

7706

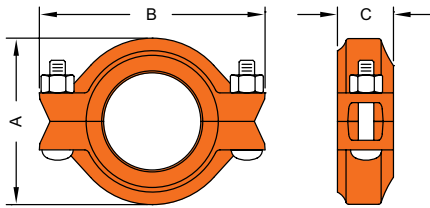
reducing coupling



ensure coupling bolt pads
make metal-to-metal contact.

the model 7706 couplings must not be used with an end cap, as the end cap could be sucked into the pipe by the vacuum created when a system is being drained.

| | |
|------------------|--|
| job name: | |
| job location: | |
| engineer: | |
| contractor: | |
| tag: | |
| po#: | |
| rep: | |
| wholesale dist.: | |



the model 7706 reducing coupling allows direct reduction on a piping run and eliminates the need for a concentric reducer and couplings. The specially designed rubber gasket prevents the smaller pipe from telescoping into the larger pipe during vertical installation. all 7706 couplings are comprised of two identical housing segments, EPDM rubber gasket and plated track bolts and nuts. housing segments are supplied with our standard standard orange paint finish. optional finishes such as hot dipped zinc galvanized and custom epoxy coatings are available.

for fire protection pressure rating, listing, and approval information, refer to data sheet B-42 or visit www.shurjoint.com for details or contact Shurjoint.

dimensions

| NOMINAL SIZE | PIPE O.D. | MAX. WORKING PRESSURE (CWP)* | MAX. END LOAD (CWP) | AXIAL DISPLACEMENT † | ANGULAR MOVEMENT*** | | DIMENSIONS | | | BOLT SIZE | WEIGHT |
|---------------|---------------|------------------------------|---------------------|----------------------|---------------------|-------------------|------------|----------|----------|-------------|----------|
| | | | | | DEGREE PER COUPLING | PER PIPE | A | B | C | | |
| in mm | in mm | PSI Bar | lb kN | in mm | (°) | in / ft mm / m | in mm | in mm | in mm | in mm | lb kg |
| 1-1/2 x 1-1/4 | 1.900 x 1.660 | 500 | 1410 | 0 - 0.065 | 1° - 54' | 0.20 | 2.83 | 4.65 | 1.81 | 3/8 x 2-1/2 | 1.8 |
| 40 x 32 | 48.3 x 42.2 | 35 | 6.23 | 0 - 1.6 | | 17 | 72 | 118 | 46 | M10 x 55 | 0.8 |
| 2 x 1-1/2 | 2.375 x 1.900 | 500 | 2210 | 0 - 0.065 | 1° - 31' | 0.16 | 3.35 | 4.80 | 1.89 | 3/8 x 2-1/8 | 2.0 |
| 50 x 40 | 60.3 x 48.3 | 35 | 9.70 | 0 - 1.6 | | 13 | 85 | 122 | 48 | M10 x 55 | 0.9 |
| 2-1/2 x 2 | 2.875 x 2.375 | 500 | 3240 | 0 - 0.065 | 1° - 15' | 0.13 | 3.78 | 5.67 | 1.89 | 3/8 x 2-1/8 | 2.6 |
| 65 x 50 | 73.0 x 60.3 | 35 | 14.22 | 0 - 1.6 | | 11 | 96 | 144 | 48 | M10 x 55 | 1.2 |
| 3 x 2 | 3.500 x 2.375 | 50 | 4800 | 0 - 0.065 | 1° - 02' | 0.11 | 4.57 | 6.61 | 1.89 | 1/2 x 3 | 3.3 |
| 80 x 50 | 88.9 x 60.3 | 35 | 21.09 | 0 - 1.6 | | 9 | 116 | 168 | 48 | M12 x 75 | 1.5 |
| 3 x 2-1/2 | 3.500 x 2.875 | 500 | 4800 | 0 - 0.065 | 1° - 02' | 0.11 | 4.57 | 6.61 | 1.89 | 1/2 x 3 | 3.7 |
| 80 x 65 | 88.9 x 73.0 | 35 | 21.09 | 0 - 1.6 | | 9 | 116 | 168 | 48 | M12 x 75 | 1.7 |
| 4 x 2 | 4.500 x 2.375 | 500 | 7940 | 0 - 0.095 | 1° - 12' | 0.13 | 5.75 | 7.80 | 1.93 | 1/2 x 3 | 5.3 |
| 100 x 50 | 114.3 x 60.3 | 35 | 34.87 | 0 - 2.4 | | 11 | 146 | 198 | 49 | M12 x 75 | 2.4 |
| 4 x 2-1/2 | 4.500 x 2.875 | 500 | 7940 | 0 - 0.095 | 1° - 12' | 0.13 | 5.75 | 7.80 | 1.93 | 1/2 x 3 | 5.7 |
| 100 x 65 | 114.3 x 73.0 | 35 | 34.87 | 0 - 2.4 | | 11 | 146 | 198 | 49 | M12 x 75 | 2.6 |
| 4 x 3 | 4.500 x 3.500 | 500 | 7940 | 0 - 0.095 | 1° - 12' | 0.13 | 5.75 | 7.80 | 2.01 | 1/2 x 3 | 5.3 |
| 100 x 80 | 114.3 x 88.9 | 35 | 34.87 | 0 - 2.4 | | 11 | 146 | 198 | 51 | M12 x 75 | 2.4 |
| 5 x 4 | 5.563 x 4.500 | 400 | 9710 | 0 - 0.125 | 1° - 18' | 0.14 | 6.30 | 9.84 | 2.01 | 5/8 x 3-1/2 | 7.9 |
| 125 x 100 | 141.3 x 114.3 | 28 | 43.88 | 0 - 3.2 | | 12 | 160 | 242 | 51 | M16 x 90 | 3.6 |
| 6 x 3 | 6.625 x 3.500 | 400 | 13780 | 0 - 0.125 | 1° - 06' | 0.12 | 8.19 | 10.63 | 2.05 | 5/8 x 3-1/2 | 10.1 |
| 150 x 80 | 168.3 x 88.9 | 28 | 62.26 | 0 - 3.2 | | 10 | 208 | 270 | 52 | M16 x 90 | 4.6 |
| 6 x 4 | 6.625 x 4.500 | 400 | 13780 | 0 - 0.125 | 1° - 06' | 0.12 | 8.19 | 10.63 | 2.05 | 5/8 x 3-1/2 | 9.9 |
| 150 x 100 | 168.3 x 114.3 | 28 | 62.26 | 0 - 3.2 | | 10 | 208 | 270 | 52 | M16 x 90 | 4.5 |
| 8 x 6 | 8.625 x 6.625 | 400 | 23350 | 0 - 0.125 | 0° - 50' | 0.09 | 10.24 | 13.11 | 2.09 | 3/4 x 4-3/4 | 14.3 |
| 200 x 150 | 219.1 x 168.3 | 28 | 105.51 | 0 - 3.2 | | 8 | 260 | 333 | 53 | M20 x 120 | 6.5 |

* working pressure is based on roll- or cut-grooved standard wall carbon steel pipe.

† allowable axial displacement and angular movement (deflection) figures are for roll grooved standard steel pipe. values for cut grooved pipe will be double that of roll grooved. these values are maximums; for design and installation purposes these figures should be reduced by: 50% for 3/4" - 3-1/2"; 25% for 4" and larger to compensate for jobsite conditions.

** deflection or angular movement given is the maximum value that a coupling allows. when using the given maximum angles for a curved layout, proper bracing should be used to counter pressure thrust that will occur when the system is pressurized. flexible couplings can be used for angular movement and or thermal expansion, though please note individual coupling(s) cannot be used to their maximums for both types of movement within a system at the same time.



material specifications

housing:

- ductile Iron to ASTM A536, Gr. 65-45-12 and or ASTM A395, Gr. 65-45-15, min. tensile strength 65,000 psi (448 MPa).

surface finish:

- standard standard orange paint finish.
- hot dip zinc galvanized (option).
- epoxy coatings in RAL3000 red or other colors (option).

rubber gasket:

grade “E-pw” EPDM (color code: double green stripe)

- good for cold & hot water up to +230°F (+110°C). also good for services for water with acid, water with chlorine, chloramine, deionized water, seawater and waste water, dilute acids, oil-free air and many chemicals.
- good for cold +86°F (+30°C) and hot +180°F (+82°C) potable water services. EPDM is UL classified per NSF/ANSI 61 & NSF/ANSI 372.
- **not recommended for petroleum oils, minerals oils, solvents and aromatic hydrocarbons.**
- maximum temperature range: -30°F (-34°C) to +230°F (+110°C)*.

*EPDM gaskets for water services are not recommended for steam services.

(option) grade “T” nitrile (color code: orange stripe)

- recommended for petroleum products, air with oil vapors, vegetable and mineral oils.
- temperature range: -20°F to +180°F (-29°C to +82°C).
- **do not use for hot water above +150°F (+66°C) or hot dry air above +140°F (+60°C)**

other options

grade “O” - fluoroelastomer

grade “L” - silicone

- for additional details contact Shurjoint.

bolts & nuts:

- heat treated carbon manganese steel track bolts to ASTM A449-83a (or A183 Gr. 2), minimum tensile strength 110,000 psi (758 MPa), zinc electroplated, with heavy-duty hexagonal nuts to ASTM A563.



performance data

the following tables show the maximum working pressures (CWP) of Shurjoint model 7706 reducing coupling used on both carbon steel and stainless steel pipes. Shurjoint ductile iron couplings can be used in conjunction with stainless steel pipe in non-corrosive environment the flow media does not come in direct contact with the coupling housings but rather only the gasket.

carbon steel pipe

| NOMINAL SIZE | CUT-GROOVED | | ROLL-GROOVED | | |
|---------------|-------------|-----|--------------|---------|--------|
| | XS | STD | STD | SCH. 10 | SCH. 7 |
| in | psi | psi | psi | psi | psi |
| mm | Bar | Bar | Bar | Bar | Bar |
| 1-1/2 x 1-1/4 | 500 | 500 | 500 | 350 | 300 |
| 40 x 32 | 35 | 35 | 35 | 24 | 20 |
| 2 x 1-1/2 | 500 | 500 | 500 | 350 | 300 |
| 50 x 40 | 35 | 35 | 35 | 24 | 20 |
| 2-1/2 x 2 | 500 | 500 | 500 | 350 | 300 |
| 65 x 50 | 35 | 35 | 35 | 24 | 20 |
| 3 x 2 | 500 | 500 | 500 | 350 | 300 |
| 80 x 50 | 35 | 35 | 35 | 24 | 20 |
| 3 x 2-1/2 | 500 | 500 | 500 | 350 | 300 |
| 80 x 65 | 35 | 35 | 35 | 24 | 20 |
| 4 x 2 | 500 | 500 | 500 | 350 | 300 |
| 100 x 50 | 35 | 35 | 35 | 24 | 20 |
| 4 x 2-1/2 | 500 | 500 | 500 | 350 | 300 |
| 100 x 65 | 35 | 35 | 35 | 24 | 20 |
| 4 x 3 | 500 | 500 | 500 | 300 | 250 |
| 100 x 80 | 35 | 35 | 35 | 20 | 17 |
| 5 x 4 | 400 | 400 | 400 | 300 | 250 |
| 125 x 100 | 28 | 28 | 28 | 20 | 17 |
| 6 x 3 | 400 | 400 | 400 | 300 | 200 |
| 150 x 80 | 28 | 28 | 28 | 20 | 14 |
| 6 x 4 | 400 | 400 | 400 | 300 | 175 |
| 150 x 100 | 28 | 28 | 28 | 20 | 12 |
| 8 x 6 | 400 | 400 | 400 | 300 | 175 |
| 200 x 150 | 28 | 28 | 28 | 20 | 12 |

stainless steel pipe

| NOMINAL SIZE | CUT-GROOVED | | ROLL-GROOVED | | |
|---------------|-------------|----------|--------------|----------|---------|
| | SCH. 80S | SCH. 40S | SCH. 40S | SCH. 10S | SCH. 5S |
| in | psi | psi | psi | psi | psi |
| mm | Bar | Bar | Bar | Bar | Bar |
| 1-1/2 x 1-1/4 | 500 | 500 | 350 | 300 | 250 |
| 40 x 32 | 35 | 35 | 24 | 20 | 17 |
| 2 x 1-1/2 | 500 | 500 | 350 | 300 | 250 |
| 50 x 40 | 35 | 35 | 24 | 20 | 17 |
| 2-1/2 x 2 | 500 | 500 | 350 | 300 | 250 |
| 65 x 50 | 35 | 35 | 24 | 20 | 17 |
| 3 x 2 | 500 | 500 | 350 | 300 | 250 |
| 80 x 50 | 35 | 35 | 24 | 20 | 17 |
| 3 x 2-1/2 | 500 | 500 | 350 | 300 | 250 |
| 80 x 65 | 35 | 35 | 24 | 20 | 17 |
| 4 x 2 | 500 | 500 | 350 | 300 | 250 |
| 100 x 50 | 35 | 35 | 24 | 20 | 17 |
| 4 x 2-1/2 | 500 | 500 | 350 | 300 | 200 |
| 100 x 65 | 35 | 35 | 24 | 20 | 14 |
| 4 x 3 | 500 | 500 | 300 | 250 | 200 |
| 100 x 80 | 35 | 35 | 20 | 17 | 14 |
| 5 x 4 | 400 | 400 | 300 | 250 | NR |
| 125 x 100 | 28 | 28 | 20 | 17 | NR |
| 6 x 3 | 400 | 400 | 300 | 200 | NR |
| 150 x 80 | 28 | 28 | 20 | 14 | NR |
| 6 x 4 | 400 | 400 | 300 | 175 | NR |
| 150 x 100 | 28 | 28 | 20 | 12 | NR |
| 8 x 6 | 400 | 400 | 300 | 175 | NR |
| 200 x 150 | 28 | 28 | 20 | 12 | NR |

flow data

the pressure drop or head loss across model 7706 reducing coupling is small and less than that of the same size of concentric reducer. equivalent lengths of sch. 40 steel pipe (new pipe) for water 60°F (16°C) are shown in the table.

| SIZE | EQUIVALENT LENGTH | SIZE | EQUIVALENT LENGTH |
|---------------|-------------------|-----------|-------------------|
| in | feet | in | feet |
| mm | m | mm | m |
| 1-1/2 x 1-1/4 | 1.6 | 4 x 2-1/2 | 4.9 |
| 40 x 32 | 0.5 | 100 x 65 | 1.5 |
| 2 x 1 | 3.9 | 4 x 3 | 3.6 |
| 50 x 25 | 1.2 | 100 x 80 | 1.1 |
| 2 x 1-1/2 | 2 | 5 x 4 | 3 |
| 50 x 40 | 0.6 | 125 x 100 | 0.9 |
| 2-1/2 x 2 | 2 | 6 x 3 | 7.9 |
| 65 x 50 | 0.6 | 150 x 80 | 2.4 |
| 3 x 2 | 3.9 | 6 x 4 | 5.9 |
| 80 x 50 | 1.2 | 150 x 100 | 1.8 |
| 3 x 2-1/2 | 2.3 | 6 x 5 | 4.5 |
| 80 x 65 | 0.7 | 150 x 125 | 1.37 |
| 4 x 2 | 6.2 | 8 x 6 | 7.2 |
| 100 x 50 | 1.9 | 200 x 150 | 2.2 |



listings/approvals

the information provided below is based on the latest listing and approval data at the time of publication. listings/approvals are subject to change and/or additions by the approvals agencies. contact Shurjoint for the performance on other pipes and the latest listings and approvals

| UL / CUL | | | |
|--------------|--------|--------|------------|
| NOM. SIZE | SCH 40 | SCH 10 | BS13 87(M) |
| in | psi | psi | psi |
| mm | Bar | Bar | Bar |
| 2 x 1-1/2 | 300 | 300 | NA |
| 50 x 40 | 20 | 20 | |
| 2-1/2 x 2 | 300 | 300 | NA |
| 65 x 50 | 20 | 20 | |
| 76.1 mm x 2 | NA | NA | 300 |
| 66 x 50 | | | 20 |
| 76.1 mm x 3 | NA | NA | 300 |
| 65 x 50 | | | 20 |
| 3 x 2 | 300 | 300 | NA |
| 80 x 50 | 20 | 20 | |
| 3 x 2-1/2 | 300 | 300 | NA |
| 80 x 65 | 20 | 20 | |
| 3 x 76.1 mm | NA | NA | 300 |
| 80 x 65 | | | 20 |
| 4 x 2 | 300 | 300 | NA |
| 100 x 50 | 20 | 20 | |
| 4 x 2-1/2 | 300 | 300 | NA |
| 100 x 65 | 20 | 20 | |
| 4 x 76.1 mm | NA | NA | 300 |
| 100 x 65 | | | 20 |
| 4 x 3 | 300 | 300 | 300 |
| 100 x 80 | 20 | 20 | 20 |
| 5 x 4 | NA | NA | NA |
| 125 x 100 | | | |
| 137.7 mm x 4 | NA | NA | NA |
| 125 x 100 | | | |
| 165.1 mm x 3 | NA | NA | NA |
| 150 x 80 | | | |
| 6 x 3 | 300 | 300 | NA |
| 150 x 80 | 20 | 20 | |
| 165.1 mm x 4 | 300 | 300 | 300 |
| 150 x 100 | 20 | 20 | 20 |
| 6 x 4 | 300 | 300 | NA |
| 150 x 100 | 20 | 20 | |
| 8 x 165.1 mm | NA | NA | NA |
| 200 x 150 | | | |
| 8 x 6 | 300 | 300 | NA |
| 200 x 150 | 20 | 20 | |

| FM | | | |
|--------------|--------|--------|--------------|
| NOM. SIZE | SCH 40 | SCH 10 | EN 10255 (M) |
| in | psi | psi | psi |
| mm | Bar | Bar | Bar |
| 2 x 1-1/2 | 300 | 300 | 300 |
| 50 x 40 | 20 | 20 | 20 |
| 2-1/2 x 2 | 300 | 300 | 300 |
| 65 x 50 | 20 | 20 | 20 |
| 76.1 mm x 2 | 300 | 300 | 300 |
| 66 x 50 | 20 | 20 | 20 |
| 76.1 mm x 3 | 300 | 300 | 300 |
| 65 x 50 | 20 | 20 | 20 |
| 3 x 2 | 300 | 300 | 300 |
| 80 x 50 | 20 | 20 | 20 |
| 3 x 2-1/2 | 300 | 300 | 300 |
| 80 x 65 | 20 | 20 | 20 |
| 3 x 76.1 mm | 300 | 300 | 300 |
| 80 x 65 | 20 | 20 | 20 |
| 4 x 2 | 300 | 300 | 300 |
| 100 x 50 | 20 | 20 | 20 |
| 4 x 2-1/2 | 300 | 300 | 300 |
| 100 x 65 | 20 | 20 | 20 |
| 4 x 76.1 mm | 300 | 300 | 300 |
| 100 x 65 | 20 | 20 | 20 |
| 4 x 3 | 300 | 300 | 300 |
| 100 x 80 | 20 | 20 | 20 |
| 5 x 4 | 300 | 300 | 300 |
| 125 x 100 | 20 | 20 | 20 |
| 139.7 mm x 4 | 300 | 300 | 300 |
| 125 x 100 | 20 | 20 | 20 |
| 165 mm x 3 | 300 | 300 | 300 |
| 150 x 80 | 20 | 20 | 20 |
| 6 x 3 | 300 | 300 | 300 |
| 150 x 80 | 20 | 20 | 20 |
| 165 mm x 4 | 300 | 300 | 300 |
| 150 x 100 | 20 | 20 | 20 |
| 6 x 4 | 300 | 300 | 300 |
| 150 x 100 | 20 | 20 | 20 |
| 8 x 165.1 mm | 300 | 300 | 300 |
| 200 x 150 | 20 | 20 | 20 |
| 8 x 6 | 300 | 300 | 300 |
| 200 x 150 | 20 | 20 | 20 |

| VDS | |
|--------------|----------|
| NOM. SIZE | PRESSURE |
| in | psi |
| mm | Bar |
| 2 x 1-1/2 | 232 |
| 50 x 40 | 16 |
| 2-1/2 x 2 | NA |
| 65 x 50 | |
| 76.1 mm x 2 | 232 |
| 66 x 50 | 16 |
| 76.1 mm x 3 | NA |
| 65 x 50 | |
| 3 x 2 | 232 |
| 80 x 50 | 16 |
| 3 x 2-1/2 | NA |
| 80 x 65 | |
| 3 x 76.1 mm | 232 |
| 80 x 65 | 16 |
| 4 x 2 | 232 |
| 100 x 50 | 16 |
| 4 x 2-1/2 | NA |
| 100 x 65 | |
| 4 x 76.1 mm | 232 |
| 100 x 65 | 16 |
| 4 x 3 | 232 |
| 100 x 80 | 16 |
| 5 x 4 | NA |
| 125 x 100 | |
| 137.7 mm x 4 | NA |
| 125 x 100 | |
| 165.1 mm x 3 | NA |
| 150 x 80 | |
| 6 x 3 | NA |
| 150 x 80 | |
| 165.1 mm x 4 | NA |
| 150 x 100 | |
| 6 x 4 | NA |
| 150 x 100 | |
| 8 x 165.1 mm | NA |
| 200 x 150 | |
| 8 x 6 | NA |
| 200 x 150 | |

| LPCB | |
|--------------|----------|
| NOM. SIZE | PRESSURE |
| in | psi |
| mm | Bar |
| 2 x 1-1/2 | 300 |
| 50 x 40 | 20 |
| 2-1/2 x 2 | NA |
| 65 x 50 | |
| 76.1 mm x 2 | 300 |
| 66 x 50 | 20 |
| 76.1 mm x 3 | NA |
| 65 x 50 | |
| 3 x 2 | 300 |
| 80 x 50 | 20 |
| 3 x 2-1/2 | NA |
| 80 x 65 | |
| 3 x 76.1 mm | 300 |
| 80 x 65 | 20 |
| 4 x 2 | 300 |
| 100 x 50 | 20 |
| 4 x 2-1/2 | NA |
| 100 x 65 | |
| 4 x 76.1 mm | 300 |
| 100 x 65 | 20 |
| 4 x 3 | 300 |
| 100 x 80 | 20 |
| 5 x 4 | NA |
| 125 x 100 | |
| 137.7 mm x 4 | NA |
| 125 x 100 | |
| 165.1 mm x 3 | NA |
| 150 x 80 | |
| 6 x 3 | NA |
| 150 x 80 | |
| 165.1 mm x 4 | 300 |
| 150 x 100 | 20 |
| 6 x 4 | NA |
| 150 x 100 | |
| 8 x 165.1 mm | 300 |
| 200 x 150 | 20 |
| 8 x 6 | NA |
| 200 x 150 | |

general notes

- maximum working pressure (CWP) listed is the maximum cold water pressure for general piping services tested to ASTM F1476 and or AWWA C606 methods. figures listed are based on roll- or cut-grooved standard wall carbon steel pipe. for other pipe schedules or pipe materials, contact Shurjoint for additional information.
- max. end load is calculated based on the maximum working pressure (CWP).
- listed and or approved pressures are pressure ratings for fire protection systems, tested and approved by various approval bodies. please always refer to the latest approval data posted on the Shurjoint website.
- field joint test: for one time only the system may be tested hydrostatically at 1.5 times the maximum working pressure listed (AWWA C606 5.2.3).
- warning: piping systems must always be depressurized and drained before attempting disassembly and or removal of any components.
- the 10 year limited warranty applies to manufacturing defects only and does not cover severe service/temperature applications or wear parts.
- Shurjoint reserves the right to change specifications, designs and or standard without notice and without incurring any obligations.