8FPX45	3/4-14	1/2-14
1503-12-12	12MP-12FPX45	3/4-14	3/4-14
1503-12-16	12MP-16FPX45	3/4-14	1-11 1/2
1503-16-12	16MP-12FPX45	1-11 1/2	3/4-14
1503-16-16	16MP-16FPX45	1-11 1/2	1-11 1/2
1503-16-20	16MP-20FPX45	1-11 1/2	1 1/4-11 1/2
1503-20-16	20MP-16FPX45	1 1/4-11 1/2	1-11 1/2
1503-20-20	20MP-20FPX45	1 1/4-11 1/2	1 1/4-11 1/2
1503-24-24	24MP-24FPX45	1 1/2-11 1/2	1 1/2-11 1/2
1503-32-32	32MP-32FPX45	2-11 1/2	2-11 1/2



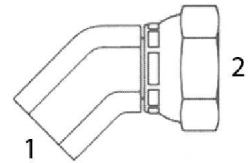
Pipe Swivels

1504 Series

FP-FPX 45°

SAE 140331

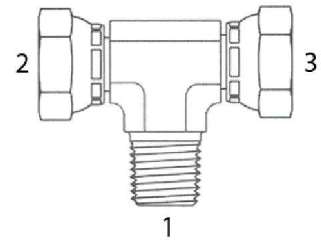
Item Number	HH Item Number	Female Pipe Swivel	
		1	2
1504-02-02	2FP-2FPX45	1/8-27	1/8-27
1504-02-04	2FP-4FPX45	1/8-27	1/4-18
1504-04-04	4FP-4FPX45	1/4-18	1/4-18
1504-04-06	4FP-6FPX45	1/4-18	3/8-18
1504-06-04	6FP-4FPX45	3/8-18	1/4-18
1504-06-06	6FP-6FPX45	3/8-18	3/8-18
1504-06-08	6FP-8FPX45	3/8-18	1/2-14
1504-08-06	8FP-6FPX45	1/2-14	3/8-18
1504-08-08	8FP-8FPX45	1/2-14	1/2-14
1504-12-08	12FP-8FPX45	3/4-14	1/2-14
1504-12-12	12FP-12FPX45	3/4-14	3/4-14
1504-16-12	16FP-12FPX45	1-11 1/2	3/4-14
1504-16-16	16FP-16FPX45	1-11 1/2	1-11 1/2
1504-20-20	20FP-20FPX45	1 1/4-11 1/2	1 1/4-11 1/2
1504-24-24	24FP-24FPX45	1 1/2-11 1/2	1 1/2-11 1/2



1601 Series

MP-FPX-FPX Tee

Item Number	HH Item Number	Female Pipe Swivel		
		1	2	3
1601-02-02-02	2MP-2FPX-2FPX	1/8-27	1/8-27	1/8-27
1601-02-04-04	2MP-4FPX-4FPX	1/8-27	1/4-18	1/4-18
1601-04-04-04	4MP-4FPX-4FPX	1/4-18	1/4-18	1/4-18
1601-04-06-06	4MP-6FPX-6FPX	1/4-18	3/8-18	3/8-18
1601-06-04-04	6MP-4FPX-4FPX	3/8-18	1/4-18	1/4-18
1601-06-06-06	6MP-6FPX-6FPX	3/8-18	3/8-18	3/8-18
1601-08-04-04	8MP-4FPX-4FPX	1/2-14	1/4-18	1/4-18
1601-08-06-06	8MP-6FPX-6FPX	1/2-14	3/8-18	3/8-18
1601-08-08-08	8MP-8FPX-8FPX	1/2-14	1/2-14	1/2-14
1601-08-12-12	8MP-12FPX-12FPX	1/2-14	3/4-14	3/4-14
1601-12-08-08	12MP-8FPX-8FPX	3/4-14	1/2-14	1/2-14
1601-12-12-12	12MP-12FPX-12FPX	3/4-14	3/4-14	3/4-14
1601-12-16-16	12MP-16FPX-16FPX	3/4-14	1-11 1/2	1-11 1/2
1601-16-12-12	16MP-12FPX-12FPX	1-11 1/2	3/4-14	3/4-14
1601-16-16-16	16MP-16FPX-16FPX	1-11 1/2	1-11 1/2	1-11 1/2
1601-20-20-20	20MP-20FPX-20FPX	1 1/4-11 1/2	1 1/4-11 1/2	1 1/4-11 1/2
1601-24-24-24	24MP-24FPX-24FPX	1 1/2-11 1/2	1 1/2-11 1/2	1 1/2-11 1/2

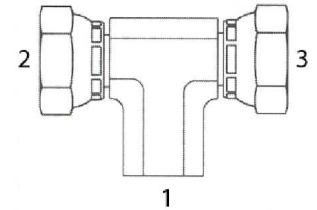


Pipe Swivels

1602 Series

FP-FPX-FPX Tee

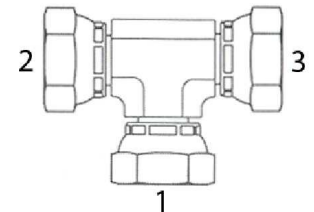
Item Number	HH Item Number	1 Female Pipe Swivel	2 Female Pipe Swivel	3 Female Pipe Swivel
1602-02-02-02	2FP-2FPX-2FPX	1/8-27	1/8-27	1/8-27
1602-04-04-04	4FP-4FPX-4FPX	1/4-18	1/4-18	1/4-18
1602-06-04-04	6FP-4FPX-4FPX	3/8-18	1/4-18	1/4-18
1602-06-06-06	6FP-6FPX-6FPX	3/8-18	3/8-18	3/8-18
1602-08-06-06	8FP-6FPX-6FPX	1/2-14	3/8-18	3/8-18
1602-08-08-08	8FP-8FPX-8FPX	1/2-14	1/2-14	1/2-14
1602-08-12-12	8FP-12FPX-12FPX	1/2-14	3/4-14	3/4-14
1602-12-08-08	12FP-8FPX-8FPX	3/4-14	1/2-14	1/2-14
1602-12-12-12	12FP-12FPX-12FPX	3/4-14	3/4-14	3/4-14
1602-16-12-12	16FP-12FPX-12FPX	1-11 1/2	3/4-14	3/4-14
1602-16-16-16	16FP-16FPX-16FPX	1-11 1/2	1-11 1/2	1-11 1/2
1602-20-20-20	20FP-20FPX-20FPX	1 1/4-11 1/2	1 1/4-11 1/2	1 1/4-11 1/2
1602-24-24-24	24FP-24FPX-24FPX	1 1/2-11 1/2	1 1/2-11 1/2	1 1/2-11 1/2



1603 Series

FPX-FPX-FPX Tee

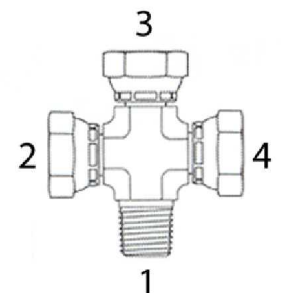
Item Number	HH Item Number	1 Female Pipe Swivel	2 Female Pipe Swivel	3 Female Pipe Swivel
1603-02-02-02	2FPX-2FPX-2FPX	1/8-27	1/8-27	1/8-27
1603-04-04-04	4FPX-4FPX-4FPX	1/4-18	1/4-18	1/4-18
1603-04-04-06	4FPX-4FPX-6FPX	1/4-18	1/4-18	3/8-18
1603-06-06-06	6FPX-6FPX-6FPX	3/8-18	3/8-18	3/8-18
1603-06-06-08	6FPX-6FPX-8FPX	3/8-18	3/8-18	1/2-14
1603-08-06-06	8FPX-6FPX-6FPX	1/2-14	3/8-18	3/8-18
1603-08-08-08	8FPX-8FPX-8FPX	1/2-14	1/2-14	1/2-14
1603-12-12-12	12FPX-12FPX-12FPX	3/4-14	3/4-14	3/4-14
1603-16-12-16	16FPX-12FPX-16FPX	1-11 1/2	3/4-14	1-11 1/2
1603-16-16-16	16FPX-16FPX-16FPX	1-11 1/2	1-11 1/2	1-11 1/2
1603-20-20-20	20FPX-20FPX-20FPX	1 1/4-11 1/2	1 1/4-11 1/2	1 1/4-11 1/2
1603-24-24-24	24FPX-24FPX-24FPX	1 1/2-11 1/2	1 1/2-11 1/2	1 1/2-11 1/2



1604 Series

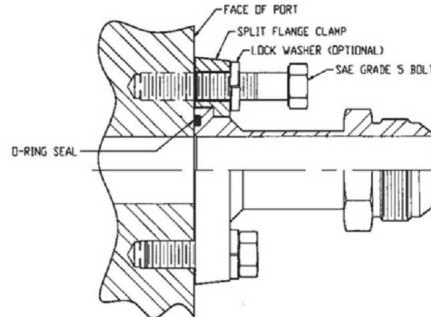
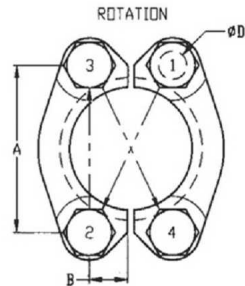
MP-FPX-FPX-FPX Tee

Item Number	HH Item Number	1 Male Pipe	2 Female Pipe Swivel	3 Female Pipe Swivel	4 Female Pipe Swivel
1604-04-04-04-04	4MP-4FPX-4FPX-4FPX	1/4-18	1/4-18	1/4-18	1/4-18
1604-06-06-06-06	6MP-6FPX-6FPX-6FPX	3/8-18	3/8-18	3/8-18	3/8-18
1604-08-08-08-08	8MP-8FPX-8FPX-8FPX	1/2-14	1/2-14	1/2-14	1/2-14



Split Flange Fittings

Split Flange Fittings



Hydraulic Headquarters offers Split Flange Adapters to convert Code 61 or Code 62 flange ports to JIC or OFS connections. Ranging in sizes from 1/2" up to 2", these adapters are a convenient, cost effective way to replace expensive hose fittings. They not only make hose alignment easy, but once in place the hose assembly can be replaced with standard hose swivel ends. This eliminates the need for special part numbers and extra inventory. Hydraulic equipment can then be quickly interconnected while leaving the split flange O-ring connection unbroken.

The 4-bolt flange design is used world-wide for connecting pumps and motors in hydraulic systems. The split flange halves work by clamping down on the port surface thereby compressing the O-ring into a metal groove in the flange head. The flange head makes a metal-to-metal contact with the port surface, so there is no place for the O-ring to extrude or deform under pressure. There are no spiral leak paths, sealing compounds, or gasket misalignments to contaminate the system or get in the way of a leak-free connection. The components that make up the Code 61 and Code 62 flange design are standardized by SAE under J518. Those components are the flange head adapter, a pair of 2-bolt split flange halves (clamps), four Grade 5 bolts and washers, and a 90 Durometer O-ring. The flange port design divides the load into four bolts, which require less torque than other port designs of comparable size. The flange head hose assembly can be removed quickly by pivoting one of the split flange halves out of the way. Simply remove one of the split flange bolts and loosen the others.

Assembly is easy. Standard bolts are used, so no special tools are needed. First make sure that the port surface and the flange head, including the O-ring groove, are free of nicks, dings, dirt, grit, or other foreign matter. Next lubricate the O-ring with 10W hydraulic oil and insert it into the groove of the flange head. Then insert the four bolts, with washers, through the bolt holes of the split flange halves and thread them in to the port finger tight. The flange head should be centered in-between. Partially tighten each bolt according to the rotation shown above until the specified torque values are obtained in the chart below. This method will reduce the chance of pinching the O-ring and/or over flexing the flange. It should be noted that the split flange halves never actually touch the port surface. A clearance of 0.010" to 0.030" should always be measured after the torque values are reached. Only the flange head makes a metal-to-metal contact. Code 61 and Code 62 have different bolt patterns and are not interchangeable. Other brands also have similar dimensions to the SAE J518 flange design, but they are not interchangeable either.

Flange Bolt Torque Values

Size	Code 61		Code 62	
	Bolts	lb.-ft.	Bolts	lb.-ft.
-08	5/16-18	15-19	5/16-18	15-19
-12	3/8-16	21-29	3/8-16	25-33
-16	3/8-16	26-35	7/16-14	42-50
-20	7/16-14	36-46	1/2-13	63-75
-24	1/2-13	46-58	5/8-11	117-133
-32	1/2-13	56-66	3/4-10	200-217

Split Flange Fittings - Visual Identification Chart

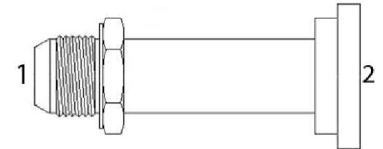
1700	1703	1704	1800	1803	1804
Pg. 61	Pg. 61	Pg. 62	Pg. 62	Pg. 63	Pg. 63
MJ-FL Straight Code 61	MJ-FL 45° Code 61	MJ-FL 90° Code 61	MJ-FLH Straight Code 62	MJ-FLH 45° Code 62	MJ-FLH 90° Code 62

Split Flange Fittings

1700 Series

MJ-FL Straight Code 61

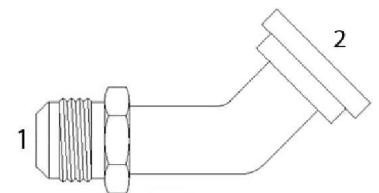
Item Number	HH Item Number	Tube OD	1 Male JIC	2 Flange Size
1700-08-08	8MJ-8FL	1/2	3/4-16	1/2
1700-08-12	8MJ-12FL	1/2	3/4-16	3/4
1700-10-10	10MJ-10FL	5/8	7/8-14	5/8
1700-12-10	12MJ-10FL	3/4	1 1/6-12	5/8
1700-12-12	12MJ-12FL	3/4	1 1/6-12	3/4
1700-12-16	12MJ-16FL	3/4	1 1/6-12	1
1700-12-20	12MJ-20FL	3/4	1 1/6-12	1 1/4
1700-12-24	12MJ-24FL	3/4	1 1/6-12	1 1/2
1700-16-12	16MJ-12FL	1	1 5/8-12	3/4
1700-16-16	16MJ-16FL	1	1 5/8-12	1
1700-16-20	16MJ-20FL	1	1 5/8-12	1 1/4
1700-16-24	16MJ-24FL	1	1 5/8-12	1 1/2
1700-20-16	20MJ-16FL	1 1/4	1 5/8-12	1
1700-20-20	20MJ-20FL	1 1/4	1 5/8-12	1 1/4
1700-20-24	20MJ-24FL	1 1/4	1 5/8-12	1 1/2
1700-20-32	20MJ-32FL	1 1/4	1 5/8-12	2
1700-24-16	24MJ-16FL	1 1/2	1 7/8-12	1
1700-24-20	24MJ-20FL	1 1/2	1 7/8-12	1 1/4
1700-24-24	24MJ-24FL	1 1/2	1 7/8-12	1 1/2
1700-24-32	24MJ-32FL	1 1/2	1 7/8-12	2
1700-32-24	32MJ-24FL	2	2 1/2-12	1 1/2
1700-32-32	32MJ-32FL	2	2 1/2-12	2



1703 Series

MJ-FL 45° Code 61

Item Number	HH Item Number	Tube OD	1 Male JIC	2 Flange Size
1703-08-08	8MJ-8FL45	1/2	3/4-16	1/2
1703-08-12	8MJ-12FL45	1/2	3/4-16	3/4
1703-12-12	12MJ-12FL45	3/4	1 1/6-12	3/4
1703-12-16	12MJ-16FL45	3/4	1 1/6-12	1
1703-12-20	12MJ-20FL45	3/4	1 1/6-12	1 1/4
1703-16-12	16MJ-12FL45	1	1 5/8-12	3/4
1703-16-16	16MJ-16FL45	1	1 5/8-12	1
1703-16-20	16MJ-20FL45	1	1 5/8-12	1 1/4
1703-16-24	16MJ-24FL45	1	1 5/8-12	1 1/2
1703-20-12	20MJ-12FL45	1 1/4	1 5/8-12	3/4
1703-20-16	20MJ-16FL45	1 1/4	1 5/8-12	1
1703-20-20	20MJ-20FL45	1 1/4	1 5/8-12	1 1/4
1703-20-24	20MJ-24FL45	1 1/4	1 5/8-12	1 1/2
1703-24-16	24MJ-16FL45	1 1/2	1 7/8-12	1
1703-24-20	24MJ-20FL45	1 1/2	1 7/8-12	1 1/4
1703-24-24	24MJ-24FL45	1 1/2	1 7/8-12	1 1/2
1703-24-32	24MJ-32FL45	1 1/2	1 7/8-12	2
1703-32-32	32MJ-32FL45	2	2 1/2-12	2

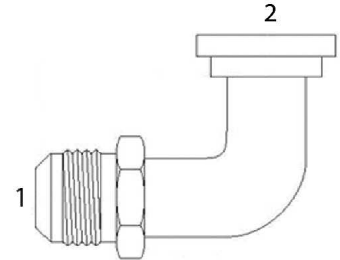


Split Flange Fittings

1704 Series

MJ-FL 90° Code 61

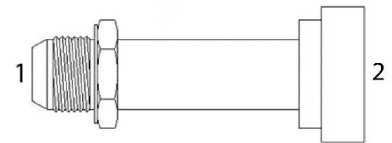
Item Number	HH Item Number	Tube OD	1 Male JIC	2 Flange Size
1704-08-08	8MJ-8FL90	1/2	3/4-16	1/2
1704-08-12	8MJ-12FL90	1/2	3/4-16	3/4
1704-08-24	8MJ-24FL90	1/2	3/4-16	1 1/2
1704-10-10	10MJ-10FL90	5/8	7/8-14	5/8
1704-12-10	12MJ-10FL90	3/4	1 1/16-12	5/8
1704-12-12	12MJ-12FL90	3/4	1 1/16-12	3/4
1704-12-16	12MJ-16FL90	3/4	1 1/16-12	1
1704-12-20	12MJ-20FL90	3/4	1 1/16-12	1 1/4
1704-12-24	12MJ-24FL90	3/4	1 1/16-12	1 1/2
1704-16-12	16MJ-12FL90	1	1 5/16-12	3/4
1704-16-16	16MJ-16FL90	1	1 5/16-12	1
1704-16-20	16MJ-20FL90	1	1 5/16-12	1 1/4
1704-16-24	16MJ-24FL90	1	1 5/16-12	1 1/2
1704-20-12	20MJ-12FL90	1 1/4	1 5/8-12	3/4
1704-20-16	20MJ-16FL90	1 1/4	1 5/8-12	1
1704-20-20	20MJ-20FL90	1 1/4	1 5/8-12	1 1/4
1704-20-24	20MJ-24FL90	1 1/4	1 5/8-12	1 1/2
1704-20-32	20MJ-32FL90	1 1/4	1 5/8-12	2
1704-24-16	24MJ-16FL90	1 1/2	1 7/8-12	1
1704-24-20	24MJ-20FL90	1 1/2	1 7/8-12	1 1/4
1704-24-24	24MJ-24FL90	1 1/2	1 7/8-12	1 1/2
1704-24-32	24MJ-32FL90	1 1/2	1 7/8-12	2
1704-32-24	32MJ-24FL90	2	2 1/2-12	1 1/2
1704-32-32	32MJ-32FL90	2	2 1/2-12	2



1800 Series

MJ-FLH Straight Code 62

Item Number	HH Item Number	Tube OD	1 Male JIC	2 Flange Size
1800-08-08	8MJ-8FLH	1/2	3/4-16	1/2
1800-12-12	12MJ-12FLH	3/4	1 1/16-12	3/4
1800-12-16	12MJ-16FLH	3/4	1 1/16-12	1
1800-16-12	16MJ-12FLH	1	1 5/16-12	3/4
1800-16-16	16MJ-16FLH	1	1 5/16-12	1
1800-16-20	16MJ-20FLH	1	1 5/16-12	1 1/4
1800-16-24	16MJ-24FLH	1	1 5/16-12	1 1/2
1800-20-16	20MJ-16FLH	1 1/4	1 5/8-12	1
1800-20-20	20MJ-20FLH	1 1/4	1 5/8-12	1 1/4
1800-20-24	20MJ-24FLH	1 1/4	1 5/8-12	1 1/2
1800-24-20	24MJ-20FLH	1 1/2	1 7/8-12	1 1/4
1800-24-24	24MJ-24FLH	1 1/2	1 7/8-12	1 1/2
1800-32-32	32MJ-32FLH	2	2 1/2-12	2

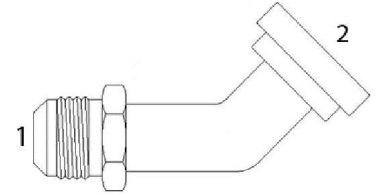


Split Flange Fittings

1803 Series

MJ-FLH 45° Code 62

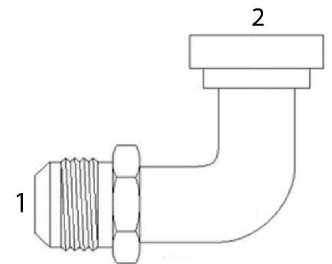
Item Number	HH Item Number	Tube OD	1 Male JIC	2 Flange Size
1803-08-08	8MJ-8FLH45	1/2	3/4-16	1/2
1803-12-12	12MJ-12FLH45	3/4	1 1/16-12	3/4
1803-12-16	12MJ-16FLH45	3/4	1 1/16-12	1
1803-12-20	12MJ-20FLH45	3/4	1 1/16-12	1 1/4
1803-16-12	16MJ-12FLH45	1	1 5/16-12	3/4
1803-16-16	16MJ-16FLH45	1	1 5/16-12	1
1803-16-20	16MJ-20FLH45	1	1 5/16-12	1 1/4
1803-16-24	16MJ-24FLH45	1	1 5/16-12	1 1/2
1803-20-12	20MJ-12FLH45	1 1/4	1 5/8-12	3/4
1803-20-16	20MJ-16FLH45	1 1/4	1 5/8-12	1
1803-20-20	20MJ-20FLH45	1 1/4	1 5/8-12	1 1/4
1803-20-24	20MJ-24FLH45	1 1/4	1 5/8-12	1 1/2
1803-24-20	24MJ-20FLH45	1 1/2	1 7/8-12	1 1/4
1803-24-24	24MJ-24FLH45	1 1/2	1 7/8-12	1 1/2
1803-32-32	32MJ-32FLH45	2	2 1/2-12	2



1804 Series

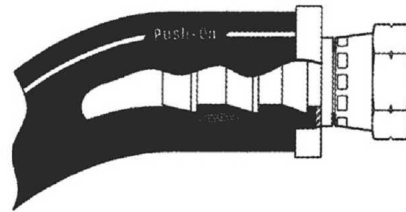
MJ-FLH 90° Code 62

Item Number	HH Item Number	Tube OD	1 Male JIC	2 Flange Size
1804-08-08	8MJ-8FLH90	1/2	3/4-16	1/2
1804-12-12	12MJ-12FLH90	3/4	1 1/16-12	3/4
1804-12-16	12MJ-16FLH90	3/4	1 1/16-12	1
1804-12-20	12MJ-20FLH90	3/4	1 1/16-12	1 1/4
1804-16-12	16MJ-12FLH90	1	1 5/16-12	3/4
1804-16-16	16MJ-16FLH90	1	1 5/16-12	1
1804-16-20	16MJ-20FLH90	1	1 5/16-12	1 1/4
1804-16-24	16MJ-24FLH90	1	1 5/16-12	1 1/2
1804-20-16	20MJ-16FLH90	1 1/4	1 5/8-12	1
1804-20-20	20MJ-20FLH90	1 1/4	1 5/8-12	1 1/4
1804-20-24	20MJ-24FLH90	1 1/4	1 5/8-12	1 1/2
1804-24-16	24MJ-16FLH90	1 1/2	1 7/8-12	1
1804-24-20	24MJ-20FLH90	1 1/2	1 7/8-12	1 1/4
1804-24-24	24MJ-24FLH90	1 1/2	1 7/8-12	1 1/2
1804-24-32	24MJ-32FLH90	1 1/2	1 7/8-12	2
1804-32-24	32MJ-24FLH90	2	2 1/2-12	1 1/2
1804-32-32	32MJ-32FLH90	2	2 1/2-12	2



Push-On Hose Barbs

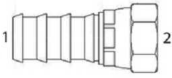
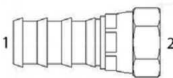
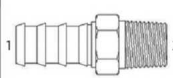
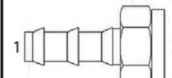
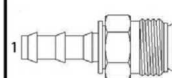
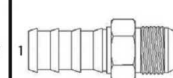
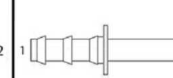

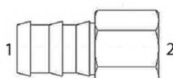
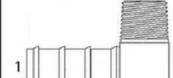
Push-On Hose Barbs



Push-On Hose Barbs are cost efficient as they DO NOT require hose clamps. In fact the use of hose clamps may reduce their sealing capability. They are designed for low pressure applications where no system spikes are experienced. The pressure rating is dependent on the type of hose selected, and depending on the hose, they are compatible with oil, water, anti-freeze, and air. They can also be used for vacuum service, except as refrigerant or coolant lines.

To assemble, cut the hose end off square. Then liberally lubricate the outside of the barb and the inside of the hose with a light oil, or soapy water depending on the application. Heavy oil or grease is NOT recommended. Next, simply push on the hose until it seats fully. A flat surface may be required to push against to get the hose to seat all the way. To remove the hose make a top-slit, at least an inch long, from the end of the hose back. Be careful not to nick the barb when slitting the hose. Then bend the hose down and snap it off with a quick tug.

Push-On Hose Barbs - Visual Identification Chart

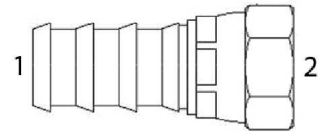
<p>2111</p>  <p>Pg. 65</p> <p>PO-FJX Straight</p>	<p>2112</p>  <p>Pg. 65</p> <p>PO-FSAEX Straight</p>	<p>2113</p>  <p>Pg. 66</p> <p>PO-MP Straight</p>	<p>2114</p>  <p>Pg. 66</p> <p>PO-FIF Straight</p>	<p>2115</p>  <p>Pg. 67</p> <p>PO-MIFX Straight</p>	<p>2116</p>  <p>Pg. 67</p> <p>PO-SAE Straight</p>	<p>2117</p>  <p>Pg. 67</p> <p>PO-Stem Straight</p>
<p>2118</p>  <p>Pg. 68</p> <p>PO-PO Straight</p>	<p>2119</p>  <p>Pg. 68</p> <p>PO-FP Straight</p>	<p>2120</p>  <p>Pg. 68</p> <p>PO-MP 90°</p>				

Push-On Hose Barbs

2111 Series

PO-FJX Straight

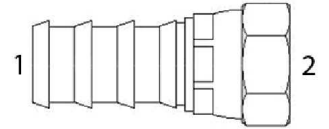
Item Number	HH Item Number	1 Push-On	2 Female JIC Swivel
2111-04-04	4PO-4FJX	1/4	7/16-20
2111-04-05	4PO-5FJX	1/4	1/2-20
2111-04-06	4PO-6FJX	1/4	9/16-18
2111-04-08	4PO-8FJX	1/4	3/4-16
2111-05-05	5PO-5FJX	5/16	1/2-20
2111-06-06	6PO-6FJX	3/8	9/16-18
2111-06-08	6PO-8FJX	3/8	3/4-16
2111-08-08	8PO-8FJX	1/2	3/4-16
2111-08-10	8PO-10FJX	1/2	7/8-14
2111-10-08	10PO-8FJX	5/8	3/4-16
2111-10-10	10PO-10FJX	5/8	7/8-14
2111-12-12	12PO-12FJX	3/4	1 1/16-12



2112 Series

PO-FSAEX Straight

Item Number	HH Item Number	1 Push-On	2 Female SAE Swivel 45
2112-04-06	4PO-6FSAEX	1/4	9/16-18
2112-05-06	5PO-6FSAEX	5/16	9/16-18
2112-06-04	6PO-4FSAEX	3/8	7/16-20
2112-06-06	6PO-6FSAEX	3/8	9/16-18
2112-08-06	8PO-6FSAEX	1/2	9/16-18
2112-08-08	8PO-8FSAEX	1/2	3/4-16
2112-12-12	12PO-12FSAEX	3/4	1 1/16-14

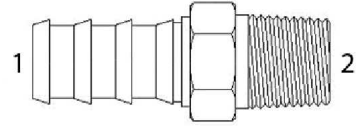


Push-On Hose Barbs

2113 Series

PO-MP Straight

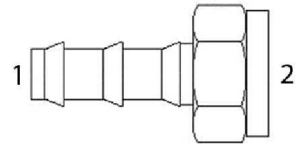
Item Number	HH Item Number	1 Push-On	2 Male Pipe
2113-03-02	3PO-2MP	3/16	1/8-27
2113-04-02	4PO-2MP	1/4	1/8-27
2113-04-04	4PO-4MP	1/4	1/4-18
2113-04-06	4PO-6MP	1/4	3/8-18
2113-05-02	5PO-2MP	5/16	1/8-27
2113-05-04	5PO-4MP	5/16	1/4-18
2113-06-02	6PO-2MP	3/8	1/8-27
2113-06-04	6PO-4MP	3/8	1/4-18
2113-06-06	6PO-6MP	3/8	3/8-18
2113-06-08	6PO-8MP	3/8	1/2-14
2113-06-12	6PO-12MP	3/8	3/4-14
2113-08-04	8PO-4MP	1/2	1/4-18
2113-08-06	8PO-6MP	1/2	3/8-18
2113-08-08	8PO-8MP	1/2	1/2-14
2113-08-12	8PO-12MP	1/2	3/4-14
2113-10-06	10PO-6MP	5/8	3/8-18
2113-10-08	10PO-8MP	5/8	1/2-14
2113-10-12	10PO-12MP	5/8	3/4-14
2113-12-08	12PO-8MP	3/4	1/2-14
2113-12-12	12PO-12MP	3/4	3/4-14



2114 Series

PO-FIF Straight

Item Number	HH Item Number	1 Push-On	2 Female Inverted Flare
2114-04-03	4PO-3FIF	1/4	3/8-24
2114-04-04	4PO-4FIF	1/4	7/16-20
2114-04-05	4PO-5FIF	1/4	1/2-20
2114-06-05	6PO-5FIF	3/8	1/2-20
2114-06-06	6PO-6FIF	3/8	5/8-18
2114-08-08	8PO-8FIF	1/2	3/4-16

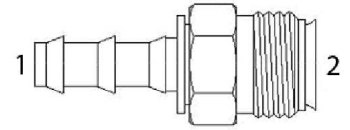


Push-On Hose Barbs

2115 Series

PO-MIFX Straight

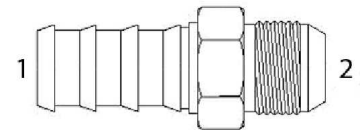
Item Number	HH Item Number	1 Push-On	2 Male Inverted Flare Swivel
2115-04-03	4PO-3MIFX	1/4	3/8-24
2115-04-04	4PO-4MIFX	1/4	7/16-24
2115-04-05	4PO-5MIFX	1/4	1/2-20
2115-05-05	5PO-5MIFX	5/16	1/2-20
2115-05-06	5PO-6MIFX	5/16	5/8-18
2115-06-05	6PO-5MIFX	3/8	1/2-20
2115-06-06	6PO-6MIFX	3/8	5/8-18
2115-06-08	6PO-8MIFX	3/8	3/4-18
2115-08-06	8PO-6MIFX	1/2	5/8-18
2115-08-08	8PO-8MIFX	1/2	3/4-18
2115-08-10	8PO-10MIFX	1/2	5/8-18
2115-10-08	10PO-8MIFX	5/8	3/4-18
2115-10-10	10PO-10MIFX	5/8	7/8-14



2116 Series

PO-SAE Straight

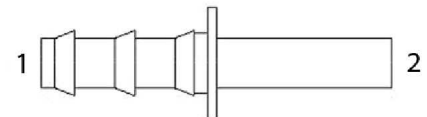
Item Number	HH Item Number	1 Push-On	2 SAE 45
2116-04-04	4PO-4SAE	1/4	7/16-24
2116-04-05	4PO-5SAE	1/4	1/2-20
2116-06-05	6PO-5SAE	3/8	1/2-20
2116-06-06	6PO-6SAE	3/8	5/8-18
2116-08-08	8PO-8SAE	1/2	3/4-16
2116-10-10	10PO-10SAE	5/8	7/8-14



2117 Series

PO-Stem Straight

Item Number	HH Item Number	1 Push-On	2 Stem
2117-04-03	4PO-3S	1/4	3/16
2117-04-04	4PO-4S	1/4	1/4
2117-04-05	4PO-5S	1/4	5/16
2117-06-06	6PO-6S	3/8	3/8
2117-08-08	8PO-8S	1/2	1/2

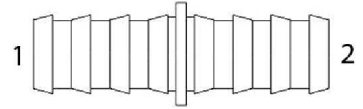


Push-On Hose Barbs

2118 Series

PO-PO Straight

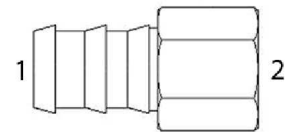
Item Number	HH Item Number	1 Push-On	2 Push-On
2118-04-04	4PO-4PO	1/4	1/4
2118-05-05	5PO-5PO	5/16	5/16
2118-06-06	6PO-6PO	3/8	3/8
2118-08-08	8PO-8PO	1/2	1/2
2118-10-10	10PO-10PO	5/8	5/8
2118-12-12	12PO-12PO	3/4	3/4



2119 Series

PO-FP Straight

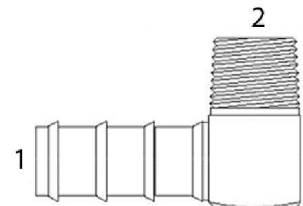
Item Number	HH Item Number	1 Push-On	2 Female Pipe
2119-04-02	4PO-2FP	1/4	1/8-27
2119-04-04	4PO-4FP	1/4	1/4-18
2119-04-06	4PO-6FP	1/4	3/8-18
2119-06-04	6PO-4FP	3/8	1/4-18
2119-06-06	6PO-6FP	3/8	3/8-18
2119-06-08	6PO-8FP	3/8	1/2-14
2119-08-06	8PO-6FP	1/2	3/8-18
2119-08-08	8PO-8FP	1/2	1/2-14



2120 Series

PO-MP 90°

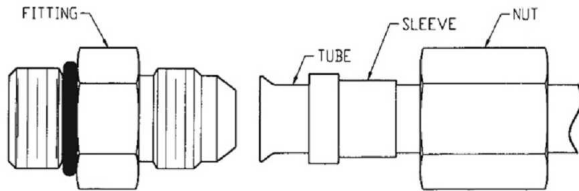
Item Number	HH Item Number	1 Push-On	2 Male Pipe
2120-02-04	2PO-4MP90	1/8	1/4-18
2120-04-02	4PO-2MP90	1/4	1/8-27
2120-04-04	4PO-4MP90	1/4	1/4-18
2120-06-02	6PO-2MP90	3/8	1/8-27
2120-06-04	6PO-4MP90	3/8	1/4-18
2120-06-06	6PO-6MP90	3/8	3/8-18
2120-06-08	6PO-8MP90	3/8	1/2-14
2120-08-06	8PO-6MP90	1/2	3/8-18
2120-08-08	8PO-8MP90	1/2	1/2-14
2120-10-06	10PO-6MP90	5/8	3/8-18
2120-10-08	10PO-8MP90	5/8	1/2-14
2120-12-12	12PO-12MP90	3/4	3/4-14



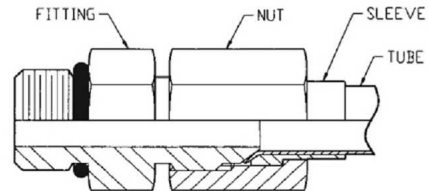
37° JIC Flare Fittings

37° JIC Flare Fittings

Components



Assembled



The 37° JIC (Joint Industrial Council) flare is a reliable, straight thread, single-flare design that is used world-wide. It is popular in many applications and environments because it is compact and easy to assemble. It also features high holding power with low torque requirements. The 37° JIC connection consists of three pieces: the nut, the sleeve, and the fitting in a range of sizes from 1/8" up to 2". The sleeve not only absorbs vibration, but acts as a support to the flare during assembly and helps reduce the risk of twisting the tube. Since it is a metal-to-metal seal it can be reliably connected and reconnected multiple times. Because flaring is necessary, it is NOT recommended for thick wall tubing. For assembly instructions see the Male 37° JIC Torque Values chart below. Also see the 37° JIC Swivels page.

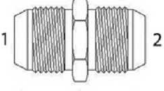
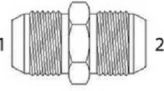
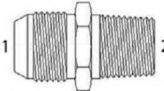
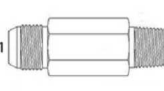
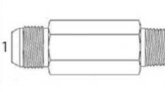
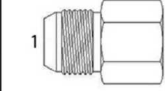
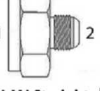
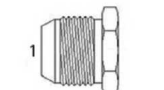
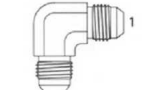
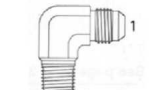
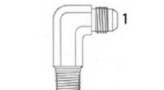

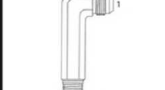
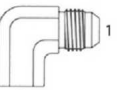


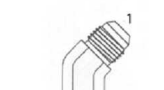
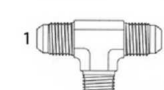
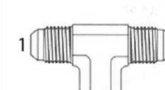
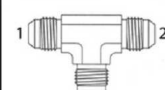
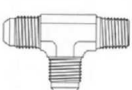
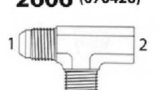
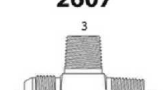
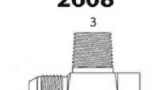
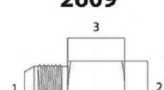
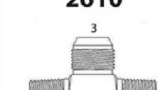
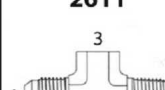
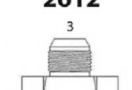
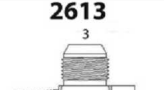
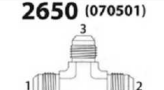
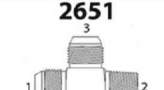
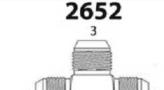
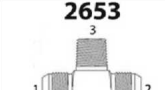
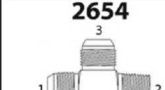
37° JIC Torque Values

"Turns Past Hand Tight" Method			Assembly Steps with a Visual Check
Size	Turns	lb-ft min./max.	
-02	Not Rated	6-7	<ol style="list-style-type: none"> 1. With the tube flared, make sure the tubing and threads are clean. 2. Lubricate the threads with 10W hydraulic oil. 3. Hand tighten the nut/sleeve (approx. 30 lb-in). 4. Make alignment marks on the nut and fitting. 5. Proceed to tighten to Turns or lb-ft values. 6. When fully tightened make a 2nd set of alignment marks at the fully tightened position. <p>This completes a 37° JIC flare connection with visual marks for a quick reference.</p>
-03	Not Rated	8-9	
-04	2	11-12	
-05	2	14-15	
-06	1 1/2	18-20	
-08	1 1/2	36-39	
-10	1 1/2	57-63	
-12	1 1/4	79-88	
-14	1	94-103	
-16	1	108-113	
-20	1	127-133	
-24	1	158-167	
-32	1	245-258	

Torque values specified are for threads lubricated with 10W hydraulic oil.
Remember sizes -02 through -08 are less tolerant to over-torque abuse.
Over-torque abuse reduces the clamping force resulting in loss of seal and a reduction in flow.

37° JIC Flare Fittings

37° JIC Flare Fittings - Visual Identification Chart

<p>2403 (070101)</p>  <p>Pg. 71 MJ-MJ Straight</p>	<p>2403-LH (070101)</p>  <p>Pg. 72 MJ-MJ Straight Large Hex</p>	<p>2404 (070102)</p>  <p>Pg. 73 MJ-MP Straight</p>	<p>2404-L</p>  <p>Pg. 74 MJ-MP Straight Long</p>	<p>2404-LL</p>  <p>Pg. 75 MJ-MP Straight X-Long</p>	<p>2405 (070103)</p>  <p>Pg. 76 MJ-FP Straight</p>	<p>2406 (070123)</p>  <p>Pg. 77 FJ-MJ Straight Reducer/Expander</p>
<p>2408 (070109)</p>  <p>Pg. 78 MJ Plug</p>	<p>2500 (070201)</p>  <p>Pg. 79 MJ-MJ 90°</p>	<p>2501 (070202)</p>  <p>Pg. 80 MJ-MP 90°</p>	<p>2501-L (070101)</p>  <p>Pg. 81 MJ-MP 90° Long</p>	<p>2501-LL (070602)</p>  <p>Pg. 82 MJ-MP 90° X-Long</p>	<p>2501-LLL</p>  <p>Pg. 82 MJ-MP 90° XX-Long</p>	<p>2502 (070203)</p>  <p>Pg. 83 MJ-FP 90°</p>
<p>2503 (070302)</p>  <p>Pg. 84 MJ-MP 45°</p>	<p>2504</p>  <p>Pg. 85 MJ-MJ 45°</p>	<p>2505</p>  <p>Pg. 85 MJ-FP 45°</p>	<p>2601 (070425)</p>  <p>Pg. 86 MJ-MJ-MP Tee</p>	<p>2602 (070427)</p>  <p>Pg. 87 MJ-MJ-FP Tee</p>	<p>2603 (070401)</p>  <p>Pg. 88 MJ-MJ-MJ Tee</p>	<p>2605 (070424)</p>  <p>Pg. 89 MJ-MP-MJ Tee</p>
<p>2606 (070426)</p>  <p>Pg. 90 MJ-FP-MJ Tee</p>	<p>2607</p>  <p>Pg. 90 MJ-MP-MP Tee</p>	<p>2608</p>  <p>Pg. 91 MJ-FP-MP Tee</p>	<p>2609</p>  <p>Pg. 91 MJ-FP-FP Tee</p>	<p>2610</p>  <p>Pg. 91 MP-MP-MJ Tee</p>	<p>2611</p>  <p>Pg. 92 MJ-MP-FP Tee</p>	<p>2612</p>  <p>Pg. 92 FP-FP-MJ Tee</p>
<p>2613</p>  <p>Pg. 92 MP-FP-MJ Tee</p>	<p>2650 (070501)</p>  <p>Pg. 93 MJ-MJ-MJ-MJ Cross</p>	<p>2651</p>  <p>Pg. 93 MJ-MP-MJ-MJ Cross</p>	<p>2652</p>  <p>Pg. 93 MJ-MP-MJ-MJ Cross</p>	<p>2653</p>  <p>Pg. 94 MJ-MJ-MP-MP Cross</p>	<p>2654</p>  <p>Pg. 94 MJ-MP-MJ-MP Cross</p>	

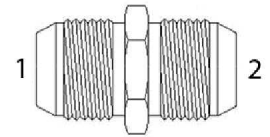
37° JIC Flare Fittings

2403 Series

MJ-MJ Straight

SAE 070101

Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male JIC
2403-02-02	2MJ-2MJ	1/8	5/16-24	5/16-24
2403-03-02	3MJ-2MJ	3/16 x 1/8	3/8-24	5/16-24
2403-03-03	3MJ-3MJ	3/16	3/8-24	3/8-24
2403-04-02	4MJ-2MJ	1/4 x 1/8	7/16-20	5/16-24
2403-04-03	4MJ-3MJ	1/4 x 3/16	7/16-20	3/8-24
2403-04-04	4MJ-4MJ	1/4	7/16-20	7/16-20
2403-05-04	5MJ-4MJ	5/16 x 1/4	1/2-20	7/16-20
2403-05-05	5MJ-5MJ	5/16	1/2-20	1/2-20
2403-06-04	6MJ-4MJ	3/8 x 1/4	9/16-18	7/16-20
2403-06-05	6MJ-5MJ	3/8 x 5/16	9/16-18	1/2-20
2403-06-06	6MJ-6MJ	3/8	9/16-18	9/16-18
2403-08-04	8MJ-4MJ	1/2 x 1/4	3/4-16	7/16-20
2403-08-05	8MJ-5MJ	1/2 x 5/16	3/4-16	1/2-20
2403-08-06	8MJ-6MJ	1/2 x 3/8	3/4-16	9/16-18
2403-08-08	8MJ-8MJ	1/2	3/4-16	3/4-16
2403-10-04	10MJ-4MJ	5/8 x 1/4	7/8-14	7/16-20
2403-10-05	10MJ-5MJ	5/8 x 5/16	7/8-14	1/2-20
2403-10-06	10MJ-6MJ	5/8 x 3/8	7/8-14	9/16-18
2403-10-08	10MJ-8MJ	5/8 x 1/2	7/8-14	3/4-16
2403-10-10	10MJ-10MJ	5/8	7/8-14	7/8-14
2403-12-04	12MJ-4MJ	3/4 x 1/4	1 1/16-12	7/16-20
2403-12-05	12MJ-5MJ	3/4 x 5/16	1 1/16-12	1/2-20
2403-12-06	12MJ-6MJ	3/4 x 3/8	1 1/16-12	9/16-18
2403-12-08	12MJ-8MJ	3/4 x 1/2	1 1/16-12	3/4-16
2403-12-10	12MJ-10MJ	3/4 x 5/8	1 1/16-12	7/8-14
2403-12-12	12MJ-12MJ	3/4	1 1/16-12	1 1/16-12
2403-14-12	14MJ-12MJ	7/8 x 3/4	1 3/16-12	1 1/16-12
2403-14-14	14MJ-14MJ	7/8	1 3/16-12	1 3/16-12
2403-16-04	16MJ-4MJ	1 x 1/4	1 5/16-12	7/16-20
2403-16-06	16MJ-6MJ	1 x 3/8	1 5/16-12	9/16-18
2403-16-08	16MJ-8MJ	1 x 1/2	1 5/16-12	3/4-16
2403-16-10	16MJ-10MJ	1 x 5/8	1 5/16-12	7/8-14
2403-16-12	16MJ-12MJ	1 x 3/4	1 5/16-12	1 1/16-12
2403-16-14	16MJ-14MJ	1 x 7/8	1 5/16-12	1 3/16-12
2403-16-16	16MJ-16MJ	1	1 5/16-12	1 5/16-12
2403-20-12	20MJ-12MJ	1 1/4 x 3/4	1 5/8-12	1 1/16-12
2403-20-16	20MJ-16MJ	1 1/4 x 1	1 5/8-12	1 5/16-12
2403-20-20	20MJ-20MJ	1 1/4	1 5/8-12	1 5/8-12
2403-24-08	24MJ-8MJ	1 1/2 x 1/2	1 7/8-12	3/4-16
2403-24-10	24MJ-10MJ	1 1/2 x 5/8	1 7/8-12	7/8-14
2403-24-12	24MJ-12MJ	1 1/2 x 3/4	1 7/8-12	1 1/16-12
2403-24-16	24MJ-16MJ	1 1/2 x 1	1 7/8-12	1 5/16-12
2403-24-20	24MJ-20MJ	1 1/2 x 1 1/4	1 7/8-12	1 5/8-12
2403-24-24	24MJ-24MJ	1 1/2	1 7/8-12	1 7/8-12
2403-32-12	32MJ-12MJ	2 x 3/4	2 1/2-12	1 1/16-12
2403-32-16	32MJ-16MJ	2 x 1	2 1/2-12	1 5/16-12
2403-32-20	32MJ-20MJ	2 x 1 1/4	2 1/2-12	1 5/8-12
2403-32-24	32MJ-24MJ	2 x 1 1/2	2 1/2-12	1 7/8-12
2403-32-32	32MJ-32MJ	2	2 1/2-12	2 1/2-12
2403-40-40	40MJ-40MJ	2 1/2	3-12	3-12



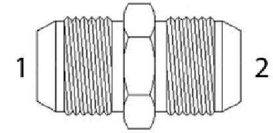
37° JIC Flare Fittings

2403-LH Series

MJ-MJ Straight Large Hex

SAE 070119

Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male JIC
2403-LH-02-02	2MJ-2MJ-LH	1/8	5/16-24	5/16-24
2403-LH-03-02	3MJ-2MJ-LH	3/16 x 1/8	3/8-24	5/16-24
2403-LH-03-03	3MJ-3MJ-LH	3/16	3/8-24	3/8-24
2403-LH-04-02	4MJ-2MJ-LH	1/4 x 1/8	7/16-20	5/16-24
2403-LH-04-03	4MJ-3MJ-LH	1/4 x 3/16	7/16-20	3/8-24
2403-LH-04-04	4MJ-4MJ-LH	1/4	7/16-20	7/16-20
2403-LH-05-03	5MJ-3MJ-LH	5/16 x 3/16	1/2-20	3/8-24
2403-LH-05-04	5MJ-4MJ-LH	5/16 x 1/4	1/2-20	7/16-20
2403-LH-05-05	5MJ-5MJ-LH	5/16	1/2-20	1/2-20
2403-LH-06-04	6MJ-4MJ-LH	3/8 x 1/4	9/16-18	7/16-20
2403-LH-06-05	6MJ-5MJ-LH	3/8 x 5/16	9/16-18	1/2-20
2403-LH-06-06	6MJ-6MJ-LH	3/8	9/16-18	9/16-18
2403-LH-08-04	8MJ-4MJ-LH	1/2 x 1/4	3/4-16	7/16-20
2403-LH-08-05	8MJ-5MJ-LH	1/2 x 5/16	3/4-16	1/2-20
2403-LH-08-06	8MJ-6MJ-LH	1/2 x 3/8	3/4-16	9/16-18
2403-LH-08-08	8MJ-8MJ-LH	1/2	3/4-16	3/4-16
2403-LH-10-04	10MJ-4MJ-LH	5/8 x 1/4	7/8-14	7/16-20
2403-LH-10-06	10MJ-6MJ-LH	5/8 x 3/8	7/8-14	9/16-18
2403-LH-10-08	10MJ-8MJ-LH	5/8 x 1/2	7/8-14	3/4-16
2403-LH-10-10	10MJ-10MJ-LH	5/8	7/8-14	7/8-14
2403-LH-12-04	12MJ-4MJ-LH	3/4 x 1/4	1 1/16-12	7/16-20
2403-LH-12-05	12MJ-5MJ-LH	3/4 x 5/16	1 1/16-12	1/2-20
2403-LH-12-08	12MJ-8MJ-LH	3/4 x 1/2	1 1/16-12	3/4-16
2403-LH-12-10	12MJ-10MJ-LH	3/4 x 5/8	1 1/16-12	7/8-14
2403-LH-12-12	12MJ-12MJ-LH	3/4	1 1/16-12	1 1/16-12
2403-LH-14-14	14MJ-14MJ-LH	7/8	1 3/16-12	1 3/16-12
2403-LH-16-04	16MJ-4MJ-LH	1 x 1/4	1 5/16-12	7/16-20
2403-LH-16-08	16MJ-8MJ-LH	1 x 1/2	1 5/16-12	3/4-16
2403-LH-16-10	16MJ-10MJ-LH	1 x 5/8	1 5/16-12	7/8-14
2403-LH-16-12	16MJ-12MJ-LH	1 x 3/4	1 5/16-12	1 1/16-12
2403-LH-16-16	16MJ-16MJ-LH	1	1 5/16-12	1 5/16-12
2403-LH-20-10	20MJ-10MJ-LH	1 1/4 x 5/8	1 5/8-12	7/8-14
2403-LH-20-12	20MJ-12MJ-LH	1 1/4 x 3/4	1 5/8-12	1 1/16-12
2403-LH-20-16	20MJ-16MJ-LH	1 1/4 x 1	1 5/8-12	1 5/16-12
2403-LH-20-20	20MJ-20MJ-LH	1 1/4	1 5/8-12	1 5/8-12
2403-LH-24-08	24MJ-8MJ-LH	1 1/2 x 1/2	1 7/8-12	3/4-16
2403-LH-24-16	24MJ-16MJ-LH	1 1/2 x 1	1 7/8-12	1 5/16-12
2403-LH-24-20	24MJ-20MJ-LH	1 1/2 x 1 1/4	1 7/8-12	1 5/8-12
2403-LH-24-24	24MJ-24MJ-LH	1 1/2	1 7/8-12	1 7/8-12
2403-LH-32-32	32MJ-32MJ-LH	2	2-12	2-12



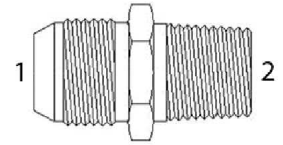
37° JIC Flare Fittings

2404 Series

MJ-MP Straight

SAE 070102

Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male Pipe
2404-02-02	2MJ-2MP	1/8	5/16-24	1/8-27
2404-02-04	2MJ-4MP	1/8	5/16-24	1/4-18
2404-03-02	3MJ-2MP	3/16	3/8-24	1/8-27
2404-03-04	3MJ-4MP	3/16	3/8-24	1/4-18
2404-04-02	4MJ-2MP	1/4	7/16-20	1/8-27
2404-04-04	4MJ-4MP	1/4	7/16-20	1/4-18
2404-04-06	4MJ-6MP	1/4	7/16-20	3/8-18
2404-04-08	4MJ-8MP	1/4	7/16-20	1/2-14
2404-04-12	4MJ-12MP	1/4	7/16-20	3/4-14
2404-05-02	5MJ-2MP	5/16	1/2-20	1/8-27
2404-05-04	5MJ-4MP	5/16	1/2-20	1/4-18
2404-05-06	5MJ-6MP	5/16	1/2-20	3/8-18
2404-05-08	5MJ-8MP	5/16	1/2-20	1/2-14
2404-06-02	6MJ-2MP	3/8	9/16-18	1/8-27
2404-06-04	6MJ-4MP	3/8	9/16-18	1/4-18
2404-06-06	6MJ-6MP	3/8	9/16-18	3/8-18
2404-06-08	6MJ-8MP	3/8	9/16-18	1/2-14
2404-06-12	6MJ-12MP	3/8	9/16-18	3/4-14
2404-06-16	6MJ-16MP	3/8	9/16-18	1-11 1/2
2404-08-02	8MJ-2MP	1/2	3/4-16	1/8-27
2404-08-04	8MJ-4MP	1/2	3/4-16	1/4-18
2404-08-06	8MJ-6MP	1/2	3/4-16	3/8-18
2404-08-08	8MJ-8MP	1/2	3/4-16	1/2-14
2404-08-12	8MJ-12MP	1/2	3/4-16	3/4-14
2404-08-16	8MJ-16MP	1/2	3/4-16	1-11 1/2
2404-10-04	10MJ-4MP	5/8	7/8-14	1/4-18
2404-10-06	10MJ-6MP	5/8	7/8-14	3/8-18
2404-10-08	10MJ-8MP	5/8	7/8-14	1/2-14
2404-10-12	10MJ-12MP	5/8	7/8-14	3/4-14
2404-10-16	10MJ-16MP	5/8	7/8-14	1-11 1/2
2404-10-20	10MJ-20MP	5/8	7/8-14	1 1/4-11 1/2
2404-12-04	12MJ-4MP	3/4	1 1/16-12	1/4-18
2404-12-06	12MJ-6MP	3/4	1 1/16-12	3/8-18
2404-12-08	12MJ-8MP	3/4	1 1/16-12	1/2-14
2404-12-12	12MJ-12MP	3/4	1 1/16-12	3/4-14
2404-12-16	12MJ-16MP	3/4	1 1/16-12	1-11 1/2
2404-12-20	12MJ-20MP	3/4	1 1/16-12	1 1/4-11 1/2
2404-12-24	12MJ-24MP	3/4	1 1/16-12	1 1/2-11 1/2
2404-14-08	14MJ-8MP	7/8	1 3/16-12	1/2-14
2404-14-12	14MJ-12MP	7/8	1 3/16-12	3/4-14
2404-14-16	14MJ-16MP	7/8	1 3/16-12	1-11 1/2
2404-16-06	16MJ-6MP	1	1 5/16-12	3/8-18
2404-16-08	16MJ-8MP	1	1 5/16-12	1/2-14
2404-16-12	16MJ-12MP	1	1 5/16-12	3/4-14
2404-16-16	16MJ-16MP	1	1 5/16-12	1-11 1/2
2404-16-20	16MJ-20MP	1	1 5/16-12	1 1/4-11 1/2
2404-16-24	16MJ-24MP	1	1 5/16-12	1 1/2-11 1/2
2404-16-32	16MJ-32MP	1	1 5/16-12	2-11 1/2
2404-20-12	20MJ-12MP	1 1/4	1 5/8-12	3/4-14
2404-20-16	20MJ-16MP	1 1/4	1 5/8-12	1-11 1/2
2404-20-20	20MJ-20MP	1 1/4	1 5/8-12	1 1/4-11 1/2
2404-20-24	20MJ-24MP	1 1/4	1 5/8-12	1 1/2-11 1/2
2404-20-32	20MJ-32MP	1 1/4	1 5/8-12	2-11 1/2



37° JIC Flare Fittings

2404 Series

MJ-MP Straight

SAE 070102

Item Number	HH Item Number	Tube OD	1	2
			Male JIC	Male Pipe
2404-20-40	20MJ-40MP	1 1/4	1 5/8-12	2 1/2-8
2404-24-12	24MJ-12MP	1 1/2	1 7/8-12	3/4-14
2404-24-16	24MJ-16MP	1 1/2	1 7/8-12	1-11 1/2
2404-24-20	24MJ-20MP	1 1/2	1 7/8-12	1 1/4-11 1/2
2404-24-24	24MJ-24MP	1 1/2	1 7/8-12	1 1/2-11 1/2
2404-24-32	24MJ-32MP	1 1/2	1 7/8-12	2-11 1/2
2404-32-16	32MJ-16MP	2	2 1/2-12	1-11 1/2
2404-32-20	32MJ-20MP	2	2 1/2-12	1 1/4-11 1/2
2404-32-24	32MJ-24MP	2	2 1/2-12	1 1/2-11 1/2
2404-32-32	32MJ-32MP	2	2 1/2-12	2-11 1/2
2404-32-40	32MJ-40MP	2	2 1/2-12	2 1/2-8
2404-40-40	40MJ-40MP	2 1/2	3-12	2 1/2-8

2404-L Series

MJ-MP Straight Long

Item Number	HH Item Number	Tube OD	1	2
			Male JIC	Male Pipe
2404-L-04-02	4MJ-2MPL	1/4	7/16-20	1/8-27
2404-L-04-04	4MJ-4MPL	1/4	7/16-20	1/4-18
2404-L-05-02	5MJ-2MPL	5/16	1/2-20	1/8-27
2404-L-05-04	5MJ-4MPL	5/16	1/2-20	1/4-18
2404-L-06-02	6MJ-2MPL	3/8	9/16-18	1/8-27
2404-L-06-04	6MJ-4MPL	3/8	9/16-18	1/4-18
2404-L-06-06	6MJ-6MPL	3/8	9/16-18	3/8-18
2404-L-06-08	6MJ-8MPL	3/8	9/16-18	1/2-14
2404-L-08-04	8MJ-4MPL	1/2	3/4-16	1/4-18
2404-L-08-06	8MJ-6MPL	1/2	3/4-16	3/8-18
2404-L-08-08	8MJ-8MPL	1/2	3/4-16	1/2-14
2404-L-10-06	10MJ-6MPL	5/8	7/8-14	3/8-18
2404-L-10-08	10MJ-8MPL	5/8	7/8-14	1/2-14
2404-L-12-12	12MJ-12MPL	3/4	1 1/16-12	3/4-14
2404-L-16-12	16MJ-12MPL	1	1 5/16-12	3/4-14
2404-L-16-16	16MJ-16MPL	1	1 5/16-12	1-11 1/2
2404-L-20-20	20MJ-20MPL	1 1/4	1 5/8-12	1 1/4-11 1/2
2404-L-24-24	24MJ-24MPL	1 1/2	1 7/8-12	1 1/2-11 1/2
2404-L-32-32	32MJ-32MPL	2	2 1/2-12	2-11 1/2



37° JIC Flare Fittings

2404-LL Series

MJ-MP Straight X-Long

Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male Pipe
2404-LL-04-02	4MJ-2MPLL	1/4	7/16-20	1/8-27
2404-LL-04-04	4MJ-4MPLL	1/4	7/16-20	1/4-18
2404-LL-05-02	5MJ-2MPLL	5/16	1/2-20	1/8-27
2404-LL-06-04	6MJ-4MPLL	3/8	9/16-18	1/4-18
2404-LL-06-06	6MJ-6MPLL	3/8	9/16-18	3/8-18
2404-LL-08-06	8MJ-6MPLL	1/2	3/4-16	3/8-18
2404-LL-08-08	8MJ-8MPLL	1/2	3/4-16	1/2-14
2404-LL-10-08	10MJ-8MPLL	5/8	7/8-14	1/2-14
2404-LL-12-12	12MJ-12MPLL	3/4	1 1/16-12	3/4-14
2404-LL-16-12	16MJ-12MPLL	1	1 5/16-12	3/4-14
2404-LL-16-16	16MJ-16MPLL	1	1 5/16-12	1-11 1/2



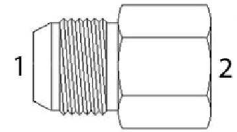
37° JIC Flare Fittings

2405 Series

MJ-FP Straight

SAE 070103

Item Number	HH Item Number	Tube OD	1		2	
			Male JIC	Female Pipe		
2405-02-02	2MJ-2FP	1/8	5/16-24	1/8-27		
2405-03-02	3MJ-2FP	3/16	3/8-24	1/8-27		
2405-03-04	3MJ-4FP	3/16	3/8-24	1/4-18		
2405-04-02	4MJ-2FP	1/4	7/16-20	1/8-27		
2405-04-04	4MJ-4FP	1/4	7/16-20	1/4-18		
2405-04-06	4MJ-6FP	1/4	7/16-20	3/8-18		
2405-04-08	4MJ-8FP	1/4	7/16-20	1/2-14		
2405-05-02	5MJ-2FP	5/16	1/2-20	1/8-27		
2405-05-04	5MJ-4FP	5/16	1/2-20	1/4-18		
2405-05-06	5MJ-6FP	5/16	1/2-20	3/8-18		
2405-06-02	6MJ-2FP	3/8	9/16-18	1/8-27		
2405-06-04	6MJ-4FP	3/8	9/16-18	1/4-18		
2405-06-06	6MJ-6FP	3/8	9/16-18	3/8-18		
2405-06-08	6MJ-8FP	3/8	9/16-18	1/2-14		
2405-06-12	6MJ-12FP	3/8	9/16-18	3/4-14		
2405-08-04	8MJ-4FP	1/2	3/4-16	1/4-18		
2405-08-06	8MJ-6FP	1/2	3/4-16	3/8-18		
2405-08-08	8MJ-8FP	1/2	3/4-16	1/2-14		
2405-08-12	8MJ-12FP	1/2	3/4-16	3/4-14		
2405-08-16	8MJ-16FP	1/2	3/4-16	1-11 1/2		
2405-10-04	10MJ-4FP	5/8	7/8-14	1/4-18		
2405-10-06	10MJ-6FP	5/8	7/8-14	3/8-18		
2405-10-08	10MJ-8FP	5/8	7/8-14	1/2-14		
2405-10-12	10MJ-12FP	5/8	7/8-14	3/4-14		
2405-10-16	10MJ-16FP	5/8	7/8-14	1-11 1/2		
2405-12-08	12MJ-8FP	3/4	1 1/16-12	1/2-14		
2405-12-12	12MJ-12FP	3/4	1 1/16-12	3/4-14		
2405-12-16	12MJ-16FP	3/4	1 1/16-12	1-11 1/2		
2405-14-08	14MJ-8FP	7/8	1 3/16-12	1/2-14		
2405-14-12	14MJ-12FP	7/8	1 3/16-12	3/4-14		
2405-16-12	16MJ-12FP	1	1 5/16-12	3/4-14		
2405-16-16	16MJ-16FP	1	1 5/16-12	1-11 1/2		
2405-16-20	16MJ-20FP	1	1 5/16-12	1 1/4-11 1/2		
2405-20-16	20MJ-16FP	1 1/4	1 5/8-12	1-11 1/2		
2405-20-20	20MJ-20FP	1 1/4	1 5/8-12	1 1/4-11 1/2		
2405-20-24	20MJ-24FP	1 1/4	1 5/8-12	1 1/2-11 1/2		
2405-24-16	24MJ-16FP	1 1/2	1 7/8-12	1-11 1/2		
2405-24-20	24MJ-20FP	1 1/2	1 7/8-12	1 1/4-11 1/2		
2405-24-24	24MJ-24FP	1 1/2	1 7/8-12	1 1/2-11 1/2		
2405-24-32	24MJ-32FP	1 1/2	1 7/8-12	2-11 1/2		
2405-32-24	32MJ-24FP	2	2 1/2-12	1 1/2-11 1/2		
2405-32-32	32MJ-32FP	2	2 1/2-12	2-11 1/2		



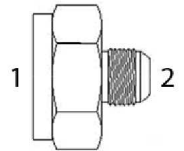
37° JIC Flare Fittings

2406 Series

FJ-MJ Straight Reducer/Expander

SAE 070123

Item Number	HH Item Number	Tube OD	1	2
			Female JIC	Male JIC
2406-03-04	3FJ-4MJ	3/16 x 1/4	3/8-24	7/16-20
2406-04-02	4FJ-2MJ	1/4 x 1/8	7/16-20	5/16-24
2406-04-03	4FJ-3MJ	1/4 x 3/16	7/16-20	3/8-24
2406-04-05	4FJ-5MJ	1/4 x 5/16	7/16-20	1/2-20
2406-04-06	4FJ-6MJ	1/4 x 3/8	7/16-20	9/16-18
2406-04-08	4FJ-8MJ	1/4 x 1/2	7/16-20	3/4-16
2406-05-04	5FJ-4MJ	5/16 x 1/4	1/2-20	7/16-20
2406-05-06	5FJ-6MJ	5/16 x 3/8	1/2-20	9/16-18
2406-05-08	5FJ-8MJ	5/16 x 1/2	1/2-20	3/4-16
2406-06-02	6FJ-2MJ	3/8 x 1/8	9/16-18	5/16-24
2406-06-03	6FJ-3MJ	3/8 x 3/16	9/16-18	3/8-24
2406-06-04	6FJ-4MJ	3/8 x 1/4	9/16-18	7/16-20
2406-06-05	6FJ-5MJ	3/8 x 5/16	9/16-18	1/2-20
2406-06-06	6FJ-6MJ	3/8	9/16-18	9/16-18
2406-06-08	6FJ-8MJ	3/8 x 1/2	9/16-18	3/4-16
2406-06-10	6FJ-10MJ	3/8 x 5/8	9/16-18	7/8-14
2406-08-04	8FJ-4MJ	1/2 x 1/4	3/4-16	7/16-20
2406-08-05	8FJ-5MJ	1/2 x 5/16	3/4-16	1/2-20
2406-08-06	8FJ-6MJ	1/2 x 3/8	3/4-16	9/16-18
2406-08-08	8FJ-8MJ	1/2	3/4-16	3/4-16
2406-08-10	8FJ-10MJ	1/2 x 5/8	3/4-16	7/8-14
2406-08-12	8FJ-12MJ	1/2 x 3/4	3/4-16	1 1/16-12
2406-08-16	8FJ-16MJ	1/2 x 1	3/4-16	1 5/16-12
2406-10-04	10FJ-4MJ	5/8 x 1/4	7/8-14	7/16-20
2406-10-06	10FJ-6MJ	5/8 x 3/8	7/8-14	9/16-18
2406-10-08	10FJ-8MJ	5/8 x 1/2	7/8-14	3/4-16
2406-10-12	10FJ-12MJ	5/8 x 3/4	7/8-14	1 1/16-12
2406-10-16	10FJ-16MJ	5/8 x 1	7/8-14	1 5/16-12
2406-12-04	12FJ-4MJ	3/4 x 1/4	1 1/16-12	7/16-20
2406-12-06	12FJ-6MJ	3/4 x 3/8	1 1/16-12	9/16-18
2406-12-08	12FJ-8MJ	3/4 x 1/2	1 1/16-12	3/4-16
2406-12-10	12FJ-10MJ	3/4 x 5/8	1 1/16-12	7/8-14
2406-12-12	12FJ-12MJ	3/4	1 1/16-12	1 1/16-12
2406-12-16	12FJ-16MJ	3/4 x 1	1 1/16-12	1 5/16-12
2406-14-04	14FJ-4MJ	7/8 x 1/4	1 3/16-12	7/16-20
2406-14-06	14FJ-6MJ	7/8 x 3/8	1 3/16-12	9/16-18
2406-14-08	14FJ-8MJ	7/8 x 1/2	1 3/16-12	3/4-16
2406-14-10	14FJ-10MJ	7/8 x 5/8	1 3/16-12	7/8-14
2406-14-12	14FJ-12MJ	7/8 x 3/4	1 3/16-12	1 1/16-12
2406-14-16	14FJ-16MJ	7/8 x 1	1 3/16-12	1 5/16-12
2406-16-04	16FJ-4MJ	1 x 1/4	1 5/16-12	7/16-20
2406-16-06	16FJ-6MJ	1 x 3/8	1 5/16-12	9/16-18
2406-16-08	16FJ-8MJ	1 x 1/2	1 5/16-12	3/4-16
2406-16-10	16FJ-10MJ	1 x 5/8	1 5/16-12	7/8-14
2406-16-12	16FJ-12MJ	1 x 3/4	1 5/16-12	1 1/16-12
2406-16-14	16FJ-14MJ	1 x 7/8	1 5/16-12	1 3/16-12
2406-16-20	16FJ-20MJ	1 x 1 1/4	1 5/16-12	1 5/8-12
2406-16-24	16FJ-24MJ	1 x 1 1/2	1 5/16-12	1 7/8-12
2406-20-06	20FJ-6MJ	1 1/4 x 3/8	1 5/8-12	9/16-18
2406-20-08	20FJ-8MJ	1 1/4 x 1/2	1 5/8-12	3/4-16
2406-20-10	20FJ-10MJ	1 1/4 x 5/8	1 5/8-12	7/8-14
2406-20-12	20FJ-12MJ	1 1/4 x 3/4	1 5/8-12	1 1/16-12
2406-20-14	20FJ-14MJ	1 1/4 x 7/8	1 5/8-12	1 3/16-12



37° JIC Flare Fittings

2406 Series

FJ-MJ Straight Reducer/Expander

SAE 070123

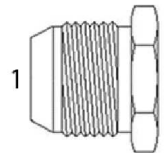
Item Number	HH Item Number	Tube OD	1	
			Female JIC	Male JIC
2406-20-16	20FJ-16MJ	1 1/4 x 1	1 5/8-12	1 5/16-12
2406-20-24	20FJ-24MJ	1 1/4 x 1 1/2	1 5/8-12	1 7/8-12
2406-24-04	24FJ-4MJ	1 1/2 x 1/4	1 7/8-12	7/16-20
2406-24-06	24FJ-6MJ	1 1/2 x 3/8	1 7/8-12	9/16-18
2406-24-08	24FJ-8MJ	1 1/2 x 1/2	1 7/8-12	3/4-16
2406-24-10	24FJ-10MJ	1 1/2 x 5/8	1 7/8-12	7/8-14
2406-24-12	24FJ-12MJ	1 1/2 x 3/4	1 7/8-12	1 1/16-12
2406-24-14	24FJ-14MJ	1 1/2 x 7/8	1 7/8-12	1 3/16-12
2406-24-16	24FJ-16MJ	1 1/2 x 1	1 7/8-12	1 5/16-12
2406-24-20	24FJ-20MJ	1 1/2 x 1 1/4	1 7/8-12	1 5/8-12
2406-24-32	24FJ-32MJ	1 1/2 x 2	1 7/8-12	2 1/2-12
2406-32-08	32FJ-8MJ	2 x 1/2	2 1/2-12	3/4-16
2406-32-12	32FJ-12MJ	2 x 3/4	2 1/2-12	1 1/16-12
2406-32-16	32FJ-16MJ	2 x 1	2 1/2-12	1 5/16-12
2406-32-20	32FJ-20MJ	2 x 1 1/4	2 1/2-12	1 5/8-12
2406-32-24	32FJ-24MJ	2 x 1 1/2	2 1/2-12	1 7/8-12

2408 Series

MJ Plug

SAE 070109

Item Number	HH Item Number	Tube OD	1
			Male JIC
2408-02	2MJ-PLUG	1/8	5/16-24
2408-03	3MJ-PLUG	3/16	3/8-24
2408-04	4MJ-PLUG	1/4	7/16-20
2408-05	5MJ-PLUG	5/16	1/2-20
2408-06	6MJ-PLUG	3/8	9/16-18
2408-08	8MJ-PLUG	1/2	3/4-16
2408-10	10MJ-PLUG	5/8	7/8-14
2408-12	12MJ-PLUG	3/4	1 1/16-12
2408-14	14MJ-PLUG	7/8	1 3/16-12
2408-16	16MJ-PLUG	1	1 5/16-12
2408-20	20MJ-PLUG	1 1/4	1 5/8-12
2408-24	24MJ-PLUG	1 1/2	1 7/8-12
2408-32	32MJ-PLUG	2	2 1/2-12



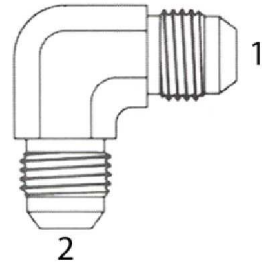
37° JIC Flare Fittings

2500 Series

MJ-MJ 90°

SAE 070201

Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male JIC
2500-02-02	2MJ-2MJ90	1/8	5/16-24	5/16-24
2500-03-03	3MJ-3MJ90	3/16	3/8-24	3/8-24
2500-04-04	4MJ-4MJ90	1/4	7/16-20	7/16-20
2500-05-04	5MJ-4MJ90	5/16 x 1/4	1/2-20	7/16-20
2500-05-05	5MJ-5MJ90	5/16	1/2-20	1/2-20
2500-06-04	6MJ-4MJ90	3/8 x 1/4	9/16-18	7/16-20
2500-06-05	6MJ-5MJ90	3/8 x 5/16	9/16-18	1/2-20
2500-06-06	6MJ-6MJ90	3/8	9/16-18	9/16-18
2500-08-04	8MJ-4MJ90	1/2 x 1/4	3/4-16	7/16-20
2500-08-06	8MJ-6MJ90	1/2 x 3/8	3/4-16	9/16-18
2500-08-08	8MJ-8MJ90	1/2	3/4-16	3/4-16
2500-10-06	10MJ-6MJ90	5/8 x 3/8	7/8-14	9/16-18
2500-10-08	10MJ-8MJ90	5/8 x 1/2	7/8-14	3/4-16
2500-10-10	10MJ-10MJ90	5/8	7/8-14	7/8-14
2500-12-08	12MJ-8MJ90	3/4 x 1/2	1 1/16-12	3/4-16
2500-12-10	12MJ-10MJ90	3/4 x 5/8	1 1/16-12	7/8-14
2500-12-12	12MJ-12MJ90	3/4	1 1/16-12	1 1/16-12
2500-14-14	14MJ-14MJ90	7/8	1 3/16-12	1 3/16-12
2500-16-12	16MJ-12MJ90	1 x 3/4	1 5/16-12	1 1/16-12
2500-16-16	16MJ-16MJ90	1	1 5/16-12	1 5/16-12
2500-20-20	20MJ-20MJ90	1 1/4	1 5/8-12	1 5/8-12
2500-24-24	24MJ-24MJ90	1 1/2	1 7/8-12	1 7/8-12
2500-32-32	32MJ-32MJ90	2	2 1/2-12	2 1/2-12



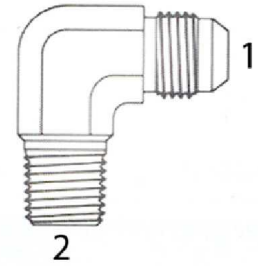
37° JIC Flare Fittings

2501 Series

MJ-MP 90°

SAE 070202

Item Number	HH Item Number	Tube OD	1	
			Male JIC	Male Pipe
2501-02-02	2MJ-2MP90	1/8	5/16-24	1/8-27
2501-02-04	2MJ-4MP90	1/8	5/16-24	1/4-18
2501-03-02	3MJ-2MP90	3/16	3/8-24	1/8-27
2501-04-02	4MJ-2MP90	1/4	7/16-20	1/8-27
2501-04-04	4MJ-4MP90	1/4	7/16-20	1/4-18
2501-04-06	4MJ-6MP90	1/4	7/16-20	3/8-18
2501-04-08	4MJ-8MP90	1/4	7/16-20	1/2-14
2501-04-12	4MJ-12MP90	1/4	7/16-20	3/4-14
2501-05-02	5MJ-2MP90	5/16	1/2-20	1/8-27
2501-05-04	5MJ-4MP90	5/16	1/2-20	1/4-18
2501-05-06	5MJ-6MP90	5/16	1/2-20	3/8-18
2501-05-08	5MJ-8MP90	5/16	1/2-20	1/2-14
2501-06-02	6MJ-2MP90	3/8	9/16-18	1/8-27
2501-06-04	6MJ-4MP90	3/8	9/16-18	1/4-18
2501-06-06	6MJ-6MP90	3/8	9/16-18	3/8-18
2501-06-08	6MJ-8MP90	3/8	9/16-18	1/2-14
2501-06-12	6MJ-12MP90	3/8	9/16-18	3/4-14
2501-08-02	8MJ-2MP90	1/2	3/4-16	1/8-27
2501-08-04	8MJ-4MP90	1/2	3/4-16	1/4-18
2501-08-06	8MJ-6MP90	1/2	3/4-16	3/8-18
2501-08-08	8MJ-8MP90	1/2	3/4-16	1/2-14
2501-08-12	8MJ-12MP90	1/2	3/4-16	3/4-14
2501-08-16	8MJ-16MP90	1/2	3/4-16	1-11 1/2
2501-10-06	10MJ-6MP90	5/8	7/8-14	3/8-18
2501-10-08	10MJ-8MP90	5/8	7/8-14	1/2-14
2501-10-12	10MJ-12MP90	5/8	7/8-14	3/4-14
2501-10-16	10MJ-16MP90	5/8	7/8-14	1-11 1/2
2501-12-06	12MJ-6MP90	3/4	1 1/16-12	3/8-18
2501-12-08	12MJ-8MP90	3/4	1 1/16-12	1/2-14
2501-12-12	12MJ-12MP90	3/4	1 1/16-12	3/4-14
2501-12-16	12MJ-16MP90	3/4	1 1/16-12	1-11 1/2
2501-12-20	12MJ-20MP90	3/4	1 1/16-12	1 1/4-11 1/2
2501-12-24	12MJ-24MP90	3/4	1 1/16-12	1 1/2-11 1/2
2501-14-08	14MJ-8MP90	7/8	1 3/16-12	1/2-14
2501-14-12	14MJ-12MP90	7/8	1 3/16-12	3/4-14
2501-14-16	14MJ-16MP90	7/8	1 3/16-12	1-11 1/2
2501-16-08	16MJ-8MP90	1	1 5/16-12	1/2-14
2501-16-12	16MJ-12MP90	1	1 5/16-12	3/4-14
2501-16-16	16MJ-16MP90	1	1 5/16-12	1-11 1/2
2501-16-20	16MJ-20MP90	1	1 5/16-12	1 1/4-11 1/2
2501-16-24	16MJ-24MP90	1	1 5/16-12	1 1/2-11 1/2
2501-20-12	20MJ-12MP90	1 1/4	1 5/8-12	3/4-14
2501-20-16	20MJ-16MP90	1 1/4	1 5/8-12	1-11 1/2
2501-20-20	20MJ-20MP90	1 1/4	1 5/8-12	1 1/4-11 1/2
2501-20-24	20MJ-24MP90	1 1/4	1 5/8-12	1 1/2-11 1/2
2501-24-16	24MJ-16MP90	1 1/2	1 7/8-12	1-11 1/2
2501-24-20	24MJ-20MP90	1 1/2	1 7/8-12	1 1/4-11 1/2
2501-24-24	24MJ-24MP90	1 1/2	1 7/8-12	1 1/2-11 1/2
2501-24-32	24MJ-32MP90	1 1/2	1 7/8-12	2-11 1/2
2501-32-24	32MJ-24MP90	2	2 1/2-12	1 1/2-11 1/2
2501-32-32	32MJ-32MP90	2	2 1/2-12	2-11 1/2



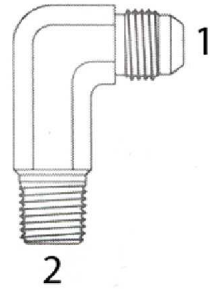
37° JIC Flare Fittings

2501-L Series

MJ-MP 90° Long

SAE 071502

Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male Pipe
2501-L-03-02	3MJ-2MP90L	3/16	3/8-24	1/8-27
2501-L-04-02	4MJ-2MP90L	1/4	7/16-20	1/8-27
2501-L-04-04	4MJ-4MP90L	1/4	7/16-20	1/4-18
2501-L-05-02	5MJ-2MP90L	5/16	1/2-20	1/8-27
2501-L-05-04	5MJ-4MP90L	5/16	1/2-20	1/4-18
2501-L-06-02	6MJ-2MP90L	3/8	9/16-18	1/8-27
2501-L-06-04	6MJ-4MP90L	3/8	9/16-18	1/4-18
2501-L-06-06	6MJ-6MP90L	3/8	9/16-18	3/8-18
2501-L-06-08	6MJ-8MP90L	3/8	9/16-18	1/2-14
2501-L-08-04	8MJ-4MP90L	1/2	3/4-16	1/4-18
2501-L-08-06	8MJ-6MP90L	1/2	3/4-16	3/8-18
2501-L-08-08	8MJ-8MP90L	1/2	3/4-16	1/2-14
2501-L-08-12	8MJ-12MP90L	1/2	3/4-16	3/4-14
2501-L-10-08	10MJ-8MP90L	5/8	7/8-14	1/2-14
2501-L-10-12	10MJ-12MP90L	5/8	7/8-14	3/4-14
2501-L-12-08	12MJ-8MP90L	3/4	1 1/16-12	1/2-14
2501-L-12-12	12MJ-12MP90L	3/4	1 1/16-12	3/4-14
2501-L-12-16	12MJ-16MP90L	3/4	1 1/16-12	1-11 1/2
2501-L-14-12	14MJ-12MP90L	7/8	1 3/16-12	3/4-14
2501-L-16-12	16MJ-12MP90L	1	1 5/16-12	3/4-14
2501-L-16-16	16MJ-16MP90L	1	1 5/16-12	1-11 1/2
2501-L-20-16	20MJ-16MP90L	1 1/4	1 5/8-12	1-11 1/2
2501-L-20-20	20MJ-20MP90L	1 1/4	1 5/8-12	1 1/4-11 1/2
2501-L-24-24	24MJ-24MP90L	1 1/2	1 7/8-12	1 1/2-11 1/2



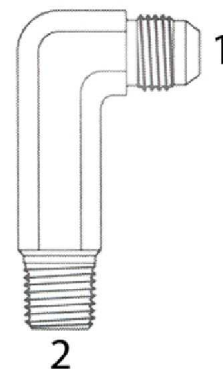
37° JIC Flare Fittings

2501-LL Series

MJ-MP 90° X-Long

SAE 071602

Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male Pipe
2501-LL-04-02	4MJ-2MP90LL	1/4	7/16-20	1/8-27
2501-LL-04-04	4MJ-4MP90LL	1/4	7/16-20	1/4-18
2501-LL-05-02	5MJ-2MP90LL	5/16	1/2-20	1/8-27
2501-LL-05-04	5MJ-4MP90LL	5/16	1/2-20	1/4-18
2501-LL-06-02	6MJ-2MP90LL	3/8	9/16-18	1/8-27
2501-LL-06-04	6MJ-4MP90LL	3/8	9/16-18	1/4-18
2501-LL-06-06	6MJ-6MP90LL	3/8	9/16-18	3/8-18
2501-LL-06-08	6MJ-8MP90LL	3/8	9/16-18	1/2-14
2501-LL-08-04	8MJ-4MP90LL	1/2	3/4-16	1/4-18
2501-LL-08-06	8MJ-6MP90LL	1/2	3/4-16	3/8-18
2501-LL-08-08	8MJ-8MP90LL	1/2	3/4-16	1/2-14
2501-LL-10-08	10MJ-8MP90LL	5/8	7/8-14	1/2-14
2501-LL-10-12	10MJ-12MP90LL	5/8	7/8-14	3/4-14
2501-LL-12-08	12MJ-8MP90LL	3/4	1 1/16-12	1/2-14
2501-LL-12-12	12MJ-12MP90LL	3/4	1 1/16-12	3/4-14
2501-LL-14-12	14MJ-12MP90LL	7/8	1 3/16-12	3/4-14
2501-LL-16-12	16MJ-12MP90LL	1	1 5/16-12	3/4-14
2501-LL-16-16	16MJ-16MP90LL	1	1 5/16-12	1-11 1/2
2501-LL-20-20	20MJ-20MP90LL	1 1/4	1 5/8-12	1 1/4-11 1/2
2501-LL-24-24	24MJ-24MP90LL	1 1/2	1 7/8-12	1 1/2-11 1/2



2501-LLL Series

MJ-MP 90° XX-Long

Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male Pipe
2501-LLL-04-02	4MJ-2MP90LLL	1/4	7/16-20	1/8-27
2501-LLL-04-04	4MJ-4MP90LLL	1/4	7/16-20	1/4-18
2501-LLL-05-02	5MJ-2MP90LLL	5/16	1/2-20	1/8-27
2501-LLL-06-04	6MJ-4MP90LLL	3/8	9/16-18	1/4-18
2501-LLL-06-06	6MJ-6MP90LLL	3/8	9/16-18	3/8-18
2501-LLL-08-06	8MJ-6MP90LLL	1/2	3/4-16	3/8-18
2501-LLL-08-08	8MJ-8MP90LLL	1/2	3/4-16	1/2-14
2501-LLL-10-08	10MJ-8MP90LLL	5/8	7/8-14	1/2-14
2501-LLL-12-12	12MJ-12MP90LLL	3/4	1 1/16-12	3/4-14
2501-LLL-16-16	16MJ-16MP90LLL	1	1 5/16-12	1-11 1/2
2501-LLL-20-20	20MJ-20MP90LLL	1 1/4	1 5/8-12	1 1/4-11 1/2



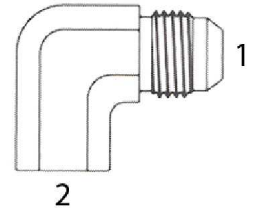
37° JIC Flare Fittings

2502 Series

MJ-FP 90°

SAE 070203

Item Number	HH Item Number	Tube OD	1	
			Male JIC	Female Pipe
2502-02-02	2MJ-2FP90	1/8	5/16-24	1/8-27
2502-03-02	3MJ-2FP90	3/16	3/8-24	1/8-27
2502-04-02	4MJ-2FP90	1/4	7/16-20	1/8-27
2502-04-04	4MJ-4FP90	1/4	7/16-20	1/4-18
2502-04-06	4MJ-6FP90	1/4	7/16-20	3/8-18
2502-04-08	4MJ-8FP90	1/4	7/16-20	1/2-14
2502-05-02	5MJ-2FP90	5/16	1/2-20	1/8-27
2502-05-04	5MJ-4FP90	5/16	1/2-20	1/4-18
2502-05-06	5MJ-6FP90	5/16	1/2-20	3/8-18
2502-05-08	5MJ-8FP90	5/16	1/2-20	1/2-14
2502-06-02	6MJ-2FP90	3/8	9/16-18	1/8-27
2502-06-04	6MJ-4FP90	3/8	9/16-18	1/4-18
2502-06-06	6MJ-6FP90	3/8	9/16-18	3/8-18
2502-06-08	6MJ-8FP90	3/8	9/16-18	1/2-14
2502-08-04	8MJ-4FP90	1/2	3/4-16	1/4-18
2502-08-06	8MJ-6FP90	1/2	3/4-16	3/8-18
2502-08-08	8MJ-8FP90	1/2	3/4-16	1/2-14
2502-08-12	8MJ-12FP90	1/2	3/4-16	3/4-14
2502-10-06	10MJ-6FP90	5/8	7/8-14	3/8-18
2502-10-08	10MJ-8FP90	5/8	7/8-14	1/2-14
2502-10-12	10MJ-12FP90	5/8	7/8-14	3/4-14
2502-12-08	12MJ-8FP90	3/4	1 1/16-12	1/2-14
2502-12-12	12MJ-12FP90	3/4	1 1/16-12	3/4-14
2502-12-16	12MJ-16FP90	3/4	1 1/16-12	1-11 1/2
2502-14-12	14MJ-12FP90	7/8	1 3/16-12	3/4-14
2502-14-16	14MJ-16FP90	7/8	1 3/16-12	1-11 1/2
2502-16-12	16MJ-12FP90	1	1 5/16-12	3/4-14
2502-16-16	16MJ-16FP90	1	1 5/16-12	1-11 1/2
2502-16-20	16MJ-20FP90	1	1 5/16-12	1 1/4-11 1/2
2502-20-16	20MJ-16FP90	1 1/4	1 5/8-12	1-11 1/2
2502-20-20	20MJ-20FP90	1 1/4	1 5/8-12	1 1/4-11 1/2
2502-24-24	24MJ-24FP90	1 1/2	1 7/8-12	1 1/2-11 1/2
2502-32-32	32MJ-32FP90	2	2 1/2-12	2-11 1/2



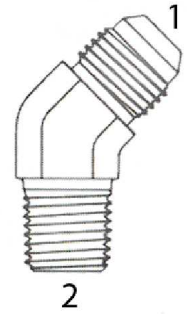
37° JIC Flare Fittings

2503 Series

MJ-MP 45°

SAE 070302

Item Number	HH Item Number	Tube OD	1	2
			Male JIC	Male Pipe
2503-02-02	2MJ-2MP45	1/8	5/16-24	1/8-27
2503-03-02	3MJ-2MP45	3/16	3/8-24	1/8-27
2503-04-02	4MJ-2MP45	1/4	7/16-20	1/8-27
2503-04-04	4MJ-4MP45	1/4	7/16-20	1/4-18
2503-04-06	4MJ-6MP45	1/4	7/16-20	3/8-18
2503-04-08	4MJ-8MP45	1/4	7/16-20	1/2-14
2503-05-02	5MJ-2MP45	5/16	1/2-20	1/8-27
2503-05-04	5MJ-4MP45	5/16	1/2-20	1/4-18
2503-05-06	5MJ-6MP45	5/16	1/2-20	3/8-18
2503-06-02	6MJ-2MP45	3/8	9/16-18	1/8-27
2503-06-04	6MJ-4MP45	3/8	9/16-18	1/4-18
2503-06-06	6MJ-6MP45	3/8	9/16-18	3/8-18
2503-06-08	6MJ-8MP45	3/8	9/16-18	1/2-14
2503-06-12	6MJ-12MP45	3/8	9/16-18	3/4-14
2503-08-04	8MJ-4MP45	1/2	3/4-16	1/4-18
2503-08-06	8MJ-6MP45	1/2	3/4-16	3/8-18
2503-08-08	8MJ-8MP45	1/2	3/4-16	1/2-14
2503-08-12	8MJ-12MP45	1/2	3/4-16	3/4-14
2503-10-04	10MJ-4MP45	5/8	7/8-14	1/4-18
2503-10-06	10MJ-6MP45	5/8	7/8-14	3/8-18
2503-10-08	10MJ-8MP45	5/8	7/8-14	1/2-14
2503-10-12	10MJ-12MP45	5/8	7/8-14	3/4-14
2503-12-08	12MJ-8MP45	3/4	1 1/16-12	1/2-14
2503-12-12	12MJ-12MP45	3/4	1 1/16-12	3/4-14
2503-12-16	12MJ-16MP45	3/4	1 1/16-12	1-11 1/2
2503-14-12	14MJ-12MP45	7/8	1 3/16-12	3/4-14
2503-16-08	16MJ-8MP45	1	1 5/16-12	1/2-14
2503-16-12	16MJ-12MP45	1	1 5/16-12	3/4-14
2503-16-16	16MJ-16MP45	1	1 5/16-12	1-11 1/2
2503-16-20	16MJ-20MP45	1	1 5/16-12	1 1/4-11 1/2
2503-20-16	20MJ-16MP45	1 1/4	1 5/8-12	1-11 1/2
2503-20-20	20MJ-20MP45	1 1/4	1 5/8-12	1 1/4-11 1/2
2503-20-24	20MJ-24MP45	1 1/4	1 5/8-12	1 1/2-11 1/2
2503-24-20	24MJ-20MP45	1 1/2	1 7/8-12	1 1/4-11 1/2
2503-24-24	24MJ-24MP45	1 1/2	1 7/8-12	1 1/2-11 1/2
2503-32-32	32MJ-32MP45	2	2 1/2-12	2-11 1/2

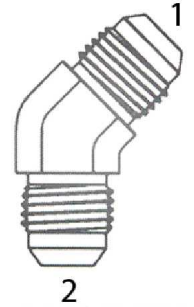


37° JIC Flare Fittings

2504 Series

MJ-MJ 45°

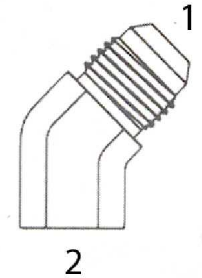
Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male JIC
2504-03-03	3MJ-3MJ45	3/16	3/8-24	3/8-24
2504-04-04	4MJ-4MJ45	1/4	7/16-20	7/16-20
2504-06-04	6MJ-4MJ45	3/8 x 1/4	9/16-18	7/16-20
2504-06-06	6MJ-6MJ45	3/8	9/16-18	9/16-18
2504-08-08	8MJ-8MJ45	1/2	3/4-16	3/4-16
2504-10-10	10MJ-10MJ45	5/8	7/8-14	7/8-14
2504-12-12	12MJ-12MJ45	3/4	1 1/16-12	1 1/16-12
2504-16-16	16MJ-16MJ45	1	1 5/16-12	1 5/16-12
2504-20-20	20MJ-20MJ45	1 1/4	1 5/8-12	1 5/8-12
2504-24-24	24MJ-24MJ45	1 1/2	1 7/8-12	1 7/8-12



2505 Series

MJ-FP 45°

Item Number	HH Item Number	Tube OD	1 Male JIC	2 Female Pipe
2505-04-04	4MJ-4FP45	1/4	7/16-20	1/4-18
2505-06-04	6MJ-4FP45	3/8	9/16-18	1/4-18
2505-06-06	6MJ-6FP45	3/8	9/16-18	3/8-18
2505-08-06	8MJ-6FP45	1/2	3/4-16	3/8-18
2505-08-08	8MJ-8FP45	1/2	3/4-16	1/2-14
2505-10-08	10MJ-8FP45	5/8	7/8-14	1/2-14
2505-12-12	12MJ-12FP45	3/4	1 1/16-12	3/4-14
2505-16-16	16MJ-16FP45	1	1 5/16-12	1-11 1/2



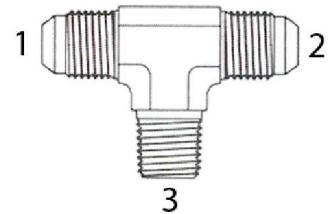
37° JIC Flare Fittings

2601 Series

MJ-MJ-MP Tee

SAE 070425

Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male JIC	3 Male Pipe
2601-02-02-02	2MJ-2MJ-2MP	1/8	5/16-24	5/16-24	1/8-27
2601-03-03-02	3MJ-3MJ-2MP	3/16	3/8-24	3/8-24	1/8-27
2601-04-04-02	4MJ-4MJ-2MP	1/4	7/16-20	7/16-20	1/8-27
2601-04-04-04	4MJ-4MJ-4MP	1/4	7/16-20	7/16-20	1/4-18
2601-04-04-06	4MJ-4MJ-6MP	1/4	7/16-20	7/16-20	3/8-24
2601-05-05-02	5MJ-5MJ-2MP	5/16	1/2-20	1/2-20	1/8-27
2601-05-05-04	5MJ-5MJ-4MP	5/16	1/2-20	1/2-20	1/4-18
2601-06-06-02	6MJ-6MJ-2MP	3/8	9/16-18	9/16-18	1/8-27
2601-06-06-04	6MJ-6MJ-4MP	3/8	9/16-18	9/16-18	1/4-18
2601-06-06-06	6MJ-6MJ-6MP	3/8	9/16-18	9/16-18	3/8-24
2601-06-06-08	6MJ-6MJ-8MP	3/8	9/16-18	9/16-18	1/2-14
2601-08-04-08	8MJ-4MJ-8MP	1/2 x 1/4	3/4-16	7/16-20	1/2-14
2601-08-08-04	8MJ-8MJ-4MP	1/2	3/4-16	3/4-16	1/4-18
2601-08-08-06	8MJ-8MJ-6MP	1/2	3/4-16	3/4-16	3/8-24
2601-08-08-08	8MJ-8MJ-8MP	1/2	3/4-16	3/4-16	1/2-14
2601-08-08-12	8MJ-8MJ-12MP	1/2	3/4-16	3/4-16	3/4-14
2601-10-10-06	10MJ-10MJ-6MP	5/8	7/8-14	7/8-14	3/8-24
2601-10-10-08	10MJ-10MJ-8MP	5/8	7/8-14	7/8-14	1/2-14
2601-10-10-12	10MJ-10MJ-12MP	5/8	7/8-14	7/8-14	3/4-14
2601-12-12-08	12MJ-12MJ-8MP	3/4	1 1/16-12	1 1/16-12	1/2-14
2601-12-12-12	12MJ-12MJ-12MP	3/4	1 1/16-12	1 1/16-12	3/4-14
2601-12-12-16	12MJ-12MJ-16MP	3/4	1 1/16-12	1 1/16-12	1-11 1/2
2601-12-16-20	12MJ-16MJ-20MP	3/4 x 1	1 1/16-12	1 5/16-12	1 1/4-11 1/2
2601-14-14-12	14MJ-14MJ-12MP	7/8	1 3/16-12	1 3/16-12	3/4-14
2601-16-12-16	16MJ-12MJ-16MP	1 x 3/4	1 5/16-12	1 1/16-12	1-11 1/2
2601-16-16-12	16MJ-16MJ-12MP	1	1 5/16-12	1 5/16-12	3/4-14
2601-16-16-16	16MJ-16MJ-16MP	1	1 5/16-12	1 5/16-12	1-11 1/2
2601-20-20-16	20MJ-20MJ-16MP	1 1/4	1 5/8-12	1 5/8-12	1-11 1/2
2601-20-20-20	20MJ-20MJ-20MP	1 1/4	1 5/8-12	1 5/8-12	1 1/4-11 1/2
2601-24-24-24	24MJ-24MJ-24MP	1 1/2	1 7/8-12	1 7/8-12	1 1/2-11 1/2
2601-32-32-32	32MJ-32MJ-32MP	2	2 1/2-12	2 1/2-12	2-11 1/2



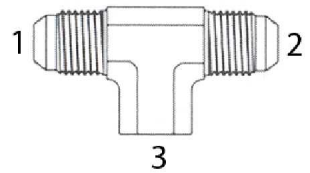
37° JIC Flare Fittings

2602 Series

MJ-MJ-FP Tee

SAE 070427

Item Number	HH Item Number	Tube OD	1	2	3
			Male JIC	Male JIC	Female Pipe
2602-02-02-02	2MJ-2MJ-2FP	1/8	5/16-24	5/16-24	1/8-27
2602-03-03-02	3MJ-3MJ-2FP	3/16	3/8-24	3/8-24	1/8-27
2602-04-04-02	4MJ-4MJ-2FP	1/4	7/16-20	7/16-20	1/8-27
2602-04-04-04	4MJ-4MJ-4FP	1/4	7/16-20	7/16-20	1/4-18
2602-05-05-02	5MJ-5MJ-2FP	5/16	1/2-20	1/2-20	1/8-27
2602-06-06-02	6MJ-6MJ-2FP	3/8	9/16-18	9/16-18	1/8-27
2602-06-06-04	6MJ-6MJ-4FP	3/8	9/16-18	9/16-18	1/4-18
2602-06-06-06	6MJ-6MJ-6FP	3/8	9/16-18	9/16-18	3/8-18
2602-08-08-04	8MJ-8MJ-4FP	1/2	3/4-16	3/4-16	1/4-18
2602-08-08-06	8MJ-8MJ-6FP	1/2	3/4-16	3/4-16	3/8-18
2602-08-08-08	8MJ-8MJ-8FP	1/2	3/4-16	3/4-16	1/2-14
2602-10-10-04	10MJ-10MJ-4FP	5/8	7/8-14	7/8-14	1/4-18
2602-10-10-08	10MJ-10MJ-8FP	5/8	7/8-14	7/8-14	1/2-14
2602-10-10-12	10MJ-10MJ-12FP	5/8	7/8-14	7/8-14	3/4-14
2602-12-12-08	12MJ-12MJ-8FP	3/4	1 1/16-12	1 1/16-12	1/2-14
2602-12-12-12	12MJ-12MJ-12FP	3/4	1 1/16-12	1 1/16-12	3/4-14
2602-12-12-16	12MJ-12MJ-16FP	3/4	1 1/16-12	1 1/16-12	1-11 1/2
2602-14-14-12	14MJ-14MJ-12FP	7/8	1 3/16-12	1 3/16-12	3/4-14
2602-16-16-12	16MJ-16MJ-12FP	1	1 5/16-12	1 5/16-12	3/4-14
2602-16-16-16	16MJ-16MJ-16FP	1	1 5/16-12	1 5/16-12	1-11 1/2
2602-20-20-20	20MJ-20MJ-20FP	1 1/4	1 5/8-12	1 5/8-12	1 1/4-11 1/2
2602-24-24-24	24MJ-24MJ-24FP	1 1/2	1 7/8-12	1 7/8-12	1 1/2-11 1/2
2602-32-32-32	32MJ-32MJ-32FP	2	2 1/2-12	2 1/2-12	2-11 1/2



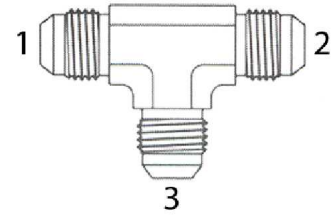
37° JIC Flare Fittings

2603 Series

MJ-MJ-MJ Tee

SAE 070401

Item Number	HH Item Number	Tube OD	1	2	3
			Male JIC	Male JIC	Male JIC
2603-02-02-02	2MJ-2MJ-2MJ	1/8	5/16-24	5/16-24	5/16-24
2603-03-03-03	3MJ-3MJ-3MJ	3/16	3/8-24	3/8-24	3/8-24
2603-04-04-04	4MJ-4MJ-4MJ	1/4	7/16-20	7/16-20	7/16-20
2603-04-04-06	4MJ-4MJ-6MJ	1/4 x 3/8	7/16-20	7/16-20	9/16-18
2603-05-05-04	5MJ-5MJ-4MJ	5/16 x 1/4	1/2-20	1/2-20	7/16-20
2603-05-05-05	5MJ-5MJ-5MJ	5/16	1/2-20	1/2-20	1/2-20
2603-06-06-04	6MJ-6MJ-4MJ	3/8 x 1/4	9/16-18	9/16-18	7/16-20
2603-06-06-06	6MJ-6MJ-6MJ	3/8	9/16-18	9/16-18	9/16-18
2603-06-06-08	6MJ-6MJ-8MJ	3/8 x 1/2	9/16-18	9/16-18	3/4-16
2603-06-06-10	6MJ-6MJ-10MJ	3/8 x 5/8	9/16-18	9/16-18	7/8-14
2603-06-08-08	6MJ-8MJ-8MJ	3/8 x 1/2	9/16-18	3/4-16	3/4-16
2603-08-06-06	8MJ-6MJ-6MJ	1/2 x 3/8	3/4-16	9/16-18	9/16-18
2603-08-08-06	8MJ-8MJ-6MJ	1/2 x 3/8	3/4-16	3/4-16	9/16-18
2603-08-08-08	8MJ-8MJ-8MJ	1/2	3/4-16	3/4-16	3/4-16
2603-08-08-10	8MJ-8MJ-10MJ	1/2 x 5/8	3/4-16	3/4-16	7/8-14
2603-08-08-12	8MJ-8MJ-12MJ	1/2 x 3/4	3/4-16	3/4-16	1 1/16-12
2603-10-08-08	10MJ-8MJ-8MJ	5/8 x 1/2	7/8-14	3/4-16	3/4-16
2603-10-10-06	10MJ-10MJ-6MJ	5/8 x 3/8	7/8-14	7/8-14	9/16-18
2603-10-10-08	10MJ-10MJ-8MJ	5/8 x 1/2	7/8-14	7/8-14	3/4-16
2603-10-10-10	10MJ-10MJ-10MJ	5/8	7/8-14	7/8-14	7/8-14
2603-10-10-12	10MJ-10MJ-12MJ	5/8 x 3/4	7/8-14	7/8-14	1 1/16-12
2603-12-10-10	12MJ-10MJ-10MJ	3/4 x 5/8	1 1/16-12	7/8-14	7/8-14
2603-12-12-06	12MJ-12MJ-6MJ	3/4 x 3/8	1 1/16-12	1 1/16-12	9/16-18
2603-12-12-08	12MJ-12MJ-8MJ	3/4 x 1/2	1 1/16-12	1 1/16-12	3/4-16
2603-12-12-10	12MJ-12MJ-10MJ	3/4 x 5/8	1 1/16-12	1 1/16-12	7/8-14
2603-12-12-12	12MJ-12MJ-12MJ	3/4	1 1/16-12	1 1/16-12	1 1/16-12
2603-12-12-16	12MJ-12MJ-16MJ	3/4 x 1	1 1/16-12	1 1/16-12	1 5/16-12
2603-12-12-20	12MJ-12MJ-20MJ	3/4 x 1 1/4	1 1/16-12	1 1/16-12	1 5/8-12
2603-12-16-12	12MJ-16MJ-12MJ	3/4 x 1	1 1/16-12	1 5/16-12	1 1/16-12
2603-14-14-14	14MJ-14MJ-14MJ	7/8	1 3/16-12	1 3/16-12	1 3/16-12
2603-16-12-12	16MJ-12MJ-12MJ	1 x 3/4	1 5/16-12	1 1/16-12	1 1/16-12
2603-16-12-16	16MJ-12MJ-16MJ	1 x 3/4	1 5/16-12	1 1/16-12	1 5/16-12
2603-16-16-12	16MJ-16MJ-12MJ	1 x 3/4	1 5/16-12	1 5/16-12	1 1/16-12
2603-16-16-16	16MJ-16MJ-16MJ	1	1 5/16-12	1 5/16-12	1 5/16-12
2603-20-20-12	20MJ-20MJ-12MJ	1 1/4 x 3/4	1 5/8-12	1 5/8-12	1 1/16-12
2603-20-20-16	20MJ-20MJ-16MJ	1 1/4 x 1	1 5/8-12	1 5/8-12	1 5/16-12
2603-20-20-20	20MJ-20MJ-20MJ	1 1/4	1 5/8-12	1 5/8-12	1 5/8-12
2603-24-16-16	24MJ-16MJ-16MJ	1 1/2 x 1	1 7/8-12	1 5/16-12	1 5/16-12
2603-24-24-24	24MJ-24MJ-24MJ	1 1/2	1 7/8-12	1 7/8-12	1 7/8-12
2603-32-32-32	32MJ-32MJ-32MJ	2	2 1/2-12	2 1/2-12	2 1/2-12



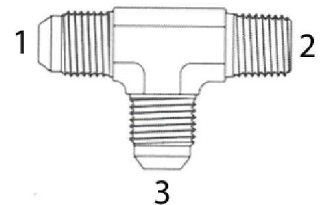
37° JIC Flare Fittings

2605 Series

MJ-MP-MJ Tee

SAE 070424

Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male Pipe	3 Male JIC
2605-02-02-02	2MJ-2MP-2MJ	1/8	5/16-24	1/8-27	5/16-24
2605-03-02-03	3MJ-2MP-3MJ	3/16	3/8-24	1/8-27	3/8-24
2605-04-02-04	4MJ-2MP-4MJ	1/4	7/16-20	1/8-27	7/16-20
2605-04-04-04	4MJ-4MP-4MJ	1/4	7/16-20	1/4-18	7/16-20
2605-05-02-05	5MJ-2MP-5MJ	5/16	1/2-20	1/8-27	1/2-20
2605-05-04-05	5MJ-4MP-5MJ	5/16	1/2-20	1/4-18	1/2-20
2605-06-02-06	6MJ-2MP-6MJ	3/8	9/16-18	1/8-27	9/16-18
2605-06-04-04	6MJ-4MP-4MJ	3/8 x 1/4	9/16-18	1/4-18	7/16-20
2605-06-04-06	6MJ-4MP-6MJ	3/8	9/16-18	1/4-18	9/16-18
2605-06-06-06	6MJ-6MP-6MJ	3/8	9/16-18	3/8-18	9/16-18
2605-06-08-06	6MJ-8MP-6MJ	3/8	9/16-18	1/2-14	9/16-18
2605-08-04-08	8MJ-4MP-8MJ	1/2	3/4-16	1/4-18	3/4-16
2605-08-06-04	8MJ-6MP-4MJ	1/2 x 1/4	3/4-16	3/8-18	7/16-20
2605-08-06-06	8MJ-6MP-6MJ	1/2 x 3/8	3/4-16	3/8-18	9/16-18
2605-08-06-08	8MJ-6MP-8MJ	1/2	3/4-16	3/8-18	3/4-16
2605-08-08-06	8MJ-8MP-6MJ	1/2 x 3/8	3/4-16	1/2-14	9/16-18
2605-08-08-08	8MJ-8MP-8MJ	1/2	3/4-16	1/2-14	3/4-16
2605-08-12-08	8MJ-12MP-8MJ	1/2	3/4-16	3/4-14	3/4-16
2605-10-06-10	10MJ-6MP-10MJ	5/8	7/8-14	3/8-18	7/8-14
2605-10-08-10	10MJ-8MP-10MJ	5/8	7/8-14	1/2-14	7/8-14
2605-10-12-10	10MJ-12MP-10MJ	5/8	7/8-14	3/4-14	7/8-14
2605-12-08-12	12MJ-8MP-12MJ	3/4	1 1/16-12	1/2-14	1 1/16-12
2605-12-12-08	12MJ-12MP-8MJ	3/4 x 1/2	1 1/16-12	3/4-14	3/4-16
2605-12-12-12	12MJ-12MP-12MJ	3/4	1 1/16-12	3/4-14	1 1/16-12
2605-12-16-12	12MJ-16MP-12MJ	3/4	1 1/16-12	1-11 1/2	1 1/16-12
2605-14-12-14	14MJ-12MP-14MJ	7/8	1 3/16-12	3/4-14	1 3/16-12
2605-16-12-16	16MJ-12MP-16MJ	1	1 5/16-12	3/4-14	1 5/16-12
2605-16-16-16	16MJ-16MP-16MJ	1	1 5/16-12	1-11 1/2	1 5/16-12
2605-20-16-20	20MJ-16MP-20MJ	1 1/4	1 5/8-12	1-11 1/2	1 5/8-12
2605-20-20-20	20MJ-20MP-20MJ	1 1/4	1 5/8-12	1 1/4-11 1/2	1 5/8-12
2605-24-24-24	24MJ-24MP-24MJ	1 1/2	1 7/8-12	1 1/2-11 1/2	1 7/8-12
2605-32-32-32	32MJ-32MP-32MJ	2	2 1/2-12	2-11 1/2	2 1/2-12



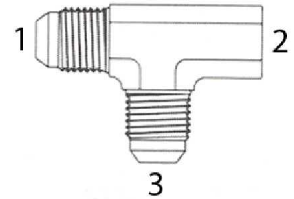
37° JIC Flare Fittings

2606 Series

MJ-FP-MJ Tee

SAE 070426

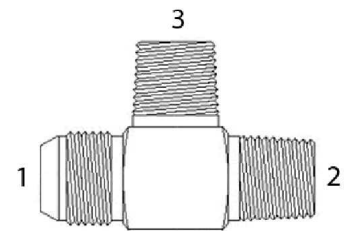
Item Number	HH Item Number	Tube OD	1	2	3
			Male JIC	Female Pipe	Male JIC
2606-03-02-03	3MJ-2FP-3MJ	3/16	3/8-24	1/8-27	3/8-24
2606-04-02-04	4MJ-2FP-4MJ	1/4	7/16-20	1/8-27	7/16-20
2606-04-04-04	4MJ-4FP-4MJ	1/4	7/16-20	1/4-18	7/16-20
2606-05-02-05	5MJ-2FP-5MJ	5/16	1/2-20	1/8-27	1/2-20
2606-05-04-05	5MJ-4FP-5MJ	5/16	1/2-20	1/4-18	1/2-20
2606-06-04-06	6MJ-4FP-6MJ	3/8	9/16-18	1/4-18	9/16-18
2606-06-06-04	6MJ-6FP-4MJ	3/8 x 1/4	9/16-18	3/8-18	7/16-20
2606-06-06-06	6MJ-6FP-6MJ	3/8	9/16-18	3/8-18	9/16-18
2606-08-04-08	8MJ-4FP-8MJ	1/2	3/4-16	1/4-18	3/4-16
2606-08-06-08	8MJ-6FP-8MJ	1/2	3/4-16	3/8-18	3/4-16
2606-08-08-08	8MJ-8FP-8MJ	1/2	3/4-16	1/2-14	3/4-16
2606-08-12-08	8MJ-12FP-8MJ	1/2	3/4-16	3/4-14	3/4-16
2606-10-08-10	10MJ-8FP-10MJ	5/8	7/8-14	1/2-14	7/8-14
2606-12-08-12	12MJ-8FP-12MJ	3/4	1 1/16-12	1/2-14	1 1/16-12
2606-12-12-12	12MJ-12FP-12MJ	3/4	1 1/16-12	3/4-14	1 1/16-12
2606-14-12-14	14MJ-12FP-14MJ	7/8	1 3/16-12	3/4-14	1 3/16-12
2606-16-16-16	16MJ-16FP-16MJ	1	1 5/16-12	1-11 1/2	1 5/16-12
2606-20-20-20	20MJ-20FP-20MJ	1 1/4	1 5/8-12	1 1/4-11 1/2	1 5/8-12
2606-24-24-24	24MJ-24FP-24MJ	1 1/2	1 7/8-12	1 1/2-11 1/2	1 7/8-12
2606-32-32-32	32MJ-32FP-32MJ	2	2 1/2-12	2-11 1/2	2 1/2-12



2607 Series

MJ-MP-MP Tee

Item Number	HH Item Number	Tube OD	1	2	3
			Male JIC	Male Pipe	Male Pipe
2607-04-02-02	4MJ-2MP-2MP	1/4	7/16-20	1/8-27	1/8-27
2607-06-04-04	6MJ-4MP-4MP	3/8	9/16-18	1/4-18	1/4-18
2607-06-06-06	6MJ-6MP-6MP	3/8	9/16-18	3/8-18	3/8-18
2607-08-06-06	8MJ-6MP-6MP	1/2	3/4-16	3/8-18	3/8-18
2607-08-08-08	8MJ-8MP-8MP	1/2	3/4-16	1/2-14	1/2-14
2607-10-08-06	10MJ-8MP-6MP	5/8	7/8-14	1/2-14	3/8-18
2607-10-08-08	10MJ-8MP-8MP	5/8	7/8-14	1/2-14	1/2-14
2607-12-12-12	12MJ-12MP-12MP	3/4	1 1/16-12	3/4-14	3/4-14
2607-16-16-16	16MJ-16MP-16MP	1	1 5/16-12	1-11 1/2	1-11 1/2
2607-20-20-20	20MJ-20MP-20MP	1 1/4	1 5/8-12	1 1/4-11 1/2	1 1/4-11 1/2

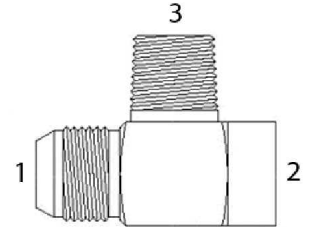


37° JIC Flare Fittings

2608 Series

MJ-FP-MP Tee

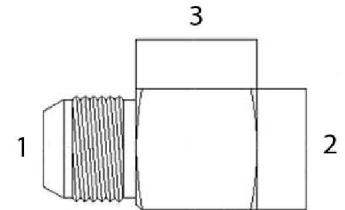
Item Number	HH Item Number	Tube OD	1 Male JIC	2 Female Pipe	3 Male Pipe
2608-04-02-02	4MJ-2FP-2MP	1/4	7/16-20	1/8-27	1/8-27
2608-06-04-04	6MJ-4FP-4MP	3/8	9/16-18	1/4-18	1/4-18
2608-08-02-06	8MJ-2FP-6MP	1/2	3/4-16	1/8-27	3/8-18
2608-08-06-06	8MJ-6FP-6MP	1/2	3/4-16	3/8-18	3/8-18
2608-10-08-08	10MJ-8FP-8MP	5/8	7/8-14	1/2-14	1/2-14
2608-12-12-12	12MJ-12FP-12MP	3/4	1 1/16-12	3/4-14	3/4-14
2608-16-16-16	16MJ-16FP-16MP	1	1 5/16-12	1-11 1/2	1-11 1/2



2609 Series

MJ-FP-FP Tee

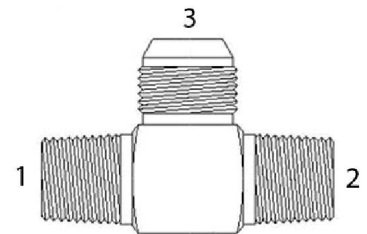
Item Number	HH Item Number	Tube OD	1 Male JIC	2 Female Pipe	3 Female Pipe
2609-04-02-02	4MJ-2FP-2FP	1/4	7/16-20	1/8-27	1/8-27
2609-05-04-04	5MJ-4FP-4FP	5/16	1/2-20	1/4-18	1/4-18
2609-06-04-04	6MJ-4FP-4FP	3/8	9/16-18	1/4-18	1/4-18
2609-08-06-06	8MJ-6FP-6FP	1/2	3/4-16	3/8-18	3/8-18
2609-08-08-08	8MJ-8FP-8FP	1/2	3/4-16	1/2-14	1/2-14
2609-10-08-08	10MJ-8FP-8FP	5/8	7/8-14	1/2-14	1/2-14
2609-12-12-12	12MJ-12FP-12FP	3/4	1 1/16-12	3/4-14	3/4-14
2609-16-16-16	16MJ-16FP-16FP	1	1 5/16-12	1-11 1/2	1-11 1/2
2609-20-20-20	20MJ-20FP-20FP	1 1/4	1 5/8-12	1 1/4-11 1/2	1 1/4-11 1/2



2610 Series

MP-MP-MJ Tee

Item Number	HH Item Number	Tube OD	1 Male Pipe	2 Male Pipe	3 Male JIC
2610-04-04-04	4MP-4MP-4MJ	1/4	1/4-18	1/4-18	7/16-20
2610-04-04-06	4MP-4MP-6MJ	3/8	1/4-18	1/4-18	9/16-18
2610-06-06-06	6MP-6MP-6MJ	3/8	3/8-18	3/8-18	9/16-18
2610-06-06-08	6MP-6MP-8MJ	1/2	3/8-18	3/8-18	3/4-16
2610-08-08-08	8MP-8MP-8MJ	1/2	1/2-14	1/2-14	3/4-16
2610-08-08-10	8MP-8MP-10MJ	5/8	1/2-14	1/2-14	7/8-14
2610-12-12-12	12MP-12MP-12MJ	3/4	3/4-14	3/4-14	1 1/16-12
2610-12-12-16	12MP-12MP-16MJ	1	3/4-14	3/4-14	1 5/16-12
2610-16-16-16	16MP-16MP-16MJ	1	1-11 1/2	1-11 1/2	1 5/16-12

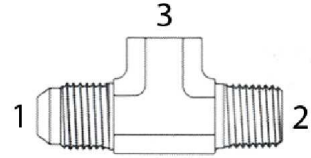


37° JIC Flare Fittings

2611 Series

MJ-MP-FP Tee

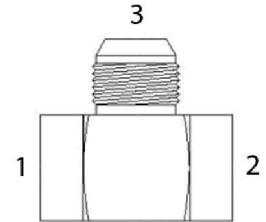
Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male Pipe	3 Female Pipe
2611-04-02-02	4MJ-2MP-2FP	1/4	7/16-20	1/8-27	1/8-27
2611-04-04-02	4MJ-4MP-2FP	1/4	7/16-20	1/4-18	1/8-27
2611-04-04-04	4MJ-4MP-4FP	1/4	7/16-20	1/4-18	1/4-18
2611-04-08-06	4MJ-8MP-6FP	1/4	7/16-20	1/2-14	3/8-18
2611-06-04-04	6MJ-4MP-4FP	3/8	9/16-18	1/4-18	1/4-18
2611-06-06-06	6MJ-6MP-6FP	3/8	9/16-18	3/8-18	3/8-18
2611-08-06-06	8MJ-6MP-6FP	1/2	3/4-16	3/8-18	3/8-18
2611-08-08-08	8MJ-8MP-8FP	1/2	3/4-16	1/2-14	1/2-14
2611-10-08-06	10MJ-8MP-6FP	5/8	7/8-14	1/2-14	3/8-18
2611-10-08-08	10MJ-8MP-8FP	5/8	7/8-14	1/2-14	1/2-14
2611-12-12-12	12MJ-12MP-12FP	3/4	1 1/16-12	3/4-14	3/4-14
2611-16-16-16	16MJ-16MP-16FP	1	1 5/16-12	1-11 1/2	1-11 1/2
2611-20-20-20	20MJ-20MP-20FP	1 1/4	1 5/8-12	1 1/4-11 1/2	1 1/4-11 1/2



2612 Series

FP-FP-MJ Tee

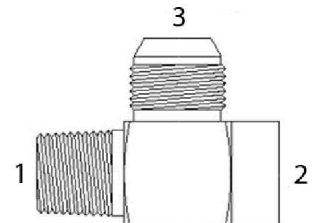
Item Number	HH Item Number	Tube OD	1 Female Pipe	2 Female Pipe	3 Male JIC
2612-02-02-04	2FP-2FP-4MJ	1/4	1/8-27	1/8-27	7/16-20
2612-04-04-06	4FP-4FP-6MJ	3/8	1/4-18	1/4-18	9/16-18
2612-06-06-08	6FP-6FP-8MJ	1/2	3/8-18	3/8-18	3/4-16
2612-08-08-08	8FP-8FP-8MJ	1/2	1/2-14	1/2-14	3/4-16
2612-08-08-10	8FP-8FP-10MJ	5/8	1/2-14	1/2-14	7/8-14
2612-12-12-12	12FP-12FP-12MJ	3/4	3/4-14	3/4-14	1 1/16-12
2612-16-16-16	16FP-16FP-16MJ	1	1-11 1/2	1-11 1/2	1 5/8-12



2613 Series

MP-FP-MJ Tee

Item Number	HH Item Number	Tube OD	1 Male Pipe	2 Female Pipe	3 Male JIC
2613-02-02-04	2MP-2FP-4MJ	1/4	1/8-27	1/8-27	7/16-20
2613-04-04-06	4MP-4FP-6MJ	3/8	1/4-18	1/4-18	9/16-20
2613-06-06-06	6MP-6FP-6MJ	3/8	3/8-18	3/8-18	9/16-20
2613-06-06-08	6MP-6FP-8MJ	1/2	3/8-18	3/8-18	3/4-16
2613-08-08-10	8MP-8FP-10MJ	5/8	1/2-14	1/2-14	7/8-14
2613-12-12-12	12MP-12FP-12MJ	3/4	3/4-14	3/4-14	1 1/16-12
2613-16-16-16	16MP-16FP-16MJ	1	1-11 1/2	1-11 1/2	1 5/8-12



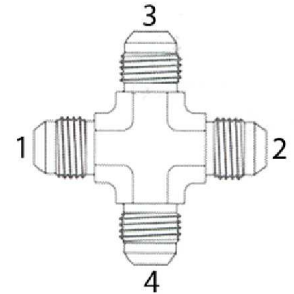
37° JIC Flare Fittings

2650 Series

MJ-MJ-MJ-MJ Cross

SAE 070501

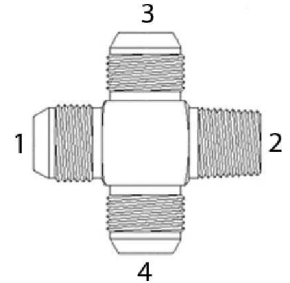
Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male JIC	3 Male JIC	4 Male JIC
2650-02-02-02-02	2MJ-2MJ-2MJ-2MJ	1/8	5/16-24	5/16-24	5/16-24	5/16-24
2650-04-04-04-04	4MJ-4MJ-4MJ-4MJ	1/4	7/16-20	7/16-20	7/16-20	7/16-20
2650-05-05-05-05	5MJ-5MJ-5MJ-5MJ	5/16	1/2-20	1/2-20	1/2-20	1/2-20
2650-06-06-06-06	6MJ-6MJ-6MJ-6MJ	3/8	9/16-18	9/16-18	9/16-18	9/16-18
2650-06-08-06-08	6MJ-8MJ-6MJ-8MJ	3/8 x 1/2	9/16-18	3/4-16	9/16-18	3/4-16
2650-08-08-08-08	8MJ-8MJ-8MJ-8MJ	1/2	3/4-16	3/4-16	3/4-16	3/4-16
2650-10-10-10-10	10MJ-10MJ-10MJ-10MJ	5/8	7/8-14	7/8-14	7/8-14	7/8-14
2650-12-12-12-12	12MJ-12MJ-12MJ-12MJ	3/4	1 1/16-12	1 1/16-12	1 1/16-12	1 1/16-12
2650-14-14-14-14	14MJ-14MJ-14MJ-14MJ	7/8	1 3/16-12	1 3/16-12	1 3/16-12	1 3/16-12
2650-16-16-16-16	16MJ-16MJ-16MJ-16MJ	1	1 5/16-12	1 5/16-12	1 5/16-12	1 5/16-12
2650-20-20-20-20	20MJ-20MJ-20MJ-20MJ	1 1/4	1 5/8-12	1 5/8-12	1 5/8-12	1 5/8-12
2650-24-24-24-24	24MJ-24MJ-24MJ-24MJ	1 1/2	1 7/8-12	1 7/8-12	1 7/8-12	1 7/8-12
2650-32-32-32-32	32MJ-32MJ-32MJ-32MJ	2	2 1/2-12	2 1/2-12	2 1/2-12	2 1/2-12



2651 Series

MJ-MP-MJ-MJ Cross

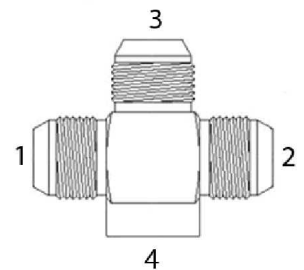
Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male Pipe	3 Male JIC	4 Male JIC
2651-04-04-04-04	4MJ-4MP-4MJ-4MJ	1/4	7/16-20	1/4-18	7/16-20	7/16-20
2651-06-04-06-06	6MJ-4MP-6MJ-6MJ	3/8	9/16-18	1/4-18	9/16-18	9/16-18
2651-06-06-04-06	6MJ-6MP-4MJ-6MJ	3/8 x 1/4	9/16-18	3/8-18	7/16-20	9/16-18
2651-06-06-06-06	6MJ-6MP-6MJ-6MJ	3/8	9/16-18	3/8-18	9/16-18	9/16-18
2651-08-08-08-08	8MJ-8MP-8MJ-8MJ	1/2	3/4-16	1/2-14	3/4-16	3/4-16
2651-12-12-12-12	12MJ-12MP-12MJ-12MJ	3/4	1 1/16-12	3/4-14	1 1/16-12	1 1/16-12
2651-16-16-16-16	16MJ-16MP-16MJ-16MJ	1	1 5/16-12	1-1 1/2	1 5/16-12	1 5/16-12



2652 Series

MJ-MJ-MJ-FP Cross

Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male JIC	3 Male JIC	4 Female Pipe
2652-10-10-10-08	10MJ-10MJ-10MJ-8FP	5/8	7/8-14	7/8-14	7/8-14	1/2-14

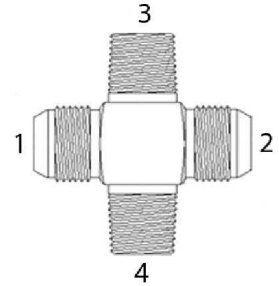


37° JIC Flare Fittings

2653 Series

MJ-MJ-MP-MP Cross

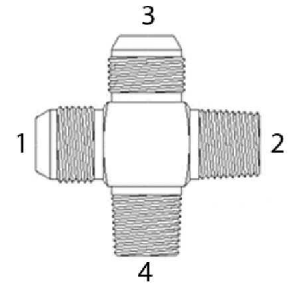
Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male JIC	3 Male Pipe	4 Male Pipe
2653-04-04-02-02	4MJ-4MJ-2MP-2MP	1/4	7/16-20	7/16-20	1/8-27	1/8-27
2653-16-16-16-16	16MJ-16MJ-16MP-16MP	1	1 5/16-12	1 5/16-12	1-11 1/2	1-11 1/2



2654 Series

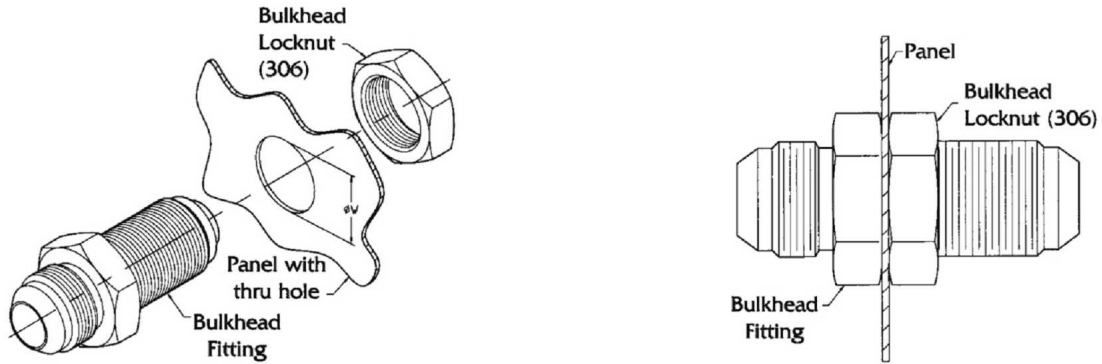
MJ-MP-MJ-MP Cross

Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male Pipe	3 Male JIC	4 Male Pipe
2654-08-06-08-06	8MJ-6MP-8MJ-6MP	1/2	3/4-16	3/8-18	3/4-16	3/8-18



37° JIC Bulkhead Fittings

37° JIC Bulkhead Fittings



Bulkhead fittings are designed to pass through a panel and secure with a locknut. Illustrated above is series 2700 Bulkhead Union and 306 Locknut. The panel hole should be drilled to the "W" diameter specified for that size. Since assembly is the same as the 37° JIC threads, see that setup for torque values and assembly instructions. With the variety of bulkhead fittings that we offer you can have a hose, tube, or quick disconnect conveniently mounted for easy access.

37° JIC Bulkhead Fittings - Visual Identification Chart

<p>2700 (070601)</p> <p>Pg. 96</p> <p>MJ-MJ Bulkhead Straight</p>	<p>2701 (070701)</p> <p>Pg. 96</p> <p>MJ-MJ Bulkhead 90°</p>	<p>2702 (070801)</p> <p>Pg. 97</p> <p>MJ-MJ Bulkhead 45°</p>	<p>2703 (070959)</p> <p>Pg. 97</p> <p>MJ-MJ Bulkhead Tee</p>	<p>2704 (070958)</p> <p>Pg. 98</p> <p>MJ-MJ Bulkhead Run Tee</p>	<p>2705</p> <p>Pg. 98</p> <p>FP-MJ Bulkhead Straight</p>	<p>2706</p> <p>Pg. 99</p> <p>MP-MJ Bulkhead Straight</p>
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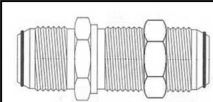
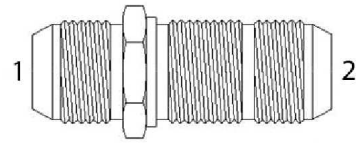
37° JIC Bulkhead Fittings

2700 Series

MJ-MJ Bulkhead Straight

SAE 070601

Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male JIC
2700-02-02	2MJ-2MJBKHD	1/8	5/16-24	5/16-24
2700-03-03	3MJ-3MJBKHD	3/16	3/8-24	3/8-24
2700-04-04	4MJ-4MJBKHD	1/4	7/16-20	7/16-20
2700-04-06	4MJ-6MJBKHD	1/4 x 3/8	7/16-20	9/16-18
2700-05-05	5MJ-5MJBKHD	5/16	1/2-20	1/2-20
2700-06-04	6MJ-4MJBKHD	3/8 x 1/4	9/16-18	7/16-20
2700-06-06	6MJ-6MJBKHD	3/8	9/16-18	9/16-18
2700-08-08	8MJ-8MJBKHD	1/2	3/4-16	3/4-16
2700-10-10	10MJ-10MJBKHD	5/8	7/8-14	7/8-14
2700-12-12	12MJ-12MJBKHD	3/4	1 1/16-12	1 1/16-12
2700-14-14	14MJ-14MJBKHD	7/8	1 3/16-12	1 3/16-12
2700-16-12	16MJ-12MJBKHD	1 x 3/4	1 5/16-12	1 1/16-12
2700-16-16	16MJ-16MJBKHD	1	1 5/16-12	1 5/16-12
2700-20-20	20MJ-20MJBKHD	1 1/4	1 5/8-12	1 5/8-12
2700-24-24	24MJ-24MJBKHD	1 1/2	1 7/8-12	1 7/8-12
2700-32-32	32MJ-32MJBKHD	2	2 1/2-12	2 1/2-12



All of our bulkhead fittings are available with the locknut #0306 (pg.41), assembled on the body.

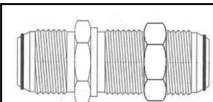
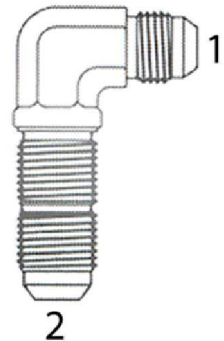
Just add an "LN" suffix to the series number (part number example: 2700LN-12-12).

2701 Series

MJ-MJ Bulkhead 90°

SAE 070701

Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male JIC
2701-02-02	2MJ-2MJBKHD90	1/8	5/16-24	5/16-24
2701-03-03	3MJ-3MJBKHD90	3/16	3/8-24	3/8-24
2701-04-04	4MJ-4MJBKHD90	1/4	7/16-20	7/16-20
2701-05-05	5MJ-5MJBKHD90	5/16	1/2-20	1/2-20
2701-06-06	6MJ-6MJBKHD90	3/8	9/16-18	9/16-18
2701-08-08	8MJ-8MJBKHD90	1/2	3/4-16	3/4-16
2701-10-10	10MJ-10MJBKHD90	5/8	7/8-14	7/8-14
2701-12-12	12MJ-12MJBKHD90	3/4	1 1/16-12	1 1/16-12
2701-12-16	12MJ-16MJBKHD90	3/4 x 1	1 1/16-12	1 5/16-12
2701-14-14	14MJ-14MJBKHD90	7/8	1 3/16-12	1 3/16-12
2701-16-12	16MJ-12MJBKHD90	1 x 3/4	1 5/16-12	1 1/16-12
2701-16-16	16MJ-16MJBKHD90	1	1 5/16-12	1 5/16-12
2701-20-20	20MJ-20MJBKHD90	1 1/4	1 5/8-12	1 5/8-12
2701-24-24	24MJ-24MJBKHD90	1 1/2	1 7/8-12	1 7/8-12



All of our bulkhead fittings are available with the locknut #0306 (pg.41), assembled on the body.

Just add an "LN" suffix to the series number (part number example: 2701LN-12-12).

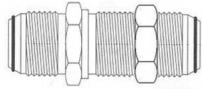
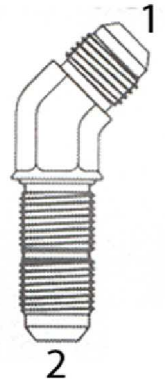
37° JIC Bulkhead Fittings

2702 Series

MJ-MJ Bulkhead 45°

SAE 070801

Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male JIC
2702-03-03	3MJ-3MJBKHD45	3/16	3/8-24	3/8-24
2702-04-04	4MJ-4MJBKHD45	1/4	7/16-20	7/16-20
2702-05-05	5MJ-5MJBKHD45	5/16	1/2-20	1/2-20
2702-06-06	6MJ-6MJBKHD45	3/8	9/16-18	9/16-18
2702-08-08	8MJ-8MJBKHD45	1/2	3/4-16	3/4-16
2702-10-10	10MJ-10MJBKHD45	5/8	7/8-14	7/8-14
2702-12-12	12MJ-12MJBKHD45	3/4	1 1/16-12	1 1/16-12
2702-14-14	14MJ-14MJBKHD45	7/8	1 3/16-12	1 3/16-12
2702-16-16	16MJ-16MJBKHD45	1	1 5/16-12	1 5/16-12
2702-20-20	20MJ-20MJBKHD45	1 1/4	1 5/8-12	1 5/8-12
2702-24-24	24MJ-24MJBKHD45	1 1/2	1 7/8-12	1 7/8-12
2702-32-32	32MJ-32MJBKHD45	2	2 1/2-12	2 1/2-12



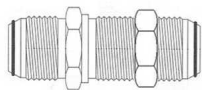
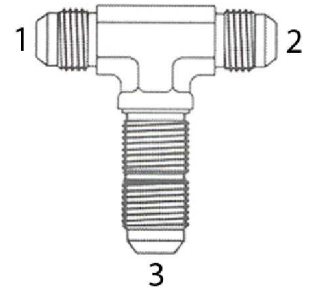
All of our bulkhead fittings are available with the locknut #0306 (pg. 41), assembled on the body.
Just add an "LN" suffix to the series number (part number example: 2702LN-12-12).

2703 Series

MJ-MJ-MJ Bulkhead Branch Tee

SAE 070959

Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male JIC	3 Male JIC
2703-03-03-03	3MJ-3MJ-3MJBKHD	3/16	3/8-24	3/8-24	3/8-24
2703-04-04-04	4MJ-4MJ-4MJBKHD	1/4	7/16-20	7/16-20	7/16-20
2703-04-04-06	4MJ-4MJ-6MJBKHD	1/4 x 3/8	7/16-20	7/16-20	9/16-18
2703-05-05-05	5MJ-5MJ-5MJBKHD	5/16	1/2-20	1/2-20	1/2-20
2703-06-06-06	6MJ-6MJ-6MJBKHD	3/8	9/16-18	9/16-18	9/16-18
2703-08-08-08	8MJ-8MJ-8MJBKHD	1/2	3/4-16	3/4-16	3/4-16
2703-10-10-10	10MJ-10MJ-10MJBKHD	5/8	7/8-14	7/8-14	7/8-14
2703-12-12-12	12MJ-12MJ-12MJBKHD	3/4	1 1/16-12	1 1/16-12	1 1/16-12
2703-12-12-16	12MJ-12MJ-16MJBKHD	3/4 x 1	1 1/16-12	1 1/16-12	1 5/16-12
2703-14-14-14	14MJ-14MJ-14MJBKHD	7/8	1 3/16-12	1 3/16-12	1 3/16-12
2703-16-16-16	16MJ-16MJ-16MJBKHD	1	1 5/16-12	1 5/16-12	1 5/16-12
2703-20-20-20	20MJ-20MJ-20MJBKHD	1 1/4	1 5/8-12	1 5/8-12	1 5/8-12
2703-24-24-24	24MJ-24MJ-24MJBKHD	1 1/2	1 7/8-12	1 7/8-12	1 7/8-12
2703-32-32-32	32MJ-32MJ-32MJBKHD	2	2 1/2-12	2 1/2-12	2 1/2-12



All of our bulkhead fittings are available with the locknut #0306 (pg. 41), assembled on the body.
Just add an "LN" suffix to the series number (part number example: 2703LN-12-12).

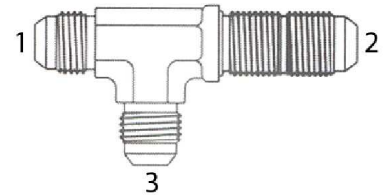
37° JIC Bulkhead Fittings

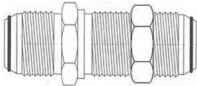
2704 Series

MJ-MJ-MJ Bulkhead Run Tee

SAE 070958

Item Number	HH Item Number	Tube OD	1	2	3
			Male JIC	Male JIC	Male JIC
2704-03-03-03	3MJ-3MJ BKHD-3MJ	3/16	3/8-24	3/8-24	3/8-24
2704-04-04-04	4MJ-4MJ BKHD-4MJ	1/4	7/16-20	7/16-20	7/16-20
2704-05-05-05	5MJ-5MJ BKHD-5MJ	5/16	1/2-20	1/2-20	1/2-20
2704-06-06-06	6MJ-6MJ BKHD-6MJ	3/8	9/16-18	9/16-18	9/16-18
2704-08-08-08	8MJ-8MJ BKHD-8MJ	1/2	3/4-16	3/4-16	3/4-16
2704-08-10-08	8MJ-10MJ BKHD-8MJ	1/2 x 5/8	3/4-16	7/8-14	3/4-16
2704-10-10-10	10MJ-10MJ BKHD-10MJ	5/8	7/8-14	7/8-14	7/8-14
2704-12-12-12	12MJ-12MJ BKHD-12MJ	3/4	1 1/16-12	1 1/16-12	1 1/16-12
2704-16-16-16	16MJ-16MJ BKHD-16MJ	1	1 5/16-12	1 5/16-12	1 5/16-12
2704-20-20-20	20MJ-20MJ BKHD-20MJ	1 1/4	1 5/8-12	1 5/8-12	1 5/8-12
2704-24-24-24	24MJ-24MJ BKHD-24MJ	1 1/2	1 7/8-12	1 7/8-12	1 7/8-12



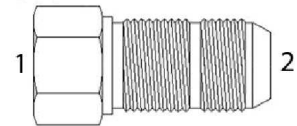


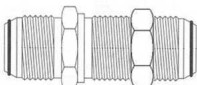
All of our bulkhead fittings are available with the locknut #0306 (pg.41), assembled on the body.
Just add an "LN" suffix to the series number (part number example: 2704LN-12-12).

2705 Series

FP-MJ Bulkhead Straight

Item Number	HH Item Number	Tube OD	1	2
			Female Pipe	Male JIC
2705-02-04	2FP-4MJ BKHD	1/4	1/8-27	7/16-20
2705-02-05	2FP-5MJ BKHD	5/16	1/8-27	1/2-20
2705-04-04	4FP-4MJ BKHD	1/4	1/4-18	7/16-20
2705-04-06	4FP-6MJ BKHD	3/8	1/4-18	9/16-18
2705-06-06	6FP-6MJ BKHD	3/8	3/8-18	9/16-18
2705-06-08	6FP-8MJ BKHD	1/2	3/8-18	3/4-16
2705-08-06	8FP-6MJ BKHD	3/8	1/2-14	9/16-18
2705-08-08	8FP-8MJ BKHD	1/2	1/2-14	3/4-16
2705-08-10	8FP-10MJ BKHD	5/8	1/2-14	7/8-14
2705-12-12	12FP-12MJ BKHD	3/4	3/4-14	1 1/16-12
2705-12-14	12FP-14MJ BKHD	7/8	3/4-14	1 3/16-12
2705-16-16	16FP-16MJ BKHD	1	1-11 1/2	1 5/16-12
2705-20-20	20FP-20MJ BKHD	1 1/4	1 1/4-11 1/2	1 5/8-12
2705-24-24	24FP-24MJ BKHD	1 1/2	1 1/2-11 1/2	1 7/8-12





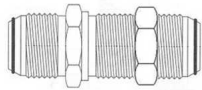
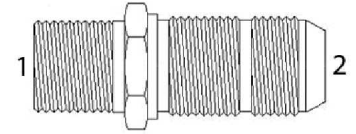
All of our bulkhead fittings are available with the locknut #0306 (pg.41), assembled on the body.
Just add an "LN" suffix to the series number (part number example: 2705LN-12-12).

37° JIC Bulkhead Fittings

2706 Series

MP-MJ Bulkhead Straight

Item Number	HH Item Number	Tube OD	1 Male Pipe	2 Male JIC
2706-02-04	2MP-4MJBKHD	1/4	1/8-27	7/16-20
2706-04-04	4MP-4MJBKHD	1/4	1/4-18	7/16-20
2706-04-06	4MP-6MJBKHD	3/8	1/4-18	9/16-18
2706-06-06	6MP-6MJBKHD	3/8	3/8-18	9/16-18
2706-06-08	6MP-8MJBKHD	1/2	3/8-18	3/4-16
2706-08-08	8MP-8MJBKHD	1/2	1/2-14	3/4-16
2706-08-10	8MP-10MJBKHD	5/8	1/2-14	7/8-14
2706-08-12	8MP-12MJBKHD	3/4	1/2-14	1 1/16-12
2706-12-12	12MP-12MJBKHD	3/4	3/4-14	1 1/16-12
2706-12-16	12MP-16MJBKHD	1	3/4-14	1 5/16-12
2706-16-16	16MP-16MJBKHD	1	1-11 1/2	1 5/16-12
2706-20-20	20MP-20MJBKHD	1 1/4	1 1/4-11 1/2	1 5/8-12
2706-24-24	24MP-24MJBKHD	1 1/2	1 1/2-11 1/2	1 7/8-12
2706-32-32	32MP-32MJBKHD	2	2-11 1/2	2 1/2-12

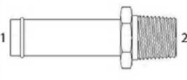

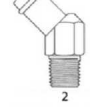
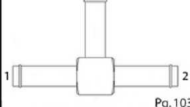
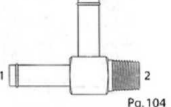
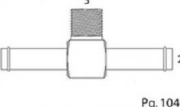

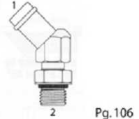



All of our bulkhead fittings are available with the locknut #0306 (pg. 41), assembled on the body.

Just add an "LN" suffix to the series number (part number example: 2706LN-12-12).

Beaded Hose Barbs

Beaded Hose Barbs - Visual Identification Chart

<p>4404 (140160)</p>  <p>BHS-MP Straight Pg.101</p>	<p>4501 (140260)</p>  <p>BHS-MP 90° Pg.102</p>	<p>4503 (140360)</p>  <p>BHS-MP 45° Pg.103</p>	<p>4504</p>  <p>BHS-BHS-BHS Tee Pg.103</p>	<p>4505</p>  <p>BHS-MP-BHS Tee Pg.104</p>	<p>4506</p>  <p>BHS-BHS-MP Tee Pg.104</p>	<p>4601-NWO (090292)</p>  <p>BHS-MB 90° Pg.105</p>
<p>4603-NWO (090392)</p>  <p>BHS-MB 45° Pg.106</p>	<p>4604-O (090192)</p>  <p>BHS-MB Straight Pg.107</p>					

Hose Clamps

HC 1/2" Band Clamps

HH Item Number	Size	Diameter Range	
		Min.	Max.
06HC	6	3/8"	7/8"
08HC	8	7/16"	1"
10HC	10	9/16"	1 1/16"
12HC	12	9/16"	1 1/4"
16HC	16	1 1/16"	1 1/2"
20HC	20	3/4"	1 3/4"
24HC	24	1 1/16"	2"
28HC	28	1 5/16"	2 1/4"
32HC	32	1 9/16"	2 1/2"
36HC	36	1 13/16"	2 3/4"
40HC	40	2 1/16"	3"
44HC	44	2 5/16"	3 1/4"
48HC	48	2 9/16"	3 1/2"
52HC	52	2 13/16"	3 3/4"
56HC	56	3 1/16"	4"
60HC	60	3 5/16"	4 1/4"
64HC	64	2 1/2"	4 1/2"
72HC	72	3"	5"



Additional clamping options available upon request.
Contact your representative for further details.

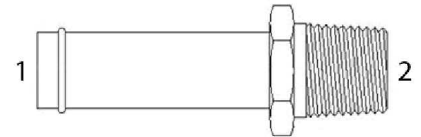
Beaded Hose Barbs

4404 Series

BHS-MP Straight

SAE 140160

Item Number	HH Item Number	1 BHS	2 Male Pipe
4404-02-02	2BHS-2MP	1/8	1/8-27
4404-02-04	2BHS-4MP	1/8	1/4-18
4404-04-02	4BHS-2MP	1/4	1/8-27
4404-04-04	4BHS-4MP	1/4	1/4-18
4404-04-06	4BHS-6MP	1/4	3/8-18
4404-05-02	5BHS-2MP	5/16	1/8-27
4404-05-04	5BHS-4MP	5/16	1/4-18
4404-05-06	5BHS-6MP	5/16	3/8-18
4404-06-02	6BHS-2MP	3/8	1/8-27
4404-06-04	6BHS-4MP	3/8	1/4-18
4404-06-06	6BHS-6MP	3/8	3/8-18
4404-06-08	6BHS-8MP	3/8	1/2-14
4404-08-04	8BHS-4MP	1/2	1/4-18
4404-08-06	8BHS-6MP	1/2	3/8-18
4404-08-08	8BHS-8MP	1/2	1/2-14
4404-08-12	8BHS-12MP	1/2	3/4-14
4404-10-04	10BHS-4MP	5/8	1/4-18
4404-10-06	10BHS-6MP	5/8	3/8-18
4404-10-08	10BHS-8MP	5/8	1/2-14
4404-10-12	10BHS-12MP	5/8	3/4-14
4404-10-16	10BHS-16MP	5/8	1-11 1/2
4404-12-06	12BHS-6MP	3/4	3/8-18
4404-12-08	12BHS-8MP	3/4	1/2-14
4404-12-12	12BHS-12MP	3/4	3/4-14
4404-12-16	12BHS-16MP	3/4	1-11 1/2
4404-16-12	16BHS-12MP	1	3/4-14
4404-16-16	16BHS-16MP	1	1-11 1/2
4404-16-8	16BHS-8MP	1	1/2-14
4404-20-12	20BHS-12MP	1 1/4	3/4-14
4404-20-16	20BHS-16MP	1 1/4	1-11 1/2
4404-20-20	20BHS-20MP	1 1/4	1 1/4-11 1/2
4404-20-24	20BHS-24MP	1 1/4	1 1/2-11 1/2
4404-20-32	20BHS-32MP	1 1/4	2-11 1/2
4404-24-20	24BHS-20MP	1 1/2	1 1/4-11 1/2
4404-24-24	24BHS-24MP	1 1/2	1 1/2-11 1/2
4404-32-32	32BHS-32MP	2	2-11 1/2



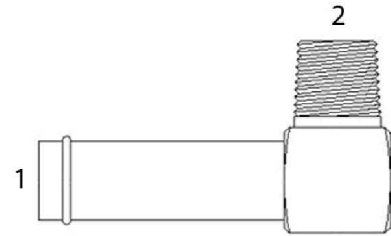
Beaded Hose Barbs

4501 Series

BHS-MP 90°

SAE 140260

Item Number	HH Item Number	1 BHS	2 Male Pipe
4501-04-02	4BHS-2MP90	1/4	1/8-27
4501-04-04	4BHS-4MP90	1/4	1/4-18
4501-04-06	4BHS-6MP90	1/4	3/8-18
4501-05-02	5BHS-2MP90	5/16	1/8-27
4501-05-06	5BHS-6MP90	5/16	3/8-18
4501-06-02	6BHS-2MP90	3/8	1/8-27
4501-06-04	6BHS-4MP90	3/8	1/4-18
4501-06-06	6BHS-6MP90	3/8	3/8-18
4501-06-08	6BHS-8MP90	3/8	1/2-14
4501-08-04	8BHS-4MP90	1/2	1/4-18
4501-08-06	8BHS-6MP90	1/2	3/8-18
4501-08-08	8BHS-8MP90	1/2	1/2-14
4501-08-12	8BHS-12MP90	1/2	3/4-14
4501-10-06	10BHS-6MP90	5/8	3/8-18
4501-10-08	10BHS-8MP90	5/8	1/2-14
4501-10-12	10BHS-12MP90	5/8	3/4-14
4501-10-16	10BHS-16MP90	5/8	1-11 1/2
4501-12-06	12BHS-6MP90	3/4	3/8-18
4501-12-08	12BHS-8MP90	3/4	1/2-14
4501-12-12	12BHS-12MP90	3/4	3/4-14
4501-12-16	12BHS-16MP90	3/4	1-11 1/2
4501-16-08	16BHS-8MP90	1	1/2-14
4501-16-12	16BHS-12MP90	1	3/4-14
4501-16-16	16BHS-16MP90	1	1-11 1/2
4501-16-20	16BHS-20MP90	1	1 1/4-11 1/2
4501-16-24	16BHS-24MP90	1	1 1/2-11 1/2
4501-20-12	20BHS-12MP90	1 1/4	3/4-14
4501-20-16	20BHS-16MP90	1 1/4	1-11 1/2
4501-20-20	20BHS-20MP90	1 1/4	1 1/4-11 1/2
4501-20-24	20BHS-24MP90	1 1/4	1 1/2-11 1/2
4501-24-16	24BHS-16MP90	1 1/2	1-11 1/2
4501-24-20	24BHS-20MP90	1 1/2	1 1/4-11 1/2
4501-24-24	24BHS-24MP90	1 1/2	1 1/2-11 1/2
4501-32-32	32BHS-32MP90	2	2-11 1/2



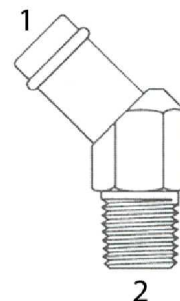
Beaded Hose Barbs

4503 Series

BHS-MP 45°

SAE 140360

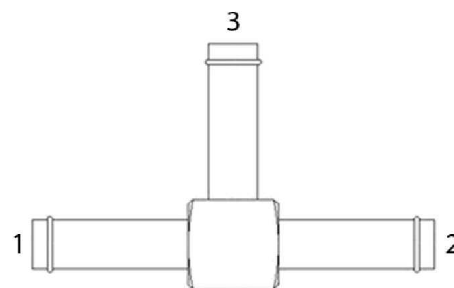
Item Number	HH Item Number	1 BHS	2 Male Pipe
4503-04-02	4BHS-2MP45	1/4	1/8-27
4503-04-04	4BHS-4MP45	1/4	1/4-18
4503-05-02	5BHS-2MP45	5/16	1/8-27
4503-05-04	5BHS-4MP45	5/16	1/4-18
4503-06-04	6BHS-4MP45	3/8	1/4-18
4503-06-06	6BHS-6MP45	3/8	3/8-18
4503-08-04	8BHS-4MP45	1/2	1/4-18
4503-08-06	8BHS-6MP45	1/2	3/8-18
4503-08-08	8BHS-8MP45	1/2	1/2-14
4503-10-06	10BHS-6MP45	5/8	3/8-18
4503-10-08	10BHS-8MP45	5/8	1/2-14
4503-10-12	10BHS-12MP45	5/8	3/4-14
4503-12-06	12BHS-6MP45	3/4	3/8-18
4503-12-08	12BHS-8MP45	3/4	1/2-14
4503-12-12	12BHS-12MP45	3/4	3/4-14
4503-12-16	12BHS-16MP45	3/4	1-11 1/2
4503-16-12	16BHS-12MP45	1	3/4-14
4503-16-16	16BHS-16MP45	1	1-11 1/2
4503-16-20	16BHS-20MP45	1	1 1/4-11 1/2
4503-20-16	20BHS-16MP45	1 1/4	1-11 1/2
4503-20-20	20BHS-20MP45	1 1/4	1 1/4-11 1/2
4503-24-20	24BHS-20MP45	1 1/2	1 1/4-11 1/2
4503-24-24	24BHS-24MP45	1 1/2	1 1/2-11 1/2
4503-32-32	32BHS-32MP45	2	2-11 1/2



4504 Series

BHS-BHS-BHS Tee

Item Number	HH Item Number	1 BHS	2 BHS	3 BHS
4504-04-04-04	4BHS-4BHS-4BHS	1/4	1/4	1/4
4504-06-06-06	6BHS-6BHS-6BHS	3/8	3/8	3/8
4504-08-06-06	8BHS-6BHS-6BHS	1/2	3/8	3/8
4504-08-08-04	8BHS-8BHS-4BHS	1/2	1/2	1/4
4504-08-08-08	8BHS-8BHS-8BHS	1/2	1/2	1/2
4504-10-10-06	10BHS-10BHS-6BHS	5/8	5/8	3/8
4504-10-10-10	10BHS-10BHS-10BHS	5/8	5/8	5/8
4504-10-10-12	10BHS-10BHS-12BHS	5/8	5/8	3/4
4504-12-08-12	12BHS-8BHS-12BHS	3/4	1/2	3/4
4504-12-12-08	12BHS-12BHS-8BHS	3/4	3/4	1/2
4504-12-12-10	12BHS-12BHS-10BHS	3/4	3/4	5/8
4504-12-12-12	12BHS-12BHS-12BHS	3/4	3/4	3/4
4504-16-16-04	16BHS-16BHS-4BHS	1	1	1/4
4504-16-16-12	16BHS-16BHS-12BHS	1	1	3/4
4504-16-16-16	16BHS-16BHS-16BHS	1	1	1

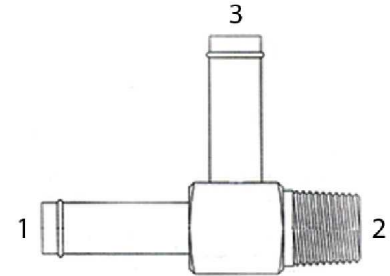


Beaded Hose Barbs

4505 Series

BHS-MP-BHS Tee

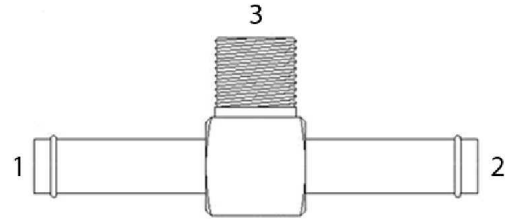
Item Number	HH Item Number	1 BHS	2 Male Pipe	3 BHS
4505-08-08-08	8BHS-8MP-8BHS	1/2	1/2-14	1/2
4505-12-12-12	12BHS-12MP-12BHS	3/4	3/4-14	3/4
4505-16-16-12	16BHS-16MP-12BHS	1	1-11 1/2	3/4
4505-16-16-16	16BHS-16MP-16BHS	1	1-11 1/2	1
4505-24-24-24	24BHS-24MP-24BHS	1 1/2	1 1/2-11 1/2	1 1/2



4506 Series

BHS-BHS-MP Tee

Item Number	HH Item Number	1 BHS	2 BHS	3 Male Pipe
4506-08-08-06	8BHS-8BHS-6MP	1/2	1/2	3/8-18
4506-10-10-16	10BHS-10BHS-16MP	5/8	5/8	1-11 1/2



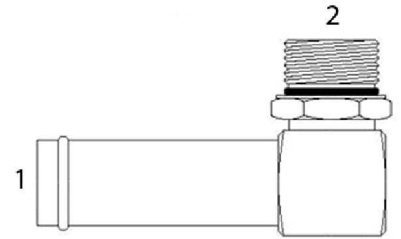
Beaded Hose Barbs

4601-NWO Series

BHS-MB 90°

SAE 090292

Item Number	HH Item Number	1 BHS	2 Male ORB
4601-04-02-NWO	4BHS-2MB90	1/4	5/16-24
4601-04-04-NWO	4BHS-4MB90	1/4	7/16-20
4601-04-05-NWO	4BHS-5MB90	1/4	1/2-20
4601-04-06-NWO	4BHS-6MB90	1/4	9/16-18
4601-04-08-NWO	4BHS-8MB90	1/4	3/4-16
4601-05-04-NWO	5BHS-4MB90	5/16	7/16-20
4601-05-05-NWO	5BHS-5MB90	5/16	1/2-20
4601-05-06-NWO	5BHS-6MB90	5/16	9/16-18
4601-05-08-NWO	5BHS-8MB90	5/16	3/4-16
4601-06-04-NWO	6BHS-4MB90	3/8	7/16-20
4601-06-06-NWO	6BHS-6MB90	3/8	9/16-18
4601-06-08-NWO	6BHS-8MB90	3/8	3/4-16
4601-06-10-NWO	6BHS-10MB90	3/8	7/8-14
4601-08-06-NWO	8BHS-6MB90	1/2	9/16-18
4601-08-08-NWO	8BHS-8MB90	1/2	3/4-16
4601-08-10-NWO	8BHS-10MB90	1/2	7/8-14
4601-08-16-NWO	8BHS-16MB90	1/2	1 5/16-12
4601-10-06-NWO	10BHS-6MB90	5/8	9/16-18
4601-10-08-NWO	10BHS-8MB90	5/8	3/4-16
4601-10-10-NWO	10BHS-10MB90	5/8	7/8-14
4601-10-12-NWO	10BHS-12MB90	5/8	1 1/16-12
4601-12-08-NWO	12BHS-8MB90	3/4	3/4-16
4601-12-10-NWO	12BHS-10MB90	3/4	7/8-14
4601-12-12-NWO	12BHS-12MB90	3/4	1 1/16-12
4601-12-16-NWO	12BHS-16MB90	3/4	1 5/16-12
4601-14-14-NWO	14BHS-14MB90	7/8	1 3/16-12
4601-14-16-NWO	14BHS-16MB90	7/8	1 5/16-12
4601-16-08-NWO	16BHS-8MB90	1	3/4-16
4601-16-10-NWO	16BHS-10MB90	1	7/8-14
4601-16-12-NWO	16BHS-12MB90	1	1 1/16-12
4601-16-14-NWO	16BHS-14MB90	1	1 3/16-12
4601-16-16-NWO	16BHS-16MB90	1	1 5/16-12
4601-16-20-NWO	16BHS-20MB90	1	1 5/8-12
4601-16-24-NWO	16BHS-24MB90	1	1 7/8-12
4601-20-12-NWO	20BHS-12MB90	1 1/4	1 1/16-12
4601-20-16-NWO	20BHS-16MB90	1 1/4	1 5/16-12
4601-20-20-NWO	20BHS-20MB90	1 1/4	1 5/8-12
4601-20-24-NWO	20BHS-24MB90	1 1/4	1 7/8-12
4601-24-12-NWO	24BHS-12MB90	1 1/2	1 1/16-12
4601-24-16-NWO	24BHS-16MB90	1 1/2	1 5/16-12
4601-24-20-NWO	24BHS-20MB90	1 1/2	1 5/8-12
4601-24-24-NWO	24BHS-24MB90	1 1/2	1 7/8-12
4601-32-20-NWO	32BHS-20MB90	2	1 5/8-12
4601-32-24-NWO	32BHS-24MB90	2	1 7/8-12
4601-32-32-NWO	32BHS-32MB90	2	2 1/2-12



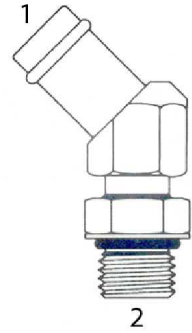
Beaded Hose Barbs

4603-NWO Series

BHS-MB 45°

SAE 090392

Item Number	HH Item Number	1 BHS	2 Male ORB
4603-04-04-NWO	4BHS-4MB45	1/4	7/16-20
4603-04-06-NWO	4BHS-6MB45	1/4	9/16-18
4603-06-04-NWO	6BHS-4MB45	3/8	7/16-20
4603-06-06-NWO	6BHS-6MB45	3/8	9/16-18
4603-08-06-NWO	8BHS-6MB45	1/2	9/16-18
4603-08-08-NWO	8BHS-8MB45	1/2	3/4-16
4603-08-10-NWO	8BHS-10MB45	1/2	7/8-14
4603-10-08-NWO	10BHS-8MB45	5/8	3/4-16
4603-10-10-NWO	10BHS-10MB45	5/8	7/8-14
4603-10-12-NWO	10BHS-12MB45	5/8	1 1/6-12
4603-12-08-NWO	12BHS-8MB45	3/4	3/4-16
4603-12-10-NWO	12BHS-10MB45	3/4	7/8-14
4603-12-12-NWO	12BHS-12MB45	3/4	1 1/6-12
4603-12-16-NWO	12BHS-16MB45	3/4	1 5/16-12
4603-14-12-NWO	14BHS-12MB45	7/8	1 1/6-12
4603-16-08-NWO	16BHS-8MB45	1	3/4-16
4603-16-10-NWO	16BHS-10MB45	1	7/8-14
4603-16-12-NWO	16BHS-12MB45	1	1 1/6-12
4603-16-14-NWO	16BHS-14MB45	1	1 3/16-12
4603-16-16-NWO	16BHS-16MB45	1	1 5/16-12
4603-20-12-NWO	20BHS-12MB45	1 1/4	1 1/6-12
4603-20-14-NWO	20BHS-14MB45	1 1/4	1 3/16-12
4603-20-16-NWO	20BHS-16MB45	1 1/4	1 5/16-12
4603-20-20-NWO	20BHS-20MB45	1 1/4	1 5/8-12
4603-20-24-NWO	20BHS-24MB45	1 1/4	1 7/8-12
4603-24-16-NWO	24BHS-16MB45	1 1/2	1 5/16-12
4603-24-20-NWO	24BHS-20MB45	1 1/2	1 5/8-12
4603-24-24-NWO	24BHS-24MB45	1 1/2	1 7/8-12
4603-32-32-NWO	32BHS-32MB45	2	2 1/2-12



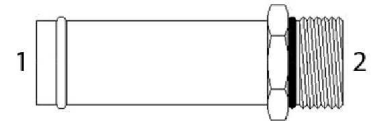
Beaded Hose Barbs

4604-O Series

BHS-MB Straight

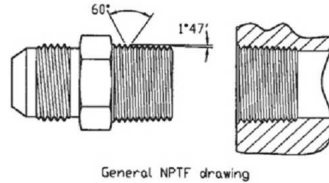
SAE 090192

Item Number	HH Item Number	1 BHS	2 Male ORB
4604-04-04-O	4BHS-4MB	1/4	7/16-20
4604-04-06-O	4BHS-6MB	1/4	9/16-18
4604-04-08-O	4BHS-8MB	1/4	3/4-16
4604-05-04-O	5BHS-4MB	5/16	7/16-20
4604-05-05-O	5BHS-5MB	5/16	1/2-20
4604-06-04-O	6BHS-4MB	3/8	7/16-20
4604-06-06-O	6BHS-6MB	3/8	9/16-18
4604-06-08-O	6BHS-8MB	3/8	3/4-16
4604-08-06-O	8BHS-6MB	1/2	9/16-18
4604-08-08-O	8BHS-8MB	1/2	3/4-16
4604-08-10-O	8BHS-10MB	1/2	7/8-14
4604-10-08-O	10BHS-8MB	5/8	3/4-16
4604-10-10-O	10BHS-10MB	5/8	7/8-14
4604-10-12-O	10BHS-12MB	5/8	1 1/16-12
4604-10-16-O	10BHS-16MB	5/8	1 5/16-12
4604-10-20-O	10BHS-20MB	5/8	1 5/8-12
4604-12-08-O	12BHS-8MB	3/4	3/4-16
4604-12-10-O	12BHS-10MB	3/4	7/8-14
4604-12-12-O	12BHS-12MB	3/4	1 1/16-12
4604-12-16-O	12BHS-16MB	3/4	1 5/16-12
4604-16-08-O	16BHS-8MB	1	3/4-16
4604-16-10-O	16BHS-10MB	1	7/8-14
4604-16-12-O	16BHS-12MB	1	1 1/16-12
4604-16-16-O	16BHS-16MB	1	1 5/16-12
4604-16-20-O	16BHS-20MB	1	1 5/8-12
4604-16-24-O	16BHS-24MB	1	1 7/8-12
4604-20-10-O	20BHS-10MB	1 1/4	7/8-14
4604-20-12-O	20BHS-12MB	1 1/4	1 1/16-12
4604-20-14-O	20BHS-14MB	1 1/4	1 3/16-12
4604-20-16-O	20BHS-16MB	1 1/4	1 5/16-12
4604-20-20-O	20BHS-20MB	1 1/4	1 5/8-12
4604-20-24-O	20BHS-24MB	1 1/4	1 7/8-12
4604-20-32-O	20BHS-32MB	1 1/4	2 1/2-12
4604-24-16-O	24BHS-16MB	1 1/2	1 5/16-12
4604-24-20-O	24BHS-20MB	1 1/2	1 5/8-12
4604-24-24-O	24BHS-24MB	1 1/2	1 7/8-12
4604-32-20-O	32BHS-20MB	2	1 5/8-12
4604-32-24-O	32BHS-24MB	2	1 7/8-12
4604-32-32-O	32BHS-32MB	2	2 1/2-12

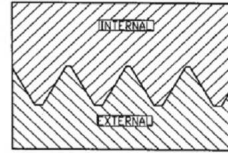


Pipe Fittings

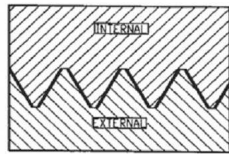
Pipe Fittings



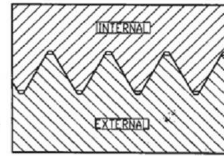
General NPTF drawing



NPTF-Wrench tight-Crest to root & flank contact



NPTF-Hand tight-Crest to root contact



NPT-Wrench tight-No crest to root contact, Flank contact only.

The pipe fitting has been with us since hydraulics first appeared on the scene. And it is still with us today on applications all over the world. The difference is that today's pipe thread comes in many different Standards. The most common pipe threads in North America are designated as:

NPT = American (National) Standard Pipe Taper

NPTF = American (National) Standard Pipe Taper Fuel (Dryseal)

Due to variances in pipe thread engagement, the TURNS method of assembly is preferred over specific torque values.

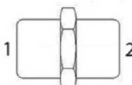
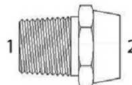
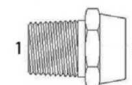
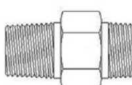
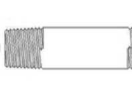
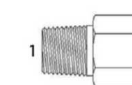
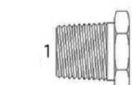

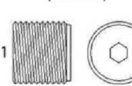
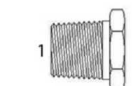
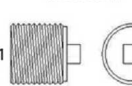
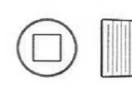
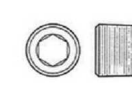
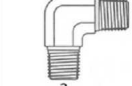

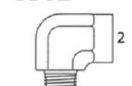



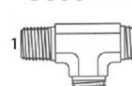
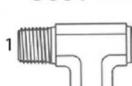
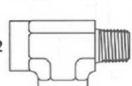
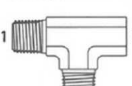
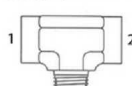
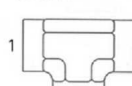
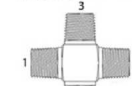
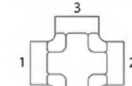
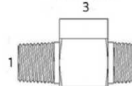
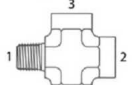
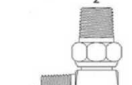
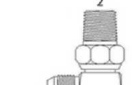
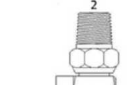
Both NPT and NPTF taper pipe threads seal by deformation of the threads. NPT threads must be used with some form of pipe sealant due to the Crest-Root contact, or lack thereof, which leaves a spiral leak path even after assembly. The NPTF threads, however, are designed to seal without the use of any pipe sealant, hence the Dryseal designation. The Crest-Root contact is such that no spiral leak path is left, but pipe sealant is normally applied for added protection against leakage, galling, and to help evenly spread the assembly torque when tightening. Pipe threads should be tightened two full turns past finger tight on sizes up to 1/2". Larger sizes should be tightened 1 1/2 to 2 1/2 full turns past finger tight. To obtain a correct alignment for elbows and tees follow these instructions and then continue tightening to the desired point. Be careful NOT to accidentally back off or loosen a pipe thread to obtain correct alignment. It should be noted that a pipe thread is NOT recommended for vibration or temperature cycling environments. Pipe threads should also be limited to ONE use unless the system is low pressure. Since pipe sealant, tape or paste, is normally used and recommended, the proper method of installation is as follows:

To apply Sealant Tape, make sure the threads are clean. Then tightly wrap the tape in the clockwise direction from the lead end of the thread. Overlap half the width of the tape with each wrap applying no more than two plies per thread. Be sure to leave the first 1/2 to 1 1/2 threads bare to avoid system contamination or damage. Tape is recommended only if no sealant paste is used.

To apply Sealant Paste, make sure the threads are clean. (Sealant Paste can be found on page 11). Then evenly apply the paste over the threads, except for the first two, with care not to leave any air pockets or bubbles. Do not apply paste if sealant tape is already installed.

Pipe Fittings

Pipe Fittings - Visual Identification Chart

<p>5000 (140138)</p>  <p>Pg. 110 FP-FP Straight</p>	<p>5304</p>  <p>Pg. 110 MP-BW Weld-on Fitting 304SS</p>	<p>5316</p>  <p>Pg. 111 MP-BW Weld-on Fitting 316SS</p>	<p>5404 (140137)</p>  <p>Pg. 111 MP-MP Hex Nipple</p>	<p>5404-N</p>  <p>Pg. 112 MP-MP Straight Nipple Long</p>	<p>5405 (140139)</p>  <p>Pg. 114 MP-FP Straight Expander</p>	<p>5406 (140140)</p>  <p>Pg. 115 MP-FP Reducer Bushing</p>
<p>5406-C</p>  <p>Pg. 116 FP Cap</p>	<p>5406-HHP (130109)</p>  <p>Pg. 116 MP Hollow Hex Plug</p>	<p>5406-P (130109E)</p>  <p>Pg. 116 MP-External Hex Pipe Plug</p>	<p>5406-SHP (130109A)</p>  <p>Pg. 117 MP-Square Head Pipe Plug</p>	<p>5408-SSP</p>  <p>Pg. 117 MP-Square Socket Pipe Plug</p>	<p>5409-HSP</p>  <p>Pg. 117 MP-Hex Socket Pipe Plug</p>	<p>5500 (140237)</p>  <p>Pg. 118 MP-MP 90° Elbow</p>
<p>5501 (140237)</p>  <p>Pg. 118 MP-MP 45° Elbow</p>	<p>5502 (140239)</p>  <p>Pg. 119 MP-FP 90° Street Elbow</p>	<p>5503 (140339)</p>  <p>Pg. 119 MP-FP 45° Street Elbow</p>	<p>5504 (140238)</p>  <p>Pg. 120 FP-FP 90° Elbow</p>	<p>5505 (140338)</p>  <p>Pg. 120 FP-FP 45° Elbow</p>	<p>5600 (140437)</p>  <p>Pg. 121 MP-MP-MP Tee</p>	<p>5601 (140427)</p>  <p>Pg. 121 MP-MP-FP Tee</p>
<p>5602 (140424)</p>  <p>Pg. 121 MP-FP-FP Street Tee</p>	<p>5603 (140426)</p>  <p>Pg. 122 MP-FP-MP Run Tee</p>	<p>5604 (140425)</p>  <p>Pg. 122 FP-FP-MP Tee</p>	<p>5605 (140438)</p>  <p>Pg. 123 FP-FP-FP Tee</p>	<p>5650 (140537)</p>  <p>Pg. 123 MP-MP-MP-MP Cross</p>	<p>5652 (140538)</p>  <p>Pg. 123 FP-FP-FP-FP Cross</p>	<p>5653</p>  <p>Pg. 124 MP-MP-FP-FP Cross</p>
<p>5655</p>  <p>Pg. 124 MP-FP-FP-FP Cross</p>	<p>5700</p>  <p>Pg. 124 MP-MPX 90° Elbow</p>	<p>5701</p>  <p>Pg. 125 MJ-MPX 90° Elbow</p>	<p>5702</p>  <p>Pg. 125 FP-MPX 90° Elbow</p>			

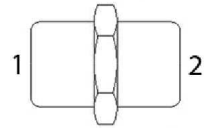
Pipe Fittings

5000 Series

FP-FP Straight

SAE 140138

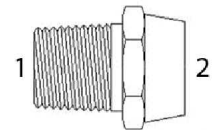
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5000-04-04	4FP-4FP	1/4-18	1/4-18
5000-06-02	6FP-2FP	3/8-18	1/8-27
5000-06-04	6FP-4FP	3/8-18	1/4-18
5000-06-06	6FP-6FP	3/8-18	3/8-18
5000-08-02	8FP-2FP	1/2-14	1/8-27
5000-08-04	8FP-4FP	1/2-14	1/4-18
5000-08-06	8FP-6FP	1/2-14	3/8-18
5000-08-08	8FP-8FP	1/2-14	1/2-14
5000-12-04	12FP-4FP	3/4-14	1/4-18
5000-12-06	12FP-6FP	3/4-14	3/8-18
5000-12-08	12FP-8FP	3/4-14	1/2-14
5000-12-12	12FP-12FP	3/4-14	3/4-14
5000-16-06	16FP-6FP	1-11 1/2	3/8-18
5000-16-08	16FP-8FP	1-11 1/2	1/2-14
5000-16-12	16FP-12FP	1-11 1/2	3/4-14
5000-16-16	16FP-16FP	1-11 1/2	1-11 1/2
5000-20-12	20FP-12FP	1 1/4-11 1/2	3/4-14
5000-20-16	20FP-16FP	1 1/4-11 1/2	1-11 1/2
5000-20-20	20FP-20FP	1 1/4-11 1/2	1 1/4-11 1/2
5000-24-16	24FP-16FP	1 1/2-11 1/2	1-11 1/2
5000-24-20	24FP-20FP	1 1/2-11 1/2	1 1/4-11 1/2
5000-24-24	24FP-24FP	1 1/2-11 1/2	1 1/2-11 1/2
5000-32-24	32FP-24FP	2-11 1/2	1 1/2-11 1/2
5000-32-32	32FP-32FP	2-11 1/2	2-11 1/2



5304 Series

MP-BW Weld-on Fitting 304SS

Item Number	HH Item Number	Male Pipe Weld-On	
		1	2
5304-04	4MP-4BW-304SS	1/4-18	1/4
5304-06	6MP-6BW-304SS	3/8-18	3/8
5304-08	8MP-8BW-304SS	1/2-14	1/2
5304-12	12MP-12BW-304SS	3/4-14	3/4
5304-16	16MP-16BW-304SS	1-11 1/2	1
5304-20	20MP-20BW-304SS	1 1/4-11 1/2	1 1/4
5304-24	24MP-24BW-304SS	1 1/2-11 1/2	1 1/2
5304-32	32MP-32BW-304SS	2-11 1/2	2

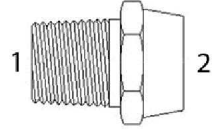


Pipe Fittings

5316 Series

MP-BW Weld-on Fitting 316SS

Item Number	HH Item Number	1 Male Pipe	2 Weld-On
5316-04	4MP-4BW-316SS	1/4-18	1/4
5316-06	6MP-6BW-316SS	3/8-18	3/8
5316-08	8MP-8BW-316SS	1/2-14	1/2
5316-12	12MP-12BW-316SS	3/4-14	3/4
5316-16	16MP-16BW-316SS	1-11 1/2	1
5316-20	20MP-20BW-316SS	1 1/4-11 1/2	1 1/4
5316-32	32MP-32BW-316SS	2-11 1/2	2

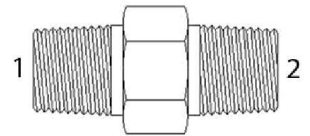


5404 Series

MP-MP Hex Nipple

SAE 140137

Item Number	HH Item Number	1 Male Pipe	2 Male Pipe
5404-02-01	2MP-1MP	1/8-27	1/16-27
5404-02-02	2MP-2MP	1/8-27	1/8-27
5404-04-02	4MP-2MP	1/4-18	1/8-27
5404-04-04	4MP-4MP	1/4-18	1/4-18
5404-06-02	6MP-2MP	3/8-18	1/8-27
5404-06-04	6MP-4MP	3/8-18	1/4-18
5404-06-06	6MP-6MP	3/8-18	3/8-18
5404-08-02	8MP-2MP	1/2-14	1/8-27
5404-08-04	8MP-4MP	1/2-14	1/4-18
5404-08-06	8MP-6MP	1/2-14	3/8-18
5404-08-08	8MP-8MP	1/2-14	1/2-14
5404-12-02	12MP-2MP	3/4-14	1/8-27
5404-12-04	12MP-4MP	3/4-14	1/4-18
5404-12-06	12MP-6MP	3/4-14	3/8-18
5404-12-08	12MP-8MP	3/4-14	1/2-14
5404-12-12	12MP-12MP	3/4-14	3/4-14
5404-16-04	16MP-4MP	1-11 1/2	1/4-18
5404-16-06	16MP-6MP	1-11 1/2	3/8-18
5404-16-08	16MP-8MP	1-11 1/2	1/2-14
5404-16-12	16MP-12MP	1-11 1/2	3/4-14
5404-16-16	16MP-16MP	1-11 1/2	1-11 1/2
5404-20-12	20MP-12MP	1 1/4-11 1/2	3/4-14
5404-20-16	20MP-16MP	1 1/4-11 1/2	1-11 1/2
5404-20-20	20MP-20MP	1 1/4-11 1/2	1 1/4-11 1/2
5404-24-12	24MP-12MP	1 1/2-11 1/2	3/4-14
5404-24-16	24MP-16MP	1 1/2-11 1/2	1-11 1/2
5404-24-20	24MP-20MP	1 1/2-11 1/2	1 1/4-11 1/2
5404-24-24	24MP-24MP	1 1/2-11 1/2	1 1/2-11 1/2
5404-32-12	32MP-12MP	2-11 1/2	3/4-14
5404-32-16	32MP-16MP	2-11 1/2	1-11 1/2
5404-32-20	32MP-20MP	2-11 1/2	1 1/4-11 1/2
5404-32-24	32MP-24MP	2-11 1/2	1 1/2-11 1/2
5404-32-32	32MP-32MP	2-11 1/2	2-11 1/2



Pipe Fittings

5404-N Series

MP-MP Straight Nipple Long

Item Number	HH Item Number	1 Male Pipe	2 Male Pipe
5404-N-02X0.750	2MP-2MPx0.75	1/8-27	1/8-27
5404-N-02X1.000	2MP-2MPx1.00	1/8-27	1/8-27
5404-N-02X1.500	2MP-2MPx1.50	1/8-27	1/8-27
5404-N-02X2.000	2MP-2MPx2.00	1/8-27	1/8-27
5404-N-02X2.500	2MP-2MPx2.50	1/8-27	1/8-27
5404-N-02X3.000	2MP-2MPx3.00	1/8-27	1/8-27
5404-N-02X3.500	2MP-2MPx3.50	1/8-27	1/8-27
5404-N-02X4.000	2MP-2MPx4.00	1/8-27	1/8-27
5404-N-02X4.500	2MP-2MPx4.50	1/8-27	1/8-27
5404-N-02X5.000	2MP-2MPx5.00	1/8-27	1/8-27
5404-N-02X5.500	2MP-2MPx5.50	1/8-27	1/8-27
5404-N-02X6.000	2MP-2MPx6.00	1/8-27	1/8-27
5404-N-04X0.875	4MP-4MPx0.875	1/4-18	1/4-18
5404-N-04X1.500	4MP-4MPx1.50	1/4-18	1/4-18
5404-N-04X2.000	4MP-4MPx2.00	1/4-18	1/4-18
5404-N-04X2.500	4MP-4MPx2.50	1/4-18	1/4-18
5404-N-04X3.000	4MP-4MPx3.00	1/4-18	1/4-18
5404-N-04X3.500	4MP-4MPx3.50	1/4-18	1/4-18
5404-N-04X4.000	4MP-4MPx4.00	1/4-18	1/4-18
5404-N-04X4.500	4MP-4MPx4.50	1/4-18	1/4-18
5404-N-04X5.000	4MP-4MPx5.00	1/4-18	1/4-18
5404-N-04X5.500	4MP-4MPx5.50	1/4-18	1/4-18
5404-N-04X6.000	4MP-4MPx6.00	1/4-18	1/4-18
5404-N-06X1.000	6MP-6MPx1.00	3/8-18	3/8-18
5404-N-06X1.500	6MP-6MPx1.50	3/8-18	3/8-18
5404-N-06X2.000	6MP-6MPx2.00	3/8-18	3/8-18
5404-N-06X2.500	6MP-6MPx2.50	3/8-18	3/8-18
5404-N-06X3.000	6MP-6MPx3.00	3/8-18	3/8-18
5404-N-06X3.500	6MP-6MPx3.50	3/8-18	3/8-18
5404-N-06X4.000	6MP-6MPx4.00	3/8-18	3/8-18
5404-N-06X4.500	6MP-6MPx4.50	3/8-18	3/8-18
5404-N-06X5.000	6MP-6MPx5.00	3/8-18	3/8-18
5404-N-06X5.500	6MP-6MPx5.50	3/8-18	3/8-18
5404-N-06X6.000	6MP-6MPx6.00	3/8-18	3/8-18
5404-N-06X7.000	6MP-6MPx7.00	3/8-18	3/8-18
5404-N-08X1.125	8MP-8MPx1.125	1/2-14	1/2-14
5404-N-08X1.250	8MP-8MPx1.25	1/2-14	1/2-14
5404-N-08X1.375	8MP-8MPx1.375	1/2-14	1/2-14
5404-N-08X1.500	8MP-8MPx1.50	1/2-14	1/2-14
5404-N-08X1.750	8MP-8MPx1.75	1/2-14	1/2-14
5404-N-08X2.000	8MP-8MPx2.00	1/2-14	1/2-14
5404-N-08X2.250	8MP-8MPx2.25	1/2-14	1/2-14
5404-N-08X2.500	8MP-8MPx2.50	1/2-14	1/2-14
5404-N-08X3.000	8MP-8MPx3.00	1/2-14	1/2-14
5404-N-08X3.500	8MP-8MPx3.50	1/2-14	1/2-14
5404-N-08X4.000	8MP-8MPx4.00	1/2-14	1/2-14
5404-N-08X4.500	8MP-8MPx4.50	1/2-14	1/2-14
5404-N-08X5.000	8MP-8MPx5.00	1/2-14	1/2-14
5404-N-08X5.500	8MP-8MPx5.50	1/2-14	1/2-14
5404-N-08X6.000	8MP-8MPx6.00	1/2-14	1/2-14
5404-N-12X1.375	12MP-12MPx1.375	3/4-14	3/4-14
5404-N-12X1.500	12MP-12MPx1.50	3/4-14	3/4-14
5404-N-12X1.625	12MP-12MPx1.625	3/4-14	3/4-14
5404-N-12X2.000	12MP-12MPx2.00	3/4-14	3/4-14



Pipe Fittings

5404-N Series

MP-MP Straight Nipple Long

Item Number	HH Item Number	1 Male Pipe	2 Male Pipe
5404-N-12X2.500	12MP-12MPx2.50	3/4-14	3/4-14
5404-N-12X3.000	12MP-12MPx3.00	3/4-14	3/4-14
5404-N-12X3.500	12MP-12MPx3.50	3/4-14	3/4-14
5404-N-12X4.000	12MP-12MPx4.00	3/4-14	3/4-14
5404-N-12X4.500	12MP-12MPx4.50	3/4-14	3/4-14
5404-N-12X5.000	12MP-12MPx5.00	3/4-14	3/4-14
5404-N-12X5.500	12MP-12MPx5.50	3/4-14	3/4-14
5404-N-12X6.000	12MP-12MPx6.00	3/4-14	3/4-14
5404-N-12X6.500	12MP-12MPx6.50	3/4-14	3/4-14
5404-N-12X8.000	12MP-12MPx8.00	3/4-14	3/4-14
5404-N-16X1.500	16MP-16MPx1.50	1-11 1/2	1-11 1/2
5404-N-16X2.000	16MP-16MPx2.00	1-11 1/2	1-11 1/2
5404-N-16X2.500	16MP-16MPx2.50	1-11 1/2	1-11 1/2
5404-N-16X3.000	16MP-16MPx3.00	1-11 1/2	1-11 1/2
5404-N-16X3.250	16MP-16MPx3.25	1-11 1/2	1-11 1/2
5404-N-16X3.500	16MP-16MPx3.50	1-11 1/2	1-11 1/2
5404-N-16X3.750	16MP-16MPx3.75	1-11 1/2	1-11 1/2
5404-N-16X4.000	16MP-16MPx4.00	1-11 1/2	1-11 1/2
5404-N-16X4.500	16MP-16MPx4.50	1-11 1/2	1-11 1/2
5404-N-16X5.000	16MP-16MPx5.00	1-11 1/2	1-11 1/2
5404-N-16X5.500	16MP-16MPx5.50	1-11 1/2	1-11 1/2
5404-N-16X6.000	16MP-16MPx6.00	1-11 1/2	1-11 1/2
5404-N-20X1.500	20MP-20MPx1.50	1 1/4-11 1/2	1 1/4-11 1/2
5404-N-20X1.625	20MP-20MPx1.625	1 1/4-11 1/2	1 1/4-11 1/2
5404-N-20X2.000	20MP-20MPx2.00	1 1/4-11 1/2	1 1/4-11 1/2
5404-N-20X2.500	20MP-20MPx2.50	1 1/4-11 1/2	1 1/4-11 1/2
5404-N-20X3.000	20MP-20MPx3.00	1 1/4-11 1/2	1 1/4-11 1/2
5404-N-20X3.500	20MP-20MPx3.50	1 1/4-11 1/2	1 1/4-11 1/2
5404-N-20X4.000	20MP-20MPx4.00	1 1/4-11 1/2	1 1/4-11 1/2
5404-N-20X6.000	20MP-20MPx6.00	1 1/4-11 1/2	1 1/4-11 1/2
5404-N-20X8.000	20MP-20MPx8.00	1 1/4-11 1/2	1 1/4-11 1/2
5404-N-24X1.000	24MP-24MPx1.00	1 1/2-11 1/2	1 1/2-11 1/2
5404-N-24X1.750	24MP-24MPx1.75	1 1/2-11 1/2	1 1/2-11 1/2
5404-N-24X2.500	24MP-24MPx2.50	1 1/2-11 1/2	1 1/2-11 1/2
5404-N-24X4.000	24MP-24MPx4.00	1 1/2-11 1/2	1 1/2-11 1/2
5404-N-24X6.000	24MP-24MPx6.00	1 1/2-11 1/2	1 1/2-11 1/2
5404-N-32X5.000	32MP-32MPx5.00	2-11 1/2	2-11 1/2

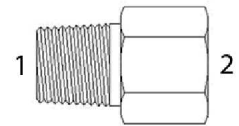
Pipe Fittings

5405 Series

MP-FP Straight Expander

SAE 140139

Item Number	HH Item Number	1	
		Male Pipe	Female Pipe
5405-01-02	1MP-2FP	1/16-27	1/8-27
5405-02-02	2MP-2FP	1/8-27	1/8-27
5405-02-04	2MP-4FP	1/8-27	1/4-18
5405-02-06	2MP-6FP	1/8-27	3/8-18
5405-02-08	2MP-8FP	1/8-27	1/2-14
5405-04-02	4MP-2FP	1/4-18	1/8-27
5405-04-04	4MP-4FP	1/4-18	1/4-18
5405-04-06	4MP-6FP	1/4-18	3/8-18
5405-04-08	4MP-8FP	1/4-18	1/2-14
5405-04-12	4MP-12FP	1/4-18	3/4-14
5405-06-02	6MP-2FP	3/8-18	1/8-27
5405-06-04	6MP-4FP	3/8-18	1/4-18
5405-06-06	6MP-6FP	3/8-18	3/8-18
5405-06-08	6MP-8FP	3/8-18	1/2-14
5405-06-12	6MP-12FP	3/8-18	3/4-14
5405-08-02	8MP-2FP	1/2-14	1/8-27
5405-08-04	8MP-4FP	1/2-14	1/4-18
5405-08-06	8MP-6FP	1/2-14	3/8-18
5405-08-08	8MP-8FP	1/2-14	1/2-14
5405-08-12	8MP-12FP	1/2-14	3/4-14
5405-08-16	8MP-16FP	1/2-14	1-11 1/2
5405-12-04	12MP-4FP	3/4-14	1/4-18
5405-12-06	12MP-6FP	3/4-14	3/8-18
5405-12-08	12MP-8FP	3/4-14	1/2-14
5405-12-12	12MP-12FP	3/4-14	3/4-14
5405-12-16	12MP-16FP	3/4-14	1-11 1/2
5405-12-20	12MP-20FP	3/4-14	1 1/4-11 1/2
5405-16-08	16MP-8FP	1-11 1/2	1/2-14
5405-16-12	16MP-12FP	1-11 1/2	3/4-14
5405-16-16	16MP-16FP	1-11 1/2	1-11 1/2
5405-16-20	16MP-20FP	1-11 1/2	1 1/4-11 1/2
5405-16-24	16MP-24FP	1-11 1/2	1 1/2-11 1/2
5405-20-16	20MP-16FP	1 1/4-11 1/2	1-11 1/2
5405-20-20	20MP-20FP	1 1/4-11 1/2	1 1/4-11 1/2
5405-20-24	20MP-24FP	1 1/4-11 1/2	1 1/2-11 1/2
5405-20-32	20MP-32FP	1 1/4-11 1/2	2-11 1/2
5405-24-20	24MP-20FP	1 1/2-11 1/2	1 1/4-11 1/2
5405-24-24	24MP-24FP	1 1/2-11 1/2	1 1/2-11 1/2
5405-24-32	24MP-32FP	1 1/2-11 1/2	2-11 1/2
5405-32-24	32MP-24FP	2-11 1/2	1 1/2-11 1/2
5405-32-32	32MP-32FP	2-11 1/2	2-11 1/2



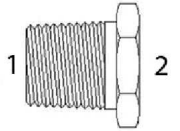
Pipe Fittings

5406 Series

MP-FP Reducer Bushing

SAE 140140

Item Number	HH Item Number	1	2
		Male Pipe	Female Pipe
5406-04-02	4MP-2FP	1/4-18	1/8-27
5406-06-02	6MP-2FP	3/8-18	1/8-27
5406-06-04	6MP-4FP	3/8-18	1/4-18
5406-08-01	8MP-1FP	1/2-14	1/16-27
5406-08-02	8MP-2FP	1/2-14	1/8-27
5406-08-04	8MP-4FP	1/2-14	1/4-18
5406-08-06	8MP-6FP	1/2-14	3/8-18
5406-12-02	12MP-2FP	3/4-14	1/8-27
5406-12-04	12MP-4FP	3/4-14	1/4-18
5406-12-06	12MP-6FP	3/4-14	3/8-18
5406-12-08	12MP-8FP	3/4-14	1/2-14
5406-16-02	16MP-2FP	1-11 1/2	1/8-27
5406-16-04	16MP-4FP	1-11 1/2	1/4-18
5406-16-06	16MP-6FP	1-11 1/2	3/8-18
5406-16-08	16MP-8FP	1-11 1/2	1/2-14
5406-16-12	16MP-12FP	1-11 1/2	3/4-14
5406-20-04	20MP-4FP	1 1/4-11 1/2	1/4-18
5406-20-06	20MP-6FP	1 1/4-11 1/2	3/8-18
5406-20-08	20MP-8FP	1 1/4-11 1/2	1/2-14
5406-20-12	20MP-12FP	1 1/4-11 1/2	3/4-14
5406-20-16	20MP-16FP	1 1/4-11 1/2	1-11 1/2
5406-24-02	24MP-2FP	1 1/2-11 1/2	1/8-27
5406-24-04	24MP-4FP	1 1/2-11 1/2	1/4-18
5406-24-06	24MP-6FP	1 1/2-11 1/2	3/8-18
5406-24-08	24MP-8FP	1 1/2-11 1/2	1/2-14
5406-24-12	24MP-12FP	1 1/2-11 1/2	3/4-14
5406-24-16	24MP-16FP	1 1/2-11 1/2	1-11 1/2
5406-24-20	24MP-20FP	1 1/2-11 1/2	1 1/4-11 1/2
5406-32-02	32MP-2FP	2-11 1/2	1/8-27
5406-32-04	32MP-4FP	2-11 1/2	1/4-18
5406-32-06	32MP-6FP	2-11 1/2	3/8-18
5406-32-08	32MP-8FP	2-11 1/2	1/2-14
5406-32-12	32MP-12FP	2-11 1/2	3/4-14
5406-32-16	32MP-16FP	2-11 1/2	1-11 1/2
5406-32-20	32MP-20FP	2-11 1/2	1 1/4-11 1/2
5406-32-24	32MP-24FP	2-11 1/2	1 1/2-11 1/2

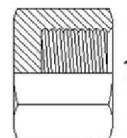


Pipe Fittings

5406-C Series

FP-Cap

Item Number	HH Item Number	1 Female Pipe
5406-C-02	2FP-CAP	1/8-27
5406-C-04	4FP-CAP	1/4-18
5406-C-06	6FP-CAP	3/8-18
5406-C-08	8FP-CAP	1/2-14
5406-C-12	12FP-CAP	3/4-14
5406-C-16	16FP-CAP	1-11 1/2
5406-C-20	20FP-CAP	1 1/4-11 1/2
5406-C-24	24FP-CAP	1 1/2-11 1/2

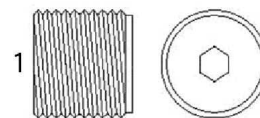


5406-HHP Series

MP-Hollow Hex Plug

SAE 130109

Item Number	HH Item Number	1 Male Pipe
5406-HHP-01	1MP-HHP	1/16-27
5406-HHP-02	2MP-HHP	1/8-27
5406-HHP-04	4MP-HHP	1/4-18
5406-HHP-06	6MP-HHP	3/8-18
5406-HHP-08	8MP-HHP	1/2-14
5406-HHP-12	12MP-HHP	3/4-14
5406-HHP-16	16MP-HHP	1-11 1/2
5406-HHP-20	20MP-HHP	1 1/4-11 1/2
5406-HHP-24	24MP-HHP	1 1/2-11 1/2
5406-HHP-32	32MP-HHP	2-11 1/2

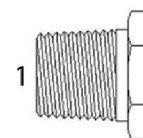


5406-P Series

MP-External Hex Pipe Plug

SAE 130109E

Item Number	HH Item Number	1 Male Pipe
5406-P-01	1MP-PLUG	1/16-27
5406-P-02	2MP-PLUG	1/8-27
5406-P-04	4MP-PLUG	1/4-18
5406-P-06	6MP-PLUG	3/8-18
5406-P-08	8MP-PLUG	1/2-14
5406-P-12	12MP-PLUG	3/4-14
5406-P-16	16MP-PLUG	1-11 1/2
5406-P-20	20MP-PLUG	1 1/4-11 1/2
5406-P-24	24MP-PLUG	1 1/2-11 1/2
5406-P-32	32MP-PLUG	2-11 1/2



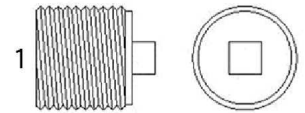
Pipe Fittings

5406-SHP Series

MP-Square Head Pipe Plug

SAE 130109A

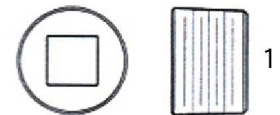
Item Number	HH Item Number	1 Male Pipe
5406-SHP-02	2MP-SHP	1/8-27
5406-SHP-04	4MP-SHP	1/4-18
5406-SHP-06	6MP-SHP	3/8-18
5406-SHP-08	8MP-SHP	1/2-14
5406-SHP-12	12MP-SHP	3/4-14
5406-SHP-16	16MP-SHP	1-11 1/2
5406-SHP-20	20MP-SHP	1 1/4-11 1/2
5406-SHP-24	24MP-SHP	1 1/2-11 1/2
5406-SHP-32	32MP-SHP	2-11 1/2



5408-SSP Series

MP-Square Socket Pipe Plug

Item Number	HH Item Number	1 Male Pipe
5408-SSP-02	2MP-SSP	1/8-27
5408-SSP-04	4MP-SSP	1/4-18
5408-SSP-06	6MP-SSP	3/8-18
5408-SSP-08	8MP-SSP	1/2-14
5408-SSP-12	12MP-SSP	3/4-14
5408-SSP-16	16MP-SSP	1-11 1/2
5408-SSP-20	20MP-SSP	1 1/4-11 1/2
5408-SSP-24	24MP-SSP	1 1/2-11 1/2
5408-SSP-32	32MP-SSP	2-11 1/2



5409-HSP Series

MP-Hex Socket Pipe Plug

Item Number	HH Item Number	1 Male Pipe
5409-HSP-02	2MP-HSP	1/8-27
5409-HSP-04	4MP-HSP	1/4-18
5409-HSP-06	6MP-HSP	3/8-18
5409-HSP-08	8MP-HSP	1/2-14
5409-HSP-12	12MP-HSP	3/4-14
5409-HSP-16	16MP-HSP	1-11 1/2
5409-HSP-20	20MP-HSP	1 1/4-11 1/2
5409-HSP-24	24MP-HSP	1 1/2-11 1/2
5409-HSP-32	32MP-HSP	2-11 1/2



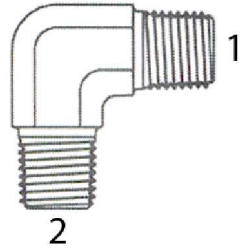
Pipe Fittings

5500 Series

MP-MP 90° Elbow

SAE 140237

Item Number	HH Item Number	1	2
		Male Pipe	Male Pipe
5500-02-02	2MP-2MP90	1/8-27	1/8-27
5500-04-02	4MP-2MP90	1/4-18	1/8-27
5500-04-04	4MP-4MP90	1/4-18	1/4-18
5500-06-02	6MP-2MP90	3/8-18	1/8-27
5500-06-04	6MP-4MP90	3/8-18	1/4-18
5500-06-06	6MP-6MP90	3/8-18	3/8-18
5500-08-04	8MP-4MP90	1/2-14	1/4-18
5500-08-06	8MP-6MP90	1/2-14	3/8-18
5500-08-08	8MP-8MP90	1/2-14	1/2-14
5500-12-06	12MP-6MP90	3/4-14	3/8-18
5500-12-08	12MP-8MP90	3/4-14	1/2-14
5500-12-12	12MP-12MP90	3/4-14	3/4-14
5500-16-08	16MP-8MP90	1-11 1/2	1/2-14
5500-16-12	16MP-12MP90	1-11 1/2	3/4-14
5500-16-16	16MP-16MP90	1-11 1/2	1-11 1/2
5500-20-16	20MP-16MP90	1 1/4-11 1/2	1-11 1/2
5500-20-20	20MP-20MP90	1 1/4-11 1/2	1 1/4-11 1/2
5500-24-24	24MP-24MP90	1 1/2-11 1/2	1 1/2-11 1/2
5500-32-32	32MP-32MP90	2-11 1/2	2-11 1/2

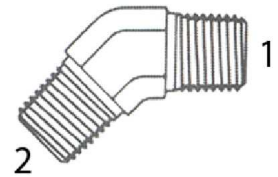


5501 Series

MP-MP 45° Elbow

SAE 140237

Item Number	HH Item Number	1	2
		Male Pipe	Male Pipe
5501-02-02	2MP-2MP45	1/8-27	1/8-27
5501-04-04	4MP-4MP45	1/4-18	1/4-18
5501-06-06	6MP-6MP45	3/8-18	3/8-18
5501-08-08	8MP-8MP45	1/2-14	1/2-14
5501-12-12	12MP-12MP45	3/4-14	3/4-14
5501-16-16	16MP-16MP45	1-11 1/2	1-11 1/2
5501-20-20	20MP-20MP45	1 1/4-11 1/2	1 1/4-11 1/2
5501-24-24	24MP-24MP45	1 1/2-11 1/2	1 1/2-11 1/2



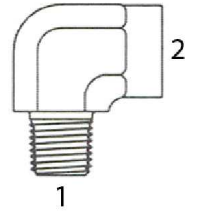
Pipe Fittings

5502 Series

MP-FP 90° Street Elbow

SAE 140239

Item Number	HH Item Number	1	
		Male Pipe	Female Pipe
5502-02-02	2MP-2FP90	1/8-27	1/8-27
5502-02-04	2MP-4FP90	1/8-27	1/4-18
5502-02-06	2MP-6FP90	1/8-27	3/8-18
5502-04-02	4MP-2FP90	1/4-18	1/8-27
5502-04-04	4MP-4FP90	1/4-18	1/4-18
5502-04-06	4MP-6FP90	1/4-18	3/8-18
5502-04-08	4MP-8FP90	1/4-18	1/2-14
5502-06-02	6MP-2FP90	3/8-18	1/8-27
5502-06-04	6MP-4FP90	3/8-18	1/4-18
5502-06-06	6MP-6FP90	3/8-18	3/8-18
5502-06-08	6MP-8FP90	3/8-18	1/2-14
5502-08-04	8MP-4FP90	1/2-14	1/4-18
5502-08-06	8MP-6FP90	1/2-14	3/8-18
5502-08-08	8MP-8FP90	1/2-14	1/2-14
5502-08-12	8MP-12FP90	1/2-14	3/4-14
5502-12-06	12MP-6FP90	3/4-14	3/8-18
5502-12-08	12MP-8FP90	3/4-14	1/2-14
5502-12-12	12MP-12FP90	3/4-14	3/4-14
5502-12-16	12MP-16FP90	3/4-14	1-11 1/2
5502-16-12	16MP-12FP90	1-11 1/2	3/4-14
5502-16-16	16MP-16FP90	1-11 1/2	1-11 1/2
5502-16-20	16MP-20FP90	1-11 1/2	1 1/4-11 1/2
5502-20-16	20MP-16FP90	1 1/4-11 1/2	1-11 1/2
5502-20-20	20MP-20FP90	1 1/4-11 1/2	1 1/4-11 1/2
5502-20-24	20MP-24FP90	1 1/4-11 1/2	1 1/2-11 1/2
5502-24-24	24MP-24FP90	1 1/2-11 1/2	1 1/2-11 1/2
5502-32-32	32MP-32FP90	2-11 1/2	2-11 1/2

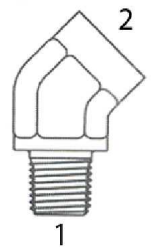


5503 Series

MP-FP 45° Street Elbow

SAE 140339

Item Number	HH Item Number	1	
		Male Pipe	Female Pipe
5503-02-02	2MP-2FP45	1/8-27	1/8-27
5503-02-04	2MP-4FP45	1/8-27	1/4-18
5503-04-04	4MP-4FP45	1/4-18	1/4-18
5503-06-06	6MP-6FP45	3/8-18	3/8-18
5503-08-06	8MP-6FP45	1/2-14	3/8-18
5503-08-08	8MP-8FP45	1/2-14	1/2-14
5503-12-12	12MP-12FP45	3/4-14	3/4-14
5503-16-16	16MP-16FP45	1-11 1/2	1-11 1/2
5503-20-20	20MP-20FP45	1 1/4-11 1/2	1 1/4-11 1/2
5503-24-24	24MP-24FP45	1 1/2-11 1/2	1 1/2-11 1/2
5503-32-32	32MP-32FP45	2-11 1/2	2-11 1/2



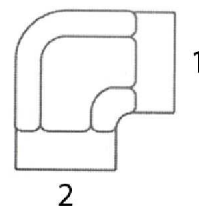
Pipe Fittings

5504 Series

FP-FP 90° Elbow

SAE 140238

Item Number	HH Item Number	Female Pipe Female Pipe	
		1	2
5504-02-02	2FP-2FP90	1/8-27	1/8-27
5504-04-02	4FP-2FP90	1/4-18	1/8-27
5504-04-04	4FP-4FP90	1/4-18	1/4-18
5504-06-02	6FP-2FP90	3/8-18	1/8-27
5504-06-04	6FP-4FP90	3/8-18	1/4-18
5504-06-06	6FP-6FP90	3/8-18	3/8-18
5504-08-04	8FP-4FP90	1/2-14	1/4-18
5504-08-06	8FP-6FP90	1/2-14	3/8-18
5504-08-08	8FP-8FP90	1/2-14	1/2-14
5504-12-06	12FP-6FP90	3/4-14	3/8-18
5504-12-08	12FP-8FP90	3/4-14	1/2-14
5504-12-12	12FP-12FP90	3/4-14	3/4-14
5504-16-08	16FP-8FP90	1-11 1/2	1/2-14
5504-16-12	16FP-12FP90	1-11 1/2	3/4-14
5504-16-16	16FP-16FP90	1-11 1/2	1-11 1/2
5504-20-12	20FP-12FP90	1 1/4-11 1/2	3/4-14
5504-20-16	20FP-16FP90	1 1/4-11 1/2	1-11 1/2
5504-20-20	20FP-20FP90	1 1/4-11 1/2	1 1/4-11 1/2
5504-24-20	24FP-20FP90	1 1/2-11 1/2	1 1/4-11 1/2
5504-24-24	24FP-24FP90	1 1/2-11 1/2	1 1/2-11 1/2
5504-32-32	32FP-32FP90	2-11 1/2	2-11 1/2

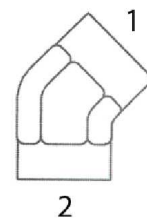


5505 Series

FP-FP 45° Elbow

SAE 140338

Item Number	HH Item Number	Female Pipe Female Pipe	
		1	2
5505-02-02	2FP-2FP45	1/8-27	1/8-27
5505-04-04	4FP-4FP45	1/4-18	1/4-18
5505-06-06	6FP-6FP45	3/8-18	3/8-18
5505-08-08	8FP-8FP45	1/2-14	1/2-14
5505-12-12	12FP-12FP45	3/4-14	3/4-14
5505-16-16	16FP-16FP45	1-11 1/2	1-11 1/2
5505-20-20	20FP-20FP45	1 1/4-11 1/2	1 1/4-11 1/2



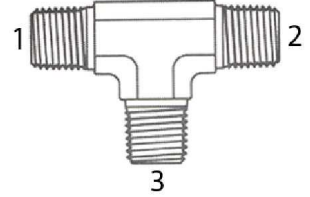
Pipe Fittings

5600 Series

MP-MP-MP Tee

SAE 140437

Item Number	HH Item Number	1 Male Pipe	2 Male Pipe	3 Male Pipe
5600-02-02-02	2MP-2MP-2MP	1/8-27	1/8-27	1/8-27
5600-04-04-04	4MP-4MP-4MP	1/4-18	1/4-18	1/4-18
5600-06-06-06	6MP-6MP-6MP	3/8-18	3/8-18	3/8-18
5600-08-08-08	8MP-8MP-8MP	1/2-14	1/2-14	1/2-14
5600-12-12-12	12MP-12MP-12MP	3/4-14	3/4-14	3/4-14
5600-16-16-16	16MP-16MP-16MP	1-11 1/2	1-11 1/2	1-11 1/2
5600-20-20-20	20MP-20MP-20MP	1 1/4-11 1/2	1 1/4-11 1/2	1 1/4-11 1/2
5600-32-32-32	32MP-32MP-32MP	2-11 1/2	2-11 1/2	2-11 1/2

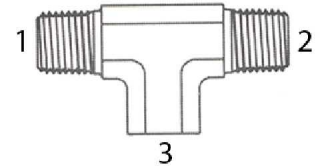


5601 Series

MP-MP-FP Tee Tee

SAE 140427

Item Number	HH Item Number	1 Male Pipe	2 Male Pipe	3 Female Pipe
5601-02-02-02	2MP-2MP-2FP	1/8-27	1/8-27	1/8-27
5601-04-04-04	4MP-4MP-4FP	1/4-18	1/4-18	1/4-18
5601-06-06-06	6MP-6MP-6FP	3/8-18	3/8-18	3/8-18
5601-08-08-08	8MP-8MP-8FP	1/2-14	1/2-14	1/2-14
5601-12-12-12	12MP-12MP-12FP	3/4-14	3/4-14	3/4-14
5601-16-16-16	16MP-16MP-16FP	1-11 1/2	1-11 1/2	1-11 1/2
5601-20-20-20	20MP-20MP-20FP	1 1/4-11 1/2	1 1/4-11 1/2	1 1/4-11 1/2
5601-24-24-24	24MP-24MP-24FP	1 1/2-11 1/2	1 1/2-11 1/2	1 1/2-11 1/2

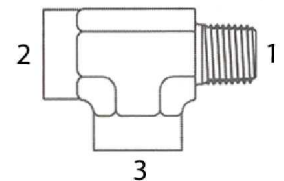


5602 Series

MP-FP-FP Street Tee

SAE 140424

Item Number	HH Item Number	1 Male Pipe	2 Female Pipe	3 Female Pipe
5602-02-02-02	2MP-2FP-2FP	1/8-27	1/8-27	1/8-27
5602-02-04-04	2MP-4FP-4FP	1/8-27	1/4-18	1/4-18
5602-04-04-02	4MP-4FP-2FP	1/4-18	1/4-18	1/8-27
5602-04-04-04	4MP-4FP-4FP	1/4-18	1/4-18	1/4-18
5602-06-04-06	6MP-4FP-6FP	3/8-18	1/4-18	3/8-18
5602-06-06-06	6MP-6FP-6FP	3/8-18	3/8-18	3/8-18
5602-08-08-08	8MP-8FP-8FP	1/2-14	1/2-14	1/2-14
5602-12-12-12	12MP-12FP-12FP	3/4-14	3/4-14	3/4-14
5602-16-16-16	16MP-16FP-16FP	1-11 1/2	1-11 1/2	1-11 1/2
5602-20-20-20	20MP-20FP-20FP	1 1/4-11 1/2	1 1/4-11 1/2	1 1/4-11 1/2
5602-24-24-24	24MP-24FP-24FP	1 1/2-11 1/2	1 1/2-11 1/2	1 1/2-11 1/2
5602-32-32-32	32MP-32FP-32FP	2-11 1/2	2-11 1/2	2-11 1/2



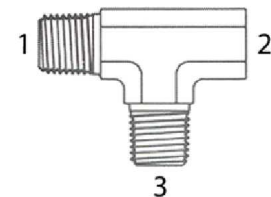
Pipe Fittings

5603 Series

MP-FP-MP Run Tee

SAE 140426

Item Number	HH Item Number	1	2	3
		Male Pipe	Female Pipe	Male Pipe
5603-02-02-02	2MP-2FP-2MP	1/8-27	1/8-27	1/8-27
5603-02-04-02	2MP-4FP-2MP	1/8-27	1/4-18	1/8-27
5603-04-02-04	4MP-2FP-4MP	1/4-18	1/8-27	1/4-18
5603-04-04-02	4MP-4FP-2MP	1/4-18	1/4-18	1/8-27
5603-04-04-04	4MP-4FP-4MP	1/4-18	1/4-18	1/4-18
5603-04-06-04	4MP-6FP-4MP	1/4-18	3/8-18	1/4-18
5603-06-04-06	6MP-4FP-6MP	3/8-18	1/4-18	3/8-18
5603-06-06-04	6MP-6FP-4MP	3/8-18	3/8-18	1/4-18
5603-06-06-06	6MP-6FP-6MP	3/8-18	3/8-18	3/8-18
5603-06-08-06	6MP-8FP-6MP	3/8-18	1/2-14	3/8-18
5603-08-06-08	8MP-6FP-8MP	1/2-14	3/8-18	1/2-14
5603-08-08-06	8MP-8FP-6MP	1/2-14	1/2-14	3/8-18
5603-08-08-08	8MP-8FP-8MP	1/2-14	1/2-14	1/2-14
5603-08-12-08	8MP-12FP-8MP	1/2-14	3/4-14	1/2-14
5603-12-08-12	12MP-8FP-12MP	3/4-14	1/2-14	3/4-14
5603-12-12-08	12MP-12FP-8MP	3/4-14	3/4-14	1/2-14
5603-12-12-12	12MP-12FP-12MP	3/4-14	3/4-14	3/4-14
5603-16-16-16	16MP-16FP-16MP	1-11 1/2	1-11 1/2	1-11 1/2
5603-20-20-20	20MP-20FP-20MP	1 1/4-11 1/2	1 1/4-11 1/2	1 1/4-11 1/2
5603-24-24-24	24MP-24FP-24MP	1 1/2-11 1/2	1 1/2-11 1/2	1 1/2-11 1/2
5603-32-32-32	32MP-32FP-32MP	2-11 1/2	2-11 1/2	2-11 1/2

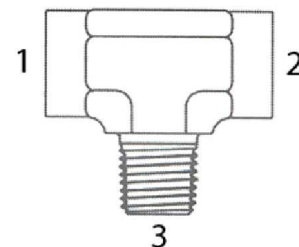


5604 Series

FP-FP-MP Tee Tee

SAE 140425

Item Number	HH Item Number	1	2	3
		Female Pipe	Female Pipe	Male Pipe
5604-02-02-02	2FP-2FP-2MP	1/8-27	1/8-27	1/8-27
5604-04-04-04	4FP-4FP-4MP	1/4-18	1/4-18	1/4-18
5604-06-06-06	6FP-6FP-6MP	3/8-18	3/8-18	3/8-18
5604-08-08-08	8FP-8FP-8MP	1/2-14	1/2-14	1/2-14
5604-12-12-08	12FP-12FP-8MP	3/4-14	3/4-14	1/2-14
5604-12-12-12	12FP-12FP-12MP	3/4-14	3/4-14	3/4-14
5604-16-16-16	16FP-16FP-16MP	1-11 1/2	1-11 1/2	1-11 1/2
5604-20-20-20	20FP-20FP-20MP	1 1/4-11 1/2	1 1/4-11 1/2	1 1/4-11 1/2
5604-24-24-24	24FP-24FP-24MP	1 1/2-11 1/2	1 1/2-11 1/2	1 1/2-11 1/2
5604-32-32-32	32FP-32FP-32MP	2-11 1/2	2-11 1/2	2-11 1/2



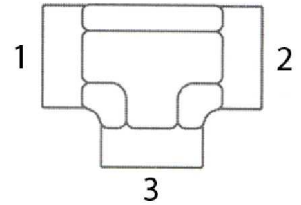
Pipe Fittings

5605 Series

FP-FP-FP Tee

SAE 140438

Item Number	HH Item Number	1	2	3
		Female Pipe	Female Pipe	Female Pipe
5605-02-02-02	2FP-2FP-2FP	1/8-27	1/8-27	1/8-27
5605-04-04-02	4FP-4FP-2FP	1/4-18	1/4-18	1/8-27
5605-04-04-04	4FP-4FP-4FP	1/4-18	1/4-18	1/4-18
5605-04-04-06	4FP-4FP-6FP	1/4-18	1/4-18	3/8-18
5605-06-06-06	6FP-6FP-6FP	3/8-18	3/8-18	3/8-18
5605-06-06-08	6FP-6FP-8FP	3/8-18	3/8-18	1/2-14
5605-08-08-06	8FP-8FP-6FP	1/2-14	1/2-14	3/8-18
5605-08-08-08	8FP-8FP-8FP	1/2-14	1/2-14	1/2-14
5605-12-12-12	12FP-12FP-12FP	3/4-14	3/4-14	3/4-14
5605-16-16-16	16FP-16FP-16FP	1-11 1/2	1-11 1/2	1-11 1/2
5605-20-20-20	20FP-20FP-20FP	1 1/4-11 1/2	1 1/4-11 1/2	1 1/4-11 1/2
5605-24-24-24	24FP-24FP-24FP	1 1/2-11 1/2	1 1/2-11 1/2	1 1/2-11 1/2
5605-32-32-32	32FP-32FP-32FP	2-11 1/2	2-11 1/2	2-11 1/2

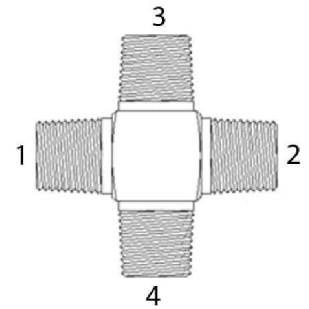


5650 Series

MP-MP-MP-MP Cross

SAE 140537

Item Number	HH Item Number	1	2	3	4
		Male Pipe	Male Pipe	Male Pipe	Male Pipe
5650-02-02-02-02	2MP-2MP-2MP-2MP	1/8-27	1/8-27	1/8-27	1/8-27
5650-04-04-04-04	4MP-4MP-4MP-4MP	1/4-18	1/4-18	1/4-18	1/4-18
5650-06-06-06-06	6MP-6MP-6MP-6MP	3/8-18	3/8-18	3/8-18	3/8-18
5650-08-08-08-08	8MP-8MP-8MP-8MP	1/2-14	1/2-14	1/2-14	1/2-14
5650-16-16-16-16	16MP-16MP-16MP-16MP	1-11 1/2	1-11 1/2	1-11 1/2	1-11 1/2

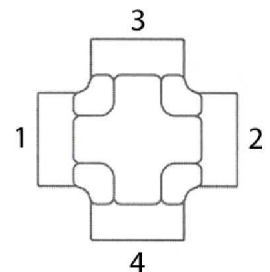


5652 Series

FP-FP-FP-FP Cross

SAE 140538

Item Number	HH Item Number	1	2	3	4
		Female Pipe	Female Pipe	Female Pipe	Female Pipe
5652-02-02-02-02	2FP-2FP-2FP-2FP	1/8-27	1/8-27	1/8-27	1/8-27
5652-04-04-04-04	4FP-4FP-4FP-4FP	1/4-18	1/4-18	1/4-18	1/4-18
5652-06-06-06-06	6FP-6FP-6FP-6FP	3/8-18	3/8-18	3/8-18	3/8-18
5652-08-08-08-08	8FP-8FP-8FP-8FP	1/2-14	1/2-14	1/2-14	1/2-14
5652-12-12-12-12	12FP-12FP-12FP-12FP	3/4-14	3/4-14	3/4-14	3/4-14
5652-16-16-16-16	16FP-16FP-16FP-16FP	1-11 1/2	1-11 1/2	1-11 1/2	1-11 1/2
5652-20-20-20-20	20FP-20FP-20FP-20FP	1 1/4-11 1/2	1 1/4-11 1/2	1 1/4-11 1/2	1 1/4-11 1/2
5652-24-24-24-24	24FP-24FP-24FP-24FP	1 1/2-11 1/2	1 1/2-11 1/2	1 1/2-11 1/2	1 1/2-11 1/2
5652-32-32-32-32	32FP-32FP-32FP-32FP	2-11 1/2	2-11 1/2	2-11 1/2	2-11 1/2

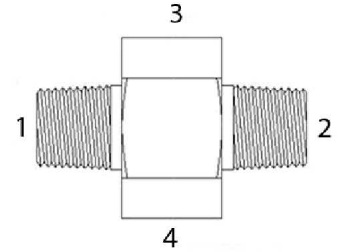


Pipe Fittings

5653 Series

MP-MP-FP-FP Cross

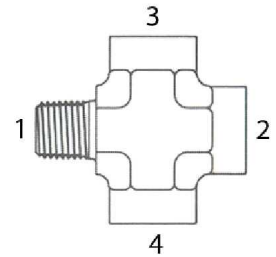
Item Number	HH Item Number	1 Male Pipe	2 Male Pipe	3 Female Pipe	4 Female Pipe
5653-04-04-04-04	4MP-4MP-4FP-4FP	1/4-18	1/4-18	1/4-18	1/4-18
5653-06-06-06-06	6MP-6MP-6FP-6FP	3/8-18	3/8-18	3/8-18	3/8-18



5655 Series

MP-FP-FP-FP Cross

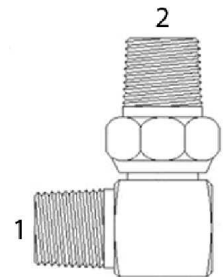
Item Number	HH Item Number	1 Male Pipe	2 Female Pipe	3 Female Pipe	4 Female Pipe
5655-04-04-04-04	4MP-4FP-4FP-4FP	1/4-18	1/4-18	1/4-18	1/4-18
5655-06-06-06-06	6MP-6FP-6FP-6FP	3/8-18	3/8-18	3/8-18	3/8-18
5655-08-08-08-08	8MP-8FP-8FP-8FP	1/2-14	1/2-14	1/2-14	1/2-14
5655-12-12-12-12	12MP-12FP-12FP-12FP	3/4-14	3/4-14	3/4-14	3/4-14
5655-16-16-16-16	16MP-16FP-16FP-16FP	1-11 1/2	1-11 1/2	1-11 1/2	1-11 1/2



5700 Series

MP-MPX 90° Elbow

Item Number	HH Item Number	1 Male Pipe	2 Male Pipe Swivel
5700-04-04	4MP-4MPX90	1/4-18	1/4-18
5700-06-06	6MP-6MPX90	3/8-18	3/8-18
5700-08-08	8MP-8MPX90	1/2-14	1/2-14
5700-12-12	12MP-12MPX90	3/4-14	3/4-14

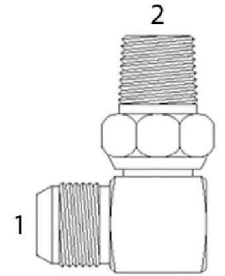


Pipe Fittings

5701 Series

MJ-MPX 90° Elbow

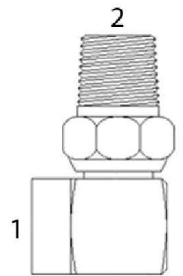
Item Number	HH Item Number	1 Male JIC	2 Male Pipe Swivel
5701-06-04	6MJ-4MPX90	9/16-18	1/4-18
5701-06-06	6MJ-6MPX90	9/16-18	3/8-18
5701-08-06	8MJ-6MPX90	3/4-16	3/8-18
5701-08-08	8MJ-8MPX90	3/4-16	1/2-14
5701-10-08	10MJ-8MPX90	7/8-14	1/2-14
5701-12-12	12MJ-12MPX90	1 1/16-12	3/4-14



5702 Series

FP-MPX 90° Elbow

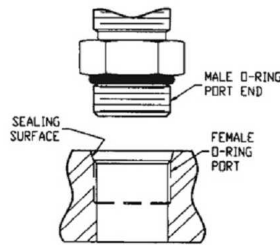
Item Number	HH Item Number	1 Female Pipe	2 Male Pipe Swivel
5702-04-04	4FP-4MPX90	1/4-18	1/4-18
5702-06-06	6FP-6MPX90	3/8-18	3/8-18
5702-08-08	8FP-8MPX90	1/2-14	1/2-14
5702-12-12	12FP-12MPX90	3/4-14	3/4-14



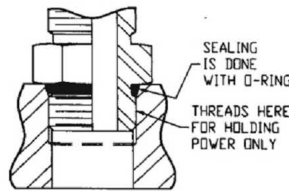
O-Ring Boss Fittings

O-Ring Boss Fittings

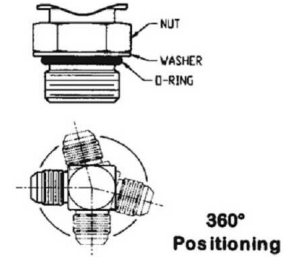
Fitting and Port



Assembled

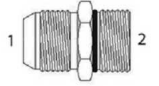
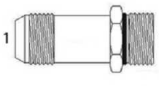
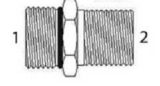
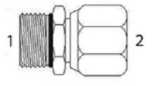
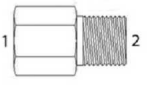
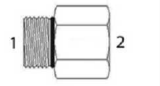
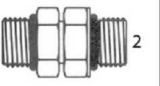

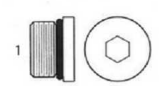
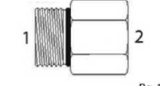

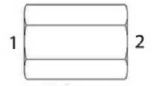


Adjustable ORB



The threads of the SAE straight thread O-Ring Boss and the straight thread 37° JIC Flare are the same threads. The difference is the way each thread seals. While the JIC seals on a metal-to-metal flare, the ORB seals on an O-ring. This type of seal offers the best leak free connection, even if small nicks and dings are found on the sealing surfaces of the ports. This O-ring connection is highly recommended for medium and high pressure systems. Since the seal takes place at the O-ring, and not the threads, the fitting can be used multiple times. Replace the O-ring and it is ready for service again. Minimal galling takes place because there is no crushing of metal, flare or otherwise, to obtain a seal. It is also superior in vibration and/or temperature cycling environments. Another superior advantage is that the elbows and tees have an adjustable ORB thread. This allows 360° positioning when tightening for an easy connection.

O-Ring Boss Fittings - Visual Identification Chart

<p>6400-O (070120)</p>  <p>MJ-MB Straight Pg.127</p>	<p>6400-L-O (070122)</p>  <p>MJ-MB Straight Long Pg.128</p>	<p>6401-O</p>  <p>MB-MP Straight Pg.129</p>	<p>6402-O (140230)</p>  <p>MB-FJX Straight Pg.130</p>	<p>6404</p>  <p>FB-MP Straight Pg.131</p>	<p>6405-O</p>  <p>MB-FP Straight Pg.132</p>	<p>6407-NWO</p>  <p>MB-MB Straight Pg.133</p>
<p>6408-O (090109A)</p>  <p>MB-External Hex Plug Pg.134</p>	<p>6409-O (090109B)</p>  <p>MB-Hollow Hex Plug Pg.134</p>	<p>6410-O</p>  <p>MB-FB Straight Reducer/Expander Pg.135</p>	<p>6420</p>  <p>FB-FP Straight Pg.136</p>	<p>6425</p>  <p>FB-FB Straight Pg.136</p>		

**Additional O-Ring Boss Fittings can be found on page 146.

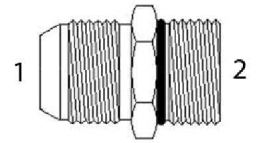
O-Ring Boss Fittings

6400-O Series

MJ-MB Straight

SAE 070120

Item Number	HH Item Number	Tube OD	1	
			Male JIC	Male ORB
6400-02-02-O	2MJ-2MB	1/8	5/16-24	5/16-24
6400-03-02-O	3MJ-2MB	3/16	3/8-24	5/16-24
6400-03-03-O	3MJ-3MB	3/16	3/8-24	3/8-24
6400-04-02-O	4MJ-2MB	1/4	7/16-20	5/16-24
6400-04-03-O	4MJ-3MB	1/4	7/16-20	3/8-24
6400-04-04-O	4MJ-4MB	1/4	7/16-20	7/16-20
6400-04-05-O	4MJ-5MB	1/4	7/16-20	1/2-20
6400-04-06-O	4MJ-6MB	1/4	7/16-20	9/16-18
6400-04-08-O	4MJ-8MB	1/4	7/16-20	3/4-16
6400-04-10-O	4MJ-10MB	1/4	7/16-20	7/8-14
6400-04-12-O	4MJ-12MB	1/4	7/16-20	1 1/16-12
6400-05-04-O	5MJ-4MB	5/16	1/2-20	7/16-20
6400-05-05-O	5MJ-5MB	5/16	1/2-20	1/2-20
6400-05-06-O	5MJ-6MB	5/16	1/2-20	9/16-18
6400-05-08-O	5MJ-8MB	5/16	1/2-20	3/4-16
6400-05-10-O	5MJ-10MB	5/16	1/2-20	7/8-14
6400-06-02-O	6MJ-2MB	3/8	9/16-18	5/16-24
6400-06-03-O	6MJ-3MB	3/8	9/16-18	3/8-24
6400-06-04-O	6MJ-4MB	3/8	9/16-18	7/16-20
6400-06-05-O	6MJ-5MB	3/8	9/16-18	1/2-20
6400-06-06-O	6MJ-6MB	3/8	9/16-18	9/16-18
6400-06-08-O	6MJ-8MB	3/8	9/16-18	3/4-16
6400-06-10-O	6MJ-10MB	3/8	9/16-18	7/8-14
6400-06-12-O	6MJ-12MB	3/8	9/16-18	1 1/16-12
6400-06-16-O	6MJ-16MB	3/8	9/16-18	1 5/16-12
6400-08-04-O	8MJ-4MB	1/2	3/4-16	7/16-20
6400-08-05-O	8MJ-5MB	1/2	3/4-16	1/2-20
6400-08-06-O	8MJ-6MB	1/2	3/4-16	9/16-18
6400-08-08-O	8MJ-8MB	1/2	3/4-16	3/4-16
6400-08-10-O	8MJ-10MB	1/2	3/4-16	7/8-14
6400-08-12-O	8MJ-12MB	1/2	3/4-16	1 1/16-12
6400-08-14-O	8MJ-14MB	1/2	3/4-16	1 3/16-12
6400-08-16-O	8MJ-16MB	1/2	3/4-16	1 5/16-12
6400-10-04-O	10MJ-4MB	5/8	7/8-14	7/16-20
6400-10-06-O	10MJ-6MB	5/8	7/8-14	9/16-18
6400-10-08-O	10MJ-8MB	5/8	7/8-14	3/4-16
6400-10-10-O	10MJ-10MB	5/8	7/8-14	7/8-14
6400-10-12-O	10MJ-12MB	5/8	7/8-14	1 1/16-12
6400-10-14-O	10MJ-14MB	5/8	7/8-14	1 3/16-12
6400-10-16-O	10MJ-16MB	5/8	7/8-14	1 5/16-12
6400-10-20-O	10MJ-20MB	5/8	7/8-14	1 5/8-12
6400-12-06-O	12MJ-6MB	3/4	1 1/16-12	9/16-18
6400-12-08-O	12MJ-8MB	3/4	1 1/16-12	3/4-16
6400-12-10-O	12MJ-10MB	3/4	1 1/16-12	7/8-14
6400-12-12-O	12MJ-12MB	3/4	1 1/16-12	1 1/16-12
6400-12-14-O	12MJ-14MB	3/4	1 1/16-12	1 3/16-12
6400-12-16-O	12MJ-16MB	3/4	1 1/16-12	1 5/16-12
6400-12-20-O	12MJ-20MB	3/4	1 1/16-12	1 5/8-12
6400-12-24-O	12MJ-24MB	3/4	1 1/16-12	1 7/8-12
6400-14-08-O	14MJ-8MB	7/8	1 3/16-12	3/4-16
6400-14-10-O	14MJ-10MB	7/8	1 3/16-12	7/8-14
6400-14-12-O	14MJ-12MB	7/8	1 3/16-12	1 1/16-12
6400-14-14-O	14MJ-14MB	7/8	1 3/16-12	1 3/16-12



O-Ring Boss Fittings

6400-O Series

MJ-MB Straight

SAE 070120

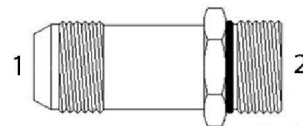
Item Number	HH Item Number	Tube OD	1		2	
			Male JIC	Male ORB	Male JIC	Male ORB
6400-14-16-O	14MJ-16MB	7/8	1 3/16-12	1 5/16-12		
6400-16-06-O	16MJ-6MB	1	1 5/16-12	9/16-18		
6400-16-08-O	16MJ-8MB	1	1 5/16-12	3/4-16		
6400-16-10-O	16MJ-10MB	1	1 5/16-12	7/8-14		
6400-16-12-O	16MJ-12MB	1	1 5/16-12	1 1/16-12		
6400-16-14-O	16MJ-14MB	1	1 5/16-12	1 3/16-12		
6400-16-16-O	16MJ-16MB	1	1 5/16-12	1 5/16-12		
6400-16-20-O	16MJ-20MB	1	1 5/16-12	1 5/8-12		
6400-16-24-O	16MJ-24MB	1	1 5/16-12	1 7/8-12		
6400-20-10-O	20MJ-10MB	1 1/4	1 5/8-12	7/8-14		
6400-20-12-O	20MJ-12MB	1 1/4	1 5/8-12	1 1/16-12		
6400-20-16-O	20MJ-16MB	1 1/4	1 5/8-12	1 5/16-12		
6400-20-20-O	20MJ-20MB	1 1/4	1 5/8-12	1 5/8-12		
6400-20-24-O	20MJ-24MB	1 1/4	1 5/8-12	1 7/8-12		
6400-24-16-O	24MJ-16MB	1 1/2	1 7/8-12	1 5/16-12		
6400-24-20-O	24MJ-20MB	1 1/2	1 7/8-12	1 5/8-12		
6400-24-24-O	24MJ-24MB	1 1/2	1 7/8-12	1 7/8-12		
6400-24-32-O	24MJ-32MB	1 1/2	1 7/8-12	2 1/2-12		
6400-32-24-O	32MJ-24MB	2	2 1/2-12	1 7/8-12		
6400-32-32-O	32MJ-32MB	2	2 1/2-12	2 1/2-12		

6400-L-O Series

MJ-MB Straight Long

SAE 070122

Item Number	HH Item Number	Tube OD	1		2	
			Male JIC	Male ORB	Male JIC	Male ORB
6400-L-04-04-O	4MJ-4MBL	1/4	7/16-20	7/16-20		
6400-L-05-05-O	5MJ-5MBL	5/16	1/2-20	1/2-20		
6400-L-06-04-O	6MJ-4MBL	3/8	9/16-18	7/16-20		
6400-L-06-06-O	6MJ-6MBL	3/8	9/16-18	9/16-18		
6400-L-06-08-O	6MJ-8MBL	3/8	9/16-18	3/4-16		
6400-L-06-10-O	6MJ-10MBL	3/8	9/16-18	7/8-14		
6400-L-08-06-O	8MJ-6MBL	1/2	3/4-16	9/16-18		
6400-L-08-08-O	8MJ-8MBL	1/2	3/4-16	3/4-16		
6400-L-08-10-O	8MJ-10MBL	1/2	3/4-16	7/8-14		
6400-L-10-10-O	10MJ-10MBL	5/8	7/8-14	7/8-14		
6400-L-10-12-O	10MJ-12MBL	5/8	7/8-14	1 1/16-12		
6400-L-10-16-O	10MJ-16MBL	5/8	7/8-14	1 5/16-12		
6400-L-12-10-O	12MJ-10MBL	3/4	1 1/16-12	7/8-14		
6400-L-12-12-O	12MJ-12MBL	3/4	1 1/16-12	1 1/16-12		
6400-L-12-16-O	12MJ-16MBL	3/4	1 1/16-12	1 5/16-12		
6400-L-14-14-O	14MJ-14MBL	7/8	1 3/16-12	1 3/16-12		
6400-L-16-16-O	16MJ-16MBL	1	1 5/16-12	1 5/16-12		
6400-L-20-20-O	20MJ-20MBL	1 1/4	1 5/8-12	1 5/8-12		
6400-L-24-24-O	24MJ-24MBL	1 1/2	1 7/8-12	1 7/8-12		

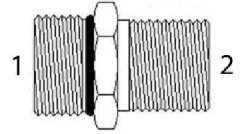


O-Ring Boss Fittings

6401-O Series

MB-MP Straight

Item Number	HH Item Number	1 Male ORB	2 Male Pipe
6401-02-02-O	2MB-2MP	5/16-24	1/8-27
6401-03-02-O	3MB-2MP	3/8-24	1/8-27
6401-04-02-O	4MB-2MP	7/16-20	1/8-27
6401-04-04-O	4MB-4MP	7/16-20	1/4-18
6401-05-02-O	5MB-2MP	1/2-20	1/8-27
6401-05-04-O	5MB-4MP	1/2-20	1/4-18
6401-06-02-O	6MB-2MP	9/16-18	1/8-27
6401-06-04-O	6MB-4MP	9/16-18	1/4-18
6401-06-06-O	6MB-6MP	9/16-18	3/8-18
6401-06-08-O	6MB-8MP	9/16-18	1/2-14
6401-08-04-O	8MB-4MP	3/4-16	1/4-18
6401-08-06-O	8MB-6MP	3/4-16	3/8-18
6401-08-08-O	8MB-8MP	3/4-16	1/2-14
6401-08-12-O	8MB-12MP	3/4-16	3/4-14
6401-10-04-O	10MB-4MP	7/8-14	1/4-18
6401-10-06-O	10MB-6MP	7/8-14	3/8-18
6401-10-08-O	10MB-8MP	7/8-14	1/2-14
6401-10-12-O	10MB-12MP	7/8-14	3/4-14
6401-12-06-O	12MB-6MP	1 1/16-12	3/8-18
6401-12-08-O	12MB-8MP	1 1/16-12	1/2-14
6401-12-12-O	12MB-12MP	1 1/16-12	3/4-14
6401-12-16-O	12MB-16MP	1 1/16-12	1-11 1/2
6401-14-12-O	14MB-12MP	1 3/16-12	3/4-14
6401-14-16-O	14MB-16MP	1 3/16-12	1-11 1/2
6401-16-12-O	16MB-12MP	1 5/16-12	3/4-14
6401-16-16-O	16MB-16MP	1 5/16-12	1-11 1/2
6401-16-20-O	16MB-20MP	1 5/16-12	1 1/4-11 1/2
6401-20-12-O	20MB-12MP	1 5/8-12	3/4-14
6401-20-16-O	20MB-16MP	1 5/8-12	1-11 1/2
6401-20-20-O	20MB-20MP	1 5/8-12	1 1/4-11 1/2
6401-20-24-O	20MB-24MP	1 5/8-12	1 1/2-11 1/2
6401-24-16-O	24MB-16MP	1 7/8-12	1-11 1/2
6401-24-20-O	24MB-20MP	1 7/8-12	1 1/4-11 1/2
6401-24-24-O	24MB-24MP	1 7/8-12	1 1/2-11 1/2
6401-32-32-O	32MB-32MP	2 1/2-12	2-11 1/2



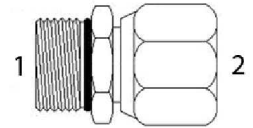
O-Ring Boss Fittings

6402-O Series

MB-FJX Straight

SAE 140230

Item Number	HH Item Number	Tube OD	1	2
			Male ORB	Female JIC Swivel
6402-04-04-O	4MB-4FJX	1/4	7/16-20	7/16-20
6402-04-06-O	4MB-6FJX	1/4	7/16-20	9/16-18
6402-05-05-O	5MB-5FJX	5/16	1/2-20	1/2-20
6402-06-04-O	6MB-4FJX	3/8	9/16-18	7/16-20
6402-06-06-O	6MB-6FJX	3/8	9/16-18	9/16-18
6402-06-08-O	6MB-8FJX	3/8	9/16-18	3/4-16
6402-08-06-O	8MB-6FJX	1/2	3/4-16	9/16-18
6402-08-08-O	8MB-8FJX	1/2	3/4-16	3/4-16
6402-10-08-O	10MB-8FJX	5/8	7/8-14	3/4-16
6402-10-10-O	10MB-10FJX	5/8	7/8-14	7/8-14
6402-12-10-O	12MB-10FJX	3/4	1 1/16-12	7/8-14
6402-12-12-O	12MB-12FJX	3/4	1 1/16-12	1 1/16-12
6402-14-14-O	14MB-14FJX	7/8	1 3/16-12	1 3/16-12
6402-16-12-O	16MB-12FJX	1	1 5/16-12	1 1/16-12
6402-16-16-O	16MB-16FJX	1	1 5/16-12	1 5/16-12
6402-20-20-O	20MB-20FJX	1 1/4	1 5/8-12	1 5/8-12
6402-24-24-O	24MB-24FJX	1 1/2	1 7/8-12	1 7/8-12
6402-32-32-O	32MB-32FJX	2	2 1/2-12	2 1/2-12

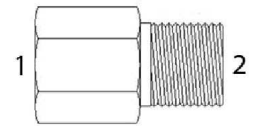


O-Ring Boss Fittings

6404 Series

FB-MP Straight

Item Number	HH Item Number	1 Female ORB	2 Male Pipe
6404-02-02	2FB-2MP	5/16-24	1/8-27
6404-03-06	3FB-6MP	3/8-24	3/8-18
6404-04-02	4FB-2MP	7/16-20	1/8-27
6404-04-04	4FB-4MP	7/16-20	1/4-18
6404-04-06	4FB-6MP	7/16-20	3/8-18
6404-05-02	5FB-2MP	1/2-20	1/8-27
6404-05-04	5FB-2MP	1/2-20	1/4-18
6404-05-06	5FB-6MP	1/2-20	3/8-18
6404-06-02	6FB-2MP	9/16-18	1/8-27
6404-06-04	6FB-4MP	9/16-18	1/4-18
6404-06-06	6FB-6MP	9/16-18	3/8-18
6404-06-08	6FB-8MP	9/16-18	1/2-14
6404-08-04	8FB-4MP	3/4-16	1/4-18
6404-08-06	8FB-6MP	3/4-16	3/8-18
6404-08-08	8FB-8MP	3/4-16	1/2-14
6404-08-12	8FB-12MP	3/4-16	3/4-14
6404-10-06	10FB-6MP	7/8-14	3/8-18
6404-10-08	10FB-8MP	7/8-14	1/2-14
6404-10-12	10FB-12MP	7/8-14	3/4-14
6404-10-16	10FB-16MP	7/8-14	1-11 1/2
6404-12-06	12FB-6MP	1 1/16-12	3/8-18
6404-12-08	12FB-8MP	1 1/16-12	1/2-14
6404-12-12	12FB-12MP	1 1/16-12	3/4-14
6404-12-16	12FB-16MP	1 1/16-12	1-11 1/2
6404-14-12	14FB-12MP	1 3/16-12	3/4-14
6404-16-12	16FB-12MP	1 5/16-12	3/4-14
6404-16-16	16FB-16MP	1 5/16-12	1-11 1/2
6404-16-20	16FB-20MP	1 5/16-12	1 1/4-11 1/2
6404-16-24	16FB-24MP	1 5/16-12	1 1/2-11 1/2
6404-20-16	20FB-16MP	1 5/8-12	1-11 1/2
6404-20-20	20FB-20MP	1 5/8-12	1 1/4-11 1/2
6404-24-24	24FB-24MP	1 7/8-12	1 1/2-11 1/2
6404-32-32	32FB-32MP	2 1/2-12	2-11 1/2

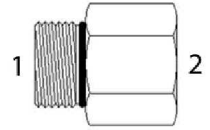


O-Ring Boss Fittings

6405-O Series

MB-FP Straight

Item Number	HH Item Number	1 Male ORB	2 Female Pipe
6405-02-02-O	2MB-2FP	5/16-24	1/8-27
6405-02-04-O	2MB-4FP	5/16-24	1/4-18
6405-03-02-O	3MB-2FP	3/8-24	1/8-27
6405-03-04-O	3MB-4FP	3/8-24	1/4-18
6405-04-02-O	4MB-2FP	7/16-20	1/8-27
6405-04-04-O	4MB-4FP	7/16-20	1/4-18
6405-04-06-O	4MB-6FP	7/16-20	3/8-18
6405-04-08-O	4MB-8FP	7/16-20	1/2-14
6405-05-02-O	5MB-2FP	1/2-20	1/8-27
6405-05-04-O	5MB-4FP	1/2-20	1/4-18
6405-05-06-O	5MB-6FP	1/2-20	3/8-18
6405-06-02-O	6MB-2FP	9/16-18	1/8-27
6405-06-04-O	6MB-4FP	9/16-18	1/4-18
6405-06-06-O	6MB-6FP	9/16-18	3/8-18
6405-06-08-O	6MB-8FP	9/16-18	1/2-14
6405-06-12-O	6MB-12FP	9/16-18	3/4-14
6405-08-02-O	8MB-2FP	3/4-16	1/8-27
6405-08-04-O	8MB-4FP	3/4-16	1/4-18
6405-08-06-O	8MB-6FP	3/4-16	3/8-18
6405-08-08-O	8MB-8FP	3/4-16	1/2-14
6405-08-12-O	8MB-12FP	3/4-16	3/4-14
6405-10-02-O	10MB-2FP	7/8-14	1/8-27
6405-10-04-O	10MB-4FP	7/8-14	1/4-18
6405-10-06-O	10MB-6FP	7/8-14	3/8-18
6405-10-08-O	10MB-8FP	7/8-14	1/2-14
6405-10-12-O	10MB-12FP	7/8-14	3/4-14
6405-12-04-O	12MB-4FP	1 1/16-12	1/4-18
6405-12-06-O	12MB-6FP	1 1/16-12	3/8-18
6405-12-08-O	12MB-8FP	1 1/16-12	1/2-14
6405-12-12-O	12MB-12FP	1 1/16-12	3/4-14
6405-12-16-O	12MB-16FP	1 1/16-12	1-11 1/2
6405-14-08-O	14MB-8FP	1 3/16-12	1/2-14
6405-14-12-O	14MB-12FP	1 3/16-12	3/4-14
6405-14-16-O	14MB-16FP	1 3/16-12	1-11 1/2
6405-16-04-O	16MB-4FP	1 5/16-12	1/4-18
6405-16-06-O	16MB-6FP	1 5/16-12	3/8-18
6405-16-08-O	16MB-8FP	1 5/16-12	1/2-14
6405-16-12-O	16MB-12FP	1 5/16-12	3/4-14
6405-16-16-O	16MB-16FP	1 5/16-12	1-11 1/2
6405-16-20-O	16MB-20FP	1 5/16-12	1 1/4-11 1/2
6405-16-24-O	16MB-24FP	1 5/16-12	1 1/2-11 1/2
6405-20-08-O	20MB-8FP	1 5/8-12	1/2-14
6405-20-12-O	20MB-12FP	1 5/8-12	3/4-14
6405-20-16-O	20MB-16FP	1 5/8-12	1-11 1/2
6405-20-20-O	20MB-20FP	1 5/8-12	1 1/4-11 1/2
6405-20-24-O	20MB-24FP	1 5/8-12	1 1/2-11 1/2
6405-20-32-O	20MB-32FP	1 5/8-12	2-11 1/2
6405-24-04-O	24MB-4FP	1 7/8-12	1/4-18
6405-24-12-O	24MB-12FP	1 7/8-12	3/4-14
6405-24-16-O	24MB-16FP	1 7/8-12	1-11 1/2
6405-24-20-O	24MB-20FP	1 7/8-12	1 1/4-11 1/2
6405-24-24-O	24MB-24FP	1 7/8-12	1 1/2-11 1/2
6405-24-32-O	24MB-32FP	1 7/8-12	2-11 1/2
6405-32-16-O	32MB-16FP	2 1/2-12	1-11 1/2



O-Ring Boss Fittings

6405-O Series

MB-FP Straight

Item Number	HH Item Number	1	2
		Male ORB	Female Pipe
6405-32-20-O	32MB-20FP	2 1/2-12	1 1/4-11 1/2
6405-32-24-O	32MB-24FP	2 1/2-12	1 1/2-11 1/2
6405-32-32-O	32MB-32FP	2 1/2-12	2-11 1/2

6407-NWO Series

MB-MB Straight

Item Number	HH Item Number	1	2
		Male ORB	Male ORB
6407-04-04-NWO	4MB-4MB	7/16-20	7/16-20
6407-05-05-NWO	5MB-5MB	1/2-20	1/2-20
6407-06-04-NWO	6MB-4MB	9/16-18	7/16-20
6407-06-06-NWO	6MB-6MB	9/16-18	9/16-18
6407-08-06-NWO	8MB-6MB	3/4-16	9/16-18
6407-08-08-NWO	8MB-8MB	3/4-16	3/4-16
6407-10-08-NWO	10MB-8MB	7/8-14	3/4-16
6407-10-10-NWO	10MB-10MB	7/8-14	7/8-14
6407-12-08-NWO	12MB-8MB	1 1/16-12	3/4-16
6407-12-10-NWO	12MB-10MB	1 1/16-12	7/8-14
6407-12-12-NWO	12MB-12MB	1 1/16-12	1 1/16-12
6407-14-14-NWO	14MB-14MB	1 3/16-12	1 3/16-12
6407-16-12-NWO	16MB-12MB	1 5/16-12	1 1/16-12
6407-16-16-NWO	16MB-16MB	1 5/16-12	1 5/16-12
6407-20-08-NWO	20MB-8MB	1 5/8-12	3/4-16
6407-20-12-NWO	20MB-12MB	1 5/8-12	1 1/16-12
6407-20-20-NWO	20MB-20MB	1 5/8-12	1 5/8-12
6407-20-24-NWO	20MB-24MB	1 5/8-12	1 7/8-12
6407-24-24-NWO	24MB-24MB	1 7/8-12	1 7/8-12
6407-32-32-NWO	32MB-32MB	2 1/2-12	2 1/2-12



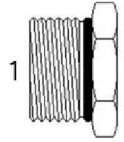
O-Ring Boss Fittings

6408-O Series

MB-External Hex Plug

SAE 090109A

Item Number	HH Item Number	1 Male ORB
6408-02-O	2MB-PLUG	5/16-24
6408-03-O	3MB-PLUG	3/8-24
6408-04-O	4MB-PLUG	7/16-20
6408-05-O	5MB-PLUG	1/2-20
6408-06-O	6MB-PLUG	9/16-18
6408-08-O	8MB-PLUG	3/4-16
6408-10-O	10MB-PLUG	7/8-14
6408-12-O	12MB-PLUG	1 1/16-12
6408-14-O	14MB-PLUG	1 3/16-12
6408-16-O	16MB-PLUG	1 5/16-12
6408-20-O	20MB-PLUG	1 5/8-12
6408-24-O	24MB-PLUG	1 7/8-12
6408-32-O	32MB-PLUG	2 1/2-12

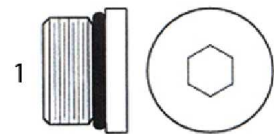


6409-O Series

MB-Hollow Hex Plug

SAE 090109B

Item Number	HH Item Number	1 Male ORB
6409-02-O	2MB-HHP	5/16-24
6409-03-O	3MB-HHP	3/8-24
6409-04-O	4MB-HHP	7/16-20
6409-05-O	5MB-HHP	1/2-20
6409-06-O	6MB-HHP	9/16-18
6409-08-O	8MB-HHP	3/4-16
6409-10-O	10MB-HHP	7/8-14
6409-12-O	12MB-HHP	1 1/16-12
6409-14-O	14MB-HHP	1 3/16-12
6409-16-O	16MB-HHP	1 5/16-12
6409-20-O	20MB-HHP	1 5/8-12
6409-24-O	24MB-HHP	1 7/8-12
6409-32-O	32MB-HHP	2 1/2-12

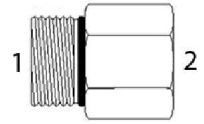


O-Ring Boss Fittings

6410-O Series

MB-FB Straight Reducer/Expander

Item Number	HH Item Number	1 Male ORB	2 Female ORB
6410-02-04-O	2MB-4FB	5/16-24	7/16-20
6410-03-04-O	3MB-4FB	3/8-24	7/16-20
6410-04-02-O	4MB-2FB	7/16-20	5/16-24
6410-04-04-O	4MB-4FB	7/16-20	7/16-20
6410-04-05-O	4MB-5FB	7/16-20	1/2-20
6410-04-06-O	4MB-6FB	7/16-20	9/16-18
6410-04-08-O	4MB-8FB	7/16-20	3/4-16
6410-05-04-O	5MB-4FB	1/2-20	7/16-20
6410-05-06-O	5MB-6FB	1/2-20	9/16-18
6410-06-04-O	6MB-4FB	9/16-18	7/16-20
6410-06-06-O	6MB-6FB	9/16-18	9/16-18
6410-06-08-O	6MB-8FB	9/16-18	3/4-16
6410-08-03-O	8MB-3FB	3/4-16	3/8-24
6410-08-04-O	8MB-4FB	3/4-16	7/16-20
6410-08-05-O	8MB-5FB	3/4-16	1/2-20
6410-08-06-O	8MB-6FB	3/4-16	9/16-18
6410-08-08-O	8MB-8FB	3/4-16	3/4-16
6410-08-10-O	8MB-10FB	3/4-16	7/8-14
6410-08-12-O	8MB-12FB	3/4-16	1 1/16-12
6410-10-04-O	10MB-4FB	7/8-14	7/16-20
6410-10-05-O	10MB-5FB	7/8-14	1/2-20
6410-10-06-O	10MB-6FB	7/8-14	9/16-18
6410-10-08-O	10MB-8FB	7/8-14	3/4-16
6410-10-12-O	10MB-12FB	7/8-14	1 1/16-12
6410-10-16-O	10MB-16FB	7/8-14	1 5/16-12
6410-12-04-O	12MB-4FB	1 1/16-12	7/16-20
6410-12-06-O	12MB-6FB	1 1/16-12	9/16-18
6410-12-08-O	12MB-8FB	1 1/16-12	3/4-16
6410-12-10-O	12MB-10FB	1 1/16-12	7/8-14
6410-12-12-O	12MB-12FB	1 1/16-12	1 1/16-12
6410-12-14-O	12MB-14FB	1 1/16-12	1 3/16-12
6410-12-16-O	12MB-16FB	1 1/16-12	1 5/16-12
6410-12-20-O	12MB-20FB	1 1/16-12	1 5/8-12
6410-14-08-O	14MB-8FB	1 3/16-12	3/4-16
6410-14-10-O	14MB-10FB	1 3/16-12	7/8-14
6410-14-12-O	14MB-12FB	1 3/16-12	1 1/16-12
6410-14-16-O	14MB-16FB	1 3/16-12	1 5/16-12
6410-16-04-O	16MB-4FB	1 5/16-12	7/16-20
6410-16-06-O	16MB-6FB	1 5/16-12	9/16-18
6410-16-08-O	16MB-8FB	1 5/16-12	3/4-16
6410-16-10-O	16MB-10FB	1 5/16-12	7/8-14
6410-16-12-O	16MB-12FB	1 5/16-12	1 1/16-12
6410-16-14-O	16MB-14FB	1 5/16-12	1 3/16-12
6410-16-16-O	16MB-16FB	1 5/16-12	1 5/16-12
6410-16-20-O	16MB-20FB	1 5/16-12	1 5/8-12
6410-16-24-O	16MB-24FB	1 5/16-12	1 7/8-12
6410-20-06-O	20MB-6FB	1 5/8-12	9/16-18
6410-20-08-O	20MB-8FB	1 5/8-12	3/4-16
6410-20-10-O	20MB-10FB	1 5/8-12	7/8-14
6410-20-12-O	20MB-12FB	1 5/8-12	1 1/16-12
6410-20-16-O	20MB-16FB	1 5/8-12	1 5/16-12
6410-20-24-O	20MB-24FB	1 5/8-12	1 7/8-12
6410-24-06-O	24MB-6FB	1 7/8-12	9/16-18
6410-24-08-O	24MB-8FB	1 7/8-12	3/4-16



O-Ring Boss Fittings

6410-O Series

MB-FB Straight Reducer/Expander

Item Number	HH Item Number	1 Male ORB	2 Female ORB
6410-24-10-O	24MB-10FB	1 7/8-12	7/8-14
6410-24-12-O	24MB-12FB	1 7/8-12	1 1/16-12
6410-24-16-O	24MB-16FB	1 7/8-12	1 5/16-12
6410-24-20-O	24MB-20FB	1 7/8-12	1 5/8-12
6410-24-24-O	24MB-24FB	1 7/8-12	1 7/8-12
6410-32-12-O	32MB-12FB	2 1/2-12	1 1/16-12
6410-32-16-O	32MB-16FB	2 1/2-12	1 5/16-12
6410-32-20-O	32MB-20FB	2 1/2-12	1 5/8-12
6410-32-24-O	32MB-24FB	2 1/2-12	1 7/8-12

6420 Series

FB-FP Straight

Item Number	HH Item Number	1 Female ORB	2 Female Pipe
6420-06-06	6FB-6FP	9/16-18	3/8-18
6420-08-08	8FB-8FP	3/4-16	1/2-14
6420-10-08	10FB-8FP	7/8-14	1/2-14



6425 Series

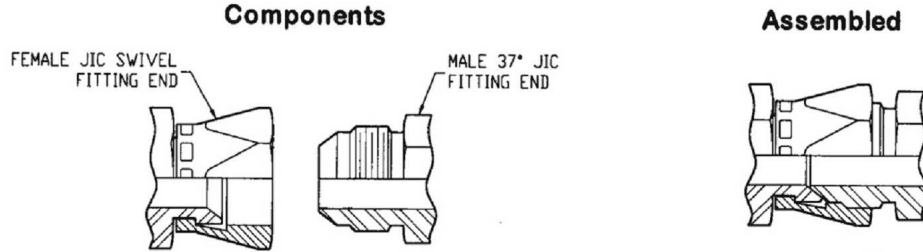
FB-FB Straight

Item Number	HH Item Number	1 Female ORB	2 Female ORB
6425-08-08	8FB-8FB	3/4-16	3/4-16
6425-10-10	10FB-10FB	7/8-14	7/8-14
6425-16-16	16FB-16FB	1 5/16-12	1 5/16-12



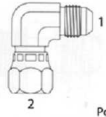
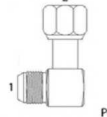
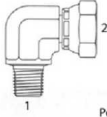
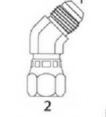
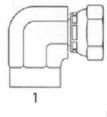
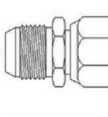
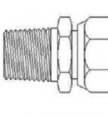
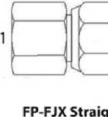

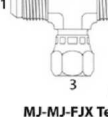


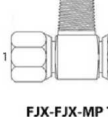
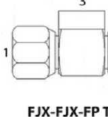
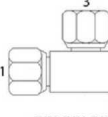
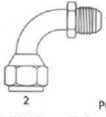
37° JIC Swivels

37° JIC Swivels



The 37° Female JIC Swivel (FJX) is designed to accept a male 37° JIC flare. No tube nut or sleeve is required as the swivel nut is permanently crimped onto a body containing a female 37° flare. It even uses the same torque values, which are found with 37° JIC Flare fitting.

37° JIC Swivels - Visual Identification Chart

<p>6500 (070221)</p>  <p>Pg. 138</p> <p>MJ-FJX 90°</p>	<p>6500-L</p>  <p>Pg. 138</p> <p>MJ-FJX 90° Long</p>	<p>6501</p>  <p>Pg. 139</p> <p>MP-FJX 90°</p>	<p>6502 (070321)</p>  <p>Pg. 139</p> <p>MP-FJX 45°</p>	<p>6503</p>  <p>Pg. 140</p> <p>FP-FJX 90°</p>	<p>6504</p>  <p>Pg. 140</p> <p>MJ-FJX Straight</p>	<p>6505</p>  <p>Pg. 141</p> <p>MP-FJX Straight</p>
<p>6506</p>  <p>Pg. 141</p> <p>FP-FJX Straight</p>	<p>6565</p>  <p>Pg. 142</p> <p>FJX-FJX Straight</p>	<p>6600 (070433)</p>  <p>Pg. 142</p> <p>MJ-MJ-FJX Tee</p>	<p>6602 (070432)</p>  <p>Pg. 143</p> <p>MJ-FJX-MJ Tee</p>	<p>6603</p>  <p>Pg. 143</p> <p>FJX-FJX-MJ Tee</p>	<p>6604</p>  <p>Pg. 144</p> <p>FJX-FJX-MP Tee</p>	<p>6605</p>  <p>Pg. 144</p> <p>FJX-FJX-FP Tee</p>
<p>6606 (070432)</p>  <p>Pg. 144</p> <p>FJX-FJX-FJX Tee</p>	<p>6701 (070432)</p>  <p>Pg. 145</p> <p>MJ-FJX Bent Tube 90°</p>					

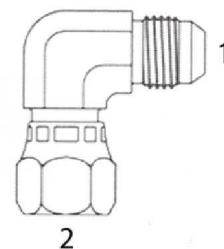
37° JIC Swivels

6500 Series

MJ-FJX 90°

SAE 070221

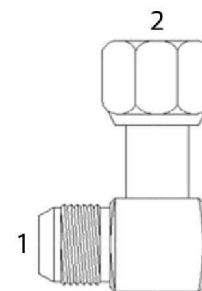
Item Number	HH Item Number	Tube OD	Swivel	
			1 Male JIC	2 Female JIC
6500-02-02	2MJ-2FJX90	1/8	5/16-24	5/16-24
6500-03-03	3MJ-3FJX90	3/16	3/8-24	3/8-24
6500-04-04	4MJ-4FJX90	1/4	7/16-20	7/16-20
6500-04-06	4MJ-6FJX90	1/4 x 3/8	7/16-20	9/16-18
6500-05-05	5MJ-5FJX90	5/16	1/2-20	1/2-20
6500-05-06	5MJ-6FJX90	5/16 x 3/8	1/2-20	9/16-18
6500-06-04	6MJ-4FJX90	3/8 x 1/4	9/16-18	7/16-20
6500-06-06	6MJ-6FJX90	3/8	9/16-18	9/16-18
6500-06-08	6MJ-8FJX90	3/8 x 1/2	9/16-18	3/4-16
6500-08-06	8MJ-6FJX90	1/2 x 3/8	3/4-16	9/16-18
6500-08-08	8MJ-8FJX90	1/2	3/4-16	3/4-16
6500-08-10	8MJ-10FJX90	1/2 x 5/8	3/4-16	7/8-14
6500-08-12	8MJ-12FJX90	1/2 x 3/4	3/4-16	1 1/16-12
6500-10-08	10MJ-8FJX90	5/8 x 1/2	7/8-14	3/4-16
6500-10-10	10MJ-10FJX90	5/8	7/8-14	7/8-14
6500-10-12	10MJ-12FJX90	5/8 x 3/4	7/8-14	1 1/16-12
6500-12-08	12MJ-8FJX90	3/4 x 1/2	1 1/16-12	3/4-16
6500-12-10	12MJ-10FJX90	3/4 x 5/8	1 1/16-12	7/8-14
6500-12-12	12MJ-12FJX90	3/4	1 1/16-12	1 1/16-12
6500-12-16	12MJ-16FJX90	3/4 x 1	1 1/16-12	1 5/16-12
6500-14-14	14MJ-14FJX90	7/8	1 3/16-12	1 3/16-12
6500-16-12	16MJ-12FJX90	1 x 3/4	1 5/16-12	1 1/16-12
6500-16-16	16MJ-16FJX90	1	1 5/16-12	1 5/16-12
6500-20-20	20MJ-20FJX90	1 1/4	1 5/8-12	1 5/8-12
6500-24-24	24MJ-24FJX90	1 1/2	1 7/8-12	1 7/8-12
6500-32-32	32MJ-32FJX90	2	2 1/2-12	2 1/2-12



6500-L Series

MJ-FJX 90° Long

Item Number	HH Item Number	Tube OD	Swivel	
			1 Male JIC	2 Female JIC
6500-L-04-04	4MJ-4FJX90L	1/4	7/16-20	7/16-20
6500-L-06-06	6MJ-6FJX90L	3/8	9/16-18	9/16-18
6500-L-08-08	8MJ-8FJX90L	1/2	3/4-16	3/4-16
6500-L-10-10	10MJ-10FJX90L	5/8	7/8-14	7/8-14
6500-L-12-12	12MJ-12FJX90L	3/4	1 1/16-12	1 1/16-12
6500-L-16-16	16MJ-16FJX90L	1	1 5/16-12	1 5/16-12

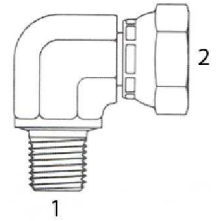


37° JIC Swivels

6501 Series

MP-FJX 90°

Item Number	HH Item Number	Tube OD	1 Male Pipe	2 Female JIC Swivel
6501-02-04	2MP-4F]X90	1/4	1/8-27	7/16-20
6501-02-05	2MP-5F]X90	5/16	1/8-27	1/2-20
6501-04-04	4MP-4F]X90	1/4	1/4-18	7/16-20
6501-04-05	4MP-5F]X90	5/16	1/4-18	1/2-20
6501-04-06	4MP-6F]X90	3/8	1/4-18	9/16-18
6501-06-04	6MP-4F]X90	1/4	3/8-18	7/16-20
6501-06-06	6MP-6F]X90	3/8	3/8-18	9/16-18
6501-06-08	6MP-8F]X90	1/2	3/8-18	3/4-16
6501-08-06	8MP-6F]X90	3/8	1/2-14	9/16-18
6501-08-08	8MP-8F]X90	1/2	1/2-14	3/4-16
6501-08-10	8MP-10F]X90	5/8	1/2-14	7/8-14
6501-08-12	8MP-12F]X90	3/4	1/2-14	1 1/16-12
6501-12-12	12MP-12F]X90	3/4	3/4-14	1 1/16-12
6501-12-14	12MP-14F]X90	7/8	3/4-14	1 3/16-12
6501-16-16	16MP-16F]X90	1	1-11 1/2	1 5/16-12
6501-20-20	20MP-20F]X90	1 1/4	1 1/4-11 1/2	1 5/8-12
6501-24-24	24MP-24F]X90	1 1/2	1 1/2-11 1/2	1 7/8-12
6501-32-32	32MP-32F]X90	2	2-11 1/2	2 1/2-12

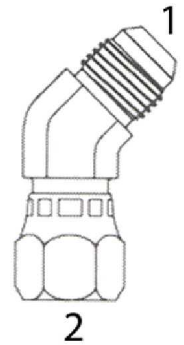


6502 Series

MJ-FJX 45°

SAE 070321

Item Number	HH Item Number	Tube OD	1 Male JIC	2 Female JIC Swivel
6502-02-02	2MJ-2F]X45	1/8	5/16-24	5/16-24
6502-04-04	4MJ-4F]X45	1/4	7/16-20	7/16-20
6502-05-05	5MJ-5F]X45	5/16	1/2-20	1/2-20
6502-06-06	6MJ-6F]X45	3/8	9/16-18	9/16-18
6502-08-08	8MJ-8F]X45	1/2	3/4-16	3/4-16
6502-10-08	10MJ-8F]X45	5/8 x 1/2	7/8-14	3/4-16
6502-10-10	10MJ-10F]X45	5/8	7/8-14	7/8-14
6502-12-12	12MJ-12F]X45	3/4	1 1/16-12	1 1/16-12
6502-14-14	14MJ-14F]X45	7/8	1 3/16-12	1 3/16-12
6502-16-16	16MJ-16F]X45	1	1 5/16-12	1 5/16-12
6502-20-20	20MJ-20F]X45	1 1/4	1 5/8-12	1 5/8-12
6502-24-24	24MJ-24F]X45	1 1/2	1 7/8-12	1 7/8-12
6502-32-32	32MJ-32F]X45	2	2 1/2-12	2 1/2-12

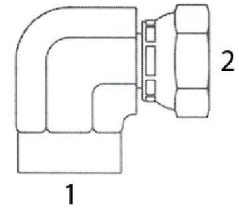


37° JIC Swivels

6503 Series

FP-FJX 90°

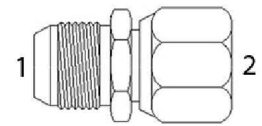
Item Number	HH Item Number	Tube OD	Female Pipe Female JIC Swivel	
			1	2
6503-02-04	2FP-4FJX90	1/4	1/8-27	7/16-20
6503-04-04	4FP-4FJX90	1/4	1/4-18	7/16-20
6503-04-05	4FP-5FJX90	5/16	1/4-18	1/2-20
6503-04-06	4FP-6FJX90	3/8	1/4-18	9/16-18
6503-06-06	6FP-6FJX90	3/8	3/8-18	9/16-18
6503-06-08	6FP-8FJX90	1/2	3/8-18	3/4-16
6503-08-06	8FP-6FJX90	3/8	1/2-14	9/16-18
6503-08-08	8FP-8FJX90	1/2	1/2-14	3/4-16
6503-08-10	8FP-10FJX90	5/8	1/2-14	7/8-14
6503-12-12	12FP-12FJX90	3/4	3/4-14	1 1/16-12
6503-16-16	16FP-16FJX90	1	1-11 1/2	1 5/16-12



6504 Series

MJ-FJX Straight

Item Number	HH Item Number	Tube OD	Male JIC Female JIC Swivel	
			1	2
6504-04-04	4MJ-4FJX	1/4	7/16-20	7/16-20
6504-05-05	5MJ-5FJX	5/16	1/2-20	1/2-20
6504-06-06	6MJ-6FJX	3/8	9/16-18	9/16-18
6504-06-08	6MJ-8FJX	3/8	9/16-18	3/4-16
6504-08-06	8MJ-6FJX	1/2	3/4-16	9/16-18
6504-08-08	8MJ-8FJX	1/2	3/4-16	3/4-16
6504-08-12	8MJ-12FJX	1/2	3/4-16	1 1/16-12
6504-08-16	8MJ-16FJX	1/2	3/4-16	1 5/16-12
6504-10-10	10MJ-10FJX	5/8	7/8-14	7/8-14
6504-12-12	12MJ-12FJX	3/4	1 1/16-12	1 1/16-12
6504-12-16	12MJ-16FJX	3/4	1 1/16-12	1 5/16-12
6504-16-16	16MJ-16FJX	1	1 5/16-12	1 5/16-12
6504-20-20	20MJ-20FJX	1 1/4	1 5/8-12	1 5/8-12
6504-24-24	24MJ-24FJX	1 1/2	1 7/8-12	1 7/8-12
6504-32-32	32MJ-32FJX	2	2 1/2-12	2 1/2-12

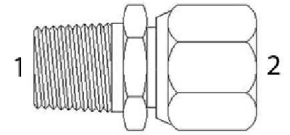


37° JIC Swivels

6505 Series

MP-FJX Straight

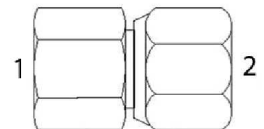
Item Number	HH Item Number	Tube OD	1 Male Pipe	2 Female JIC Swivel
6505-02-04	2MP-4FJX	1/4	1/8-27	7/16-20
6505-02-05	2MP-5FJX	5/16	1/8-27	1/2-20
6505-04-04	4MP-4FJX	1/4	1/4-18	7/16-20
6505-04-05	4MP-5FJX	5/16	1/4-18	1/2-20
6505-04-06	4MP-6FJX	3/8	1/4-18	9/16-18
6505-06-06	6MP-6FJX	3/8	3/8-18	9/16-18
6505-06-08	6MP-8FJX	1/2	3/8-18	3/4-16
6505-06-10	6MP-10FJX	5/8	3/8-18	7/8-14
6505-08-08	8MP-8FJX	1/2	1/2-14	3/4-16
6505-08-10	8MP-10FJX	5/8	1/2-14	7/8-14
6505-08-12	8MP-12FJX	3/4	1/2-14	1 1/16-12
6505-12-10	12MP-10FJX	5/8	3/4-14	7/8-14
6505-12-12	12MP-12FJX	3/4	3/4-14	1 1/16-12
6505-12-14	12MP-14FJX	7/8	3/4-14	1 3/16-12
6505-12-16	12MP-16FJX	1	3/4-14	1 5/16-12
6505-16-16	16MP-16FJX	1	1-11 1/2	1 5/8-12
6505-20-20	20MP-20FJX	1 1/4	1 1/4-11 1/2	1 5/8-12
6505-24-24	24MP-24FJX	1 1/2	1 1/2-11 1/2	1 7/8-12
6505-32-32	32MP-32FJX	2	2-11 1/2	2 1/2-12



6506 Series

FP-FJX Straight

Item Number	HH Item Number	Tube OD	1 Female Pipe	2 Female JIC Swivel
6506-02-04	2FP-4FJX	1/4	1/8-27	7/16-20
6506-04-04	4FP-4FJX	1/4	1/4-18	7/16-20
6506-04-05	4FP-5FJX	5/16	1/4-18	1/2-20
6506-04-06	4FP-6FJX	3/8	1/4-18	9/16-18
6506-06-04	6FP-4FJX	1/4	3/8-18	7/16-20
6506-06-06	6FP-6FJX	3/8	3/8-18	9/16-18
6506-06-08	6FP-8FJX	1/2	3/8-18	3/4-16
6506-06-10	6FP-10FJX	5/8	3/8-18	7/8-14
6506-08-06	8FP-6FJX	3/8	1/2-14	9/16-18
6506-08-08	8FP-8FJX	1/2	1/2-14	3/4-16
6506-08-10	8FP-10FJX	5/8	1/2-14	7/8-14
6506-08-12	8FP-12FJX	3/4	1/2-14	1 1/16-12
6506-12-08	12FP-8FJX	1/2	3/4-14	3/4-16
6506-12-10	12FP-10FJX	5/8	3/4-14	7/8-14
6506-12-12	12FP-12FJX	3/4	3/4-14	1 1/16-12
6506-12-14	12FP-14FJX	7/8	3/4-14	1 3/16-12
6506-12-16	12FP-16FJX	1	3/4-14	1 5/16-12
6506-16-16	16FP-16FJX	1	1-11 1/2	1 5/8-12
6506-20-20	20FP-20FJX	1 1/4	1 1/4-11 1/2	1 5/8-12
6506-24-24	24FP-24FJX	1 1/2	1 1/2-11 1/2	1 7/8-12
6506-32-32	32FP-32FJX	2	2-11 1/2	2 1/2-12

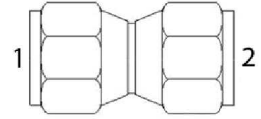


37° JIC Swivels

6565 Series

FJX-FJX Straight

Item Number	HH Item Number	Tube OD	1 Female JIC Swivel	2 Female JIC Swivel
6565-04-04	4FJX-4FJX	1/4	7/16-20	7/16-20
6565-06-06	6FJX-6FJX	3/8	9/16-18	9/16-18
6565-08-08	8FJX-8FJX	1/2	3/4-16	3/4-16
6565-10-10	10FJX-10FJX	5/8	7/8-14	7/8-14
6565-12-08	12FJX-8FJX	3/4 x 1/2	1 1/16-12	3/4-16
6565-12-12	12FJX-12FJX	3/4	1 1/16-12	1 1/16-12
6565-16-16	16FJX-16FJX	1	1 5/8-12	1 5/8-12
6565-20-20	20FJX-20FJX	1 1/4	1 5/8-12	1 5/8-12
6565-24-24	24FJX-24FJX	1 1/2	1 7/8-12	1 7/8-12
6565-32-32	32FJX-32FJX	2	2 1/2-12	2 1/2-12

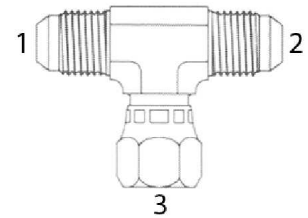


6600 Series

MJ-MJ-FJX Tee

SAE 070433

Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male JIC	3 Female JIC Swivel
6600-02-02-02	2MJ-2MJ-2FJX	1/8	5/16-24	5/16-24	5/16-24
6600-03-03-03	3MJ-3MJ-3FJX	3/16	3/8-24	3/8-24	3/8-24
6600-04-04-04	4MJ-4MJ-4FJX	1/4	7/16-20	7/16-20	7/16-20
6600-05-05-05	5MJ-5MJ-5FJX	5/16	1/2-20	1/2-20	1/2-20
6600-06-06-06	6MJ-6MJ-6FJX	3/8	9/16-18	9/16-18	9/16-18
6600-06-06-08	6MJ-6MJ-8FJX	3/8	9/16-18	9/16-18	3/4-16
6600-08-08-08	8MJ-8MJ-8FJX	1/2	3/4-16	3/4-16	3/4-16
6600-10-10-10	10MJ-10MJ-10FJX	5/8	7/8-14	7/8-14	7/8-14
6600-12-12-10	12MJ-12MJ-10FJX	3/4	1 1/16-12	1 1/16-12	7/8-14
6600-12-12-12	12MJ-12MJ-12FJX	3/4	1 1/16-12	1 1/16-12	1 1/16-12
6600-14-14-14	14MJ-14MJ-14FJX	7/8	1 3/16-12	1 3/16-12	1 3/16-12
6600-16-16-16	16MJ-16MJ-16FJX	1	1 5/8-12	1 5/8-12	1 5/8-12
6600-20-20-20	20MJ-20MJ-20FJX	1 1/4	1 5/8-12	1 5/8-12	1 5/8-12
6600-24-24-24	24MJ-24MJ-24FJX	1 1/2	1 7/8-12	1 7/8-12	1 7/8-12
6600-32-32-32	32MJ-32MJ-32FJX	2	2 1/2-12	2 1/2-12	2 1/2-12



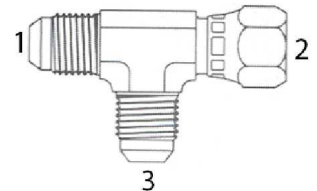
37° JIC Swivels

6602 Series

MJ-FJX-MJ Tee

SAE 070432

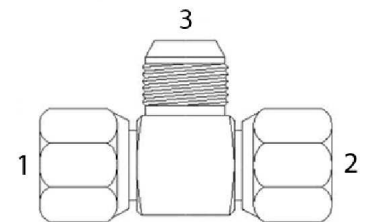
Item Number	HH Item Number	Tube OD	1 Male JIC	2 Female JIC Swivel	3 Male JIC
6602-03-03-03	3MJ-3F]X-3MJ	3/16	3/8-24	3/8-24	3/8-24
6602-04-04-04	4MJ-4F]X-4MJ	1/4	7/16-20	7/16-20	7/16-20
6602-04-10-10	4MJ-10F]X-10MJ	1/4 x 5/8	7/16-20	7/8-14	7/8-14
6602-04-12-12	4MJ-12F]X-12MJ	1/4 x 3/4	7/16-20	1 1/16-12	1 1/16-12
6602-05-05-04	5MJ-5F]X-4MJ	5/16	1/2-20	1/2-20	7/16-20
6602-05-05-05	5MJ-5F]X-5MJ	5/16	1/2-20	1/2-20	1/2-20
6602-06-06-04	6MJ-6F]X-4MJ	3/8	9/16-18	9/16-18	7/16-20
6602-06-06-06	6MJ-6F]X-6MJ	3/8	9/16-18	9/16-18	9/16-18
6602-06-08-08	6MJ-8F]X-8MJ	3/8 x 1/2	9/16-18	3/4-16	3/4-16
6602-08-08-04	8MJ-8F]X-4MJ	1/2	3/4-16	3/4-16	7/16-20
6602-08-08-06	8MJ-8F]X-6MJ	1/2	3/4-16	3/4-16	9/16-18
6602-08-08-08	8MJ-8F]X-8MJ	1/2	3/4-16	3/4-16	3/4-16
6602-08-08-12	8MJ-8F]X-12MJ	1/2	3/4-16	3/4-16	1 1/16-12
6602-08-12-12	8MJ-12F]X-12MJ	1/2 x 3/4	3/4-16	1 1/16-12	1 1/16-12
6602-10-10-10	10MJ-10F]X-10MJ	5/8	7/8-14	7/8-14	7/8-14
6602-10-10-12	10MJ-10F]X-12MJ	5/8	7/8-14	7/8-14	1 1/16-12
6602-12-12-04	12MJ-12F]X-4MJ	3/4	1 1/16-12	1 1/16-12	7/16-20
6602-12-12-12	12MJ-12F]X-12MJ	3/4	1 1/16-12	1 1/16-12	1 1/16-12
6602-14-14-14	14MJ-14F]X-14MJ	7/8	1 3/16-12	1 3/16-12	1 3/16-12
6602-16-16-10	16MJ-16F]X-10MJ	1	1 5/16-12	1 5/16-12	7/8-14
6602-16-16-12	16MJ-16F]X-12MJ	1	1 5/16-12	1 5/16-12	1 1/16-12
6602-16-16-16	16MJ-16F]X-16MJ	1	1 5/16-12	1 5/16-12	1 5/16-12
6602-20-20-20	20MJ-20F]X-20MJ	1 1/4	1 5/8-12	1 5/8-12	1 5/8-12
6602-24-24-12	24MJ-24F]X-12MJ	1 1/2	1 7/8-12	1 7/8-12	1 1/16-12
6602-24-24-24	24MJ-24F]X-24MJ	1 1/2	1 7/8-12	1 7/8-12	1 7/8-12
6602-32-32-32	32MJ-32F]X-32MJ	2	2 1/2-12	2 1/2-12	2 1/2-12



6603 Series

FJX-FJX-MJ Tee

Item Number	HH Item Number	Tube OD	1 Female JIC Swivel	2 Female JIC Swivel	3 Male JIC
6603-04-04-04	4F]X-4F]X-4MJ	1/4	7/16-20	7/16-20	7/16-20
6603-06-06-06	6F]X-6F]X-6MJ	3/8	9/16-18	9/16-18	9/16-18
6603-08-08-08	8F]X-8F]X-8MJ	1/2	3/4-16	3/4-16	3/4-16
6603-10-10-10	10F]X-10F]X-10MJ	5/8	7/8-14	7/8-14	7/8-14
6603-12-12-12	12F]X-12F]X-12MJ	3/4	1 1/16-12	1 1/16-12	1 1/16-12
6603-16-16-16	16F]X-16F]X-16MJ	1	1 5/16-12	1 5/16-12	1 5/16-12

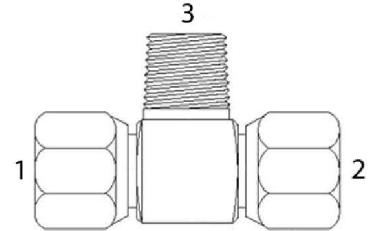


37° JIC Swivels

6604 Series

FJX-FJX-MP Tee

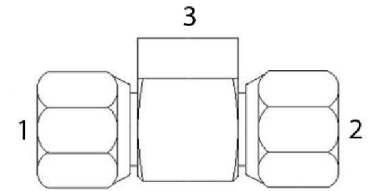
Item Number	HH Item Number	Tube OD	1 Female JIC Swivel	2 Female JIC Swivel	3 Male Pipe
6604-04-04-04	4FJX-4FJX-4MP	1/4	7/16-20	7/16-20	1/4-18
6604-06-06-06	6FJX-6FJX-6MP	3/8	9/16-18	9/16-18	3/8-18
6604-08-08-08	8FJX-8FJX-8MP	1/2	3/4-14	3/4-14	1/2-14
6604-12-12-12	12FJX-12FJX-12MP	3/4	1 1/16-12	1 1/16-12	3/4-14
6604-20-20-20	20FJX-20FJX-20MP	1 1/4	1 5/8-12	1 5/8-12	1 1/4-11 1/2



6605 Series

FJX-FJX-FP Tee

Item Number	HH Item Number	Tube OD	1 Female JIC Swivel	2 Female JIC Swivel	3 Female Pipe
6605-04-04-04	4FJX-4FJX-4FP	1/4	7/16-20	7/16-20	1/4-18

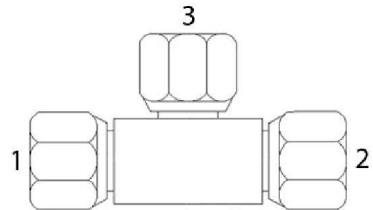


6606 Series

FJX-FJX-FJX Tee

SAE 070432

Item Number	HH Item Number	Tube OD	1 Female JIC Swivel	2 Female JIC Swivel	3 Female JIC Swivel
6606-04-04-04	4FJX-4FJX-4FJX	1/4	7/16-20	7/16-20	7/16-20
6606-06-06-06	6FJX-6FJX-6FJX	3/8	9/16-18	9/16-18	9/16-18
6606-08-08-08	8FJX-8FJX-8FJX	1/2	3/4-16	3/4-16	3/4-16
6606-10-10-10	10FJX-10FJX-10FJX	5/8	7/8-14	7/8-14	7/8-14
6606-12-12-12	12FJX-12FJX-12FJX	3/4	1 1/16-12	1 1/16-12	1 1/16-12
6606-16-16-16	16FJX-16FJX-16FJX	1	1 5/16-12	1 5/16-12	1 5/16-12



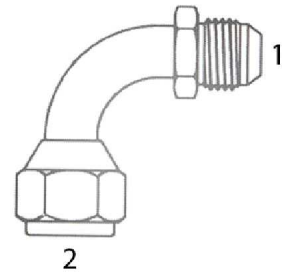
37° JIC Swivels

6701 Series

MJ-FJX Bent Tube 90°

SAE 070432

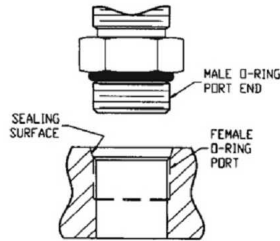
Item Number	HH Item Number	Tube OD	1	2
			Male JIC	Female JIC Swivel
6701-04-04	4MJ-4FJX90 BENT TUBE	1/4	7/16-20	7/16-20
6701-06-06	6MJ-6FJX90 BENT TUBE	3/8	9/16-18	9/16-18
6701-08-08	8MJ-8FJX90 BENT TUBE	1/2	3/4-16	3/4-16
6701-10-10	10MJ-10FJX90 BENT TUBE	5/8	7/8-14	7/8-14
6701-12-12	12MJ-12FJX90 BENT TUBE	3/4	1 1/16-12	1 1/16-12
6701-16-16	16MJ-16FJX90 BENT TUBE	1	1 5/16-12	1 5/16-12
6701-20-20	20MJ-20FJX90 BENT TUBE	1 1/4	1 5/8-12	1 5/8-12
6701-24-24	24MJ-24FJX90 BENT TUBE	1 1/2	1 7/8-12	1 7/8-12



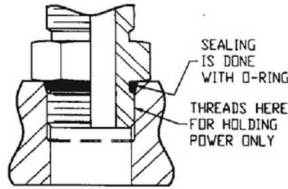
O-Ring Boss Fittings

O-Ring Boss Fittings

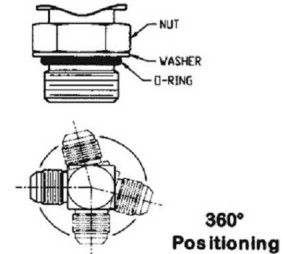
Fitting and Port



Assembled



Adjustable ORB



The threads of the SAE straight thread O-Ring Boss and the straight thread 37° JIC Flare are the same threads. The difference is the way each thread seals. While the JIC seals on a metal-to-metal flare, the ORB seals on an O-ring. This type of seal offers the best leak free connection, even if small nicks and dings are found on the sealing surfaces of the ports. This O-ring connection is highly recommended for medium and high pressure systems. Since the seal takes place at the O-ring, and not the threads, the fitting can be used multiple times. Replace the O-ring and it is ready for service again. Minimal galling takes place because there is no crushing of metal, flare or otherwise, to obtain a seal. It is also superior in vibration and/or temperature cycling environments. Another superior advantage is that the elbows and tees have an adjustable ORB thread. This allows 360° positioning when tightening for an easy connection.

O-Ring Boss Fittings - Visual Identification Chart

<p>6801-NWO (070220)</p> <p>2 MJ-MB 90° Pg. 147</p>	<p>6801-L-NWO</p> <p>2 MJ-MB 90° Long Pg. 148</p>	<p>6801-LL-NWO</p> <p>2 MJ-MB 90° X-Long Pg. 149</p>	<p>6801-LLL-NWO</p> <p>2 MJ-MB 90° XX-Long Pg. 149</p>	<p>6802-NWO (070320)</p> <p>2 MJ-MB 45° Pg. 150</p>	<p>6803-NWO (070429)</p> <p>3 MJ-MJ-MB Tee Pg. 151</p>	<p>6804-NWO (070428)</p> <p>3 MJ-MB-MJ Tee Pg. 152</p>
<p>6805-NWO</p> <p>1 MB-FP 90° Pg. 153</p>	<p>6805-L-NWO</p> <p>1 MB-FP 90° Long Pg. 153</p>	<p>6806-NWO</p> <p>1 MB-MP 90° Pg. 154</p>	<p>6807-NWO</p> <p>2 MB-MB 90° Pg. 154</p>	<p>6807-LL-NWO</p> <p>2 MB-MB 90° X-Long Pg. 155</p>	<p>6808-NWO</p> <p>2 MB-MB 45° Pg. 155</p>	<p>6809-NWO</p> <p>1 MB-FJX 90° Pg. 155</p>
<p>6810-NWO</p> <p>1 MB-FJX 45° Pg. 156</p>	<p>6815-NWO</p> <p>2 MB-FB 90° Pg. 156</p>	<p>6832-NWO</p> <p>3 FB-FB-MB Tee Pg. 156</p>	<p>6835-NWO</p> <p>3 MB-FB-FB Tee Pg. 157</p>	<p>6840-NWO</p> <p>3 MB-MB-MJ Tee Pg. 157</p>	<p>6850-NWO</p> <p>4 MJ-MJ-MB-MJ Cross Pg. 157</p>	<p>6900-O (140157)</p> <p>2 MB-FJX Straight Pg. 158</p>
<p>6901-NWO (140251)</p> <p>1 MB-FPX 90° Pg. 159</p>	<p>6902-NWO (140357)</p> <p>1 MB-FPX 45° Pg. 160</p>					

**Additional O-Ring Boss Fittings can be found on page 126.

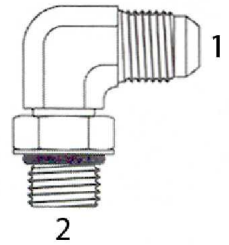
O-Ring Boss Fittings

6801-NWO Series

MJ-MB 90°

SAE 070220

Item Number	HH Item Number	Tube OD	1	
			Male JIC	Male ORB
6801-02-02-NWO	2MJ-2MB90	1/8	5/16-24	5/16-24
6801-02-04-NWO	2MJ-4MB90	1/8	5/16-24	7/16-20
6801-03-03-NWO	3MJ-3MB90	3/16	3/8-24	3/8-24
6801-03-04-NWO	3MJ-4MB90	3/16	3/8-24	7/16-20
6801-04-02-NWO	4MJ-2MB90	1/4	7/16-20	5/16-24
6801-04-03-NWO	4MJ-3MB90	1/4	7/16-20	3/8-24
6801-04-04-NWO	4MJ-4MB90	1/4	7/16-20	7/16-20
6801-04-05-NWO	4MJ-5MB90	1/4	7/16-20	1/2-20
6801-04-06-NWO	4MJ-6MB90	1/4	7/16-20	9/16-18
6801-04-08-NWO	4MJ-8MB90	1/4	7/16-20	3/4-16
6801-05-04-NWO	5MJ-4MB90	5/16	1/2-20	7/16-20
6801-05-05-NWO	5MJ-5MB90	5/16	1/2-20	1/2-20
6801-05-06-NWO	5MJ-6MB90	5/16	1/2-20	9/16-18
6801-05-08-NWO	5MJ-8MB90	5/16	1/2-20	3/4-16
6801-05-10-NWO	5MJ-10MB90	5/16	1/2-20	7/8-14
6801-06-02-NWO	6MJ-2MB90	3/8	9/16-18	5/16-24
6801-06-04-NWO	6MJ-4MB90	3/8	9/16-18	7/16-20
6801-06-05-NWO	6MJ-5MB90	3/8	9/16-18	1/2-20
6801-06-06-NWO	6MJ-6MB90	3/8	9/16-18	9/16-18
6801-06-08-NWO	6MJ-8MB90	3/8	9/16-18	3/4-16
6801-06-10-NWO	6MJ-10MB90	3/8	9/16-18	7/8-14
6801-06-12-NWO	6MJ-12MB90	3/8	9/16-18	1 1/16-12
6801-08-04-NWO	8MJ-4MB90	1/2	3/4-16	7/16-20
6801-08-05-NWO	8MJ-5MB90	1/2	3/4-16	1/2-20
6801-08-06-NWO	8MJ-6MB90	1/2	3/4-16	9/16-18
6801-08-08-NWO	8MJ-8MB90	1/2	3/4-16	3/4-16
6801-08-10-NWO	8MJ-10MB90	1/2	3/4-16	7/8-14
6801-08-12-NWO	8MJ-12MB90	1/2	3/4-16	1 1/16-12
6801-08-16-NWO	8MJ-16MB90	1/2	3/4-16	1 5/16-12
6801-10-06-NWO	10MJ-6MB90	5/8	7/8-14	9/16-18
6801-10-08-NWO	10MJ-8MB90	5/8	7/8-14	3/4-16
6801-10-10-NWO	10MJ-10MB90	5/8	7/8-14	7/8-14
6801-10-12-NWO	10MJ-12MB90	5/8	7/8-14	1 1/16-12
6801-10-16-NWO	10MJ-16MB90	5/8	7/8-14	1 5/16-12
6801-10-20-NWO	10MJ-20MB90	5/8	7/8-14	1 5/8-12
6801-12-06-NWO	12MJ-6MB90	3/4	1 1/16-12	9/16-18
6801-12-08-NWO	12MJ-8MB90	3/4	1 1/16-12	3/4-16
6801-12-10-NWO	12MJ-10MB90	3/4	1 1/16-12	7/8-14
6801-12-12-NWO	12MJ-12MB90	3/4	1 1/16-12	1 1/16-12
6801-12-14-NWO	12MJ-14MB90	3/4	1 1/16-12	1 3/16-12
6801-12-16-NWO	12MJ-16MB90	3/4	1 1/16-12	1 5/16-12
6801-12-20-NWO	12MJ-20MB90	3/4	1 1/16-12	1 5/8-12
6801-14-12-NWO	14MJ-12MB90	7/8	1 3/16-12	1 1/16-12
6801-14-14-NWO	14MJ-14MB90	7/8	1 3/16-12	1 3/16-12
6801-14-16-NWO	14MJ-16MB90	7/8	1 3/16-12	1 5/16-12
6801-16-08-NWO	16MJ-8MB90	1	1 5/16-12	3/4-16
6801-16-10-NWO	16MJ-10MB90	1	1 5/16-12	7/8-14
6801-16-12-NWO	16MJ-12MB90	1	1 5/16-12	1 1/16-12
6801-16-14-NWO	16MJ-14MB90	1	1 5/16-12	1 3/16-12
6801-16-16-NWO	16MJ-16MB90	1	1 5/16-12	1 5/16-12
6801-16-20-NWO	16MJ-20MB90	1	1 5/16-12	1 5/8-12
6801-16-24-NWO	16MJ-24MB90	1	1 5/16-12	1 7/8-12
6801-20-12-NWO	20MJ-12MB90	1 1/4	1 5/8-12	1 1/16-12



O-Ring Boss Fittings

6801-NWO Series

MJ-MB 90°

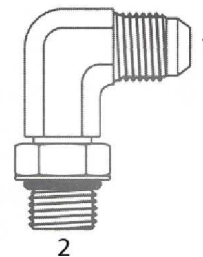
SAE 070220

Item Number	HH Item Number	Tube OD	1		2	
			Male JIC	Male ORB	Male JIC	Male ORB
6801-20-14-NWO	20MJ-14MB90	1 1/4	1 5/8-12	1 3/16-12		
6801-20-16-NWO	20MJ-16MB90	1 1/4	1 5/8-12	1 5/16-12		
6801-20-20-NWO	20MJ-20MB90	1 1/4	1 5/8-12	1 5/8-12		
6801-20-24-NWO	20MJ-24MB90	1 1/4	1 5/8-12	1 7/8-12		
6801-24-16-NWO	24MJ-16MB90	1 1/2	1 7/8-12	1 5/16-12		
6801-24-20-NWO	24MJ-20MB90	1 1/2	1 7/8-12	1 5/8-12		
6801-24-24-NWO	24MJ-24MB90	1 1/2	1 7/8-12	1 7/8-12		
6801-32-24-NWO	32MJ-24MB90	2	2 1/2-12	1 7/8-12		
6801-32-32-NWO	32MJ-32MB90	2	2 1/2-12	2 1/2-12		

6801-L-NWO Series

MJ-MB 90° Long

Item Number	HH Item Number	Tube OD	1		2	
			Male JIC	Male ORB	Male JIC	Male ORB
6801-L-04-04-NWO	4MJ-4MB90L	1/4	7/16-20	7/16-20		
6801-L-05-05-NWO	5MJ-5MB90L	5/16	1/2-20	1/2-20		
6801-L-06-06-NWO	6MJ-6MB90L	3/8	9/16-18	9/16-18		
6801-L-06-08-NWO	6MJ-8MB90L	3/8	9/16-18	3/4-16		
6801-L-08-06-NWO	8MJ-6MB90L	1/2	3/4-16	9/16-18		
6801-L-08-08-NWO	8MJ-8MB90L	1/2	3/4-16	3/4-16		
6801-L-08-10-NWO	8MJ-10MB90L	1/2	3/4-16	7/8-14		
6801-L-08-12-NWO	8MJ-12MB90L	1/2	3/4-16	1 1/16-12		
6801-L-10-08-NWO	10MJ-8MB90L	5/8	7/8-14	3/4-16		
6801-L-10-10-NWO	10MJ-10MB90L	5/8	7/8-14	7/8-14		
6801-L-10-12-NWO	10MJ-12MB90L	5/8	7/8-14	1 1/16-12		
6801-L-12-10-NWO	12MJ-10MB90L	3/4	1 1/16-12	7/8-14		
6801-L-12-12-NWO	12MJ-12MB90L	3/4	1 1/16-12	1 1/16-12		
6801-L-16-12-NWO	16MJ-12MB90L	1	1 5/16-12	1 1/16-12		
6801-L-16-16-NWO	16MJ-16MB90L	1	1 5/16-12	1 5/16-12		
6801-L-20-20-NWO	20MJ-20MB90L	1 1/4	1 5/8-12	1 5/8-12		

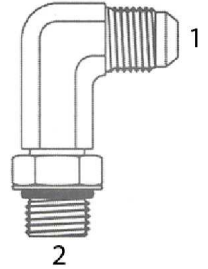


O-Ring Boss Fittings

6801-LL-NWO Series

MJ-MB 90° X-Long

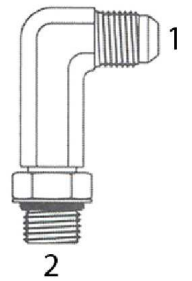
Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male ORB
6801-LL-04-04-NWO	4MJ-4MB90LL	1/4	7/16-20	7/16-20
6801-LL-04-06-NWO	4MJ-6MB90LL	1/4	7/16-20	9/16-18
6801-LL-06-06-NWO	6MJ-6MB90LL	3/8	9/16-18	9/16-18
6801-LL-06-08-NWO	6MJ-8MB90LL	3/8	9/16-18	3/4-16
6801-LL-08-06-NWO	8MJ-6MB90LL	1/2	3/4-16	9/16-18
6801-LL-08-08-NWO	8MJ-8MB90LL	1/2	3/4-16	3/4-16
6801-LL-08-10-NWO	8MJ-10MB90LL	1/2	3/4-16	7/8-14
6801-LL-10-08-NWO	10MJ-8MB90LL	5/8	7/8-14	3/4-16
6801-LL-10-10-NWO	10MJ-10MB90LL	5/8	7/8-14	7/8-14
6801-LL-12-12-NWO	12MJ-12MB90LL	3/4	1 1/16-12	1 1/16-12
6801-LL-12-16-NWO	12MJ-16MB90LL	3/4	1 1/16-12	1 5/16-12
6801-LL-14-14-NWO	14MJ-14MB90LL	7/8	1 3/16-12	1 3/16-12
6801-LL-16-12-NWO	16MJ-12MB90LL	1	1 5/16-12	1 1/16-12
6801-LL-16-16-NWO	16MJ-16MB90LL	1	1 5/16-12	1 5/16-12
6801-LL-20-20-NWO	20MJ-20MB90LL	1 1/4	1 5/8-12	1 5/8-12



6801-LLL-NWO Series

MJ-MB 90° XX-Long

Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male ORB
6801-LLL-04-04-NWO	4MJ-4MB90LLL	1/4	7/16-20	7/16-20
6801-LLL-06-06-NWO	6MJ-6MB90LLL	3/8	9/16-18	9/16-18
6801-LLL-06-08-NWO	6MJ-8MB90LLL	3/8	9/16-18	3/4-16
6801-LLL-08-08-NWO	8MJ-8MB90LLL	1/2	3/4-16	3/4-16
6801-LLL-10-10-NWO	10MJ-10MB90LLL	5/8	7/8-14	7/8-14
6801-LLL-12-12-NWO	12MJ-12MB90LLL	3/4	1 1/16-12	1 1/16-12
6801-LLL-16-16-NWO	16MJ-16MB90LLL	1	1 5/16-12	1 5/16-12



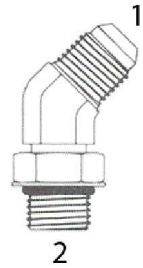
O-Ring Boss Fittings

6802-NWO Series

MJ-MB 45°

SAE 070320

Item Number	HH Item Number	Tube OD	1		2
			Male JIC	Male ORB	
6802-02-02-NWO	2MJ-2MB45	1/8	5/16-24	5/16-24	
6802-03-03-NWO	3MJ-3MB45	3/16	3/8-24	3/8-24	
6802-04-04-NWO	4MJ-4MB45	1/4	7/16-20	7/16-20	
6802-04-05-NWO	4MJ-5MB45	1/4	7/16-20	1/2-20	
6802-04-06-NWO	4MJ-6MB45	1/4	7/16-20	9/16-18	
6802-04-08-NWO	4MJ-8MB45	1/4	7/16-20	3/4-16	
6802-05-04-NWO	5MJ-4MB45	5/16	1/2-20	7/16-20	
6802-05-05-NWO	5MJ-5MB45	5/16	1/2-20	1/2-20	
6802-05-06-NWO	5MJ-6MB45	5/16	1/2-20	9/16-18	
6802-06-04-NWO	6MJ-4MB45	3/8	9/16-18	7/16-20	
6802-06-05-NWO	6MJ-5MB45	3/8	9/16-18	1/2-20	
6802-06-06-NWO	6MJ-6MB45	3/8	9/16-18	9/16-18	
6802-06-08-NWO	6MJ-8MB45	3/8	9/16-18	3/4-16	
6802-06-10-NWO	6MJ-10MB45	3/8	9/16-18	7/8-14	
6802-06-12-NWO	6MJ-12MB45	3/8	9/16-18	1 1/16-12	
6802-08-04-NWO	8MJ-4MB45	1/2	3/4-16	7/16-20	
6802-08-06-NWO	8MJ-6MB45	1/2	3/4-16	9/16-18	
6802-08-08-NWO	8MJ-8MB45	1/2	3/4-16	3/4-16	
6802-08-10-NWO	8MJ-10MB45	1/2	3/4-16	7/8-14	
6802-08-12-NWO	8MJ-12MB45	1/2	3/4-16	1 1/16-12	
6802-10-08-NWO	10MJ-8MB45	5/8	7/8-14	3/4-16	
6802-10-10-NWO	10MJ-10MB45	5/8	7/8-14	7/8-14	
6802-10-12-NWO	10MJ-12MB45	5/8	7/8-14	1 1/16-12	
6802-12-08-NWO	12MJ-8MB45	3/4	1 1/16-12	3/4-16	
6802-12-10-NWO	12MJ-10MB45	3/4	1 1/16-12	7/8-14	
6802-12-12-NWO	12MJ-12MB45	3/4	1 1/16-12	1 1/16-12	
6802-12-14-NWO	12MJ-14MB45	3/4	1 1/16-12	1 3/16-12	
6802-12-16-NWO	12MJ-16MB45	3/4	1 1/16-12	1 5/16-12	
6802-14-14-NWO	14MJ-14MB45	7/8	1 3/16-12	1 3/16-12	
6802-16-12-NWO	16MJ-12MB45	1	1 5/16-12	1 1/16-12	
6802-16-14-NWO	16MJ-14MB45	1	1 5/16-12	1 3/16-12	
6802-16-16-NWO	16MJ-16MB45	1	1 5/16-12	1 5/16-12	
6802-16-20-NWO	16MJ-20MB45	1	1 5/16-12	1 5/8-12	
6802-20-16-NWO	20MJ-16MB45	1 1/4	1 5/8-12	1 5/16-12	
6802-20-20-NWO	20MJ-20MB45	1 1/4	1 5/8-12	1 5/8-12	
6802-20-24-NWO	20MJ-24MB45	1 1/4	1 5/8-12	1 7/8-12	
6802-24-20-NWO	24MJ-20MB45	1 1/2	1 7/8-12	1 5/8-12	
6802-24-24-NWO	24MJ-24MB45	1 1/2	1 7/8-12	1 7/8-12	
6802-24-32-NWO	24MJ-32MB45	1 1/2	1 7/8-12	2 1/2-12	
6802-32-32-NWO	32MJ-32MB45	2	2 1/2-12	2 1/2-12	



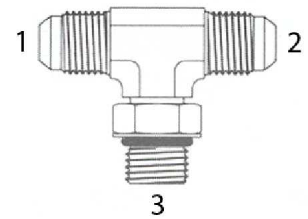
O-Ring Boss Fittings

6803-NWO Series

MJ-MJ-MB Tee

SAE 070429

Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male JIC	3 Male ORB
6803-02-02-02-NWO	2MJ-2MJ-2MB	1/8	5/16-24	5/16-24	5/16-24
6803-04-04-04-NWO	4MJ-4MJ-4MB	1/4	7/16-20	7/16-20	7/16-20
6803-04-04-06-NWO	4MJ-4MJ-6MB	1/4	7/16-20	7/16-20	9/16-18
6803-05-05-05-NWO	5MJ-5MJ-5MB	5/16	1/2-20	1/2-20	1/2-20
6803-06-06-04-NWO	6MJ-6MJ-4MB	3/8	9/16-18	9/16-18	7/16-20
6803-06-06-05-NWO	6MJ-6MJ-5MB	3/8	9/16-18	9/16-18	1/2-20
6803-06-06-06-NWO	6MJ-6MJ-6MB	3/8	9/16-18	9/16-18	9/16-18
6803-06-06-08-NWO	6MJ-6MJ-8MB	3/8	9/16-18	9/16-18	3/4-16
6803-06-06-12-NWO	6MJ-6MJ-12MB	3/8	9/16-18	9/16-18	1 1/16-12
6803-08-06-08-NWO	8MJ-6MJ-8MB	1/2 x 3/8	3/4-16	9/16-18	3/4-16
6803-08-08-06-NWO	8MJ-8MJ-6MB	1/2	3/4-16	3/4-16	9/16-18
6803-08-08-08-NWO	8MJ-8MJ-8MB	1/2	3/4-16	3/4-16	3/4-16
6803-08-08-10-NWO	8MJ-8MJ-10MB	1/2	3/4-16	3/4-16	7/8-14
6803-08-08-12-NWO	8MJ-8MJ-12MB	1/2	3/4-16	3/4-16	1 1/16-12
6803-08-12-06-NWO	8MJ-12MJ-6MB	1/2 x 3/4	3/4-16	1 1/16-12	9/16-18
6803-10-10-08-NWO	10MJ-10MJ-8MB	5/8	7/8-14	7/8-14	3/4-16
6803-10-10-10-NWO	10MJ-10MJ-10MB	5/8	7/8-14	7/8-14	7/8-14
6803-10-10-12-NWO	10MJ-10MJ-12MB	5/8	7/8-14	7/8-14	1 1/16-12
6803-10-10-16-NWO	10MJ-10MJ-16MB	5/8	7/8-14	7/8-14	1 5/16-12
6803-12-12-06-NWO	12MJ-12MJ-6MB	3/4	1 1/16-12	1 1/16-12	9/16-18
6803-12-12-08-NWO	12MJ-12MJ-8MB	3/4	1 1/16-12	1 1/16-12	3/4-16
6803-12-12-10-NWO	12MJ-12MJ-10MB	3/4	1 1/16-12	1 1/16-12	7/8-14
6803-12-12-12-NWO	12MJ-12MJ-12MB	3/4	1 1/16-12	1 1/16-12	1 1/16-12
6803-12-12-16-NWO	12MJ-12MJ-16MB	3/4	1 1/16-12	1 1/16-12	1 5/16-12
6803-14-14-14-NWO	14MJ-14MJ-14MB	7/8	1 3/16-12	1 3/16-12	1 3/16-12
6803-16-16-12-NWO	16MJ-16MJ-12MB	1	1 5/16-12	1 5/16-12	1 1/16-12
6803-16-16-16-NWO	16MJ-16MJ-16MB	1	1 5/16-12	1 5/16-12	1 5/16-12
6803-20-20-20-NWO	20MJ-20MJ-20MB	1 1/4	1 5/8-12	1 5/8-12	1 5/8-12
6803-24-24-24-NWO	24MJ-24MJ-24MB	1 1/2	1 7/8-12	1 7/8-12	1 7/8-12
6803-32-32-32-NWO	32MJ-32MJ-32MB	2	2 1/2-12	2 1/2-12	2 1/2-12



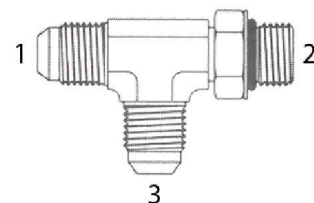
O-Ring Boss Fittings

6804-NWO Series

MJ-MB-MJ Tee

SAE 070428

Item Number	HH Item Number	Tube OD	1	2	3
			Male JIC	Male ORB	Male JIC
6804-02-02-02-NWO	2MJ-2MB-2MJ	1/8	5/16-24	5/16-24	5/16-24
6804-02-04-02-NWO	2MJ-4MB-2MJ	1/8	5/16-24	7/16-20	5/16-24
6804-04-04-04-NWO	4MJ-4MB-4MJ	1/4	7/16-20	7/16-20	7/16-20
6804-04-06-04-NWO	4MJ-6MB-4MJ	1/4	7/16-20	9/16-18	7/16-20
6804-05-04-05-NWO	5MJ-4MB-5MJ	5/16	1/2-20	7/16-20	1/2-20
6804-05-05-05-NWO	5MJ-5MB-5MJ	5/16	1/2-20	1/2-20	1/2-20
6804-06-04-06-NWO	6MJ-4MB-6MJ	3/8	9/16-18	7/16-20	9/16-18
6804-06-06-04-NWO	6MJ-6MB-4MJ	3/8	9/16-18	9/16-18	7/16-20
6804-06-06-06-NWO	6MJ-6MB-6MJ	3/8	9/16-18	9/16-18	9/16-18
6804-06-08-06-NWO	6MJ-8MB-6MJ	3/8	9/16-18	3/4-16	9/16-18
6804-08-06-04-NWO	8MJ-6MB-4MJ	1/2	3/4-16	9/16-18	7/16-20
6804-08-06-08-NWO	8MJ-6MB-8MJ	1/2	3/4-16	9/16-18	3/4-16
6804-08-08-08-NWO	8MJ-8MB-8MJ	1/2	3/4-16	3/4-16	3/4-16
6804-08-10-08-NWO	8MJ-10MB-8MJ	1/2	3/4-16	7/8-14	3/4-16
6804-08-12-08-NWO	8MJ-12MB-8MJ	1/2	3/4-16	1 1/16-12	3/4-16
6804-10-08-10-NWO	10MJ-8MB-10MJ	5/8	7/8-14	3/4-16	7/8-14
6804-10-10-10-NWO	10MJ-10MB-10MJ	5/8	7/8-14	7/8-14	7/8-14
6804-10-12-06-NWO	10MJ-12MB-6MJ	5/8	7/8-14	1 1/16-12	9/16-18
6804-10-16-08-NWO	10MJ-16MB-8MJ	5/8	7/8-14	1 5/16-12	3/4-16
6804-12-08-12-NWO	12MJ-8MB-12MJ	3/4	1 1/16-12	3/4-16	1 1/16-12
6804-12-10-12-NWO	12MJ-10MB-12MJ	3/4	1 1/16-12	7/8-14	1 1/16-12
6804-12-12-06-NWO	12MJ-12MB-6MJ	3/4	1 1/16-12	1 1/16-12	9/16-18
6804-12-12-10-NWO	12MJ-12MB-10MJ	3/4	1 1/16-12	1 1/16-12	7/8-14
6804-12-12-12-NWO	12MJ-12MB-12MJ	3/4	1 1/16-12	1 1/16-12	1 1/16-12
6804-12-12-16-NWO	12MJ-12MB-16MJ	3/4	1 1/16-12	1 1/16-12	1 5/16-12
6804-12-16-12-NWO	12MJ-16MB-12MJ	3/4	1 1/16-12	1 5/16-12	1 1/16-12
6804-14-14-14-NWO	14MJ-14MB-14MJ	7/8	1 3/16-12	1 3/16-12	1 3/16-12
6804-16-12-16-NWO	16MJ-12MB-16MJ	1	1 5/16-12	1 1/16-12	1 5/16-12
6804-16-16-12-NWO	16MJ-16MB-12MJ	1	1 5/16-12	1 5/16-12	1 1/16-12
6804-16-16-16-NWO	16MJ-16MB-16MJ	1	1 5/16-12	1 5/16-12	1 5/16-12
6804-20-20-20-NWO	20MJ-20MB-20MJ	1 1/4	1 5/8-12	1 5/8-12	1 5/8-12
6804-24-20-24-NWO	24MJ-20MB-24MJ	1 1/2	1 7/8-12	1 5/8-12	1 7/8-12
6804-24-24-24-NWO	24MJ-24MB-24MJ	1 1/2	1 7/8-12	1 7/8-12	1 7/8-12
6804-32-32-32-NWO	32MJ-32MB-32MJ	2	2 1/2-12	2 1/2-12	2 1/2-12

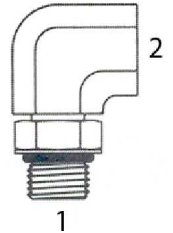


O-Ring Boss Fittings

6805-NWO Series

MB-FP 90°

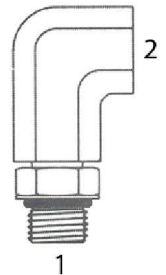
Item Number	HH Item Number	1 Male ORB	2 Female Pipe
6805-04-02-NWO	4MB-2FP90	7/16-20	1/8-27
6805-04-04-NWO	4MB-4FP90	7/16-20	1/4-18
6805-04-06-NWO	4MB-6FP90	7/16-20	3/8-18
6805-05-02-NWO	5MB-2FP90	1/2-20	1/8-27
6805-06-02-NWO	6MB-2FP90	9/16-18	1/8-27
6805-06-04-NWO	6MB-4FP90	9/16-18	1/4-18
6805-06-06-NWO	6MB-6FP90	9/16-18	3/8-18
6805-08-06-NWO	8MB-6FP90	3/4-16	3/8-18
6805-08-08-NWO	8MB-8FP90	3/4-16	1/2-14
6805-10-06-NWO	10MB-6FP90	7/8-14	3/8-18
6805-10-08-NWO	10MB-8FP90	7/8-14	1/2-14
6805-10-12-NWO	10MB-12FP90	7/8-14	3/4-14
6805-12-08-NWO	12MB-8FP90	1 1/16-12	1/2-14
6805-12-12-NWO	12MB-12FP90	1 1/16-12	3/4-14
6805-14-12-NWO	14MB-12FP90	1 3/16-12	3/4-14
6805-16-12-NWO	16MB-12FP90	1 5/16-12	3/4-14
6805-16-16-NWO	16MB-16FP90	1 5/16-12	1-11 1/2
6805-20-20-NWO	20MB-20FP90	1 5/8-12	1 1/4-11 1/2
6805-24-24-NWO	24MB-24FP90	1 7/8-12	1 1/2-11 1/2
6805-32-32-NWO	32MB-32FP90	2-1/2-12	2-11 1/2



6805-L-NWO Series

MB-FP 90° Long

Item Number	HH Item Number	1 Male ORB	2 Female Pipe
6805-L-08-06-NWO	8MB-6FP90L	3/4-16	3/8-18
6805-L-10-08-NWO	10MB-8FP90L	7/8-14	1/2-14
6805-L-12-12-NWO	12MB-12FP90L	1 1/16-12	3/4-14
6805-L-16-16-NWO	16MB-16FP90L	1 5/16-12	1-11 1/2

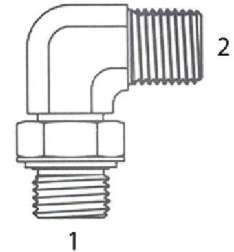


O-Ring Boss Fittings

6806-NWO Series

MB-MP 90°

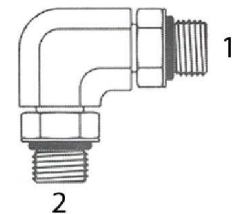
Item Number	HH Item Number	1 Male ORB	2 Male Pipe
6806-04-02-NWO	4MB-2MP90	7/16-20	1/8-27
6806-04-04-NWO	4MB-4MP90	7/16-20	1/4-18
6806-04-06-NWO	4MB-6MP90	7/16-20	3/8-18
6806-05-02-NWO	5MB-2MP90	1/2-20	1/8-27
6806-06-04-NWO	6MB-4MP90	9/16-18	1/4-18
6806-06-06-NWO	6MB-6MP90	9/16-18	3/8-18
6806-06-08-NWO	6MB-8MP90	9/16-18	1/2-14
6806-08-06-NWO	8MB-6MP90	3/4-16	3/8-18
6806-08-08-NWO	8MB-8MP90	3/4-16	1/2-14
6806-10-08-NWO	10MB-8MP90	7/8-14	1/2-14
6806-12-08-NWO	12MB-8MP90	1 1/16-12	1/2-14
6806-12-12-NWO	12MB-12MP90	1 1/16-12	3/4-14
6806-12-16-NWO	12MB-16MP90	1 1/16-12	1-11 1/2
6806-14-12-NWO	14MB-12MP90	1 3/16-12	3/4-14
6806-16-12-NWO	16MB-12MP90	1 5/16-12	3/4-14
6806-16-16-NWO	16MB-16MP90	1 5/16-12	1-11 1/2
6806-20-16-NWO	20MB-16MP90	1 5/8-12	1-11 1/2
6806-20-20-NWO	20MB-20MP90	1 5/8-12	1 1/4-11 1/2
6806-24-24-NWO	24MB-24MP90	1 7/8-12	1 1/2-11 1/2
6806-32-32-NWO	32MB-32MP90	2 1/2-12	2-11 1/2



6807-NWO Series

MB-MB 90°

Item Number	HH Item Number	1 Male ORB	2 Male ORB
6807-04-04-NWO	4MB-4MB90	7/16-20	7/16-20
6807-06-04-NWO	6MB-4MB90	9/16-18	7/16-20
6807-06-06-NWO	6MB-6MB90	9/16-18	9/16-18
6807-08-06-NWO	8MB-6MB90	3/4-16	9/16-18
6807-08-08-NWO	8MB-8MB90	3/4-16	3/4-16
6807-10-08-NWO	10MB-8MB90	7/8-14	3/4-16
6807-10-10-NWO	10MB-10MB90	7/8-14	7/8-14
6807-12-12-NWO	12MB-12MB90	1 1/16-12	1 1/16-12
6807-16-16-NWO	16MB-16MB90	1 5/16-12	1 5/16-12
6807-20-20-NWO	20MB-20MB90	1 5/8-12	1 5/8-12
6807-24-24-NWO	24MB-24MB90	1 7/8-12	1 7/8-12

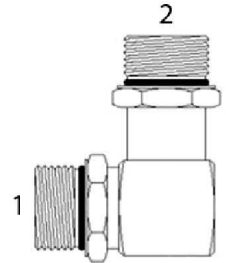


O-Ring Boss Fittings

6807-LL-NWO Series

MB-MB 90° X-Long

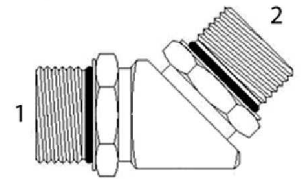
Item Number	HH Item Number	1 Male ORB	2 Male ORB
6807-LL-06-06-NWO	6MB-6MB90LL	9/16-18	9/16-18



6808-NWO Series

MB-MB 45°

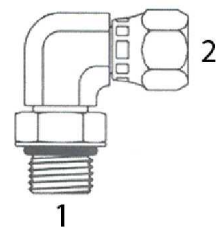
Item Number	HH Item Number	1 Male ORB	2 Male ORB
6808-04-04-NWO	4MB-4MB45	7/16-20	7/16-20
6808-08-06-NWO	8MB-6MB45	3/4-16	9/16-18
6808-08-08-NWO	8MB-8MB45	3/4-16	3/4-16
6808-16-16-NWO	16MB-16MB45	1 5/16-12	1 5/16-12
6808-24-24-NWO	24MB-24MB45	1 7/8-12	1 7/8-12



6809-NWO Series

MB-FJX 90°

Item Number	HH Item Number	Tube OD	1 Male ORB	2 Female JIC Swivel
6809-04-04-NWO	4MB-4FJX90	1/4	7/16-20	7/16-20
6809-06-04-NWO	6MB-4FJX90	1/4	9/16-18	7/16-20
6809-06-06-NWO	6MB-6FJX90	3/8	9/16-18	9/16-18
6809-06-08-NWO	6MB-8FJX90	1/2	9/16-18	3/4-16
6809-08-06-NWO	8MB-6FJX90	3/8	3/4-16	9/16-18
6809-08-08-NWO	8MB-8FJX90	1/2	3/4-16	3/4-16
6809-08-10-NWO	8MB-10FJX90	5/8	3/4-16	7/8-14
6809-08-12-NWO	8MB-12FJX90	3/4	3/4-16	1 1/16-12
6809-10-08-NWO	10MB-8FJX90	1/2	7/8-14	3/4-16
6809-10-10-NWO	10MB-10FJX90	5/8	7/8-14	7/8-14
6809-12-10-NWO	12MB-10FJX90	5/8	1 1/16-12	7/8-14
6809-12-12-NWO	12MB-12FJX90	3/4	1 1/16-12	1 1/16-12
6809-16-12-NWO	16MB-12FJX90	3/4	1 5/16-12	1 1/16-12
6809-16-16-NWO	16MB-16FJX90	1	1 5/16-12	1 5/16-12
6809-20-20-NWO	20MB-20FJX90	1 1/4	1 5/8-12	1 5/8-12

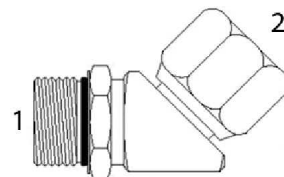


O-Ring Boss Fittings

6810-NWO Series

MB-FJX 45°

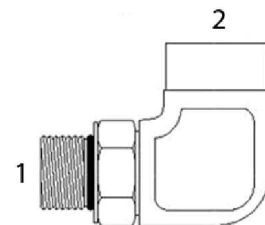
Item Number	HH Item Number	Tube OD	1	
			Male ORB	2 Female JIC Swivel
6810-04-04-NWO	4MB-4FJX45	1/4	7/16-20	7/16-20
6810-06-06-NWO	6MB-6FJX45	3/8	9/16-18	9/16-18
6810-06-08-NWO	6MB-8FJX45	1/2	9/16-18	3/4-16
6810-08-08-NWO	8MB-8FJX45	1/2	3/4-16	3/4-16
6810-10-10-NWO	10MB-10FJX45	5/8	7/8-14	7/8-14
6810-12-12-NWO	12MB-12FJX45	3/4	1 1/16-12	1 1/16-12
6810-16-16-NWO	16MB-16FJX45	1	1 5/16-12	1 5/16-12



6815-NWO series

MB-FB 90°

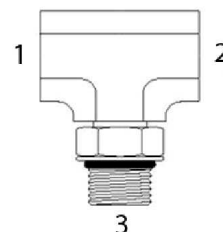
Item Number	HH Item Number	1	
		Male ORB	2 Female ORB
6815-04-04-NWO	4MB-4FB90	7/16-20	7/16-20
6815-06-06-NWO	6MB-6FB90	9/16-18	9/16-18
6815-08-08-NWO	8MB-8FB90	3/4-16	3/4-16
6815-10-10-NWO	10MB-10FB90	7/8-14	7/8-14
6815-12-10-NWO	12MB-10FB90	1 1/16-12	7/8-14
6815-12-12-NWO	12MB-12FB90	1 1/16-12	1 1/16-12
6815-16-16-NWO	16MB-16FB90	1 5/16-12	1 5/16-12



6832-NWO Series

FB-FB-MB Tee

Item Number	HH Item Number	1		
		Female ORB	2 Female ORB	3 Male ORB
6832-04-04-04-NWO	4FB-4FB-4MB	7/16-20	7/16-20	7/16-20
6832-06-06-06-NWO	6FB-6FB-6MB	9/16-18	9/16-18	9/16-18
6832-08-08-08-NWO	8FB-8FB-8MB	3/4-16	3/4-16	3/4-16
6832-10-10-10-NWO	10FB-10FB-10MB	7/8-14	7/8-14	7/8-14
6832-12-12-12-NWO	12FB-12FB-12MB	1 1/16-12	1 1/16-12	1 1/16-12
6832-16-16-16-NWO	16FB-16FB-16MB	1 5/16-12	1 5/16-12	1 5/16-12

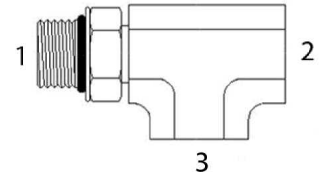


O-Ring Boss Fittings

6835-NWO Series

MB-FB-FB Tee

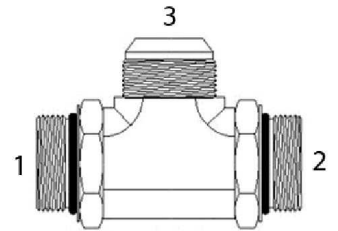
Item Number	HH Item Number	1 Male ORB	2 Female ORB	3 Female ORB
6835-04-04-04-NWO	4MB-4FB-4FB	7/16-20	7/16-20	7/16-20
6835-06-06-06-NWO	6MB-6FB-6FB	9/16-18	9/16-18	9/16-18
6835-08-08-08-NWO	8MB-8FB-8FB	3/4-16	3/4-16	3/4-16
6835-10-10-10-NWO	10MB-10FB-10FB	7/8-14	7/8-14	7/8-14
6835-12-12-12-NWO	12MB-12FB-12FB	1 1/16-12	1 1/16-12	1 1/16-12
6835-16-16-16-NWO	16MB-16FB-16FB	1 5/16-12	1 5/16-12	1 5/16-12



6840-NWO Series

MB-MB-MJ Tee

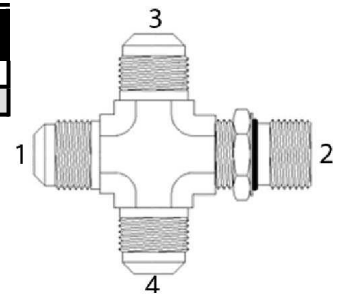
Item Number	HH Item Number	Tube OD	1 Male ORB	2 Male ORB	3 Male JIC
6840-20-20-20-NWO	20MB-20MB-20MJ	1 1/4	1 5/8-12	1 5/8-12	1 5/8-12



6850-NWO Series

MJ-MJ-MB-MJ Cross

Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male ORB	3 Male JIC	4 Male JIC
6850-06-06-04-06-NWO	6MJ-6MJ-4MB-6MJ	3/8	9/16-18	7/16-20	9/16-18	9/16-18
6850-06-06-06-06-NWO	6MJ-6MJ-6MB-6MJ	3/8	9/16-18	9/16-18	9/16-18	9/16-18



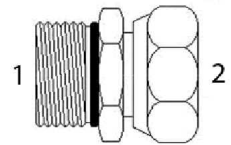
O-Ring Boss Fittings

6900-O Series

MB-FPX Straight

SAE 140157

Item Number	HH Item Number	1	2
		Male ORB Swivel	Female Pipe
6900-04-02-O	4MB-2FPX	7/16-20	1/8-27
6900-04-04-O	4MB-4FPX	7/16-20	1/4-18
6900-04-06-O	4MB-6FPX	7/16-20	3/8-18
6900-04-08-O	4MB-8FPX	7/16-20	1/2-14
6900-05-04-O	5MB-4FPX	1/2-20	1/4-18
6900-05-06-O	5MB-6FPX	1/2-20	3/8-18
6900-05-08-O	5MB-8FPX	1/2-20	1/2-14
6900-06-04-O	6MB-4FPX	9/16-18	1/4-18
6900-06-06-O	6MB-6FPX	9/16-18	3/8-18
6900-06-08-O	6MB-8FPX	9/16-18	1/2-14
6900-08-04-O	8MB-4FPX	3/4-16	1/4-18
6900-08-06-O	8MB-6FPX	3/4-16	3/8-18
6900-08-08-O	8MB-8FPX	3/4-16	1/2-14
6900-08-12-O	8MB-12FPX	3/4-16	3/4-14
6900-10-04-O	10MB-4FPX	7/8-14	1/4-18
6900-10-06-O	10MB-6FPX	7/8-14	3/8-18
6900-10-08-O	10MB-8FPX	7/8-14	1/2-14
6900-10-12-O	10MB-12FPX	7/8-14	3/4-14
6900-10-16-O	10MB-16FPX	7/8-14	1-11 1/2
6900-12-06-O	12MB-6FPX	1 1/16-12	3/8-18
6900-12-08-O	12MB-8FPX	1 1/16-12	1/2-14
6900-12-12-O	12MB-12FPX	1 1/16-12	3/4-14
6900-12-16-O	12MB-16FPX	1 1/16-12	1-11 1/2
6900-14-12-O	14MB-12FPX	1 3/16-12	3/4-14
6900-14-16-O	14MB-16FPX	1 3/16-12	1-11 1/2
6900-14-8-O	14MB-8FPX	1 3/16-12	1/2-14
6900-16-08-O	16MB-8FPX	1 5/16-12	1/2-14
6900-16-12-O	16MB-12FPX	1 5/16-12	3/4-14
6900-16-16-O	16MB-16FPX	1 5/16-12	1-11 1/2
6900-16-20-O	16MB-20FPX	1 5/16-12	1 1/4-11 1/2
6900-20-12-O	20MB-12FPX	1 5/8-12	3/4-14
6900-20-16-O	20MB-16FPX	1 5/8-12	1-11 1/2
6900-20-20-O	20MB-20FPX	1 5/8-12	1 1/4-11 1/2
6900-24-20-O	24MB-20FPX	1 7/8-12	1 1/4-11 1/2
6900-24-24-O	24MB-24FPX	1 7/8-12	1 1/2-11 1/2
6900-32-32-O	32MB-32FPX	2 1/2-12	2-11 1/2



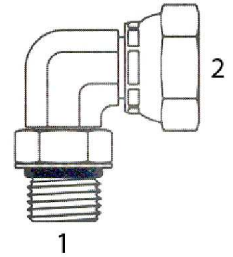
O-Ring Boss Fittings

6901-NWO Series

MB-FPX 90°

SAE 140251

Item Number	HH Item Number	1 Male ORB	2 Female Pipe Swivel
6901-04-02-NWO	4MB-2FPX90	7/16-20	1/8-27
6901-04-04-NWO	4MB-4FPX90	7/16-20	1/4-18
6901-04-05-NWO	4MB-5FPX90	7/16-20	5/16-18
6901-04-06-NWO	4MB-6FPX90	7/16-20	3/8-18
6901-04-08-NWO	4MB-8FPX90	7/16-20	1/2-14
6901-05-04-NWO	5MB-4FPX90	1/2-20	1/4-18
6901-06-04-NWO	6MB-4FPX90	9/16-18	1/4-18
6901-06-06-NWO	6MB-6FPX90	9/16-18	3/8-18
6901-06-08-NWO	6MB-8FPX90	9/16-18	1/2-14
6901-08-04-NWO	8MB-4FPX90	3/4-16	1/4-18
6901-08-06-NWO	8MB-6FPX90	3/4-16	3/8-18
6901-08-08-NWO	8MB-8FPX90	3/4-16	1/2-14
6901-08-12-NWO	8MB-12FPX90	3/4-16	3/4-14
6901-10-04-NWO	10MB-4FPX90	7/8-14	1/4-18
6901-10-06-NWO	10MB-6FPX90	7/8-14	3/8-18
6901-10-08-NWO	10MB-8FPX90	7/8-14	1/2-14
6901-10-12-NWO	10MB-12FPX90	7/8-14	3/4-14
6901-12-06-NWO	12MB-6FPX90	1 1/16-12	3/8-18
6901-12-08-NWO	12MB-8FPX90	1 1/16-12	1/2-14
6901-12-12-NWO	12MB-12FPX90	1 1/16-12	3/4-14
6901-12-16-NWO	12MB-16FPX90	1 1/16-12	1-11 1/2
6901-14-12-NWO	14MB-12FPX90	1 3/16-12	3/4-14
6901-14-16-NWO	14MB-16FPX90	1 3/16-12	1-11 1/2
6901-16-12-NWO	16MB-12FPX90	1 5/16-12	3/4-14
6901-16-16-NWO	16MB-16FPX90	1 5/16-12	1-11 1/2
6901-16-20-NWO	16MB-20FPX90	1 5/16-12	1 1/4-11 1/2
6901-20-12-NWO	20MB-12FPX90	1 5/8-12	3/4-14
6901-20-16-NWO	20MB-16FPX90	1 5/8-12	1-11 1/2
6901-20-20-NWO	20MB-20FPX90	1 5/8-12	1 1/4-11 1/2
6901-24-20-NWO	24MB-20FPX90	1 7/8-12	1 1/4-11 1/2
6901-24-24-NWO	24MB-24FPX90	1 7/8-12	1 1/2-11 1/2
6901-32-32-NWO	32MB-32FPX90	2 1/2-12	2-11 1/2



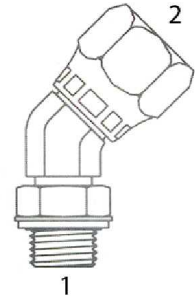
O-Ring Boss Fittings

6902-NWO Series

MB-FPX 45°

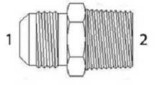
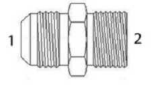
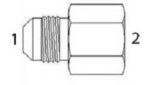
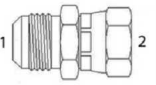
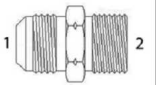
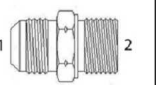
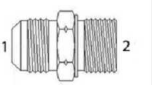
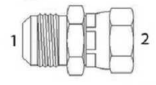
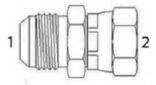
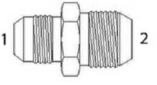
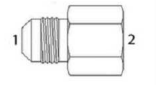
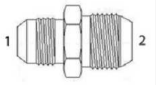
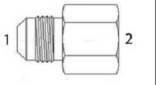
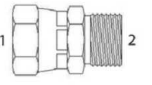
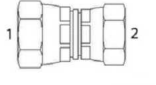
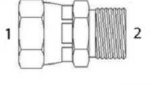
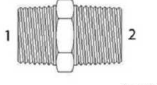
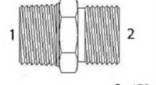
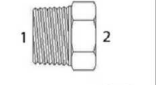
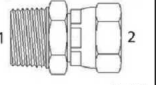
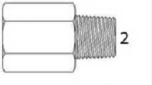
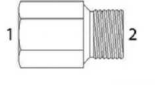
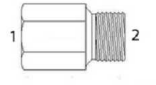
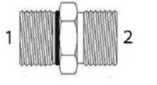
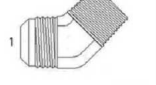

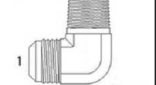

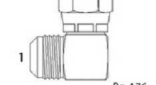

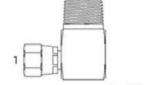
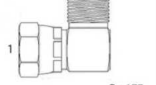
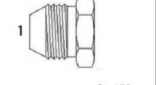
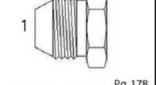
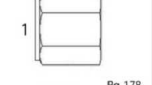
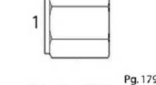
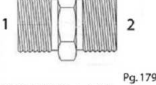
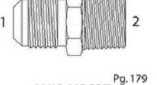
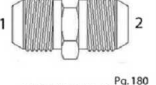
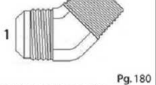

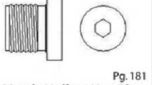
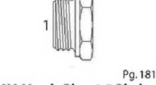

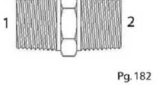
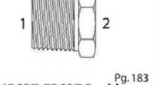
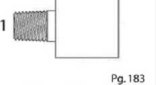
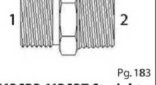
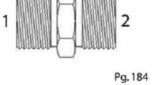
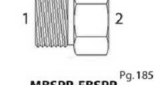

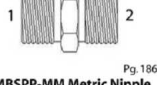
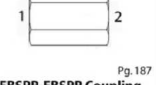


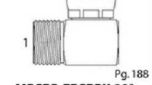



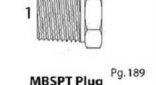






SAE 140357

Item Number	HH Item Number	1 Male ORB	2 Female Pipe Swivel
6902-04-02-NWO	4MB-2FPX45	7/16-20	1/8-27
6902-04-04-NWO	4MB-4FPX45	7/16-20	1/4-18
6902-04-06-NWO	4MB-6FPX45	7/16-20	3/8-18
6902-06-04-NWO	6MB-4FPX45	9/16-18	1/4-18
6902-06-06-NWO	6MB-6FPX45	9/16-18	3/8-18
6902-06-08-NWO	6MB-8FPX45	9/16-18	1/2-14
6902-08-04-NWO	8MB-4FPX45	3/4-16	1/4-18
6902-08-06-NWO	8MB-6FPX45	3/4-16	3/8-18
6902-08-08-NWO	8MB-8FPX45	3/4-16	1/2-14
6902-08-12-NWO	8MB-12FPX45	3/4-16	3/4-14
6902-10-06-NWO	10MB-6FPX45	7/8-14	3/8-18
6902-10-08-NWO	10MB-8FPX45	7/8-14	1/2-14
6902-10-12-NWO	10MB-12FPX45	7/8-14	3/4-14
6902-12-06-NWO	12MB-6FPX45	1 1/16-12	3/8-18
6902-12-08-NWO	12MB-8FPX45	1 1/16-12	1/2-14
6902-12-12-NWO	12MB-12FPX45	1 1/16-12	3/4-14
6902-12-16-NWO	12MB-16FPX45	1 1/16-12	1-11 1/2
6902-16-12-NWO	16MB-12FPX45	1 5/16-12	3/4-14
6902-16-16-NWO	16MB-16FPX45	1 5/16-12	1-11 1/2
6902-16-20-NWO	16MB-20FPX45	1 5/16-12	1 1/4-11 1/2
6902-20-16-NWO	20MB-16FPX45	1 5/8-12	1-11 1/2
6902-20-20-NWO	20MB-20FPX45	1 5/8-12	1 1/4-11 1/2
6902-24-24-NWO	24MB-24FPX45	1 7/8-12	1 1/2-11 1/2



Metric Fittings

Metric Fittings - Visual Identification Chart

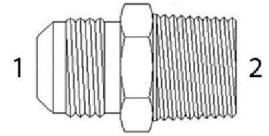
 7000 MJ-MBSPT Pg. 162	 7002 MJ-MBSPP Pg. 163	 7003 MJ-FBSPP Pg. 164	 7004 MJ-FBSPPX Pg. 164	 7005 MJ-MM Port Metric Pg. 165	 7005-L MJ-MM Light Metric Pg. 165	 7005-S MJ-MM Heavy Metric Pg. 166
 7007-L MJ-FMX Light Metric Pg. 166	 7007-S MJ-FMX Heavy Metric Pg. 167	 7008 MJ-MJIS Union Pg. 167	 7008-F MJ-FJIS Union Pg. 167	 7009 Komatsu MJ-MK Union Pg. 168	 7009-F Komatsu MJ-FK Union Pg. 168	 7022 FJX-MBSPP Pg. 168
 7023 FJX-FBSPP Pg. 169	 7025 FJX-MM Metric Pg. 169	 7030 MP-MBSPT Nipple Pg. 169	 7032 MP-MBSPP Nipple Pg. 170	 7033 MP-FBSPP Pg. 171	 7034 MP-FBSPPX Pg. 171	 7040 FP-MBSPT Pg. 171
 7042 FP-MBSPP Pg. 172	 7045 FP-MM Metric Pg. 173	 7062 MB-MBSPP Pg. 174	 7100 MJ-MBSPT 45° Pg. 174	 7102-NWO MJ-MBSPPADJ 45° Pg. 175	 7200 MJ-MBSPT 90° Pg. 175	 7202-NWO MJ-MBSPPADJ 90° Pg. 176
 7204 MJ-FBSPPX 90° Pg. 176	 7205-NWO MJ-MMADJ 90° Pg. 177	 7220 FJX-MBSPT 90° Pg. 177	 7222 FJX-MBSPP 90° Pg. 177	 7588-P MJIS Plug Pg. 178	 7599-P Komatsu MK Plug Pg. 178	 7688-C FJIS Cap Pg. 178
 7699-C Komatsu FK Cap Pg. 179	 8055 MM-MM Metric Nipple Pg. 179	 8080 MJIS-MBSPT Pg. 179	 8088 MJIS-MJIS Union Pg. 180	 8180 MJIS-MBSPT 45° Union Pg. 180	 8280 MJIS-MBSPT 90° Union Pg. 180	 8555-H MM Metric Hollow Hex Plug Pg. 181
 8555-P MM Metric Plug 1.5 Pitch Pg. 181	 8800 Metric Bonded Seal Pg. 182	 9000 MBSPT-MBSPT Nipple Pg. 182	 9001 MBSPT-FBSPT Bushing Pg. 183	 9002 MBSPT-FBSPT 90° Pg. 183	 9020 MBSPP-MBSPT Straight Pg. 183	 9022 MBSPP-MBSPP Nipple Pg. 184
 9023 MBSPP-FBSPP Pg. 185	 9024 MBSPP-FBSPPX Pg. 186	 9025 MBSPP-MM Metric Nipple Pg. 186	 9033 FBSPP-FBSPP Coupling Pg. 187	 9124 MBSPP-FBSPPX Swept 45° Pg. 187	 9222 MBSPP-MBSPP 90° Pg. 187	 9224 MBSPP-FBSPPX 90° Pg. 188
 9224-L MBSPP-FBSPPX 90° Long Pg. 188	 9322 MBSPP-MBSPP-MBSPP Tee Pg. 188	 9344 FBSPP-FBSPP-FBSPP Tee Pg. 189	 9500-P MBSPT Plug Pg. 189	 9522-H MBSPP Hollow Hex Plug Pg. 189	 9522-P MBSPP Hex Plug Pg. 190	 9644-C FBSPP Cap Pg. 190
 9722-LN MBSPP-MBSPP Bulkhead Pg. 191	 9900 British Bond Seal Pg. 191	 9925 BSPP Locknut Pg. 191				

Metric Fittings

7000 Series

MJ-MBSPT

Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male BSP Tapered
7000-04-02	4MJ-2MBSPT	1/4	7/16-20	1/8-28
7000-04-04	4MJ-4MBSPT	1/4	7/16-20	1/4-19
7000-04-06	4MJ-6MBSPT	1/4	7/16-20	3/8-19
7000-05-02	5MJ-2MBSPT	5/16	1/2-20	1/8-28
7000-05-04	5MJ-4MBSPT	5/16	1/2-20	1/4-19
7000-06-02	6MJ-2MBSPT	3/8	9/16-18	1/8-28
7000-06-04	6MJ-4MBSPT	3/8	9/16-18	1/4-19
7000-06-06	6MJ-6MBSPT	3/8	9/16-18	3/8-19
7000-06-08	6MJ-8MBSPT	3/8	9/16-18	1/2-14
7000-08-04	8MJ-4MBSPT	1/2	3/4-16	1/4-19
7000-08-06	8MJ-6MBSPT	1/2	3/4-16	3/8-19
7000-08-08	8MJ-8MBSPT	1/2	3/4-16	1/2-14
7000-08-12	8MJ-12MBSPT	1/2	3/4-16	3/4-14
7000-10-08	10MJ-8MBSPT	5/8	7/8-14	1/2-14
7000-10-12	10MJ-12MBSPT	5/8	7/8-14	3/4-14
7000-12-08	12MJ-8MBSPT	3/4	1 1/16-12	1/2-14
7000-12-12	12MJ-12MBSPT	3/4	1 1/16-12	3/4-14
7000-12-16	12MJ-16MBSPT	3/4	1 1/16-12	1-11
7000-16-12	16MJ-12MBSPT	1	1 5/16-12	3/4-14
7000-16-16	16MJ-16MBSPT	1	1 5/16-12	1-11
7000-20-20	20MJ-20MBSPT	1 1/4	1 5/8-12	1 1/4-11
7000-24-24	24MJ-24MBSPT	1 1/2	1 7/8-12	1 1/2-11
7000-32-32	32MJ-32MBSPT	2	2 1/2-12	2-11

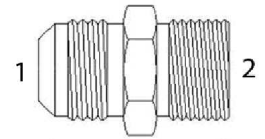


Metric Fittings

7002 Series

MJ-MBSPP

Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male BSP Parallel
7002-04-02	4MJ-2MBSPP	1/4	7/16-20	1/8-28
7002-04-04	4MJ-4MBSPP	1/4	7/16-20	1/4-19
7002-04-06	4MJ-6MBSPP	1/4	7/16-20	3/8-19
7002-04-08	4MJ-8MBSPP	1/4	7/16-20	1/2-14
7002-05-02	5MJ-2MBSPP	5/16	1/2-20	1/8-28
7002-05-04	5MJ-4MBSPP	5/16	1/2-20	1/4-19
7002-05-06	5MJ-6MBSPP	5/16	1/2-20	3/8-19
7002-05-08	5MJ-8MBSPP	5/16	1/2-20	1/2-14
7002-05-12	5MJ-12MBSPP	5/16	1/2-20	3/4-14
7002-06-02	6MJ-2MBSPP	3/8	9/16-18	1/8-28
7002-06-04	6MJ-4MBSPP	3/8	9/16-18	1/4-19
7002-06-06	6MJ-6MBSPP	3/8	9/16-18	3/8-19
7002-06-08	6MJ-8MBSPP	3/8	9/16-18	1/2-14
7002-06-10	6MJ-10MBSPP	3/8	9/16-18	5/8-14
7002-06-12	6MJ-12MBSPP	3/8	9/16-18	3/4-14
7002-08-04	8MJ-4MBSPP	1/2	3/4-16	1/4-19
7002-08-06	8MJ-6MBSPP	1/2	3/4-16	3/8-19
7002-08-08	8MJ-8MBSPP	1/2	3/4-16	1/2-14
7002-08-10	8MJ-10MBSPP	1/2	3/4-16	5/8-14
7002-08-12	8MJ-12MBSPP	1/2	3/4-16	3/4-14
7002-08-16	8MJ-16MBSPP	1/2	3/4-16	1-11
7002-10-04	10MJ-4MBSPP	5/8	7/8-14	1/4-19
7002-10-06	10MJ-6MBSPP	5/8	7/8-14	3/8-19
7002-10-08	10MJ-8MBSPP	5/8	7/8-14	1/2-14
7002-10-10	10MJ-10MBSPP	5/8	7/8-14	5/8-14
7002-10-12	10MJ-12MBSPP	5/8	7/8-14	3/4-14
7002-10-16	10MJ-16MBSPP	5/8	7/8-14	1-11
7002-12-06	12MJ-6MBSPP	3/4	1 1/16-12	3/8-19
7002-12-08	12MJ-8MBSPP	3/4	1 1/16-12	1/2-14
7002-12-10	12MJ-10MBSPP	3/4	1 1/16-12	5/8-14
7002-12-12	12MJ-12MBSPP	3/4	1 1/16-12	3/4-14
7002-12-16	12MJ-16MBSPP	3/4	1 1/16-12	1-11
7002-12-20	12MJ-20MBSPP	3/4	1 1/16-12	1 1/4-11
7002-14-12	14MJ-12MBSPP	7/8	1 3/16-12	3/4-14
7002-14-16	14MJ-16MBSPP	7/8	1 3/16-12	1-11
7002-16-08	16MJ-8MBSPP	1	1 5/16-12	1/2-14
7002-16-12	16MJ-12MBSPP	1	1 5/16-12	3/4-14
7002-16-16	16MJ-16MBSPP	1	1 5/16-12	1-11
7002-16-20	16MJ-20MBSPP	1	1 5/16-12	1 1/4-11
7002-16-24	16MJ-24MBSPP	1	1 5/16-12	1 1/2-11
7002-20-12	20MJ-12MBSPP	1 1/4	1 5/8-12	3/4-14
7002-20-16	20MJ-16MBSPP	1 1/4	1 5/8-12	1-11
7002-20-20	20MJ-20MBSPP	1 1/4	1 5/8-12	1 1/4-11
7002-20-24	20MJ-24MBSPP	1 1/4	1 5/8-12	1 1/2-11
7002-24-16	24MJ-16MBSPP	1 1/2	1 7/8-12	1-11
7002-24-20	24MJ-20MBSPP	1 1/2	1 7/8-12	1 1/4-11
7002-24-24	24MJ-24MBSPP	1 1/2	1 7/8-12	1 1/2-11
7002-24-32	24MJ-32MBSPP	1 1/2	1 7/8-12	2-11
7002-32-16	32MJ-16MBSPP	2	2 1/2-12	1-11
7002-32-20	32MJ-20MBSPP	2	2 1/2-12	1 1/4-11
7002-32-24	32MJ-24MBSPP	2	2 1/2-12	1 1/2-11
7002-32-32	32MJ-32MBSPP	2	2 1/2-12	2-11

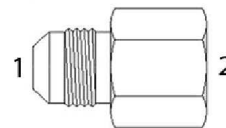


Metric Fittings

7003 Series

MJ-FBSPP

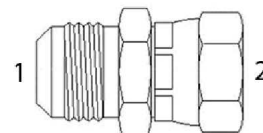
Item Number	HH Item Number	Tube OD	1 Male JIC	2 Female BSP Parallel
7003-04-02	4MJ-2FBSPP	1/4	7/16-20	1/8-28
7003-04-04	4MJ-4FBSPP	1/4	7/16-20	1/4-19
7003-04-06	4MJ-6FBSPP	1/4	7/16-20	3/8-19
7003-06-04	6MJ-4FBSPP	3/8	9/16-18	1/4-19
7003-06-06	6MJ-6FBSPP	3/8	9/16-18	3/8-19
7003-06-08	6MJ-8FBSPP	3/8	9/16-18	1/2-14
7003-08-06	8MJ-6FBSPP	1/2	3/4-16	3/8-19
7003-08-08	8MJ-8FBSPP	1/2	3/4-16	1/2-14
7003-08-10	8MJ-10FBSPP	1/2	3/4-16	5/8-14
7003-08-12	8MJ-12FBSPP	1/2	3/4-16	3/4-14
7003-10-08	10MJ-8FBSPP	5/8	7/8-14	1/2-14
7003-10-10	10MJ-10FBSPP	5/8	7/8-14	5/8-14
7003-10-12	10MJ-12FBSPP	5/8	7/8-14	3/4-14
7003-12-12	12MJ-12FBSPP	3/4	1 1/16-12	3/4-14
7003-12-16	12MJ-16FBSPP	3/4	1 1/16-12	1-11
7003-16-16	16MJ-16FBSPP	1	1 5/16-12	1-11
7003-20-20	20MJ-20FBSPP	1 1/4	1 5/8-12	1 1/4-11
7003-24-24	24MJ-24FBSPP	1 1/2	1 7/8-12	1 1/2-11
7003-32-32	32MJ-32FBSPP	2	2 1/2-12	2-11



7004 Series

MJ-FBSPPX

Item Number	HH Item Number	Tube OD	1 Male JIC	2 Female BSP Parallel Swivel
7004-04-02	4MJ-2FBSPPX	1/4	7/16-20	1/8-28
7004-04-04	4MJ-4FBSPPX	1/4	7/16-20	1/4-19
7004-04-06	4MJ-6FBSPPX	1/4	7/16-20	3/8-19
7004-06-04	6MJ-4FBSPPX	3/8	9/16-18	1/4-19
7004-06-06	6MJ-6FBSPPX	3/8	9/16-18	3/8-19
7004-06-08	6MJ-8FBSPPX	3/8	9/16-18	1/2-14
7004-08-06	8MJ-6FBSPPX	1/2	3/4-16	3/8-19
7004-08-08	8MJ-8FBSPPX	1/2	3/4-16	1/2-14
7004-08-10	8MJ-10FBSPPX	1/2	3/4-16	5/8-14
7004-08-12	8MJ-12FBSPPX	1/2	3/4-16	3/4-14
7004-10-08	10MJ-8FBSPPX	5/8	7/8-14	1/2-14
7004-10-10	10MJ-10FBSPPX	5/8	7/8-14	5/8-14
7004-10-12	10MJ-12FBSPPX	5/8	7/8-14	3/4-14
7004-12-12	12MJ-12FBSPPX	3/4	1 1/16-12	3/4-14
7004-12-16	12MJ-16FBSPPX	3/4	1 1/16-12	1-11
7004-16-12	16MJ-12FBSPPX	1	1 5/16-12	3/4-14
7004-16-16	16MJ-16FBSPPX	1	1 5/16-12	1-11
7004-20-20	20MJ-20FBSPPX	1 1/4	1 5/8-12	1 1/4-11
7004-32-32	32MJ-32FBSPPX	2	2 1/2-12	2-11

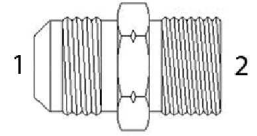


Metric Fittings

7005 Series

MJ-MM Port Metric

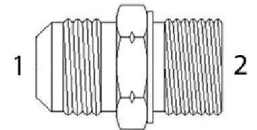
Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male Metric
7005-04-10	4MJ-10MMx1.5	1/4	7/16-20	10 x 1.0
7005-04-12	4MJ-12MMx1.5	1/4	7/16-20	12 x 1.5
7005-04-14	4MJ-14MMx1.5	1/4	7/16-20	14 x 1.5
7005-05-12	5MJ-12MMx1.5	5/16	1/2-20	12 x 1.5
7005-06-12	6MJ-12MMx1.5	3/8	9/16-18	12 x 1.5
7005-06-14	6MJ-14MMx1.5	3/8	9/16-18	14 x 1.5
7005-06-16	6MJ-16MMx1.5	3/8	9/16-18	16 x 1.5
7005-06-18	6MJ-18MMx1.5	3/8	9/16-18	18 x 1.5
7005-08-12	8MJ-12MMx1.5	1/2	3/4-16	12 x 1.5
7005-08-14	8MJ-14MMx1.5	1/2	3/4-16	14 x 1.5
7005-08-16	8MJ-16MMx1.5	1/2	3/4-16	16 x 1.5
7005-08-18	8MJ-18MMx1.5	1/2	3/4-16	18 x 1.5
7005-08-20	8MJ-20MMx1.5	1/2	3/4-16	20 x 1.5
7005-08-22	8MJ-22MMx1.5	1/2	3/4-16	22 x 1.5
7005-10-18	10MJ-18MMx1.5	5/8	7/8-14	18 x 1.5
7005-10-20	10MJ-20MMx1.5	5/8	7/8-14	20 x 1.5
7005-10-22	10MJ-22MMx1.5	5/8	7/8-14	22 x 1.5
7005-10-26	10MJ-26MMx1.5	5/8	7/8-14	26 x 1.5
7005-12-22	12MJ-22MMx1.5	3/4	1 1/16-12	22 x 1.5
7005-12-27	12MJ-27MMx2.0	3/4	1 1/16-12	27 x 2.0
7005-16-33	16MJ-33MMx2.0	1	1 5/8-12	33 x 2.0
7005-20-30	20MJ-30MMx2.0	1 1/4	1 5/8-12	30 x 2.0
7005-24-48	24MJ-48MMx2.0	1 1/2	1 7/8-12	48 x 2.0



7005-L Series

MJ-MM Light Metric

Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male Metric
7005-04-L06-12	4MJ-12MM-L.6x1.5	1/4	7/16-20	12 x 1.5
7005-04-L08-14	4MJ-14MM-L.8x1.5	1/4	7/16-20	14 x 1.5
7005-06-L08-14	6MJ-14MM-L.8x1.5	3/8	9/16-18	14 x 1.5
7005-06-L10-16	6MJ-16MM-L.10x1.5	3/8	9/16-18	16 x 1.5
7005-06-L12-18	6MJ-18MM-L.12x1.5	3/8	9/16-18	18 x 1.5
7005-08-L10-16	8MJ-16MM-L.10x1.5	1/2	3/4-16	16 x 1.5
7005-08-L10-18	8MJ-18MM-L.10x1.5	1/2	3/4-16	18 x 1.5
7005-08-L12-18	8MJ-18MM-L.12x1.5	1/2	3/4-16	18 x 1.5
7005-08-L15-22	8MJ-22MM-L.15x1.5	1/2	3/4-16	22 x 1.5
7005-10-L15-22	10MJ-22MM-L.15x1.5	5/8	7/8-14	22 x 1.5
7005-12-L18-24	12MJ-24MM-L.18x1.5	3/4	1 1/16-12	24 x 1.5
7005-12-L18-26	12MJ-26MM-L.18x1.5	3/4	1 1/16-12	26 x 1.5
7005-12-L22-30	12MJ-30MM-L.22x2.0	3/4	1 1/16-12	30 x 2.0
7005-16-L28-36	16MJ-36MM-L.28x2.0	1	1 5/8-12	36 x 2.0
7005-20-L35-45	20MJ-45MM-L.35x2.0	1 1/4	1 5/8-12	45 x 2.0
7005-24-L42-52	24MJ-52MM-L.42x2.0	1 1/2	1 7/8-12	52 x 2.0

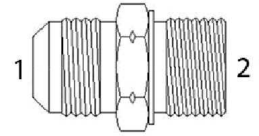


Metric Fittings

7005-S Series

MJ-MM Heavy Metric

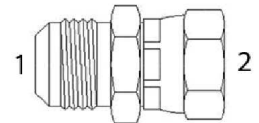
Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male Metric
7005-04-S06-14	4MJ-14MM-S6x1.5	1/4	7/16-20	14 x 1.5
7005-04-S08-16	4MJ-16MM-S8x1.5	1/4	7/16-20	16 x 1.5
7005-06-S08-16	6MJ-16MM-S8x1.5	3/8	9/16-18	16 x 1.5
7005-06-S10-18	6MJ-18MM-S10x1.5	3/8	9/16-18	18 x 1.5
7005-06-S12-20	6MJ-20MM-S12x1.5	3/8	9/16-18	20 x 1.5
7005-08-S10-18	8MJ-18MM-S10x1.5	1/2	3/4-16	18 x 1.5
7005-08-S12-20	8MJ-20MM-S12x1.5	1/2	3/4-16	20 x 1.5
7005-08-S14-22	8MJ-22MM-S14x1.5	1/2	3/4-16	22 x 1.5
7005-10-S12-20	10MJ-20MM-S12x1.5	5/8	7/8-14	20 x 1.5
7005-10-S16-24	10MJ-24MM-S16x1.5	5/8	7/8-14	24 x 1.5
7005-12-S16-24	12MJ-24MM-S16x1.5	3/4	1 1/16-12	24 x 1.5
7005-12-S20-30	12MJ-30MM-S20x1.5	3/4	1 1/16-12	30 x 1.5
7005-12-S25-36	12MJ-36MM-S25x2.0	3/4	1 1/16-12	36 x 2.0
7005-16-S30-42	16MJ-42MM-S30x2.0	1	1 5/16-12	42 x 2.0
7005-20-S38-52	20MJ-52MM-S38x2.0	1 1/4	1 5/8-12	52 x 2.0
7005-24-S38-52	24MJ-52MM-S38x2.0	1 1/2	1 7/8-12	52 x 2.0



7007-L Series

MJ-FMX Light Metric

Item Number	HH Item Number	Tube OD	1 Male JIC	2 Female Metric Swivel
7007-04-L06-12	4MJ-12FMX-L6x1.5	1/4	7/16-20	12 x 1.5
7007-05-L06-12	5MJ-12FMX-L6x1.5	5/16	1/2-20	12 x 1.5
7007-06-L08-14	6MJ-14FMX-L8x1.5	3/8	9/16-18	14 x 1.5
7007-06-L10-16	6MJ-16FMX-L10x1.5	3/8	9/16-18	16 x 1.5
7007-06-L12-18	6MJ-18FMX-L12x1.5	3/8	9/16-18	18 x 1.5
7007-06-L15-22	6MJ-22FMX-L15x1.5	3/8	9/16-18	22 x 1.5
7007-08-L10-16	8MJ-16FMX-L10x1.5	1/2	3/4-16	16 x 1.5
7007-08-L12-18	8MJ-18FMX-L12x1.5	1/2	3/4-16	18 x 1.5
7007-08-L15-22	8MJ-22FMX-L15x1.5	1/2	3/4-16	22 x 1.5
7007-10-L12-18	10MJ-18FMX-L12x1.5	5/8	7/8-14	18 x 1.5
7007-10-L15-20	10MJ-20FMX-L15x1.5	5/8	7/8-14	20 x 1.5
7007-10-L15-22	10MJ-22FMX-L15x1.5	5/8	7/8-14	22 x 1.5
7007-12-L22-30	12MJ-30FMX-L22x1.5	3/4	1 1/16-12	30 x 1.5

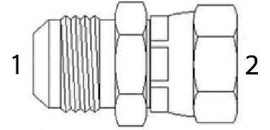


Metric Fittings

7007-S Series

MJ-FMX Heavy Metric

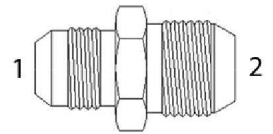
Item Number	HH Item Number	Tube OD	1 Male JIC	2 Female Metric Swivel
7007-04-S06-14	4MJ-14FMX-S6x1.5	1/4	7/16-20	14 x 1.5
7007-06-S12-20	6MJ-20FMX-S12x1.5	3/8	9/16-18	20 x 1.5
7007-08-S12-20	8MJ-20FMX-S12x1.5	1/2	3/4-16	20 x 1.5
7007-08-S16-24	8MJ-24FMX-S16x1.5	1/2	3/4-16	24 x 1.5
7007-10-S12-20	10MJ-20FMX-S12x1.5	5/8	7/8-14	20 x 1.5
7007-12-S20-30	12MJ-30FMX-S20x1.5	3/4	1 1/16-12	30 x 1.5
7007-12-S25-36	12MJ-36FMX-S25x2.0	3/4	1 1/16-12	36 x 2.0
7007-16-S30-42	16MJ-42FMX-S30x2.0	1	1 5/16-12	42 x 2.0
7007-20-S30-42	20MJ-42FMX-S30x2.0	1 1/4	1 5/8-12	42 x 2.0
7007-24-S38-52	24MJ-52FMX-S38x2.0	1 1/2	1 7/8-12	52 x 2.0



7008 Series

MJ-MJIS Union

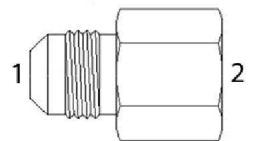
Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male JIS
7008-04-02	4MJ-2MJIS	1/4	7/16-20	1/8-28
7008-04-04	4MJ-4MJIS	1/4	7/16-20	1/4-19
7008-06-06	6MJ-6MJIS	3/8	9/16-18	3/8-19
7008-08-08	8MJ-8MJIS	1/2	3/4-16	1/2-14



7008-F Series

MJ-FJIS

Item Number	HH Item Number	Tube OD	1 Male JIC	2 Female JIS
7008-F-04-04	4MJ-4FJIS	1/4	7/16-20	1/4-19
7008-F-06-06	6MJ-6FJIS	3/8	9/16-18	3/8-19
7008-F-08-08	8MJ-8FJIS	1/2	3/4-16	1/2-14
7008-F-12-12	12MJ-12FJIS	3/4	1 1/16-12	3/4-14
7008-F-16-16	16MJ-16FJIS	1	1 5/16-12	1-11

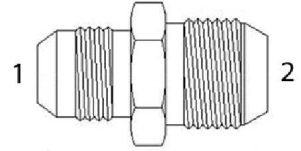


Metric Fittings

7009 Series

Komatsu MJ-MK Union

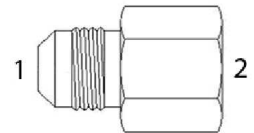
Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male Komatsu
7009-04-14	4MJ-14MK	1/4	7/16-20	14 x 1.5
7009-06-18	6MJ-18MK	3/8	9/16-18	18 x 1.5
7009-08-22	8MJ-22MK	1/2	3/4-16	22 x 1.5
7009-10-24	10MJ-24MK	5/8	7/8-14	24 x 1.5
7009-12-30	12MJ-30MK	3/4	1 1/16-12	30 x 1.5
7009-16-33	16MJ-33MK	1	1 5/16-12	33 x 1.5



7009-F Series

Komatsu MJ-FK Union

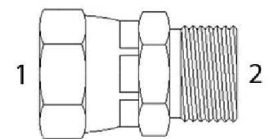
Item Number	HH Item Number	Tube OD	1 Male JIC	2 Female Komatsu
7009-F-04-14	4MJ-14FK	1/4	7/16-20	14 x 1.5
7009-F-06-18	6MJ-18FK	3/8	9/16-18	18 x 1.5
7009-F-08-22	8MJ-22FK	1/2	3/4-16	22 x 1.5
7009-F-10-24	10MJ-24FK	5/8	7/8-14	24 x 1.5
7009-F-12-30	12MJ-30FK	3/4	1 1/16-12	30 x 1.5
7009-F-16-33	16MJ-33FK	1	1 5/16-12	33 x 1.5
7009-F-20-20	20MJ-20FK	1 1/4	1 5/8-12	20 x 1.5



7022 Series

FJX-MBSPP

Item Number	HH Item Number	Tube OD	1 Female JIC	2 Male BSP Parallel
7022-04-02	4FJX-2MBSPP	1/4	7/16-20	1/8-28
7022-04-04	4FJX-4MBSPP	1/4	7/16-20	1/4-19
7022-04-06	4FJX-6MBSPP	1/4	7/16-20	3/8-19
7022-05-04	5FJX-4MBSPP	5/16	1/2-20	1/4-19
7022-06-04	6FJX-4MBSPP	3/8	9/16-18	1/4-19
7022-06-06	6FJX-6MBSPP	3/8	9/16-18	3/8-19
7022-06-08	6FJX-8MBSPP	3/8	9/16-18	1/2-14
7022-08-06	8FJX-6MBSPP	1/2	3/4-16	3/8-19
7022-08-08	8FJX-8MBSPP	1/2	3/4-16	1/2-14
7022-10-08	10FJX-8MBSPP	5/8	7/8-14	1/2-14
7022-10-10	10FJX-10MBSPP	5/8	7/8-14	5/8-14
7022-12-12	12FJX-12MBSPP	3/4	1 1/16-12	3/4-14
7022-16-16	16FJX-16MBSPP	1	1 5/16-12	1-11
7022-20-20	20FJX-20MBSPP	1 1/4	1 5/8-12	1 1/4-11
7022-24-24	24FJX-24MBSPP	1 1/2	1 7/8-12	1 1/2-11

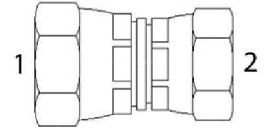


Metric Fittings

7023 Series

FJX-FBSPP

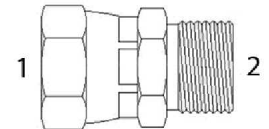
Item Number	HH Item Number	Tube OD	1 Female JIC	2 Female BSP Parallel
7023-04-04	4FJX-4FBSPP	1/4	7/16-20	1/4-19
7023-06-04	6FJX-4FBSPP	3/8	9/16-18	1/4-19
7023-06-06	6FJX-6FBSPP	3/8	9/16-18	3/8-19
7023-06-08	6FJX-8FBSPP	3/8	9/16-18	1/2-14
7023-08-06	8FJX-6FBSPP	1/2	3/4-18	3/8-19
7023-08-08	8FJX-8FBSPP	1/2	3/4-18	1/2-14



7025 Series

FJX-MM Metric

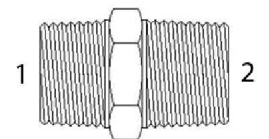
Item Number	HH Item Number	Tube OD	1 Female JIC	2 Male Metric
7025-05-12	5FJX-12MMx1.5	5/16	1/2-20	12 x 1.5
7025-06-14	6FJX-14MMx1.5	3/8	9/16-18	14 x 1.5
7025-06-16	6FJX-16MMx1.5	3/8	9/16-18	16 x 1.5
7025-06-18	6FJX-18MMx1.5	3/8	9/16-18	18 x 1.5
7025-06-20	6FJX-20MMx1.5	3/8	9/16-18	20 x 1.5
7025-06-22	6FJX-22MMx1.5	3/8	9/16-18	22 x 1.5
7025-08-16	8FJX-16MMx1.5	1/2	3/4-16	16 x 1.5
7025-08-18	8FJX-18MMx1.5	1/2	3/4-16	18 x 1.5
7025-08-20	8FJX-20MMx1.5	1/2	3/4-16	20 x 1.5
7025-08-22	8FJX-22MMx1.5	1/2	3/4-16	22 x 1.5
7025-10-16	10FJX-16MMx1.5	5/8	7/8-14	16 x 1.5
7025-10-18	10FJX-18MMx1.5	5/8	7/8-14	18 x 1.5
7025-10-20	10FJX-20MMx1.5	5/8	7/8-14	20 x 1.5
7025-10-22	10FJX-22MMx1.5	5/8	7/8-14	22 x 1.5



7030 Series

MP-MBSPT Nipple

Item Number	HH Item Number	1 Male Pipe	2 Male BSP Tapered
7030-04-04	4MP-4MBSPT	1/4-18	1/4-19
7030-04-06	4MP-6MBSPT	1/4-18	3/8-19
7030-06-04	6MP-4MBSPT	3/8-18	1/4-19
7030-06-06	6MP-6MBSPT	3/8-18	3/8-19
7030-08-08	8MP-8MBSPT	1/2-14	1/2-14
7030-12-12	12MP-12MBSPT	3/4-14	3/4-14
7030-16-16	16MP-16MBSPT	1-11 1/2	1-11
7030-20-20	20MP-20MBSPT	1 1/4-11 1/2	1 1/4-11
7030-24-24	24MP-24MBSPT	1 1/2-11 1/2	1 1/2-11
7030-32-32	32MP-32MBSPT	2-11 1/2	2-11

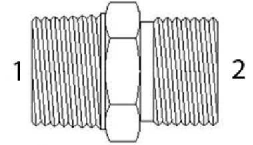


Metric Fittings

7032 Series

MP-MBSPP Nipple

Item Number	HH Item Number	1 Male Pipe	2 Male BSP Parallel
7032-02-02	2MP-2MBSPP	1/8-27	1/8-28
7032-02-04	2MP-4MBSPP	1/8-27	1/4-19
7032-02-06	2MP-6MBSPP	1/8-27	3/8-19
7032-04-02	4MP-2MBSPP	1/4-18	1/8-28
7032-04-04	4MP-4MBSPP	1/4-18	1/4-19
7032-04-06	4MP-6MBSPP	1/4-18	3/8-19
7032-04-08	4MP-8MBSPP	1/4-18	1/2-14
7032-04-12	4MP-12MBSPP	1/4-18	3/4-14
7032-06-02	6MP-2MBSPP	3/8-18	1/8-28
7032-06-04	6MP-4MBSPP	3/8-18	1/4-19
7032-06-06	6MP-6MBSPP	3/8-18	3/8-19
7032-06-08	6MP-8MBSPP	3/8-18	1/2-14
7032-06-12	6MP-12MBSPP	3/8-18	3/4-14
7032-06-16	6MP-16MBSPP	3/8-18	1-11
7032-08-04	8MP-4MBSPP	1/2-14	1/4-19
7032-08-06	8MP-6MBSPP	1/2-14	3/8-19
7032-08-08	8MP-8MBSPP	1/2-14	1/2-14
7032-08-10	8MP-10MBSPP	1/2-14	5/8-14
7032-08-12	8MP-12MBSPP	1/2-14	3/4-14
7032-08-16	8MP-16MBSPP	1/2-14	1-11
7032-10-08	10MP-8MBSPP	5/8-14	1/2-14
7032-10-12	10MP-12MBSPP	5/8-14	3/4-14
7032-12-04	12MP-4MBSPP	3/4-14	1/4-19
7032-12-06	12MP-6MBSPP	3/4-14	3/8-19
7032-12-08	12MP-8MBSPP	3/4-14	1/2-14
7032-12-10	12MP-10MBSPP	3/4-14	5/8-14
7032-12-12	12MP-12MBSPP	3/4-14	3/4-14
7032-12-16	12MP-16MBSPP	3/4-14	1-11
7032-12-20	12MP-20MBSPP	3/4-14	1 1/4-11
7032-12-24	12MP-24MBSPP	3/4-14	1 1/2-11
7032-16-06	16MP-6MBSPP	1-11 1/2	3/8-19
7032-16-08	16MP-8MBSPP	1-11 1/2	1/2-14
7032-16-12	16MP-12MBSPP	1-11 1/2	3/4-14
7032-16-16	16MP-16MBSPP	1-11 1/2	1-11
7032-16-20	16MP-20MBSPP	1-11 1/2	1 1/4-11
7032-16-24	16MP-24MBSPP	1-11 1/2	1 1/2-11
7032-20-12	20MP-12MBSPP	1 1/4-11 1/2	3/4-14
7032-20-16	20MP-16MBSPP	1 1/4-11 1/2	1-11
7032-20-20	20MP-20MBSPP	1 1/4-11 1/2	1 1/4-11
7032-20-24	20MP-24MBSPP	1 1/4-11 1/2	1 1/2-11
7032-20-32	20MP-32MBSPP	1 1/4-11 1/2	2-11
7032-24-12	24MP-12MBSPP	1 1/2-11 1/2	3/4-14
7032-24-16	24MP-16MBSPP	1 1/2-11 1/2	1-11
7032-24-20	24MP-20MBSPP	1 1/2-11 1/2	1 1/4-11
7032-24-24	24MP-24MBSPP	1 1/2-11 1/2	1 1/2-11
7032-24-32	24MP-32MBSPP	1 1/2-11 1/2	2-11
7032-32-20	32MP-20MBSPP	2-11 1/2	1 1/4-11
7032-32-24	32MP-24MBSPP	2-11 1/2	1 1/2-11
7032-32-32	32MP-32MBSPP	2-11 1/2	2-11

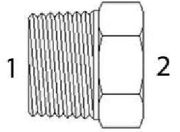


Metric Fittings

7033 Series

MP-FBSPP

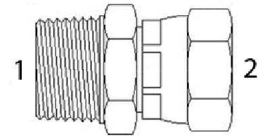
Item Number	HH Item Number	1 Male Pipe	2 Female BSP Parallel
7033-02-02	2MP-2FBSPP	1/8-27	1/8-28
7033-04-04	4MP-4FBSPP	1/4-18	1/4-19
7033-06-06	6MP-6FBSPP	3/8-18	3/8-19
7033-08-06	8MP-6FBSPP	1/2-14	3/8-19
7033-08-08	8MP-8FBSPP	1/2-14	1/2-14
7033-12-12	12MP-12FBSPP	3/4-14	3/4-14
7033-16-16	16MP-16FBSPP	1-11 1/2	1-11
7033-20-20	20MP-20FBSPP	1 1/4-11 1/2	1 1/4-11
7033-24-24	24MP-24FBSPP	1 1/2-11 1/2	1 1/2-11
7033-32-32	32MP-32FBSPP	2-11 1/2	2-11



7034 Series

MP-FBSPPX

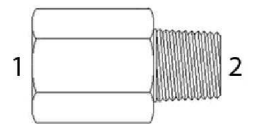
Item Number	HH Item Number	1 Male Pipe	2 Female BSP Parallel Swivel
7034-02-02	2MP-2FBSPPX	1/8-27	1/8-28
7034-02-04	2MP-4FBSPPX	1/8-27	1/4-19
7034-04-04	4MP-4FBSPPX	1/4-18	1/4-19
7034-04-06	4MP-6FBSPPX	1/4-18	3/8-19
7034-06-04	6MP-4FBSPPX	3/8-18	1/4-19
7034-06-06	6MP-6FBSPPX	3/8-18	3/8-19
7034-06-08	6MP-8FBSPPX	3/8-18	1/2-14
7034-08-06	8MP-6FBSPPX	1/2-14	3/8-19
7034-08-08	8MP-8FBSPPX	1/2-14	1/2-14
7034-12-08	12MP-8FBSPPX	3/4-14	1/2-14
7034-12-12	12MP-12FBSPPX	3/4-14	3/4-14
7034-16-12	16MP-12FBSPPX	1-11 1/2	3/4-14
7034-16-16	16MP-16FBSPPX	1-11 1/2	1-11



7040 Series

FP-MBSPT

Item Number	HH Item Number	1 Female Pipe	2 Male BSP Tapered
7040-02-02	2FP-2MBSPT	1/8-27	1/8-28
7040-04-04	4FP-4MBSPT	1/4-18	1/4-19
7040-06-06	6FP-6MBSPT	3/8-18	3/8-19
7040-08-08	8FP-8MBSPT	1/2-14	1/2-14
7040-12-12	12FP-12MBSPT	3/4-14	3/4-14
7040-16-16	16FP-16MBSPT	1-11 1/2	1-11

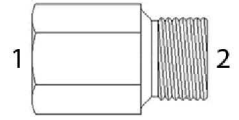


Metric Fittings

7042 Series

FP-MBSPP

Item Number	HH Item Number	1 Female Pipe	2 Male BSP Parallel
7042-02-02	2FP-2MBSPP	1/8-27	1/8-28
7042-02-04	2FP-4MBSPP	1/8-27	1/4-19
7042-02-06	2FP-6MBSPP	1/8-27	3/8-19
7042-02-08	2FP-8MBSPP	1/8-27	1/2-14
7042-04-02	4FP-2MBSPP	1/4-18	1/8-28
7042-04-04	4FP-4MBSPP	1/4-18	1/4-19
7042-04-06	4FP-6MBSPP	1/4-18	3/8-19
7042-04-08	4FP-8MBSPP	1/4-18	1/2-14
7042-04-12	4FP-12MBSPP	1/4-18	3/4-14
7042-06-02	6FP-2MBSPP	3/8-18	1/8-28
7042-06-04	6FP-4MBSPP	3/8-18	1/4-19
7042-06-06	6FP-6MBSPP	3/8-18	3/8-19
7042-06-08	6FP-8MBSPP	3/8-18	1/2-14
7042-08-02	8FP-2MBSPP	1/2-14	1/8-28
7042-08-04	8FP-4MBSPP	1/2-14	1/4-19
7042-08-06	8FP-6MBSPP	1/2-14	3/8-19
7042-08-08	8FP-8MBSPP	1/2-14	1/2-14
7042-08-12	8FP-12MBSPP	1/2-14	3/4-14
7042-12-08	12FP-8MBSPP	3/4-14	1/2-14
7042-12-12	12FP-12MBSPP	3/4-14	3/4-14
7042-16-16	16FP-16MBSPP	1-11 1/2	1-11
7042-16-20	16FP-20MBSPP	1-11 1/2	1 1/4-11
7042-20-16	20FP-16MBSPP	1 1/4-11 1/2	1-11
7042-20-20	20FP-20MBSPP	1 1/4-11 1/2	1 1/4-11
7042-20-24	20FP-24MBSPP	1 1/4-11 1/2	1 1/2-11
7042-24-20	24FP-20MBSPP	1 1/2-11 1/2	1 1/4-11
7042-24-24	24FP-24MBSPP	1 1/2-11 1/2	1 1/2-11
7042-32-32	32FP-32MBSPP	2-11 1/2	2-11

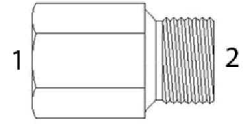


Metric Fittings

7045 Series

FP-MM Metric

Item Number	HH Item Number	1 Female Pipe	2 Male Metric
7045-02-06	2FP-6MMx1.0	1/8-27	6 x 1.0
7045-02-08	2FP-8MMx1.0	1/8-27	8 x 1.0
7045-02-10	2FP-10MMx1.0	1/8-27	10 x 1.0
7045-02-12	2FP-12MMx1.5	1/8-27	12 x 1.5
7045-02-14	2FP-14MMx1.5	1/8-27	14 x 1.5
7045-02-16	2FP-16MMx1.5	1/8-27	16 x 1.5
7045-02-18	2FP-18MMx1.5	1/8-27	18 x 1.5
7045-02-20	2FP-20MMx1.5	1/8-27	20 x 1.5
7045-04-10	4FP-10MMx1.0	1/4-18	10 x 1.0
7045-04-12	4FP-12MMx1.5	1/4-18	12 x 1.5
7045-04-14	4FP-14MMx1.5	1/4-18	14 x 1.5
7045-04-16	4FP-16MMx1.5	1/4-18	16 x 1.5
7045-06-16	6FP-16MMx1.5	3/8-18	16 x 1.5
7045-06-18	6FP-18MMx1.5	3/8-18	18 x 1.5
7045-06-20	6FP-20MMx1.5	3/8-18	20 x 1.5
7045-06-22	6FP-22MMx1.5	3/8-18	22 x 1.5
7045-08-16	8FP-16MMx1.5	1/2-14	16 x 1.5
7045-08-18	8FP-18MMx1.5	1/2-14	18 x 1.5
7045-08-22	8FP-22MMx1.5	1/2-14	22 x 1.5
7045-12-26	12FP-26MMx1.5	3/4-14	26 x 1.5
7045-12-27	12FP-27MMx2.0	3/4-14	27 x 2.0
7045-16-33	16FP-33MMx2.0	1-11 1/2	33 x 2.0
7045-16-42	16FP-42MMx2.0	1-11 1/2	42 x 2.0

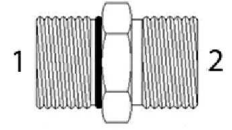


Metric Fittings

7062 Series

MB-MBSPP

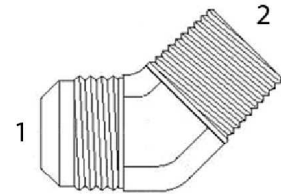
Item Number	HH Item Number	1	2
		Male ORB	Male BSP Parallel
7062-03-04	3MB-4MBSPP	3/8-24	1/4-19
7062-04-04	4MB-4MBSPP	7/16-20	1/4-19
7062-04-06	4MB-6MBSPP	7/16-20	3/8-19
7062-05-04	5MB-4MBSPP	1/2-20	1/4-19
7062-06-04	6MB-4MBSPP	9/16-18	1/4-19
7062-06-06	6MB-6MBSPP	9/16-18	3/8-19
7062-06-08	6MB-8MBSPP	9/16-18	1/2-14
7062-08-06	8MB-6MBSPP	3/4-16	3/8-19
7062-08-08	8MB-8MBSPP	3/4-16	1/2-14
7062-08-10	8MB-10MBSPP	3/4-16	5/8-14
7062-08-12	8MB-12MBSPP	3/4-16	3/4-14
7062-10-06	10MB-6MBSPP	7/8-14	3/8-19
7062-10-08	10MB-8MBSPP	7/8-14	1/2-14
7062-10-12	10MB-12MBSPP	7/8-14	3/4-14
7062-12-08	12MB-8MBSPP	1 1/16-12	1/2-14
7062-12-12	12MB-12MBSPP	1 1/16-12	3/4-14
7062-12-16	12MB-16MBSPP	1 1/16-12	1-11
7062-16-12	16MB-12MBSPP	1 5/16-12	3/4-14
7062-16-16	16MB-16MBSPP	1 5/16-12	1-11
7062-16-20	16MB-20MBSPP	1 5/16-12	1 1/4-11
7062-20-16	20MB-16MBSPP	1 5/8-12	1-11
7062-20-20	20MB-20MBSPP	1 5/8-12	1 1/4-11
7062-24-20	24MB-20MBSPP	1 7/8-12	1 1/4-11
7062-24-24	24MB-24MBSPP	1 7/8-12	1 1/2-11



7100 Series

MJ-MBSPT 45°

Item Number	HH Item Number	Tube OD	1	2
			Male JIC	Male BSP Tapered
7100-04-02	4MJ-2MBSPT	1/4	7/16-20	1/8-28
7100-04-04	4MJ-4MBSPT	1/4	7/16-20	1/4-19
7100-06-04	6MJ-4MBSPT	3/8	9/16-18	1/4-19
7100-06-06	6MJ-6MBSPT	3/8	9/16-18	3/8-19
7100-08-06	8MJ-6MBSPT	1/2	3/4-16	3/8-19
7100-08-08	8MJ-8MBSPT	1/2	3/4-16	1/2-14
7100-10-08	10MJ-8MBSPT	5/8	7/8-14	1/2-14
7100-12-12	12MJ-12MBSPT	3/4	1 1/16-12	3/4-14
7100-16-16	16MJ-16MBSPT	1	1 5/16-12	1-11

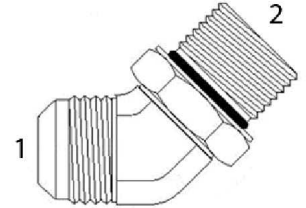


Metric Fittings

7102-NWO Series

MJ-MBSPPADJ 45°

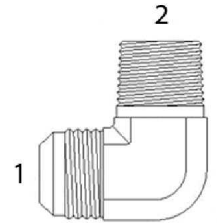
Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male BSP Parallel Adj
7102-04-04-NWO	4MJ-4MBSPPADJ45	1/4	7/16-20	1/4-19
7102-06-04-NWO	6MJ-4MBSPPADJ45	3/8	9/16-18	1/4-19
7102-06-06-NWO	6MJ-6MBSPPADJ45	3/8	9/16-18	3/8-19
7102-06-08-NWO	6MJ-8MBSPPADJ45	3/8	9/16-18	1/2-14
7102-08-06-NWO	8MJ-6MBSPPADJ45	1/2	3/4-16	3/8-19
7102-08-08-NWO	8MJ-8MBSPPADJ45	1/2	3/4-16	1/2-14
7102-12-08-NWO	12MJ-8MBSPPADJ45	3/4	1 1/16-12	1/2-14
7102-12-12-NWO	12MJ-12MBSPPADJ45	3/4	1 1/16-12	3/4-14
7102-14-12-NWO	14MJ-12MBSPPADJ45	7/8	1 3/16-12	3/4-14
7102-16-16-NWO	16MJ-16MBSPPADJ45	1	1 5/16-12	1-11
7102-20-20-NWO	20MJ-20MBSPPADJ45	1 1/4	1 5/8-12	1 1/4-11



7200 Series

MJ-MBSPT 90°

Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male BSP Tapered
7200-04-02	4MJ-2MBSPT90	1/4	7/16-20	1/8-28
7200-04-04	4MJ-4MBSPT90	1/4	7/16-20	1/4-19
7200-04-06	4MJ-6MBSPT90	1/4	7/16-20	3/8-19
7200-06-04	6MJ-4MBSPT90	3/8	9/16-18	1/4-19
7200-06-06	6MJ-6MBSPT90	3/8	9/16-18	3/8-19
7200-08-06	8MJ-6MBSPT90	1/2	3/4-16	3/8-19
7200-08-08	8MJ-8MBSPT90	1/2	3/4-16	1/2-14
7200-12-08	12MJ-8MBSPT90	3/4	1 1/16-12	1/2-14
7200-12-12	12MJ-12MBSPT90	3/4	1 1/16-12	3/4-14
7200-16-16	16MJ-16MBSPT90	1	1 5/16-12	1-11
7200-20-20	20MJ-20MBSPT90	1 1/4	1 5/8-12	1 1/4-11

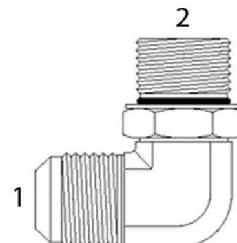


Metric Fittings

7202-NWO Series

MJ-MBSPPADJ 90°

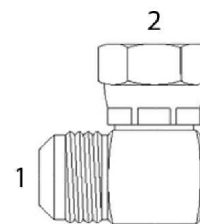
Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male BSP Parallel Adj
7202-04-02-NWO	4MJ-2MBSPPADJ90	1/4	7/16-20	1/8-28
7202-04-04-NWO	4MJ-4MBSPPADJ90	1/4	7/16-20	1/4-19
7202-04-06-NWO	4MJ-6MBSPPADJ90	1/4	7/16-20	3/8-19
7202-05-04-NWO	5MJ-4MBSPPADJ90	5/16	1/2-20	1/4-19
7202-06-04-NWO	6MJ-4MBSPPADJ90	3/8	9/16-18	1/4-19
7202-06-06-NWO	6MJ-6MBSPPADJ90	3/8	9/16-18	3/8-19
7202-06-08-NWO	6MJ-8MBSPPADJ90	3/8	9/16-18	1/2-14
7202-08-06-NWO	8MJ-6MBSPPADJ90	1/2	3/4-16	3/8-19
7202-08-08-NWO	8MJ-8MBSPPADJ90	1/2	3/4-16	1/2-14
7202-08-12-NWO	8MJ-12MBSPPADJ90	1/2	3/4-16	3/4-14
7202-10-06-NWO	10MJ-6MBSPPADJ90	5/8	7/8-14	3/8-19
7202-10-08-NWO	10MJ-8MBSPPADJ90	5/8	7/8-14	1/2-14
7202-10-12-NWO	10MJ-12MBSPPADJ90	5/8	7/8-14	3/4-14
7202-12-08-NWO	12MJ-8MBSPPADJ90	3/4	1 1/16-12	1/2-14
7202-12-12-NWO	12MJ-12MBSPPADJ90	3/4	1 1/16-12	3/4-14
7202-12-16-NWO	12MJ-16MBSPPADJ90	3/4	1 1/16-12	1-11
7202-16-12-NWO	16MJ-12MBSPPADJ90	1	1 5/16-12	3/4-14
7202-16-16-NWO	16MJ-16MBSPPADJ90	1	1 5/16-12	1-11
7202-16-20-NWO	16MJ-20MBSPPADJ90	1	1 5/16-12	1 1/4-11
7202-20-20-NWO	20MJ-20MBSPPADJ90	1 1/4	1 5/8-12	1 1/4-11
7202-24-24-NWO	24MJ-24MBSPPADJ90	1 1/2	1 7/8-12	1 1/2-11



7204 Series

MJ-FBSPPX 90°

Item Number	HH Item Number	Tube OD	1 Male JIC	2 Female BSP Parallel Swivel
7204-06-06	6MJ-6FBSPPX90	3/8	9/16-18	3/8-19
7204-08-08	8MJ-8FBSPPX90	1/2	3/4-16	1/2-14
7204-12-12	12MJ-12FBSPPX90	3/4	1 1/16-12	3/4-14

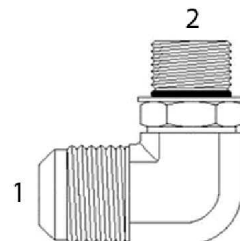


Metric Fittings

7205-NWO Series

MJ-MMADJ 90°

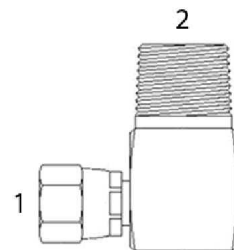
Item Number	HH Item Number	Tube OD	1 Male JIC	2 Male Metric Adjustable
7205-04-10-NWO	4MJ-10MMADJ90	1/4	7/16-20	10 x 1.0
7205-04-12-NWO	4MJ-12MMADJ90	1/4	7/16-20	12 x 1.5
7205-04-14-NWO	4MJ-14MMADJ90	1/4	7/16-20	14 x 1.5
7205-05-12-NWO	5MJ-12MMADJ90	5/16	1/2-20	12 x 1.5
7205-06-14-NWO	6MJ-14MMADJ90	3/8	9/16-18	14 x 1.5
7205-06-16-NWO	6MJ-16MMADJ90	3/8	9/16-18	16 x 1.5
7205-08-16-NWO	8MJ-16MMADJ90	1/2	3/4-16	16 x 1.5
7205-08-18-NWO	8MJ-18MMADJ90	1/2	3/4-16	18 x 1.5
7205-08-22-NWO	8MJ-22MMADJ90	1/2	3/4-16	22 x 1.5
7205-10-18-NWO	10MJ-18MMADJ90	5/8	7/8-14	18 x 1.5
7205-10-20-NWO	10MJ-20MMADJ90	5/8	7/8-14	20 x 1.5
7205-10-22-NWO	10MJ-22MMADJ90	5/8	7/8-14	22 x 1.5
7205-12-22-NWO	12MJ-22MMADJ90	3/4	1 1/16-12	22 x 1.5
7205-12-27-NWO	12MJ-27MMADJ90	3/4	1 1/16-12	27 x 2.0
7205-16-27-NWO	16MJ-27MMADJ90	1	1 5/16-12	27 x 2.0
7205-16-33-NWO	16MJ-33MMADJ90	1	1 5/16-12	33 x 2.0
7205-20-42-NWO	20MJ-42MMADJ90	1 1/4	1 5/8-12	42 x 2.0



7220 Series

FJX-MBSPT 90°

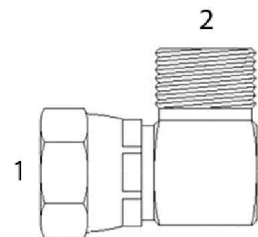
Item Number	HH Item Number	Tube OD	1 Female JIC Swivel	2 Male BSP Tapered
7220-06-08	6FJX-8MBSPT90	3/8	9/16-18	1/2-14



7222 Series

FJX-MBSPP 90°

Item Number	HH Item Number	Tube OD	1 Female JIC Swivel	2 Male BSP Parallel
7222-04-04	4FJX-4MBSPP90	1/4	7/16-20	1/4-19
7222-06-06	6FJX-6MBSPP90	3/8	9/16-18	3/8-19
7222-06-08	6FJX-8MBSPP90	3/8	9/16-18	1/2-14
7222-08-06	8FJX-6MBSPP90	1/2	3/4-16	3/8-19
7222-08-08	8FJX-8MBSPP90	1/2	3/4-16	1/2-14
7222-08-10	8FJX-10MBSPP90	1/2	3/4-16	5/8-14
7222-10-08	10FJX-8MBSPP90	5/8	7/8-14	1/2-14
7222-12-12	12FJX-12MBSPP90	3/4	1 1/16-12	3/4-14

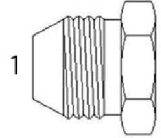


Metric Fittings

7588-P Series

MJIS Plug

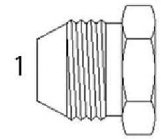
Item Number	HH Item Number	1 Male JIS
7588-P-02	2MJIS-PLUG	1/8-27
7588-P-04	4MJIS-PLUG	1/4-19
7588-P-06	6MJIS-PLUG	3/8-19
7588-P-08	8MJIS-PLUG	1/2-14
7588-P-12	12MJIS-PLUG	3/4-14
7588-P-16	16MJIS-PLUG	1-11



7599-P Series

Komatsu MK Plug

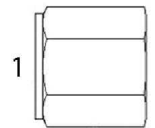
Item Number	HH Item Number	1 Male Komatsu
7599-P-14	14MK-PLUG	14 x 1.5
7599-P-18	18MK-PLUG	18 x 1.5
7599-P-22	22MK-PLUG	22 x 1.5
7599-P-24	24MK-PLUG	24 x 1.5
7599-P-30	30MK-PLUG	30 x 2.0
7599-P-33	33MK-PLUG	33 x 2.0



7688-C Series

FJIS Cap

Item Number	HH Item Number	1 Female JIS
7688-C-02	2FJIS-CAP	1/8-28
7688-C-04	4FJIS-CAP	1/4-19
7688-C-06	6FJIS-CAP	3/8-19
7688-C-08	8FJIS-CAP	1/2-14
7688-C-12	12FJIS-CAP	3/4-14
7688-C-16	16FJIS-CAP	1-11

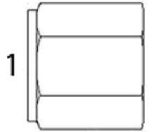


Metric Fittings

7699-C Series

Komatsu FK Cap

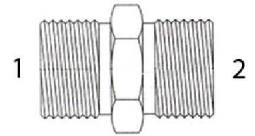
Item Number	HH Item Number	1 Female Komatsu
7699-C-14	14FK-CAP	14 x 1.5
7699-C-18	18FK-CAP	18 x 1.5
7699-C-22	22FK-CAP	22 x 1.5
7699-C-24	24FK-CAP	24 x 1.5
7699-C-30	30FK-CAP	30 x 2.0
7699-C-32	32FK-CAP	32 x 2.0
7699-C-33	33FK-CAP	33 x 2.0



8055 Series

MM-MM Metric Nipple

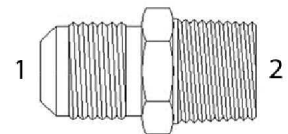
Item Number	HH Item Number	1 Male Metric	2 Male Metric
8055-14-14	14MM-14MMx1.5	14 x 1.5	14 x 1.5
8055-16-16	16MM-16MMx1.5	16 x 1.5	16 x 1.5
8055-18-18	18MM-18MMx1.5	18 x 1.5	18 x 1.5
8055-20-20	20MM-20MMx1.5	20 x 1.5	20 x 1.5



8080 Series

MJIS-MBSPT

Item Number	HH Item Number	1 Male JIS	2 Male BSP Tapered
8080-04-04	4MJIS-4MBSPT	1/4-19	1/4-19
8080-04-06	4MJIS-6MBSPT	1/4-19	3/8-19
8080-06-04	6MJIS-4MBSPT	3/8-19	1/4-19
8080-06-06	6MJIS-6MBSPT	3/8-19	3/8-19
8080-08-06	8MJIS-6MBSPT	1/2-14	3/8-19
8080-08-08	8MJIS-8MBSPT	1/2-14	1/2-14
8080-12-12	12MJIS-12MBSPT	3/4-14	3/4-14
8080-16-16	16MJIS-16MBSPT	1-11	1-11

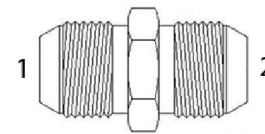


Metric Fittings

8088 Series

MJIS-MJIS Union

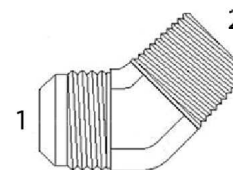
Item Number	HH Item Number	1 Male JIS	2 Male JIS
8088-04-04	4MJIS-4MJIS	1/4-19	1/4-19
8088-06-06	6MJIS-6MJIS	3/8-19	3/8-19
8088-08-08	8MJIS-8MJIS	1/2-14	1/2-14
8088-12-12	12MJIS-12MJIS	3/4-14	3/4-14



8180 Series

MJIS-MBSPT 45° Union

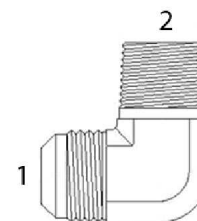
Item Number	HH Item Number	1 Male JIS	2 Male BSP Tapered
8180-04-04	4MJIS-4MBSPT45	1/4-19	1/4-19
8180-06-06	6MJIS-6MBSPT45	3/8-19	3/8-19
8180-08-08	8MJIS-8MBSPT45	1/2-14	1/2-14
8180-12-12	12MJIS-12MBSPT45	3/4-14	3/4-14
8180-16-16	16MJIS-16MBSPT45	1-11	1-11



8280 Series

MJIS-MBSPT 90° Union

Item Number	HH Item Number	1 Male JIS	2 Male BSP Tapered
8280-04-04	4MJIS-4MBSPT90	1/4-19	1/4-19
8280-06-06	6MJIS-6MBSPT90	3/8-19	3/8-19
8280-08-08	8MJIS-8MBSPT90	1/2-14	1/2-14
8280-12-12	12MJIS-12MBSPT90	3/4-14	3/4-14
8280-16-16	16MJIS-16MBSPT90	1-11	1-11

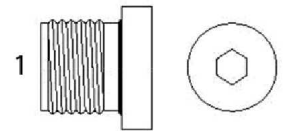


Metric Fittings

8555-H Series

MM Metric Hollow Hex Plug

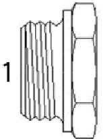
Item Number	HH Item Number	1 Male Metric
8555-H10-O	10MM-HHPx1.5	10 x 1.5
8555-H12-O	12MM-HHPx1.5	12 x 1.5
8555-H14-O	14MM-HHPx1.5	14 x 1.5
8555-H16-O	16MM-HHPx1.5	16 x 1.5
8555-H18-O	18MM-HHPx1.5	18 x 1.5
8555-H20-O	20MM-HHPx1.5	20 x 1.5
8555-H22-O	22MM-HHPx1.5	22 x 1.5
8555-H24-O	24MM-HHPx1.5	24 x 1.5
8555-H26-O	26MM-HHPx1.5	26 x 1.5
8555-H27-O	27MM-HHPx2.0	27 x 2.0
8555-H33-O	33MM-HHPx2.0	33 x 2.0
8555-H42-O	42MM-HHPx2.0	42 x 2.0



8555-P Series

MM Metric Plug 1.5 Pitch

Item Number	HH Item Number	1 Male Metric
8555-P-08	8MM-PLUGx1.0	8 x 1.0
8555-P-10	10MM-PLUGx1.0	10x 1.0
8555-P-12	12MM-PLUGx1.5	12 x 1.5
8555-P-14	14MM-PLUGx1.5	14 x 1.5
8555-P-16	16MM-PLUGx1.5	16 x 1.5
8555-P-18	18MM-PLUGx1.5	18 x 1.5
8555-P-20	20MM-PLUGx1.5	20 x 1.5
8555-P-22	22MM-PLUGx1.5	22 x 1.5
8555-P-24	24MM-PLUGx1.5	24 x 1.5
8555-P-26	26MM-PLUGx1.5	26 x 1.5
8555-P-30	30MM-PLUGx1.5	30 x 1.5
8555-P-36	36MM-PLUGx2.0	36 x 2.0

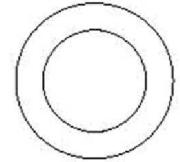


Metric Fittings

8800 Series

Metric Bonded Seal

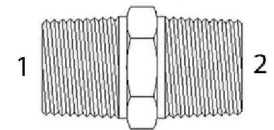
Item Number	HH Item Number	1 ID MM	2 OD MM
8800-06	6MM BONDED SEAL	6	10
8800-08	8MM BONDED SEAL	8	13
8800-10	10MM BONDED SEAL	10	18
8800-12	12MM BONDED SEAL	12	20
8800-14	14MM BONDED SEAL	14	22
8800-16	16MM BONDED SEAL	16	24
8800-18	18MM BONDED SEAL	18	26
8800-20	20MM BONDED SEAL	20	28
8800-22	22MM BONDED SEAL	22	30
8800-23	23MM BONDED SEAL	23	31
8800-24	24MM BONDED SEAL	24	32
8800-26	26MM BONDED SEAL	26	35
8800-27	27MM BONDED SEAL	27	36
8800-30	30MM BONDED SEAL	30	39
8800-33	33MM BONDED SEAL	33	43
8800-36	36MM BONDED SEAL	36	46
8800-42	42MM BONDED SEAL	42	53
8800-45	45MM BONDED SEAL	45	56
8800-52	52MM BONDED SEAL	52	64



9000 Series

MBSPT-MBSPT Nipple

Item Number	HH Item Number	1 Male BSP Tapered	2 Male BSP Tapered
9000-02-02	2MBSPT-2MBSPT	1/8-28	1/8-28
9000-04-02	4MBSPT-2MBSPT	1/4-19	1/8-28
9000-04-04	4MBSPT-4MBSPT	1/4-19	1/4-19
9000-06-02	6MBSPT-2MBSPT	3/8-19	1/8-28
9000-06-04	6MBSPT-4MBSPT	3/8-19	1/4-19
9000-06-06	6MBSPT-6MBSPT	3/8-19	3/8-19
9000-08-04	8MBSPT-4MBSPT	1/2-14	1/4-19
9000-08-06	8MBSPT-6MBSPT	1/2-14	3/8-19
9000-08-08	8MBSPT-8MBSPT	1/2-14	1/2-14
9000-10-10	10MBSPT-10MBSPT	5/8-14	5/8-14
9000-12-08	12MBSPT-8MBSPT	3/4-14	1/2-14
9000-12-12	12MBSPT-12MBSPT	3/4-14	3/4-14
9000-16-12	16MBSPT-12MBSPT	1-11	3/4-14
9000-16-16	16MBSPT-16MBSPT	1-11	1-11
9000-20-20	20MBSPT-20MBSPT	1 1/4-11	1 1/4-11
9000-24-24	24MBSPT-24MBSPT	1 1/2-11	1 1/2-11
9000-32-32	32MBSPT-32MBSPT	2-11	2-11

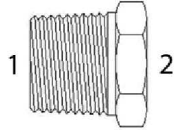


Metric Fittings

9001 Series

MBSPT-FBSPT Bushing

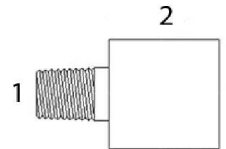
Item Number	HH Item Number	1 Male BSP Tapered	2 Female BSP Tapered
9001-04-02	4MBSPT-2FBSPT	1/4-19	1/8-28
9001-06-04	6MBSPT-4FBSPT	3/8-19	1/4-19
9001-08-06	8MBSPT-6FBSPT	1/2-14	3/8-19
9001-12-08	12MBSPT-8FBSPT	3/4-14	1/2-14
9001-16-12	16MBSPT-12FBSPT	1-11	3/4-14
9001-20-16	20MBSPT-16FBSPT	1 1/4-11	1-11



9002 Series

MBSPT-FBSPT 90°

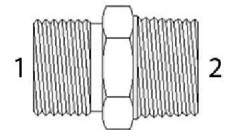
Item Number	HH Item Number	1 Male BSP Tapered	2 Female BSP Tapered
9002-02-02	2MBSPT-2FBSPT90	1/8-28	1/8-28
9002-04-04	4MBSPT-4FBSPT90	1/4-19	1/4-19



9020 Series

MBSPP-MBSPT Straight

Item Number	HH Item Number	1 Male BSP Parallel	2 Male BSP Tapered
9020-04-02	4MBSPP-2MBSPT	1/4-19	1/8-28
9020-04-04	4MBSPP-4MBSPT	1/4-19	1/4-19
9020-04-06	4MBSPP-6MBSPT	1/4-19	3/8-19
9020-06-04	6MBSPP-4MBSPT	3/8-19	1/4-19
9020-06-06	6MBSPP-6MBSPT	3/8-19	3/8-19
9020-08-08	8MBSPP-8MBSPT	1/2-14	1/2-14
9020-12-12	12MBSPP-12MBSPT	3/4-14	3/4-14
9020-16-16	16MBSPP-16MBSPT	1-11	1-11
9020-20-20	20MBSPP-20MBSPT	1 1/4-11	1 1/4-11
9020-24-24	24MBSPP-24MBSPT	1 1/2-11	1 1/2-11

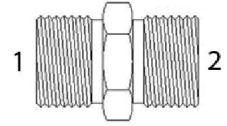


Metric Fittings

9022 Series

MBSPP-MBSPP Nipple

Item Number	HH Item Number	1 Male BSP Parallel	2 Male BSP Parallel
9022-02-02	2MBSPP-2MBSPP	1/8-28	1/8-28
9022-04-02	4MBSPP-2MBSPP	1/4-19	1/8-28
9022-04-04	4MBSPP-4MBSPP	1/4-19	1/4-19
9022-06-02	6MBSPP-2MBSPP	3/8-19	1/8-28
9022-06-04	6MBSPP-4MBSPP	3/8-19	1/4-19
9022-06-06	6MBSPP-6MBSPP	3/8-19	3/8-19
9022-08-02	8MBSPP-2MBSPP	1/2-14	1/8-28
9022-08-04	8MBSPP-4MBSPP	1/2-14	1/4-19
9022-08-06	8MBSPP-6MBSPP	1/2-14	3/8-19
9022-08-08	8MBSPP-8MBSPP	1/2-14	1/2-14
9022-10-04	10MBSPP-4MBSPP	5/8-14	1/4-19
9022-10-06	10MBSPP-6MBSPP	5/8-14	3/8-19
9022-10-08	10MBSPP-8MBSPP	5/8-14	1/2-14
9022-10-10	10MBSPP-10MBSPP	5/8-14	5/8-14
9022-12-04	12MBSPP-4MBSPP	3/4-14	1/4-19
9022-12-06	12MBSPP-6MBSPP	3/4-14	3/8-19
9022-12-08	12MBSPP-8MBSPP	3/4-14	1/2-14
9022-12-10	12MBSPP-10MBSPP	3/4-14	5/8-14
9022-12-12	12MBSPP-12MBSPP	3/4-14	3/4-14
9022-16-04	16MBSPP-4MBSPP	1-11	1/4-19
9022-16-06	16MBSPP-6MBSPP	1-11	3/8-19
9022-16-08	16MBSPP-8MBSPP	1-11	1/2-14
9022-16-10	16MBSPP-10MBSPP	1-11	5/8-14
9022-16-12	16MBSPP-12MBSPP	1-11	3/4-14
9022-16-16	16MBSPP-16MBSPP	1-11	1-11
9022-20-06	20MBSPP-6MBSPP	1 1/4-11	3/8-19
9022-20-08	20MBSPP-8MBSPP	1 1/4-11	1/2-14
9022-20-10	20MBSPP-10MBSPP	1 1/4-11	5/8-14
9022-20-12	20MBSPP-12MBSPP	1 1/4-11	3/4-14
9022-20-16	20MBSPP-16MBSPP	1 1/4-11	1-11
9022-20-20	20MBSPP-20MBSPP	1 1/4-11	1 1/4-11
9022-24-08	24MBSPP-8MBSPP	1 1/2-11	1/2-14
9022-24-12	24MBSPP-12MBSPP	1 1/2-11	3/4-14
9022-24-16	24MBSPP-16MBSPP	1 1/2-11	1-11
9022-24-20	24MBSPP-20MBSPP	1 1/2-11	1 1/4-11
9022-24-24	24MBSPP-24MBSPP	1 1/2-11	1 1/2-11
9022-32-16	32MBSPP-16MBSPP	2-11	1-11
9022-32-20	32MBSPP-20MBSPP	2-11	1 1/4-11
9022-32-24	32MBSPP-24MBSPP	2-11	1 1/2-11
9022-32-32	32MBSPP-32MBSPP	2-11	2-11

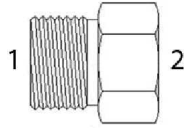


Metric Fittings

9023 Series

MBSPP-FBSPP

Item Number	HH Item Number	1 Male BSP Parallel	2 Female BSP Parallel
9023-02-04	2MBSPP-4FBSPP	1/8-28	1/4-19
9023-04-02	4MBSPP-2FBSPP	1/4-19	1/8-28
9023-04-04	4MBSPP-4FBSPP	1/4-19	1/4-19
9023-04-06	4MBSPP-6FBSPP	1/4-19	3/8-19
9023-06-02	6MBSPP-2FBSPP	3/8-19	1/8-28
9023-06-04	6MBSPP-4FBSPP	3/8-19	1/4-19
9023-06-06	6MBSPP-6FBSPP	3/8-19	3/8-19
9023-06-08	6MBSPP-8FBSPP	3/8-19	1/2-14
9023-08-04	8MBSPP-4FBSPP	1/2-14	1/4-19
9023-08-06	8MBSPP-6FBSPP	1/2-14	3/8-19
9023-08-12	8MBSPP-12FBSPP	1/2-14	3/4-14
9023-08-16	8MBSPP-16FBSPP	1/2-14	1-11
9023-10-08	10MBSPP-8FBSPP	5/8-14	1/2-14
9023-12-04	12MBSPP-4FBSPP	3/4-14	1/4-19
9023-12-05	12MBSPP-5FBSPP	3/4-14	5/16-19
9023-12-06	12MBSPP-6FBSPP	3/4-14	3/8-19
9023-12-08	12MBSPP-8FBSPP	3/4-14	1/2-14
9023-12-12	12MBSPP-12FBSPP	3/4-14	3/4-14
9023-12-16	12MBSPP-16FBSPP	3/4-14	1-11
9023-16-08	16MBSPP-8FBSPP	1-11	1/2-14
9023-16-12	16MBSPP-12FBSPP	1-11	3/4-14
9023-16-20	16MBSPP-20FBSPP	1-11	1 1/4-11
9023-20-12	20MBSPP-12FBSPP	1 1/4-11	3/4-14
9023-20-16	20MBSPP-16FBSPP	1 1/4-11	1-11
9023-24-16	24MBSPP-16FBSPP	1 1/2-11	1-11
9023-32-16	32MBSPP-16FBSPP	2-11	1-11

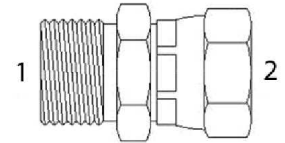


Metric Fittings

9024 Series

MBSPP-FBSPPX

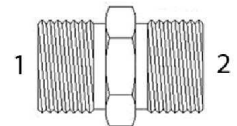
Item Number	HH Item Number	1 Male BSP Parallel	2 Female BSP Parallel Swivel
9024-02-02	2MBSPP-2FBSPPS	1/8-28	1/8-28
9024-04-04	4MBSPP-4FBSPPS	1/4-19	1/4-19
9024-04-06	4MBSPP-6FBSPPS	1/4-19	3/8-19
9024-06-04	6MBSPP-4FBSPPS	3/8-19	1/4-19
9024-06-06	6MBSPP-6FBSPPS	3/8-19	3/8-19
9024-08-08	8MBSPP-8FBSPPS	1/2-14	1/2-14
9024-08-12	8MBSPP-12FBSPPS	1/2-14	3/4-14
9024-08-16	8MBSPP-16FBSPPS	1/2-14	1-11
9024-10-10	10MBSPP-10FBSPPS	5/8-14	5/8-14
9024-12-08	12MBSPP-8FBSPPS	3/4-14	1/2-14
9024-12-12	12MBSPP-12FBSPPS	3/4-14	3/4-14
9024-12-16	12MBSPP-16FBSPPS	3/4-14	1-11
9024-16-16	16MBSPP-16FBSPPS	1-11	1-11
9024-16-20	16MBSPP-20FBSPPS	1-11	1 1/4-11
9024-20-20	20MBSPP-20FBSPPS	1 1/4-11	1 1/4-11
9024-24-24	24MBSPP-24FBSPPS	1 1/2-11	1 1/2-11



9025 Series

MBSPP-MM Metric Nipple

Item Number	HH Item Number	1 Male BSP Parallel	2 Male Metric
9025-04-14	4MBSPP-14MMx1.5	1/4-19	14 x 1.5
9025-06-12	6MBSPP-12MMx1.5	3/8-19	12 x 1.5
9025-06-16	6MBSPP-16MMx1.5	3/8-19	16 x 1.5
9025-06-18	6MBSPP-18MMx1.5	3/8-19	18 x 1.5
9025-06-20	6MBSPP-20MMx1.5	3/8-19	20 x 1.5
9025-06-24	6MBSPP-24MMx1.5	3/8-19	24 x 1.5
9025-08-18	8MBSPP-18MMx1.5	1/2-14	18 x 1.5
9025-12-18	12MBSPP-18MMx1.5	3/4-14	18 x 1.5
9025-12-20	12MBSPP-20MMx1.5	3/4-14	20 x 1.5
9025-12-22	12MBSPP-22MMx1.5	3/4-14	22 x 1.5
9025-12-26	12MBSPP-26MMx1.5	3/4-14	26 x 1.5

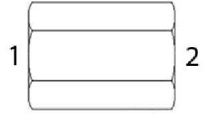


Metric Fittings

9033 Series

FBSPP-FBSPP Coupling

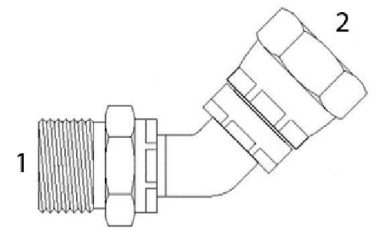
Item Number	HH Item Number	1	2
		Female BSP Parallel	Female BSP Parallel
9033-02-02	2FBSPP-2FBSPP	1/8-28	1/8-28
9033-04-02	4FBSPP-2FBSPP	1/4-19	1/8-28
9033-04-04	4FBSPP-4FBSPP	1/4-19	1/4-19
9033-06-02	6FBSPP-2FBSPP	3/8-19	1/8-28
9033-06-04	6FBSPP-4FBSPP	3/8-19	1/4-19
9033-06-06	6FBSPP-6FBSPP	3/8-19	3/8-19
9033-08-06	8FBSPP-6FBSPP	1/2-14	3/8-19
9033-08-08	8FBSPP-8FBSPP	1/2-14	1/2-14
9033-10-08	10FBSPP-8FBSPP	5/8-14	1/2-14
9033-10-10	10FBSPP-10FBSPP	5/8-14	5/8-14
9033-12-08	12FBSPP-8FBSPP	3/4-14	1/2-14
9033-12-12	12FBSPP-12FBSPP	3/4-14	3/4-14
9033-16-12	16FBSPP-12FBSPP	1-11	3/4-14
9033-16-16	16FBSPP-16FBSPP	1-11	1-11
9033-20-20	20FBSPP-20FBSPP	1 1/4-11	1 1/4-11
9033-24-24	24FBSPP-24FBSPP	1 1/2-11	1 1/2-11
9033-32-32	32FBSPP-32FBSPP	2-11	2-11



9124 Series

MBSPP-FBSPPX Swept 45°

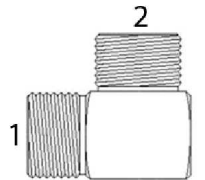
Item Number	HH Item Number	1	2
		Male BSP Parallel	Female BSP Parallel Swivel
9124-04-04	4MBSPP-4FBSPPX45	1/4-19	1/4-19
9124-06-06	6MBSPP-6FBSPPX45	3/8-19	3/8-19
9124-08-08	8MBSPP-8FBSPPX45	1/2-14	1/2-14



9222 Series

MBSPP-MBSPP 90°

Item Number	HH Item Number	1	2
		Male BSP Parallel	Male BSP Parallel
9222-04-04	4MBSPP-4MBSPP90	1/4-19	1/4-19
9222-06-06	6MBSPP-6MBSPP90	3/8-19	3/8-19
9222-08-08	8MBSPP-8MBSPP90	1/2-14	1/2-14
9222-12-12	12MBSPP-12MBSPP90	3/4-14	3/4-14
9222-16-16	16MBSPP-16MBSPP90	1-11	1-11

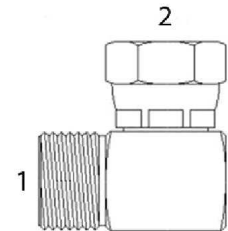


Metric Fittings

9224 Series

MBSPP-FBSPPX 90°

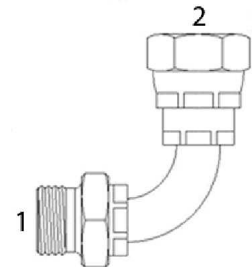
Item Number	HH Item Number	1 Male BSP Parallel	2 Female BSP Parallel Swivel
9224-02-02	2MBSPP-2FBSPPX90	1/8-28	1/8-28
9224-04-04	4MBSPP-4FBSPPX90	1/4-19	1/4-19
9224-06-06	6MBSPP-6FBSPPX90	3/8-19	3/8-19
9224-08-08	8MBSPP-8FBSPPX90	1/2-14	1/2-14
9224-12-12	12MBSPP-12FBSPPX90	3/4-14	3/4-14
9224-16-16	16MBSPP-16FBSPPX90	1-11	1-11
9224-20-20	20MBSPP-20FBSPPX90	1 1/4-11	1 1/4-11
9224-24-24	24MBSPP-24FBSPPX90	1 1/2-11	1 1/2-11



9224-L Series

MBSPP-FBSPPX 90° Long

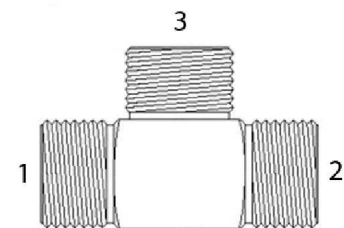
Item Number	HH Item Number	1 Male BSP Parallel	2 Female BSP Parallel Swivel
9224-L-08-08	8MBSPP-8FBSPPX90L	1/2-14	1/2-14
9224-L-12-12	12MBSPP-12FBSPPX90L	3/4-14	3/4-14
9224-L-16-16	16MBSPP-16FBSPPX90L	1-11	1-11
9224-L-24-24	24MBSPP-24FBSPPX90L	1 1/2-11	1 1/2-11



9322 Series

MBSPP-MBSPP-MBSPP Tee

Item Number	HH Item Number	1 Male BSP Parallel	2 Male BSP Parallel	3 Male BSP Parallel
9322-04-04-04	4MBSPP-4MBSPP-4MBSPP	1/4-19	1/4-19	1/4-19
9322-06-06-06	6MBSPP-6MBSPP-6MBSPP	3/8-19	3/8-19	3/8-19
9322-08-08-08	8MBSPP-8MBSPP-8MBSPP	1/2-14	1/2-14	1/2-14
9322-12-12-12	12MBSPP-12MBSPP-12MBSPP	3/4-14	3/4-14	3/4-14
9322-16-16-16	16MBSPP-16MBSPP-16MBSPP	1-11	1-11	1-11
9322-20-20-20	20MBSPP-20MBSPP-20MBSPP	1 1/4-11	1 1/4-11	1 1/4-11

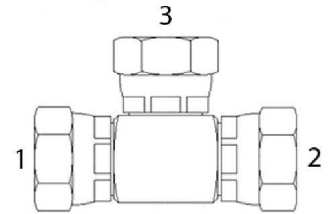


Metric Fittings

9344 Series

FBSPP-FBSPP-FBSPP Tee

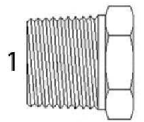
Item Number	HH Item Number	1 Female BSP Parallel	2 Female BSP Parallel	3 Female BSP Parallel
9344-02-02-02	2FBSPP-2FBSPP-2FBSPP	1/8-28	1/8-28	1/8-28
9344-04-04-04	4FBSPP-4FBSPP-4FBSPP	1/4-19	1/4-19	1/4-19
9344-06-06-06	6FBSPP-6FBSPP-6FBSPP	3/8-19	3/8-19	3/8-19
9344-08-08-08	8FBSPP-8FBSPP-8FBSPP	1/2-14	1/2-14	1/2-14
9344-12-12-12	12FBSPP-12FBSPP-12FBSPP	3/4-14	3/4-14	3/4-14



9500-P Series

MBSPT Plug

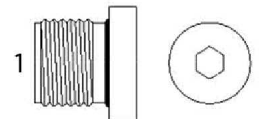
Item Number	HH Item Number	1 Male BSP Tapered
9500-P-02	2MBSPT-PLUG	1/8-28
9500-P-04	4MBSPT-PLUG	1/4-19
9500-P-06	6MBSPT-PLUG	3/8-19
9500-P-08	8MBSPT-PLUG	1/2-14
9500-P-10	10MBSPT-PLUG	5/8-14
9500-P-12	12MBSPT-PLUG	3/4-14
9500-P-16	16MBSPT-PLUG	1-11
9500-P-20	20MBSPT-PLUG	1 1/4-11
9500-P-24	24MBSPT-PLUG	1 1/2-11
9500-P-32	32MBSPT-PLUG	2-11



9522-H Series

MBSPP Hollow Hex Plug

Item Number	HH Item Number	1 Male BSP Parallel
9522-H-02-O	2MBSPP-HHP	1/8-28
9522-H-04-O	4MBSPP-HHP	1/4-19
9522-H-06-O	6MBSPP-HHP	3/8-19
9522-H-08-O	8MBSPP-HHP	1/2-14
9522-H-10-O	10MBSPP-HHP	5/8-14
9522-H-12-O	12MBSPP-HHP	3/4-14
9522-H-16-O	16MBSPP-HHP	1-11
9522-H-20-O	20MBSPP-HHP	1 1/4-11

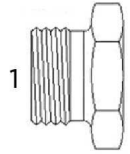


Metric Fittings

9522-P Series

MBSPP Hex Plug

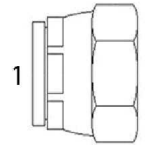
Item Number	HH Item Number	1 Male BSP Parallel
9522-P-02	2MBSPP-HP	1/8-28
9522-P-04	4MBSPP-HP	1/4-19
9522-P-06	6MBSPP-HP	3/8-19
9522-P-08	8MBSPP-HP	1/2-14
9522-P-10	10MBSPP-HP	5/8-14
9522-P-12	12MBSPP-HP	3/4-14
9522-P-16	16MBSPP-HP	1-11
9522-P-20	20MBSPP-HP	1 1/4-11
9522-P-24	24MBSPP-HP	1 1/2-11
9522-P-32	32MBSPP-HP	2-11



9644-C Series

FBSPP Cap

Item Number	HH Item Number	1 Female BSP Parallel
9644-C-02	2FBSPP-CAP	1/8-28
9644-C-04	4FBSPP-CAP	1/4-19
9644-C-06	6FBSPP-CAP	3/8-19
9644-C-08	8FBSPP-CAP	1/2-14
9644-C-10	10FBSPP-CAP	5/8-14
9644-C-12	12FBSPP-CAP	3/4-14
9644-C-16	16FBSPP-CAP	1-11
9644-C-20	20FBSPP-CAP	1 1/4-11
9644-C-24	24FBSPP-CAP	1 1/2-11
9644-C-32	32FBSPP-CAP	2-11

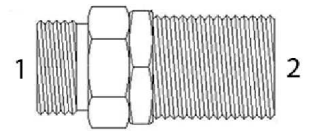


Metric Fittings

9722-LN Series

MBSPP-MBSPP Bulkhead

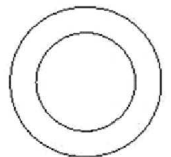
Item Number	HH Item Number	1 Male BSP Parallel	2 Male BSP Parallel
9722-04-04-LN	4MBSPP-4MBSPP-BKHD	1/4-19	1/4-19
9722-04-06-LN	4MBSPP-6MBSPP-BKHD	1/4-19	3/8-19
9722-06-06-LN	6MBSPP-6MBSPP-BKHD	3/8-19	3/8-19
9722-06-08-LN	6MBSPP-8MBSPP-BKHD	3/8-19	1/2-14
9722-08-06-LN	8MBSPP-6MBSPP-BKHD	1/2-14	3/8-19
9722-08-08-LN	8MBSPP-8MBSPP-BKHD	1/2-14	1/2-14
9722-08-12-LN	8MBSPP-12MBSPP-BKHD	1/2-14	3/4-14
9722-10-10-LN	10MBSPP-10MBSPP-BKHD	5/8-14	5/8-14
9722-12-08-LN	12MBSPP-8MBSPP-BKHD	3/4-14	1/2-14
9722-12-12-LN	12MBSPP-12MBSPP-BKHD	3/4-14	3/4-14
9722-12-16-LN	12MBSPP-16MBSPP-BKHD	3/4-14	1-11
9722-16-16-LN	16MBSPP-16MBSPP-BKHD	1-11	1-11
9722-20-20-LN	20MBSPP-20MBSPP-BKHD	1 1/4-11	1 1/4-11
9722-24-24-LN	24MBSPP-24MBSPP-BKHD	1 1/2-11	1 1/2-11
9722-32-32-LN	32MBSPP-32MBSPP-BKHD	2-11	2-11



9900 Series

British Bonded Seal

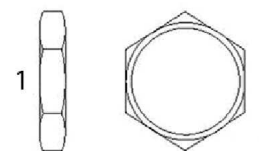
Item Number	HH Item Number	1 ID MM	2 OD MM
9900-02	2 BRITISH BONDED SEAL	.408	.625
9900-04	4 BRITISH BONDED SEAL	.540	.809
9900-06	6 BRITISH BONDED SEAL	.682	.937
9900-08	8 BRITISH BONDED SEAL	.850	1.125
9900-10	10 BRITISH BONDED SEAL	.925	1.250
9900-12	12 BRITISH BONDED SEAL	1.062	1.375
9900-16	16 BRITISH BONDED SEAL	1.338	1.687
9900-20	20 BRITISH BONDED SEAL	1.699	2.063
9900-24	24 BRITISH BONDED SEAL	1.910	2.310
9900-32	32 BRITISH BONDED SEAL	2.389	2.875



9925 Series




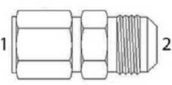
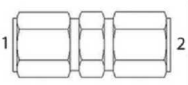
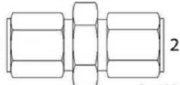
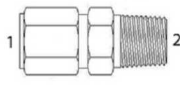
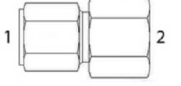
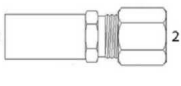

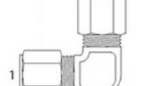
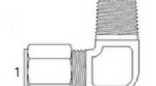
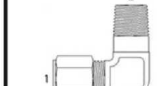
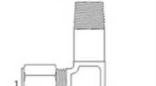
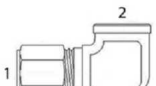
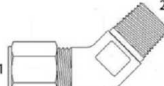
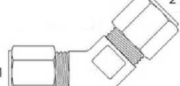
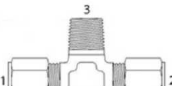
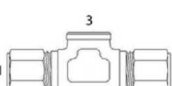
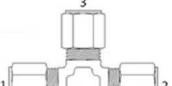
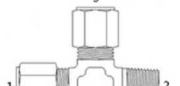

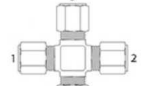
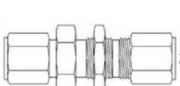

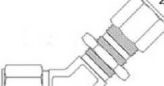
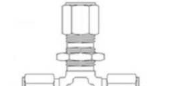
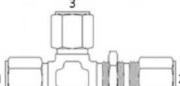
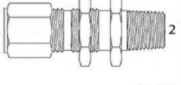
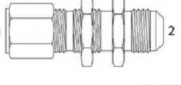
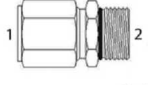
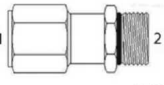
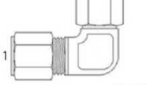
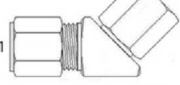
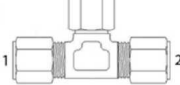
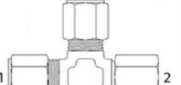
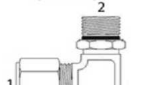
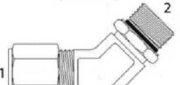
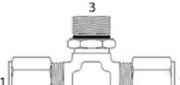
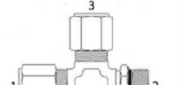
BSPP Locknut

Item Number	HH Item Number	1 Thread Size
9925-06	6BSPP LOCKNUT	3/8-19
9925-08	8BSPP LOCKNUT	1/2-14
9925-12	12BSPP LOCKNUT	3/4-14
9925-16	16BSPP LOCKNUT	1-11
9925-20	20BSPP LOCKNUT	1 1/4-11
9925-24	24BSPP LOCKNUT	1 1/2-11
9925-32	32BSPP LOCKNUT	2-11



Flareless (Bite Type)

Flareless (Bite Type) - Visual Identification Chart

<p>C0304-C (080112)</p>  <p>FLS Cap Nut Pg. 193</p>	<p>C0318 (080110)</p>  <p>FLS Nut Pg. 193</p>	<p>C0319 (080115A)</p>  <p>FLS Ferrule Pg. 194</p>	<p>C2402</p>  <p>FLS-MJ Straight Pg. 194</p>	<p>C2403 (080101)</p>  <p>FLS-FLS Tube Union Straight Pg. 195</p>	<p>C2403-LH (080119)</p>  <p>FLS-FLS Tube Union Large Hex Straight Pg. 195</p>	<p>C2404 (080102)</p>  <p>FLS-MP Straight Pg. 196</p>
<p>C2405 (080103)</p>  <p>FLS-FP Straight Pg. 197</p>	<p>C2406</p>  <p>Tube-FLS Reducer Pg. 197</p>	<p>C2408 (080109)</p>  <p>FLS-Plug Pg. 198</p>	<p>C2500 (080201)</p>  <p>FLS-FLS 90° Pg. 198</p>	<p>C2501 (080202)</p>  <p>FLS-MP 90° Pg. 199</p>	<p>C2501-L (071502)</p>  <p>FLS-MP 90° Long Pg. 199</p>	<p>C2501-LL (081602)</p>  <p>FLS-MP 90° X-Long Pg. 200</p>
<p>C2502 (080203)</p>  <p>FLS-FP 90° Pg. 200</p>	<p>C2503 (080302)</p>  <p>FLS-MP 45° Pg. 201</p>	<p>C2504</p>  <p>FLS-FLS 45° Pg. 201</p>	<p>C2601 (080425)</p>  <p>FLS-FLS MP Tee Pg. 202</p>	<p>C2602 (080427)</p>  <p>FLS-FLS-FP Tee Pg. 202</p>	<p>C2603 (080401)</p>  <p>FLS-FLS-FLS Tee Pg. 203</p>	<p>C2605 (080424)</p>  <p>FLS-MP-FLS Tee Pg. 203</p>
<p>C2606 (080426)</p>  <p>FLS-FP-FLS Tee Pg. 204</p>	<p>C2650 (080501)</p>  <p>FLS-FLS-FLS-FLS Cross Pg. 204</p>	<p>C2700</p>  <p>FLS-FLS Bulkhead Union Pg. 204</p>	<p>C2701 (080701)</p>  <p>FLS-FLS 90° Bulkhead Union Pg. 205</p>	<p>C2702 (080801)</p>  <p>FLS-FLS 45° Bulkhead Union Pg. 205</p>	<p>C2703 (080959)</p>  <p>FLS-FLS-FLS Bulkhead Tee Pg. 205</p>	<p>C2704 (080958)</p>  <p>FLS-FLS-FLS Bulkhead Tee Pg. 206</p>
<p>C2706</p>  <p>FLS-MP Bulkhead Pg. 206</p>	<p>C2707</p>  <p>FLS-MJ Bulkhead Pg. 206</p>	<p>C6400-O (080120)</p>  <p>FLS-MB Straight Pg. 207</p>	<p>C6400-L-O (080122)</p>  <p>FLS-MB Long Straight Pg. 207</p>	<p>C6500 (080221)</p>  <p>FLS-FLSX 90° Pg. 208</p>	<p>C6502 (080321)</p>  <p>FLS-FLSX 45° Pg. 208</p>	<p>C6600 (080433)</p>  <p>FLS-FLS-FLSX Tee Pg. 208</p>
<p>C6602 (080432)</p>  <p>FLS-FLSX-FLS Tee Pg. 209</p>	<p>C6801-NWO (080220)</p>  <p>FLS-MB 90° Pg. 209</p>	<p>C6802-NWO (080320)</p>  <p>FLS-MB 45° Pg. 210</p>	<p>C6803-NWO (080429)</p>  <p>FLS-FLS-MB Tee Pg. 210</p>	<p>C6804-NWO (080428)</p>  <p>FLS-MB-FLS Tee Pg. 210</p>		

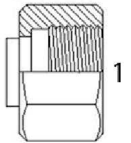
Flareless (Bite Type)

C0304-C Series

FLS-Cap Nut

SAE 080112

Item Number	HH Item Number	Tube OD	1 Flareless Bite Type
C0304-C-02	2FLS-CAP	1/8	5/16-24
C0304-C-04	4FLS-CAP	1/4	7/16-20
C0304-C-05	5FLS-CAP	5/16	1/2-20
C0304-C-06	6FLS-CAP	3/8	9/16-18
C0304-C-08	8FLS-CAP	1/2	3/4-16
C0304-C-10	10FLS-CAP	5/8	7/8-14
C0304-C-12	12FLS-CAP	3/4	1 1/16-12
C0304-C-16	16FLS-CAP	1	1 5/16-12
C0304-C-20	20FLS-CAP	1 1/4	1 5/8-12

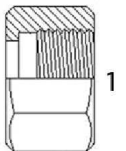


C0318 Series

FLS-Nut

SAE 080110

Item Number	HH Item Number	Tube OD	1 Flareless Bite Type
C0318-02	2FLS-NUT	1/8	5/16-24
C0318-03	3FLS-NUT	3/16	3/8-24
C0318-04	4FLS-NUT	1/4	7/16-20
C0318-05	5FLS-NUT	5/16	1/2-20
C0318-06	6FLS-NUT	3/8	9/16-18
C0318-08	8FLS-NUT	1/2	3/4-16
C0318-10	10FLS-NUT	5/8	7/8-14
C0318-12	12FLS-NUT	3/4	1 1/16-12
C0318-14	14FLS-NUT	7/8	1 3/16-12
C0318-16	16FLS-NUT	1	1 5/16-12
C0318-20	20FLS-NUT	1 1/4	1 5/8-12
C0318-24	24FLS-NUT	1 1/2	1 7/8-12
C0318-32	32FLS-NUT	2	2 1/2-12



Flareless (Bite Type)

C0319 Series

FLS-Ferrule

SAE 080115A

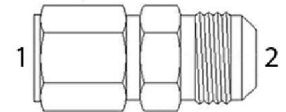
Item Number	HH Item Number	Tube OD
C0319-02	2FLS-FERRULE	1/8
C0319-03	3FLS-FERRULE	3/16
C0319-04	4FLS-FERRULE	1/4
C0319-05	5FLS-FERRULE	5/16
C0319-06	6FLS-FERRULE	3/8
C0319-08	8FLS-FERRULE	1/2
C0319-10	10FLS-FERRULE	5/8
C0319-12	12FLS-FERRULE	3/4
C0319-14	14FLS-FERRULE	7/8
C0319-16	16FLS-FERRULE	1
C0319-20	20FLS-FERRULE	1 1/4
C0319-24	24FLS-FERRULE	1 1/2
C0319-32	32FLS-FERRULE	2



C2402 Series

FLS-MJ Straight

Item Number	HH Item Number	Tube OD	1 Flareless Bite Type	2 Male JIC
C2402-04-04	4FLS-4MJ	1/4	7/16-20	7/16-20
C2402-06-06	6FLS-6MJ	3/8	9/16-18	9/16-18
C2402-08-08	8FLS-8MJ	1/2	3/4-16	3/4-16
C2402-08-12	8FLS-12MJ	1/2	3/4-16	1 1/16-12
C2402-10-10	10FLS-10MJ	5/8	7/8-14	7/8-14
C2402-12-12	12FLS-12MJ	3/4	1 1/16-12	1 1/16-12
C2402-16-16	16FLS-16MJ	1	1 5/16-12	1 5/16-12
C2402-20-20	20FLS-20MJ	1 1/4	1 5/8-12	1 5/8-12
C2402-32-32	32FLS-32MJ	2	2 1/2-12	2 1/2-12



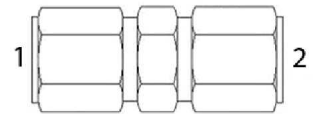
Flareless (Bite Type)

C2403 Series

FLS-FLS Tube Union Straight

SAE 080101

Item Number	HH Item Number	Tube OD	1 Flareless Bite Type	2 Flareless Bite Type
C2403-02-02	2FLS-2FLS	1/8	5/16-24	5/16-24
C2403-03-03	3FLS-3FLS	3/16	3/8-24	3/8-24
C2403-04-04	4FLS-4FLS	1/4	7/16-20	7/16-20
C2403-05-04	5FLS-4FLS	5/16	1/2-20	7/16-20
C2403-05-05	5FLS-5FLS	5/16	1/2-20	1/2-20
C2403-06-04	6FLS-4FLS	3/8	9/16-18	7/16-20
C2403-06-06	6FLS-6FLS	3/8	9/16-18	9/16-18
C2403-08-06	8FLS-6FLS	1/2	3/4-16	9/16-18
C2403-08-08	8FLS-8FLS	1/2	3/4-16	3/4-16
C2403-10-10	10FLS-10FLS	5/8	7/8-14	7/8-14
C2403-12-08	12FLS-8FLS	3/4	1 1/16-12	3/4-16
C2403-12-12	12FLS-12FLS	3/4	1 1/16-12	1 1/16-12
C2403-14-14	14FLS-14FLS	7/8	1 3/16-12	1 3/16-12
C2403-16-16	16FLS-16FLS	1	1 5/16-12	1 5/16-12
C2403-20-20	20FLS-20FLS	1 1/4	1 5/8-12	1 5/8-12
C2403-24-24	24FLS-24FLS	1 1/2	1 7/8-12	1 7/8-12
C2403-32-32	32FLS-32FLS	2	2 1/2-12	2 1/2-12

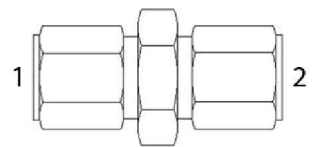


C2403-LH Series

FLS-FLS Tube Union Large Hex Straight

SAE 080119

Item Number	HH Item Number	Tube OD	1 Flareless Bite Type	2 Flareless Bite Type
C2403-LH-04-04	4FLS-4FLS-LH	1/4	7/16-20	7/16-20
C2403-LH-06-04	6FLS-4FLS-LH	3/8	9/16-18	7/16-20
C2403-LH-06-06	6FLS-6FLS-LH	3/8	9/16-18	9/16-18
C2403-LH-08-06	8FLS-6FLS-LH	1/2	3/4-16	9/16-18
C2403-LH-08-08	8FLS-8FLS-LH	1/2	3/4-16	3/4-16
C2403-LH-10-08	10FLS-8FLS-LH	5/8	7/8-14	3/4-16
C2403-LH-10-10	10FLS-10FLS-LH	5/8	7/8-14	7/8-14
C2403-LH-12-12	12FLS-12FLS-LH	3/4	1 1/16-12	1 1/16-12
C2403-LH-16-16	16FLS-16FLS-LH	1	1 5/16-12	1 5/16-12



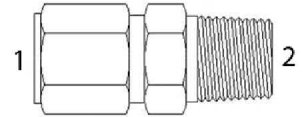
Flareless (Bite Type)

C2404 Series

FLS-MP Straight

SAE 080102

Item Number	HH Item Number	Tube OD	1 Flareless Bite Type	2 Male Pipe
C2404-02-02	2FLS-2MP	1/8	5/16-24	1/8-27
C2404-02-04	2FLS-4MP	1/8	5/16-24	1/4-18
C2404-03-02	3FLS-2MP	3/16	3/8-24	1/8-27
C2404-03-04	3FLS-4MP	3/16	3/8-24	1/4-18
C2404-04-02	4FLS-2MP	1/4	7/16-20	1/8-27
C2404-04-04	4FLS-4MP	1/4	7/16-20	1/4-18
C2404-04-06	4FLS-6MP	1/4	7/16-20	3/8-18
C2404-04-08	4FLS-8MP	1/4	7/16-20	1/2-14
C2404-05-02	5FLS-2MP	5/16	1/2-20	1/8-27
C2404-05-04	5FLS-4MP	5/16	1/2-20	1/4-18
C2404-05-06	5FLS-6MP	5/16	1/2-20	3/8-18
C2404-06-02	6FLS-2MP	3/8	9/16-18	1/8-27
C2404-06-04	6FLS-4MP	3/8	9/16-18	1/4-18
C2404-06-06	6FLS-6MP	3/8	9/16-18	3/8-18
C2404-06-08	6FLS-8MP	3/8	9/16-18	1/2-14
C2404-08-04	8FLS-4MP	1/2	3/4-16	1/4-18
C2404-08-06	8FLS-6MP	1/2	3/4-16	3/8-18
C2404-08-08	8FLS-8MP	1/2	3/4-16	1/2-14
C2404-08-12	8FLS-12MP	1/2	3/4-16	3/4-14
C2404-10-06	10FLS-6MP	5/8	7/8-14	3/8-18
C2404-10-08	10FLS-8MP	5/8	7/8-14	1/2-14
C2404-10-12	10FLS-12MP	5/8	7/8-14	3/4-14
C2404-12-08	12FLS-8MP	3/4	1 1/16-12	1/2-14
C2404-12-12	12FLS-12MP	3/4	1 1/16-12	3/4-14
C2404-12-16	12FLS-16MP	3/4	1 1/16-12	1-11 1/2
C2404-14-12	14FLS-12MP	7/8	1 3/16-12	3/4-14
C2404-16-12	16FLS-12MP	1	1 5/16-12	3/4-14
C2404-16-16	16FLS-16MP	1	1 5/16-12	1-11 1/2
C2404-16-20	16FLS-20MP	1	1 5/16-12	1 1/4-11 1/2
C2404-20-12	20FLS-12MP	1 1/4	1 5/8-12	3/4-14
C2404-20-20	20FLS-20MP	1 1/4	1 5/8-12	1 1/4-11 1/2
C2404-24-20	24FLS-20MP	1 1/2	1 7/8-12	1 1/4-11 1/2
C2404-24-24	24FLS-24MP	1 1/2	1 7/8-12	1 1/2-11 1/2
C2404-32-32	32FLS-32MP	2	2 1/2-12	2-11 1/2



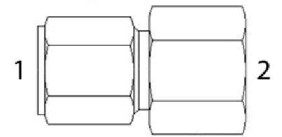
Flareless (Bite Type)

C2405 Series

FLS-FP Straight

SAE 080103

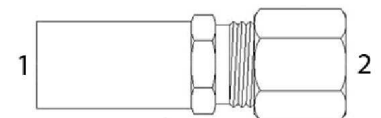
Item Number	HH Item Number	Tube OD	1 Flareless Bite Type	2 Female Pipe
C2405-02-02	2FLS-2FP	1/8	5/16-24	1/8-27
C2405-04-02	4FLS-2FP	1/4	7/16-20	1/8-27
C2405-04-04	4FLS-4FP	1/4	7/16-20	1/4-18
C2405-05-02	5FLS-2FP	5/16	1/2-20	1/8-27
C2405-05-04	5FLS-4FP	5/16	1/2-20	1/4-18
C2405-06-04	6FLS-4FP	3/8	9/16-18	1/4-18
C2405-06-06	6FLS-6FP	3/8	9/16-18	3/8-18
C2405-06-08	6FLS-8FP	3/8	9/16-18	1/2-14
C2405-06-12	6FLS-12FP	3/8	9/16-18	3/4-14
C2405-08-04	8FLS-4FP	1/2	3/4-16	1/4-18
C2405-08-06	8FLS-6FP	1/2	3/4-16	3/8-18
C2405-08-08	8FLS-8FP	1/2	3/4-16	1/2-14
C2405-10-06	10FLS-6FP	5/8	7/8-14	3/8-18
C2405-10-08	10FLS-8FP	5/8	7/8-14	1/2-14
C2405-12-12	12FLS-12FP	3/4	1 1/16-12	3/4-14
C2405-14-12	14FLS-12FP	7/8	1 3/16-12	3/4-14
C2405-16-16	16FLS-16FP	1	1 5/16-12	1-11 1/2
C2405-20-20	20FLS-20FP	1 1/4	1 5/8-12	1 1/4-11 1/2
C2405-24-24	24FLS-24FP	1 1/2	1 7/8-12	1 1/2-11 1/2



C2406 Series

Tube-FLS Reducer

Item Number	HH Item Number	Tube OD	1 Tube	2 Flareless Bite Type
C2406-06-04	6T-4FLS	3/8	3/8	7/16-20
C2406-08-04	8T-4FLS	1/2	1/2	7/16-20
C2406-08-06	8T-6FLS	1/2	1/2	9/16-18
C2406-10-08	10T-8FLS	5/8	5/8	3/4-16
C2406-12-06	12T-6FLS	3/4	3/4	9/16-18
C2406-12-08	12T-8FLS	3/4	3/4	3/4-16
C2406-16-06	16T-6FLS	1	1	9/16-18
C2406-16-08	16T-8FLS	1	1	3/4-16
C2406-16-12	16T-12FLS	1	1	1 1/16-12
C2406-20-16	20T-16FLS	1 1/4	1 1/4	1 5/16-12
C2406-24-12	24T-12FLS	1 1/2	1 1/2	1 1/16-12



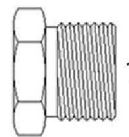
Flareless (Bite Type)

C2408 Series

FLS-Plug

SAE 080109

Item Number	HH Item Number	Tube OD	1 Flareless Bite Type
C2408-02	2FLS-PLUG	1/8	5/16-24
C2408-04	4FLS-PLUG	1/4	7/16-20
C2408-05	5FLS-PLUG	5/16	1/2-20
C2408-06	6FLS-PLUG	3/8	9/16-18
C2408-08	8FLS-PLUG	1/2	3/4-16
C2408-10	10FLS-PLUG	5/8	7/8-14
C2408-12	12FLS-PLUG	3/4	1 1/16-12
C2408-16	16FLS-PLUG	1	1 5/16-12
C2408-20	20FLS-PLUG	1 1/4	1 5/8-12

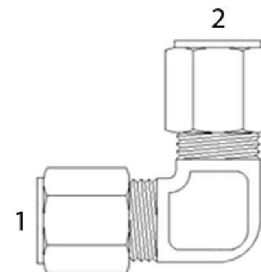


C2500 Series

FLS-FLS 90°

SAE 080201

Item Number	HH Item Number	Tube OD	1 Flareless Bite Type	2 Flareless Bite Type
C2500-02-02	2FLS-2FLS90	1/8	5/16-24	5/16-24
C2500-04-04	4FLS-4FLS90	1/4	7/16-20	7/16-20
C2500-05-05	5FLS-5FLS90	5/16	1/2-20	1/2-20
C2500-06-06	6FLS-6FLS90	3/8	9/16-18	9/16-18
C2500-08-06	8FLS-6FLS90	1/2	3/4-16	9/16-18
C2500-08-08	8FLS-8FLS90	1/2	3/4-16	3/4-16
C2500-10-10	10FLS-10FLS90	5/8	7/8-14	7/8-14
C2500-12-12	12FLS-12FLS90	3/4	1 1/16-12	1 1/16-12
C2500-14-14	14FLS-14FLS90	7/8	1 3/16-12	1 3/16-12
C2500-16-16	16FLS-16FLS90	1	1 5/16-12	1 5/16-12
C2500-20-20	20FLS-20FLS90	1 1/4	1 5/8-12	1 5/8-12
C2500-24-24	24FLS-24FLS90	1 1/2	1 7/8-12	1 7/8-12



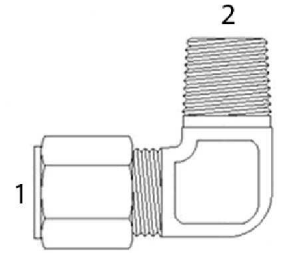
Flareless (Bite Type)

C2501 Series

FLS-MP 90°

SAE 080202

Item Number	HH Item Number	Tube OD	1 Flareless Bite Type	2 Male Pipe
C2501-02-02	2FLS-2MP90	1/8	5/16-24	1/8-27
C2501-03-02	3FLS-2MP90	3/16	3/8-24	1/8-27
C2501-04-02	4FLS-2MP90	1/4	7/16-20	1/8-27
C2501-04-04	4FLS-4MP90	1/4	7/16-20	1/4-18
C2501-04-06	4FLS-6MP90	1/4	7/16-20	3/8-18
C2501-04-08	4FLS-8MP90	1/4	7/16-20	1/2-14
C2501-05-02	5FLS-2MP90	5/16	1/2-20	1/8-27
C2501-05-04	5FLS-4MP90	5/16	1/2-20	1/4-18
C2501-06-02	6FLS-2MP90	3/8	9/16-18	1/8-27
C2501-06-04	6FLS-4MP90	3/8	9/16-18	1/4-18
C2501-06-06	6FLS-6MP90	3/8	9/16-18	3/8-18
C2501-06-08	6FLS-8MP90	3/8	9/16-18	1/2-14
C2501-06-12	6FLS-12MP90	3/8	9/16-18	3/4-14
C2501-08-04	8FLS-4MP90	1/2	3/4-16	1/4-18
C2501-08-06	8FLS-6MP90	1/2	3/4-16	3/8-18
C2501-08-08	8FLS-8MP90	1/2	3/4-16	1/2-14
C2501-08-12	8FLS-12MP90	1/2	3/4-16	3/4-14
C2501-10-06	10FLS-6MP90	5/8	7/8-14	3/8-18
C2501-10-08	10FLS-8MP90	5/8	7/8-14	1/2-14
C2501-10-12	10FLS-12MP90	5/8	7/8-14	3/4-14
C2501-12-08	12FLS-8MP90	3/4	1 1/16-12	1/2-14
C2501-12-12	12FLS-12MP90	3/4	1 1/16-12	3/4-14
C2501-14-12	14FLS-12MP90	7/8	1 3/16-12	3/4-14
C2501-16-12	16FLS-12MP90	1	1 5/16-12	3/4-14
C2501-16-16	16FLS-16MP90	1	1 5/16-12	1-11 1/2
C2501-20-20	20FLS-20MP90	1 1/4	1 5/8-12	1 1/4-11 1/2
C2501-24-24	24FLS-24MP90	1 1/2	1 7/8-12	1 1/2-11 1/2
C2501-32-32	32FLS-32MP90	2	2 1/2-12	2-11 1/2

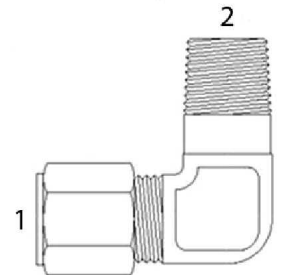


C2501-L Series

FLS-MP 90° Long

SAE 071502

Item Number	HH Item Number	Tube OD	1 Flareless Bite Type	2 Male Pipe
C2501-L-04-02	4FLS-2MP90L	1/4	7/16-20	1/8-27
C2501-L-04-04	4FLS-4MP90L	1/4	7/16-20	1/4-18
C2501-L-05-04	5FLS-4MP90L	5/16	1/2-20	1/4-18
C2501-L-06-06	6FLS-6MP90L	3/8	9/16-18	3/8-18
C2501-L-12-12	12FLS-12MP90L	3/4	1 1/16-12	3/4-14
C2501-L-16-16	16FLS-16MP90L	1	1 5/16-12	1-11 1/2
C2501-L-20-20	20FLS-20MP90L	1 1/4	1 5/8-12	1 1/4-11 1/2
C2501-L-24-24	24FLS-24MP90L	1 1/2	1 7/8-12	1 1/2-11 1/2
C2501-L-32-32	32FLS-32MP90L	2	2 1/2-12	2-11 1/2



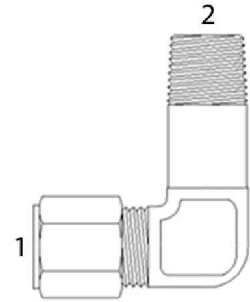
Flareless (Bite Type)

C2501-LL Series

FLS-MP 90° X-Long

SAE 081602

Item Number	HH Item Number	Tube OD	1 Flareless Bite Type	2 Flareless Bite Type
C2501-LL-04-02	4FLS-2MP90LL	1/4	7/16-20	1/8-27
C2501-LL-04-04	4FLS-4MP90LL	1/4	7/16-20	1/4-18
C2501-LL-05-02	5FLS-2MP90LL	5/16	1/2-20	1/8-27
C2501-LL-06-04	6FLS-4MP90LL	3/8	9/16-18	1/4-18
C2501-LL-08-06	8FLS-6MP90LL	1/2	3/4-16	3/8-18
C2501-LL-10-08	10FLS-8MP90LL	5/8	7/8-14	1/2-14
C2501-LL-12-12	12FLS-12MP90LL	3/4	1 1/16-12	3/4-14
C2501-LL-16-16	16FLS-16MP90LL	1	1 5/16-12	1-11 1/2
C2501-LL-20-20	20FLS-20MP90LL	1 1/4	1 5/8-12	1 1/4-11 1/2
C2501-LL-24-24	24FLS-24MP90LL	1 1/2	1 7/8-12	1 1/2-11 1/2
C2501-LL-32-32	32FLS-32MP90LL	2	2 1/2-12	2-11 1/2

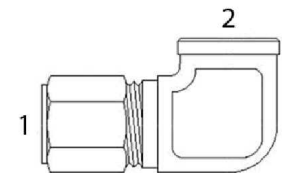


C2502 Series

FLS-FP 90°

SAE 080203

Item Number	HH Item Number	Tube OD	1 Flareless Bite Type	2 Female Pipe
C2502-04-02	4FLS-2FP90	1/4	7/16-20	1/8-27
C2502-04-04	4FLS-4FP90	1/4	7/16-20	1/4-18
C2502-05-02	5FLS-2FP90	5/16	1/2-20	1/8-27
C2502-05-04	5FLS-4FP90	5/16	1/2-20	1/4-18
C2502-06-04	6FLS-4FP90	3/8	9/16-18	1/4-18
C2502-06-06	6FLS-6FP90	3/8	9/16-18	3/8-18
C2502-08-04	8FLS-4FP90	1/2	3/4-16	1/4-18
C2502-08-06	8FLS-6FP90	1/2	3/4-16	3/8-18
C2502-08-08	8FLS-8FP90	1/2	3/4-16	1/2-14
C2502-10-08	10FLS-8FP90	5/8	7/8-14	1/2-14
C2502-12-12	12FLS-12FP90	3/4	1 1/16-12	3/4-14
C2502-14-12	14FLS-12FP90	7/8	1 3/16-12	3/4-14
C2502-16-16	16FLS-16FP90	1	1 5/16-12	1-11 1/2
C2502-20-20	20FLS-20FP90	1 1/4	1 5/8-12	1 1/4-11 1/2
C2502-24-24	24FLS-24FP90	1 1/2	1 7/8-12	1 1/2-11 1/2



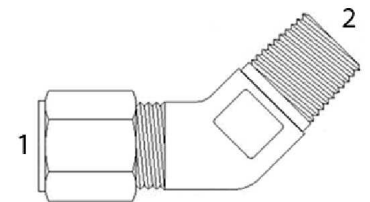
Flareless (Bite Type)

C2503 Series

FLS-MP 45°

SAE 080302

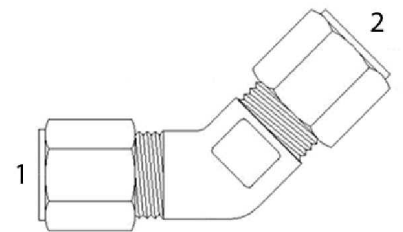
Item Number	HH Item Number	Tube OD	1 Flareless Bite Type	2 Male Pipe
C2503-04-02	4FLS-2MP45	1/4	7/16-20	1/8-27
C2503-04-04	4FLS-4MP45	1/4	7/16-20	1/4-18
C2503-05-02	5FLS-2MP45	5/16	1/2-20	1/8-27
C2503-06-04	6FLS-4MP45	3/8	9/16-18	1/4-18
C2503-06-06	6FLS-6MP45	3/8	9/16-18	3/8-18
C2503-06-08	6FLS-8MP45	3/8	9/16-18	1/2-14
C2503-08-06	8FLS-6MP45	1/2	3/4-16	3/8-18
C2503-08-08	8FLS-8MP45	1/2	3/4-16	1/2-14
C2503-08-12	8FLS-12MP45	1/2	3/4-16	3/4-14
C2503-10-06	10FLS-6MP45	5/8	7/8-14	3/8-18
C2503-10-08	10FLS-8MP45	5/8	7/8-14	1/2-14
C2503-12-08	12FLS-8MP45	3/4	1 1/16-12	1/2-14
C2503-12-12	12FLS-12MP45	3/4	1 1/16-12	3/4-14
C2503-14-12	14FLS-12MP45	7/8	1 3/16-12	3/4-14
C2503-16-16	16FLS-16MP45	1	1 5/16-12	1-11 1/2
C2503-20-20	20FLS-20MP45	1 1/4	1 5/8-12	1 1/4-11 1/2



C2504 Series

FLS-FLS 45°

Item Number	HH Item Number	Tube OD	1 Flareless Bite Type	2 Flareless Bite Type
C2504-12-12	12FLS-12FLS45	3/4	1 1/16-12	1 1/16-12
C2504-16-16	16FLS-16FLS45	1	1 5/16-12	1 5/16-12
C2504-20-20	20FLS-20FLS45	1 1/4	1 5/8-12	1 5/8-12



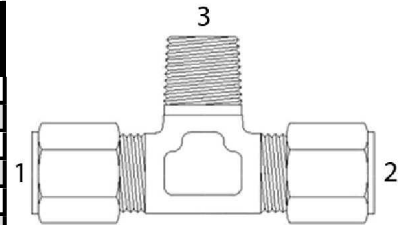
Flareless (Bite Type)

C2601 Series

FLS-FLS-MP Tee

SAE 080425

Item Number	HH Item Number	Tube OD	1 Flareless Bite Type	2 Flareless Bite Type	3 Male Pipe
C2601-02-02-02	2FLS-2FLS-2MP	1/8	5/16-24	5/16-24	1/8-27
C2601-04-04-02	4FLS-4FLS-2MP	1/4	7/16-20	7/16-20	1/8-27
C2601-04-04-04	4FLS-4FLS-4MP	1/4	7/16-20	7/16-20	1/4-18
C2601-05-05-02	5FLS-5FLS-2MP	5/16	1/2-20	1/2-20	1/8-27
C2601-06-06-04	6FLS-6FLS-4MP	3/8	9/16-18	9/16-18	1/4-18
C2601-06-06-06	6FLS-6FLS-6MP	3/8	9/16-18	9/16-18	3/8-18
C2601-08-06-04	8FLS-6FLS-4MP	1/2	3/4-14	9/16-18	1/4-18
C2601-08-08-06	8FLS-8FLS-6MP	1/2	3/4-14	3/4-14	3/8-18
C2601-08-08-08	8FLS-8FLS-8MP	1/2	3/4-14	3/4-14	1/2-14
C2601-10-10-08	10FLS-10FLS-8MP	5/8	7/8-14	7/8-14	1/2-14
C2601-12-12-12	12FLS-12FLS-12MP	3/4	1 1/16-12	1 1/16-12	3/4-14
C2601-14-14-12	14FLS-14FLS-12MP	7/8	1 3/16-12	1 3/16-12	3/4-14
C2601-16-16-16	16FLS-16FLS-16MP	1	1 5/16-12	1 5/16-12	1-11 1/2

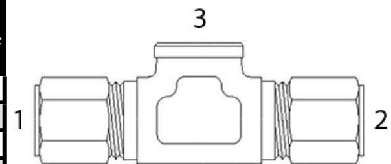


C2602 Series

FLS-FLS-FP Tee

SAE 080427

Item Number	HH Item Number	Tube OD	1 Flareless Bite Type	2 Flareless Bite Type	3 Female Pipe
C2602-04-04-02	4FLS-4FLS-2FP	1/4	7/16-20	7/16-20	1/8-27
C2602-04-04-04	4FLS-4FLS-4FP	1/4	7/16-20	7/16-20	1/4-18
C2602-06-06-04	6FLS-6FLS-4FP	3/8	9/16-18	9/16-18	1/4-18
C2602-08-08-06	8FLS-8FLS-6FP	1/2	3/4-14	3/4-14	3/8-18
C2602-08-08-08	8FLS-8FLS-8FP	1/2	3/4-14	3/4-14	1/2-14
C2602-10-10-08	10FLS-10FLS-8FP	5/8	7/8-14	7/8-14	1/2-14
C2602-12-12-12	12FLS-12FLS-12FP	3/4	1 1/16-12	1 1/16-12	3/4-14
C2602-16-16-16	16FLS-16FLS-16FP	1	1 3/16-12	1 3/16-12	1-11 1/2
C2602-20-20-20	20FLS-20FLS-20FP	1 1/4	1 5/16-12	1 5/16-12	1 1/4-11 1/2



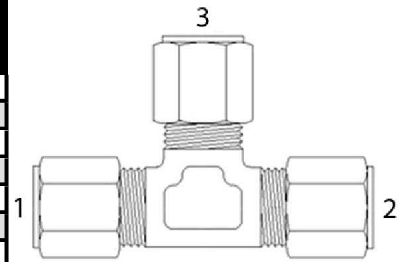
Flareless (Bite Type)

C2603 Series

FLS-FLS-FLS Tee

SAE 080401

Item Number	HH Item Number	Tube OD	1 Flareless Bite Type	2 Flareless Bite Type	3 Flareless Bite Type
C2603-02-02-02	2FLS-2FLS-2FLS	1/8	5/16-24	5/16-24	5/16-24
C2603-03-03-03	3FLS-3FLS-3FLS	3/16	3/8-24	3/8-24	3/8-24
C2603-04-04-04	4FLS-4FLS-4FLS	1/4	7/16-20	7/16-20	7/16-20
C2603-05-05-05	5FLS-5FLS-5FLS	5/16	1/2-20	1/2-20	1/2-20
C2603-06-06-06	6FLS-6FLS-6FLS	3/8	9/16-18	9/16-18	9/16-18
C2603-08-08-06	8FLS-8FLS-6FLS	1/2	3/4-16	3/4-16	9/16-18
C2603-08-08-08	8FLS-8FLS-8FLS	1/2	3/4-16	3/4-16	3/4-16
C2603-10-10-08	10FLS-10FLS-8FLS	5/8	7/8-14	7/8-14	3/4-16
C2603-10-10-10	10FLS-10FLS-10FLS	5/8	7/8-14	7/8-14	7/8-14
C2603-12-12-12	12FLS-12FLS-12FLS	3/4	1 1/16-12	1 1/16-12	1 1/16-12
C2603-14-14-14	14FLS-14FLS-14FLS	7/8	1 3/16-12	1 3/16-12	1 3/16-12
C2603-16-16-16	16FLS-16FLS-16FLS	1	1 5/16-12	1 5/16-12	1 5/16-12
C2603-20-20-16	20FLS-20FLS-16FLS	1 1/4	1 5/8-12	1 5/8-12	1 5/16-12
C2603-20-20-20	20FLS-20FLS-20FLS	1 1/4	1 5/8-12	1 5/8-12	1 5/8-12
C2603-24-24-24	24FLS-24FLS-24FLS	1 1/2	1 7/8-12	1 7/8-12	1 7/8-12
C2603-32-32-32	32FLS-32FLS-32FLS	2	2 1/2-12	2 1/2-12	2 1/2-12

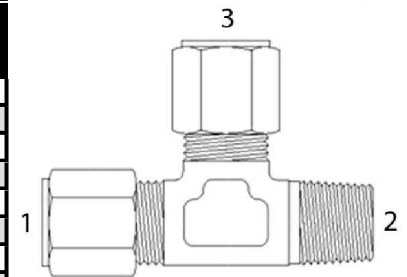


C2605 Series

FLS-MP-FLS Tee

SAE 080424

Item Number	HH Item Number	Tube OD	1 Flareless Bite Type	2 Male Pipe	3 Flareless Bite Type
C2605-04-02-04	4FLS-2MP-4FLS	1/4	7/16-20	1/8-27	7/16-20
C2605-04-04-04	4FLS-4MP-4FLS	1/4	7/16-20	1/4-18	7/16-20
C2605-05-02-05	5FLS-2MP-5FLS	5/16	1/2-20	1/8-27	1/2-20
C2605-06-04-06	6FLS-4MP-6FLS	3/8	9/16-18	1/4-18	9/16-18
C2605-06-06-06	6FLS-6MP-6FLS	3/8	9/16-18	3/8-18	9/16-18
C2605-08-04-08	8FLS-4MP-8FLS	1/2	3/4-16	1/4-18	3/4-16
C2605-08-06-08	8FLS-6MP-8FLS	1/2	3/4-16	3/8-18	3/4-16
C2605-08-08-08	8FLS-8MP-8FLS	1/2	3/4-16	1/2-14	3/4-16
C2605-10-08-10	10FLS-8MP-10FLS	5/8	7/8-14	1/2-14	7/8-14
C2605-10-10-10	10FLS-10MP-10FLS	5/8	1 1/16-12	5/8-14	1 1/16-12
C2605-12-12-12	12FLS-12MP-12FLS	3/4	1 1/16-12	3/4-14	1 1/16-12
C2605-16-16-16	16FLS-16MP-16FLS	1	1 5/16-12	1-11 1/2	1 5/16-12



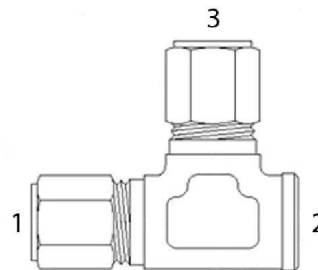
Flareless (Bite Type)

C2606 Series

FLS-FP-FLS Tee

SAE 080426

Item Number	HH Item Number	Tube OD	1 Flareless Bite Type	2 Female Pipe	3 Flareless Bite Type
C2606-04-02-04	4FLS-2FP-4FLS	1/4	7/16-20	1/8-27	7/16-20
C2606-04-04-04	4FLS-4FP-4FLS	1/4	7/16-20	1/4-18	7/16-20
C2606-06-04-06	6FLS-4FP-6FLS	3/8	9/16-18	1/4-18	9/16-18
C2606-08-06-08	8FLS-6FP-8FLS	1/2	3/4-16	3/8-18	3/4-16
C2606-10-08-10	10FLS-8FP-10FLS	5/8	7/8-14	1/2-14	7/8-14
C2606-12-12-12	12FLS-12FP-12FLS	3/4	1 1/16-12	3/4-14	1 1/16-12
C2606-14-12-14	14FLS-12FP-14FLS	7/8	1 3/16-12	3/4-14	1 3/16-12
C2606-16-16-16	16FLS-16FP-16FLS	1	1 5/16-12	1-11 1/2	1 5/16-12

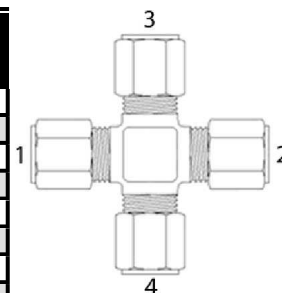


C2650 Series

FLS-FLS-FLS-FLS Cross

SAE 080501

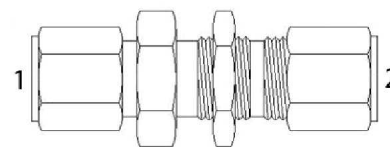
Item Number	HH Item Number	Tube OD	1 Flareless Bite Type	2 Flareless Bite Type	3 Flareless Bite Type	4 Flareless Bite Type
C2650-04-04-04-04	4FLS-4FLS-4FLS-4FLS	1/4	7/16-20	7/16-20	7/16-20	7/16-20
C2650-06-06-06-06	6FLS-6FLS-6FLS-6FLS	3/8	9/16-18	9/16-18	9/16-18	9/16-18
C2650-08-08-08-08	8FLS-8FLS-8FLS-8FLS	1/2	3/4-16	3/4-16	3/4-16	3/4-16
C2650-10-10-10-10	10FLS-10FLS-10FLS-10FLS	5/8	7/8-14	7/8-14	7/8-14	7/8-14
C2650-16-16-16-16	16FLS-16FLS-16FLS-16FLS	1	1 5/16-12	1 5/16-12	1 5/16-12	1 5/16-12
C2650-20-20-20-20	20FLS-20FLS-20FLS-20FLS	1 1/4	1 5/8-12	1 5/8-12	1 5/8-12	1 5/8-12
C2650-24-24-24-24	24FLS-24FLS-24FLS-24FLS	1 1/2	1 7/8-12	1 7/8-12	1 7/8-12	1 7/8-12
C2650-32-32-32-32	32FLS-32FLS-32FLS-32FLS	2	2 1/2-12	2 1/2-12	2 1/2-12	2 1/2-12



C2700 Series

FLS-FLS Bulkhead Union

Item Number	HH Item Number	Tube OD	1 Flareless Bite Type	2 Flareless Bite Type
C2700-03-03	3FLS-3FLSBKHD	3/16	3/8-24	3/8-24
C2700-04-04	4FLS-4FLSBKHD	1/4	7/16-20	7/16-20
C2700-06-06	6FLS-6FLSBKHD	3/8	9/16-18	9/16-18
C2700-08-08	8FLS-8FLSBKHD	1/2	3/4-16	3/4-16
C2700-10-10	10FLS-10FLSBKHD	5/8	7/8-14	7/8-14
C2700-12-12	12FLS-12FLSBKHD	3/4	1 1/16-12	1 1/16-12
C2700-14-14	14FLS-14FLSBKHD	7/8	1 3/16-12	1 3/16-12
C2700-16-16	16FLS-16FLSBKHD	1	1 5/16-12	1 5/16-12



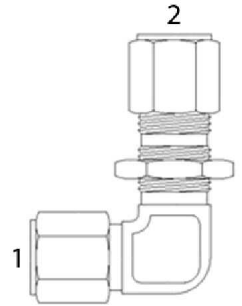
Flareless (Bite Type)

C2701 Series

FLS-FLS 90° Bulkhead Union

SAE 080701

Item Number	HH Item Number	Tube OD	1 Flareless Bite Type	2 Flareless Bite Type
C2701-03-03	3FLS-3FLSBKHD90	3/16	3/8-24	3/8-24
C2701-04-04	4FLS-4FLSBKHD90	1/4	7/16-20	7/16-20
C2701-06-06	6FLS-6FLSBKHD90	3/8	9/16-18	9/16-18
C2701-08-08	8FLS-8FLSBKHD90	1/2	3/4-16	3/4-16
C2701-10-10	10FLS-10FLSBKHD90	5/8	7/8-14	7/8-14
C2701-12-12	12FLS-12FLSBKHD90	3/4	1 1/16-12	1 1/16-12
C2701-16-16	16FLS-16FLSBKHD90	1	1 5/16-12	1 5/16-12
C2701-20-20	20FLS-20FLSBKHD90	1 1/4	1 5/8-12	1 5/8-12

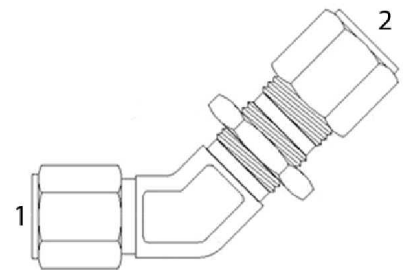


C2702 Series

FLS-FLS 45° Bulkhead Union

SAE 080801

Item Number	HH Item Number	Tube OD	1 Flareless Bite Type	2 Flareless Bite Type
C2702-04-04	4FLS-4FLSBKHD45	1/4	7/16-20	7/16-20
C2702-06-06	6FLS-6FLSBKHD45	3/8	9/16-18	9/16-18
C2702-08-08	8FLS-8FLSBKHD45	1/2	3/4-16	3/4-16
C2702-12-12	12FLS-12FLSBKHD45	3/4	1 1/16-12	1 1/16-12

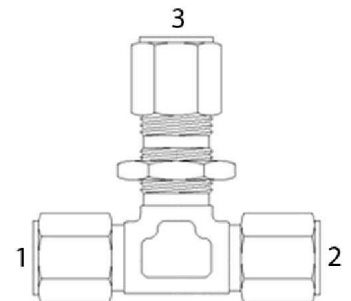


C2703 Series

FLS-FLS-FLS Bulkhead Branch Tee

SAE 080959

Item Number	HH Item Number	Tube OD	1 Flareless Bite Type	2 Flareless Bite Type	3 Flareless Bite Type
C2703-04-04-04	4FLS-4FLS-4FLSBKHD	1/4	7/16-20	7/16-20	7/16-20
C2703-05-05-05	5FLS-5FLS-5FLSBKHD	5/16	1/2-20	1/2-20	1/2-20
C2703-06-06-06	6FLS-6FLS-6FLSBKHD	3/8	9/16-18	9/16-18	9/16-18
C2703-08-08-08	8FLS-8FLS-8FLSBKHD	1/2	3/4-16	3/4-16	3/4-16
C2703-10-10-10	10FLS-10FLS-10FLSBKHD	5/8	7/8-14	7/8-14	7/8-14
C2703-12-12-12	12FLS-12FLS-12FLSBKHD	3/4	1 1/16-12	1 1/16-12	1 1/16-12



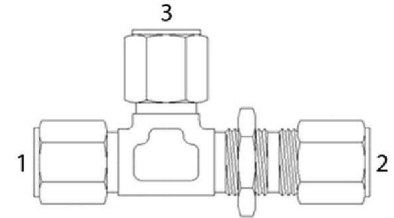
Flareless (Bite Type)

C2704 Series

FLS-FLS-FLS Bulkhead Tee

SAE 080958

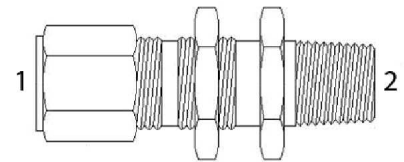
Item Number	HH Item Number	Tube OD	1 Flareless Bite Type	2 Flareless Bite Type	3 Flareless Bite Type
C2704-04-04-04	4FLS-4FLSBKHD-4FLS	1/4	7/16-20	7/16-20	7/16-20
C2704-06-06-06	6FLS-6FLSBKHD-6FLS	3/8	9/16-18	9/16-18	9/16-18
C2704-08-08-08	8FLS-8FLSBKHD-8FLS	1/2	3/4-16	3/4-16	3/4-16
C2704-12-12-12	12FLS-12FLSBKHD-12FLS	3/4	1 1/16-12	1 1/16-12	1 1/16-12



C2706 Series

FLS-MP Bulkhead

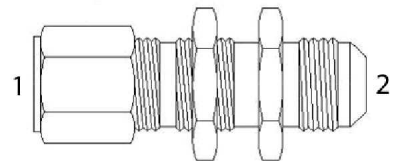
Item Number	HH Item Number	Tube OD	1 Flareless Bite Type	2 Male Pipe
C2706-02-04	2FLSBKHD-4MP	1/8	5/16-24	1/4-18
C2706-04-04	4FLSBKHD-4MP	1/4	7/16-20	1/4-18
C2706-04-06	4FLSBKHD-6MP	1/4	7/16-20	3/8-18
C2706-06-06	6FLSBKHD-6MP	3/8	9/16-18	3/8-18
C2706-06-08	6FLSBKHD-8MP	3/8	9/16-18	1/2-14
C2706-08-06	8FLSBKHD-6MP	1/2	3/4-16	3/8-18
C2706-08-08	8FLSBKHD-8MP	1/2	3/4-16	1/2-14
C2706-12-12	12FLSBKHD-12MP	3/4	1 1/16-12	3/4-14
C2706-16-16	16FLSBKHD-16MP	1	1 5/16-12	1-11 1/2



C2707 Series

FLS-MJ Bulkhead

Item Number	HH Item Number	Tube OD	1 Flareless Bite Type	2 Male JIC
C2707-04-04	4FLSBKHD-4MJ	1/4	7/16-20	7/16-20
C2707-06-06	6FLSBKHD-6MJ	3/8	9/16-18	9/16-18
C2707-08-08	8FLSBKHD-8MJ	1/2	3/4-16	3/4-16
C2707-12-08	12FLSBKHD-8MJ	3/4	1 1/16-12	1 1/16-12
C2707-12-12	12FLSBKHD-12MJ	3/4	1 1/16-12	1 1/16-12
C2707-16-16	16FLSBKHD-16MJ	1	1 5/16-12	1 5/16-12



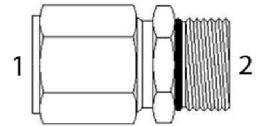
Flareless (Bite Type)

C6400-O Series

FLS-MB Straight

SAE 080120

Item Number	HH Item Number	Tube OD	1 Flareless Bite Type	2 Male ORB
C6400-02-02-O	2FLS-2MB	1/8	5/16-24	5/16-24
C6400-03-03-O	3FLS-3MB	3/16	3/8-24	3/8-24
C6400-04-04-O	4FLS-4MB	1/4	7/16-20	7/16-20
C6400-04-05-O	4FLS-5MB	1/4 x 5/16	7/16-20	1/2-20
C6400-04-06-O	4FLS-6MB	1/4 x 3/8	7/16-20	9/16-18
C6400-05-04-O	5FLS-4MB	5/16 x 1/4	1/2-20	7/16-20
C6400-05-05-O	5FLS-5MB	5/16	1/2-20	1/2-20
C6400-06-04-O	6FLS-4MB	3/8 x 1/4	9/16-18	7/16-20
C6400-06-05-O	6FLS-5MB	3/8 x 5/16	9/16-18	1/2-20
C6400-06-06-O	6FLS-6MB	3/8	9/16-18	9/16-18
C6400-06-08-O	6FLS-8MB	3/8 x 1/2	9/16-18	3/4-16
C6400-08-06-O	8FLS-6MB	1/2 x 3/8	3/4-16	9/16-18
C6400-08-08-O	8FLS-8MB	1/2	3/4-16	3/4-16
C6400-08-10-O	8FLS-10MB	1/2 x 5/8	3/4-16	7/8-14
C6400-08-12-O	8FLS-12MB	1/2 x 3/4	3/4-16	1 1/16-12
C6400-10-10-O	10FLS-10MB	5/8	7/8-14	7/8-14
C6400-12-08-O	12FLS-8MB	3/4 x 1/2	1 1/16-12	3/4-16
C6400-12-12-O	12FLS-12MB	3/4	1 1/16-12	1 1/16-12
C6400-12-16-O	12FLS-16MB	3/4 x 1	1 1/16-12	1 5/16-12
C6400-16-12-O	16FLS-12MB	1 x 3/4	1 5/16-12	1 1/16-12
C6400-16-16-O	16FLS-16MB	1	1 5/16-12	1 5/16-12
C6400-20-20-O	20FLS-20MB	1 1/4	1 5/8-12	1 5/8-12
C6400-24-24-O	24FLS-24MB	1 1/2	1 7/8-12	1 7/8-12
C6400-32-32-O	32FLS-32MB	2	2 1/2-12	2 1/2-12

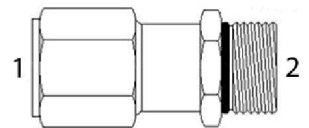


C6400-L-O Series

FLS-MB Long Straight

SAE 080122

Item Number	HH Item Number	Tube OD	1 Flareless Bite Type	2 Male ORB
C6400-L-04-04-O	4FLS-4MBL	1/4	7/16-20	7/16-20
C6400-L-06-06-O	6FLS-6MBL	3/8	9/16-18	9/16-18
C6400-L-08-08-O	8FLS-8MBL	1/2	3/4-16	3/4-16
C6400-L-10-10-O	10FLS-10MBL	5/8	7/8-14	7/8-14
C6400-L-12-12-O	12FLS-12MBL	3/4	1 1/16-12	1 1/16-12
C6400-L-16-16-O	16FLS-16MBL	1	1 5/16-12	1 5/16-12



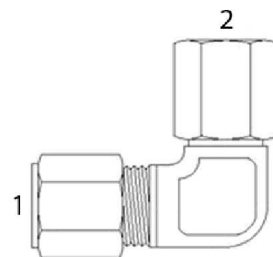
Flareless (Bite Type)

C6500 Series

FLS-FLSX 90°

SAE 080221

Item Number	HH Item Number	Tube OD	1 Flareless Bite Type	2 Flareless Swivel
C6500-04-04	4FLS-4FLSX90	1/4	7/16-20	7/16-20
C6500-06-06	6FLS-6FLSX90	3/8	9/16-18	9/16-18
C6500-08-08	8FLS-8FLSX90	1/2	3/4-16	3/4-16
C6500-10-10	10FLS-10FLSX90	5/8	7/8-14	7/8-14
C6500-12-12	12FLS-12FLSX90	3/4	1 1/16-12	1 1/16-12
C6500-16-16	16FLS-16FLSX90	1	1 5/8-12	1 5/8-12
C6500-20-20	20FLS-20FLSX90	1 1/4	1 5/8-12	1 5/8-12

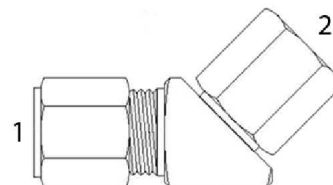


C6502 Series

FLS-FLSX 45°

SAE 080321

Item Number	HH Item Number	Tube OD	1 Flareless Bite Type	2 Flareless Swivel
C6502-04-04	4FLS-4FLSX45	1/4	7/16-20	7/16-20
C6502-06-06	6FLS-6FLSX45	3/8	9/16-18	9/16-18
C6502-08-08	8FLS-8FLSX45	1/2	3/4-16	3/4-16
C6502-12-12	12FLS-12FLSX45	3/4	1 1/16-12	1 1/16-12
C6502-16-16	16FLS-16FLSX45	1	1 5/8-12	1 5/8-12
C6502-20-20	20FLS-20FLSX45	1 1/4	1 5/8-12	1 5/8-12
C6502-24-24	24FLS-24FLSX45	1 1/2	1 7/8-12	1 7/8-12

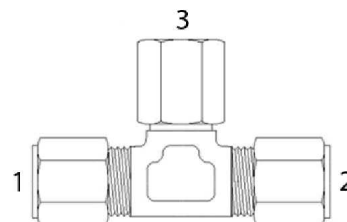


C6600 Series

FLS-FLS-FLSX Tee

SAE 080433

Item Number	HH Item Number	Tube OD	1 Flareless Bite Type	2 Flareless Bite Type	3 Flareless Swivel
C6600-04-04-04	4FLS-4FLS-4FLSX	1/4	7/16-20	7/16-20	7/16-20
C6600-06-06-06	6FLS-6FLS-6FLSX	3/8	9/16-18	9/16-18	9/16-18
C6600-08-08-08	8FLS-8FLS-8FLSX	1/2	3/4-16	3/4-16	3/4-16
C6600-12-12-12	12FLS-12FLS-12FLSX	3/4	1 1/16-12	1 1/16-12	1 1/16-12



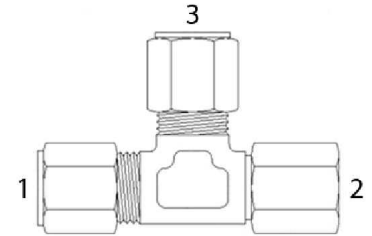
Flareless (Bite Type)

C6602 Series

FLS-FLSX-FLS Tee

SAE 080432

Item Number	HH Item Number	Tube OD	1 Flareless Bite Type	2 Flareless Swivel	3 Flareless Bite Type
C6602-04-04-04	4FLS-4FLSX-4FLS	1/4	7/16-20	7/16-20	7/16-20
C6602-06-06-06	6FLS-6FLSX-6FLS	3/8	9/16-18	9/16-18	9/16-18
C6602-08-08-08	8FLS-8FLSX-8FLS	1/2	3/4-16	3/4-16	3/4-16
C6602-12-12-12	12FLS-12FLSX-12FLS	3/4	1 1/16-12	1 1/16-12	1 1/16-12
C6602-16-16-16	16FLS-16FLSX-16FLS	1	1 5/16-12	1 5/16-12	1 5/16-12

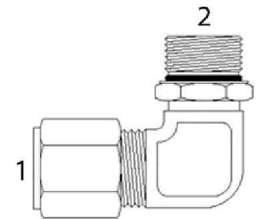


C6801-NWO Series

FLS-MB 90°

SAE 080220

Item Number	HH Item Number	Tube OD	1 Flareless Bite Type	2 Male ORB
C6801-03-03-NWO	3FLS-3MB90	3/16	3/8-24	3/8-24
C6801-04-04-NWO	4FLS-4MB90	1/4	7/16-20	7/16-20
C6801-05-05-NWO	5FLS-5MB90	5/16	1/2-20	1/2-20
C6801-06-04-NWO	6FLS-4MB90	3/8	9/16-18	7/16-20
C6801-06-06-NWO	6FLS-6MB90	3/8	9/16-18	9/16-18
C6801-06-08-NWO	6FLS-8MB90	3/8	9/16-18	3/4-16
C6801-08-06-NWO	8FLS-6MB90	1/2	3/4-16	9/16-18
C6801-08-08-NWO	8FLS-8MB90	1/2	3/4-16	3/4-16
C6801-08-10-NWO	8FLS-10MB90	1/2	3/4-16	7/8-14
C6801-08-12-NWO	8FLS-12MB90	1/2	3/4-16	1 1/16-12
C6801-10-10-NWO	10FLS-10MB90	5/8	7/8-14	7/8-14
C6801-12-08-NWO	12FLS-8MB90	3/4	1 1/16-12	3/4-16
C6801-12-10-NWO	12FLS-10MB90	3/4	1 1/16-12	7/8-14
C6801-12-12-NWO	12FLS-12MB90	3/4	1 1/16-12	1 1/16-12
C6801-12-16-NWO	12FLS-16MB90	3/4	1 1/16-12	1 5/16-12
C6801-14-12-NWO	14FLS-12MB90	7/8	1 3/16-12	1 1/16-12
C6801-16-12-NWO	16FLS-12MB90	1	1 5/16-12	1 1/16-12
C6801-16-16-NWO	16FLS-16MB90	1	1 5/16-12	1 5/16-12
C6801-20-20-NWO	20FLS-20MB90	1 1/4	1 5/8-12	1 5/8-12
C6801-24-24-NWO	24FLS-24MB90	1 1/2	1 7/8-12	1 7/8-12



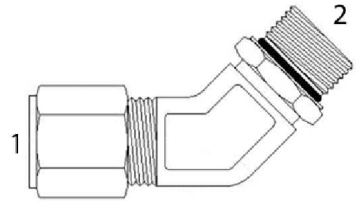
Flareless (Bite Type)

C6802-NWO Series

FLS-MB 45°

SAE 080320

Item Number	HH Item Number	Tube OD	1 Flareless Bite Type	2 Male ORB
C6802-04-04-NWO	4FLS-4MB45	1/4	7/16-20	7/16-20
C6802-06-06-NWO	6FLS-6MB45	3/8	9/16-18	9/16-18
C6802-08-08-NWO	8FLS-8MB45	1/2	3/4-16	3/4-16
C6802-10-10-NWO	10FLS-10MB45	5/8	7/8-14	7/8-14
C6802-12-12-NWO	12FLS-12MB45	3/4	1 1/16-12	1 1/16-12
C6802-16-16-NWO	16FLS-16MB45	1	1 5/16-12	1 5/16-12
C6802-20-20-NWO	20FLS-20MB45	1 1/4	1 5/8-12	1 5/8-12

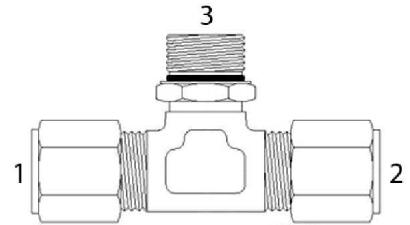


C6803-NWO Series

FLS-FLS-MB Tee

SAE 080429

Item Number	HH Item Number	Tube OD	1 Flareless Bite Type	2 Flareless Bite Type	3 Male ORB
C6803-04-04-04-NWO	4FLS-4FLS-4MB	1/4	7/16-20	7/16-20	7/16-20
C6803-06-06-06-NWO	6FLS-6FLS-6MB	3/8	9/16-18	9/16-18	9/16-18
C6803-08-08-08-NWO	8FLS-8FLS-8MB	1/2	3/4-16	3/4-16	3/4-16
C6803-12-12-12-NWO	12FLS-12FLS-12MB	3/4	1 1/16-12	1 1/16-12	1 1/16-12
C6803-16-16-16-NWO	16FLS-16FLS-16MB	1	1 5/16-12	1 5/16-12	1 5/16-12

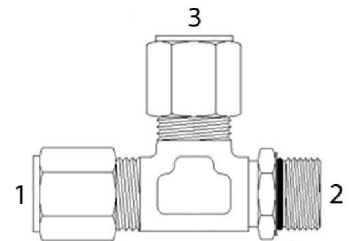


C6804-NWO Series

FLS-MB-FLS Tee

SAE 080428

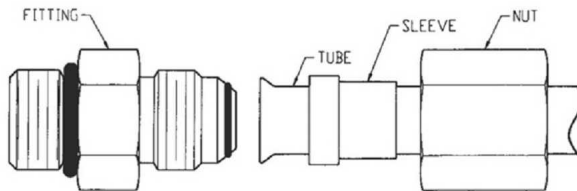
Item Number	HH Item Number	Tube OD	1 Flareless Bite Type	2 Male ORB	3 Flareless Bite Type
C6804-04-04-04-NWO	4FLS-4MB-4FLS	1/4	7/16-20	7/16-20	7/16-20
C6804-06-06-06-NWO	6FLS-6MB-6FLS	3/8	9/16-18	9/16-18	9/16-18
C6804-08-08-08-NWO	8FLS-8MB-8FLS	1/2	3/4-16	3/4-16	3/4-16
C6804-10-10-10-NWO	10FLS-10MB-10FLS	5/8	7/8-14	7/8-14	7/8-14
C6804-12-12-12-NWO	12FLS-12MB-12FLS	3/4	1 1/16-12	1 1/16-12	1 1/16-12
C6804-16-16-16-NWO	16FLS-16MB-16FLS	1	1 5/16-12	1 5/16-12	1 5/16-12



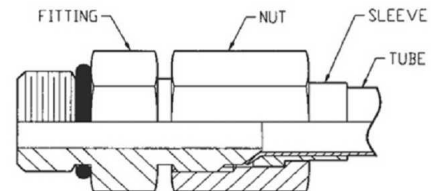
37° JIC Flare O-Ring Fittings

37° JIC Flare O-Ring Fittings

Components



Assembled



The 37° JIC Flare O-Ring Fitting evolved from the standard 37° SAE J514 hydraulic fitting. With the addition of an elastomeric O-Ring positioned in a strategic area of the sealing boundaries, hydraulic leaks vanish. The 37° JIC Flare O-Ring fitting is fully compatible with the traditional 37° design. No additional components are needed. Simply use the 37° JIC Flare O-Ring in place of the standard 37° flare fitting and enjoy the superior leak free benefits.

Assembly Instructions:

1. Inspect components for damage or contamination.
2. Install correct O-Ring in groove (if not already installed).
3. Lubricate assembly.
4. Align tube/hose to mating fitting allowing hand connection. To assure proper alignment, two to three turns of nut should be easily permitted.
5. Tighten tube nut to torque listed below.

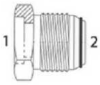


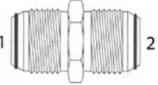
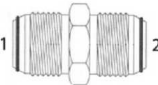
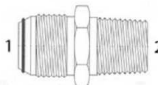
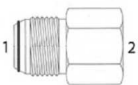
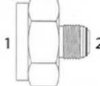






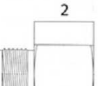

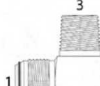


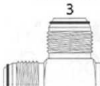

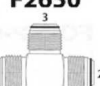




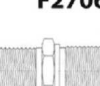








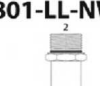



37° JIC Flare O-Ring Torque Values

"Turns Past Hand Tight" Method			Assembly steps with a visual check
Size	Turns	lb-ft min./max.	
-02	Not Rated	-	<ol style="list-style-type: none"> 1. With the tube flared, make sure the tubing and threads are clean. 2. Install correct O-Ring in groove (if not already installed). 3. Lubricate the threads with 10W hydraulic oil. 4. Hand tighten the nut/sleeve (approx. 30 lb-in). 5. Make alignment marks on the nut and fitting. 6. Proceed to tighten to Turns or lb-ft values. 7. When fully tightened make a second set of alignment marks at the fully tightened position. <p>This completes a 37° JIC Flare O-Ring Fitting connection with visual marks for a quick reference.</p>
-03	Not Rated	-	
-04	2	7-8	
-05	2	10-12	
-06	1 1/2	14-16	
-08	1 1/2	21-24	
-10	1 1/2	28-32	
-12	1 1/4	52-56	
-14	1 1/4	60-64	
-16	1	63-72	
-20	1	84-96	
-24	1	91-104	
-32	1	210-240	

Torque values specified are for threads lubricated with 10W hydraulic oil.
Remember sizes -02 through -08 are less tolerant to over-torque abuse.
Over-torque abuse reduces the clamping force resulting in loss of seal and a reduction in flow.

37° JIC Flare O-Ring Fittings

37° JIC Flare O-Ring Fittings - Visual Identification Chart

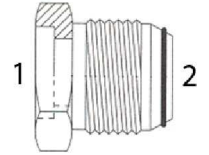
<p>F0403</p>  <p>Bore-FO Straight Pg. 213</p>	<p>F0500</p>  <p>Bore-FO 90° Pg. 213</p>	<p>F0600</p>  <p>Bore-Bore-FO Pg. 213</p>	<p>F2403</p>  <p>FO-FO Straight Pg. 214</p>	<p>F2403-LH</p>  <p>FO-FO Straight Large Hex Pg. 214</p>	<p>F2404</p>  <p>FO-MP Straight Pg. 215</p>	<p>F2405</p>  <p>FO-FP Straight Pg. 216</p>
<p>F2406</p>  <p>FJ-FO Straight Reducer Pg. 217</p>	<p>F2408</p>  <p>FO Plug Pg. 217</p>	<p>F2500</p>  <p>FO-FO 90° Pg. 218</p>	<p>F2501</p>  <p>FO-MP 90° Pg. 219</p>	<p>F2501-L</p>  <p>FO-MP 90° Long Pg. 220</p>	<p>F2501-LL</p>  <p>FO-MP 90° X-Long Pg. 220</p>	<p>F2501-LLL</p>  <p>FO-MP 90° XX-Long Pg. 221</p>
<p>F2502</p>  <p>FO-FP 90° Pg. 221</p>	<p>F2503</p>  <p>FO-MP 45° Pg. 222</p>	<p>F2601</p>  <p>FO-FO-MP Tee Pg. 222</p>	<p>F2602</p>  <p>FO-FO-FP Tee Pg. 223</p>	<p>F2603</p>  <p>FO-FO-FO Tee Pg. 223</p>	<p>F2605</p>  <p>FO-MP-FO Tee Pg. 224</p>	<p>F2606</p>  <p>FO-FP-FO Tee Pg. 224</p>
<p>F2650</p>  <p>FO-FO-FO-FO Cross Pg. 225</p>	<p>F2700</p>  <p>FO-FO Bulkhead Straight Pg. 225</p>	<p>F2701</p>  <p>FO-FO Bulkhead 90° Pg. 226</p>	<p>F2702</p>  <p>FO-FO Bulkhead 45° Pg. 226</p>	<p>F2703</p>  <p>FO-FO-FO Bulkhead Tee Pg. 227</p>	<p>F2706</p>  <p>MP-FO Bulkhead Straight Pg. 227</p>	<p>F6400-O</p>  <p>FO-MB Straight Pg. 228</p>
<p>F6400-L-O</p>  <p>FO-MB Straight Long Pg. 229</p>	<p>F6500</p>  <p>FO-FJX 90° Pg. 229</p>	<p>F6502</p>  <p>FO-FJX 45° Pg. 229</p>	<p>F6600</p>  <p>FO-FO-FJX Tee Pg. 230</p>	<p>F6602</p>  <p>FO-FJX-FO Tee Pg. 230</p>	<p>F6801-NWO</p>  <p>FO-MB 90° Pg. 231</p>	<p>F6801-L-NWO</p>  <p>FO-MB 90° Long Pg. 232</p>
<p>F6801-LL-NWO</p>  <p>FO-MB 90° X-Long Pg. 232</p>	<p>F6802-NWO</p>  <p>FO-MB 45° Pg. 233</p>	<p>F6803-NWO</p>  <p>FO-FO-MB Tee Pg. 233</p>	<p>F6804-NWO</p>  <p>FO-MB-FO Tee Pg. 234</p>			

37° JIC Flare O-Ring Fittings

F0403 Series

Bore-FO Straight

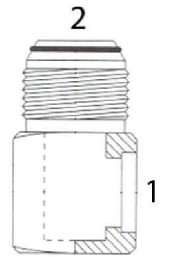
Item Number	HH Item Number	Tube OD	1 Bore	2 Flare O-Ring
F0403-04-04-O	4BORE-4FO	1/4	1/4	7/16-20
F0403-06-06-O	6BORE-6FO	3/8	3/8	9/16-18
F0403-08-08-O	8BORE-8FO	1/2	1/2	3/4-16
F0403-10-10-O	10BORE-10FO	5/8	5/8	7/8-14
F0403-12-12-O	12BORE-12FO	3/4	3/4	1 1/16-12
F0403-14-14-O	14BORE-14FO	7/8	7/8	1 3/16-12
F0403-16-16-O	16BORE-16FO	1	1	1 5/16-12
F0403-20-20-O	20BORE-20FO	1 1/4	1 1/4	1 5/8-12
F0403-24-24-O	24BORE-24FO	1 1/2	1 1/2	1 7/8-12
F0403-32-32-O	32BORE-32FO	2	2	2 1/2-12



F0500 Series

Bore-FO 90°

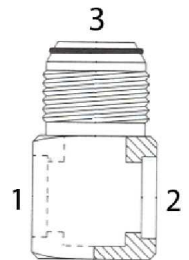
Item Number	HH Item Number	Tube OD	1 Bore	2 Flare O-Ring
F0500-04-04-O	4BORE-4FO90	1/4	1/4	7/16-20
F0500-05-05-O	5BORE-5FO90	5/16	5/16	1/2-20
F0500-06-06-O	6BORE-6FO90	3/8	3/8	9/16-18
F0500-08-08-O	8BORE-8FO90	1/2	1/2	3/4-16
F0500-10-10-O	10BORE-10FO90	5/8	5/8	7/8-14
F0500-12-12-O	12BORE-12FO90	3/4	3/4	1 1/16-12
F0500-14-14-O	14BORE-14FO90	7/8	7/8	1 3/16-12
F0500-16-16-O	16BORE-16FO90	1	1	1 5/16-12
F0500-20-20-O	20BORE-20FO90	1 1/4	1 1/4	1 5/8-12
F0500-24-24-O	24BORE-24FO90	1 1/2	1 1/2	1 7/8-12
F0500-32-32-O	32BORE-32FO90	2	2	2 1/2-12



F0600 Series

Bore-Bore-FO

Item Number	HH Item Number	Tube OD	1 Bore	2 Bore	3 Flare O-Ring
F0600-04-04-04-O	4BORE-4BORE-4FO	1/4	1/4	1/4	7/16-20
F0600-05-05-05-O	5BORE-5BORE-5FO	5/16	5/16	5/16	1/2-20
F0600-06-06-06-O	6BORE-6BORE-6FO	3/8	3/8	3/8	9/16-18
F0600-08-08-08-O	8BORE-8BORE-8FO	1/2	1/2	1/2	3/4-16
F0600-10-10-10-O	10BORE-10BORE-10FO	5/8	5/8	5/8	7/8-14
F0600-12-12-12-O	12BORE-12BORE-12FO	3/4	3/4	3/4	1 1/16-12
F0600-14-14-14-O	14BORE-14BORE-14FO	7/8	7/8	7/8	1 3/16-12
F0600-16-16-16-O	16BORE-16BORE-16FO	1	1	1	1 5/16-12
F0600-20-20-20-O	20BORE-20BORE-20FO	1 1/4	1 1/4	1 1/4	1 5/8-12
F0600-24-24-24-O	24BORE-24BORE-24FO	1 1/2	1 1/2	1 1/2	1 7/8-12

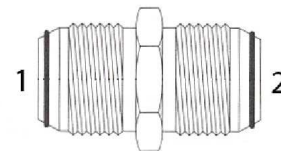


37° JIC Flare O-Ring Fittings

F2403 Series

FO-FO Straight

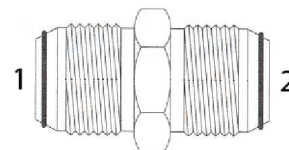
Item Number	HH Item Number	Tube OD	1 Flare O-Ring	2 Flare O-Ring
F2403-04-04-O	4FO-4FO	1/4	7/16-20	7/16-20
F2403-05-05-O	5FO-5FO	5/16	1/2-20	1/2-20
F2403-06-04-O	6FO-4FO	3/8 x 1/4	9/16-18	7/16-20
F2403-06-05-O	6FO-5FO	3/8 x 5/16	9/16-18	1/2-20
F2403-06-06-O	6FO-6FO	3/8	9/16-18	9/16-18
F2403-08-06-O	8FO-6FO	1/2 x 3/8	3/4-16	9/16-18
F2403-08-08-O	8FO-8FO	1/2	3/4-16	3/4-16
F2403-10-06-O	10FO-6FO	5/8 x 3/8	7/8-14	9/16-18
F2403-10-08-O	10FO-8FO	5/8 x 1/2	7/8-14	3/4-16
F2403-10-10-O	10FO-10FO	5/8	7/8-14	7/8-14
F2403-12-08-O	12FO-8FO	3/4 x 1/2	1 1/16-12	3/4-16
F2403-12-10-O	12FO-10FO	3/4 x 5/8	1 1/16-12	7/8-14
F2403-12-12-O	12FO-12FO	3/4	1 1/16-12	1 1/16-12
F2403-14-14-O	14FO-14FO	7/8	1 3/16-12	1 3/16-12
F2403-16-16-O	16FO-16FO	1	1 5/16-12	1 5/16-12
F2403-20-16-O	20FO-16FO	1 1/4 x 1	1 5/8-12	1 5/16-12
F2403-20-20-O	20FO-20FO	1 1/4	1 5/8-12	1 5/8-12
F2403-24-16-O	24FO-16FO	1 1/2 x 1	1 7/8-12	1 7/8-12
F2403-24-24-O	24FO-24FO	1 1/2	1 7/8-12	1 7/8-12



F2403-LH Series

FO-FO Straight Large Hex

Item Number	HH Item Number	Tube OD	1 Flare O-Ring	2 Flare O-Ring
F2403-LH-04-04-O	4FO-4FO-LH	1/4	7/16-20	7/16-20
F2403-LH-06-06-O	6FO-6FO-LH	3/8	9/16-18	9/16-18
F2403-LH-08-08-O	8FO-8FO-LH	1/2	3/4-16	3/4-16
F2403-LH-10-10-O	10FO-10FO-LH	5/8	7/8-14	7/8-14
F2403-LH-12-12-O	12FO-12FO-LH	3/4	1 1/16-12	1 1/16-12
F2403-LH-16-16-O	16FO-16FO-LH	1	1 5/16-12	1 5/16-12
F2403-LH-20-20-O	20FO-20FO-LH	1 1/4	1 5/8-12	1 5/8-12
F2403-LH-24-24-O	24FO-24FO-LH	1 1/2	1 7/8-12	1 7/8-12

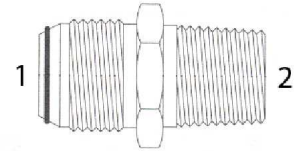


37° JIC Flare O-Ring Fittings

F2404 Series

FO-MP Straight

Item Number	HH Item Number	Tube OD	1 Flare O-Ring	2 Male Pipe
F2404-04-02-O	4FO-2MP	1/4	7/16-20	1/8-27
F2404-04-04-O	4FO-4MP	1/4	7/16-20	1/4-18
F2404-04-06-O	4FO-6MP	1/4	7/16-20	3/8-18
F2404-04-08-O	4FO-8MP	1/4	7/16-20	1/2-14
F2404-05-02-O	5FO-2MP	5/16	1/2-20	1/8-27
F2404-05-04-O	5FO-4MP	5/16	1/2-20	1/4-18
F2404-05-06-O	5FO-6MP	5/16	1/2-20	3/8-18
F2404-06-02-O	6FO-2MP	3/8	9/16-18	1/8-27
F2404-06-04-O	6FO-4MP	3/8	9/16-18	1/4-18
F2404-06-06-O	6FO-6MP	3/8	9/16-18	3/8-18
F2404-06-08-O	6FO-8MP	3/8	9/16-18	1/2-14
F2404-06-12-O	6FO-12MP	3/8	9/16-18	3/4-14
F2404-08-04-O	8FO-4MP	1/2	3/4-16	1/4-18
F2404-08-06-O	8FO-6MP	1/2	3/4-16	3/8-18
F2404-08-08-O	8FO-8MP	1/2	3/4-16	1/2-14
F2404-08-12-O	8FO-12MP	1/2	3/4-16	3/4-14
F2404-08-16-O	8FO-16MP	1/2	3/4-16	1-11 1/2
F2404-10-06-O	10FO-6MP	5/8	7/8-14	3/8-18
F2404-10-08-O	10FO-8MP	5/8	7/8-14	1/2-14
F2404-10-12-O	10FO-12MP	5/8	7/8-14	3/4-14
F2404-12-08-O	12FO-8MP	3/4	1 1/16-12	1/2-14
F2404-12-12-O	12FO-12MP	3/4	1 1/16-12	3/4-14
F2404-12-16-O	12FO-16MP	3/4	1 1/16-12	1-11 1/2
F2404-14-12-O	14FO-12MP	7/8	1 3/16-12	3/4-14
F2404-16-12-O	16FO-12MP	1	1 5/16-12	3/4-14
F2404-16-16-O	16FO-16MP	1	1 5/16-12	1-11 1/2
F2404-16-20-O	16FO-20MP	1	1 5/16-12	1 1/4-11 1/2
F2404-20-16-O	20FO-16MP	1 1/4	1 5/8-12	1-11 1/2
F2404-20-20-O	20FO-20MP	1 1/4	1 5/8-12	1 1/4-11 1/2
F2404-20-24-O	20FO-24MP	1 1/4	1 5/8-12	1 1/2-11 1/2
F2404-24-20-O	24FO-20MP	1 1/2	1 7/8-12	1 1/4-11 1/2
F2404-24-24-O	24FO-24MP	1 1/2	1 7/8-12	1 1/2-11 1/2
F2404-32-32-O	32FO-32MP	2	2 1/2-12	2-11 1/2

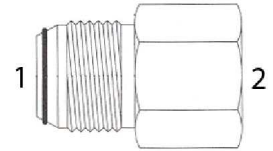


37° JIC Flare O-Ring Fittings

F2405 Series

FO-FP Straight

Item Number	HH Item Number	Tube OD	1 Flare O-Ring	2 Female Pipe
F2405-04-02-O	4FO-2FP	1/4	7/16-20	1/8-27
F2405-04-04-O	4FO-4FP	1/4	7/16-20	1/4-18
F2405-04-06-O	4FO-6FP	1/4	7/16-20	3/8-18
F2405-05-02-O	5FO-2FP	5/16	1/2-20	1/8-27
F2405-05-04-O	5FO-4FP	5/16	1/2-20	1/4-18
F2405-06-04-O	6FO-4FP	3/8	9/16-18	1/4-18
F2405-06-06-O	6FO-6FP	3/8	9/16-18	3/8-18
F2405-08-04-O	8FO-4FP	1/2	3/4-16	1/4-18
F2405-08-06-O	8FO-6FP	1/2	3/4-16	3/8-18
F2405-08-08-O	8FO-8FP	1/2	3/4-16	1/2-14
F2405-08-12-O	8FO-12FP	1/2	3/4-16	3/4-14
F2405-10-06-O	10FO-6FP	5/8	7/8-14	3/8-18
F2405-10-08-O	10FO-8FP	5/8	7/8-14	1/2-14
F2405-12-08-O	12FO-8FP	3/4	1 1/16-12	1/2-14
F2405-12-12-O	12FO-12FP	3/4	1 1/16-12	3/4-14
F2405-14-12-O	14FO-12FP	7/8	1 3/16-12	3/4-14
F2405-16-12-O	16FO-12FP	1	1 5/16-12	3/4-14
F2405-16-16-O	16FO-16FP	1	1 5/16-12	1-11 1/2
F2405-20-20-O	20FO-20FP	1 1/4	1 5/8-12	1 1/4-11 1/2
F2405-24-24-O	24FO-24FP	1 1/2	1 7/8-12	1 1/2-11 1/2
F2405-32-32-O	32FO-32FP	2	2 1/2-12	2-11 1/2

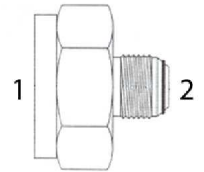


37° JIC Flare O-Ring Fittings

F2406 Series

FJ-FO Straight Reducer

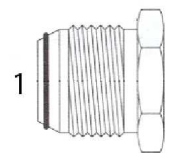
Item Number	HH Item Number	Tube OD	1 Female JIC	2 Flare O-Ring
F2406-06-04-O	6FJ-4FO	3/8	9/16-18	7/16-20
F2406-08-04-O	8FJ-4FO	1/2	3/4-16	7/16-20
F2406-08-06-O	8FJ-6FO	1/2	3/4-16	9/16-18
F2406-10-04-O	10FJ-4FO	5/8	7/8-14	7/16-20
F2406-10-06-O	10FJ-6FO	5/8	7/8-14	9/16-18
F2406-10-08-O	10FJ-8FO	5/8	7/8-14	3/4-16
F2406-12-04-O	12FJ-4FO	3/4	1 1/16-12	7/16-20
F2406-12-06-O	12FJ-6FO	3/4	1 1/16-12	9/16-18
F2406-12-08-O	12FJ-8FO	3/4	1 1/16-12	3/4-16
F2406-12-10-O	12FJ-10FO	3/4	1 1/16-12	7/8-14
F2406-12-16-O	12FJ-16FO	3/4	1 1/16-12	1 5/16-12
F2406-14-06-O	14FJ-6FO	7/8	1 3/16-12	9/16-18
F2406-14-08-O	14FJ-8FO	7/8	1 3/16-12	3/4-16
F2406-14-10-O	14FJ-10FO	7/8	1 3/16-12	7/8-14
F2406-14-12-O	14FJ-12FO	7/8	1 3/16-12	1 1/16-12
F2406-16-04-O	16FJ-4FO	1	1 5/16-12	7/16-20
F2406-16-08-O	16FJ-8FO	1	1 5/16-12	3/4-16
F2406-16-10-O	16FJ-10FO	1	1 5/16-12	7/8-14
F2406-16-12-O	16FJ-12FO	1	1 5/16-12	1 1/16-12
F2406-16-14-O	16FJ-14FO	1	1 5/16-12	1 3/16-12
F2406-16-20-O	16FJ-20FO	1	1 5/16-12	1 5/8-12
F2406-20-12-O	20FJ-12FO	1 1/4	1 5/8-12	1 1/16-12
F2406-20-16-O	20FJ-16FO	1 1/4	1 5/8-12	1 5/16-12
F2406-20-24-O	20FJ-24FO	1 1/4	1 5/8-12	1 7/8-12
F2406-24-16-O	24FJ-16FO	1 1/2	1 7/8-12	1 5/16-12
F2406-24-20-O	24FJ-20FO	1 1/2	1 7/8-12	1 5/8-12
F2406-32-24-O	32FJ-24FO	2	2 1/2-12	1 7/8-12



F2408 Series

FO Plug

Item Number	HH Item Number	Tube OD	1 Flare O-Ring
F2408-04-O	4FO-PLUG	1/4	7/16-20
F2408-05-O	5FO-PLUG	5/16	1/2-20
F2408-06-O	6FO-PLUG	3/8	9/16-18
F2408-08-O	8FO-PLUG	1/2	3/4-16
F2408-10-O	10FO-PLUG	5/8	7/8-14
F2408-12-O	12FO-PLUG	3/4	1 1/16-12
F2408-14-O	14FO-PLUG	7/8	1 3/16-12
F2408-16-O	16FO-PLUG	1	1 5/16-12
F2408-20-O	20FO-PLUG	1 1/4	1 5/8-12
F2408-24-O	24FO-PLUG	1 1/2	1 7/8-12
F2408-32-O	32FO-PLUG	2	2 1/2-12

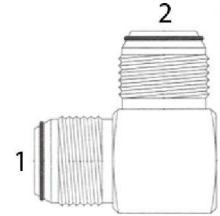


37° JIC Flare O-Ring Fittings

F2500 Series

FO-FO 90°

Item Number	HH Item Number	Tube OD	1 Flare O-Ring	2 Flare O-Ring
F2500-04-04-O	4FO-4FO90	1/4	7/16-20	7/16-20
F2500-05-05-O	5FO-5FO90	5/16	1/2-20	1/2-20
F2500-06-06-O	6FO-6FO90	3/8	9/16-18	9/16-18
F2500-08-06-O	8FO-6FO90	1/2 x 3/8	3/4-16	9/16-18
F2500-08-08-O	8FO-8FO90	1/2	3/4-16	3/4-16
F2500-10-06-O	10FO-6FO90	5/8 x 3/8	7/8-14	9/16-18
F2500-10-08-O	10FO-8FO90	5/8 x 1/2	7/8-14	3/4-16
F2500-10-10-O	10FO-10FO90	5/8	7/8-14	7/8-14
F2500-12-12-O	12FO-12FO90	3/4	1 1/16-12	1 1/16-12
F2500-14-14-O	14FO-14FO90	7/8	1 3/16-12	1 3/16-12
F2500-16-16-O	16FO-16FO90	1	1 5/16-12	1 5/16-12
F2500-20-20-O	20FO-20FO90	1 1/4	1 5/8-12	1 5/8-12
F2500-24-24-O	24FO-24FO90	1 1/2	1 7/8-12	1 7/8-12
F2500-32-32-O	32FO-32FO90	2	2 1/2-12	2 1/2-12

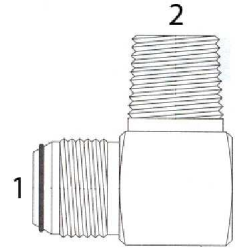


37° JIC Flare O-Ring Fittings

F2501 Series

FO-MP 90°

Item Number	HH Item Number	Tube OD	1 Flare O-Ring	2 Male Pipe
F2501-04-02-O	4FO-2MP90	1/4	7/16-20	1/8-27
F2501-04-04-O	4FO-4MP90	1/4	7/16-20	1/4-18
F2501-04-06-O	4FO-6MP90	1/4	7/16-20	3/8-18
F2501-04-08-O	4FO-8MP90	1/4	7/16-20	1/2-14
F2501-04-12-O	4FO-12MP90	1/4	7/16-20	3/4-14
F2501-05-02-O	5FO-2MP90	5/16	1/2-20	1/8-27
F2501-05-04-O	5FO-4MP90	5/16	1/2-20	1/4-18
F2501-05-06-O	5FO-6MP90	5/16	1/2-20	3/8-18
F2501-06-02-O	6FO-2MP90	3/8	9/16-18	1/8-27
F2501-06-04-O	6FO-4MP90	3/8	9/16-18	1/4-18
F2501-06-06-O	6FO-6MP90	3/8	9/16-18	3/8-18
F2501-06-08-O	6FO-8MP90	3/8	9/16-18	1/2-14
F2501-06-12-O	6FO-12MP90	3/8	9/16-18	3/4-14
F2501-08-04-O	8FO-4MP90	1/2	3/4-16	1/4-18
F2501-08-06-O	8FO-6MP90	1/2	3/4-16	3/8-18
F2501-08-08-O	8FO-8MP90	1/2	3/4-16	1/2-14
F2501-08-12-O	8FO-12MP90	1/2	3/4-16	3/4-14
F2501-08-16-O	8FO-16MP90	1/2	3/4-16	1-11 1/2
F2501-10-06-O	10FO-6MP90	5/8	7/8-14	3/8-18
F2501-10-08-O	10FO-8MP90	5/8	7/8-14	1/2-14
F2501-10-12-O	10FO-12MP90	5/8	7/8-14	3/4-14
F2501-10-16-O	10FO-16MP90	5/8	7/8-14	1-11 1/2
F2501-12-08-O	12FO-8MP90	3/4	1 1/16-12	1/2-14
F2501-12-12-O	12FO-12MP90	3/4	1 1/16-12	3/4-14
F2501-12-16-O	12FO-16MP90	3/4	1 1/16-12	1-11 1/2
F2501-14-12-O	14FO-12MP90	7/8	1 3/16-12	3/4-14
F2501-16-12-O	16FO-12MP90	1	1 5/16-12	3/4-14
F2501-16-16-O	16FO-16MP90	1	1 5/16-12	1-11 1/2
F2501-16-20-O	16FO-20MP90	1	1 5/16-12	1 1/4-11 1/2
F2501-20-16-O	20FO-16MP90	1 1/4	1 5/8-12	1-11 1/2
F2501-20-20-O	20FO-20MP90	1 1/4	1 5/8-12	1 1/4-11 1/2
F2501-20-24-O	20FO-24MP90	1 1/4	1 5/8-12	1 1/2-11 1/2
F2501-24-20-O	24FO-20MP90	1 1/2	1 7/8-12	1 1/4-11 1/2
F2501-24-24-O	24FO-24MP90	1 1/2	1 7/8-12	1 1/2-11 1/2
F2501-32-32-O	32FO-32MP90	2	2 1/2-12	2-11 1/2

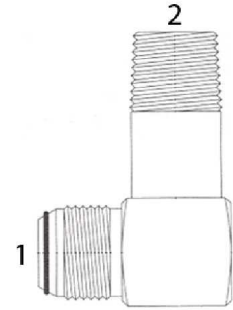


37° JIC Flare O-Ring Fittings

F2501-L Series

FO-MP 90° Long

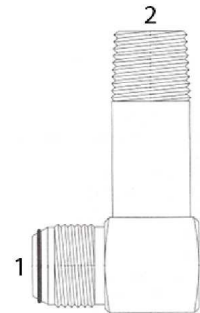
Item Number	HH Item Number	Tube OD	1 Flare O-Ring	2 Male Pipe
F2501-L-04-02-O	4FO-2MP90L	1/4	7/16-20	1/8-27
F2501-L-04-04-O	4FO-4MP90L	1/4	7/16-20	1/4-18
F2501-L-05-02-O	5FO-2MP90L	5/16	1/2-20	1/8-27
F2501-L-05-04-O	5FO-4MP90L	5/16	1/2-20	1/4-18
F2501-L-06-04-O	6FO-4MP90L	3/8	9/16-18	1/4-18
F2501-L-06-06-O	6FO-6MP90L	3/8	9/16-18	3/8-18
F2501-L-08-06-O	8FO-6MP90L	1/2	3/4-16	3/8-18
F2501-L-08-08-O	8FO-8MP90L	1/2	3/4-16	1/2-14
F2501-L-08-12-O	8FO-12MP90L	1/2	3/4-16	3/4-14
F2501-L-10-08-O	10FO-8MP90L	5/8	7/8-14	1/2-14
F2501-L-12-12-O	12FO-12MP90L	3/4	1 1/16-12	3/4-14
F2501-L-14-12-O	14FO-12MP90L	7/8	1 3/16-12	3/4-14
F2501-L-16-16-O	16FO-16MP90L	1	1 5/16-12	1-11 1/2
F2501-L-20-20-O	20FO-20MP90L	1 1/4	1 5/8-12	1 1/4-11 1/2
F2501-L-24-24-O	24FO-24MP90L	1 1/2	1 7/8-12	1 1/2-11 1/2



F2501-LL Series

FO-MP 90° X-Long

Item Number	HH Item Number	Tube OD	1 Flare O-Ring	2 Male Pipe
F2501-LL-04-02-O	4FO-2MP90LL	1/4	7/16-20	1/8-27
F2501-LL-04-04-O	4FO-4MP90LL	1/4	7/16-20	1/4-18
F2501-LL-05-02-O	5FO-2MP90LL	5/16	1/2-20	1/8-27
F2501-LL-05-04-O	5FO-4MP90LL	5/16	1/2-20	1/4-18
F2501-LL-06-04-O	6FO-4MP90LL	3/8	9/16-18	1/4-18
F2501-LL-06-06-O	6FO-6MP90LL	3/8	9/16-18	3/8-18
F2501-LL-08-06-O	8FO-6MP90LL	1/2	3/4-16	3/8-18
F2501-LL-08-08-O	8FO-8MP90LL	1/2	3/4-16	1/2-14
F2501-LL-10-08-O	10FO-8MP90LL	5/8	7/8-14	1/2-14
F2501-LL-12-12-O	12FO-12MP90LL	3/4	1 1/16-12	3/4-14
F2501-LL-14-12-O	14FO-12MP90LL	7/8	1 3/16-12	3/4-14
F2501-LL-16-16-O	16FO-16MP90LL	1	1 5/16-12	1-11 1/2
F2501-LL-20-20-O	20FO-20MP90LL	1 1/4	1 5/8-12	1 1/4-11 1/2

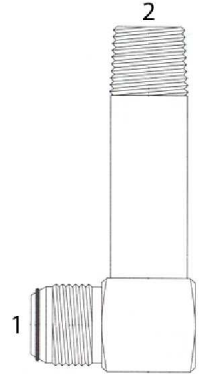


37° JIC Flare O-Ring Fittings

F2501-LLL Series

FO-MP 90° XX-Long

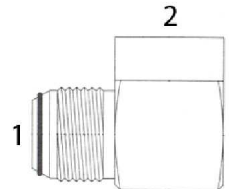
Item Number	HH Item Number	Tube OD	1 Flare O-Ring	2 Male Pipe
F2501-LLL-08-06-O	8FO-6MP90LLL	1/2	3/4-16	3/8-18



F2502 Series

FO-FP 90°

Item Number	HH Item Number	Tube OD	1 Flare O-Ring	2 Female Pipe
F2502-04-02-O	4FO-2FP90	1/4	7/16-20	1/8-27
F2502-04-04-O	4FO-4FP90	1/4	7/16-20	1/4-18
F2502-05-02-O	5FO-2FP90	5/16	1/2-20	1/8-27
F2502-05-04-O	5FO-4FP90	5/16	1/2-20	1/4-18
F2502-06-04-O	6FO-4FP90	3/8	9/16-18	1/4-18
F2502-06-06-O	6FO-6FP90	3/8	9/16-18	3/8-18
F2502-06-08-O	6FO-8FP90	3/8	9/16-18	1/2-14
F2502-08-06-O	8FO-6FP90	1/2	3/4-16	3/8-18
F2502-08-08-O	8FO-8FP90	1/2	3/4-16	1/2-14
F2502-10-08-O	10FO-8FP90	5/8	7/8-14	1/2-14
F2502-12-12-O	12FO-12FP90	3/4	1 1/16-12	3/4-14
F2502-14-12-O	14FO-12FP90	7/8	1 3/16-12	3/4-14
F2502-16-16-O	16FO-16FP90	1	1 5/16-12	1-11 1/2
F2502-20-20-O	20FO-20FP90	1 1/4	1 5/8-12	1 1/4-11 1/2
F2502-24-24-O	24FO-24FP90	1 1/2	1 7/8-12	1 1/2-11 1/2
F2502-32-32-O	32FO-32FP90	2	2 1/2-12	2-11 1/2

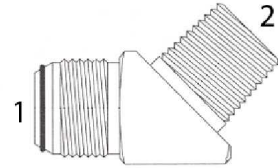


37° JIC Flare O-Ring Fittings

F2503 Series

FO-MP 45°

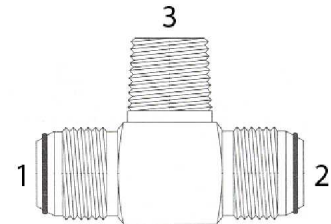
Item Number	HH Item Number	Tube OD	1 Flare O-Ring	2 Male Pipe
F2503-04-02-O	4FO-2MP45	1/4	7/16-20	1/8-27
F2503-04-04-O	4FO-4MP45	1/4	7/16-20	1/4-18
F2503-05-02-O	5FO-2MP45	5/16	1/2-20	1/8-27
F2503-05-04-O	5FO-4MP45	5/16	1/2-20	1/4-18
F2503-06-02-O	6FO-2MP45	3/8	9/16-18	1/8-27
F2503-06-04-O	6FO-4MP45	3/8	9/16-18	1/4-18
F2503-06-06-O	6FO-6MP45	3/8	9/16-18	3/8-18
F2503-06-08-O	6FO-8MP45	3/8	9/16-18	1/2-14
F2503-08-04-O	8FO-4MP45	1/2	3/4-16	1/4-18
F2503-08-06-O	8FO-6MP45	1/2	3/4-16	3/8-18
F2503-08-08-O	8FO-8MP45	1/2	3/4-16	1/2-14
F2503-08-12-O	8FO-12MP45	1/2	3/4-16	3/4-14
F2503-10-06-O	10FO-6MP45	5/8	7/8-14	3/8-18
F2503-10-08-O	10FO-8MP45	5/8	7/8-14	1/2-14
F2503-10-12-O	10FO-12MP45	5/8	7/8-14	3/4-14
F2503-12-08-O	12FO-8MP45	3/4	1 1/16-12	1/2-14
F2503-12-12-O	12FO-12MP45	3/4	1 1/16-12	3/4-14
F2503-12-16-O	12FO-16MP45	3/4	1 1/16-12	1-11 1/2
F2503-14-12-O	14FO-12MP45	7/8	1 3/16-12	3/4-14
F2503-16-12-O	16FO-12MP45	1	1 5/16-12	3/4-14
F2503-16-16-O	16FO-16MP45	1	1 5/16-12	1-11 1/2
F2503-20-20-O	20FO-20MP45	1 1/4	1 5/8-12	1 1/4-11 1/2
F2503-20-24-O	20FO-24MP45	1 1/4	1 5/8-12	1 1/2-11 1/2
F2503-24-24-O	24FO-24MP45	1 1/2	1 7/8-12	1 1/2-11 1/2
F2503-32-32-O	32FO-32MP45	2	2 1/2-12	2-11 1/2



F2601 Series

FO-FO-MP Tee

Item Number	HH Item Number	Tube OD	1 Flare O-Ring	2 Flare O-Ring	3 Male Pipe
F2601-04-04-02-O	4FO-4FO-2MP	1/4	7/16-20	7/16-20	1/8-27
F2601-04-04-04-O	4FO-4FO-4MP	1/4	7/16-20	7/16-20	1/4-18
F2601-05-05-02-O	5FO-5FO-2MP	5/16	1/2-20	1/2-20	1/8-27
F2601-05-05-04-O	5FO-5FO-4MP	5/16	1/2-20	1/2-20	1/4-18
F2601-06-06-04-O	6FO-6FO-4MP	3/8	9/16-18	9/16-18	1/4-18
F2601-06-06-06-O	6FO-6FO-6MP	3/8	9/16-18	9/16-18	3/8-18
F2601-08-08-06-O	8FO-8FO-6MP	1/2	3/4-16	3/4-16	3/8-18
F2601-08-08-08-O	8FO-8FO-8MP	1/2	3/4-16	3/4-16	1/2-14
F2601-10-10-08-O	10FO-10FO-8MP	5/8	7/8-14	7/8-14	1/2-14
F2601-12-12-12-O	12FO-12FO-12MP	3/4	1 1/16-12	1 1/16-12	3/4-14
F2601-14-14-12-O	14FO-14FO-12MP	7/8	1 3/16-12	1 3/16-12	3/4-14
F2601-16-16-16-O	16FO-16FO-16MP	1	1 5/16-12	1 5/16-12	1-11 1/2
F2601-20-20-20-O	20FO-20FO-20MP	1 1/4	1 5/8-12	1 5/8-12	1 1/4-11 1/2
F2601-24-24-24-O	24FO-24FO-24MP	1 1/2	1 7/8-12	1 7/8-12	1 1/2-11 1/2

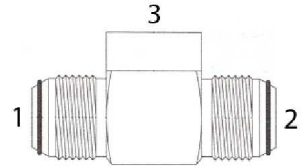


37° JIC Flare O-Ring Fittings

F2602 Series

FO-FO-FP Tee

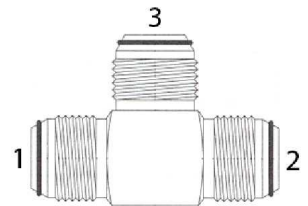
Item Number	HH Item Number	Tube OD	1 Flare O-Ring	2 Flare O-Ring	3 Female Pipe
F2602-04-04-02-O	4FO-4FO-2FP	1/4	7/16-20	7/16-20	1/8-27
F2602-04-04-04-O	4FO-4FO-4FP	1/4	7/16-20	7/16-20	1/4-18
F2602-05-05-02-O	5FO-5FO-2FP	5/16	1/2-20	1/2-20	1/8-27
F2602-06-06-04-O	6FO-6FO-4FP	3/8	9/16-18	9/16-18	1/4-18
F2602-06-06-06-O	6FO-6FO-6FP	3/8	9/16-18	9/16-18	3/8-18
F2602-08-08-06-O	8FO-8FO-6FP	1/2	3/4-16	3/4-16	3/8-18
F2602-08-08-08-O	8FO-8FO-8FP	1/2	3/4-16	3/4-16	1/2-14
F2602-10-10-08-O	10FO-10FO-8FP	5/8	7/8-14	7/8-14	1/2-14
F2602-12-12-12-O	12FO-12FO-12FP	3/4	1 1/16-12	1 1/16-12	3/4-14
F2602-14-14-12-O	14FO-14FO-12FP	7/8	1 3/16-12	1 3/16-12	3/4-14
F2602-16-16-16-O	16FO-16FO-16FP	1	1 5/16-12	1 5/16-12	1-11 1/2
F2602-20-20-20-O	20FO-20FO-20FP	1 1/4	1 5/8-12	1 5/8-12	1 1/4-11 1/2
F2602-24-24-24-O	24FO-24FO-24FP	1 1/2	1 7/8-12	1 7/8-12	1 1/2-11 1/2
F2602-32-32-32-O	32FO-32FO-32FP	2	2 1/2-12	2 1/2-12	2-11 1/2



F2603 Series

FO-FO-FO Tee

Item Number	HH Item Number	Tube OD	1 Flare O-Ring	2 Flare O-Ring	3 Flare O-Ring
F2603-04-04-04-O	4FO-4FO-4FO	1/4	7/16-20	7/16-20	7/16-20
F2603-05-05-05-O	5FO-5FO-5FO	5/16	1/2-20	1/2-20	1/2-20
F2603-06-06-06-O	6FO-6FO-6FO	3/8	9/16-18	9/16-18	9/16-18
F2603-08-08-08-O	8FO-8FO-8FO	1/2	3/4-16	3/4-16	3/4-16
F2603-08-08-12-O	8FO-8FO-12FO	1/2	3/4-16	3/4-16	1 1/16-12
F2603-10-08-08-O	10FO-8FO-8FO	5/8	7/8-14	3/4-16	3/4-16
F2603-10-10-08-O	10FO-10FO-8FO	5/8	7/8-14	7/8-14	3/4-16
F2603-10-10-10-O	10FO-10FO-10FO	5/8	7/8-14	7/8-14	7/8-14
F2603-10-10-12-O	10FO-10FO-12FO	5/8	7/8-14	7/8-14	1 1/16-12
F2603-12-12-12-O	12FO-12FO-12FO	3/4	1 1/16-12	1 1/16-12	1 1/16-12
F2603-14-14-14-O	14FO-14FO-14FO	7/8	1 3/16-12	1 3/16-12	1 3/16-12
F2603-16-16-16-O	16FO-16FO-16FO	1	1 5/16-12	1 5/16-12	1 5/16-12
F2603-20-20-16-O	20FO-20FO-16FO	1 1/4	1 5/8-12	1 5/8-12	1 5/16-12
F2603-20-20-20-O	20FO-20FO-20FO	1 1/4	1 5/8-12	1 5/8-12	1 5/8-12
F2603-24-24-24-O	24FO-24FO-24FO	1 1/2	1 1/2-12	1 1/2-12	1 1/2-12
F2603-32-32-32-O	32FO-32FO-32FO	2	2 1/2-12	2 1/2-12	2 1/2-12

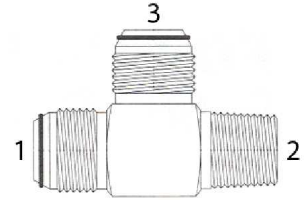


37° JIC Flare O-Ring Fittings

F2605 Series

FO-MP-FO Tee

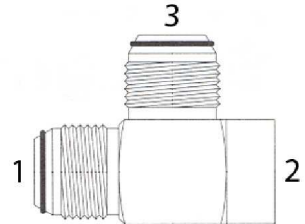
Item Number	HH Item Number	Tube OD	1 Flare O-Ring	2 Male Pipe	3 Flare O-Ring
F2605-04-02-04-O	4FO-2MP-4FO	1/4	7/16-20	1/8-27	7/16-20
F2605-04-04-04-O	4FO-4MP-4FO	1/4	7/16-20	1/4-18	7/16-20
F2605-05-02-05-O	5FO-2MP-5FO	5/16	1/2-20	1/8-27	1/2-20
F2605-06-04-06-O	6FO-4MP-6FO	3/8	9/16-18	1/4-18	9/16-18
F2605-06-06-06-O	6FO-6MP-6FO	3/8	9/16-18	3/8-18	9/16-18
F2605-06-08-06-O	6FO-8MP-6FO	3/8	9/16-18	1/2-14	9/16-18
F2605-08-06-08-O	8FO-6MP-8FO	1/2	3/4-16	3/8-18	3/4-16
F2605-08-08-08-O	8FO-8MP-8FO	1/2	3/4-16	1/2-14	3/4-16
F2605-10-08-10-O	10FO-8MP-10FO	5/8	7/8-14	1/2-14	7/8-14
F2605-12-08-12-O	12FO-8MP-12FO	3/4	1 1/16-12	1/2-14	1 1/16-12
F2605-12-12-12-O	12FO-12MP-12FO	3/4	1 1/16-12	3/4-14	1 1/16-12
F2605-14-12-14-O	14FO-12MP-14FO	7/8	1 3/16-12	3/4-14	1 3/16-12
F2605-16-16-16-O	16FO-16MP-16FO	1	1 5/16-12	1-11 1/2	1 5/16-12
F2605-20-20-20-O	20FO-20MP-20FO	1 1/4	1 5/8-12	1 1/4-11 1/2	1 5/8-12
F2605-24-24-24-O	24FO-24MP-24FO	1 1/2	1 7/8-12	1 1/2-11 1/2	1 7/8-12
F2605-32-32-32-O	32FO-32MP-32FO	2	2 1/2-12	2-11 1/2	2 1/2-12



F2606 Series

FO-FP-FO Tee

Item Number	HH Item Number	Tube OD	1 Flare O-Ring	2 Female Pipe	3 Flare O-Ring
F2606-04-02-04-O	4FO-2FP-4FO	1/4	7/16-20	1/8-27	7/16-20
F2606-04-04-04-O	4FO-4FP-4FO	1/4	7/16-20	1/4-18	7/16-20
F2606-06-04-06-O	6FO-4FP-6FO	3/8	9/16-18	1/4-18	9/16-18
F2606-06-06-06-O	6FO-6FP-6FO	3/8	9/16-18	3/8-18	9/16-18
F2606-08-06-08-O	8FO-6FP-8FO	1/2	3/4-16	3/8-18	3/4-16
F2606-08-08-08-O	8FO-8FP-8FO	1/2	3/4-16	1/2-14	3/4-16
F2606-10-08-10-O	10FO-8FP-10FO	5/8	7/8-14	1/2-14	7/8-14
F2606-12-12-12-O	12FO-12FP-12FO	3/4	1 1/16-12	3/4-14	1 1/16-12
F2606-14-12-14-O	14FO-12FP-14FO	7/8	1 3/16-12	3/4-14	1 3/16-12
F2606-16-16-16-O	16FO-16FP-16FO	1	1 5/16-12	1-11 1/2	1 5/16-12
F2606-24-24-24-O	24FO-24FP-24FO	1 1/2	1 7/8-12	1 1/2-11 1/2	1 7/8-12

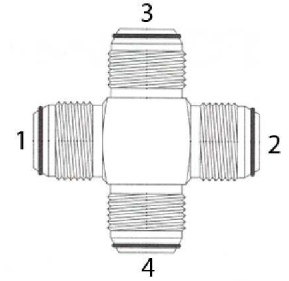


37° JIC Flare O-Ring Fittings

F2650 Series

FO-FO-FO-FO Cross

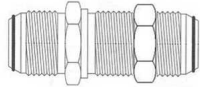
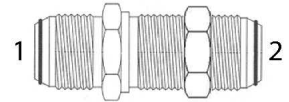
Item Number	HH Item Number	Tube OD	1 Flare O-Ring	2 Flare O-Ring	3 Flare O-Ring	4 Flare-O
F2650-04-04-04-04-O	4FO-4FO-4FO-4FO	1/4	7/16-20	7/16-20	7/16-20	7/16-20
F2650-05-05-05-05-O	5FO-5FO-5FO-5FO	5/16	1/2-20	1/2-20	1/2-20	1/2-20
F2650-06-06-06-06-O	6FO-6FO-6FO-6FO	3/8	9/16-18	9/16-18	9/16-18	9/16-18
F2650-08-08-08-08-O	8FO-8FO-8FO-8FO	1/2	3/4-16	3/4-16	3/4-16	3/4-16
F2650-10-10-10-10-O	10FO-10FO-10FO-10FO	5/8	7/8-14	7/8-14	7/8-14	7/8-14
F2650-12-12-12-12-O	12FO-12FO-12FO-12FO	3/4	1 1/16-12	1 1/16-12	1 1/16-12	1 1/16-12
F2650-14-14-14-14-O	14FO-14FO-14FO-14FO	7/8	1 3/16-12	1 3/16-12	1 3/16-12	1 3/16-12
F2650-16-16-16-16-O	16FO-16FO-16FO-16FO	1	1 5/16-12	1 5/16-12	1 5/16-12	1 5/16-12
F2650-20-20-20-20-O	20FO-20FO-20FO-20FO	1 1/4	1 5/8-12	1 5/8-12	1 5/8-12	1 5/8-12
F2650-24-24-24-24-O	24FO-24FO-24FO-24FO	1 1/2	1 7/8-12	1 7/8-12	1 7/8-12	1 7/8-12



F2700 Series

FO-FO Bulkhead Straight

Item Number	HH Item Number	Tube OD	1 Flare O-Ring	2 Flare O-Ring
F2700-04-04-O	4FO-4FOBKHD	1/4	7/16-20	7/16-20
F2700-05-05-O	5FO-5FOBKHD	5/16	1/2-20	1/2-20
F2700-06-06-O	6FO-6FOBKHD	3/8	9/16-18	9/16-18
F2700-08-08-O	8FO-8FOBKHD	1/2	3/4-16	3/4-16
F2700-10-10-O	10FO-10FOBKHD	5/8	7/8-14	7/8-14
F2700-12-12-O	12FO-12FOBKHD	3/4	1 1/16-12	1 1/16-12
F2700-16-16-O	16FO-16FOBKHD	1	1 5/16-12	1 5/16-12
F2700-20-20-O	20FO-20FOBKHD	1 1/4	1 5/8-12	1 5/8-12
F2700-24-24-O	24FO-24FOBKHD	1 1/2	1 7/8-12	1 7/8-12
F2700-32-32-O	32FO-32FOBKHD	2	2 1/2-12	2 1/2-12



All of our bulkhead fittings are available with the locknut #0306 (pg. 41), assembled on the body.

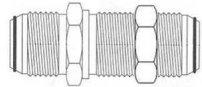
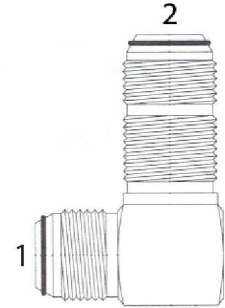
Just add an "LN" suffix to the series number (part number example: F2700LN-12-12).

37° JIC Flare O-Ring Fittings

F2701 Series

FO-FO Bulkhead 90°

Item Number	HH Item Number	Tube OD	1 Flare O-Ring	2 Flare O-Ring
F2701-04-04-O	4FO-4FOBKHD90	1/4	7/16-20	7/16-20
F2701-05-05-O	5FO-5FOBKHD90	5/16	1/2-20	1/2-20
F2701-06-06-O	6FO-6FOBKHD90	3/8	9/16-18	9/16-18
F2701-08-08-O	8FO-8FOBKHD90	1/2	3/4-16	3/4-16
F2701-10-10-O	10FO-10FOBKHD90	5/8	7/8-14	7/8-14
F2701-12-12-O	12FO-12FOBKHD90	3/4	1 1/16-12	1 1/16-12
F2701-16-16-O	16FO-16FOBKHD90	1	1 5/16-12	1 5/16-12

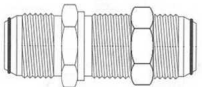
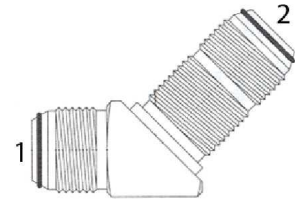


All of our bulkhead fittings are available with the locknut #0306 (pg. 41), assembled on the body.
Just add an "LN" suffix to the series number (part number example: F2701LN-12-12).

F2702 Series

FO-FO Bulkhead 45°

Item Number	HH Item Number	Tube OD	1 Flare O-Ring	2 Flare O-Ring
F2702-04-04-O	4FO-4FOBKHD45	1/4	7/16-20	7/16-20
F2702-05-05-O	5FO-5FOBKHD45	5/16	1/2-20	1/2-20
F2702-06-06-O	6FO-6FOBKHD45	3/8	9/16-18	9/16-18
F2702-08-08-O	8FO-8FOBKHD45	1/2	3/4-16	3/4-16
F2702-10-10-O	10FO-10FOBKHD45	5/8	7/8-14	7/8-14
F2702-12-12-O	12FO-12FOBKHD45	3/4	1 1/16-12	1 1/16-12
F2702-16-16-O	16FO-16FOBKHD45	1	1 5/16-12	1 5/16-12



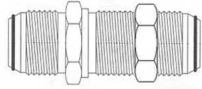
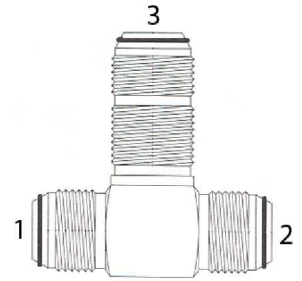
All of our bulkhead fittings are available with the locknut #0306 (pg. 41), assembled on the body.
Just add an "LN" suffix to the series number (part number example: F2702LN-12-12).

37° JIC Flare O-Ring Fittings

F2703 Series

FO-FO-FO Bulkhead Tee

Item Number	HH Item Number	Tube OD	1 Flare O-Ring	2 Flare O-Ring	3 Flare O-Ring
F2703-04-04-04-O	4FO-4FO-4FOBKHD	1/4	7/16-20	7/16-20	7/16-20
F2703-06-06-06-O	6FO-6FO-6FOBKHD	3/8	9/16-18	9/16-18	9/16-18
F2703-08-08-08-O	8FO-8FO-8FOBKHD	1/2	3/4-16	3/4-16	3/4-16
F2703-10-10-10-O	10FO-10FO-10FOBKHD	5/8	7/8-14	7/8-14	7/8-14
F2703-12-12-12-O	12FO-12FO-12FOBKHD	3/4	1 1/16-12	1 1/16-12	1 1/16-12
F2703-16-16-16-O	16FO-16FO-16FOBKHD	1	1 5/16-12	1 5/16-12	1 5/16-12

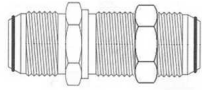
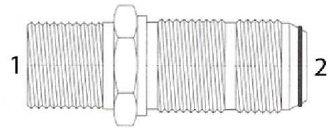


All of our bulkhead fittings are available with the locknut #0306 (pg. 41), assembled on the body.
Just add an "LN" suffix to the series number (part number example: F2703LN-12-12).

F2706 Series

MP-FO Bulkhead Straight

Item Number	HH Item Number	Tube OD	1 Male Pipe	2 Flare O-Ring
F2706-12-12-O	12MP-12FOBKHD	3/4	3/4-14	1 1/16-12



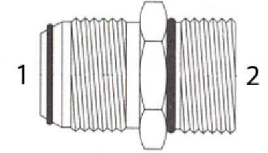
All of our bulkhead fittings are available with the locknut #0306 (pg. 41), assembled on the body.
Just add an "LN" suffix to the series number (part number example: F2706LN-12-12).

37° JIC Flare O-Ring Fittings

F6400-O Series

FO-MB Straight

Item Number	HH Item Number	Tube OD	1 Flare O-Ring	2 Male ORB
F6400-04-02-O	4FO-2MB	1/4	7/16-20	5/16-24
F6400-04-04-O	4FO-4MB	1/4	7/16-20	7/16-20
F6400-04-05-O	4FO-5MB	1/4	7/16-20	1/2-20
F6400-04-06-O	4FO-6MB	1/4	7/16-20	9/16-18
F6400-04-08-O	4FO-8MB	1/4	7/16-20	3/4-16
F6400-04-10-O	4FO-10MB	1/4	7/16-20	7/8-14
F6400-04-12-O	4FO-12MB	1/4	7/16-20	1 1/16-12
F6400-05-04-O	5FO-4MB	5/16	1/2-20	7/16-20
F6400-05-05-O	5FO-5MB	5/16	1/2-20	1/2-20
F6400-05-06-O	5FO-6MB	5/16	1/2-20	9/16-18
F6400-06-04-O	6FO-4MB	3/8	9/16-18	7/16-20
F6400-06-05-O	6FO-5MB	3/8	9/16-18	1/2-20
F6400-06-06-O	6FO-6MB	3/8	9/16-18	9/16-18
F6400-06-08-O	6FO-8MB	3/8	9/16-18	3/4-16
F6400-06-10-O	6FO-10MB	3/8	9/16-18	7/8-14
F6400-06-12-O	6FO-12MB	3/8	9/16-18	1 1/16-12
F6400-08-04-O	8FO-4MB	1/2	3/4-16	7/16-20
F6400-08-06-O	8FO-6MB	1/2	3/4-16	9/16-18
F6400-08-08-O	8FO-8MB	1/2	3/4-16	3/4-16
F6400-08-10-O	8FO-10MB	1/2	3/4-16	7/8-14
F6400-08-12-O	8FO-12MB	1/2	3/4-16	1 1/16-12
F6400-08-16-O	8FO-16MB	1/2	3/4-16	1 5/16-12
F6400-10-06-O	10FO-6MB	5/8	7/8-14	9/16-18
F6400-10-08-O	10FO-8MB	5/8	7/8-14	3/4-16
F6400-10-10-O	10FO-10MB	5/8	7/8-14	7/8-14
F6400-10-12-O	10FO-12MB	5/8	7/8-14	1 1/16-12
F6400-10-16-O	10FO-16MB	5/8	7/8-14	1 5/16-12
F6400-12-08-O	12FO-8MB	3/4	1 1/16-12	3/4-16
F6400-12-10-O	12FO-10MB	3/4	1 1/16-12	7/8-14
F6400-12-12-O	12FO-12MB	3/4	1 1/16-12	1 1/16-12
F6400-12-14-O	12FO-14MB	3/4	1 1/16-12	1 3/16-12
F6400-12-16-O	12FO-16MB	3/4	1 1/16-12	1 5/16-12
F6400-12-20-O	12FO-20MB	3/4	1 1/16-12	1 5/8-12
F6400-14-12-O	14FO-12MB	7/8	1 3/16-12	1 1/16-12
F6400-14-14-O	14FO-14MB	7/8	1 3/16-12	1 3/16-12
F6400-14-16-O	14FO-16MB	7/8	1 3/16-12	1 5/16-12
F6400-16-10-O	16FO-10MB	1	1 5/16-12	7/8-14
F6400-16-12-O	16FO-12MB	1	1 5/16-12	1 1/16-12
F6400-16-16-O	16FO-16MB	1	1 5/16-12	1 5/16-12
F6400-16-20-O	16FO-20MB	1	1 5/16-12	1 5/8-12
F6400-16-24-O	16FO-24MB	1	1 5/16-12	1 7/8-12
F6400-20-16-O	20FO-16MB	1 1/4	1 5/8-12	1 5/16-12
F6400-20-20-O	20FO-20MB	1 1/4	1 5/8-12	1 5/8-12
F6400-20-24-O	20FO-24MB	1 1/4	1 5/8-12	1 7/8-12
F6400-24-20-O	24FO-20MB	1 1/2	1 7/8-12	1 5/8-12
F6400-24-24-O	24FO-24MB	1 1/2	1 7/8-12	1 7/8-12
F6400-24-32-O	24FO-32MB	1 1/2	1 7/8-12	2 1/2-12
F6400-32-24-O	32FO-24MB	2	2 1/2-12	1 7/8-12
F6400-32-32-O	32FO-32MB	2	2 1/2-12	2 1/2-12

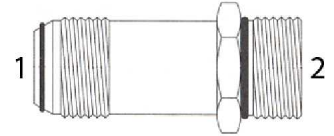


37° JIC Flare O-Ring Fittings

F6400-L-O Series

FO-MB Straight Long

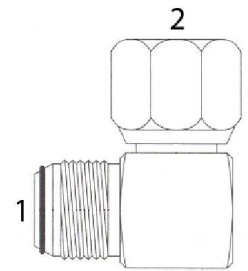
Item Number	HH Item Number	Tube OD	1 Flare O-Ring	2 Male ORB
F6400-L-04-04-O	4FO-4MBL	1/4	7/16-20	7/16-20
F6400-L-08-08-O	8FO-8MBL	1/2	3/4-16	3/4-16
F6400-L-10-10-O	10FO-10MBL	5/8	7/8-14	7/8-14
F6400-L-12-12-O	12FO-12MBL	3/4	1 1/16-12	1 1/16-12
F6400-L-16-16-O	16FO-16MBL	1	1 5/16-12	1 5/16-12



F6500 Series

FO-FJX 90°

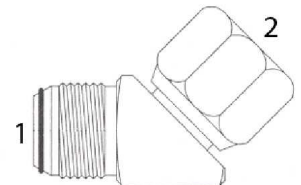
Item Number	HH Item Number	Tube OD	1 Flare O-Ring	2 Female JIC Swivel
F6500-04-04-O	4FO-4FJX90	1/4	7/16-20	7/16-20
F6500-05-05-O	5FO-5FJX90	5/16	1/2-20	1/2-20
F6500-06-06-O	6FO-6FJX90	3/8	9/16-18	9/16-18
F6500-08-08-O	8FO-8FJX90	1/2	3/4-16	3/4-16
F6500-10-10-O	10FO-10FJX90	5/8	7/8-14	7/8-14
F6500-12-12-O	12FO-12FJX90	3/4	1 1/16-12	1 1/16-12
F6500-14-14-O	14FO-14FJX90	7/8	1 3/16-12	1 3/16-12
F6500-16-16-O	16FO-16FJX90	1	1 5/16-12	1 5/16-12
F6500-20-20-O	20FO-20FJX90	1 1/4	1 5/8-12	1 5/8-12
F6500-24-24-O	24FO-24FJX90	1 1/2	1 7/8-12	1 7/8-12
F6500-32-32-O	32FO-32FJX90	2	2 1/2-12	2 1/2-12



F6502 Series

FO-FJX 45°

Item Number	HH Item Number	Tube OD	1 Flare O-Ring	2 Female JIC Swivel
F6502-04-04-O	4FO-4FJX45	1/4	7/16-20	7/16-20
F6502-06-06-O	6FO-6FJX45	3/8	9/16-18	9/16-18
F6502-08-08-O	8FO-8FJX45	1/2	3/4-16	3/4-16
F6502-10-10-O	10FO-10FJX45	5/8	7/8-14	7/8-14
F6502-12-12-O	12FO-12FJX45	3/4	1 1/16-12	1 1/16-12
F6502-16-16-O	16FO-16FJX45	1	1 5/16-12	1 5/16-12
F6502-20-20-O	20FO-20FJX45	1 1/4	1 5/8-12	1 5/8-12
F6502-24-24-O	24FO-24FJX45	1 1/2	1 7/8-12	1 7/8-12
F6502-32-32-O	32FO-32FJX45	2	2 1/2-12	2 1/2-12

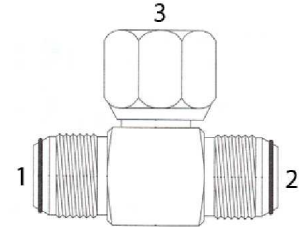


37° JIC Flare O-Ring Fittings

F6600 Series

FO-FO-FJX Tee

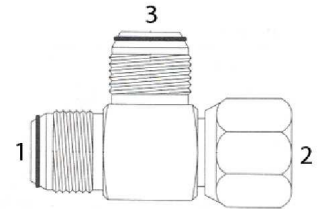
Item Number	HH Item Number	Tube OD	1 Flare O-Ring	2 Flare O-Ring	3 Female JIC Swivel
F6600-04-04-04-O	4FO-4FO-4FJX	1/4	7/16-20	7/16-20	7/16-20
F6600-05-05-05-O	5FO-5FO-5FJX	5/16	1/2-20	1/2-20	1/2-20
F6600-06-06-06-O	6FO-6FO-6FJX	3/8	9/16-18	9/16-18	9/16-18
F6600-08-08-08-O	8FO-8FO-8FJX	1/2	3/4-16	3/4-16	3/4-16
F6600-10-10-10-O	10FO-10FO-10FJX	5/8	7/8-14	7/8-14	7/8-14
F6600-12-12-12-O	12FO-12FO-12FJX	3/4	1 1/16-12	1 1/16-12	1 1/16-12
F6600-14-14-14-O	14FO-14FO-14FJX	7/8	1 3/16-12	1 3/16-12	1 3/16-12
F6600-16-16-16-O	16FO-16FO-16FJX	1	1 5/16-12	1 5/16-12	1 5/16-12
F6600-20-20-20-O	20FO-20FO-20FJX	1 1/4	1 5/8-12	1 5/8-12	1 5/8-12
F6600-24-24-24-O	24FO-24FO-24FJX	1 1/2	1 7/8-12	1 7/8-12	1 7/8-12
F6600-32-32-32-O	32FO-32FO-32FJX	2	2 1/2-12	2 1/2-12	2 1/2-12



F6602 Series

FO-FJX-FO Tee

Item Number	HH Item Number	Tube OD	1 Flare O-Ring	2 Female JIC Swivel	3 Flare O-Ring
F6602-04-04-04-O	4FO-4FJX-4FO	1/4	7/16-20	7/16-20	7/16-20
F6602-05-05-05-O	5FO-5FJX-5FO	5/16	1/2-20	1/2-20	1/2-20
F6602-06-06-06-O	6FO-6FJX-6FO	3/8	9/16-18	9/16-18	9/16-18
F6602-08-08-08-O	8FO-8FJX-8FO	1/2	3/4-16	3/4-16	3/4-16
F6602-10-10-10-O	10FO-10FJX-10FO	5/8	7/8-14	7/8-14	7/8-14
F6602-12-12-12-O	12FO-12FJX-12FO	3/4	1 1/16-12	1 1/16-12	1 1/16-12
F6602-14-14-14-O	14FO-14FJX-14FO	7/8	1 3/16-12	1 3/16-12	1 3/16-12
F6602-16-16-16-O	16FO-16FJX-16FO	1	1 5/16-12	1 5/16-12	1 5/16-12
F6602-20-20-20-O	20FO-20FJX-20FO	1 1/4	1 5/8-12	1 5/8-12	1 5/8-12
F6602-24-24-24-O	24FO-24FJX-24FO	1 1/2	1 7/8-12	1 7/8-12	1 7/8-12
F6602-32-32-32-O	32FO-32FJX-32FO	2	2 1/2-12	2 1/2-12	2 1/2-12

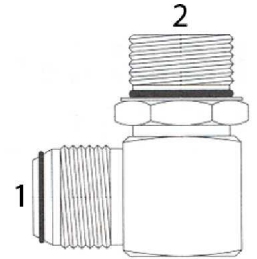


37° JIC Flare O-Ring Fittings

F6801-NWO Series

FO-MB 90°

Item Number	HH Item Number	Tube OD	1 Flare O-Ring	2 Male ORB
F6801-04-04-NWO	4FO-4MB90	1/4	7/16-20	7/16-20
F6801-04-05-NWO	4FO-5MB90	1/4	7/16-20	1/2-20
F6801-04-06-NWO	4FO-6MB90	1/4	7/16-20	9/16-18
F6801-04-08-NWO	4FO-8MB90	1/4	7/16-20	3/4-16
F6801-05-04-NWO	5FO-4MB90	5/16	1/2-20	7/16-20
F6801-05-05-NWO	5FO-5MB90	5/16	1/2-20	1/2-20
F6801-05-06-NWO	5FO-6MB90	5/16	1/2-20	9/16-18
F6801-05-08-NWO	5FO-8MB90	5/16	1/2-20	3/4-16
F6801-06-04-NWO	6FO-4MB90	3/8	9/16-18	7/16-20
F6801-06-05-NWO	6FO-5MB90	3/8	9/16-18	1/2-20
F6801-06-06-NWO	6FO-6MB90	3/8	9/16-18	9/16-18
F6801-06-08-NWO	6FO-8MB90	3/8	9/16-18	3/4-16
F6801-06-10-NWO	6FO-10MB90	3/8	9/16-18	7/8-14
F6801-08-04-NWO	8FO-4MB90	1/2	3/4-16	7/16-20
F6801-08-06-NWO	8FO-6MB90	1/2	3/4-16	9/16-18
F6801-08-08-NWO	8FO-8MB90	1/2	3/4-16	3/4-16
F6801-08-10-NWO	8FO-10MB90	1/2	3/4-16	7/8-14
F6801-08-12-NWO	8FO-12MB90	1/2	3/4-16	1 1/16-12
F6801-10-06-NWO	10FO-6MB90	5/8	7/8-14	9/16-18
F6801-10-08-NWO	10FO-8MB90	5/8	7/8-14	3/4-16
F6801-10-10-NWO	10FO-10MB90	5/8	7/8-14	7/8-14
F6801-10-12-NWO	10FO-12MB90	5/8	7/8-14	1 1/16-12
F6801-12-08-NWO	12FO-8MB90	3/4	1 1/16-12	3/4-16
F6801-12-10-NWO	12FO-10MB90	3/4	1 1/16-12	7/8-14
F6801-12-12-NWO	12FO-12MB90	3/4	1 1/16-12	1 1/16-12
F6801-12-14-NWO	12FO-14MB90	3/4	1 1/16-12	1 3/16-12
F6801-12-16-NWO	12FO-16MB90	3/4	1 1/16-12	1 5/16-12
F6801-12-20-NWO	12FO-20MB90	3/4	1 1/16-12	1 5/8-12
F6801-14-12-NWO	14FO-12MB90	7/8	1 3/16-12	1 1/16-12
F6801-14-14-NWO	14FO-14MB90	7/8	1 3/16-12	1 3/16-12
F6801-16-12-NWO	16FO-12MB90	1	1 5/16-12	1 1/16-12
F6801-16-14-NWO	16FO-14MB90	1	1 5/16-12	1 3/16-12
F6801-16-16-NWO	16FO-16MB90	1	1 5/16-12	1 5/16-12
F6801-16-20-NWO	16FO-20MB90	1	1 5/16-12	1 5/8-12
F6801-20-14-NWO	20FO-14MB90	1 1/4	1 5/8-12	1 3/16-12
F6801-20-16-NWO	20FO-16MB90	1 1/4	1 5/8-12	1 5/16-12
F6801-20-20-NWO	20FO-20MB90	1 1/4	1 5/8-12	1 5/8-12
F6801-20-24-NWO	20FO-24MB90	1 1/4	1 5/8-12	1 7/8-12
F6801-24-20-NWO	24FO-20MB90	1 1/2	1 7/8-12	1 5/8-12
F6801-24-24-NWO	24FO-24MB90	1 1/2	1 7/8-12	1 7/8-12
F6801-32-32-NWO	32FO-32MB90	2	2 1/2-12	2 1/2-12

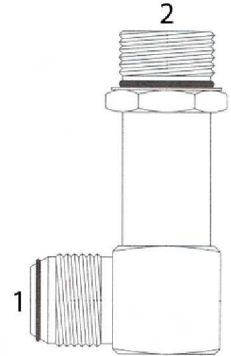


37° JIC Flare O-Ring Fittings

F6801-L-NWO Series

FO-MB 90° Long

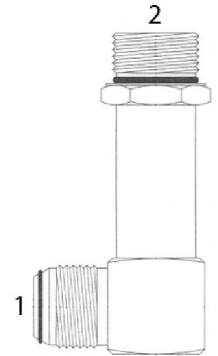
Item Number	HH Item Number	Tube OD	1 Flare O-Ring	2 Male ORB
F6801-L-04-04-NWO	4FO-4MB090L	1/4	7/16-20	7/16-20
F6801-L-06-06-NWO	6FO-6MB90L	3/8	9/16-18	9/16-18
F6801-L-08-08-NWO	8FO-8MB90L	1/2	3/4-16	3/4-16
F6801-L-08-10-NWO	8FO-10MB90L	1/2	3/4-16	7/8-14
F6801-L-10-10-NWO	10FO-10MB90L	5/8	7/8-14	7/8-14
F6801-L-12-12-NWO	12FO-12MB90L	3/4	1 1/16-12	1 1/16-12
F6801-L-16-16-NWO	16FO-16MB90L	1	1 5/16-12	1 5/16-12



F6801-LL-NWO Series

FO-MB 90° X-Long

Item Number	HH Item Number	Tube OD	1 Flare O-Ring	2 Male ORB
F6801-LL-04-04-NWO	4FO-4MB90LL	1/4	7/16-20	7/16-20
F6801-LL-06-06-NWO	6FO-6MB90LL	3/8	9/16-18	9/16-18
F6801-LL-06-08-NWO	6FO-8MB90LL	3/8	9/16-18	3/4-16
F6801-LL-08-08-NWO	8FO-8MB90LL	1/2	3/4-16	3/4-16
F6801-LL-10-10-NWO	10FO-10MB90LL	5/8	7/8-14	7/8-14
F6801-LL-12-12-NWO	12FO-12MB90LL	3/4	1 1/16-12	1 1/16-12
F6801-LL-16-16-NWO	16FO-16MB90LL	1	1 5/16-12	1 5/16-12

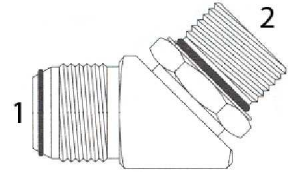


37° JIC Flare O-Ring Fittings

F6802-NWO Series

FO-MB 45°

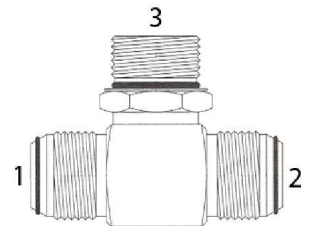
Item Number	HH Item Number	Tube OD	1 Flare O-Ring	2 Male ORB
F6802-04-04-NWO	4FO-4MB45	1/4	7/16-20	7/16-20
F6802-05-05-NWO	5FO-5MB45	5/16	1/2-20	1/2-20
F6802-06-06-NWO	6FO-6MB45	3/8	9/16-18	9/16-18
F6802-06-08-NWO	6FO-8MB45	3/8	9/16-18	3/4-16
F6802-08-06-NWO	8FO-6MB45	1/2	3/4-16	9/16-18
F6802-08-08-NWO	8FO-8MB45	1/2	3/4-16	3/4-16
F6802-08-10-NWO	8FO-10MB45	1/2	3/4-16	7/8-14
F6802-10-08-NWO	10FO-8MB45	5/8	7/8-14	3/4-16
F6802-10-10-NWO	10FO-10MB45	5/8	7/8-14	7/8-14
F6802-12-10-NWO	12FO-10MB45	3/4	1 1/16-12	7/8-14
F6802-12-12-NWO	12FO-12MB45	3/4	1 1/16-12	1 1/16-12
F6802-12-16-NWO	12FO-16MB45	3/4	1 1/16-12	1 5/16-12
F6802-14-14-NWO	14FO-14MB45	7/8	1 3/16-12	1 3/16-12
F6802-16-12-NWO	16FO-12MB45	1	1 5/16-12	1 1/16-12
F6802-16-16-NWO	16FO-16MB45	1	1 5/16-12	1 5/16-12
F6802-16-20-NWO	16FO-20MB45	1	1 5/16-12	1 5/8-12
F6802-20-20-NWO	20FO-20MB45	1 1/4	1 5/8-12	1 5/8-12
F6802-24-20-NWO	24FO-20MB45	1 1/2	1 7/8-12	1 5/8-12
F6802-24-24-NWO	24FO-24MB45	1 1/2	1 7/8-12	1 7/8-12
F6802-32-32-NWO	32FO-32MB45	2	2 1/2-12	2 1/2-12



F6803-NWO Series

FO-FO-MB Tee

Item Number	HH Item Number	Tube OD	1 Flare O-Ring	2 Flare O-Ring	3 Male ORB
F6803-04-04-04-NWO	4FO-4FO-4MB	1/4	7/16-20	7/16-20	7/16-20
F6803-05-05-05-NWO	5FO-5FO-5MB	5/16	1/2-20	1/2-20	1/2-20
F6803-06-06-06-NWO	6FO-6FO-6MB	3/8	9/16-18	9/16-18	9/16-18
F6803-08-08-08-NWO	8FO-8FO-8MB	1/2	3/4-16	3/4-16	3/4-16
F6803-10-10-10-NWO	10FO-10FO-10MB	5/8	7/8-14	7/8-14	7/8-14
F6803-12-12-12-NWO	12FO-12FO-12MB	3/4	1 1/16-12	1 1/16-12	1 1/16-12
F6803-14-14-14-NWO	14FO-14FO-14MB	7/8	1 3/16-12	1 3/16-12	1 3/16-12
F6803-16-16-16-NWO	16FO-16FO-16MB	1	1 5/16-12	1 5/16-12	1 5/16-12
F6803-20-20-20-NWO	20FO-20FO-20MB	1 1/4	1 5/8-12	1 5/8-12	1 5/8-12
F6803-24-24-24-NWO	24FO-24FO-24MB	1 1/2	1 7/8-12	1 7/8-12	1 7/8-12

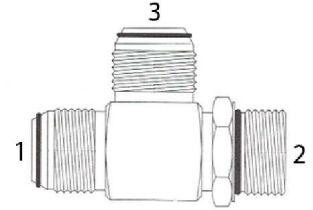


37° JIC Flare O-Ring Fittings

F6804-NWO Series

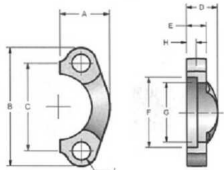
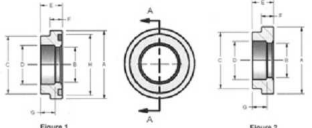
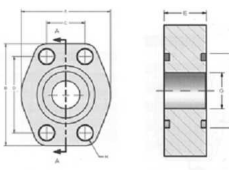
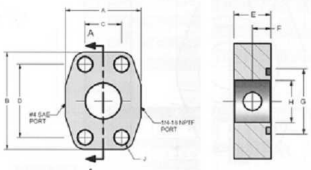
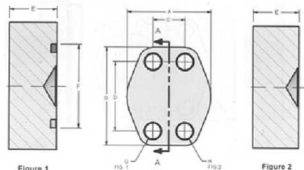
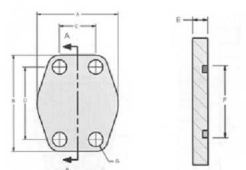
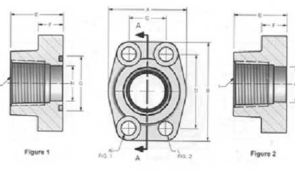
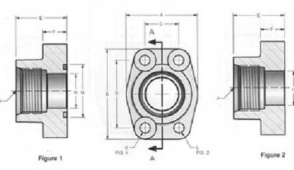
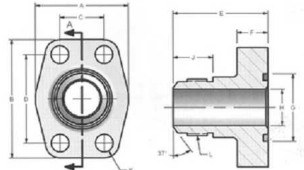
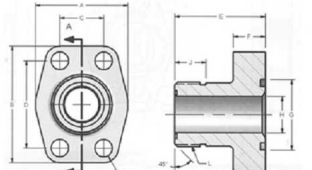
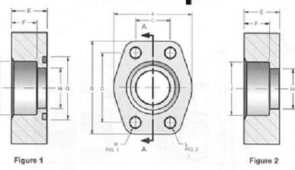
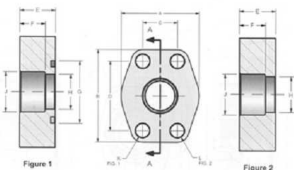
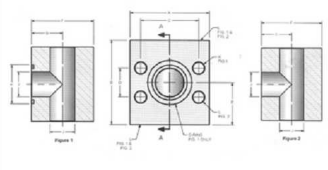
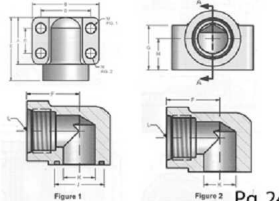
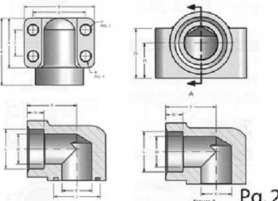
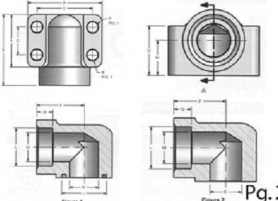
FO-MB-FO Tee

Item Number	HH Item Number	Tube OD	1 Flare O-Ring	2 Male ORB	3 Flare O-Ring
F6804-04-04-04-NWO	4FO-4MB-4FO	1/4	7/16-20	7/16-20	7/16-20
F6804-05-05-05-NWO	5FO-5MB-5FO	5/16	1/2-20	1/2-20	1/2-20
F6804-06-06-06-NWO	6FO-6MB-6FO	3/8	9/16-18	9/16-18	9/16-18
F6804-08-08-08-NWO	8FO-8MB-8FO	1/2	3/4-16	3/4-16	3/4-16
F6804-10-10-10-NWO	10FO-10MB-10FO	5/8	7/8-14	7/8-14	7/8-14
F6804-12-12-12-NWO	12FO-12MB-12FO	3/4	1 1/16-12	1 1/16-12	1 1/16-12
F6804-14-14-14-NWO	14FO-14MB-14FO	7/8	1 3/16-12	1 3/16-12	1 3/16-12
F6804-16-16-16-NWO	16FO-16MB-16FO	1	1 5/16-12	1 5/16-12	1 5/16-12
F6804-20-20-20-NWO	20FO-20MB-20FO	1 1/4	1 5/8-12	1 5/8-12	1 5/8-12
F6804-24-24-24-NWO	24FO-24MB-24FO	1 1/2	1 7/8-12	1 7/8-12	1 7/8-12



Hydraulic Flanges

Hydraulic Flanges - Visual Identification Chart

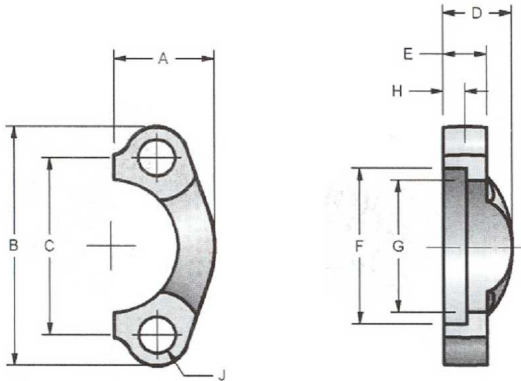
<p>SAE J518 Split Flange</p>  <p>Split Flange Pg. 236</p>	<p>Tube Flange Head Fitting</p>  <p>Tube Head Flange Fitting Pg. 237</p>	<p>Double O-Ring Union</p>  <p>Double O-Ring Spacer Pg. 238</p>	<p>Gage Port Spacer</p>  <p>Gage Port O-Ring Spacer Pg. 239</p>
<p>Blanking</p>  <p>Blanking Pg. 240</p>	<p>Zero PSI Shipping Plate</p>  <p>Shipping Plate Pg. 241</p>	<p>NPTF Thread</p>  <p>NPTF Thread Pg. 242</p>	<p>SAE Thread</p>  <p>SAE Straight Thread Pg. 243</p>
<p>Male Thread (JIC)</p>  <p>Male JIC Pg. 244</p>	<p>Male Thread (ORFS)</p>  <p>Male ORFS Pg. 245</p>	<p>Flat Socket Weld Pipe</p>  <p>Flat Socket Welp - Pipe Pg. 246</p>	<p>Flat Socket Weld Tube</p>  <p>Flat Socket Welp - Tube Pg. 247</p>
<p>Tee Junction Block</p>  <p>Tee Junction Block Pg. 248</p>	<p>Threaded Elbow</p>  <p>Elbow SAE Straight Thread Elbow NPTF Thread Pg. 249</p>	<p>Socket Weld Elbow</p>  <p>Elbow Socket Weld - Pipe Elbow Socket Weld - Tube Pg. 250</p>	<p>Socket Weld Elbow</p>  <p>Elbow Socket Weld - Pipe Elbow Socket Weld - Tube Pg. 251</p>

Flange Bolt Torque Values

Size	Code 61		Code 62	
	Bolts	lb.-ft.	Bolts	lb.-ft.
-08	5/16-18	15-19	5/16-18	15-19
-12	3/8-16	21-29	3/8-16	25-33
-16	3/8-16	26-35	7/16-14	42-50
-20	7/16-14	36-46	1/2-13	63-75
-24	1/2-13	46-58	5/8-11	117-133
-32	1/2-13	56-66	3/4-10	200-217

Hydraulic Flanges

SAE J518 Split Flange



Code 61 Split Flange

HH Item Number	** Kit Part No.	Flange Size	A	B	C	D	E	F	G	H	J	Mounting Hardware	
												O-Ring	HHCS
08SF-2	08SFO	.50	.86	2.12	1.500	.80	.50	1.219	.955	.245	.344	210	5/16-18x1.25
12SF-2	12SFO	.75	.98	2.56	1.875	.93	.56	1.531	1.265	.245	.406	214	3/8-16x1.25
16SF-2	16SFO	1.00	1.11	2.75	2.062	.99	.62	1.781	1.515	.295	.406	219	3/8-16x1.25
20SF-2	20SFO	1.25	1.39	3.12	2.312	.93	.56	2.031	1.720	.295	.469	222	7/16-14x1.50
24SF-2	24SFO	1.50	1.58	3.69	2.750	1.05	.62	2.406	2.000	.295	.531	225	1/2-13x1.50
32SF-2	32SFO	2.00	1.86	4.00	3.062	1.08	.62	2.844	2.470	.355	.531	228	1/2-13x1.50
40SF-2	40SFO	2.50	2.09	4.50	3.500	1.55	.75	3.344	2.950	.355	.531	232	1/2-13x1.75
48SF-2	48SFO	3.00	2.53	5.31	4.188	1.67	.88	4.031	3.580	.355	.656	237	5/8-11x1.75
56SF-2	56SFO	3.50	2.70	6.00	4.750	1.17	.88	4.531	4.030	.422	.656	241	5/8-11x2.00
64SF-2	64SFO	4.00	2.95	6.38	5.125	1.43	1.00	5.031	4.530	.422	.656	245	5/8-11x2.00

Code 62 Split Flange

HH Item Number	** Kit Part No.	Flange Size	A	B	C	D	E	F	G	H	J	Mounting Hardware	
												O-Ring	HHCS
08SFX-2	08SFXO	.50	.89	2.22	1.594	.88	.62	1.281	.970	.285	.344	210	5/16-18x1.25
12SFX-2	12SFXO	.75	1.14	2.81	2.000	1.12	.75	1.656	1.280	.325	.406	214	3/8-16x1.50
16SFX-2	16SFXO	1.00	1.33	3.19	2.250	1.31	.94	1.906	1.530	.355	.469	219	7/16-14x1.75
20SFX-2	20SFXO	1.25	1.48	3.75	2.625	1.50	1.06	2.156	1.750	.385	.531	222	1/2-13x1.75
24SFX-2	24SFXO	1.50	1.83	4.44	3.125	1.69	1.19	2.531	2.030	.475	.656	225	5/8-11x2.25
32SFX-2	32SFXO	2.00	2.20	5.25	3.812	2.06	1.44	3.156	2.660	.475	.781	210	3/4-10x2.75

** When ordering this part # you will receive: (2) split flange halves, (4) hex head screws and lockwashers, and (1) Buna N O-Ring

Hydraulic Flanges

Tube Flange Head Fitting

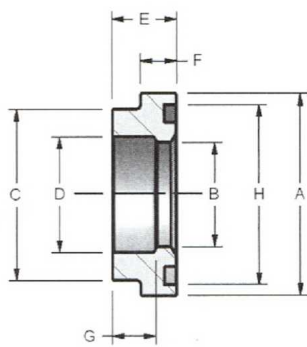


Figure 1

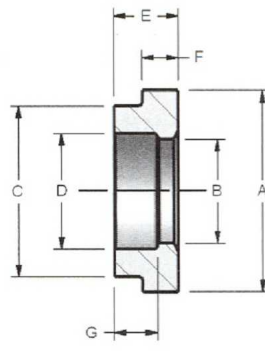
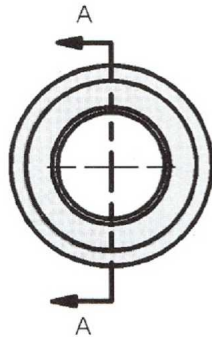


Figure 2

Code 61 Tube Flange Head Fitting

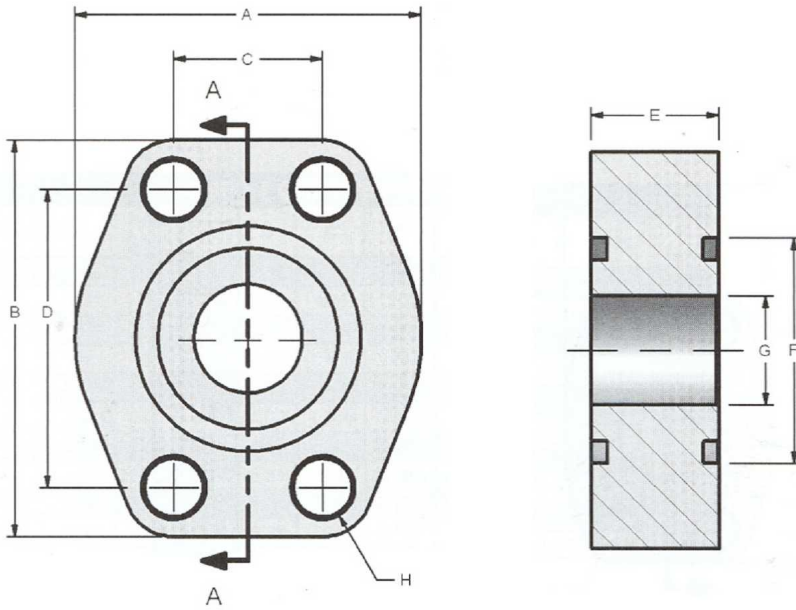
HH O-Ring Fig. 1	HH Flat Face Fig. 2	Tube Size	Flange Size	A	B	C	D	E	F	G	H
08T-08SF	08T-08SFN	.50	.50	1.188	.406	.924	.502	.50	.265	.312	1.000
10T-08SF	10T-08SFN	.63	.50	1.188	.500	.924	.627	.50	.265	.312	1.000
12T-12SF	12T-12SFN	.75	.75	1.500	.656	1.234	.752	.56	.265	.375	1.250
16T-12SF	16T-12SFN	1.00	.75	1.500	.750	1.234	1.002	.56	.265	.375	1.250
16T-16SF	16T-16SFN	1.00	1.00	1.75	.906	1.484	1.002	.56	.315	.375	1.560
20T-16SF	20T-16SFN	1.25	1.00	1.75	1.000	1.484	1.252	.56	.315	.375	1.560
20T-20SF	20T-20SFN	1.25	1.25	2.000	1.125	1.684	1.252	.56	.315	.375	1.750
24T-20SF	24T-20SFN	1.50	1.25	2.000	1.250	1.684	1.502	.56	.315	.375	1.750
24T-24SF	24T-24SFN	1.50	1.50	2.375	1.375	1.964	1.502	.62	.315	.438	2.115
28T-24SF	28T-24SFN	1.75	1.50	2.375	1.500	1.964	1.752	.62	.315	.438	2.115
32T-32SF	32T-32SFN	2.00	2.00	2.812	1.875	2.434	2.002	.62	.375	.500	2.490
36T-32SF	36T-32SFN	2.25	2.00	2.812	2.000	2.434	2.252	.62	.375	.500	2.490
40T-40SF	40T-40SFN	2.50	2.50	3.312	2.375	2.904	2.502	.68	.375	.562	2.995
44T-40SF	44T-40SFN	2.75	2.50	3.312	2.500	2.904	2.752	.68	.375	.500	2.995
48T-48SF	48T-48SFN	3.00	3.00	4.00	2.875	3.534	3.002	.75	.375	.562	3.615

Code 62 Tube Flange Head Fitting

HH O-Ring Fig. 1	HH Flat Face Fig. 2	Tube Size	Flange Size	A	B	C	D	E	F	G	H
12T-12SFX	12T-12SFXN	.75	.75	1.625	.656	1.234	.752	.69	.345	.500	1.250
16T-12SFX	16T-12SFXN	1.00	.75	1.625	.750	1.234	1.002	.69	.345	.500	1.250
16T-16SFX	16T-16SFXN	1.00	1.00	1.875	.810	1.484	1.002	.81	.375	.625	1.560
20T-16SFX	20T-16SFXN	1.25	1.00	1.875	1.000	1.484	1.252	.81	.375	.625	1.560
20T-20SFX	20T-20SFXN	1.25	1.25	2.125	1.010	1.704	1.252	1.00	.405	.812	1.750
24T-20SFX	24T-20SFXN	1.50	1.25	2.125	1.250	1.704	1.502	1.00	.405	.812	1.750
24T-24SFX	24T-24SFXN	1.50	1.50	2.500	1.250	1.984	1.502	1.19	.495	1.000	2.115
28T-24SFX	28T-24SFXN	1.75	1.50	2.500	1.500	1.984	1.757	1.19	.495	1.000	2.115
32T-32SFX	32T-32SFXN	2.00	2.00	3.125	1.750	2.604	2.002	1.50	.495	1.375	2.490
36T-32SFX	36T-32SFXN	2.25	2.00	3.125	2.000	2.604	2.252	1.50	.495	1.312	2.490

Hydraulic Flanges

Double O-Ring Union



Code 61 Double O-Ring Spacer

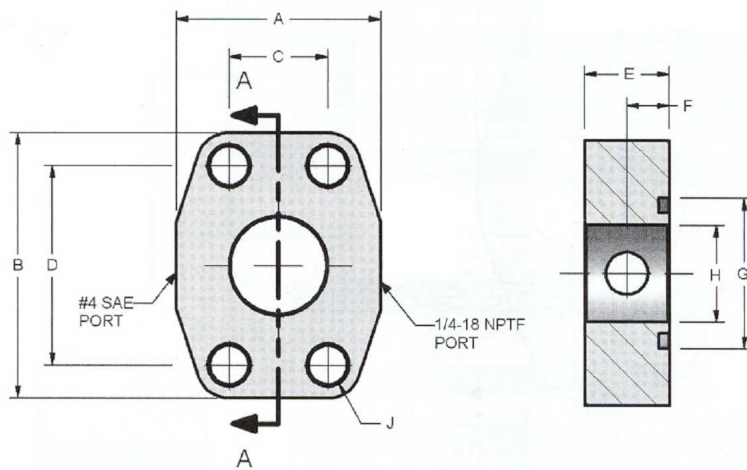
HH Item Number	Pad Size	A	B	C	D	E	F	G	H
ADOS-08-08	.50	1.813	2.125	.688	1.50	.750	1.000	.502	.344
ADOS-12-12	.75	2.063	2.563	.875	1.875	.750	1.250	.752	.406
ADOS-16-16	1.00	2.313	2.750	1.031	2.063	.880	1.560	1.002	.406
ADOS-20-20	1.25	2.875	3.125	1.188	2.313	.940	1.750	1.252	.469
ADOS-24-24	1.50	3.250	3.688	1.406	2.750	1.190	2.115	1.502	.531
ADOS-32-32	2.00	3.813	4.000	1.688	3.063	1.44	2.490	2.002	.531
ADOS-40-40	2.50	4.281	4.500	2.000	3.500	1.815	2.995	2.502	.531
ADOS-48-48	3.00	5.156	5.313	2.438	4.188	2.190	3.615	3.002	.656
ADOS-56-56	3.50	5.500	6.000	2.750	4.750	1.440	4.095	3.502	.656
ADOS-64-64	4.00	6.00	6.38	3.062	5.125	1.44	4.595	4.002	.656

Code 62 Double O-Ring Spacer

HH Item Number	Pad Size	A	B	C	D	E	F	G	H
ADOSX-08-08	.500	1.94	2.30	.718	1.594	1.25	1.000	.502	.344
ADOSX-12-12	.750	2.50	2.95	.937	2.000	1.250	1.250	.752	.406
ADOSX-16-16	1.00	2.75	3.19	1.093	2.250	1.500	1.560	1.002	.492
ADOSX-20-20	1.25	3.06	3.75	1.250	2.625	1.430	1.750	1.252	.531
ADOSX-24-24	1.50	3.75	4.44	1.437	3.125	1.815	2.115	1.502	.656
ADOSX-32-32	2.00	4.50	5.25	1.750	3.812	1.815	2.490	2.002	.781
ADOSX-40-40	2.50	5.87	6.87	2.312	4.875	1.930	2.995	2.502	.906
ADOSX-48-48	3.00	7.00	8.50	2.812	6.000	2.69	3.615	3.002	1.156

Hydraulic Flanges

Gage Port Spacer



Code 61 Gage Port O-Ring Spacer

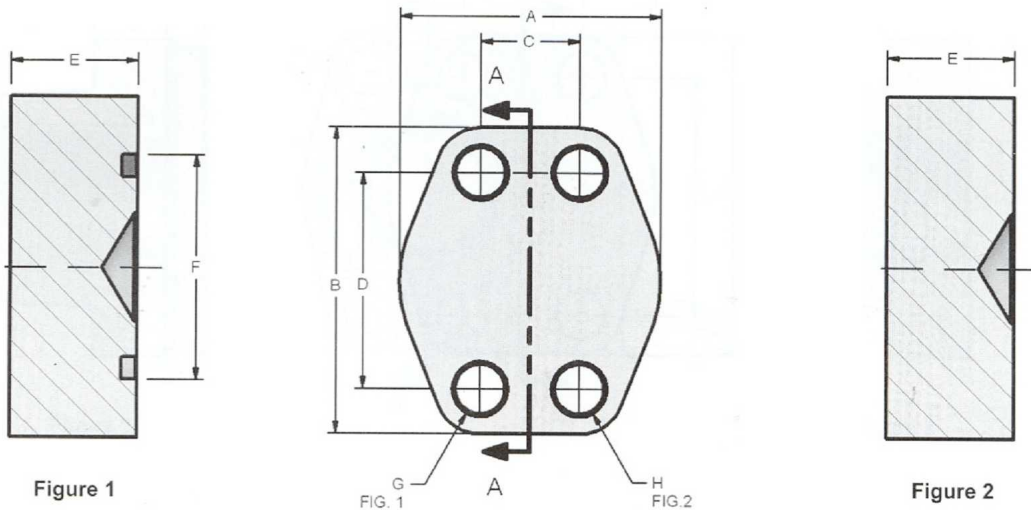
HH Item Number	Pad Size	A	B	C	D	E	F	G	H	J
AS-08-GP	.50	1.82	2.16	.688	1.500	1.25	.62	1.000	.502	.344
AS-12-GP	.75	2.06	2.69	.875	1.875	1.25	.62	1.250	.752	.406
AS-16-GP	1.00	2.31	2.75	1.031	2.062	.88	.44	1.560	1.002	.406
AS-20-GP	1.25	2.87	3.12	1.188	2.312	.94	.47	1.750	1.252	.469
AS-24-GP	1.50	3.25	3.68	1.406	2.750	1.19	.59	2.115	1.502	.531
AS-32-GP	2.00	3.81	4.00	1.688	3.062	1.38	.69	2.490	2.002	.531
AS-40-GP	2.50	4.28	4.50	2.000	3.500	1.75	.88	2.995	2.502	.531
AS-48-GP	3.00	5.15	5.31	2.438	4.188	2.12	1.06	3.615	3.002	.656

Code 62 Gage Port O-Ring Spacer

HH Item Number	Pad Size	A	B	C	D	E	F	G	H	J
ASX-08-GP	.50	1.94	2.30	.718	1.594	1.25	.62	1.000	.502	.344
ASX-12-GP	.75	2.50	2.95	.937	2.000	1.25	.62	1.250	.752	.406
ASX-16-GP	1.00	2.75	3.19	1.093	2.250	1.50	.75	1.560	1.002	.492
ASX-20-GP	1.25	3.06	3.75	1.250	2.625	1.50	.75	1.750	1.252	.531
ASX-24-GP	1.50	3.75	4.44	1.437	3.125	1.75	.88	2.115	1.502	.656
ASX-32-GP	2.00	4.50	5.25	1.750	3.812	1.75	.88	2.490	2.002	.781
ASX-40-GP	2.50	5.87	6.87	2.312	4.875	2.06	1.03	2.995	2.502	.906
ASX-48-GP	3.00	7.00	8.50	2.812	6.000	2.62	1.31	3.615	3.002	1.156

Hydraulic Flanges

Blanking



Code 61 Blanking

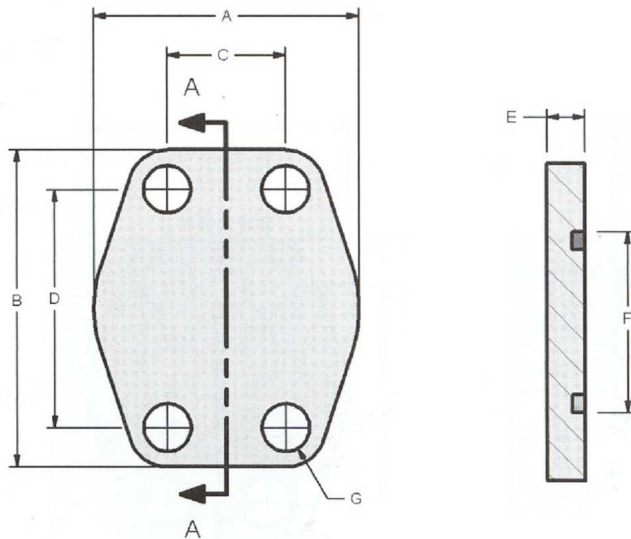
HH O-Ring Fig. 1	HH Flat Face Fig. 2	Pad Size	A	B	C	D	E	F	G	Mounting Hardware	
										O-Ring	HHCS
W36-08-08	W37-08-08	.50	1.813	2.125	.688	1.50	.75	1.000	.344	210	5/16-18x1.50
W36-12-12	W37-12-12	.75	2.063	2.563	.875	1.875	.75	1.250	.406	214	3/8-16x1.50
W36-16-16	W37-16-16	1.00	2.313	2.750	1.031	2.063	.88	1.560	.406	219	3/8-16x1.75
W36-20-20	W37-20-20	1.25	2.875	3.125	1.188	2.313	.94	1.750	.469	222	7/16-14x1.75
W36-24-24	W37-24-24	1.50	3.250	3.688	1.406	2.750	1.19	2.115	.531	225	1/2-13x2.25
W36-32-32	W37-32-32	2.00	3.813	4.000	1.688	3.063	1.44	2.490	.531	228	1/2-13x2.50
W36-40-40	W37-40-40	2.50	4.281	4.500	2.000	3.500	1.82	2.995	.531	232	1/2-13x2.75
W36-48-48	W37-48-48	3.00	5.156	5.313	2.438	4.188	2.19	3.615	.656	237	5/8-11x3.50
W36-56-56	W37-56-56	3.50	5.500	6.000	2.750	4.750	1.44	4.095	.656	241	5/8-11x2.75
W36-64-64	W37-64-64	4.00	6.00	6.38	3.062	5.125	1.44	4.595	.656	245	5/8-11x2.75

Code 62 Blanking

HH O-Ring Fig. 1	HH Flat Face Fig. 2	Pad Size	A	B	C	D	E	F	G	Mounting Hardware	
										O-Ring	HHCS
W38-08-08	W39-08-08	.500	1.94	2.30	.718	1.594	1.25	1.000	.344	210	5/16-18x2.00
W38-12-12	W39-12-12	.750	2.50	2.95	.937	2.000	1.25	1.250	.406	214	3/8-16x2.00
W38-16-16	W39-16-16	1.00	2.75	3.19	1.093	2.250	1.50	1.560	.492	219	7/16-14x2.50
W38-20-20	W39-20-20	1.25	3.06	3.75	1.250	2.625	1.43	1.750	.531	222	1/2-13x2.50
W38-24-24	W39-24-24	1.50	3.75	4.44	1.437	3.125	1.82	2.115	.656	225	5/8-11x3.00
W38-32-32	W39-32-32	2.00	4.50	5.25	1.750	3.812	1.82	2.490	.781	228	3/4-10x3.00
W38-40-40	W39-40-40	2.50	5.87	6.87	2.312	4.875	1.93	2.995	.906	232	7/8-9x3.50
W38-48-48	W39-48-48	3.00	7.00	8.50	2.812	6.000	2.69	3.615	1.190	237	1 1/8-7x4.50

Hydraulic Flanges

Zero PSI Shipping Plate



Code 61 Shipping Plate

HH Item Number	** Kit Part No.	Pad Size	A	B	C	D	E	F	G	Mounting Hardware	
										O-Ring	HHCS
SP-08	SP-08U	.50	1.81	2.12	.688	1.500	.33	1.000	.344	210	5/16-18x.75
SP-12	SP-12U	.75	2.06	2.56	.875	1.875	.33	1.250	.413	214	3/8-16x.75
SP-16	SP-16U	1.00	2.31	2.75	1.031	2.063	.33	1.560	.413	219	3/8-16x.75
SP-20	SP-20U	1.25	2.88	3.12	1.188	2.313	.33	1.750	.469	222	7/16-14x.75
SP-24	SP-24U	1.50	3.25	3.69	1.406	2.750	.33	2.115	.531	225	1/2-13x.75
SP-32	SP-32U	2.00	3.81	4.00	1.688	3.063	.33	2.490	.531	228	1/2-13x.75
SP-40	SP-40U	2.50	4.28	4.50	2.000	3.500	.33	2.995	.531	232	1/2-13x.75
SP-48	SP-48U	3.00	5.16	5.31	2.438	4.188	.33	3.615	.656	237	5/8-11x1.00
SP-56	SP-56U	3.50	5.50	6.00	2.750	4.750	.33	4.095	.656	241	5/8-11x1.00
SP-64	SP-64U	4.00	6.00	6.38	3.062	5.125	.33	4.595	.656	245	5/8-11x1.00

Code 62 Shipping Plate

HH Item Number	** Kit Part No.	Pad Size	A	B	C	D	E	F	G	Mounting Hardware	
										O-Ring	HHCS
SPX-08	SPX-08U	.50	1.94	2.19	.718	1.594	.33	1.000	.354	210	5/16-18x.75
SPX-12	SPX-12U	.75	2.50	2.81	.937	2.000	.33	1.250	.433	214	3/8-16x.75
SPX-16	SPX-16U	1.00	2.75	3.19	1.093	2.250	.33	1.560	.531	219	7/16-14x.75
SPX-20	SPX-20U	1.25	3.06	3.75	1.250	2.625	.33	1.750	.610	222	1/2-13x.75
SPX-24	SPX-24U	1.50	3.75	4.44	1.437	3.125	.33	2.115	.689	225	5/8-11x1.00
SPX-32	SPX-32U	2.00	4.50	5.25	1.750	3.812	.33	2.490	.866	228	3/4-10x1.00

** When ordering this part # you will receive: (1) shipping plate, (4) hex head bolts and, and (1) Buna N O-Ring

Hydraulic Flanges

NPTF Thread

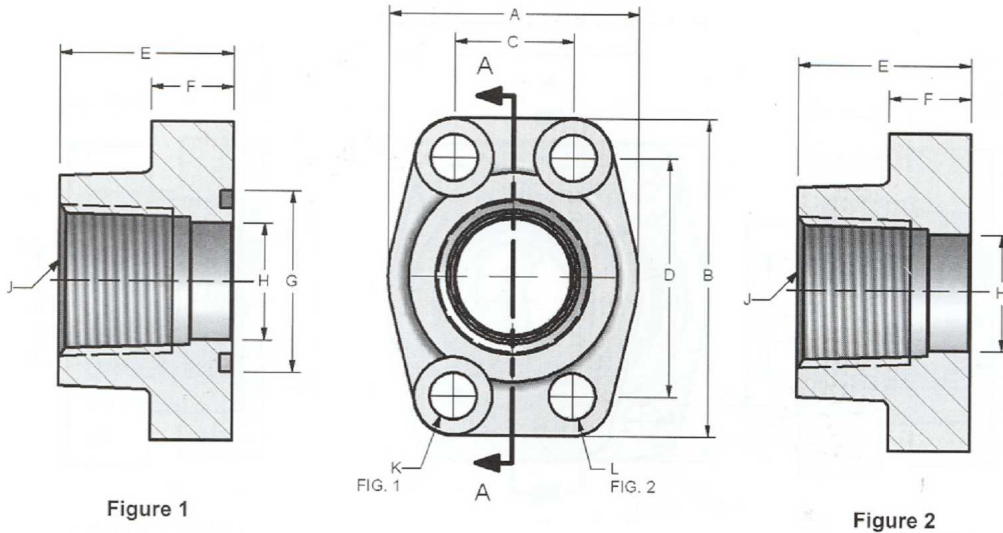


Figure 1

Figure 2

Code 61 NPTF Thread

HH O-Ring Fig. 1	HH Flat Face Fig. 2	Port Size	Pad Size	A	B	C	D	E	F	G	H	J NPTF	K	L UNC-2B	Mounting Hardware O-Ring SHCS	
W43-08-08	W104-08-08	.50	.50	1.81	2.13	.688	1.500	1.42	.63	1.000	.502	1/2-14	.344	5/16-18	210	5/16-18x1.25
W43-12-12	W104-12-12	.75	.75	1.97	2.56	.875	1.875	1.42	.71	1.250	.752	3/4-14	.406	3/8-16	214	3/8-16x1.50
W43-16-16	W104-16-16	1.00	1.00	2.17	2.75	1.031	2.062	1.50	.71	1.560	1.002	1-11.5	.406	3/8-16	219	3/8-16x1.50
W43-20-20	W104-20-20	1.25	1.25	2.68	3.12	1.188	2.312	1.61	.83	1.750	1.252	1 1/4-11.5	.469	7/16-14	222	7/16-14x1.75
W43-24-24	W104-24-24	1.50	1.50	3.07	3.66	1.406	2.750	1.77	.98	2.115	1.502	1 1/2-11.5	.531	1/2-13	225	1/2-13x1.75
W43-32-32	W104-32-32	2.00	2.00	3.54	4.00	1.688	3.062	1.77	.98	2.490	2.002	2-11.5	.531	1/2-13	228	1/2-13x1.75
W43-40-40	W104-40-40	2.50	2.50	4.09	4.49	2.000	3.500	1.97	.98	2.995	2.502	2 1/2-8	.531	1/2-13	232	1/2-13x1.75
W43-48-48	W104-48-48	3.00	3.00	4.88	5.28	2.438	4.188	1.97	1.06	3.615	3.002	3-8	.656	5/8-11	237	5/8-11x2.00

Code 62 NPTF Thread

HH O-Ring Fig. 1	HH Flat Face Fig. 2	Port Size	Pad Size	A	B	C	D	E	F	G	H	J NPTF	K	L UNC-2B	Mounting Hardware O-Ring SHCS	
W44-08-08	W45-08-08	.50	.50	1.81	2.21	.718	1.594	1.42	.63	1.000	.502	1/2-14	.344	5/16-18	210	5/16-18x1.25
W44-12-12	W45-12-12	.75	.75	2.17	2.80	.937	2.000	1.38	.83	1.250	.752	3/4-14	.406	3/8-16	214	3/8-16x1.50
W44-16-16	W45-16-16	1.00	1.00	2.56	3.19	1.093	2.250	1.65	.98	1.560	1.002	1-11.5	.492	7/16-14	219	7/16-14x1.75
W44-20-20	W45-20-20	1.25	1.25	3.07	3.75	1.250	2.625	1.77	1.06	1.750	1.252	1 1/4-11.5	.531	1/2-13	222	1/2-13x1.75
W44-24-24	W45-24-24	1.50	1.50	3.70	4.41	1.437	3.125	1.97	1.18	2.115	1.502	1 1/2-11.5	.656	5/8-11	225	5/8-11x2.25
W44-32-32	W45-32-32	2.00	2.00	4.50	5.28	1.750	3.812	2.56	1.46	2.490	2.002	2-11.5	.781	3/4-10	228	3/4-10x2.75

Hydraulic Flanges

SAE Thread

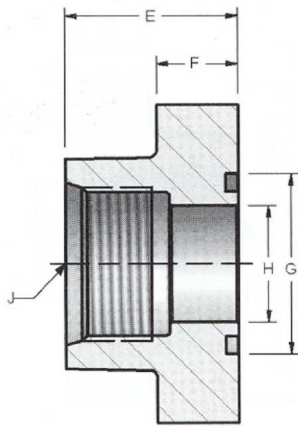


Figure 1

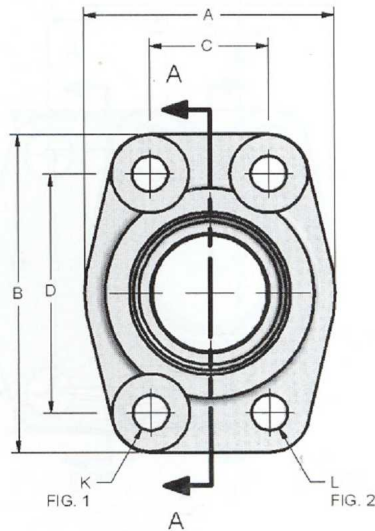


Figure 2

Code 61 SAE Straight Thread

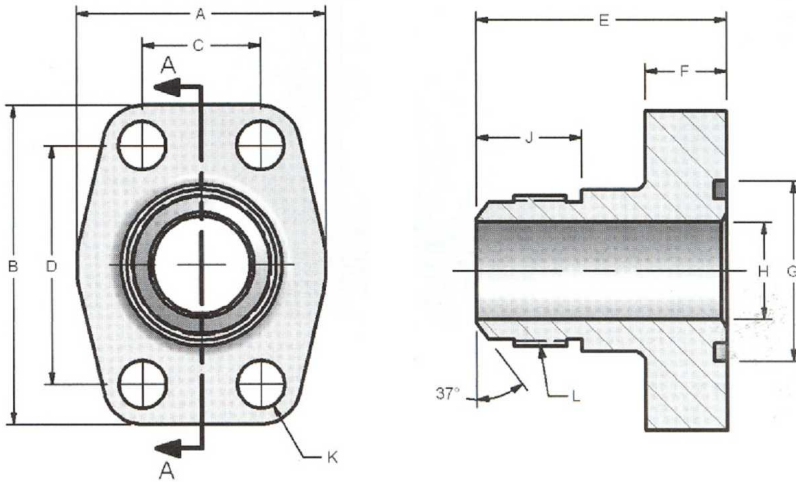
HH O-Ring Fig. 1	HH Flat Face Fig. 2	Port Size	Pad Size	A	B	C	D	E	F	G	H	J UN/UNF-2B	K UNC-2B	L UNC-2B	Mounting Hardware O-Ring SHCS	
W46-08-08	W106-08-08	.50	.50	1.81	2.13	.688	1.500	1.42	.63	1.000	.502	3/4-16	.344	5/16-18	210	5/16-18x1.25
W46-12-12	W106-12-12	.75	.75	1.97	2.56	.875	1.875	1.42	.71	1.250	.752	1 1/16-12	.406	3/8-16	214	3/8-16x1.50
W46-16-16	W106-16-16	1.00	1.00	2.17	2.75	1.031	2.062	1.50	.71	1.560	1.002	1 5/16-12	.406	3/8-16	219	3/8-16x1.50
W46-20-20	W106-20-20	1.25	1.25	2.68	3.12	1.188	2.312	1.61	.83	1.750	1.252	1 5/8-12	.469	7/16-14	222	7/16-14x1.75
W46-24-24	W106-24-24	1.50	1.50	3.07	3.66	1.406	2.750	1.77	.98	2.115	1.502	1 7/8-12	.531	1/2-13	225	1/2-13x1.75
W46-32-32	W106-32-32	2.00	2.00	3.54	4.00	1.688	3.062	1.77	.98	2.490	2.002	2 1/2-12	.531	1/2-13	228	1/2-13x1.75

Code 62 SAE Straight Thread

HH O-Ring Fig. 1	HH Flat Face Fig. 2	Port Size	Pad Size	A	B	C	D	E	F	G	H	J UN/UNF-2B	K UNC-2B	L UNC-2B	Mounting Hardware O-Ring SHCS	
W48-08-08	W49-08-08	.50	.50	1.81	2.21	.718	1.594	1.42	.63	1.000	.502	3/4-16	.344	5/16-18	210	5/16-18x1.25
W48-12-12	W49-12-12	.75	.75	2.17	2.80	.937	2.000	1.38	.83	1.250	.752	1 1/16-12	.406	3/8-16	214	3/8-16x1.50
W48-16-16	W49-16-16	1.00	1.00	2.56	3.19	1.093	2.250	1.65	.98	1.560	1.002	1 5/16-12	.492	7/16-14	219	7/16-14x1.75
W48-20-20	W49-20-20	1.25	1.25	3.07	3.75	1.250	2.625	1.77	1.06	1.750	1.252	1 5/8-12	.531	1/2-13	222	1/2-13x1.75
W48-24-24	W49-24-24	1.50	1.50	3.70	4.41	1.437	3.125	1.97	1.18	2.115	1.502	1 7/8-12	.656	5/8-11	225	5/8-11x2.25
W48-32-32	W49-32-32	2.00	2.00	4.50	5.28	1.750	3.812	2.56	1.46	2.490	2.002	2 1/2-12	.781	3/4-10	228	3/4-10x2.75

Hydraulic Flanges

Male Thread (JIC)



Code 61 Male JIC

HH Item Number	Pad Size	A	B	C	D	E	F	G	H	J	K	Mounting Hardware		
												L UN/UNF-2A	O-Ring	SHCS
W300-08-08	.50	1.81	2.13	.688	1.500	1.75	.630	1.000	.394	.657	.344	3/4-16	210	5/16-18x1.25
W300-12-12	.75	1.97	2.56	.875	1.875	2.12	.710	1.250	.611	.864	.413	1 1/16-12	214	3/8-16x1.50
W300-16-16	1.00	2.17	2.75	1.031	2.062	2.18	.710	1.560	.844	.911	.413	1 5/16-12	219	3/8-16x1.50
W300-20-20	1.25	2.68	3.12	1.188	2.312	2.44	.830	1.750	1.078	.958	.469	1 5/8-12	222	7/16-14x1.75
W300-24-24	1.50	3.07	3.66	1.406	2.750	2.81	.980	2.115	1.318	1.083	.531	1 7/8-12	225	1/2-13x1.75
W300-32-32	2.00	3.54	4.00	1.688	3.062	3.25	.980	2.490	1.781	1.333	.531	2 1/2-12	228	1/2-13x1.75

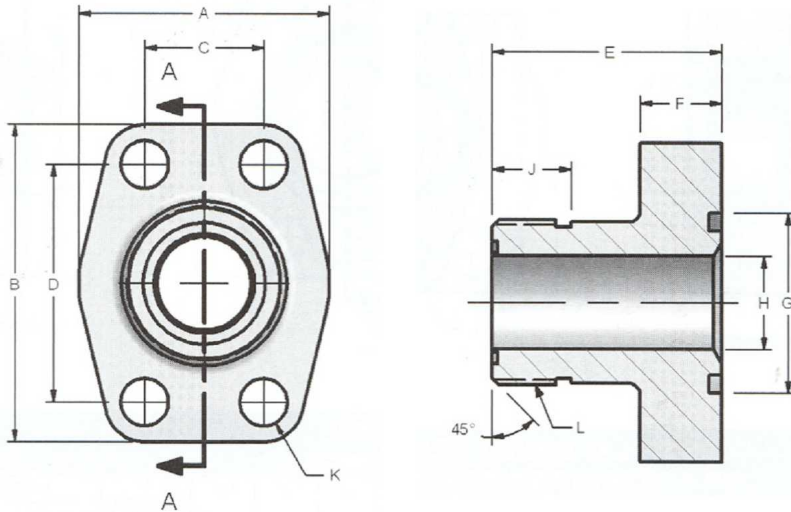
Code 62 Male JIC

HH Item Number	Pad Size	A	B	C	D	E	F	G	H	J	K	Mounting Hardware		
												L UN/UNF-2A	O-Ring	SHCS
W600-08-08	.50	1.81	2.21	.719	1.594	1.75	.630	1.000	.394	.657	.344	3/4-16	210	5/16-18x1.25
W600-12-12	.75	2.17	2.80	.937	2.000	2.31	.830	1.250	.611	.864	.413	1 1/16-12	214	3/8-16x1.50
W600-16-16	1.00	2.56	3.19	1.093	2.250	2.62	.980	1.560	.844	.911	.492	1 5/16-12	219	7/16-14x1.75
W600-20-20	1.25	3.07	3.75	1.250	2.625	2.81	1.060	1.750	1.078	.958	.531	1 5/8-12	222	1/2-13x1.75
W600-24-24	1.50	3.70	4.41	1.437	3.125	3.25	1.180	2.115	1.318	1.083	.656	1 7/8-12	225	5/8-11x2.25
W600-32-32	2.00	4.50	5.28	1.750	3.812	3.91	1.460	2.490	1.781	1.333	.781	2 1/2-12	228	3/4-10x2.75

* NOTE: 4-Bolt Flange hole pattern per SAE J518. Male JIC Thread per SAE J514

Hydraulic Flanges

Male Thread (ORFS)



Code 61 Male ORFS

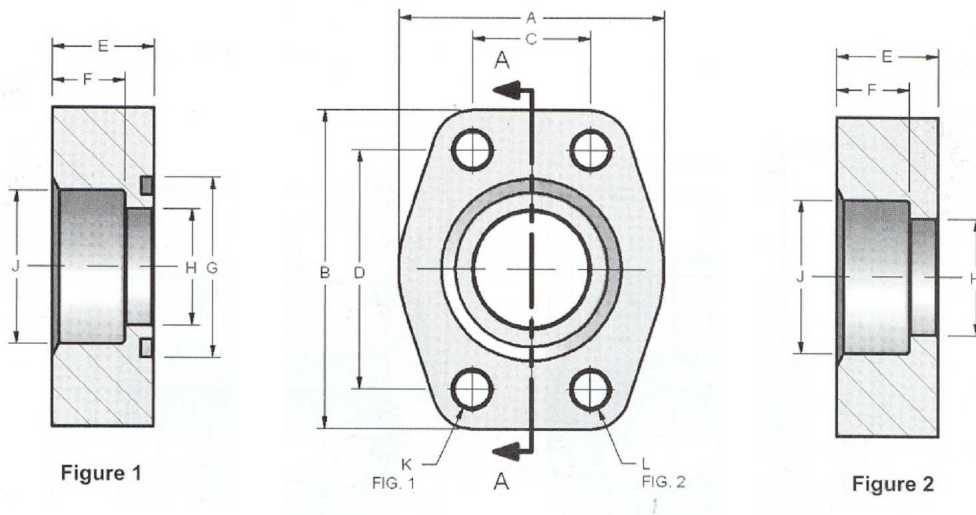
HH Item Number	Pad Size	A	B	C	D	E	F	G	H	J	K	L UN-2A	Mounting Hardware O-Ring	SHCS
W304-08-08	.50	1.81	2.13	.688	1.500	1.75	.630	1.000	.394	.504	.344	13/16-16	210	5/16-18x1.25
W304-12-12	.75	1.97	2.56	.875	1.875	2.00	.710	1.250	.611	.670	.413	1 3/16-12	214	3/8-16x1.50
W304-16-16	1.00	2.17	2.75	1.031	2.062	2.00	.710	1.560	.811	.689	.413	1 7/16-12	219	3/8-16x1.50
W304-20-20	1.25	2.68	3.12	1.188	2.312	2.25	.830	1.750	1.024	.689	.469	1 11/16-12	222	7/16-14x1.75
W304-24-24	1.50	3.07	3.66	1.406	2.750	2.50	.980	2.115	1.260	.689	.531	2-12	225	1/2-13x2.00

Code 62 Male ORFS

HH Item Number	Pad Size	A	B	C	D	E	F	G	H	J	K	L UN-2A	Mounting Hardware O-Ring	SHCS
W604-08-08	.50	1.81	2.21	.719	1.594	1.75	.630	1.000	.394	.504	.344	13/16-16	210	5/16-18x1.25
W604-12-12	.75	2.17	2.80	.937	2.000	2.25	.830	1.250	.611	.670	.413	1 3/16-12	214	3/8-16x1.50
W604-16-16	1.00	2.56	3.19	1.093	2.250	2.50	.980	1.560	.811	.689	.492	1 7/16-12	219	7/16-14x1.75
W604-20-20	1.25	3.07	3.75	1.250	2.625	2.62	1.060	1.750	1.024	.689	.531	1 11/16-12	222	1/2-13x1.75
W604-24-24	1.50	3.70	4.41	1.437	3.125	2.88	1.180	2.115	1.260	.689	.656	2-12	225	5/8-11x2.25

Hydraulic Flanges

Flat Socket Weld Pipe



Code 61 Flat Socket Weld - Pipe

HH O-Ring Fig. 1	HH Flat Face Fig. 2	Pipe Size	Pad Size	A	B	C	D	E	F	G	H	J	K	L	Mounting Hardware	
														UNC-2B	O-Ring	SHCS
W4-08-08	W61-08-08	.50	.50	1.813	2.125	.688	1.500	.750	.560	1.000	.502	.855	.344	5/16-18	210	5/16-18x1.50
W4-12-12	W61-12-12	.75	.75	2.063	2.563	.875	1.875	.750	.560	1.250	.752	1.062	.406	3/8-16	214	3/8-16x1.75
W4-16-16	W61-16-16	1.00	1.00	2.313	2.75	1.031	2.063	.880	.630	1.560	1.002	1.328	.406	3/8-16	219	3/8-16x1.75
W4-20-20	W61-20-20	1.25	1.25	2.875	3.125	1.188	2.313	.940	.690	1.750	1.252	1.672	.469	7/16-14	222	7/16-14x1.75
W4-24-24	W61-24-24	1.50	1.50	3.25	3.688	1.406	2.75	1.190	.750	2.115	1.502	1.922	.531	1/2-13	225	1/2-13x2.25
W4-32-32	W61-32-32	2.00	2.00	3.813	4.00	1.688	3.063	1.380	.875	2.490	2.002	2.406	.531	1/2-13	228	1/2-13x2.50
W4-40-40	W61-40-40	2.50	2.50	4.281	4.50	2.000	3.500	1.750	1.00	2.995	2.502	2.906	.531	1/2-13	232	1/2-13x2.75
W4-48-48	W61-48-48	3.00	3.00	5.156	5.313	2.438	4.188	2.120	1.25	3.615	3.002	3.547	.656	5/8-11	237	5/8-11x3.50

Code 62 Flat Socket Weld - Pipe

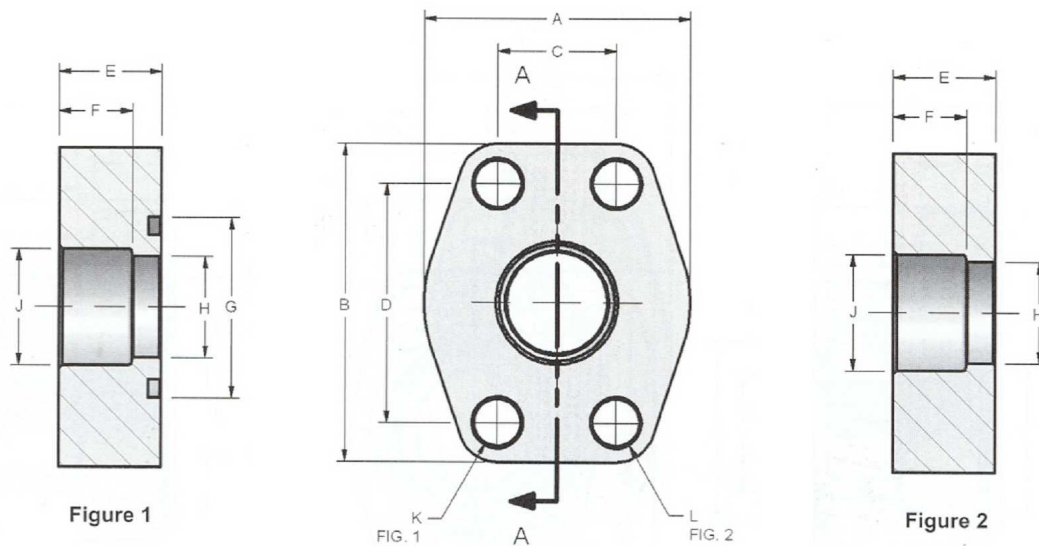
HH O-Ring Fig. 1	HH Flat Face Fig. 2	Pipe Size	Pad Size	A	B	C	D	E	F	G	H	J	K	L	Mounting Hardware	
														UNC-2B	O-Ring	SHCS
W59-08-08	W60-08-08	.50	.50	1.94	2.30	.718	1.594	1.250	.560	1.000	.502	.855	.344	5/16-18	210	5/16-18x2.00
W59-12-12	W60-12-12	.75	.75	2.50	2.95	.937	2.000	1.250	.560	1.250	.752	1.062	.406	3/8-16	214	3/8-16x2.00
W59-16-16	W60-16-16	1.00	1.00	2.75	3.19	1.093	2.250	1.500	.630	1.560	1.002	1.328	.492	7/16-14	219	7/16-14x2.50
W59-20-20	W60-20-20	1.25	1.25	3.06	3.75	1.250	2.625	1.500	.690	1.750	1.252	1.672	.531	1/2-13	222	1/2-13x2.50
W59-24-24	W60-24-24	1.50	1.50	3.75	4.44	1.437	3.125	1.750	.750	2.115	1.502	1.922	.656	5/8-11	225	5/8-11x3.00
W59-32-32	W60-32-32	2.00	2.00	4.50	5.25	1.750	3.812	1.750	.875	2.490	2.002	2.406	.781	3/4-10	228	3/4-10x3.00
W59-40-40	W60-40-40	2.50	2.50	5.87	6.87	2.312	4.875	2.060	1.000	2.995	2.502	2.906	.906	7/8-9	232	7/8-9x3.50
W59-48-48	W60-48-48	3.00	3.00	7.00	8.50	2.812	6.000	2.620	1.250	3.615	3.002	3.547	1.190	1 1/8-7	237	1 1/8-7x4.50

Code 61 Flat Socket Weld - Pipe

HH O-Ring Fig. 1	HH Flat Face Fig. 2	Pipe Size	Pad Size	A	B	C	D	E	F	G	H	J	K	L	Mounting Hardware	
														UNC-2B	O-Ring	SHCS
W72-48-48	W91-48-48	3.00	3.00	5.12	5.31	2.438	4.188	1.380	1.120	3.615	3.002	3.547	.656	5/8-11	237	5/8-11x2.50
W72-56-56	W91-56-56	3.50	3.50	5.50	6.00	2.750	4.750	1.440	1.190	4.095	3.502	4.047	.656	5/8-11	241	5/8-11x2.75
W72-64-64	W91-64-64	4.00	4.00	6.00	6.38	3.062	5.125	1.500	1.250	4.595	4.002	4.578	.656	5/8-11	245	5/8-11x2.75
W72-80-80	W91-80-80	5.00	5.00	7.12	7.25	3.625	6.000	1.750	1.380	5.595	5.002	5.641	.656	5/8-11	253	5/8-11x3.00

Hydraulic Flanges

Flat Socket Weld Tube



Code 61 Flat Socket Weld - Tube

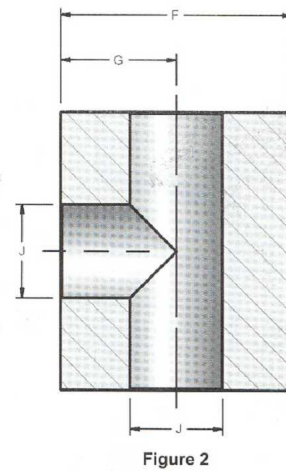
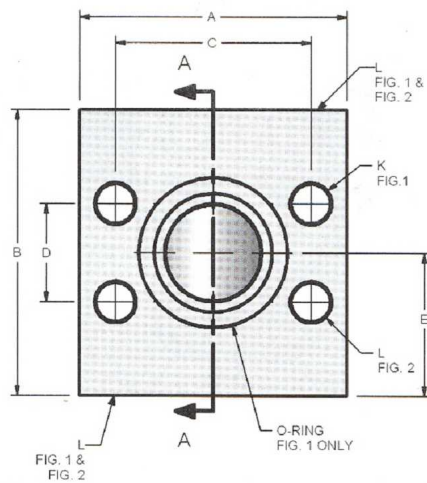
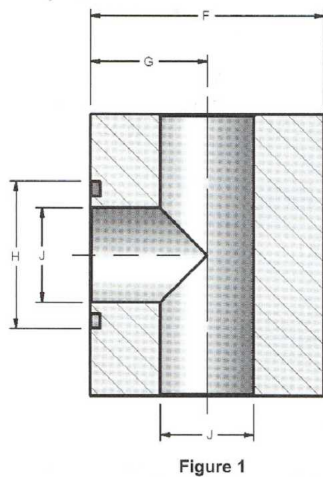
HH O-Ring Fig. 1	HH Flat Face Fig. 2	Tube Size	Pad Size	A	B	C	D	E	F	G	H	J	K	L UNC-2B	Mounting Hardware	
															O-Ring	SHCS
W6-12-12	W62-12-12	.75	.75	2.060	2.560	.875	1.875	.750	.560	1.250	.625	.752	.406	3/8-16	214	3/8-16x1.50
W6-16-12	W62-16-12	1.00	1.00	2.060	2.560	.875	1.875	.750	.560	1.250	.750	1.002	.406	3/8-16	214	3/8-16x1.50
W6-16-16	W62-16-16	1.00	1.00	2.310	2.750	1.031	2.062	.880	.630	1.560	.875	1.002	.406	3/8-16	219	3/8-16x1.75
W6-20-16	W62-20-16	1.25	1.25	2.310	2.750	1.031	2.062	.880	.630	1.560	1.000	1.252	.406	3/8-16	219	3/8-16x1.75
W6-20-20	W62-20-20	1.25	1.25	2.880	3.120	1.188	2.312	.940	.690	1.750	1.125	1.252	.469	7/16-14	222	7/16-14x1.75
W6-24-20	W62-24-20	1.50	1.50	2.880	3.120	1.188	2.312	.940	.690	1.750	1.250	1.502	.469	7/16-14	222	7/16-14x1.75
W6-24-24	W62-24-24	1.50	1.50	3.250	3.690	1.406	2.750	1.190	.750	2.115	1.375	1.502	.531	1/2-13	225	1/2-13x2.25
W6-28-24	W62-28-24	1.75	1.75	3.250	3.690	1.406	2.750	1.190	.750	2.115	1.500	1.752	.531	1/2-13	225	1/2-13x2.25
W6-32-32	W62-32-32	2.00	2.00	3.810	4.000	1.688	3.062	1.380	.875	2.490	1.875	2.002	.531	1/2-13	228	1/2-13x2.50
W6-36-32	W62-36-32	2.25	2.25	3.810	4.000	1.688	3.062	1.380	.875	2.490	2.000	2.252	.531	1/2-13	228	1/2-13x2.50

Code 62 Flat Socket Weld - Tube

HH O-Ring Fig. 1	HH Flat Face Fig. 2	Tube Size	Pad Size	A	B	C	D	E	F	G	H	J	K	L UNC-2B	Mounting Hardware	
															O-Ring	SHCS
W58-12-12	W63-12-12	.75	.75	2.50	2.95	.937	2.000	1.250	.560	1.250	.625	.752	.406	3/8-16	214	3/8-16x2.00
W58-16-12	W63-16-12	1.00	1.00	2.50	2.95	.937	2.000	1.250	.560	1.250	.750	1.002	.406	3/8-16	214	3/8-16x2.00
W58-16-16	W63-16-16	1.00	1.00	2.75	3.19	1.093	2.250	1.500	.630	1.560	.875	1.002	.492	7/16-14	219	7/16-14x2.50
W58-20-16	W63-20-16	1.25	1.25	2.75	3.19	1.093	2.250	1.500	.630	1.560	1.000	1.252	.492	7/16-14	219	7/16-14x2.50
W58-20-20	W63-20-20	1.25	1.25	3.06	3.75	1.250	2.625	1.500	.690	1.750	1.125	1.252	.531	1/2-13	222	1/2-13x2.50
W58-24-20	W63-24-20	1.50	1.50	3.06	3.75	1.250	2.625	1.500	.690	1.750	1.250	1.502	.531	1/2-13	222	1/2-13x2.50
W58-24-24	W63-24-24	1.50	1.50	3.75	4.44	1.437	3.125	1.750	.750	2.115	1.375	1.502	.656	5/8-11	225	5/8-11x3.00
W58-28-24	W63-28-24	1.75	1.75	3.75	4.44	1.437	3.125	1.750	.750	2.115	1.500	1.752	.656	5/8-11	225	5/8-11x3.00
W58-32-32	W63-32-32	2.00	2.00	4.50	5.25	1.750	3.812	1.750	.875	2.490	1.875	2.002	.781	3/4-10	228	3/4-10x3.00
W58-36-32	W63-36-32	2.25	2.25	4.50	5.25	1.750	3.812	1.750	.875	2.490	2.000	2.252	.781	3/4-10	228	3/4-10x3.00

Hydraulic Flanges

Tee Junction Block



Code 61 Tee Junction Block

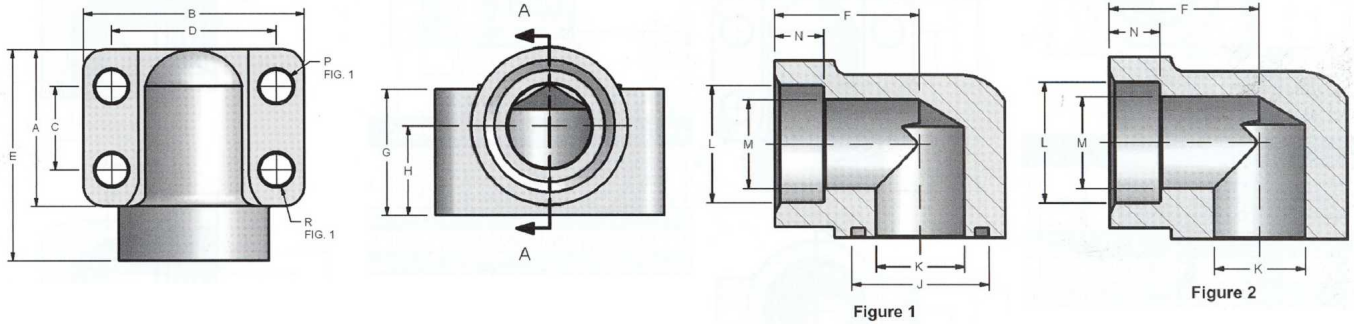
HH O-Ring Fig. 1	HH Flat Face Fig. 2	Pad Size	A	B	C	D	E	F	G	H	J	K	L UNC-2B	Mounting Hardware	
														O-Ring	SHCS
W17-12	W16-12	.75	2.62	2.75	.875	1.875	1.38	2.25	1.22	1.250	.750	.406	3/8-16	214	3/8-16x3.00
W17-16	W16-16	1.00	2.82	3.00	1.031	2.062	1.50	2.50	1.34	1.560	1.000	.406	3/8-16	219	3/8-16x3.25
W17-20	W16-20	1.25	3.19	3.50	1.188	2.312	1.75	3.00	1.56	1.750	1.250	.469	7/16-14	222	7/16-14x4.00
W17-24	W16-24	1.50	3.75	4.00	1.406	2.750	2.00	3.50	1.88	2.115	1.500	.531	1/2-13	225	1/2-13x4.50
W17-32	W16-32	2.00	4.00	4.25	1.688	3.062	2.12	4.00	2.09	2.490	2.000	.531	1/2-13	228	1/2-13x5.00

Code 62 Tee Junction Block

HH O-Ring Fig. 1	HH Flat Face Fig. 2	Pad Size	A	B	C	D	E	F	G	H	J	K	L UNC-2B	Mounting Hardware	
														O-Ring	SHCS
W19-12	W18-12	.75	2.81	3.00	2.00	.937	1.50	2.50	1.310	1.250	.750	.406	3/8-16	214	3/8-16x3.25
W19-16	W18-16	1.00	3.19	3.50	2.25	1.093	1.75	3.00	1.620	1.560	1.000	.492	7/16-14	219	7/16-14x4.00
W19-20	W18-20	1.25	3.75	4.00	2.625	1.250	2.00	3.50	1.880	1.750	1.250	.531	1/2-13	222	1/2-13x4.50
W19-24	W18-24	1.50	4.50	4.50	3.125	1.437	2.25	4.00	2.120	2.115	1.500	.656	5/8-11	225	5/8-11x5.00
W19-32	W18-32	2.00	5.25	5.00	3.812	1.750	2.50	5.00	2.750	2.490	1.940	.781	3/4-10	228	3/4-10x6.00

Hydraulic Flanges

Threaded Elbow



Code 61 Elbow SAE Straight Thread

HH O-Ring Fig. 1	HH Flat Face Fig. 2	Pad Size	A	B	C	D	E	F	G	H	J	K	L UN-2B	M	N UNC-2B	Mounting Hardware O-Ring SHCS	
W164-12-12	W165-12-12	.75	1.69	2.56	.875	1.875	2.28	1.44	1.25	.875	1.250	.752	1-1/16-12	.406	3/8-16	214	3/8-16x2.00
W164-16-16	W165-16-16	1.00	1.94	2.75	1.031	2.062	2.62	1.66	1.50	1.062	1.560	1.002	1 5/16-12	.406	3/8-16	219	3/8-16x2.25
W164-20-20	W165-20-20	1.25	2.19	3.12	1.188	2.312	3.00	1.91	1.81	1.188	1.750	1.252	1 5/8-12	.469	7/16-14	222	7/16-14x2.75
W164-24-24	W165-24-24	1.50	2.56	3.69	1.406	2.750	3.33	2.05	2.00	1.312	2.115	1.502	1 7/8-12	.531	1/2-13	225	1/2-13x3.00
W164-32-32	W165-32-32	2.00	3.06	4.33	1.688	3.062	3.81	2.28	2.50	1.656	1.490	2.002	2 1/2-12	.531	1/2-13	228	1/2-13x3.50

Code 61 Elbow NPTF Thread

HH O-Ring Fig. 1	HH Flat Face Fig. 2	Pad Size	A	B	C	D	E	F	G	H	J	K	L NPTF	M	N UNC-2B	Mounting Hardware O-Ring SHCS	
W168-12-12	W170-12-12	.75	1.69	2.56	.875	1.875	2.28	1.44	1.25	.875	1.250	.752	.75	.406	3/8-16	214	3/8-16x2.00
W168-16-16	W170-16-16	1.00	1.94	2.75	1.031	2.062	2.62	1.66	1.50	1.062	1.560	1.002	1.00	.406	3/8-16	219	3/8-16x2.25
W168-20-20	W170-20-20	1.25	2.19	3.12	1.188	2.312	3.00	1.91	1.81	1.188	1.750	1.252	1.25	.469	7/16-14	222	7/16-14x2.75
W168-24-24	W170-24-24	1.50	2.56	3.69	1.406	2.750	3.33	2.05	2.00	1.312	2.115	1.502	1.50	.531	1/2-13	225	1/2-13x3.00
W168-32-32	W170-32-32	2.00	3.06	4.33	1.688	3.062	3.81	2.28	2.50	1.656	2.490	2.002	2.00	.531	1/2-13	228	1/2-13x3.50

Code 62 Elbow SAE Straight Thread

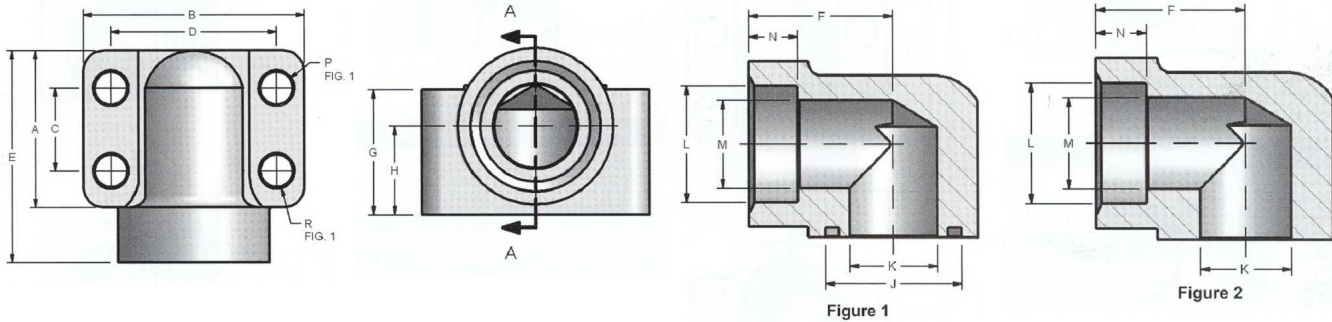
HH O-Ring Fig. 1	HH Flat Face Fig. 2	Pad Size	A	B	C	D	E	F	G	H	J	K	L UN-2B	M	N UNC-2B	Mounting Hardware O-Ring SHCS	
W184-12-12	W185-12-12	.75	1.94	2.75	.937	2.000	2.62	1.66	1.50	1.062	1.250	.752	1 1/16-12	.406	3/8-16	214	3/8-16x2.25
W184-16-16	W185-16-16	1.00	2.19	3.12	1.093	2.250	3.00	1.91	1.81	1.188	1.560	1.002	1 5/16-12	.492	7/16-14	219	7/16-14x2.50
W184-20-20	W185-20-20	1.25	2.56	3.69	1.250	2.625	3.32	2.05	2.00	1.312	1.750	1.252	1 5/8-12	.531	1/2-13	222	1/2-13x3.00
W184-24-24	W185-24-24	1.50	3.06	4.33	1.437	3.125	3.81	2.28	2.50	1.656	2.115	1.502	1 7/8-12	.656	5/8-11	225	5/8-11x3.50

Code 62 Elbow NPTF Thread

HH O-Ring Fig. 1	HH Flat Face Fig. 2	Pad Size	A	B	C	D	E	F	G	H	J	K	L NPTF	M	N UNC-2B	Mounting Hardware O-Ring SHCS	
W188-12-12	W180-12-12	.75	1.94	2.75	.937	2.000	2.62	1.66	1.50	1.062	1.250	.752	.75	.406	3/8-16	214	3/8-16x2.25
W188-16-16	W180-16-16	1.00	2.19	3.12	1.093	2.250	3.00	1.91	1.81	1.188	1.560	1.002	1.00	.492	7/16-14	219	7/16-14x2.50
W188-20-20	W180-20-20	1.25	2.56	3.69	1.250	2.625	3.32	2.05	2.00	1.312	1.750	1.252	1.25	.531	1/2-13	222	1/2-13x3.00
W188-24-24	W180-24-24	1.50	3.06	4.33	1.437	3.125	3.81	2.28	2.50	1.656	2.115	1.502	1.50	.656	5/8-11	225	5/8-11x3.50

Hydraulic Flanges

Socket Weld Elbow



Code 61 Elbow Socket Weld - Pipe

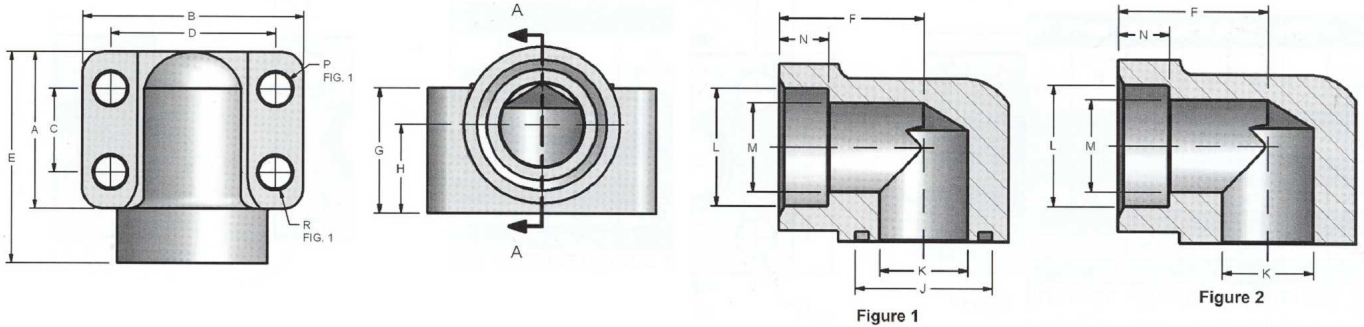
HH O-Ring Fig. 1	HH Flat Face Fig. 2	Pad Size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	Mounting Hardware UNC-2B O-Ring	SHCS
W176-12-12	W169-12-12	.75	1.69	2.56	.875	1.875	2.28	1.44	1.25	.875	1.250	.752	1.062	.75	.56	.406	3/8-16	214	3/8-16x2.00
W176-16-16	W169-16-16	1.00	1.94	2.75	1.031	2.062	2.62	1.66	1.50	1.062	1.560	1.002	1.328	1.00	.56	.406	3/8-16	219	3/8-16x2.25
W176-20-20	W169-20-20	1.25	2.19	3.12	1.188	2.312	3.00	1.91	1.81	1.188	1.750	1.252	1.672	1.25	.62	.469	7/16-14	222	7/16-14x2.75
W176-24-24	W169-24-24	1.50	2.56	3.69	1.406	2.750	3.33	2.05	2.00	1.312	2.115	1.502	1.922	1.50	.69	.531	1/2-13	225	1/2-13x3.00
W176-32-32	W169-32-32	2.00	3.06	4.33	1.688	3.062	3.81	2.28	2.50	1.656	2.490	2.002	2.406	2.00	.75	.531	1/2-13	228	1/2-13x3.50

Code 61 Elbow Socket Weld - Tube

HH O-Ring Fig. 1	HH Flat Face Fig. 2	Pad Size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	Mounting Hardware UNC-2B O-Ring	SHCS
W172-12-12	W177-12-12	.75	1.69	2.56	.875	1.875	2.28	1.44	1.25	.875	1.250	.752	.752	.625	.312	.406	3/8-16	214	3/8-16x2.00
W172-16-12	W177-16-12	.75	1.69	2.56	.875	1.875	2.28	1.44	1.25	.875	1.250	.752	1.002	.750	.438	.406	3/8-16	214	3/8-16x2.00
W172-16-16	W177-16-16	1.00	1.94	2.75	1.031	2.062	2.62	1.66	1.50	1.062	1.560	1.002	1.002	.875	.438	.406	3/8-16	219	3/8-16x2.25
W172-20-16	W177-20-16	1.00	1.94	2.75	1.031	2.062	2.62	1.66	1.50	1.062	1.560	1.002	1.252	1.000	.500	.406	3/8-16	219	3/8-16x2.25
W172-20-20	W177-20-20	1.25	2.19	3.12	1.188	2.312	3.00	1.91	1.81	1.188	1.750	1.252	1.252	1.125	.500	.469	7/16-14	222	7/16-14x2.75
W172-24-20	W177-24-20	1.25	2.19	3.12	1.188	2.312	3.00	1.91	1.81	1.188	1.750	1.252	1.502	1.250	.562	.469	7/16-14	222	7/16-14x2.75
W172-24-24	W177-24-24	1.50	2.56	3.69	1.406	2.750	3.33	2.05	2.00	1.312	2.115	1.502	1.502	1.375	.562	.531	1/2-13	225	1/2-13x3.00
W172-28-24	W177-28-24	1.50	2.56	3.69	1.406	2.750	3.33	2.05	2.00	1.312	2.115	1.502	1.752	1.500	.562	.531	1/2-13	225	1/2-13x3.00
W172-32-32	W177-32-32	2.00	3.06	4.33	1.688	3.062	3.81	2.28	2.50	1.656	2.490	2.002	2.002	1.875	.625	.531	1/2-13	228	1/2-13x3.50
W172-36-32	W177-36-32	2.00	3.06	4.33	1.688	3.062	3.81	2.28	2.50	1.656	2.490	2.002	2.252	2.000	.625	.531	1/2-13	228	1/2-13x3.50

Hydraulic Flanges

Socket Weld Elbow



Code 62 Elbow Socket Weld - Pipe

HH O-Ring Fig. 1	HH Flat Face Fig. 2	Pad Size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	Mounting Hardware	
																	UNC-2B	O-Ring	SHCS
W186-12-12	W189-12-12	.75	1.94	2.75	.937	2.000	2.62	1.66	1.50	1.062	1.250	.752	1.062	.75	.56	.406	3/8-16	214	3/8-16x2.25
W186-16-16	W189-16-16	1.00	2.19	3.12	1.093	2.250	3.00	1.91	1.81	1.188	1.560	1.002	1.328	1.00	.62	.492	7/16-14	219	7/16-14x2.50
W186-20-20	W189-20-20	1.25	2.56	3.69	1.250	2.625	3.32	2.05	2.00	1.312	1.750	1.252	1.672	1.25	.69	.531	1/2-13	222	1/2-13x3.00
W186-24-24	W189-24-24	1.50	3.06	4.33	1.437	3.125	3.81	2.28	2.50	1.656	2.115	1.502	1.922	1.50	.75	.656	5/8-11	225	5/8-11x3.50

Code 62 Elbow Socket Weld - Tube

HH O-Ring Fig. 1	HH Flat Face Fig. 2	Pad Size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	Mounting Hardware	
																	UNC-2B	O-Ring	SHCS
W182-12-12	W187-12-12	.75	1.94	2.75	.937	2.000	2.62	1.66	1.50	1.062	1.250	.752	.752	.625	.56	.406	3/8-16	214	3/8-16x2.25
W182-16-12	W187-16-12	.75	1.94	2.75	.937	2.000	2.62	1.66	1.50	1.062	1.250	.752	1.002	.750	.62	.406	3/8-16	214	3/8-16x2.25
W182-16-16	W187-16-16	1.00	2.19	3.12	1.093	2.250	3.00	1.91	1.81	1.188	1.560	1.002	1.002	.875	.62	.492	7/16-14	219	7/16-14x2.50
W182-20-16	W187-20-16	1.00	2.19	3.12	1.093	2.250	3.00	1.91	1.81	1.188	1.560	1.002	1.252	1.000	.69	.492	7/16-14	219	7/16-14x2.50
W182-20-20	W187-20-20	1.25	2.56	3.69	1.250	2.625	3.32	2.05	2.00	1.312	1.750	1.252	1.252	1.125	.69	.531	1/2-13	222	1/2-13x3.00
W182-24-20	W187-24-20	1.25	2.56	3.69	1.250	2.625	3.32	2.05	2.00	1.312	1.750	1.252	1.502	1.250	.75	.531	1/2-13	222	1/2-13x3.00
W182-24-24	W187-24-24	1.50	3.06	4.33	1.437	3.125	3.81	2.28	2.50	1.656	2.115	1.502	1.502	1.375	.75	.656	5/8-11	225	5/8-11x3.50
W182-28-24	W187-28-24	1.50	3.06	4.33	1.437	3.125	3.81	2.28	2.50	1.656	2.115	1.502	1.752	1.500	.75	.656	5/8-11	225	5/8-11x3.50



Technical Data and Information

Page Number	Description
T1	Metric (SI) - Units for Fluid Power Use
T2-T7	Conversion Factors
T8-T9	Fluid Power Formulas
T10	English/Metric Conversions
T11	Flow/Velocity in Hose Nomograph
T12	Flow/Velocity in Pipe Nomograph
T13	Flow/Velocity in Tubing Nomograph
T14	Hose Pressure Drop Charts
T15	Orifice Pressure Drop Nomograph
T16	Pipe Data Charts
T17	Pipe Pressure Loss Chart
T18	Pipe/Tubing Conversions
T19	Pressure Ratings for Hydraulic Tubing and Fittings
T20	Thread Size Chart

Metric – (SI) Units for Fluid Power Use

Quantity	Symbol*	Customary U.S. Unit	Practical SI Units (preferred unit underlined>	Preferred SI units in words	Conversion from U.S. to SI
angular velocity (also see rotational frequency)	ω	radian per second (rad/s)	<u>rad/s</u>	radians per second	none
area	A or S	square inch (in ²)	<u>cm²</u>	square centimetre	in ² x 6.452 = cm ²
bulk modulus (liquids)	K	pounds per square inch (psi)	<u>N/m²</u>	newtons per square metre	1 PSI = 6895 N/m ²
capacity (displacement)	V	cubic inches per revolution (cipr)	<u>in³/r</u>	millilitres per revolution	cipr x 16.39 = ml/r
coefficient of thermal expansion (cubic)	α	per °F (1/°F)	<u>1/K</u>	per kelvin	$\alpha_K = (\alpha_F + 459.7)/1.8$
dynamic viscosity	μ	centipoise (cP)	<u>cP</u>	centipoise	none
efficiency	η	percent	<u>%</u>	percent	none
force	F	pound (l) lb(f)	<u>N</u>	newton	lb(f) x 4.448 = N
frequency	f	cycles per second (cps)	<u>Hz</u>	hertz	1 cps = 1 Hz
kinematic viscosity	ν	Saybolt Universal Seconds (SUS)	<u>cSt</u>	centistokes	Per ANSI/Z11.129-1972 (ASTM/D2161-1971)
length	l	inch (in)	<u>m</u>	millimetre	in x 25.40 = mm
linear velocity	v	feet per second (ft/s)	<u>m/s</u>	metre per second	ft/s x 0.3048 = m/s
mass	m	pound (m) lb(m)	<u>Mg</u>	kilogram	lb(m) x 0.4536 = kg
mass density	ρ	pound (m) per cubic foot lb(m)/ft ³	<u>kg/m³</u>	cubic metre	lb(m)/ft ³ x 16.02 = kg/m ³
mass flow	M	pound (m)/second lb(m)/s	<u>kg/s</u>	kilogram per second	lb(m) x 0.4536 = kg/s
power	P	horsepower (HP)	<u>W</u>	kilowatt	HP x .7457 = kW
pressure	P	pounds per square inch (psi)	<u>bar</u>	kilopascal	1 kPa = 0.145 PSI
quantity of heat	Qc	British Thermal Unit (BTU)	<u>J</u>	joule	BTU x 1055 = J
rotational frequency (shaft speed)	n	revolutions per minute (RPM)	<u>r/s</u>	revolutions per minute	none
specific heat capacity	c	British Thermal Units per pound mass degree Fahrenheit BTU/lb(m)°F	<u>J/(kg K)</u>	joule per kilogram kelvin	BTU/lb(m)°F x 4187 = J/kg°K
surface roughness	e	microinch (μ in)	<u>μm</u>	degrees celsius	Per ISO/R 1302-1971.
temperature (customary)		degree Fahrenheit (°F)	<u>°C</u>	degrees celsius	$\frac{1.80}{(F - 32)} = °C$
temperature (interval)		degree Fahrenheit (°F)	<u>°C</u>	degrees celsius	$\frac{(F - 32)}{1.80} = °C$
temperature (thermodynamic)	T	Rankine (°R)	<u>K</u>	kelvin	°R/1.80 = K
time	t	second (s)	<u>s</u>	second or minute	60 sec = 1 min
torque (moment of force)	T	pounds (f) - inch lb(f) - in	<u>Nm</u>	newton metre	lb(f)-in x 0.1130 = Nm
volume	V	gallon (US gal)	<u>m³</u>	litre	US gal x 3.785 = l
volumetric flow (gases)	Q (ANR)	standard cubic feet per minute (scfm)	<u>m³/s</u>	cubic decimetre per second	scfm x 0.4718 = dm ³ /s
volumetric flow (liquids)	Q	gallons per minute (USGPM)	<u>l/s</u>	litres per minute	USGPM x 3.785 = l/min
work	W	foot-pound ft-lb(f)	<u>J</u>	Joule	ft-lb(f) x 1.356 = J

Conversion Factors

TO CONVERT.....	INTO.....	MULTIPLY BY
Abampere	ampere (A)	10
Acre	rods	160
Acres	sq feet	43,560.00
Acres	sq miles	1.562x10 ⁻³
Acres	sq yards	4,840.00
Acre-feet	cu feet	43,560.00
Acre-foot (US survey)	metre ³ (m ³)	1.233x10 ³
Acre (US survey)	metre ² (m ²)	4.47x10 ³
Acre-feet	gallons	3.259x10 ⁵
Amperes/sq cm	amps/sq in.	6.452
Amperes/sq cm	amps/sq meter	10 ⁴
Amperes/sq in.	amps/sq cm	0.1550
Amperes/sq in.	amps/sq meter	1,550.00
Amperes/sq meter	amps/sq cm	10 ⁻⁴
Amperes/sq meter	amps/sq in.	6.452x10 ⁻⁴
Ampere-hours	coulombs	3,600.00
Ampere-hours	faradays	0.03731
Ampere-turns/cm	amp-turns/in.	2.540
Ampere-turns/in.	amp-turns/cm	0.3937
Ampere-turns/in.	amp-turns/meter	39.37
Ampere-turns/in.	gilberts/cm	0.4950
Ampere-turns/meter	amp/turns/cm	0.01
Ampere-turns/meter	amp-turns/in.	0.0254
Angstrom unit	inch	3937x10 ⁻⁹
Angstrom unit	meter	1x10 ⁻¹⁰
Angstrom unit	micron or (Mu)	1x10 ⁻⁴
Ares	sq yards	119.6
Ares	acres	0.02471
Astronomical Unit	kilometers	1.495x10 ⁸
Atmospheres	bar	1.013
Atmospheres	ton/sq. inch	.007348
Atmospheres	cms of mercury	76.0
Atmospheres	ft of water (at 4°C)	33.90
Atmpspheres	in. of mercury (0°C)	29.92
Atmospheres	kgs/sq cm	1.0333
Atmospheres	kgs/sq meter	10.332
Atmospheres	pounds/sq in	14.70
Barrels (US, dry)	quarts (dry)	105.00
Barrels (US, liquid)	gallons	31.5
Barrels (oil)	gallons (oil)	42.0
Bars	atmospheres	0.9869
Bars	dynes/sq cm	10 ⁶
Bars	kgs/sq meter	1.020x10 ⁴
Bars	pounds/sq in	14.50
Bolt (US Cloth)	meters	36.576
BTU	liter-atmosphere	10.409
BTU	ergs	1.0550x10 ¹⁰
BTU	foot-lbs	778.3
BTU	gram-calories	252.0
BTU	horsepower-hrs	3.931x10 ⁻⁴
BTU	joules	1,054.8
BTU	kilogram-calories	0.2520
BTU	kilogram-meters	107.5
BTU	kilowatt-hrs	2.928x10 ⁻⁴
BTU/hr	foot-pounds/sec	0.2162
BTU/hr	gram-cal/sec	0.0700
BTU/hr	horsepower-hrs	3.929x10 ⁻⁴
BTU/hr	watts	0.2931
BTU/min	foot-lbs/sec	12.96
BTU/min	horsepower	0.02356
BTU/min	kilowatts	0.01757
BTU/min	watts	17.57
BTU/sq ft/min	watts/sq in	0.1221
Bushels	cu ft	1.2445
Bushels	liters	35.24
Bushels	quarts (dry)	32.00
Calories, gram (mean)	B.T.U. (mean)	3.9685x10 ⁻³
Candle/sq cm	lamberts	3.142
Candle/sq inch	lamberts	.4870
Centares (centiares)	sq meters	1.0
Centigrade	Fahrenheit	(C°x9/5)+32
Centigrams	grams	0.01
Centiliter	ounce fluid (US)	.3282
Centiliter	cubin inch	.6103
Centiliter	drams	2.705
Centiliters	liters	0.01

TO CONVERT.....	INTO.....	MULTIPLY BY
Centimeters	feet	3.281x10 ⁻²
Centimeters	inches	0.3937
Centimeters	kilometers	10 ⁻⁵
Centimeters	meters	0.01
Centimeters	miles	6.214x10 ⁻⁶
Centimeters	mils	393.7
Centimeters	yards	1.094x10 ⁻²
Centimeter-dynes	cm-grams	1.020x10 ⁻³
Centimeter-dynes	meter-kgs	1.020x10 ⁻⁸
Centimeter-dynes	pound-feet	7.376x10 ⁻⁸
Centimeter-grams	cm-dynes	980.7
Centimeter-grams	meter-kgs	10 ⁻⁵
Centimeter-grams	pound-feet	7.233x10 ⁻⁵
Centimeters of mercury	atmospheres	0.01316
Centimeters of mercury	feet of water	0.4461
Centimeters of mercury	kgs/sq meter	136.0
Centimetre of mercury (0°C)	pascal (Pa)	1.333x10 ³
Centimeters of mercury	pounds/sq ft	27.85
Centimeters of mercury	pounds/sq in	0.1934
Centimetre of water (4°C)	pascal (Pa)	98.06
Centimeters/sec	miles/hr	0.02237
Centimeters/sec	miles/min	3.728x10 ⁻⁴
Centimeters/sec/sec	feet/sec/sec	0.03281
Centimeters/sec/sec	kms/hr/sec	0.036
Centimeters/sec/sec	meters/sec/sec	0.01
Centimeters/sec/sec	miles/hr/sec	0.02237
Centipoise	pascal-second (Pa s)	10 ⁻³
Centistokes	metre ² /second (m ² /s)	10 ⁻⁶
Corci, ar mils	sq cms	5.067x10 ⁻⁶
Circular mils	sq mils	0.7854
Circumference	radians	6.283
Circular mils	sq inches	7.854x10 ⁻⁷
Cords	cord feet	8
Cord feet	cu feet	16
Coulombs	faradays	1.036x10 ⁻⁵
Coulombs/sq cm	coulombs/sq in	64.52
Coulombs/sq cm	coulombs/sq meter	10 ⁴
Coulombs/sq in	coulombs/sq meter	1,550.00
Coulombs/sq meter	coulombs/sq cm	10 ⁻⁴
Coulombs/sq meter	coulombs/sq in	6.452x10 ⁻⁴
Cubic centimeters	cu feet	3.531x10 ⁻⁵
Cubic centimeters	cu inches	0.06102
Cubic centimeters	cu meters	10 ⁻⁶
Cubic centimeters	cu yards	1.308x10 ⁻⁶
Cubic centimeters	gallons (US liq)	2.642x10 ⁻⁴
Cubic centimeters	liters	0.001
Cubic centimeters	quarts (US liq)	1.057x10 ⁻³
Cubic feet	bushels (dry)	0.8036
Cubic feet	cu cms	28,320.00
Cubic feet	cu inches	1,728.00
Cubic feet	cu meters	0.02832
Cubic feet	cu yards	0.03704
Cubic feet	gallons (US liq)	7.48052
Cubic feet	liters	28.32
Cubic feet	quarts	29.92
Cubic feet/min	cu cms/sec	472.00
Cubic feet/min	gallons/sec	0.1247
Cubic feet/min	liters/sec	0.4720
Cubic feet/min	pounds of water/min	62.43
Cubic feet/sec	gallons/min	448.831
Cubic inches	cu cms	16.39
Cubic inches	cu feet	5.787x10 ⁻⁴
Cubic inches	cu meters	1.639x10 ⁻⁵
Cubic inches	cu yards	2.143x10 ⁻⁵
Cubic inches	gallons	4.329x10 ⁻³
Cubic inches	liters	0.01639
Cubic inches	quarts (US liq)	0.01732
Cubic meters	bushels (dry)	28.38
Cubic meters	cu cms	10 ⁶
Cubic meters	cu feet	35.31
Cubic meters	cu inches	61,023.00
Cubic meters	cu yards	1.308
Cubic meters	gallons (US liq)	264.2
Cubic meters	liters	1,000.00
Cubic meters	quarts (US liq)	1,057.00
Cubic yards	cu cms	7.646x10 ⁵

Conversion Factors

TO CONVERT.....	INTO.....	MULTIPLY BY
Cubic yards	cu feet	27.0
Cubic yards	cu meters	0.7646
Cubic yards	gallons (US liq)	202.00
Cubic yards	liters	764.6
Cubic yards	quarts (US liq)	807.9
Cubic yards/min	cubic ft/sec	0.45
Cubic yards/min	gallons/sec	3.367
Cubic yards/min	liters/sec	12.74
Days (mean solar)	seconds	86,400.00
Decibar	pascal (Pa)	10 ⁴
Degree (angle)	radian (rad)	1.745x10 ⁻²
Degrees (angle)	quadrants	0.01111
Degrees (angle)	radians	0.01745
Degrees (angle)	seconds	3,600.00
Degrees/sec	radians/sec	0.01745
Degrees/sec	revolutions/min	0.1667
Degrees/sec	revolutions/sec	2.778x10 ⁻³
Degree Celsius	Kelvin (K)	$t_k = t^{\circ}C + 273.15$
Degree centigrade	same as Celsius	
Degree Fahrenheit	degree Celsius	$t^{\circ}C = (t^{\circ}F - 32)/1.8$
Degree Fahrenheit	Kelvin (K)	$t_k = (t^{\circ}F + 459.67)/1.8$
Drams (apothecaries) Or troy)	ounces (avoirdupois)	0.1371429
Drams (apothecaries) Or troy)	ounces (troy)	0.125
Drams (US, fluid or apoth.)	cubic cm	3.6967
Drams	grams	1.7718
Drams	grains	27.3437
Drams	ounces	0.0625
Dyne/cm	erg/sq millimeter	.01
Dyne/sq cm	atmospheres	9.869x10 ⁻⁷
Dyne/sq cm	inch of Mercury at 0°C	2.953x10 ⁻⁵
Dyne/sq cm	inch of water at 4°C	4.015x10 ⁻⁴
Dynes	grams	1.020x10 ⁻³
Dynes	joules/cm	10 ⁻⁷
Dynes	joules/meter (newtons)	10 ⁻⁵
Dynes	kilograms	1.020x10 ⁻⁶
Dynes	poundals	7.233x10 ⁻⁵
Dynes	pounds	2.248x10 ⁻⁶
Dynes/sq cm	bars	10 ⁻⁶
Em, Pica	inch	.167
Erg/sec	dyne-cm/sec	1.000
Ergs	BTU	9.480x10 ⁻¹¹
Ergs	dyne-centimeters	1.0
Ergs	foot-pounds	7.367x10 ⁻⁸
Ergs	gram-calories	0.2389x10 ⁻⁷
Ergs	gram-cms	1.020x10 ⁻³
Ergs	horsepower-hrs	3.7250x10 ⁻¹⁴
Ergs	joules	10 ⁻⁷
Ergs	kg-calories	2.389x10 ⁻¹¹
Ergs	kg-meters	1.020x10 ⁻⁸
Ergs	kilowatt-hrs	0.2778x10 ⁻¹³
Ergs	watt-hours	0.2778-x10 ⁻¹⁰
Ergs/sec	Btu/min	5.688x10 ⁻⁹
Ergs-sec	ft-lbs/min	4.427x10 ⁻⁶
Ergs/sec	ft-lbs/sec	7.3756x10 ⁻⁸
Ergs/sec	horsepower	1.341x10 ⁻¹⁰
Ergs/sec	kg-calories/min	1.433x10 ⁻⁹
Ergs/sec	kilowatts	10 ⁻¹⁰
Farads	microfarads	10 ⁶
Faraday/sec	ampere (absolute)	9.6500x10 ⁴
Faradays	coulombs	9.649x10 ⁴
Fathom	meter	1.828804
Fathoms	feet	6.0
Feet	centimeters	30.48
Feet	kilometers	3.048x10 ⁻⁴
Feet	meters	.3048
Feet	miles (naut.)	1.645x10 ⁻⁴
Feet	miles (stat.)	1.894x10 ⁻⁴
Feet	millimeters	304.8
Feet of water	atmospheres	0.02950
Feet of water	in of mercury	0.8826
Feet of water	kgs/sq cm	0.03048
Feet of water	kgs/sq meter	304.8
Feet of water	pounds/sq ft	62.43
Feet of water	pounds/sq in	0.4335

TO CONVERT.....	INTO.....	MULTIPLY BY
Feet/min	cms/sec	0.5080
Feet/min	kms/hr	0.01829
Feet/min	meters/min	0.3048
Feet/min	miles/hr	0.01136
Feet/sec	cms/sec	30.48
Feet/sec	kms/hr	1.097
Feet/sec	knots	0.5921
Feet/sec	meters/min	18.29
Feet/sec	miles/hr	0.6818
Feet/sec	miles/min	0.01136
Feet/sec/sec	cms/sec/sec	30.48
Feet/sec/sec	kms/hr/sec	1.097
Feet/sec/sec	meters/sec/sec	0.3048
Feet/sec/sec	miles/hr/sec	0.6818
Feet/100 feet	per cent grade	1.00
Foot-candle	lumen/sq meter	10.764
Foot-pounds	Btu	1.286x10 ⁻³
Foot-pounds	ergs	1.356x10 ⁷
Foot-pounds	gram-calories	0.3238
Foot-pounds	hp-hrs	5.050x10 ⁻⁷
Foot-pounds	joules	1.356
Foot-pounds	kg-calories	3.24x10 ⁻⁴
Foot-pounds	kg-meters	0.1383
Foot-pounds	kilowatt-hrs	3.766x10 ⁻⁷
Foot-pounds/min	Btu/min	1.286x10 ⁻³
Foot-pounds/min	foot-pounds/sec	0.01667
Foot-pounds/min	horsepower	3.030x10 ⁻⁵
Foot-pounds/min	kg-calories/min	3.24x10 ⁻⁴
Foot-pounds/min	kilowatts	2.260x10 ⁻⁵
Foot-pounds/sec	Bu/hr	4.6263
Foot-pounds/sec	Btu/min	0.07717
Foot-pounds/sec	horsepower	1.818x10 ⁻³
Foot-pounds/sec	kg-calories/min	0.01945
Foot-pounds/sec	kilowatts	1.356x10 ⁻³
Furlongs	rods	40.00
Furlongs	feet	660.00
Gallons	cu cms	3,785.00
Gallons	cu feet	0.1337
Gallons	cu inches	231.00
Gallons	cu meters	3.785x10 ³
Gallons	cu yards	4.951x10 ⁻³
Gallons	liters	3.785
Gallons (liq. Br. Imp.)	gallons (US liq)	1.20095
Gallons	gallons (Imp.)	0.83267
Gallons of water	pounds of water	8.3453
Gallons/min	cu ft/sec	2.228x10 ⁻³
Gallons/min	liters/sec	0.06308
Gallons/min	cu ft/hr	8.0208
Gausses	webbers/sq in	6.542x10 ⁻⁸
Gausses	webbers/sq meter	10 ⁴
Gilberts	ampere-turns	0.7958
Gilberts/cm	amp-turns/in	2.021
Gilberts/cm	amp-turns/meter	79.58
Gills	liters	0.1183
Gills	pints (liq)	0.25
Grains	drams (avoirdupois)	0.03657143
Grains (troy)	grains (avdp)	1.00
Grains (troy)	grams	0.06480
Grains (troy)	ounces (avdp)	2.0833x10 ⁻³
Grains/US gal	parts/million	17.118
Grains/US gal	pounds/million gal	142.86
Grains/Imp gal	parts/million	14.286
Grams	dynes	980.7
Grams	grains	15.43
Grams	joules/cm	9.807x10 ⁻⁵
Grams	joules/meter (newtons)	9.807x10 ⁻³
Grams	kilograms	0.001
Grams	milligrams	1,000.00
Grams	ounces (avdp)	0.03527
Grams	ounces (troy)	0.03215
Grams	pounds	2.205x10 ⁻³
Grams/cm	pounds/inch	5.600x10 ⁻³
Grams/cu cm	pounds/cu ft	62.43
Grams/cu cm	pounds/cu in	0.03613
Grams/cu cm	pounds/mil-foot	3.405x10 ⁻⁷
Grams/liter	grains/gal	58.417

Conversion Factors

TO CONVERT	INTO	MULTIPLY BY
Grams/liter	pounds/1,000 gal	8.345
Grams/liter	pounds/cu ft	0.062427
Grams/liter	parts/million	1,000.00
Grams/sq cm	pounds/sq ft	2.0481
Gram-calories	Btu	3.9683×10^{-3}
Gram-calories	ergs	4.1868×10^7
Gram-calories	foot-pounds	3.0880
Gram-calories	horsepower-hrs	1.5596×10^{-6}
Gram-calories	kilowatt-hrs	1.1630×10^{-6}
Gram-calories	watt-hrs	1.1630×10^{-3}
Gram-calories/sec	Btu/hr	14.286
Gram-centimeters	Btu	9.297×10^{-8}
Gram-centimeters	ergs	980.7
Gram-centimeters	joules	9.807×10^{-5}
Gram-centimeters	kg-cal	2.343×10^{-8}
Gram-centimeters	kg-meters	10^{-5}
Hectares	acres	2.471
Hogsheads (US)	gallons (US)	63
Horsepower	Btu/min	42.44
Horsepower	foot-lbs/min	33,000.00
Horsepower	foot-lbs/sec	550.00
Horsepower (metric)	horsepower	0.9863
(542.5 ft lb/sec)	(550 ft lb/sec)	
Horsepower	horsepower	1.014
(550 ft lb/sec)	(542.5 ft lb/sec)	
Horsepower	kg-calories/min	10.68
Horsepower (550ft lbf/s)	watt (W)	745.6
Horsepower (boiler)	watt (W)	9809.5
Horsepower (electric)	watt (W)	746.0
Horsepower (metric)	watt (W)	735.5
Horsepower (water)	watt (W)	746.04
Horsepower (UK)	watt (W)	745.7
Horsepower-hrs	Btu	2,547.0
Horsepower-hrs	ergs	2.6845×10^{13}
Horsepower-hrs	foot-lbs	1.98×10^9
Horsepower-hrs	gram-calories	6741,190.0
Horsepower-hrs	joules	2.684×10^6
Horsepower-hrs	kg-calories	641.1
Horsepower-hrs	kg-meters	2.737×10^5
Horsepower-hrs	kilowatt-hrs	0.7457
Hundredweights (long)	pounds	112
Hundredweights (long)	tons (long)	0.05
Hundredweights (short)	ounces (avoirdupois)	1600.00
Hundredweights (short)	pounds	100.00
Hundredweights (short)	tons (metric)	0.0453592
Hundredweights (short)	tons (long)	0.0446429
Inches	centimeters	2.540
Inches	meters	2.540×10^{-2}
Inches	miles	1.578×10^{-5}
Inches	millimeters	25.40
Inches	mils	1,000.00
Inches of mercury	atmospheres	0.03342
Inches of mercury	feet of water	1.133
Inches of mercury	kgs/sq cm	0.03453
Inches of mercury	kgs/sq meter	345.3
Inch of mercury (32°F)	pascal (Pa)	3.39×10^3
Inch of mercury (60°F)	pascal (Pa)	3.38×10^3
Inches of mercury	pounds/sq in	0.4912
Inches of water (at 4°C)	atmospheres	2.458×10^{-3}
Inches of water (at 4°C)	inches of mercury	0.07355
Inches of water (at 4°C)	kgs/sq cm	2.540×10^{-3}
Inches of water (at 4°C)	ounces/sq in	0.5781
Inch of water (39.2°F)	pascal (Pa)	2.491×10^2
Inch of water (60°F)	pascal (Pa)	2.488×10^2
Inches of water (at 4°C)	pounds/sq in	0.03613
International Ampere	Ampere (absolute)	.9998
International volt	volts (absolute)	1.0003
International volt	joules (absolute)	1.59×10^{-19}
International volt	joules	9.654×10^4
Joules	Btu	9.480×10^{-4}
Joules	ergs	10^7
Joules	foot-pounds	0.7376
Joules	kg-calories	2.389×10^4
Joules	kg-meters	0.1020
Joules	watt-hrs	2.778×10^{-4}
Joules/cm	grams	1.020×10^4

TO CONVERT	INTO	MULTIPLY BY
Joules/cm	dynes	10^7
Joules/cm	joules/meter (newtons)	100.0
Joules/cm	poundals	723.3
Joules/cm	pounds	22.48
Kelvin	degree Celsius	$tc = tk - 273.15$
Kilograms	dynes	980,665.00
Kilograms	grams	1,000.00
Kilograms	joules/cm	0.09807
Kilograms	joules/meter	9.807
Kilograms	poundals	70.93
Kilograms	pounds	2.205
Kilograms	tons (long)	9.842×10^{-4}
Kilograms	tons (short)	1.102×10^{-3}
Kilograms/cu meter	grams/cu cm	0.001
Kilograms/cu meter	pounds/cu ft	0.06243
Kilograms/cu meter	pounds/cu in	3.613×10^{-5}
Kilograms/cu meter	pounds/mil-foot	3.405×10^{-10}
Kilograms/meter	pounds/ft	0.6720
Kilograms/sq cm	dynes	980,665.00
Kilograms/sq cm	atmospheres	0.9678
Kilograms/sq cm	feet of water	32.81
Kilograms/sq cm	inches of mercury	28.96
Kilograms/sq cm	pounds/sq ft	2,048.00
Kilograms/sq cm	pounds/sq in	14.22
Kilograms/sq meter	atmospheres	9.678×10^{-5}
Kilograms/sq meter	bars	98.0710^{-6}
Kilograms/sq meter	feet of water	3.281×10^{-3}
Kilograms/sq meter	inches of mercury	2.896×10^{-3}
Kilograms/sq meter	pounds/sq ft	0.2048
Kilograms/sq meter	pascal (Pa)	9.807
Kilograms/sq meter	pounds/sq in	1.422×10^{-3}
Kilograms/sq mm	kgs/sq meter	10^6
Kilogram-calories	Btu	3.968
Kilogram-calories	foot-pounds	3,088.00
Kilogram-calories	hp-hrs	1.560×10^{-3}
Kilogram-calories	joules	4,186.00
Kilogram-calories	kg-meters	426.9
Kilogram-calories	kilojoules	4.186
Kilogram-calories	kilowatt-hrs	1.163×10^{-3}
Kilogram meters	Btu	9.294×10^{-3}
Kilogram meters	ergs	9.804×10^7
Kilogram meters	foot-pounds	7.233
Kilogram meters	joules	9.804
Kilogram meters	kg-calories	2.342×10^{-3}
Kilogram meters	kilowatt-hrs	2.723×10^{-6}
Kilometers	centimeters	10^5
Kilometers	feet	3,281.00
Kilometers	meters	1,000.00
Kilometers	miles	0.6214
Kilometers	millimeters	10^6
Kilometers	yards	1,094.00
Kilometers/hr	cms/sec	27.78
Kilometers/hr	feet/min	54.68
Kilometers/hr	feet/sec	0.9113
Kilometers/hr	knots	0.5396
Kilometers/hr	meters/min	16.67
Kilometers/hr	miles/hr	0.6214
Kilometers/hr/sec	cms/sec/sec	27.78
Kilometers/hr/sec	ft/sec/sec	0.9113
Kilometers/hr/sec	meters/sec/sec	0.2778
Kilometers/hr/sec	miles/hr/sec	0.6214
Kilowatts	Btu/min	56.92
Kilowatts	foot-lbs/min	4.426×10^4
Kilowatts	foot-lbs/sec	737.6
Kilowatts	horsepower	1.341
Kilowatts	kg-calories/min	14.34
Kilowatts	watts	1,000.00
Kilowatt-hrs	Btu	3,413.00
Kilowatt-hrs	ergs	3.600×10^{13}
Kilowatt-hrs	foot-lbs	2.655×10^6
Kilowatt-hrs	gram-calories	859,850.00
Kilowatt-hrs	horsepower-hrs	1.341
Kilowatt-hrs	joules	3.6×10^6
Kilowatt-hrs	kg-calories	860.5
Kilowatt-hrs	kg-meters	3.671×10^5
Kilowatt-hrs	lbs of H2O raised 62° to 212°F	22.75

Conversion Factors

TO CONVERT.....	INTO.....	MULTIPLY BY
Knots	feet/hr	6,080.00
Knots	kilometers/hr	1.8532
Knots	nautical miles/hr	1.0
Knots	statute miles/hr	1.151
Knots	feet/sec	1.689
League	miles (approx.)	3.00
Light year	miles	5.9×10^{12}
Light year	meters	9.46×10^{15}
Lines/sq cm	gausses	1.0
Lines/sq in	gausses	0.1550
Lines/sq in	webers/sq in	10^8
Lines/sq in	webers/sq meter	1.550×10^5
Links (engineer's)	inches	12.0
Links (surveyor's)	inches	7.92
Liters	bushels (US dry)	0.02838
Liters	cu cm	1,000.00
Liters	cu feet	0.03531
Liters	cu inches	61.02
Liters	cu meters	0.001
Liters	gallons (US liq)	0.2642
Liters	quarts (US liq)	1.057
Liters/min	cu ft/sec	5.886×10^{-4}
Liters/min	gals/sec	4.403×10^{-3}
Megohms	microhms	10^{12}
Megohms	ohms	10^6
Meters	centimeters	100.00
Meters	feet	3.281
Meters	inches	39.37
Meters	kilometers	0.001
Meters	miles (naut.)	5.396×10^{-4}
Meters	miles (stat.)	6.214×10^{-4}
Meters	millimeters	1,000.00
Meters	yards	1.094
Meters/min	cms/sec	1.667
Meters/min	feet/min	3.281
Meters/min	feet/sec	0.05468
Meters/min	kms/hr	0.06
Meters/min	knots	0.03238
Meters/min	miles/hr	0.03728
Meters/sec	feet/min	196.8
Meters/sec	feet/sec	3.281
Meters/sec	kilometers/hr	3.6
Meters/sec	kilometers/min	0.06
Meters/sec	miles/hr	2.237
Meters/sec	miles/min	0.03728
Meters/sec/sec	cms/sec/sec	100.00
Meters/sec/sec	ft/sec/sec	3.281
Meters/sec/sec	kms/hr/sec	3.6
Meters/sec/sec	miles/hr/sec	2.237
Meter-kilograms	cm-dynes	9.807×10^7
Meter-kilograms	cm-grams	10^5
Meter-kilograms	pound-feet	7.233
Microns	inches	39×10^{-6}
Microns	meters	1×10^{-6}
Miles (naut.)	miles (statute)	1.1516
Miles (naut.)	yards	2,027.00
Miles (stat.)	centimeters	1.609×10^5
Miles (stat.)	feet	5,280.00
Miles (stat.)	kilometers	1.609
Miles (stat.)	meters	1,609.00
Miles (stat.)	miles (naut.)	0.8684
Miles/hr	cms/sec	44.70
Miles/hr	feet/min	88.00
Miles/hr	feet/sec	1.467
Miles/hr	kms/hr	1.609
Miles/hr	kms/min	0.02682
Miles/hr	knots	0.8684
Miles/hr	meters/min	26.82
Miles/hr/sec	cms/sec/sec	44.70
Miles/hr/sec	feet/sec/sec	1.467
Miles/hr/sec	kms/hr/sec	1.609
Miles/hr/sec	meters/sec/sec	0.4470
Miles/min	cms/sec	2,682.00
Miles/min	feet/sec	88.00
Miles/min	kms/min	1.609
Miles/min	knots/min	0.8684

TO CONVERT.....	INTO.....	MULTIPLY BY
Miles/min	miles/hr	60.00
Mil-feet	cu inches	9.425×10^{-6}
Millibar	pascal(Pa)	100.00
Millimetre of mercury (0°C)	pascal (Pa)	133.3
Millimicrons	meters	1×10^{-9}
Milligrams	grains	0.01543236
Milligrams	grams	0.001
Milligrams/liter	parts/million	1.00
Millimeters	liters	0.001
Millimeters	centimeters	0.1
Millimeters	feet	3.281×10^{-3}
Millimeters	inches	0.03937
Millimeters	kilometers	10^{-6}
Millimeters	meters	0.001
Millimeters	miles	6.214×10^{-7}
Millimeters	mils	39.37
Millimeters	yards	1.094×10^{-3}
Million gals/day	cu ft/sec	1.54723
Mils	centimeters	2.540×10^{-3}
Mils	inches	0.001
Mils	kilometers	2.540×10^{-8}
Minutes (angles)	degrees	0.01667
Minutes (angles)	quadrants	1.852×10^{-4}
Minutes (angles)	radians	2.909×10^{-4}
Minutes (angles)	seconds	60.00
Nepers	decibals	8.686
Newton	dynes	10^5
OHM (international)	OHM (absolute)	1.0005
Ohms	megohms	10^{-6}
Ohms	microhms	10^6
Ounces	drams	16.00
Ounces	grains	437.5
Ounces	grams	28.349527
Ounces	pounds	0.0625
Ounces	ounces (troy)	0.9115
Ounces	tons (long)	2.790×10^{-5}
Ounces	tons (metric)	2.835×10^{-5}
Ounce-force (avoirdupois)	Newton (N)	2.78×10^{-1}
Ounce-force-inch	Newton-metre (N m)	7.06×10^{-3}
Ounces (fluid)	cu inches	1.805
Ounces (fluid)	liters	0.02957
Ounces (troy)	grains	480.00
Ounces (troy)	grams	31.103481
Ounces (troy)	ounces (avdp.)	1.09714
Ounces (troy)	pennyweights (troy)	20.00
Ounces (troy)	pounds (troy)	0.08333
Ounce/sq inch	dynes/sq cm	4309.0
Ounces/sq in	pounds/sq in	0.0625
Parsec	miles	19×10^{12}
Parsec	kilometers	3.084×10^{13}
Parts/million	grains/US gal	0.0584
Parts/mill	grains/Imp. Gal	0.07016
Parts/million	pounds/million gal	8.345
Pascal (Pa)	atmosphere (normal=760torr)	9.87×10^{-4}
Pascal (Pa)	bar	10^{-5}
Pascal (Pa)	centimetre of mercury(0°C)	7.5×10^{-4}
Pascal (Pa)	centimetre of water(4°C)	1.02×10^{-2}
Pascal (Pa)	dynes/centimetre ²	10
Pascal (Pa)	foot of water (39.2°F)	3.35×10^{-4}
Pascal (Pa)	gram-force/centimetre ²	1.02×10^{-2}
Pascal (Pa)	inch of mercury (60°F)	2.96×10^{-4}
Pascal (Pa)	inch of water (60°F)	4.02×10^{-3}
Pascal (Pa)	kilogram/metre ²	1.02×10^{-1}
Pascal (Pa)	millibar	10^{-2}
Pascal (Pa)	pound/foot ²	2.09×10^{-2}
Pascal (Pa)	pound/inch ²	1.45×10^{-4}
Pecks (British)	cubic inches	554.6
Pecks (British)	liters	9.091901
Pecks (US)	quarts (dry)	8.00
Pennyweights (troy)	grains	24.0
Pennyweights (troy)	ounces (troy)	0.05
Pennyweights (troy)	grams	1.55517
Pennyweights (troy)	pounds (troy)	4.1667×10^{-3}
Pints (dry)	cu inches	33.60
Pints (liq)	cu feet	0.01671
Pints (liq)	cu inches	28.87

Conversion Factors

TO CONVERT.....	INTO.....	MULTIPLY BY
Pints (liq)	cu meters	4.732x10 ⁻⁴
Pints (liq)	cu yards	6.189x10 ⁻⁴
Pints (liq)	liters	0.4732
Pints (liq)	quarts (liq)	0.5
Poise	gram/cm sec	1.00
Pounds (avoirdupois)	ounces (troy)	14.5833
Poundals	dynes	13,826.00
Poundals	grams	14.10
Poundals	joules/cm	1.383x10 ⁻³
Poundals	joules/meter (newtons)	0.1383
Poundals	pounds	0.03108
Pounds	drams	256.00
Pounds	dynes	44.4823x10 ⁴
Pounds	grains	7,000.00
Pounds	grams	453.5924
Pounds	joules/cm	0.04448
Pounds	joules/meter (newtons)	4.448
Pounds	kilograms	0.4536
Pounds	ounces	16.00
Pounds	ounces (troy)	14.5833
Pounds	poundals	32.17
Pounds	pounds (troy)	1.21528
Pounds	tons (short)	0.0005
Pounds (troy)	grains	5,760.00
Pounds (troy)	grams	373.24177
Pounds (troy)	ounces (avdp.)	13.1657
Pounds (troy)	ounces (troy)	12.00
Pounds (troy)	pounds (avdp.)	0.822857
Pounds (troy)	tons (long)	3.6735x10 ⁻⁴
Pounds (troy)	tons (metric)	3.7324x10 ⁻⁴
Pounds (troy)	tons (short)	4.1143x10 ⁻⁴
Pounds of water	cu feet	0.01602
Pounds of water	cu inches	27.68
Pounds of water	gallons	0.1198
Pounds of water/min	cu ft/sec	2.670x10 ⁻⁴
Pound-feet	cm-dynes	1.356x10 ⁷
Pound-feet	cm-grams	13,825.00
Pound-feet	meter-kgs	0.1383
Pounds/cu ft	grams/cu cm	0.01602
Pounds/cu ft	kgs/cu meter	16.02
Pounds/cu ft	pounds/cu in	5.787x10 ⁻⁴
Pounds/cu in	gms/cu cm	27.68
Pounds/cu in	kgs/cu meter	2.768x10 ⁴
Pounds/cu in	pounds/cu ft	1,728.00
Pounds/ft	kgs/meter	1.488
Pounds/in	gms/cm	178.60
Pounds/mil-foot	gms/cu cm	2.306x10 ⁶
Pounds/sq ft	atmospheres	4.725x10 ⁻⁴
Pounds/sq ft	feet of water	0.01602
Pounds/sq ft	inches of mercury	0.01414
Pounds/sq ft	kgs/sq meter	4.832
Pounds/sq ft	pounds/sq in	6.944x10 ⁻³
Pounds/sq in	atmospheres	0.06804
Pounds/sq in	feet of water	2.307
Pounds/sq in	inches of mercury	2.036
Pounds/sq in	kgs/sq meter	703.1
Pounds/sq in	pascal (Pa)	6.895x10 ³
Pounds/sq in	pounds/sq ft	144.0
Quadrants (angle)	degrees	90.00
Quadrants (angle)	radians	1.571
Quadrants (angle)	seconds	3.24x10 ⁵
Quarts (dry)	cu inches	67.20
Quarts (liq)	cu feet	0.03342
Quarts (liq)	cu inches	57.75
Quarts (liq)	cu meters	9.464x10 ⁻⁴
Quarts (liq)	cu yards	1.238x10 ⁻³
Quarts (liq)	liters	0.9463
Radians	degrees	57.30
Radians	minutes	3,438.00
Radians	quadrants	0.6366
Radians	seconds	2.063x10 ⁵
Radians/sec	degrees/sec	57.30
Radians/sec	revolutions/sec	0.1592
Radians/sec/sec	revs/min/min	573.00
Radians/sec/sec	revs/min/sec	9.549
Radians/sec/sec	revs/sec/sec	0.1592

TO CONVERT.....	INTO.....	MULTIPLY BY
Revolutions	degrees	360.00
Revolutions	quadrants	4.00
Revolutions	radians	6.283
Revolutions/min	degrees/sec	6.0
Revolutions/min	radians/sec	0.1047
Revolutions/min/min	radians/sec/sec	1.745x10 ⁻³
Revolutions/min/min	revs/min/sec	0.01667
Revolutions/min/min	revs/sec/sec	2.778x10 ⁻⁴
Revolutions/sec	degrees/sec	360.00
Revolutions/sec	radians/sec	6.283
Revolutions/sec	revs/min	60.00
Revolutions/sec/sec	radians/sec/sec	6.283
Revolutions/sec/sec	revs/min/min	3,600.00
Revolutions/sec/sec	revs/min/sec	60.00
Rod	meters	5.029
Rods (surveyors' meas.)	yards	5.5
Rods	feet	16.5
Seconds (angle)	degrees	2.778x10 ⁻⁴
Seconds (angle)	minutes	0.01667
Seconds (angle)	quadrants	3.087x10 ⁻⁶
Seconds (angle)	radians	4.848x10 ⁻⁶
Slug	kilogram	14.59
Slug	pounds	32.17
Sphere	steradians	12.57
Square centimeters	circular mils	1.973x10 ⁵
Square centimeters	sq feet	1.076x10 ⁻³
Square centimeters	sq inches	0.1550
Square centimeters	sq meters	0.0001
Square centimeters	sq millimeters	100.00
Square centimeters	sq yards	1.196x10 ⁻⁴
Square feet	acres	2.296x10 ⁻⁵
Square feet	sq inches	144.00
Square feet	sq meters	0.09290
Square feet	sq miles	3.587x10 ⁻⁸
Square feet	sq millimeters	9.29x10 ⁴
Square inches	circular mils	1.273x10 ⁶
Square inches	sq cms	6.452
Square inches	sq feet	6.944x10 ⁻³
Square inches	sq millimeters	645.2
Square inches	sq mils	10 ⁶
Square inches	sq yards	7.716x10 ⁻⁴
Square kilometers	sq cms	10 ¹⁰
Square kilometers	sq ft	10.76x10 ⁶
Square kilometers	sq inches	1.550x10 ⁹
Square kilometers	sq meters	10 ⁶
Square kilometers	sq miles	0.3861
Square kilometers	sq yards	1.196x10 ⁶
Square meters	acres	2.417x10 ⁻⁴
Square meters	sq cms	10 ⁴
Square meters	sq feet	10.76
Square meters	sq miles	3.861x10 ⁻⁷
Square meters	sq millimeters	10 ⁶
Square meters	sq yards	1.196
Square miles	acres	640.00
Square miles	sq feet	27.88x10 ⁶
Square miles	sq meters	2.590x10 ⁶
Square miles	sq yards	3.098x10 ⁶
Square millimeters	sq cms	0.01
Square millimeters	sq feet	1.076x10 ⁻⁵
Square millimeters	sq inches	1.550x10 ⁻³
Square mils	circular mils	1.273
Square mils	sq cms	6.452x10 ⁻⁶
Square mils	sq inches	10 ⁶
Square yards	acres	2.066x10 ⁻⁴
Square yards	sq cms	8,361.00
Square yards	sq feet	9.0
Square yards	sq inches	1,296.00
Square yards	sq meters	0.8361
Temperature (°C)+273	absolute temperature (°C)	1.0
Temperature (°C)+17.78	temperature (°F)	1.8
Temperature (°F)+460	absolute temperature (°F)	1.0
Temperature	temperature (°C)	5/9
Tons (long)	kilograms	1,016.0

Conversion Factors

TO CONVERT.....	INTO.....	MULTIPLY BY
Tons (long)	pounds	2,240.00
Tons (long)	tons (short)	1.120
Tons (metric)	kilograms	1,000.00
Tons (metric)	pounds	2,205.00
Tons (short)	kilograms	907.1848
Tons (short)	ounces	32,000.00
Tons (short)	ounces (troy)	29,166.66
Tons (short)	pounds	2,000.00
Tons (short)	pounds (troy)	2,430.56
Tons (short)	tons (long)	0.89287
Tons (short)	tons (metric)	0.9078
Tons (short)/sq ft	kgs/sq meter	9,765.00
Tons (short)/sq ft	pounds/sq in	2,000.00
Volt/inch	volt/cm	.39370
Volt (absolute)	statvolts	.003336
Watts	Btu/hr	3.4129
Watts	Btu/min	0.05688
Watts	ergs/sec	107.00
Watts	foot-lbs/min	44.27
Watts	foot-lbs/sec	0.7378
Watts	horsepower	1.341×10^{-3}
Watts	horsepower (metric)	1.360×10^{-3}
Watts	kg-calories/min	0.01433
Watts	kilowatts	0.001
Watts (Abs.)	joules/sec	1.00
Watt-hours	Btu	3.413
Watt-hours	ergs	3.60×10^{10}
Watt-hours	foot-pounds	2,656.00
Watt-hours	gram-calories	859.85
Watt-hours	horsepower-hrs	1.341×10^{-3}
Watt-hours	kilogram-calories	0.8605
Watt-hours	kilogram-meters	367.2
Watt-hours	kilowatt-hrs	0.001
Watt (international)	watt (absolute)	1.0002
Webers/sq in	gausses	1.550×10^7
Webers/sq in	webers/sq cm	0.1550
Webers/sq in	webers/sq meter	1,550.00
Webers/sq meter	gausses	10^4
Webers/sq meter	lines/sq in	6.452×10^4
Webers/sq meter	webers/sq cm	10^{-4}
Webers/sq meter	webers/sq in	6.542×10^{-4}
Yards	centimeters	91.44
Yards	kilometers	9.144×10^{-4}
Yards	meters	0.9144
Yards	miles (naut.)	4.934×10^{-4}
Yards	miles (stat.)	5.682×10^{-4}
Yards	millimeters	914.4

Fluid Power Formulas

BASIC FORMULAS

FORMULA FOR:	WORD FORMULA:	LETTER FORMULA:
FLUID PRESSURE <i>In Pounds/Square Inch</i>	PRESSURE = $\frac{\text{FORCE (pounds)}}{\text{UNIT AREA (Square Inches)}}$	$P = \frac{F}{A}$ or $\text{psi} = \frac{F}{A}$
FLUID FLOW RATE <i>In Gallons/Minute</i>	FLOW RATE = $\frac{\text{VOLUME (Gallons)}}{\text{UNIT TIME (Minute)}}$	$Q = \frac{V}{T}$
FLUID POWER IN HORSEPOWER	HORSEPOWER = $\frac{\text{PRESSURE (PSI)} \times \text{FLOW (GPM)}}{1714}$	$HP = \frac{PQ}{1714}$

FLUID FORMULAS

VELOCITY THROUGH PIPING <i>In Feet/Second Velocity</i>	VELOCITY = $\frac{.3208 \times \text{FLOW RATE THROUGH I.D. (GPM)}}{\text{INTERNAL AREA (Square Inches)}}$	$V = \frac{.3208Q}{A}$
COMPRESSIBILITY OF OIL <i>In Additional Required Oil To Reach Pressure</i>	ADDITIONAL VOLUME = $\frac{\text{PRESSURE (psi)} \times \text{VOLUME OF OIL UNDER PRESSURE}}{250,000 \text{ (approx.)}}$	$V_A = \frac{PV}{250,000 \text{ (approx.)}}$ *Approximately 1/2% Per 1000 psi
COMPRESSIBILITY OF A FLUID	COMPRESSIBILITY = $\frac{1}{\text{BULK MODULUS OF THE FLUID}}$	$C(\beta) = \frac{1}{BM}$
SPECIFIC GRAVITY OF A FLUID	SPECIFIC GRAVITY = $\frac{\text{WEIGHT OF ONE CUBIC FOOT OF FLUID}}{\text{WEIGHT OF ONE CUBIC FOOT OF WATER}}$	$SG = \frac{W}{62.4283}$
VALVE (C_v) FLOW FACTOR	VALVE FACTOR (C _v) = $\frac{\text{FLOW RATE (GPM)} \times \sqrt{\text{SPECIFIC GRAVITY}}}{\sqrt{\text{PRESSURE DROP (PSI)}}}$	$C_v = \frac{Q \sqrt{SG}}{\sqrt{\Delta P}}$
VISCOSITY IN CENTISTOKES	FOR VISCOSITIES OF 32 TO 100 SAYBOLT UNIVERSAL SECONDS: CENTISTOKES = $.2253 \times \text{SUS} - \frac{194.4}{\text{SUS}}$	$CS = .2253 \text{ SUS} - \frac{194.4}{\text{SUS}}$
VISCOSITY IN CENTISTOKES	FOR VISCOSITIES OF 100 TO 240 SAYBOLT UNIVERSAL SECONDS: CENTISTOKES = $.2193 \times \text{SUS} - \frac{134.6}{\text{SUS}}$	$CS = .2193 \text{ SUS} - \frac{134.6}{\text{SUS}}$
VISCOSITY IN CENTISTOKES	FOR VISCOSITIES GREATER THAN 240 SAYBOLT UNIVERSAL SECONDS: CENTISTOKES = $\frac{\text{SUS}}{4.635}$	$CS = \frac{\text{SUS}}{4.635}$

NOTE: SAYBOLT UNIVERSAL SECONDS IS OFTEN ABBREVIATED AS SSU. SEE PAGE 120 FOR ADDITIONAL VISCOSITY INFORMATION.

PUMP FORMULAS

PUMP OUTLET FLOW <i>In Gallons/Minute</i>	FLOW = $\frac{\text{RPM} \times \text{PUMP DISPLACEMENT (Cu. In./Rev.)}}{231}$	$Q = \frac{nd}{231}$
PUMP INPUT POWER <i>In Horsepower Required</i>	HORSEPOWER INPUT = $\frac{\text{FLOW RATE OUTPUT (GPM)} \times \text{PRESSURE (psi)}}{1714 \times \text{EFFICIENCY (Overall)}}$	$HP_{IN} = \frac{QP}{1714 \text{ Eff}}$ or $\frac{\text{GPM} \times \text{psi}}{1714 \text{ Eff}}$
PUMP EFFICIENCY OVERALL IN PERCENT	OVERALL EFFICIENCY = $\frac{\text{OUTPUT HORSEPOWER}}{\text{INPUT HORSEPOWER}} \times 100$ OVERALL EFFICIENCY = $\text{VOLUMETRIC Eff.} \times \text{MECHANICAL Eff.}$	$\text{Eff}_{OV} = \frac{HP_{OUT}}{HP_{IN}} \times 100$ $\text{Eff}_{OV} = \text{Eff}_{VOL} \times \text{Eff}_{MECH}$
PUMP EFFICIENCY VOLUMETRIC IN PERCENT	VOLUMETRIC EFFICIENCY = $\frac{\text{ACTUAL FLOW RATE OUTPUT (GPM)}}{\text{THEORETICAL FLOW RATE OUTPUT (GPM)}} \times 100$	$\text{Eff}_{VOL} = \frac{Q_{ACT}}{Q_{THEO.}} \times 100$
PUMP EFFICIENCY MECHANICAL IN PERCENT	MECHANICAL EFFICIENCY = $\frac{\text{THEORETICAL TORQUE TO DRIVE}}{\text{ACTUAL TORQUE TO DRIVE}} \times 100$	$\text{Eff}_{MECH} = \frac{T_{THEO.}}{T_{ACT.}} \times 100$
PUMP LIFE B ₁₀ BEARING LIFE	B ₁₀ HOURS OF BEARING LIFE = $\text{RATED LIFE HOURS} \times \frac{\text{RATED SPEED (RPM)}}{\text{NEW SPEED (RPM)}} \times \left(\frac{\text{RATED PRESSURE (PSI)}}{\text{NEW PRESSURE (PSI)}} \right)^3$	$B_{10} = \text{RATED HRS.} \times \frac{\text{RPM}_R}{\text{RPM}_N} \times \left(\frac{P_R}{P_N} \right)^3$

ACTUATOR FORMULAS

FORMULA FOR:	WORD FORMULA	LETTER FORMULA
CYLINDER AREA <i>In Square Inches</i>	AREA = $\pi \times \text{RADIUS}^2 \text{ (Inches)}$	$A = \pi r^2$
	AREA = $\frac{\pi}{4} \times \text{DIAMETER}^2 \text{ (Inches)}$	$A = \frac{\pi D^2}{4}$ or $A = .785D^2$
CYLINDER FORCE <i>In Pounds, Push or Pull</i>	FORCE = $\text{PRESSURE (psi)} \times \text{NET AREA (Square Inches)}$	$F = \text{psi} \times A$ or $F = PA$

Fluid Power Formulas

ACTUATOR FORMULAS — CONTINUED

FORMULA FOR:	WORD FORMULA	LETTER FORMULA
CYLINDER VELOCITY or SPEED <i>In Feet/Second</i>	VELOCITY = $\frac{231 \times \text{FLOW RATE (GPM)}}{12 \times 60 \times \text{NET AREA (Square Inches)}}$	$v = \frac{231Q}{720A}$ or $v = \frac{.3208Q}{A}$
CYLINDER VOLUME CAPACITY <i>In Gallons of Fluid</i>	VOLUME = $\frac{\pi \times \text{RADIUS}^2 \text{ (Inches)} \times \text{STROKE (Inches)}}{231}$	$V = \frac{\pi r^2 l}{231}$
	= $\frac{\text{NET AREA (Square Inches)} \times \text{STROKE (Inches)}}{231}$	$V = \frac{A l}{231}$ <i>l = Length of Stroke</i>
CYLINDER FLOW RATE <i>In Gallons Per Minute</i>	FLOW RATE = $\frac{12 \times 60 \times \text{VELOCITY (Feet/Sec)} \times \text{NET AREA (Square Inches)}}{231}$	$Q = \frac{720vA}{231}$ or $Q = 3.117vA$
FLUID MOTOR TORQUE <i>In Inch Pounds</i>	TORQUE = $\frac{\text{PRESSURE (psi)} \times \text{F.M. DISPLACEMENT (Cu. In./Rev.)}}{2\pi}$	$T = \frac{\text{psi } d}{2\pi}$ or $T = \frac{Pd}{2\pi}$
	= $\frac{\text{HORSEPOWER} \times 63025}{\text{RPM}}$	$T = \frac{63025 \text{ HP}}{n}$
	= $\frac{\text{FLOW RATE (GPM)} \times \text{PRESSURE (psi)} \times 36.77}{\text{RPM}}$	$T = \frac{36.77QP}{n}$ or $T = \frac{36.77Q\text{psi}}{n}$
FLUID MOTOR TORQUE/100 psi <i>In Inch Pounds</i>	TORQUE/100 psi = $\frac{\text{F.M. DISPLACEMENT (Cu. Inches/Revolution)}}{.0628}$	$T_{100\text{psi}} = \frac{d}{.0628}$
FLUID MOTOR SPEED <i>In Revolutions/Minute</i>	SPEED = $\frac{231 \text{ FLOW RATE (GPM)}}{\text{F.M. DISPLACEMENT (Cu. Inches/Revolution)}}$	$n = \frac{231Q}{d}$
FLUID MOTOR POWER <i>In Horsepower Output</i>	HORSEPOWER = $\frac{\text{TORQUE OUTPUT (Inch Pounds)} \times \text{RPM}}{63025}$	$\text{HP} = \frac{Tn}{63025}$

THERMAL FORMULAS

NOTE: ONE BRITISH THERMAL UNIT (BTU) IS THE AMOUNT OF HEAT REQUIRED TO RAISE THE TEMPERATURE OF ONE POUND OF WATER ONE DEGREE FAHRENHEIT. ONE HORSEPOWER = 2545 BTU/HR.

RESERVOIR COOLING CAPACITY <i>BASED ON ADEQUATE AIR CIRCULATION</i>	HEAT (BTU/HR) = $2 \times \text{TEMPERATURE DIFFERENCE BETWEEN RESERVOIR WALLS AND AIR (°F)} \times \text{AREA OF RESERVOIR (SQ. FT.)}$	BTU/HR = $2.0 \times \Delta T \times A$
HEAT IN HYDRAULIC OIL (approx.) <i>DUE TO SYSTEM INEFFICIENCY (SG = .89 – .92)</i>	HEAT (BTU/HR) = $\text{FLOW RATE (GPM)} \times 210 \times \text{TEMPERATURE DIFFERENCE (°F)}$	BTU/HR = $Q \times 210 \times \Delta T$
HEAT IN FRESH WATER (approx.)	HEAT (BTU/HR) = $\text{FLOW RATE (GPM)} \times 500 \times \text{TEMPERATURE DIFFERENCE (°F)}$	BTU/HR = $Q \times 500 \times \Delta T$

PRESSURE DROP FORMULAS

NOTE: SEE PAGES 79 THROUGH 84 FOR INFORMATION

ACCUMULATOR FORMULAS

NOTE: SEE PAGES 130 AND 131 FOR ADDITIONAL INFORMATION

Where "P" = psia (ABSOLUTE) = psig (GAUGE PRESSURE) + 14.7 psi

FORMULA FOR:	WORD FORMULA:	LETTER FORMULA:
PRESSURE OR VOLUME <i>w/Constant "T" (Temperature)</i>	ORIGINAL PRESSURE × ORIGINAL VOLUME = FINAL PRESSURE × FINAL VOLUME	$P_1 V_1 = P_2 V_2$ Isothermic
PRESSURE OR TEMPERATURE <i>w/ Constant "V" (Volume)</i>	ORIGINAL PRESSURE × FINAL TEMPERATURE = FINAL PRESSURE × ORIG. TEMPERATURE	$P_1 T_2 = P_2 T_1$ Isochoric
VOLUME OR TEMPERATURE <i>w/Constant "P" (Pressure)</i>	ORIGINAL VOLUME × FINAL TEMPERATURE = FINAL VOLUME × ORIGINAL TEMPERATURE	$V_1 T_2 = V_2 T_1$ Isobaric
PRESSURE OR VOLUME <i>w/Temperature Change Due To Heat of Compression</i>	ORIGINAL PRESSURE × ORIGINAL VOLUME ⁿ = FINAL PRESSURE × FINAL VOLUME ⁿ	$P_1 V_1^n = P_2 V_2^n$
	FINAL TEMP. ORIG. TEMP. = $\left(\frac{\text{ORIG. VOLUME}}{\text{FINAL VOLUME}} \right)^{n-1} = \left(\frac{\text{FINAL PRESSURE}}{\text{ORIG. PRESSURE}} \right)^{n-1/n}$	$\frac{T_2}{T_1} = \left(\frac{V_1}{V_2} \right)^{n-1} = \left(\frac{P_2}{P_1} \right)^{n-1/n}$

VOLUME & CAPACITY EQUIVALENTS

	Cubic Inches	Cubic Feet	Cubic Yards	Liters	U. S. Gallons	Imperial Gallons	Water at Max. Density 39.2° F 4° C	
							Pounds of Water	Kilograms of Water
Cu Inches	1	.0005787	.00002143	.016384	.004329	.0036065	.0361275	.0163872
Cu Feet	1728	1	.037037	28.317	7.48052	6.23210	62.4283	28.3170
Cu Yards	46,656	27	1	764.56	201.974	168.266	1685.56	764.559
Liters	61.0234	.0353145	.001308	1	.264170	.220083	2.20462	1
U. S. Gallons	231	.133681	.004951	3.78543	1	.833111	8.34545	3.78543
Imp Gallons	277.274	.160459	.0059429	4.54374	1.20032	1	10.0172	4.54373
Lbs Water	27.6798	.0160184	.0005929	.453592	.119825	.0998281	1	.453593

English/Metric Conversions

Pressure – PSI and Bars

1 PSI = .06897 bar			
PSI	Bars	PSI	Bars
20	1.379	1100	75.86
30	2.069	1200	82.76
40	2.759	1300	89.66
50	3.448	1400	96.55
60	4.138	1500	103.5
70	4.828	1600	110.3
80	5.517	1700	117.2
90	6.207	1800	124.1
100	6.897	1900	131.0
200	13.79	2000	137.9
300	20.69	2250	155.2
400	27.59	2500	172.4
500	34.48	2750	189.7
600	41.38	3000	206.9
700	48.28	3500	241.4
800	55.17	4000	275.9
900	62.07	4500	310.3
1000	68.97	5000	344.8

1 Bar = 14.5 PSI			
Bars	PSI	Bars	PSI
1	14.50	55	797.5
2	29.00	60	870.0
3	43.50	65	942.5
4	58.00	70	1015
5	72.50	75	1088
6	87.00	80	1160
7	101.5	85	1233
8	116.0	90	1305
9	130.5	95	1378
10	145.0	100	1450
15	217.5	150	2175
20	290.0	200	2900
25	362.5	250	3625
30	435.0	300	4350
35	507.5	350	5075
40	580.0	400	5800
45	652.5	450	6525
50	725.0	500	7250

1 GPM = 3.785 litres/min			
GPM	l/min	GPM	l/min
1	3.785	75	283.9
2	7.570	80	302.8
3	11.36	85	321.7
4	15.14	90	340.7
5	18.93	95	359.6
10	37.85	100	378.5
15	56.78	125	473.1
20	75.70	150	567.8
25	94.63	175	662.4
30	113.6	200	757.0
35	132.5	225	851.6
40	151.4	250	946.3
45	170.3	275	1041
50	189.3	300	1136
55	208.2	325	1230
60	227.1	350	1325
65	246.0	375	1420
70	265.0	400	1514

1 litre/min = 0.264 GPM			
l/min	GPM	l/min	GPM
5	1.32	300	79.3
10	2.64	350	92.5
20	5.28	400	106
30	7.93	450	119
40	10.6	500	132
50	13.2	550	145
60	15.9	600	159
70	18.5	650	172
80	21.1	700	185
90	23.8	750	198
100	26.4	800	211
125	33.0	900	238
150	39.6	1000	264
175	46.2	1100	291
200	52.8	1200	317
225	59.4	1300	343
250	66.1	1400	370
275	72.7	1500	396

FLOW/VELOCITY OF HOSE

Flow Capacities of Hose Assemblies at Recommended Flow Velocities

To Use Chart – Lay a straight edge between the figure representing required flow and a figure within the recommended velocity range. The required hose I.D. will be given at the intersection of the straight edge and the center column. Always use the next larger I.D. size hose if the straight edge passes through the scale between sizes listed.

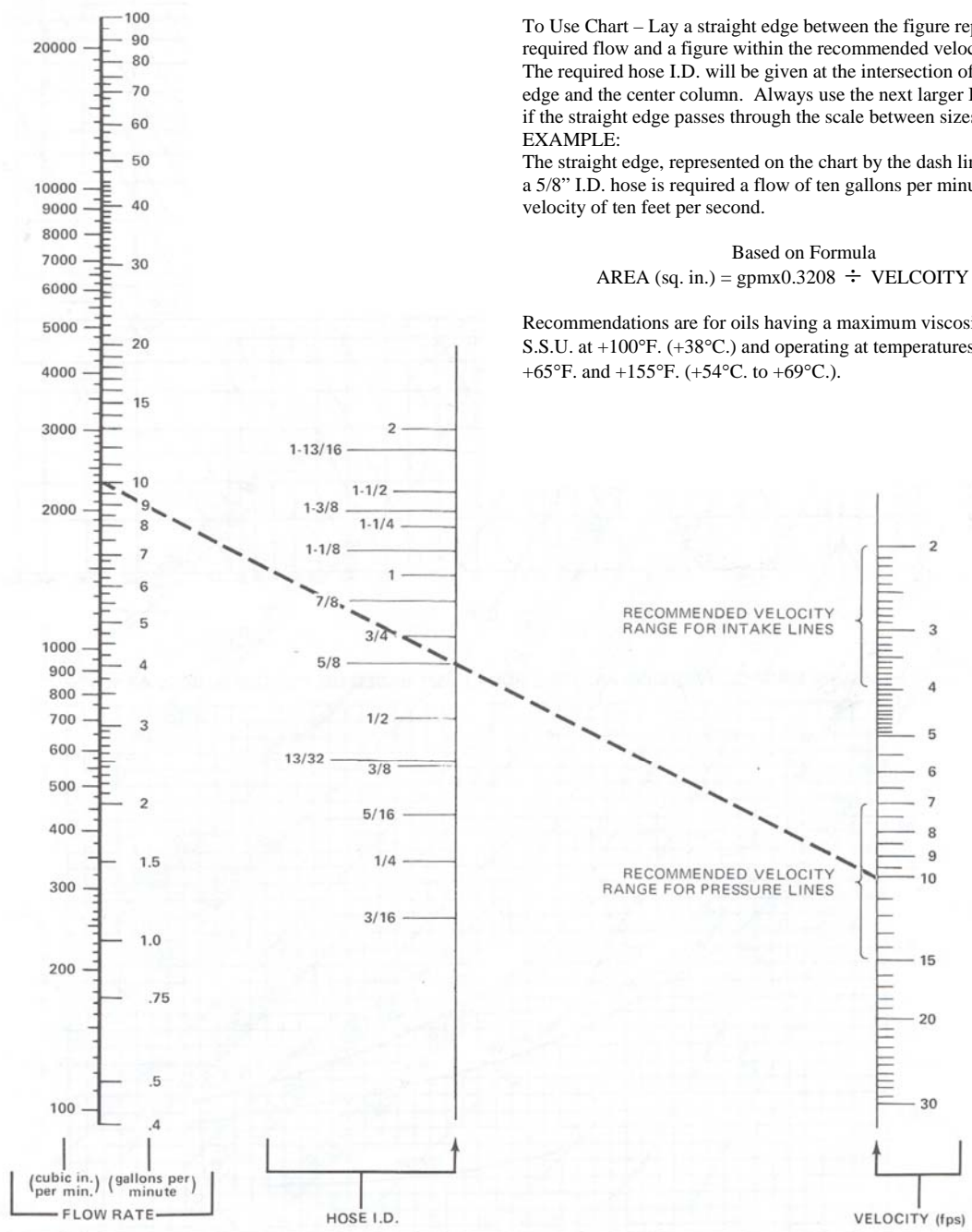
EXAMPLE:

The straight edge, represented on the chart by the dash line, shows that a 5/8" I.D. hose is required a flow of ten gallons per minute at a velocity of ten feet per second.

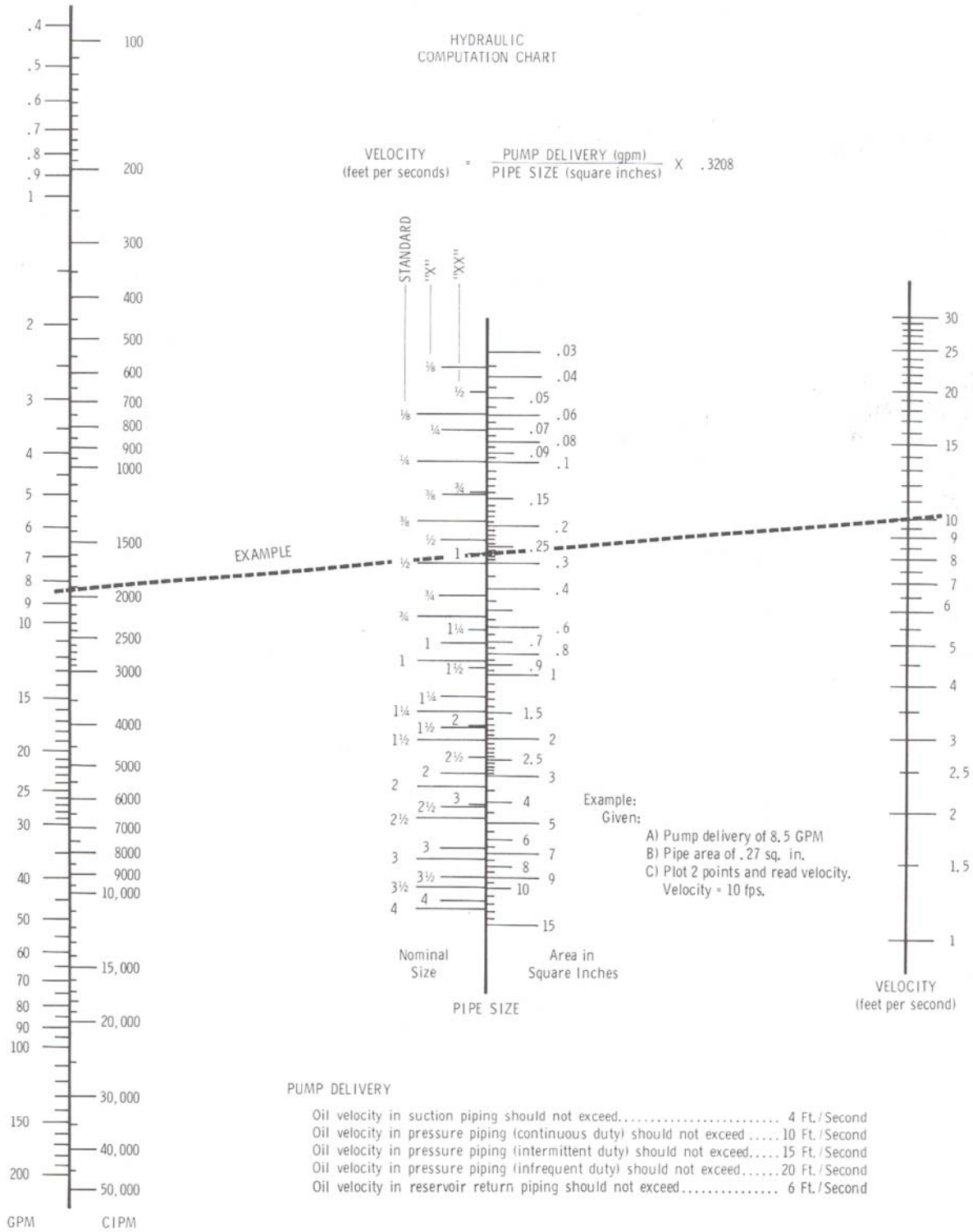
Based on Formula

$$\text{AREA (sq. in.)} = \text{gpm} \times 0.3208 \div \text{VELOCITY (fps)}$$

Recommendations are for oils having a maximum viscosity of 315 S.S.U. at +100°F. (+38°C.) and operating at temperatures between +65°F. and +155°F. (+54°C. to +69°C.).



FLOW/VELOCITY IN PIPE



FLOW/VELOCITY IN TUBING

TO FIND REQUIRED TUBE I.D.

Flow—20 gpm • Velocity—9 fps
 Follow horizontal flow line (20 gpm) until it intersects vertical velocity line (9 fps). From this point follow diagonal line to get required Tube I.D. — (.944).

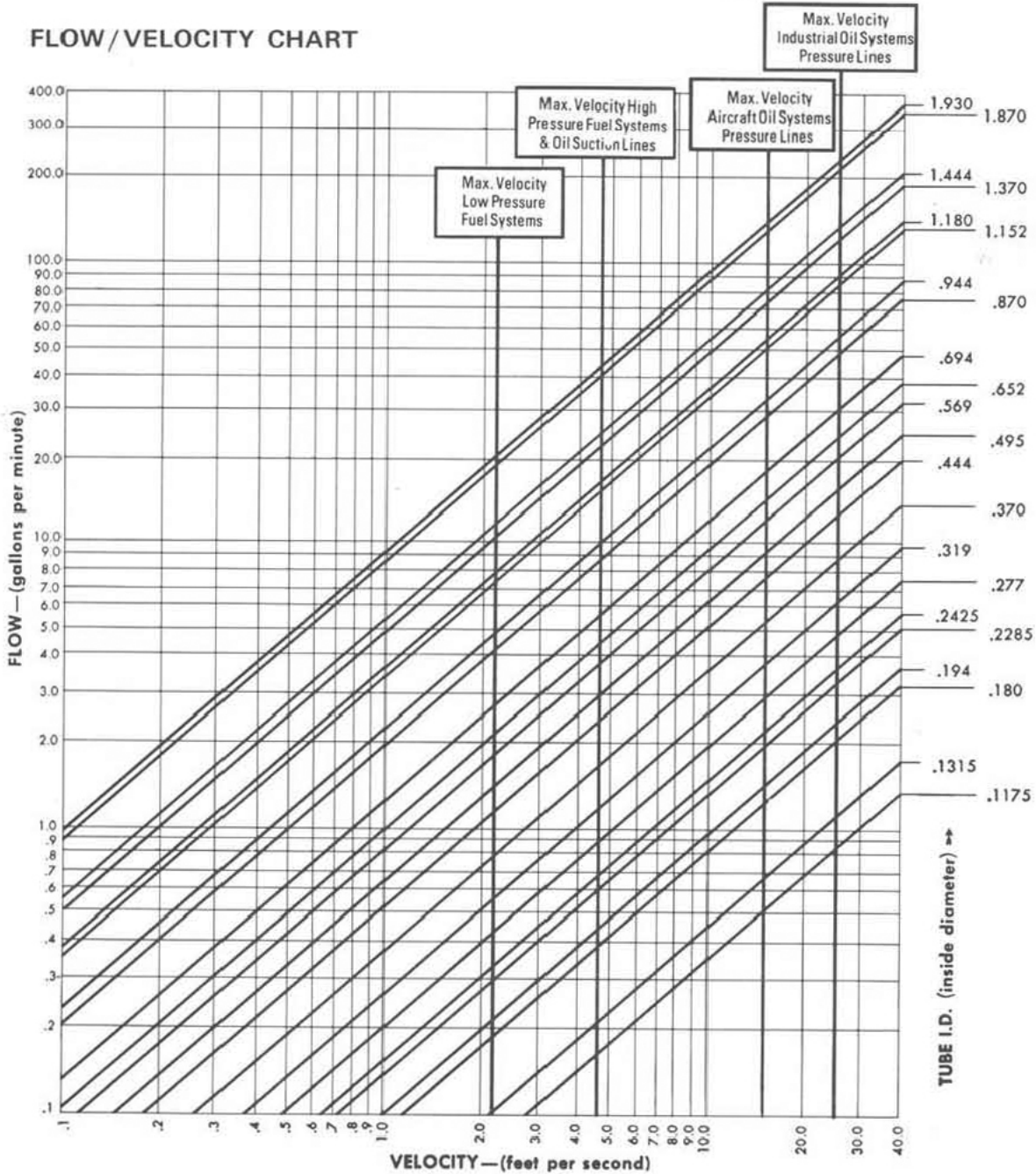
TO FIND PERMISSIBLE FLOW

Velocity—15 fps • Tube I.D.—.495
 Follow vertical velocity line (15 fps) until it intersects diagonal line representing .495 tube I.D. Then project this point horizontally to get the permissible flow — (9 gpm).

TO FIND VELOCITY OF FLUID IN SYSTEM

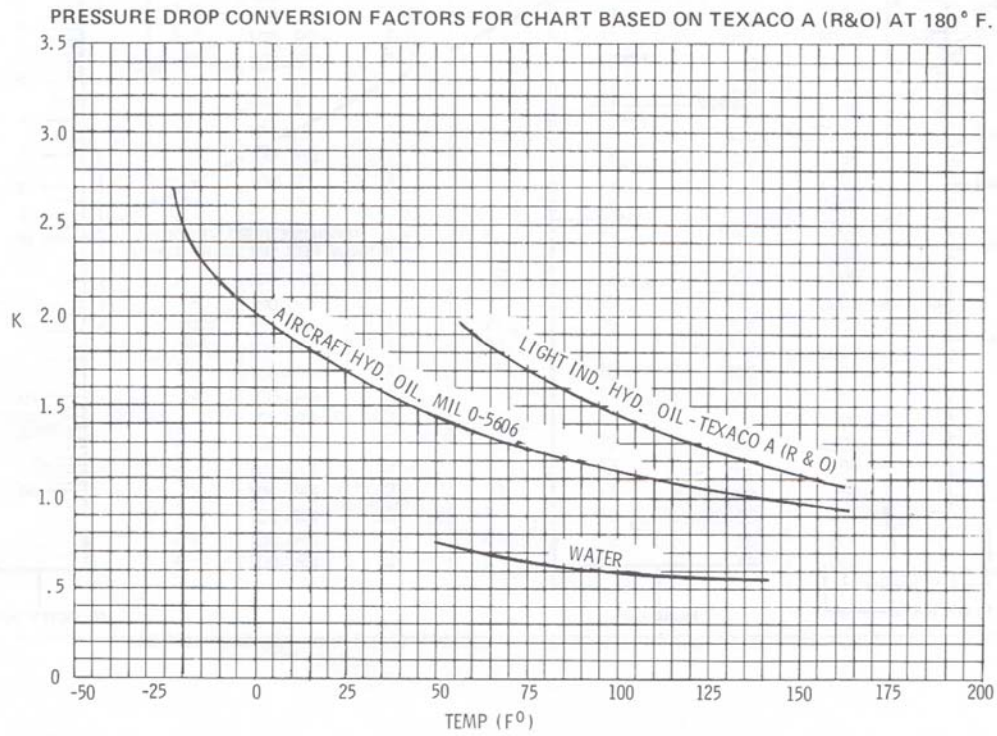
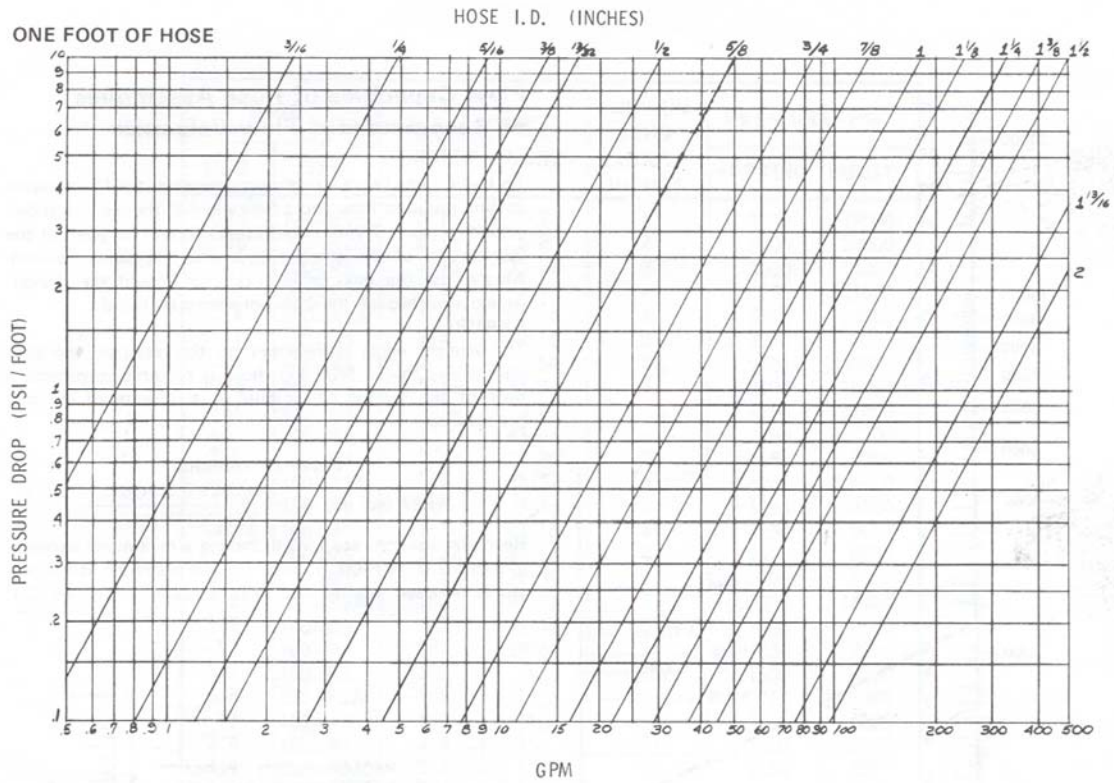
Flow—6 gpm • Tube I.D.—.694
 Follow horizontal flow line (6 gpm) until it intersects diagonal line representing .694 tube I.D. Then project this point vertically downward to get the velocity of fluid — (5 fps).

FLOW/VELOCITY CHART

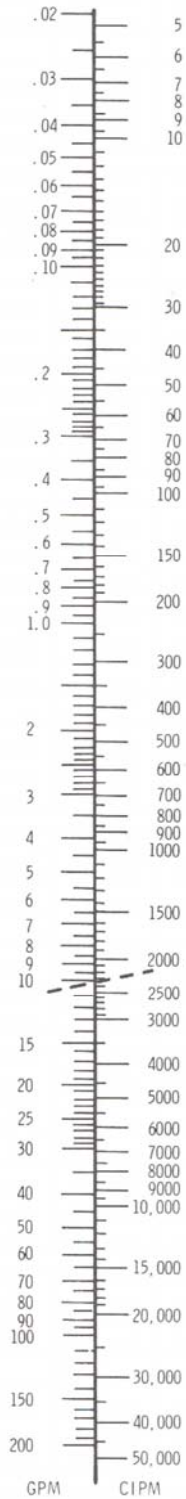


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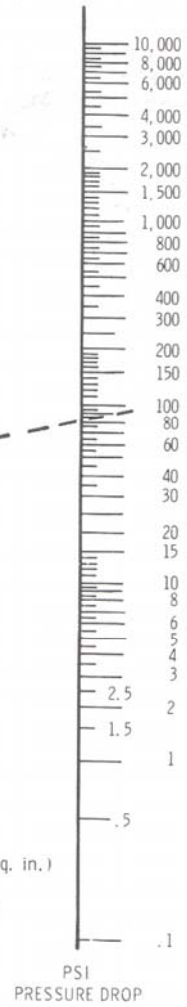
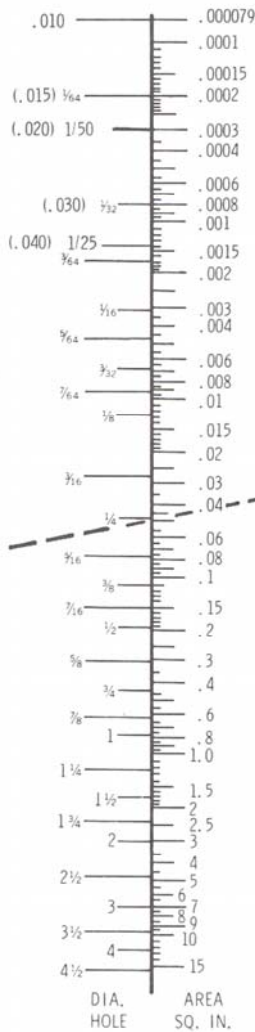
HOSE PRESSURE DROP



ORIFICE PRESSURE DROP



$Q \text{ (GPM)} = 24.12 \times A \text{ (SQ. IN.)} \times \sqrt{\text{PRESSURE DROP (PSI)}}$
 WHEN $C = .6$ AND SPECIFIC GRAVITY = $.895$
 NO ALLOWANCE FOR VISCOSITY CHANGE
 FROM:
 $Q = C \times A \times \sqrt{2GH}$
 WHEN: Q = FLOW IN CU. FT./SEC.
 C = ORIFICE COEFFICIENT
 A = AREA IN SQ. FT.
 H = PRESSURE HEAD IN FT.



EXAMPLE

Example:
 Given:
 A) Pump delivery of 10 GPM
 B) Hole diameter of .25 (.0491 sq. in.)
 C) Plot 2 points and read
 Pressure drop. $\Delta P = 80$ psi

Pipe Data

Schedule 40 – Standard Pipe										
Pipe Size	OD	Wall	ID	Pressure – PSI		GPM @ 4FPS	GPM @ 10FPS	GPM @ 15FPS	GPM @ 20FPS	GPM @ 25FPS
				Working	Burst					
1/8"	.405	.068	.269	3500	20200	.71	1.8	2.7	3.5	4.4
1/4"	.540	.088	.364	2100	19500	1.3	3.2	4.9	6.5	8.1
3/8"	.675	.091	.493	1700	16200	2.4	6.0	9.0	12.0	15.0
1/2"	.840	.109	.622	2300	15600	3.8	9.5	12.0	19.0	23.8
3/4"	1.050	.113	.824	2000	12900	6.6	16.7	25.1	33.4	41.8
1"	1.315	.133	1.049	2100	12100	10.7	27.0	40.6	54.1	67.7
1-1/4"	1.660	.140	1.380	1800	10100	18.6	46.8	70.3	93.7	117
1-1/2"	1.900	.145	1.610	1700	9100	25.3	63.7	95.6	127	159
2"	2.375	.154	2.067	1500	7800	41.8	105	157	210	263
2-1/2"	2.875	.203	2.469	1900	8500	59.7	150	225	300	375
3"	3.500	.216	3.068	1600	7400	92.1	232	347	463	579

Schedule 80 – Extra Strong Pipe - XS										
Pipe Size	OD	Wall	ID	Pressure – PSI		GPM @ 4FPS	GPM @ 10FPS	GPM @ 15FPS	GPM @ 20FPS	GPM @ 25FPS
				Working	Burst					
1/8"	.405	.095	.215	4800	28000	.44	1.1	1.7	2.3	2.8
1/4"	.540	.119	.302	4350	26400	.89	2.2	3.4	4.5	5.6
3/8"	.675	.126	.423	3800	22500	1.7	4.4	6.06	8.8	11.0
1/2"	.840	.147	.546	4100	21000	2.9	7.3	11.0	147.7	18.3
3/4"	1.050	.154	.742	3500	17600	5.4	13.6	20.3	27.1	33.9
1"	1.315	.179	.957	3500	15900	8.9	22.5	33.8	45.0	56.3
1-1/4"	1.660	.191	1.278	3000	13900	16.0	40.1	60.2	80.3	100
1-1/2"	1.900	.200	1.500	2800	12600	22.0	55.3	83.0	110	138
2"	2.375	.218	1.939	2500	11000	36.8	92.5	139	185	231
2-1/2"	2.875	.276	2.323	2800	11500	52.8	133	199	265	332
3"	3.500	.300	2.900	2600	10300	82.3	207	310	414	517

Schedule 160 Pipe										
Pipe Size	OD	Wall	ID	Pressure – PSI		GPM @ 4FPS	GPM @ 10FPS	GPM @ 15FPS	GPM @ 20FPS	GPM @ 25FPS
				Working	Burst					
1/2"	.840	.187	.466	7300	26700	2.1	5.34	8.01	10.7	13.4
3/4"	1.050	.218	.587	8500	25000	3.3	8.49	12.7	17.0	21.2
1"	1.315	.250	.815	5700	22300	6.5	16.3	24.5	32.7	40.8
1-1/4"	1.660	.250	1.160	4400	18100	13.2	33.1	49.7	66.2	82.8
1-1/2"	1.900	.281	1.338	4500	17700	17.5	44.0	66.1	88.1	110
2"	2.375	.343	1.689	4600	17500	27.9	70.2	105	140	175
2-1/2"	2.875	.375	2.125	4200	15700	44.1	111	167	222	278
3"	3.500	.437	2.626	4100	15000	67.5	170	254	339	424

Double Extra Strong Pipe - XXS										
Pipe Size	OD	Wall	ID	Pressure – PSI		GPM @ 4FPS	GPM @ 10FPS	GPM @ 15FPS	GPM @ 20FPS	GPM @ 25FPS
				Working	Burst					
1/2"	.840	.294	.252	12300	42100	.62	1.6	2.4	3.1	3.9
3/4"	1.050	.308	.434	10000	35000	1.8	4.6	6.9	9.2	11.6
1"	1.315	.358	.599	9500	32700	3.5	8.8	13.3	17.7	22.1
1-1/4"	1.660	.382	.896	7900	27700	7.8	19.8	29.6	39.5	49.4
1-1/2"	1.900	.400	1.100	7200	25300	11.8	29.8	44.6	59.5	74.4
2"	2.375	.436	1.503	6300	22100	22.1	55.6	83.4	111	139
2-1/2"	2.875	.552	1.771	6900	23000	30.7	77.1	116	154	193
3"	3.500	.600	2.300	6100	20500	51.7	130	195	260	325

The allowable pressures were calculated using the formula:

$$P = 2S(t-c)/D - 2y(t-c)$$

Where: P = allowable pressure (psig)
 S = allowable working stress (psi)
 D = outside diameter (inches)
 t = design thickness (inches) or 12-1/2% less than the nominal thickness shown in table
 c = allowance in inches for corrosion and/or mechanical strength (C = 0.05" has been used above for all pipe sizes.)
 Y = a coefficient having values for ferritic steels as follows:
 0.4 up to and includes 900°F
 0.5 for 950°F
 0.7 for 1000°F and above

Burst pressures for pipe were calculated using the formula:

$$P = 2St/OD$$

Where: P = internal burst pressure (psig)
 S = allowable stress (60,000 psi)
 OD = outside diameter of pipe (inches)
 t = nominal wall thickness

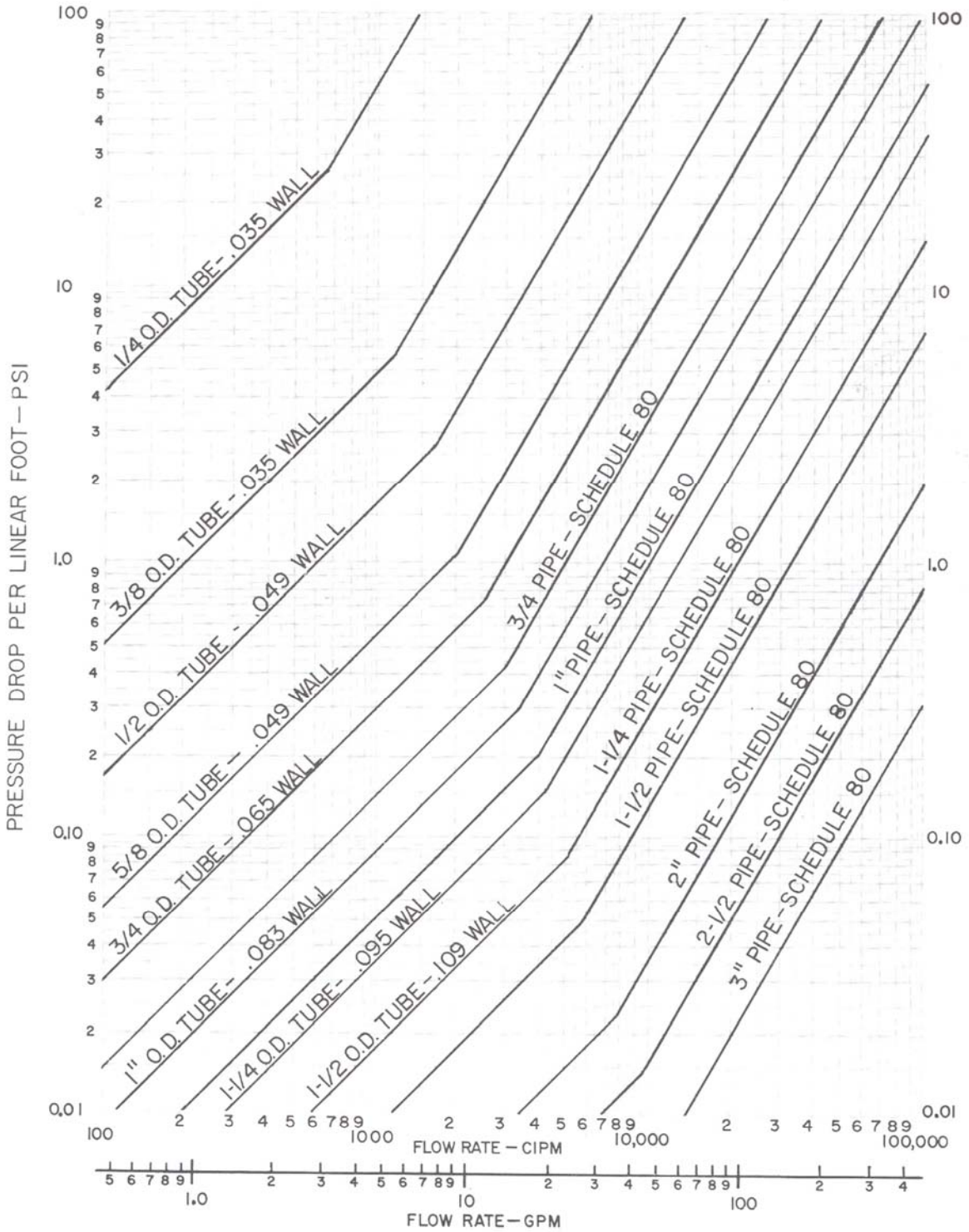
Flow rate through piping was calculated using the formula:

$$V = .3208Q/A$$

Where: V = Velocity (ft/sec.)
 .3208 = a constant
 Q = flow rate through the ID (FPM)
 A = internal area (in²)

PIPE LOSS CHART

RECOMMENDED HYDRAULIC PIPE AND TUBE SIZES
DTE HVY-MED HYD. OIL AT 120° F (200SSU)



Equivalent Sizes

Tube / Pipe Conversions

Tube O.D.	Dash Number	SAE Thread	Pipe Thread	Tube O.D.	Metric Thread	BSPP Thread
1/4	-4	7/16-20	1/4-18	6 mm	M 10x1	1/4-19
5/16	-5	1/2-20	--	8 mm	M 12x1.5	--
3/8	-6	9/16-18	3/8-18	10 mm	M 14x1.5	3/8-19
1/2	-8	3/4-16	1/2-14	12 mm	M 18x1.5	1/2-14
5/8	-10	7/8-14	--	16 mm	M 18x1.5	5/8-14
3/4	-12	1 1/16-12	3/4-14	18 mm	M 26x1.5	3/4-14
7/8	-14	1 3/16-12	--	22 mm	M 26x1.5	--
1	-16	1 5/16-12	1-11 1/2	25 mm	M 33x2.0	1-11
1 1/4	-20	1 5/8-12	1 1/4-11 1/2	32 mm	M 42x2.0	1 1/4-11
1 1/2	-24	1 7/8-12	1 1/2-11 1/2	38 mm	M 42x2.0	1 1/2-11
2	-32	2 1/2-12	2-11 1/2	50 mm	M 48x2.0	2-11

SIZES/PRESSURE RATINGS OF STEEL TUBING

TUBING - INCHES			PRESSURE - PSI	
OD	ID	WALL	WORKING	BURST
1/8"	.055	.035	7700	30800
	.061	.032	7040	28160
	.065	.030	6600	26400
	.069	.028	6160	24640
3/16"	.117	.035	5140	20540
	.123	.032	4700	18780
	.127	.030	4400	17600
1/4"	.120	.065	7150	28600
	.134	.058	6380	25520
	.152	.049	5400	21600
	.166	.042	4620	18480
	.180	.035	3850	15400
	.190	.030	3300	13200
5/16"	.182	.065	5720	22880
	.196	.058	5105	20420
	.214	.049	4300	17200
	.228	.042	3700	14790
	.242	.035	3070	12300
3/8"	.245	.065	4750	19100
	.259	.058	4380	17500
	.277	.049	3600	14400
	.291	.042	3080	12320
	.305	.035	2580	10300
	.311	.032	2350	9390
1/2"	.310	.095	5225	20900
	.334	.083	4560	18250
	.358	.072	3960	15840
	.370	.065	3580	14300
	.384	.058	3190	12760
	.402	.049	2700	10800
	.416	.042	2310	9240
	.430	.035	1930	7700
	.436	.032	1760	7040
5/8"	.435	.095	4190	16750
	.459	.083	3650	14600
	.481	.072	3170	12680
	.495	.065	2850	11400
	.509	.058	2555	10210
	.527	.049	2160	8650
	.541	.042	1850	7390
	.555	.035	1540	6160

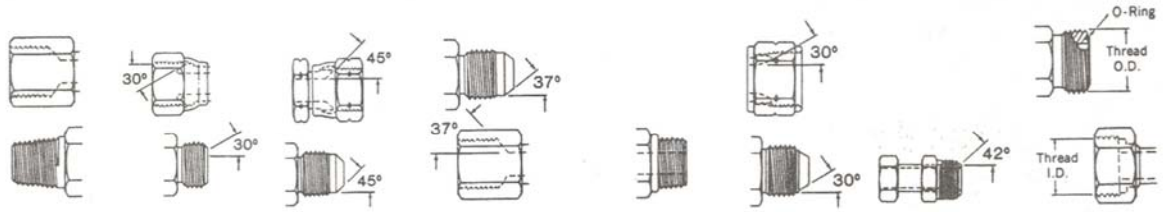
TUBING - INCHES			PRESSURE - PSI	
OD	ID	WALL	WORKING	BURST
3/4"	.532	.109	4000	16000
	.560	.095	3440	13950
	.584	.083	3050	12200
	.606	.072	2640	10560
	.620	.065	2390	9550
	.634	.058	2130	8510
	.652	.049	1800	7200
	.680	.035	1280	5130
7/8"	.657	.109	3425	13700
	.685	.095	2980	11900
	.709	.083	2610	10440
	.731	.072	2260	9050
	.745	.065	2050	8200
	.759	.058	1820	7290
	.777	.049	1540	6160
1"	.760	.120	3300	13200
	.782	.109	3000	11900
	.810	.095	2620	10450
	.834	.083	2280	9150
	.856	.072	1980	7920
	.870	.065	1790	7150
	.884	.058	1595	6380
	.902	.049	1350	5400
1-1/4"	.982	.134	2950	11790
	1.010	.120	2650	10600
	1.032	.109	2400	9570
	1.060	.095	2080	8350
	1.084	.083	1830	7300
	1.106	.072	1585	6340
	1.120	.065	1430	5720
	1.134	.058	1275	5100
1.152	.049	1080	4310	
1-1/2"	1.232	.134	2460	9830
	1.260	.120	2200	8800
	1.282	.109	2000	7990
	1.310	.095	1740	6970
	1.334	.083	1525	6090
	1.356	.072	1320	5280
1.370	.065	1190	4770	
2"	1.732	.134	1840	7370
	1.760	.120	1650	6600
	1.782	.109	1500	5995
	1.810	.095	1300	5200
	1.834	.083	1140	4565
	1.856	.072	990	3960
	1.870	.065	895	3575

Allowable working and burst pressures for tubing were calculated using formula:
 $P = 2st/OD$

Where: P = internal burst pressure, psig
s = allowable stress
OD = outside diameter of tubing in inches
t = nominal wall thickness

Employ a safety factor of 4:1 for working pressure.
Allowable stress is based on a minimum tensile stress of 55,000 psi per ASA B93.4-1966.

Thread size chart



Dash size	N.P.T.F.	N.P.S.M. approx. dia.	SAE 37° (J.I.C.) hydraulic	SAE O-Ring boss	ORS
-02	1/8-27	1/8-27	5/16-24	5/16-24	
-03			3/8-24	3/8-24	
-04	1/4-18	1/4-18	7/16-20	7/16-20	9/16-18
-05			1/2-20	1/2-20	
-06	3/8-18	3/8-18	9/16-18	9/16-18	11/16-16
-07					
-08	1/2-14	1/2-14	3/4-16	3/4-16	13/16-16
-10			7/8-14	7/8-14	1-14
-12	3/4-14	3/4-14	1 1/16-12	1 1/16-12	1 3/16-12
-14			1 3/16-12	1 3/16-12	
-16	1-11 1/2	1-11 1/2	1 5/16-12	1 5/16-12	1 7/16-12
-20	1 1/4-11 1/2	1 1/4-11 1/2	1 5/8-12	1 5/8-12	1 11/16-12
-24	1 1/2-11 1/2	1 1/2-11 1/2	1 7/8-12	1 7/8-12	2-12
-32	2-11 1/2	2-11 1/2	2 1/2-12	2 1/2-12	
-40	2 1/2-8	2 1/2-8	3-12	3-12	
-48	3-8	3-8	3 1/2-12	3 1/2-12	



Fluid Power Connectors



Your Fluid Power Headquarters

Hydraulic Headquarters is an ISO 9001:2000 certified company, supplying top quality Hydraulic Adapter products and Value Added Services to customers across North America.

Hydraulic Headquarters maintains one of the most complete inventories of hydraulic adapters in North America, ready to ship to meet your needs. We sell to virtually all industries incorporating Fluid Power components.

Hydraulic Headquarters adapter styles include O-Ring Face Seal, 37° JIC, NPTF pipe, O-Ring Boss, Split Flange, Push Lock and Beaded hose barbs, Braze-On, Flareless (Bite-Type), Metric and Flare O-ring adapters. Our methods of manufacturing include forging, impact extrusion, and the conventional methods of producing adapters on CNC equipment and multiple spindle screw machines. Custom adapters can also be designed and manufactured to meet your special requirements.

All Hydraulic Headquarters adapters are interchangeable with our competition provided that the adapters meet SAE standards including SAE-J514, SAE J518, SAE-J1453, A.S.M.E. (American Society of Engineers), and Military Standard (MIL-F-18866, Class 1).

Get Connected



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