Section 1

Grooved Mechanical Couplings, Flange Adapters & Mechanical Tees

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Shurjoint Grooved Mechanical Couplings

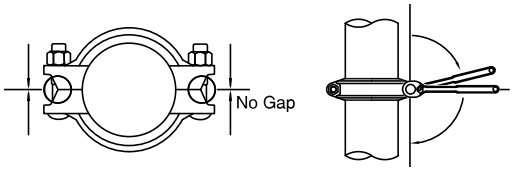
*The **Shurjoint** grooved piping system is one of the most advanced, versatile, economical and reliable systems available today. After the pipe ends are grooved a gasket is mounted over the pipe ends. The coupling segments are then placed over the gasket and the bolts and nuts are fastened resulting in a secure and leak free joint.*

A coupling can be installed 3 – 4 times faster than a comparable welded or brazed joint and there is no need for a flame or welding torch on the job site. A grooved mechanical coupling can be installed by fastening a pair of bolts and nuts while using only a wrench or spanner, whereas a comparable flanged joint requires the fastening of many bolts and nuts with a pair of wrenches. The grooved system allows for easy material take-offs and unlike a threaded system, there is no need to allow for added pipe length for thread engagement. With removal of just a few bolts one can easily access the system for cleaning, maintenance, changes and or system expansion.

Helpful Information to Ensure Proper Assembly

Some couplings and components require the housing bolt pads to make metal-to-metal contact for proper assembly, while others require a specific bolt torque while maintaining equal bolt pad gaps. The icons and information below will help to identify those items to ensure proper assembly. Read and follow all installation instructions for the component being installed.

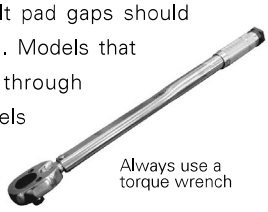
Metal-to-metal contact: Tighten bolts and nuts until bolt pads make metal-to-metal contact. After metal-to-metal contact is achieved, tighten nuts by another one quarter or one half turn to make sure the bolts and nuts are snug and secure. No torque wrench is required. Excessive torque may lead to bolt or joint failure.



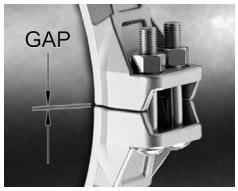
Metal-to-metal contact

After metal-to-metal, further tighten one quarter or half turn

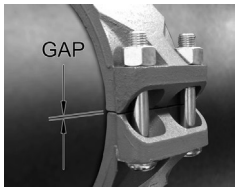
Torque required! Bolts and nuts must always be tightened to the required torque by using a torque wrench. Normally there will be some gaps seen between the bolt pads after the bolts and nuts are fully tightened. Bolt pad gaps should be equal on both sides of the coupling. Models that require torque tightening include 2″ through 4″ of model XH-1000, all sizes of models XH-70EP, SS-7X and 79 couplings.



Always use a torque wrench



#SS-7X 10″ ~ 24″

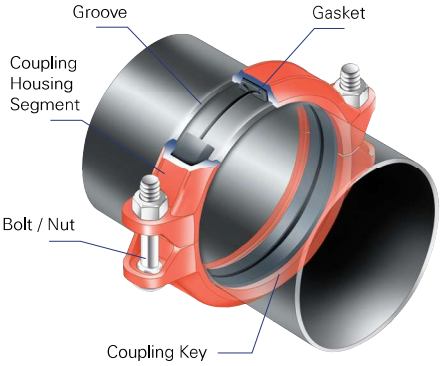


#79 2″ ~ 20″

Rigid & Flexible Couplings

Grooved mechanical couplings (GMC) are available in both rigid and flexible models. A rigid coupling is used in applications where a rigid joint is desired, similar to that of a traditional flanged, welded, and or threaded connection. To be considered rigid, a coupling would allow less than one degree of deflection or angular movement.

Flexible couplings are designed to accommodate axial displacement, rotation and a minimum one degree of angular movement. Flexible couplings are used in applications that call for curved or deflected layouts and or when systems are exposed to outside forces beyond normal static conditions, such as seismic events or where vibration and or noise attenuation are a concern.

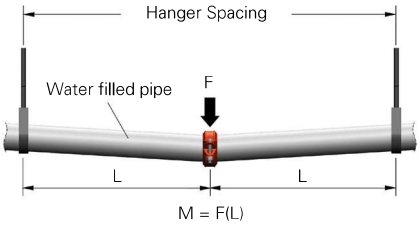


#7705 Flexible Coupling

Grooved couplings become less flexible as the pipe size increases. For sizes in excess of 18" (450 mm) couplings are very limited in their angular movement. Please refer to the following definition and test methods.

Definition Grooved couplings are subjected to internal pressures and exterior bending forces during service. ASTM F1476-07 defines a rigid coupling as a joint where there is essentially no available free angular or axial pipe movement and a flexible coupling as a joint wherein there is available limited angular and axial pipe movement.

Bending Moment Test bending moments are calculated by the equation M = F (L), where F is weight of water filled pipe (Lbs) and L is hanger spacing x 1/2 (feet). The table below shows test bending moments calculated using sch. 40 pipe with NFPA 13 hanger spacing.

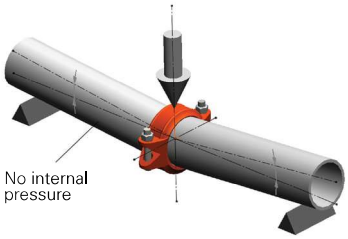


Test Bending Moment (ASTM F1476)

Nom. Size (inches)	Moment Nm	Moment Lbs-Ft
1½	549	405
2	780	575
2½	1200	885
3	1645	1213
4	2471	1823
5	3551	2619
6	4803	3543
8	7663	5652
10	11379	8393
12	15558	11475
14	18609	13725
16	24299	17922

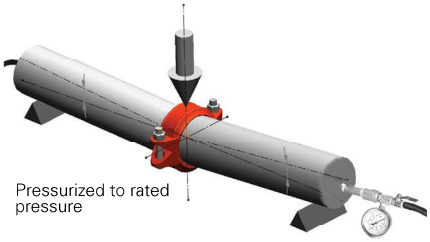
Flexibility Proof Test Flexibility proof testing is conducted by applying a small bending moment, 10% of the listed moment, to the test assembly with no internal pressure. A 4" model 7705 or 7707 flexible coupling deflects 3 – 4 degrees depending on the type of groove processed.

M = 10% listed moment



Rigidity Proof Test Rigidity proof testing is conducted by applying 25% of the listed moment to the test assembly which is internally pressurized to the rated pressure.

M= 25% listed moment



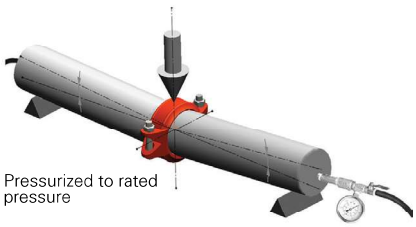
The rigid coupling shall pass the test when the angle has not changed more than angle ▯. ▯ shall be calculated as follows: ▯° = 60′ (minutes) – [2′ (minutes) x (nominal pipe size in inches)]. In other words, when ▯ is less than 1 degree (60 minutes), the grooved mechanical coupling is verified as a rigid coupling and when ▯ is more than 1 degree (60 minutes), the GMC is regarded as a flexible coupling. The maximum angles ▯ for rigid couplings are shown in the table below:

Rigid Coupling - Max. Deflection

Nom. Size (inches)	▯, max (minutes)	▯, max. (degrees)
1½	57	0.95
2	56	0.93
2½	55	0.92
3	54	0.90
4	52	0.87
5	50	0.83
6	48	0.80
8	44	0.73
10	40	0.67
12	36	0.60
14	32	0.53
16	28	0.47

Bending Moment Proof Test The coupling shall resist a 100% listed bending moment while the assembly is internally pressurized to the rated pressure.

M = 100% listed moment



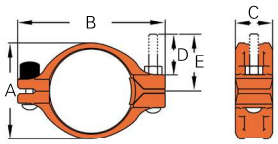
M07 Quick Install Coupling

The **Shurjoint** Model M07 is a ready to install rigid coupling for general piping applications where rigidity is required including valve connections, mechanical rooms, risers and long straight runs. This proprietary design provides a rigid joint that resists flexural and torsional loads. Support and hanging requirements corresponding to ANSI B31.1. B31.9 and NFPA 13.

The **Shurjoint** Model M07 is available with a proprietary EPDM gasket, which includes a GapSeal and a center leg feature to support the coupling during installation. The M07 includes two identical housing segments and a fully constrained wedge. Proper installation requires the tightening of only one bolt/nut. As this bolt/nut is tightened, the wedge applies uniform compression to the gasket, reducing the chance of pinching. The hinge bolt/nut is factory pre-set and requires no adjustment.

Patent Pending

Caution: Ensure coupling bolt pads make metal-to-metal contact. Wedge allowed 1/16" gap top and bottom.



Nominal Size Run x Branch	Pipe O.D.	Max. Working Pressure (CWP)**	Max. End Load (CWP)	Dimensions					Bolt Size	Weight
				A	B	C	D	E		
in	in	PSI	lb	in	in	in	in	in	in	Lbs
mm	mm	Bar	kN	mm	mm	mm	mm	mm	mm	Kgs
2	2.375	750	3320	3.36	5.58	1.90	2.39	3.26	½ x 3.8	2.9
50	60.3	52	14.84	85	142	48	61	83	M12 x 97	1.3
2-½	2.875	750	4860	3.80	6.29	1.90	2.39	3.26	½ x 3.8	3.3
65	73.0	52	21.75	97	160	48	61	83	M12 x 97	1.5
76.1	3.000	750	5310	3.88	6.42	2.01	2.07	2.88	½ x 3.8	3.30
	76.1	52	23.64	99	163	51	53	73	M12 x 97	1.5
3	3.500	750	7210	4.42	7.10	1.90	2.39	3.26	½ x 3.8	3.8
80	88.9	52	32.26	112	180	48	61	83	M12 x 97	1.7
4	4.500	750	11920	5.44	8.35	2.11	2.29	3.21	½ x 3.8	5.1
100	114.3	52	53.33	138	212	54	58	82	M12 x 97	2.3
139.7	5.500	750	17900	6.73	9.84	2.13	2.17	3.09	⅝ x 4.0	7.71
	139.7	52	79.66	171	250	54	55	79	M16 x 102	3.5
5	5.563	750	17900	6.73	9.84	2.13	2.17	3.09	⅝ x 4.0	7.71
125	141.3	52	79.66	171	250	54	55	79	M16 x 102	3.5
6	6.625	700	24110	7.77	10.90	2.11	2.56	3.49	⅝ x 4.0	8.4
150	168.3	48	106.73	197	277	54	65	89	M16 x 102	3.8
8	8.625	600	35580	10.74	13.79	2.52	2.46	3.43	⅝ x 4.0	17.40
200	219.1	42	158.27	273	350	64	62	87	M16 x 102	7.9

Performance Data

The following table show the maximum working pressures (CWP) of **Shurjoint** Model M07 Coupling used on carbon steel and stainless steel.

Carbon Steel Pipe

Nominal Size	Cut-Grooved		Roll-Grooved	
	XS	STD	STD	Sch 10
in	psi	psi	psi	psi
mm	Bar	Bar	Bar	Bar
2	750	750	750	750
50	52	52	52	52
2½	750	750	750	600
65	52	52	52	42
3	750	750	750	600
80	52	52	52	42
4	750	750	750	600
100	52	52	52	42
5	750	750	750	500
125	52	52	52	35
6	500	500	600	300
150	35	35	42	21
8	600	600	600	300
200	42	42	42	21

Stainless Steel Pipe

Nominal Size	Cut-Grooved		Roll-Grooved	
	XS	STD	Sch 40S	Sch 10S
in	psi	psi	psi	psi
mm	Bar	Bar	Bar	Bar
2	600	600	600	300
50	42	42	42	21
2½	600	600	600	300
65	42	42	42	21
3	600	600	600	300
80	42	42	42	21
4	600	600	600	300
100	42	42	42	21
5	600	600	600	300
125	42	42	42	21
6	500	500	600	300
150	35	35	42	21
8	400	400	400	150
200	28	28	28	10

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).
- 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.

Model

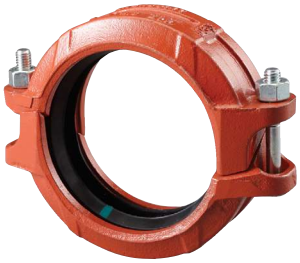
Z05 Rigid Coupling

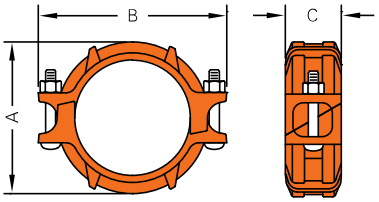
- Angle-Pad Design

The **Shurjoint** Model Z05 is an angle-pad design rigid coupling for moderate pressure piping services including fire mains, long straight runs and valve connections. The angle-pad design allows the coupling housings to slide along the bolt pads when tightened. The result is an offset clamping action which provides a rigid joint which resists so-called 'snaking' of a long straight run. Support and hanging requirements correspond to ANSI B31.1, B31.9 and NFPA 13.

With the removal of only one bolt you can make a fast and easy 'swing-over' installation.

The angle pad design allows for fast and easy swing-over installation with the removal of a single bolt.





Nominal Size	Pipe O.D.	Max. Working Pressure (CWP)*	Max. End Load (CWP)	Axial Displacement †	Dimensions			Bolt		Weight
					A	B	C	No.	Size	
in	in	PSI	Lbs	in	in	in	in		in	Lbs
mm	mm	Bar	kN	mm	mm	mm	mm		mm	Kgs
1¼	1.660	500	1080	0 ~ 0.05	2.60	4.00	1.81	2	⅜ x 2⅛	1.41
32	42.2	35	4.89	0 ~ 1.2	66	102	46		M10 x 55	0.64
1½	1.900	500	1410	0 ~ 0.05	2.83	4.29	1.81	2	⅜ x 2⅛	1.46
40	48.3	35	6.41	0 ~ 1.2	72	109	46		M10 x 55	0.66
2	2.375	500	2210	0 ~ 0.07	3.35	4.61	1.85	2	⅜ x 2¾	1.74
50	60.3	35	9.99	0 ~ 1.7	85	117	47		M10 x 70	0.79
2½	2.875	500	3240	0 ~ 0.07	3.86	5.24	1.85	2	⅜ x 2¾	2.05
65	73.0	35	14.64	0 ~ 1.7	98	133	47		M10 x 70	0.93
76.1 mm	3.000	500	3530	0 ~ 0.07	3.94	5.35	1.85	2	⅜ x 2¾	2.16
	76.1	35	15.91	0 ~ 1.7	100	136	47		M10 x 70	0.98
3	3.500	500	4800	0 ~ 0.07	4.45	5.91	1.88	2	⅜ x 2¾	2.60
80	88.9	35	21.71	0 ~ 1.7	113	150	48		M10 x 70	1.20
108.0 mm	4.250	500	7080	0 ~ 0.16	5.59	6.93	2.13	2	⅜ x 2¾	3.62
	108.0	35	32.05	0 ~ 4.1	142	176	54		M10 x 70	1.64
4	4.500	500	7940	0 ~ 0.16	5.75	7.20	2.13	2	⅜ x 2¾	4.12
100	114.3	35	35.89	0 ~ 4.1	146	183	54		M10 x 70	1.87
133.0 mm	5.250	350	7570	0 ~ 0.16	6.69	8.82	2.13	2	½ x 3	5.14
	133.0	24	33.33	0 ~ 4.1	170	224	54		M12 x 75	2.33
139.7 mm	5.500	350	8310	0 ~ 0.16	6.81	8.98	2.09	2	½ x 3	5.67
	139.7	24	36.77	0 ~ 4.1	173	228	53		M12 x 75	2.57
5	5.563	350	8500	0 ~ 0.16	6.89	9.06	2.13	2	½ x 3	5.69
125	141.3	24	37.62	0 ~ 4.1	175	230	54		M12 x 75	2.58
159.0 mm	6.250	350	10730	0 ~ 0.16	7.80	9.84	2.09	2	½ x 3	6.06
	159.0	24	47.63	0 ~ 4.1	198	250	53		M12 x 75	2.75
165.1 mm	6.500	350	11600	0 ~ 0.16	7.87	9.92	2.09	2	½ x 3	6.72
	165.1	24	51.35	0 ~ 4.1	200	252	53		M12 x 75	3.05
6	6.625	350	12050	0 ~ 0.16	8.00	10.0	2.09	2	½ x 3	6.77
150	168.3	24	53.36	0 ~ 4.1	203	254	53		M12 x 75	3.07
8	8.625	350	20430	0 ~ 0.19	10.40	12.68	2.52	2	⅝ x 5 5/16	13.38
200	219.1	24	90.44	0 ~ 4.8	264	322	64		M16 x 135	6.07
200 JIS	8.516	350	19920	0 ~ 0.19	10.24	13.35	2.50	2	¾ x 4¾	15.43
	216.3	24	88.14	0 ~ 4.8	260	339	64		M20 x 120	7.00

* Working Pressure is based on roll 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 ¾"/DN20 - 3½"/DN90; 25% for 4"/DN100 and larger to compensate for jobsite conditions.

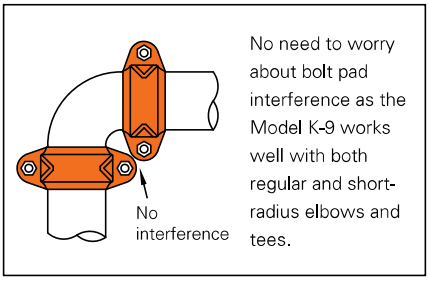
SHURJOINT®

Model

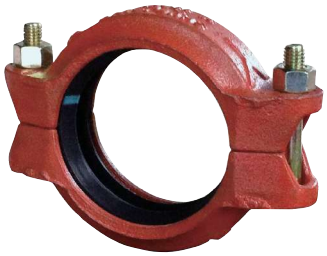
K-9 Rigid Coupling

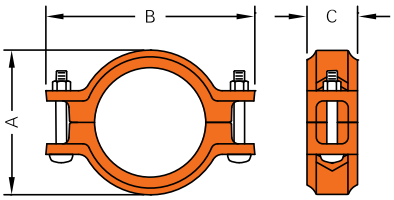
- T & G Design

The **Shurjoint** Model K-9 is a T&G (tongue & groove) design rigid coupling for moderate pressure applications where rigidity is required including valve connections, mechanical rooms, fire mains and long straight runs. The built-in teeth and T&G mechanism firmly grasp the pipe ends to eliminate undesired flex. Support and hanging requirements correspond to ANSI B31.1, B31.9 and NFPA 13.



No need to worry about bolt pad interference as the Model K-9 works well with both regular and short-radius elbows and tees.





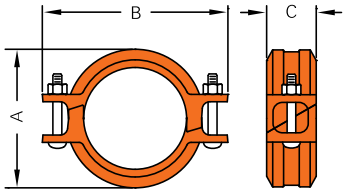
Nominal Size	Pipe O.D.	Max. Working Pressure (CWP)**	Max. End Load (CWP)	Axial Displacement	Dimensions			Bolt Size	Weight
					A	B	C		
in	in	PSI	Lbs	in	in	in	in	in	Lbs
mm	mm	Bar	kN	mm	mm	mm	mm	mm	Kgs
1¼	1.660	500	1080	0~0.06	2.56	4.33	1.73	⅜ x 1¾	1.3
32	42.2	35	4.82	0~1.6	65	110	44	M10 x 45	0.6
1½	1.900	500	1410	0~0.06	2.80	4.45	1.73	⅜ x 2⅛	1.3
40	48.3	35	6.32	0~1.6	71	113	44	M10 x 55	0.6
2	2.375	500	2210	0~0.06	3.27	4.88	1.73	⅜ x 2⅛	1.5
50	60.3	35	9.85	0~1.6	83	124	44	M10 x 55	0.7
2½	2.875	500	3240	0~0.06	3.86	5.39	1.73	⅜ x 2⅛	1.8
65	73.0	35	14.43	0~1.6	98	137	44	M10 x 55	0.8
76.1 mm	3.000	500	3530	0~0.06	4.00	5.51	1.73	⅜ x 2⅛	1.8
	76.1	35	15.68	0~1.6	102	140	44	M10 x 55	0.8
3	3.500	500	4800	0~0.06	4.50	5.94	1.73	⅜ x 2¾	2.6
80	88.9	35	21.40	0~1.6	114	151	44	M10 x 70	1.2
4	4.500	350	5560	0~0.13	5.63	7.48	1.97	⅜ x 2¾	3.6
100	114.3	24	24.72	0~3.2	143	190	50	M10 x 70	1.7
139.7 mm	5.500	350	8310	0~0.13	6.77	9.21	2.00	½ x 3	4.6
	139.7	24	36.92	0~3.2	172	234	51	M12 x 75	2.1
5	5.563	350	8500	0~0.13	6.89	8.98	1.97	½ x 3	4.6
125	141.3	24	37.77	0~3.2	175	228	50	M12 x 75	2.1
165.1 mm	6.500	350	11600	0~0.13	7.75	9.92	2.09	½ x 3	5.3
	165.1	24	51.57	0~3.2	197	252	53	M12 x 75	2.4
6	6.625	350	12050	0~0.13	7.87	10.04	2.09	½ x 3	5.9
150	168.3	24	53.59	0~3.2	200	255	53	M12 x 75	2.7
8	8.625	350	20430	0~0.13	10.16	13.15	2.44	⅝ x 3½	9.7
200	219.1	24	90.82	0~3.2	258	334	62	M16 x 90	4.4
8 (K-9H)	8.625	350	20430	0~0.13	10.29	13.08	2.44	¾ x 4¾	15.8
200	219.1	24	90.82	0~3.2	261	332	62	M20 x 120	7.2

All DIN size K-9 couplings up to DN150 size and the DN200 K-9H coupling are VdS approved in addition to cULus and FM approvls.
** Working Pressure is based on roll grooved standard wall carbon steel pipe.

Model

Z07 Heavy Duty Rigid Coupling

The **Shurjoint** Model Z07 is an angle-pad design rigid coupling for general piping applications where rigidity is required including, mechanical rooms, valve connections fire mains and long straight runs. The angle-pad design allows the coupling housings to slide along the bolt pads when tightened. The result is an offset clamping action which provides a rigid joint that resists flexural and torsional loads. Support and hanging requirements correspond to ANSI B31.1, B31.9 and NFPA 13.



Nominal Size	Pipe O.D.	Max. Working Pressure (CWP)*	Max. End Load (CWP)	Axial Displacement †	Dimensions			Bolt		Weight
					A	B	C	No.	Size	
in	in	PSI	Lbs	in	in	in	in		in	Lbs
mm	mm	Bar	kN	mm	mm	mm	mm		mm	Kgs
1¼	1.660	750	1620	0 ~ 0.05	2.68	4.13	1.85	2	⅜ x 2⅛	1.6
32	42.2	52	7.27	0~1.2	68	105	47		M10 x 55	0.7
1½	1.900	750	2120	0 ~ 0.05	2.91	4.53	1.85	2	⅜ x 2⅛	2.0
40	48.3	52	9.52	0~1.2	74	115	47		M10 x 55	0.9
2	2.375	750	3320	0 ~ 0.07	3.39	4.69	1.88	2	⅜ x 2¾	2.4
50	60.3	52	14.84	0~1.7	86	119	48		M10 x 70	1.1
2½	2.875	750	4860	0 ~ 0.07	3.94	5.50	1.88	2	⅜ x 2¾	2.4
65	73.0	52	21.75	0~1.7	100	140	48		M10 x 70	1.1
76.1 mm	3.000	750	5290	0 ~ 0.07	4.00	5.75	1.88	2	⅜ x 2¾	2.4
	76.1	52	23.64	0~1.7	102	146	48		M10 x 70	1.1
3	3.500	750	7210	0 ~ 0.07	4.53	6.54	1.88	2	½ x 3	3.1
80	88.9	52	32.26	0~1.7	115	166	48		M12 x 75	1.4
4	4.500	750	11920	0 ~ 0.16	5.78	8.11	2.13	2	½ x 3	4.4
100	114.3	52	53.33	0~4.1	147	206	54		M12 x 75	2.0
139.7 mm	5.500	750	17810	0 ~ 0.16	6.88	9.37	2.09	2	⅝ x 3½	6.6
	139.7	52	79.66	0~4.1	175	238	53		M16 x 90	3.0
5	5.563	750	18220	0 ~ 0.16	6.97	9.45	2.09	2	⅝ x 3½	6.6
125	141.3	52	81.50	0~4.1	177	240	53		M16 x 90	3.0
165.1 mm	6.500	700	23210	0 ~ 0.16	7.87	10.47	2.09	2	⅝ x 3½	7.5
	165.1	48	102.71	0~4.1	200	266	53		M16 x 90	3.4
6	6.625	700	24110	0 ~ 0.16	8.00	10.67	2.09	2	⅝ x 3½	7.1
150	168.3	48	106.73	0~4.1	203	271	53		M16 x 90	3.2
8	8.625	600	35030	0 ~ 0.19	10.55	13.46	2.52	2	¾ x 4¾	15.7
200	219.1	42	158.27	0~4.8	268	342	64		M20 x 120	7.1
10	10.750	500	45350	0 ~ 0.13	12.86	15.60	2.56	2	⅞ x 6½	27.4
250	273.0	35	204.77	0~3.2	327	396	65		—	10.4
12	12.750	400	51040	0 ~ 0.13	14.86	17.80	2.56	2	⅞ x 6½	26.0
300	323.9	28	230.59	0~3.2	377	452	65		—	11.8
200 JIS	8.516	600	34150	0 ~ 0.13	10.39	13.35	2.50	2	¾ x 4¾	16.3
	216.3	42	154.25	0~3.2	264	339	64		M20 x 120	7.4
250 JIS	10.528	500	43500	0 ~ 0.13	12.63	15.63	2.56	2	⅞ x 6½	23.1
	267.4	35	196.45	0~3.2	321	397	65		—	10.5
300 JIS	12.539	400	49360	0 ~ 0.13	14.65	17.80	2.56	2	⅞ x 6½	27.4
	318.5	28	222.97	0~3.2	372	452	65		—	12.4

* Working Pressure is based on roll grooved standard wall carbon steel pipe.

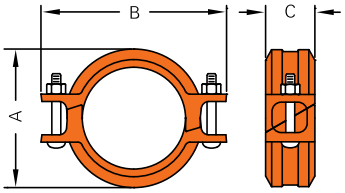
† Allowable Axial Displacement and Angular Movement (deflection) figures are for roll grooved standard steel pipe. Values for cut grooved pipe will be double that of roll grooved. These values are maximums; for design and installation purposes these figures should be reduced by: 50% for ¾" - 3½"; 25% for 4" and larger to compensate for jobsite conditions.

SHURJOINT®

Model

Z07N Heavy Duty Rigid Coupling

The **Shurjoint** Model Z07N is a two-segment, rigid coupling for general piping applications where rigidity is required. Sizes 14" - 24" are now available.



Nominal Size	Pipe O.D.	Max. Working Pressure (CWP)*	Max. End Load (CWP)	Axial Displacement †	Dimensions			Bolt		Weight
					A	B	C	No.	Size	
in	in	PSI	Lbs	in	in	in	in		in	Lbs
mm	mm	Bar	kN	mm	mm	mm	mm		mm	Kgs
14	14.000	250	38460	0 ~ 0.13	16.06	20.00	2.95	2	⅞ x 5½	35.3
350	355.6	17	168.75	0~3.2	408	508	75		—	16.0
16	16.000	250	50240	0 ~ 0.13	18.39	22.05	2.95	2	⅞ x 5½	30.5
400	406.4	17	220.41	0~3.2	467	660	75		—	17.9
18	18.000	250	63580	0 ~ 0.13	20.68	24.29	3.11	2	⅞ x 5½	40.1
450	457.2	17	278.95	0~3.2	525	617	79		—	22.3
20	20.000	250	78500	0 ~ 0.13	22.93	27.99	3.00	2	1 x 5½	57.8
500	508.0	17	344.39	0~3.2	582	711	76		—	26.2
24	24.000	250	113040	0 ~ 0.13	27.05	30.55	3.06	2	1 x 5½	70.8
600	609.6	17	495.92	0~3.2	687	776	78		—	32.1

* Working Pressure is based on roll grooved standard wall carbon steel pipe.

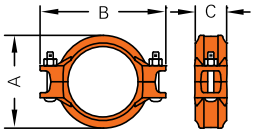
† Allowable Axial Displacement and Angular Movement (deflection) figures are for roll grooved standard steel pipe. Values for cut grooved pipe will be double that of roll grooved. These values are maximums; for design and installation purposes these figures should be reduced by: 50% for ¾" - 3½"; 25% for 4" and larger to compensate for jobsite conditions.

Model

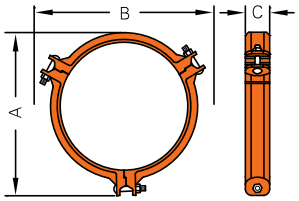
7771 Standard Rigid Coupling

- T & G Design

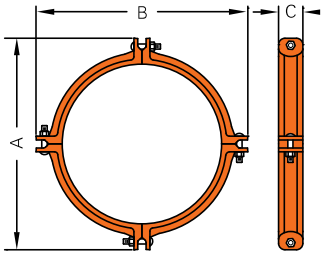
The **Shurjoint** Model 7771 is a T&G (tongue & groove) design standard rigid coupling for general piping applications where rigidity is required including valve connections, mechanical rooms, fire mains and long straight runs. The T&G mechanism provides a rigid, locked-in connection that resists flexural and torsional loads.



1½"~ 12"



14"~ 18"



20"~ 24"

Nominal Size	Pipe O.D.	Max. Working Pressure (CWP)**	Max. End Load (CWP)	Axial Displacement †	Dimensions			Bolt		Weight
					A	B	C	No.	Size	
in	in	PSI	Lbs	in	in	in	in		in	Lbs
mm	mm	Bar	kN	mm	mm	mm	mm		mm	Kgs
1½	1.900	500	1410	0~0.06	2.91	4.41	1.81	2	⅜ x 2⅛	1.5
40	48.3	35	6.23	0~1.6	74	112	46		M10 x 55	0.7
2	2.375	500	2210	0~0.06	3.34	4.96	1.81	2	⅜ x 2⅛	1.9
50	60.3	35	9.70	0~1.6	85	126	46		M10 x 55	0.9
2½	2.875	500	3240	0~0.06	3.89	5.59	1.81	2	⅜ x 2⅛	2.6
65	73.0	35	14.22	0~1.6	99	142	46		M10 x 55	1.2
76.1 mm	3.000	500	3530	0~0.06	4.00	5.90	1.81	2	⅜ x 2⅛	2.6
	76.1	35	15.46	0~1.6	102	150	46		M10 x 55	1.2
3	3.500	500	4800	0~0.06	4.52	6.50	1.81	2	½ x 3	3.3
80	88.9	35	21.09	0~1.6	115	165	46		M12 x 75	1.5
108.0 mm	4.250	500	7090	0~0.16	5.54	7.59	2.00	2	½ x 3	4.8
	108.0	35	31.13	0~4.1	141	193	51		M12 x 75	2.2
4	4.500	500	7940	0~0.16	5.82	7.79	2.00	2	½ x 3	4.8
100	114.3	35	34.87	0~4.1	148	198	51		M12 x 75	2.2
133.0 mm	5.250	450	9730	0~0.16	6.61	9.72	2.00	2	⅝ x 3½	6.0
	133.0	31	43.05	0~4.1	168	247	51		M16 x 90	2.7
139.7 mm	5.500	450	10680	0~0.16	6.8	9.45	2.00	2	⅝ x 3½	6.4
	139.7	31	47.49	0~4.1	173	240	51		M16 x 90	2.9
5	5.563	450	10930	0~0.16	6.88	9.84	2.00	2	⅝ x 3½	6.4
125	141.3	31	48.59	0~4.1	175	250	51		M16 x 90	2.9
165.1 mm	6.500	450	14920	0~0.16	7.87	11.02	2.09	2	⅝ x 3½	7.7
	165.1	31	66.33	0~4.1	200	280	53		M16 x 90	3.5
6	6.625	450	15500	0~0.16	8.07	11.18	2.09	2	⅝ x 3½	8.1
150	168.3	31	68.93	0~4.1	205	284	53		M16 x 90	3.7
8	8.625	300	17510	0~0.16	10.27	13.58	2.48	2	⅝ x 5	14.6
200	219.1	20	75.37	0~4.1	261	345	63		M16 x 135	6.6
10	10.750	300	27210	0~0.16	12.44	15.51	2.50	2	¾ x 4¾	18.6
250	273.0	20	117.01	0~4.1	316	394	64		M20 x 120	8.4
12	12.750	300	38280	0~0.16	14.17	18.00	2.50	2	⅞ x 6½	24.5
300	323.9	20	164.71	0~4.1	360	457	64		—	11.1
200 JIS	8.516	300	17070	0~0.16	10.00	13.58	2.48	2	⅝ x 5	15.2
	216.3	20	73.45	0~4.1	254	345	63		M16 x 135	6.9
250 JIS	10.528	300	26100	0~0.16	12.20	15.20	2.50	2	¾ x 4¾	19.3
	267.4	20	112.26	0~4.1	310	386	64		M20 x 120	8.7
300 JIS	12.539	300	37020	0~0.16	13.94	17.48	2.50	2	⅞ x 6½	26.0
	318.5	20	159.26	0~4.1	354	444	64		—	11.2
14	14.000	300	46150	0~0.13	16.25	20.28	2.95	3	⅞ x 4	31.9
350	355.6	20	198.53	0~3.2	413	515	75		—	14.5
16	16.000	300	60280	0~0.13	18.11	22.17	2.95	3	⅞ x 4	35.2
400	406.4	20	259.30	0~3.2	460	563	75		—	16.0
18	18.000	300	76300	0~0.13	20.51	24.21	3.11	3	⅞ x 4	37.4
450	457.2	20	328.18	0~3.2	521	615	79		—	17.0
20	20.000	300	94200	0~0.13	22.87	26.26	3.11	4	1 x 3½	52.8
500	508.0	20	405.16	0~3.2	581	667	79		—	24.0
22	22.000	250	94980	0~0.13	24.49	28.35	3.11	4	1 x 3½	58.3
550	558.8	17	416.71	0~3.2	622	720	79		—	26.5
24	24.000	250	113040	0~0.13	27.12	30.24	3.11	4	1 x 3½	62.6
600	609.6	17	495.92	0~3.2	689	768	79		—	28.4

** Working Pressure is based on roll grooved standard wall carbon steel pipe.

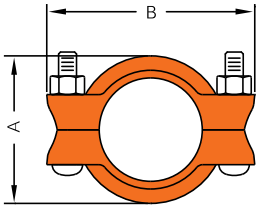
† Allowable Axial Displacement and Angular Movement (deflection) figures are for roll grooved standard steel pipe. Values for cut grooved pipe will be double that of roll grooved. These values are maximums; for design and installation purposes these figures should be reduced by: 50% for ¾" - 3½"; 25% for 4" and larger to compensate for jobsite conditions.

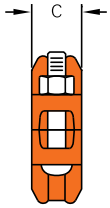
SHURJOINT®

Model

XH-1000 Extra Heavy Rigid Coupling

The **Shurjoint** Model XH-1000 is an extra heavy rigid coupling designed for high pressure services up to 1000 psi (70 Bar). This coupling is painted orange and is supplied with a standard C-shaped gasket and heavy duty bolts and nuts. The Model XH-1000 can be installed on standard roll or cut grooved pipes or components. Sizes 2" through 4" require a bolt torque of 60 - 70 Lbs-Ft. with some bolt gaps. For sizes 6" and above, the bolt pads will make metal to metal contact when properly installed with no torque wrench required.





Nominal Size	Pipe O.D.	Max. Working Pressure (CWP)*	Max. End Load (CWP)	Axial Displacement †	Dimensions			Bolt		Weight
					A	B	C	No.	Size	
in	in	PSI	Lbs	in	in	in	in		in	Lbs
mm	mm	Bar	kN	mm	mm	mm	mm			Kgs
2	2.375	1000	4420	0 ~ 0.14	3.50	5.71	1.92	2	⅝ x 2¾	3.4
50	60.3	69	19.98	0 ~ 3.6	90	145	49			1.6
2½	2.875	1000	6480	0 ~ 0.14	4.02	6.61	1.92	2	⅝ x 2¾	3.8
65	73.0	69	29.28	0 ~ 3.6	102	168	49			1.7
3	3.500	1000	9610	0 ~ 0.14	4.86	7.40	1.92	2	⅝ x 2¾	4.8
80	88.9	69	43.43	0 ~ 3.6	123	188	49			2.2
4	4.500	1000	15890	0 ~ 0.25	6.09	8.74	2.10	2	¾ x 4¾	8.4
100	114.3	69	71.79	0 ~ 6.4	155	222	53			3.8
6	6.625	1000	34450	0 ~ 0.25	8.58	11.61	2.25	2	⅞ x 5½	17.6
150	168.3	69	155.65	0 ~ 6.4	218	295	57			8.0
8	8.625	800	46710	0 ~ 0.25	10.83	14.33	2.75	2	1 x 5½	24.0
200	219.1	55	207.26	0 ~ 6.4	275	364	70			10.9
10	10.750	800	72570	0 ~ 0.25	13.15	16.70	2.95	2	1 x 5½	31.2
250	273.0	55	321.78	0 ~ 6.4	334	424	75			14.2
12	12.750	800	102080	0 ~ 0.25	15.35	18.90	2.95	2	1 x 5½	36.7
300	323.9	55	452.95	0 ~ 6.4	390	480	75			16.7

* Working Pressure is based on roll grooved standard wall carbon steel pipe. Stated pressure ratings have been developed with a safety factor. Please see Shurjoint's 2017 online installation instructions for most recently updated instructions. Proper installation is important to proper performance.

† 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 ¾" - 3½"; 25% for 4" and larger to compensate for jobsite conditions.

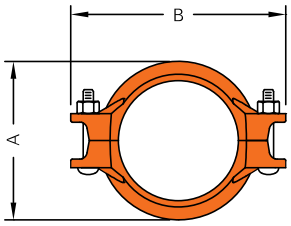
Sizes 2" through 4" require a bolt torque of 60 – 70 Lbs-Ft (80 – 95 Nm). Normally you can see some gaps between the bolt pads. Bolt pad gaps should be equal on both sides of the coupling.

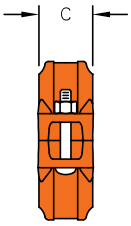
Sizes 6" through 12" are designed to make a metal-to-metal contact when properly installed.

Model

7705 Flexible Coupling

The **Shurjoint** Model 7705 is a standard flexible coupling designed for use in a variety of moderate pressure general piping applications. The Model 7705 coupling features flexibility that can accommodate misalignment, distortion, thermal stress, vibration, noise and seismic tremors. The Model 7705 can even accommodate an arced or curved piping layout. See Typical Applications - Flexible Couplings on page 191.





Nominal Size	Pipe O.D.	Max. Working Pressure (CWP)*	Max. End Load (CWP)	Axial Displace-ment †	Angular Movement**† Degree Per Coupling	Angular Movement**† Per Pipe	Dimensions A	Dimensions B	Dimensions C	Bolt Size	Weight
in	in	PSI	Lbs	in	(°)	in/ft	in	in	in	in	Lbs
mm	mm	Bar	kN	mm		mm/m	mm	mm	mm	mm	Kgs
1	1.315	500	670	0.0625	2° - 45′	0.58	2.24	3.94	1.81	⅜ x 1¾	1.3
25	33.4	35	3.12	1.6		48	57	100	46	M10 x 45	0.6
1¼	1.660	500	1080	0.0625	2° - 10′	0.46	2.60	4.06	1.81	⅜ x 2⅛	1.5
32	42.2	35	4.94	1.6		38	66	103	46	M10 x 55	0.7
1½	1.900	500	1410	0.0625	1° - 54′	0.4	2.83	4.25	1.81	⅜ x 2⅛	1.6
40	48.3	35	6.41	1.6		33	72	108	46	M10 x 55	0.7
2	2.375	500	2210	0.0625	1° - 31′	0.32	3.31	5.08	1.85	⅜ x 2⅛	1.8
50	60.3	35	9.99	1.6		27	84	129	47	M10 x 55	0.8
2½	2.875	500	3240	0.0625	1° - 15′	0.26	3.90	5.59	1.85	⅜ x 2⅛	2.0
65	73.0	35	14.64	1.6		22	99	142	47	M10 x 55	0.9
76.1 mm	3.000	500	3530	0.0625	1° - 12′	0.25	4.02	5.79	1.85	⅜ x 2⅛	2.1
	76.1	35	15.91	1.6		21	102	147	47	M10 x 55	1.0
3	3.500	500	4800	0.0625	1° - 02′	0.22	4.57	6.46	1.85	½ x 3	2.8
80	88.9	35	21.71	1.6		18	116	164	47	M12 x 75	1.3
101.6 mm	4.000	500	6280	0.0625	0° - 54′	0.19	5.07	7.24	1.85	½ x 3	3.6
	101.6	35	28.36	1.6		16	129	184	47	M12 x 75	1.6
108.0 mm	4.250	500	7080	0.1250	1° - 42′	0.36	5.43	7.56	2.05	½ x 3	4.1
	108.0	35	32.05	3.2		30	138	192	52	M12 x 75	1.9
4	4.500	500	7940	0.1250	1° - 36′	0.34	5.71	7.76	2.05	½ x 3	4.1
100	114.3	35	35.89	3.2		28	145	197	52	M12 x 75	1.9
133.0 mm	5.250	450	9730	0.1250	1° - 23′	0.29	6.50	9.09	2.05	⅝ x 3½	5.1
	133.0	31	43.05	3.2		24	165	231	52	M16 x 90	2.3
139.7 mm	5.500	450	10680	0.1250	1° - 18′	0.28	6.69	9.76	2.05	⅝ x 3½	5.9
	139.7	31	47.49	3.2		23	170	248	52	M16 x 90	2.7
5	5.563	450	10930	0.1250	1° - 18′	0.27	6.77	9.17	2.05	⅝ x 3½	5.9
125	141.3	31	48.59	3.2		23	172	233	52	M16 x 90	2.7
159.0 mm	6.250	450	13790	0.1250	1° - 09′	0.24	7.48	9.96	2.05	⅝ x 3½	6.6
	159.0	31	61.52	3.2		20	190	253	52	M16 x 90	3.0
165.1 mm	6.500	450	14920	0.1250	1° - 07′	0.24	7.72	10.28	2.09	⅝ x 3½	6.8
	165.1	31	66.33	3.2		20	196	261	53	M16 x 90	3.1
6	6.625	450	15500	0.1250	1° - 05′	0.23	7.87	10.55	2.09	⅝ x 3½	7.0
150	168.3	31	68.93	3.2		19	200	268	53	M16 x 90	3.2
8	8.625	300	17510	0.1250	0° - 50′	0.18	10.24	13.27	2.44	⅝ x 3½	12.8
200	219.1	20	75.37	3.2		15	260	337	62	M16 x 90	5.8
8 (7705H)	8.625	450	26270	0.1250	0° - 50′	0.18	10.47	13.07	2.44	¾ x 4¾	15.7
200	219.1	31	116.82	3.2		15	266	332	62	M20 x 120	7.1
10	10.750	300	27210	0.1250	0° - 40′	0.14	12.64	15.59	2.56	¾ x 4¾	18.0
250	273.0	20	117.01	3.2		12	321	396	65	M20 x 120	8.2
12	12.750	300	38280	0.1250	0° - 34′	0.12	14.56	17.72	2.56	⅞ x 6½	23.8
300	323.9	20	164.71	3.2		10	372	450	65	—	10.8
200 JIS	8.516	300	17079	0.1250	0° - 51′	0.18	10.00	13.70	2.36	¾ x 4¾	12.8
	216.3	20	73.45	3.2		15	254	348	60	M20 x 120	5.8
250 JIS	10.528	300	26103	0.1250	0° - 41′	0.15	13.27	15.28	2.56	¾ x 4¾	17.6
	267.4	20	112.26	3.2		12	337	388	65	M20 x 120	8.0
300 JIS	12.539	300	37027	0.1250	0° - 35′	0.12	15.31	17.48	2.56	⅞ x 6½	22.6
	318.5	20	159.26	3.2		10	389	444	65	—	10.3

All DIN size 7705 couplings up to DN150 size and the DN200 7705H coupling are VdS approved in addition to cULus and FM approvals.

* Working Pressure is based on roll grooved standard wall carbon steel pipe.

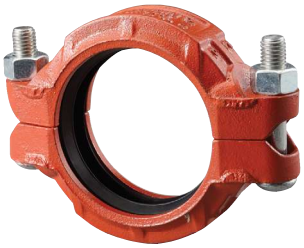
† Allowable Axial Displacement and Angular Movement (deflection) figures are for roll grooved standard steel pipe. Values for cut grooved pipe will be double that of roll grooved. These values are maximums; for design and installation purposes these figures should be reduced by: 50% for ¾′/DN20 - 3½′/DN90; 25% for 4′/DN100 and larger to compensate for jobsite conditions.

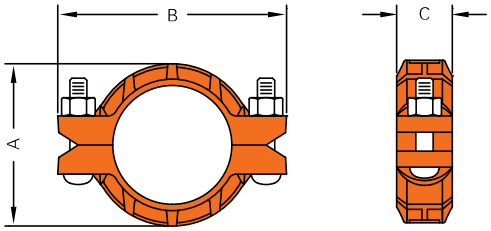
** Deflection or angular movement given is the maximum value that a coupling allows. When using the given maximum angles for a curved layout, proper bracing should be used to counter pressure thrust that will occur when the system is pressurized. Flexible couplings can be used for angular movement and 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.

Model

7707 Heavy Duty Flexible Coupling

The **Shurjoint** Model 7707 heavy duty flexible coupling is designed for use in a variety of general piping applications of moderate or high pressure services. Working pressure is usually dictated by the wall thickness and rating of the pipe being used. The Model 7707 couplings feature flexibility that can accommodate misalignment, distortion, thermal stress, vibration, noise and seismic tremors. The Model 7707 can even accommodate an arced or curved piping layout. See Typical Applications - Flexible Couplings on page 191.





¾"~12"

Nominal Size	Pipe O. D.	Max. Working Pressure (CWP)**	Max. End Load (CWP)	Axial Displacement †	Angular Movement ‡† Degree Per Coupling	Angular Movement ‡† Per Pipe	Dimensions A	Dimensions B	Dimensions C	Bolts No.	Bolts Size	Weight
in	in	PSI	Lbs	in	(°)	in / ft	in	in	in		in	Lbs
mm	mm	Bar	kN	mm		mm / m	mm	mm	mm		mm	Kgs
¾	1.050	1000	865	0.0625	3° – 23′	0.71	2.13	3.74	1.81	2	⅜ x 2⅛	1.3
20	26.7	69	3.79	1.6		58	54	95	46		M10x55	0.6
1	1.315	1000	1360	0.0625	2° – 45′	0.58	2.40	4.02	1.81	2	⅜ x 2⅛	1.7
25	33.4	69	6.15	1.6		48	61	102	46		M10x55	0.8
1¼	1.660	1000	2160	0.0625	2° – 10′	0.45	2.76	4.45	1.81	2	½ x 3	2.1
32	42.2	69	9.64	1.6		38	70	113	46		M12x75	1.0
1½	1.900	1000	2830	0.0625	1° – 54′	0.40	3.00	4.57	1.81	2	½ x 2⅜	2.1
40	48.3	69	12.64	1.6		33	76	116	46		M12x60	1.0
2	2.375	1000	4430	0.0625	1° – 31′	0.31	3.50	5.35	1.81	2	½ x 3	2.6
50	60.3	69	19.69	1.6		26	90	136	46		M12x75	1.2
2½	2.875	1000	6490	0.0625	1° – 15′	0.26	4.00	5.98	1.85	2	½ x 3	2.9
65	73.0	69	28.86	1.6		22	102	152	47		M12x75	1.3
76.1 mm	3.000	1000	7065	0.0625	1° – 12′	0.25	4.06	6.02	1.85	2	½ x 3	2.9
	76.1	69	31.37	1.6		21	103	153	47		M12x75	1.3
3	3.500	1000	9620	0.0625	1° – 02′	0.21	4.88	6.34	1.85	2	½ x 3	3.3
80	88.9	69	42.81	1.6		18	124	161	47		M12x75	1.5
4	4.500	1000	15900	0.1250	1° – 36′	0.33	6.18	8.03	2.05	2	⅝ x 3½	4.6
100	114.3	69	70.76	3.2		27	157	204	52		M16x90	2.1
139.7 mm	5.500	1000	23750	0.1250	1° – 18′	0.27	7.32	9.41	2.09	2	⅝ x 3½	6.8
	139.7	69	105.71	3.2		23	186	239	53		M16x90	3.1
5	5.563	1000	24295	0.1250	1° – 18′	0.27	7.32	9.65	2.09	2	⅝ x 3½	7.2
125	141.3	69	108.14	3.2		22	186	245	53		M16x90	3.3
165.1 mm	6.500	1000	33170	0.1250	1° – 07′	0.23	8.11	10.24	2.09	2	¾ x 4¾	7.9
	165.1	69	147.64	3.2		19	211	260	53		M20x120	3.6
6	6.625	1000	34455	0.1250	1° – 05′	0.22	8.24	10.75	2.09	2	¾ x 4¾	8.1
150	168.3	69	153.42	3.2		19	214	273	53		M20x120	3.7
8	8.625	800	46720	0.1250	0° – 50′	0.18	10.86	13.23	2.44	2	¾ x 4¾	14.5
200	219.1	55	207.26	3.2		15	276	336	62		M20x120	6.6
10	10.750	800	72575	0.1250	0° – 40′	0.14	13.50	16.10	2.56	2	⅞ x 6½	23.3
250	273.0	55	321.78	3.2		11	343	409	65		—	10.6
12	12.750	800	102090	0.1250	0° – 34′	0.12	15.35	18.50	2.60	2	⅞ x 6½	26.4
300	323.9	55	452.95	3.2		10	390	470	66		—	12.0
200 JIS	8.516	800	45545	0.1250	0° – 51′	0.18	10.86	13.03	2.36	2	¾ x 4¾	13.9
	216.3	55	202.00	3.2		15	276	331	60		M20x120	6.3
250 JIS	10.528	800	69610	0.1250	0° – 41′	0.14	13.27	15.87	2.60	2	⅞ x 6½	22.4
	267.4	55	308.71	3.2		12	337	403	66		—	10.2
300 JIS	12.539	800	98740	0.1250	0° – 35′	0.12	15.31	18.11	2.60	2	⅞ x 6½	25.5
	318.5	55	437.98	3.2		10	389	460	66		—	11.6

** Working Pressure is based on roll 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 ¾" - 3½"; 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.

* Non-standard/stock items may require longer lead time.

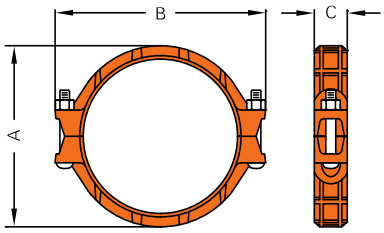
Model

7707N Flexible Coupling

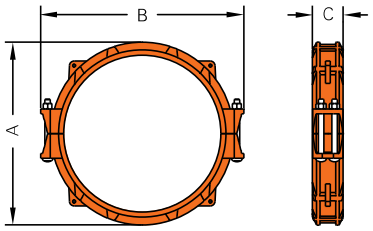
The **Shurjoint** Model 7707N is a two-segment, flexible coupling for use with standard pipe, roll or cut grooved to AWWA C606 specifications. For 26", see page 189 for groove dimensions.

14" ~ 24"

26"



14"~ 24"



26"

Nominal Size	Pipe O.D.	Max. Working Pressure (CWP)*	Max. End Load (CWP)	Axial Displacement †	Angular Movement**† Degree Per Coupling	Angular Movement**† Per Pipe	Dimensions A	Dimensions B	Dimensions C	Bolt No.	Bolt Size	Weight
in	in	PSI	Lbs	in	(°)	in / ft	in	in	in		in	Lbs
mm	mm	Bar	kN	mm		mm / m	mm	mm	mm			Kgs
14	14.00	300	46150	0.125	0° – 31′	0.06	16.23	19.80	2.95	2	⅞ x 6½	34.5
350	355.6	20	198.53	3.2		4.5	412.0	503.0	75.0			15.7
16	16.00	300	60280	0.125	0° – 27′	0.05	18.23	21.85	2.95	2	1 x 6½	37.0
400	406.4	20	259.30	3.2		4.0	463.0	555.0	75.0			16.8
18	18.00	300	76300	0.125	0° – 24′	0.04	20.45	24.06	3.11	2	1 x 6½	47.1
450	457.2	20	327.89	3.2		3.5	520.0	611.0	79.0			22.3
20	20.00	300	94200	0.125	0° – 22′	0.04	22.48	26.38	3.11	2	1 x 6½	54.4
500	508.0	20	405.16	3.2		3.0	571.0	670.0	79.0			24.7
22	22.00	300	113980	0.125	0° – 19′	0.04	24.46	30.16	3.11	2	1⅛ x 6½	63.0
550	558.8	20	490.60	3.2		3.0	621.4	766.0	79.0			28.6
24	24.00	300	135640	0.125	0° – 18′	0.03	26.55	30.43	3.11	2	1⅛ x 6½	65.1
600	609.6	20	584.20	3.2		2.5	674.0	773.0	79.0			29.5
26	26.00	300	159190	0.125	0° – 17′	0.03	29.68	33.15	4.94	4	⅞ x 9⅝	143.0
650	660.4	20	684.72	3.2		2.5	754.0	842.0	125.6			65.0

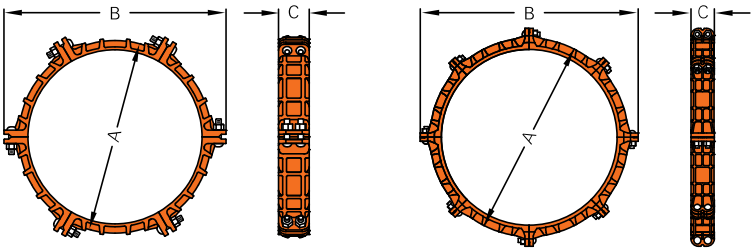
* Working pressure is based on roll-grooved standard wall carbon steel pipe.
Pressure ratings are based on cut-grooved XS carbon steel pipe, refer to page 51 on STD & LW carbon steel pipes.
† Allowable Axial Displacement and Angular Movement (deflection) figures are for roll grooved standard steel pipe. 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 ¾" - 3½"; 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.

SHURJOINT®

Model

7707L Large Diameter Coupling

The **Shurjoint** Model 7707L large diameter couplings in sizes 28″ - 42″ (700 mm - 1050 mm) are designed for joining large diameter IPS pipe that can be roll grooved. All couplings feature a six to eight segment design, incorporating two bolts at each segment joint to ensure a positive connection and seal.



28″~ 36″ 40″~ 42″

Nominal Size	Pipe O.D.	Max. Working Pressure (CWP)*	Max. End Load (CWP)	Axial Displacement †	Angular Movement**† Degree Per Coupling	Angular Movement**† Per Pipe	Dimensions A	Dimensions B	Dimensions C	Bolt No.	Bolt Size	Weight
in	in	PSI	Lbs	in	(°)	in / ft	in	in	in		in	Lbs
mm	mm	Bar	kN	mm		mm / m	mm	mm	mm			Kgs
28	28.0	175	107700	0.250	—	—	32.0	35.98	5.0	12	⅞ x 4	180
700	711.2	12	476.47	6.4		—	813	914	127			82
30	30.0	175	123630	0.250	—	—	34.0	38.07	5.0	12	⅞ x 4	209
750	762.0	12	546.97	6.4		—	864	967	127			95
32	32.0	175	140670	0.250	—	—	36.0	40.08	5.0	12	⅞ x 4	207
800	812.8	12	622.33	6.4		—	914	1018	127			94
34	34.0	175	158800	0.250	—	—	38.3	42.00	5.0	12	⅞ x 4	198
850	863.6	12	702.55	6.4		—	974	1066	127			90
36	36.0	175	178030	0.250	—	—	40.0	44.02	5.0	12	⅞ x 4	212
900	914.4	12	787.63	6.4		—	1016	1118	127			96
40	40.0	175	219800	0.250	—	—	43.5	49.49	5.4	16	1 x 3½	271
1000	1016.0	12	972.39	6.4		—	1105	1257	138			123
42	42.0	175	242330	0.250	—	—	45.5	51.57	5.4	16	1 x 3½	313
1050	1066.8	12	1072.05	6.4		—	1156	1310	138			142

* Working pressure is based on roll-grooved standard wall carbon steel pipe.
Pressure ratings are based on cut-grooved XS carbon steel pipe, refer to page 51 on STD & LW carbon steel pipes.
† 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 ¾" - 3½"; 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.

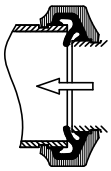
Model

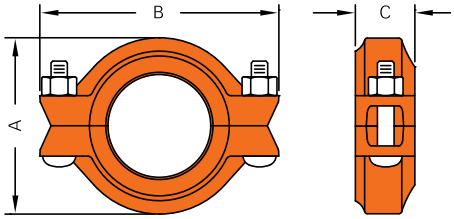
7706 Reducing Coupling

The **Shurjoint** Model 7706 reducing coupling allows for direct reduction on a piping run and eliminates the need for a concentric reducer and additional couplings.

The specially designed rubber gasket helps prevent small pipe from telescoping into larger pipe during vertical assembly.

Caution: 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.





Nominal Size	Pipe O.D.	Max. Working Pressure (CWP)*	Max. End Load (CWP)	Axial Displace-ment †	Angular Movement**† Degree Per Coupling	Angular Movement**† Per Pipe	Dimensions A	Dimensions B	Dimensions C	Bolt Size	Weight
in	in	PSI	Lbs	in	(°)	in / ft	in	in	in	in	Lbs
mm	mm	Bar	kN	mm		mm / m	mm	mm	mm	mm	Kgs
1½ x 1¼	1.900 x 1.660	500	1410	0 ~ 0.065	1° - 54′	0.20	2.83	4.65	1.81	⅜ x 2⅛	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 1½	2.375 x 1.900	500	2210	0 ~ 0.065	1° - 31′	0.16	3.35	4.80	1.89	⅜ x 2⅛	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
2½ x 2	2.875 x 2.375	500	3240	0 ~ 0.065	1° - 15′	0.13	3.78	5.67	1.89	⅜ x 2⅛	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
76.1 mm x 50	3.000 x 2.375	500	3530	0 ~ 0.065	1° - 12′	0.13	4.02	5.67	1.89	⅜ x 2⅛	2.6
	76.1 x 60.3	35	15.46	0 ~ 1.6		11	102	144	48	M10 x 55	1.2
3 x 2	3.500 x 2.375	500	4800	0 ~ 0.065	1° - 02′	0.11	4.57	6.61	1.89	½ 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 2½	3.500 x 2.875	500	4800	0 ~ 0.065	1° - 02′	0.11	4.57	6.61	1.89	½ 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
80 x 76.1 mm	3.500 x 3.000	500	4800	0 ~ 0.065	1° - 02′	0.11	4.57	6.61	1.89	½ x 3	3.7
	88.9 x 76.1	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	½ 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 2½	4.500 x 2.875	500	7940	0 ~ 0.095	1° - 12′	0.13	5.75	7.80	1.93	½ 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
100 x 76.1 mm	4.500 x 3.000	500	7940	0 ~ 0.095	1° - 12′	0.13	5.75	7.80	1.93	½ x 3	5.7
	114.3 x 76.1	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	½ 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
139.7 mm x 100	5.500 x 4.500	400	9490	0 ~ 0.125	1° - 18′	0.14	6.30	9.45	2.01	⅝ x 3½	8.4
	139.7 x 114.3	28	42.90	0 ~ 3.2		12	160	240	51	M16 x 90	3.8
5 x 4	5.563 x 4.500	400	9710	0 ~ 0.125	1° - 18′	0.14	6.30	9.84	2.01	⅝ x 3½	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
165.1 mm x 80	6.500 x 3.500	400	13260	0 ~ 0.125	1° - 07′	0.12	7.95	10.63	2.05	⅝ x 3½	10.1
	165.1 x 88.9	28	59.91	0 ~ 3.2		10	202	270	52	M16 x 90	4.6
6 x 3	6.625 x 3.500	400	13780	0 ~ 0.125	1° - 06′	0.12	8.19	10.63	2.05	⅝ x 3½	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
165.1 mm x 100	6.500 x 4.500	400	13260	0 ~ 0.125	1° - 07′	0.12	7.95	10.67	2.05	⅝ x 3½	9.9
	165.1 x 114.3	28	59.91	0 ~ 3.2		10	202	271	52	M16 x 90	4.5
6 x 4	6.625 x 4.500	400	13780	0 ~ 0.125	1° - 06′	0.12	8.19	10.63	2.05	⅝ x 3½	9.9
150 x 100	168.3 x114.3	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	¾ x 4¾	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
200 x 165.1 mm	8.625 x 6.500	400	23350	0 ~ 0.125	0° - 50′	0.09	10.24	13.11	2.20	¾ x 4¾	14.3
	219.1 x 165.1	28	105.51	0 ~ 3.2		8	260	333	56	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 ¾" - 3½"; 25% for 4" and larger to compensate for jobsite conditions.

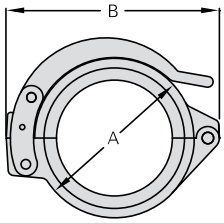
** Deflection or angular movement given is the maximum value that a coupling allows. When using the given maximum angles for a curved layout, proper bracing should be used to counter pressure thrust that will occur when the system is pressurized. Flexible couplings can be used for angular movement and 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.

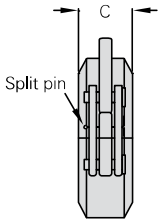
SHURJOINT®

Model

G28 Hinged Lever Coupling

The Model G28 Hinged Lever Coupling is designed for quick connect and disconnect services. The housing segments are hinged with a locking lever handle for easy assembly. The use of the split pin can secure and prevent the accidental opening of the coupling.





Nominal Size	Pipe O.D.	Max. Working Pressure (CWP)**	Max. End Load (CWP)	Axial Displacement †	Angular Movement / Deflection**†	Dimensions			Weight
						A	B	C	
in	in	PSI	Lbs	in	(°)	in	in	in	Lbs
mm	mm	Bar	kN	mm		mm	mm	mm	Kgs
1½	1.900	300	850	0 – 0.06	1° - 54'	2.95	4.65	1.85	2.2
40	48.3	20	3.66	0 – 1.6		75	118	47	1.0
2	2.375	300	1320	0 – 0.06	1° - 45'	3.43	5.08	1.85	2.4
50	60.3	20	5.71	0 – 1.6		87	129	47	1.1
2½	2.875	300	1940	0 – 0.06	1° - 15'	3.94	5.63	1.85	3.1
65	73.0	20	8.37	0 – 1.6		100	143	47	1.4
76.1 mm	3.000	300	2120	0 – 0.06	1° - 12'	4.06	5.67	1.85	3.1
	76.1	20	9.09	0 – 1.6		103	144	47	1.4
3	3.500	300	2880	0 – 0.06	1° - 12'	4.69	6.46	1.85	4.0
80	88.9	20	12.41	0 – 1.6		119	164	47	1.7
4	4.500	300	4760	0 – 0.13	1° - 36'	5.98	7.95	2.05	5.9
100	114.3	20	20.51	0 – 3.2		152	202	52	2.7
139.7 mm	5.500	300	7120	0 – 0.13	1° - 18'	6.97	9.80	2.05	10.8
	139.7	20	30.64	0 – 3.2		177	249	52	4.9
5	5.563	300	7280	0 – 0.13	1° - 18'	7.05	10.00	2.05	10.8
125	141.3	20	31.35	0 – 3.2		179	254	52	4.9
165.1 mm	6.500	300	9950	0 – 0.13	1° - 07'	7.80	10.87	2.05	13.2
	165.1	20	42.80	0 – 3.2		198	276	52	6.0
6	6.625	300	10330	0 – 0.13	1° - 05'	8.11	11.02	2.05	13.2
150	168.3	20	44.47	0 – 3.2		206	280	52	6.0
8	8.625	300	17510	0 – 0.13	0° - 50'	10.08	13.58	2.44	15.2
200	219.1	20	75.37	0 – 3.2		256	345	62	6.9
10	10.750	300	27210	0 – 0.13	0° - 40'	12.68	17.48	2.60	36.1
250	273.0	20	117.01	0 – 3.2		322	444	66	16.4

* Working pressure is based on roll 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 ¾" - 3½"; 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.

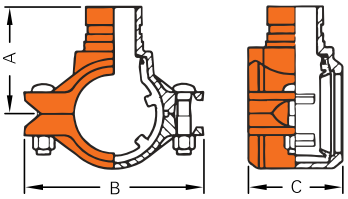
Expansion Pipe

Lever handles are factory assembled tight for safety. The use of an expansion pipe will aid the easy opening and closing. Expansion pipes are available upon request.

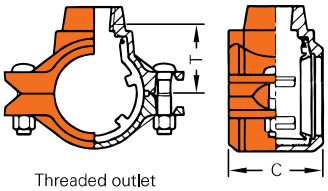
Model

C-7 Outlet Coupling

The Model C-7 Outlet Coupling combines the features of a coupling and a reducing outlet. The C-7 facilitates an easy reducing branch outlet without the need of a mechanical tee or reducing tee and couplings. The C-7 is available with grooved, male threaded or female threaded outlets. This fitting is recommended for fire sprinkler and other pipelines of moderate pressure. The C-7 Outlet Coupling can be used for dry pipe systems or vacuum services up to 10 inHg or 254 mmHg, which may occur when the system is drained.



Grooved outlet



Threaded outlet

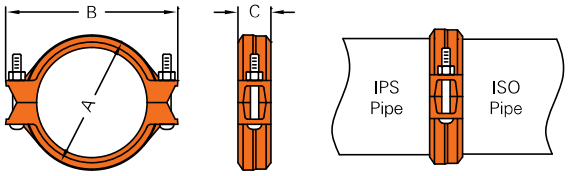
Nominal Size			Max. Working Pressure	Axial Displacement	Max. End Load	Dimensions				Bolt Size	Weight
Run Pipe	Outlet FPT	Outlet Gr / MPT	(CWP)‡		(CWP)	T**	A	B	C		
in	in	in	PSI	in	Lbs	in	in	in	in	in	Lbs
mm	mm	mm	Bar	mm	kN	mm	mm	mm	mm	mm	Kgs
	½	—	500	0.81~0.88		2.06	—	4.50	2.75		2.6
	15	—	35	20~22		52	—	114.3	70.0		1.2
1½	¾	—	500	0.81~0.88	1050	2.06	—	4.50	2.75	⅜ x 2⅛	2.6
40	20	—	20	20~22	4.7	52	—	114.3	70.0	M10 x 55	1.2
	1	—	500	0.81~0.88		1.94	—	4.50	2.75		2.9
	25	—	35	20~22		49	—	114.3	70.0		1.3
	½	—	500	0.81~0.88		2.32	—	5.00	2.75		3.1
	15	—	35	20~22		59	—	127.0	70.0		1.4
2	¾	—	500	0.81~0.88	2180	2.32	—	5.00	2.75	⅜ x 2⅛	3.1
50	20	—	35	20~22	9.7	59	—	127.0	70.0	M10 X 55	1.4
	1	1	500	0.81~0.88		2.20	3.50	5.00	2.75		3.3
	25	33.4	35	20~22		56	89.0	127.0	70.0		1.5
	½	—	500	1.25~1.50		2.20	—	6.33	3.25		4.8
	15	—	35	32~38		56	—	161.0	83.0		2.2
	¾	—	500	1.25~1.50		2.56	—	6.33	3.25		4.6
	20	—	35	32~38		65	—	161.0	83.0		2.1
2½	1	—	500	1.25~1.50	3200	2.44	—	6.33	3.25	½ x 2⅜	4.4
65	25	—	35	32~38	14.2	62	—	161.0	83.0	M12 X 60	2.0
	1¼	1¼	500	1.25~1.50		2.36	3.70	6.33	3.25		5.1
	32	42.2	35	32~38		60	94.0	161.0	83.0		2.3
	—	1½	500	1.25~1.50		—	3.70	6.33	3.25		5.9
	—	48.3	35	32~38		—	94.0	161.0	83.0		2.4
	¾	—	500	1.25~1.50		2.83	—	6.87	3.25		5.9
	20	—	35	32~38		72	—	175.0	83.0		2.7
3	1	1	500	1.25~1.50	4750	2.75	4.00	6.87	3.25	½ x 3	6.2
80	25	33.4	35	32~38	21.0	70	102.0	175.0	83.0	M12 X 75	2.8
	1½	1½	500	1.25~1.50		2.75	4.00	6.87	3.25		6.4
	40	48.3	35	32~38		70	102.0	175.0	83.0		2.9
	¾	—	500	1.63~1.81		3.70	—	8.31	3.66		9.2
	20	—	35	41~46		94	—	211.0	93.0		4.2
	1	1	500	1.63~1.81		3.58	4.88	8.31	3.66		9.5
4	25	33.4	35	41~46	7840	91	124.0	211.0	93.0	⅝ x 3½	4.3
100	1½	1½	500	1.63~1.81	34.9	3.31	4.88	8.31	3.66	M16 X 90	9.5
	40	48.3	35	41~46		84	124.0	211.0	93.0		4.3
	2	2	500	1.63~1.81		3.50	4.88	8.31	3.66		9.9
	50	60.3	35	41~46		89	124.0	211.0	93.0		4.5
	¾	—	400	1.63~1.81		4.76	—	10.86	3.70		13.2
	20	—	28	41~46		121	—	276.0	94.0		6.0
	1	—	400	1.63~1.81		4.76	—	10.86	3.70		13.2
6	25	—	28	41~46	14000	121	—	276.0	94.0	⅝ x 3½	6.0
150	1½	1½	400	1.63~1.81	62.3	4.76	6.06	10.86	3.70	M16 X 90	13.6
	40	48.3	28	41~46		121	154.0	276.0	94.0		6.2
	2	2	400	1.63~1.81		4.40	6.06	10.86	3.70		14.3
	50	60.3	28	41~46		111	154.0	276.0	94.0		6.5

FPT: Female threaded outlet
Gr: Grooved outlet
MPT: Male threaded outlet.
** T: Center of run pipe to end of outlet pipe (dimensions approximate). Female threaded outlet only.
‡ Working pressure is based on roll grooved standard wall carbon steel pipe.

Model

7706-T Transition Coupling

Model 7706-T Transition Couplings allows for a direct transition from IPS pipe sizes to ISO pipe sizes.



Nominal Size	Pipe O.D.	Max. Working Pressure (CWP)*	Max. End Load (CWP)	Axial Displace-ment †	Angular Movement**†		Dimensions			Bolt Size	Weight
					Degree Per Coupling	Per Pipe	A	B	C		
in	in	PSI	Lbs	in	(°)	in / ft	in	in	in	in	Lbs
mm	mm	Bar	kN	mm		mm / m	mm	mm	mm	mm	Kgs
2½ x 76.1 mm	2.875 x 3.000	500	2110	0 ~ 0.065	1° - 12′	0.13	4.02	5.43	1.89	⅜ x 2⅛	2.6
	73.0 x 76.1	35	9.09	0 ~ 1.6		11	102	138	48	M10 x 55	1.2
6 x 165.1 mm	6.625 x 6.500	400	9940	0 ~ 0.125	0° - 33′	0.12	7.87	10.63	2.09	⅝ x 3½	7.7
	168.3 x 165.1	28	42.80	0 ~ 3.2		10	200	270	53	M16 x 90	3.5

* Working Pressure is based on roll 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 ¾" - 3½"; 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.

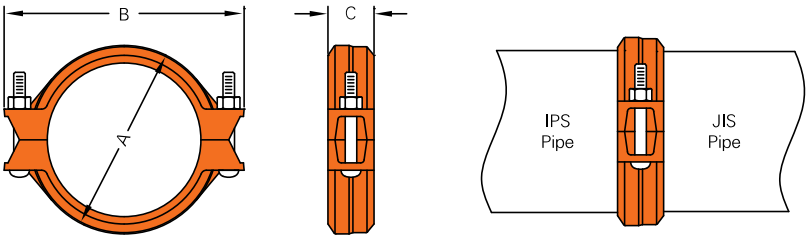
Model

7771-T Transition Coupling

The **Shurjoint** Model 7771-T Transition Coupling allows for a direct transition from IPS pipe sizes to JIS pipe sizes. Available in nominal pipe sizes from 8" through 12" this coupling can accommodate a combination of pipes, valves and or fittings with a single coupling. Bolt pads are designed to make metal to metal contact to provide for a secure and rigid joint.

The stepped exterior design of the housings help to ensure the correct positioning of IPS and JIS sides.

Stepped design



Nominal Size	Actual Pipe O.D.		Max. Working Pressure (CWP)*	Max. End Load (CWP)	Total Axial Displacement †	Dimensions			Bolt Size	Weight
	IPS	JIS				A	B	C		
in	in	in	PSI	Lbs	in	in	in	in	mm	Lbs
mm	mm	mm	Bar	kN	mm	mm	mm	mm		Kgs
200 JIS	8.625	8.515	300	17520	0.13	10.20	13.19	2.50	M16 x 135	15.4
	219.1	216.3	20	75.37	3.2	259	335	63		7.0
250 JIS	10.750	10.528	300	27190	0.13	12.46	15.20	2.50	M20 x 120	19.8
	273.0	267.4	20	117.01	3.2	316	386	63		9.0
300 JIS	12.750	12.539	300	38280	0.13	14.45	17.64	2.50	M22 x 165	24.2
	323.9	318.5	20	164.71	3.2	367	448	63		11.0

For 6" (168.3) x 6" (165.1), see Model 7706-T.
* 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 ¾" - 3½"; 25% for 4" and larger to compensate for jobsite conditions.

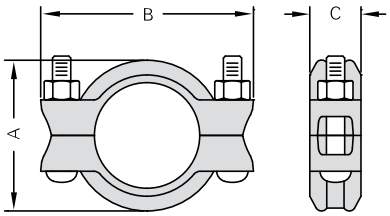
Model

XH-70EP Extra Heavy Rigid Coupling with End Protection (EP) Gasket

The Model XH-70EP is designed for use with plastic coated or cement lined pipe. The EP (end protection) gasket serves to form a continuous lined surface at the joint and also helps protect the pipe ends from corrosion. This coupling is rated up to 2500 psi (175 Bar) when used in conjunction with machined EP cut grooves and the applicable pipe.

CAUTION: Always fasten the bolts to the required torque.

EP Gasket

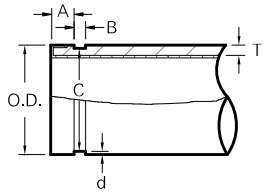


Nominal Size	Pipe O.D.	Max. Working Pressure (CWP)*	Max. End Load (CWP)	Dimensions A	Dimensions B	Dimensions C	Bolt No.	Bolt Size	Bolt Torque	Weight
in	in	PSI	Lbs	in	in	in		in	Lbs-Ft	Lbs
mm	mm	Bar	kN	mm	mm	mm			Nm	Kgs
2	2.375	2500	11070	3.54	5.71	1.92	2	⅝ x 2¾	60 - 90	3.3
50	60.3	175	50.0	90	145	49			80 - 120	1.5
2½	2.875	2500	16220	4.06	6.61	1.92	2	⅝ x 2¾	60 - 90	4.0
65	73.0	175	73.2	103	168	49			80 - 120	1.8
3	3.500	2500	24040	4.80	7.40	2.00	2	⅝ x 2¾	60 - 90	4.8
80	88.9	175	108.6	122	188	51			80 - 120	2.2
4	4.500	2500	39740	6.18	8.74	2.17	2	¾ x 4¾	74 - 170	8.8
100	114.3	175	179.5	157	222	55			100 - 235	4.0
6	6.625	2000	68910	8.58	11.61	2.25	2	⅞ x 5½	125 - 200	17.6
150	168.3	140	311.3	218	295	57			170 - 275	8.0
8	8.625	1500	116790	10.83	14.33	2.75	2	1 x 5½	200 - 300	24.0
200	219.1	105	527.6	275	364	70			275 - 400	10.9
10	10.750	1250	113400	13.15	16.70	2.95	2	1 x 5½	200 - 300	31.2
250	273.0	88	514.8	334	424	75			275 - 400	14.2
12	12.750	1250	159510	15.35	18.90	2.95	2	1 x 5½	200 - 300	36.7
300	323.9	88	724.7	390	480	75			275 - 400	16.7

* Pressures quoted are based on EP cut grooved XS (Sch. 80) pipe.

"EP" End Protection Cut Groove Specification

for XH-70EP Coupling (IPS sizes)



1. EP cut-grooves are for plastic coated or cement lined pipe to be connected with **Shurjoint** XH-70EP couplings only. Do not roll groove pipe, which can damage the coating or lining and or create flared pipe ends.
2. Always use plain-end square cut pipe. Do not use beveled end pipe.
3. Always use an EP gasket with a XH-70EP coupling. Do not use a standard gasket.
4. The gasket seating area shall be free from deep scores, marks, or ridges that could prevent a positive seal.

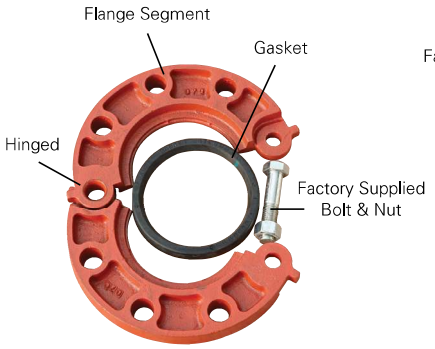
Nominal Size	Pipe O.D. Basic	Pipe O.D. Tolerance +	Pipe O.D. Tolerance -	A Gasket Seat Basic	A Gasket Seat Tol. ±	B Groove Width Basic	B Groove Width Tol. +0.010 / +0.25	C Groove Dia. Basic	C Groove Dia. Tol. +0 / +0	d Groove Depth (ref.)	t Min. Allowed Wall Thickness
in	in	in	in	in	in	in	in	in	in	in	in
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
2	2.375	+0.024	-0.024	0.562	±0.010	0.255	-0.005	2.250	-0.015	0.063	0.154
50	60.3	+0.61	-0.61	14.27	±0.25	6.48	-0.13	57.15	-0.38	1.60	3.91
2½	2.875	+0.029	-0.029	0.562	±0.010	0.255	-0.005	2.720	-0.018	0.078	0.188
65	73.0	+0.74	-0.74	14.27	±0.25	6.48	-0.13	69.09	-0.46	1.98	4.78
3	3.500	+0.035	-0.031	0.562	±0.010	0.255	-0.005	3.344	-0.018	0.078	0.188
80	88.9	+0.89	-0.79	14.27	±0.25	6.48	-0.13	84.94	-0.46	1.98	4.78
4	4.500	+0.045	-0.031	0.605	±0.015	0.305	-0.005	4.334	-0.020	0.083	0.203
100	114.3	+1.14	-0.79	15.37	±0.38	7.75	-0.13	110.08	-0.51	2.11	5.16
6	6.625	+0.063	-0.031	0.605	±0.015	0.305	-0.005	6.455	-0.022	0.085	0.219
150	168.3	+1.60	-0.79	15.37	±0.38	7.75	-0.13	163.96	-0.56	2.16	5.56
8	8.625	+0.063	-0.031	0.714	±0.015	0.400	-0.010	8.441	-0.025	0.092	0.238
200	219.1	+1.60	-0.79	18.14	±0.38	10.16	-0.25	214.40	-0.64	2.34	6.05
10	10.750	+0.063	-0.031	0.714	±0.015	0.400	-0.010	10.562	-0.027	0.094	0.250
250	273.0	+1.60	-0.79	18.14	±0.38	10.16	-0.25	268.28	-0.69	2.39	6.35
12	12.750	+0.063	-0.031	0.714	±0.015	0.400	-0.010	12.531	-0.030	0.109	0.279
300	323.9	+1.60	-0.79	18.14	±0.38	10.16	-0.25	318.29	-0.76	2.77	7.09

Flange Adapters

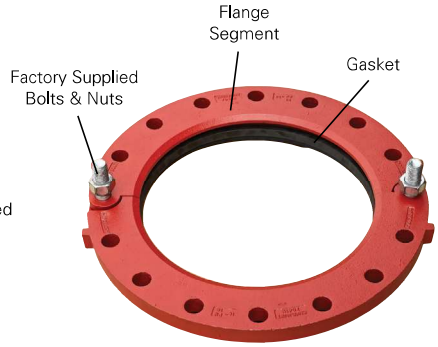
***Shurjoint** offers a variety of flange adapters 2" through 24" (50 mm – 600 mm) to transition from a flanged system to a grooved system. Flange drillings available include ANSI Class 125/150, Class 300, PN 10/16 and BS 10 Table E.*

Flange adapters 2" through 12" are supplied hinged as a single assembly while 14" through 24" (7041N) are supplied with two independent segments and a draw kit.

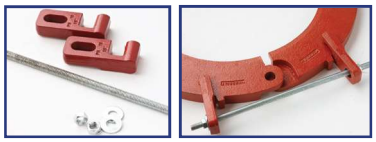
Always use factory-supplied bolts and nuts to assemble flange segments. The use of other bolts may cause joint failure. If the factory supplied bolts cannot be used for the component that is being connected consult Shurjoint technical services for further guidance.



7041 2" ~ 12"



7041N 14" ~ 24"
(With a draw kit)



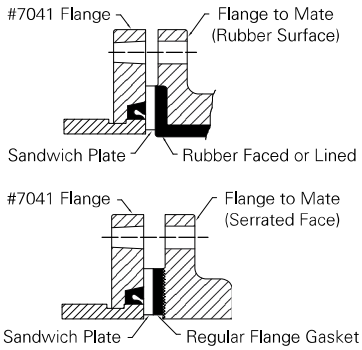
14" – 24": Supplied with a draw kit

Models 7041 / 7043 Flange Adapters

CAUTION

Important Notes

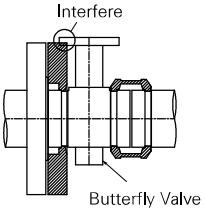
1. The Model 7041 flange adapter requires a hard flat face for effective sealing. Sealing surface D is the maximum inside face requirement, sealing surface E is the minimum outside face requirement. If the mating flange face is outside these dimensions, a flange gasket and model 49 sandwich plate (Model #49, see cut sheet #V-03) must be used. With the serrated faces of some valves or rubber-faced wafer valves, the mating surface might also be inadequate and a sandwich plate must be used.



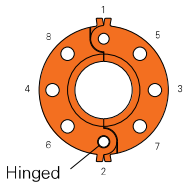
2. The Model 7041 flange adapter has small triangular teeth inside the key shoulder to prevent the pipe from rotating. These teeth should be removed when being connected to schedule 5 pipe, plastic pipe or components or surfaces that could be damaged by these teeth.

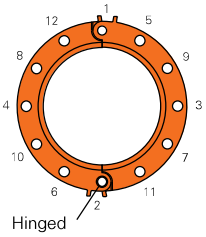
3. The Model 7041 flange adapter shall not be used as anchor points for tie-rods across non-restrained joints.

4. When assembling a Model 7041 flange adapter against a butterfly valve or ball valve, make sure that the outside diameter of the flange adapters do not interfere with the valve actuator or the mounting pad of the actuator.



5. Bolt tightening sequence: Like a regular flange joint, it is important to make flange faces contact parallel. Tighten nuts alternately in the sequence of diagonally opposite pairs as shown below until the flange faces meet and make a metal-to-metal contact. When using two model 7041 flange adapters to mate pipe, or wafer / lug valves, the hinge point locations must be staggered 90° to each other, a model 49 sandwich plate must be used where appropriate, and flange adapter segment housings must remain parallel during nut tightening sequence.

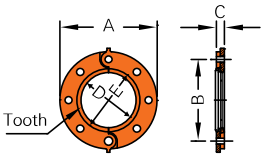




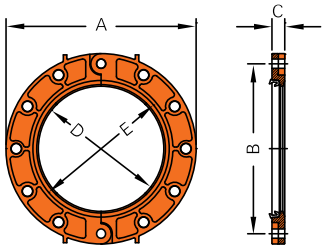
Model

7041 Flange Adapter - ANSI Class 125/150

The **Shurjoint** Model 7041 flange adapters 2" through 12" are supplied hinged as a single assembly, while 14" - 24" (7041N) are supplied with two independent segments and a draw kit.



2"~12"(Hinged)



7041N 14"~24"
(Supplied with a draw kit)

Nominal Size	Pipe O.D.	Max. Working Pressure (CWP)**	Max. End Load (CWP)	Dimensions			Sealing Surface		Bolt		Weight
				A	B	C	D	E	No.	Size	
in	in	PSI	Lbs	in	in	in	in	in		in	Lbs
mm	mm	Bar	kN	mm	mm	mm	mm	mm			Kgs
2	2.375	300	1330	6.00	4.75	0.75	2.38	3.07	4	⅝	4.0
50	60.3	20	5.71	152	121	19	60	78			1.8
2½	2.875	300	1950	7.00	5.50	0.87	2.88	3.54	4	⅝	5.1
65	73.0	20	8.37	178	140	22	73	90			2.3
3	3.500	300	2880	7.52	6.00	0.94	3.50	4.17	4	⅝	6.2
80	88.9	20	12.41	191	152	24	89	106			2.8
4	4.500	300	4770	9.00	7.50	0.94	4.50	5.20	8	⅝	8.3
100	114.3	20	20.51	229	191	24	114	132			3.8
5	5.563	300	7290	10.00	8.50	1.00	5.56	6.26	8	¾	10.3
125	141.3	20	31.35	254	216	25	141	159			4.7
6	6.625	300	10340	11.00	9.50	1.00	6.63	7.32	8	¾	11.1
150	168.3	20	44.47	279	241	25	168	186			5.0
8	8.625	300	17520	13.50	11.75	1.14	8.63	9.29	8	¾	17.2
200	219.1	20	75.37	343	298	29	219	236			7.8
10	10.750	300	27210	16.00	14.25	1.18	10.75	11.61	12	⅞	25.7
250	273.0	20	117.01	406	362	30	273	295			11.7
12	12.750	300	38280	19.02	17.00	1.25	12.75	13.62	12	⅞	37.6
300	323.9	20	164.71	483	432	32	324	346			17.1
14 (7041N)	14.000	300	46160	21.00	18.75	1.42	14.00	15.08	12	1	61.7
350	355.6	20	198.5	533	476	36	356	383			28.0
16 (7041N)	16.000	300	60290	23.50	21.25	1.42	16.00	16.97	16	1	77.1
400	406.4	20	259.3	597	540	36	406	431			35.0
18 (7041N)	18.000	300	76300	25.00	22.75	1.56	18.00	19.13	16	1⅛	86.0
450	457.2	20	328.2	635	578	40	457	486			39.0
20 (7041N)	20.000	300	94200	27.50	25.00	1.73	20.00	21.14	20	1⅛	109.1
500	508.0	20	405.2	699	635	44	508	537			49.5
24 (7041N)	24.000	300	135650	32.00	29.50	1.89	24.00	25.00	20	1¼	157.6
600	609.6	20	583.4	813	749	48	610	635			71.5

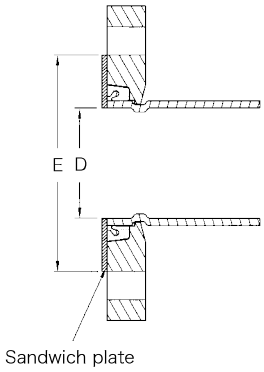
** Working Pressure is based on roll grooved standard wall carbon steel pipe.

Model

49 Sandwich Plate

The Model 7041 and 7043 flange adapters require a hard flat surface for effective gasket sealing. A sandwich plate is required and should always be used when the mating surface is not adequate as with the serrated faces of some valves or the rubber-faced or rubber-lined flange adapters of a wafer valve.

Material: Mild-steel, electro-zinc plated. Stainless steel, type 304 or 316 is available on request.

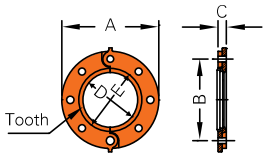


Nominal Size	E	D
in	in	in
mm	mm	mm
2	3.74	2.13
50	95	54
2½	4.65	2.64
65	118	67
3	5.12	3.19
80	130	81
4	6.22	4.13
100	158	105
5	7.40	5.00
125	188	128
6	8.50	6.10
150	216	155
8	10.67	8.07
200	271	205
10	12.83	10.15
250	326	258
12	15.00	12.00
300	381	305
14	17.40	13.46
350	442	342
16	19.92	15.43
400	506	392
18	21.26	17.44
450	540	443
20	23.50	19.45
500	597	494
24	27.87	23.46
600	708	596

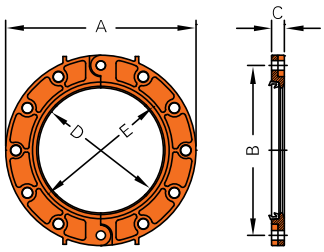
Model

7041 Flange Adapter - PN 10 / PN 16

The **Shurjoint** Model 7041 flange adapter allows for a direct connection with PN 10/16 flanges. The two-segment design provides an easy and fast installation. 2" through 12" flange adapters are supplied hinged as a single assembly, while 14" - 24" (7041N) are supplied with two independent segments and a draw kit.



2"~12"(Hinged)



7041N 14"~24"
(Supplied with a draw kit)

Nominal Size	Pipe O.D.	Max. Working Pressure (CWP)*	Max. End Load (CWP)	Dimensions			Sealing Surface		Bolt		Weight
				A	B	C	D	E	No.	Size	
in	in	PSI	Lbs	mm	mm	mm	mm	mm		mm	Lbs
mm	mm	Bar	kN								Kgs
2	2.375	300	1000	165	125	22	60	78	4	M16	5.1
50	60.3	20	4.6								2.3
76.1 mm	3.000	300	1590	185	145	22	76	92	4	M16	5.7
	76.1	20	7.3								2.6
3	3.500	300	2165	200	160	24	89	106	8	M16	7.1
80	88.9	20	9.9								3.2
4	4.500	300	3580	220	180	24	114	132	8	M16	7.5
100	114.3	20	16.4								3.4
139.7 mm	5.500	30	5340	250	210	25	140	159	8	M16	9.8
	139.7	20	24.5								4.4
165.1 mm	6.500	300	7460	285	240	24	165	182	8	M20	11.3
	165.1	20	34.2								5.1
6	6.625	300	7750	285	240	24	168	182	8	M20	10.1
150	168.3	20	35.6								4.6
8	8.625	300	13140	340	295	29	219	236	12	M20	17.2
200	219.1	20	60.3								7.8
10	10.750	300	20410	405	355	30	273	295	12	M24	25.2
250	273.0	20	93.6								11.4
12	12.750	300	28710	460	410	32	324	346	12	M24	30.2
300	323.9	20	131.8								13.7
14 (7041N)	14.000	300	46160	520	470	36	356	383	16	M24	48.7
350	355.6	20	198.5								22.1
16 (7041N)	16.000	300	60290	580	525	38	406	431	16	M27	59.7
400	406.4	20	259.3								27.1
18 (7041N)	18.000	300	76300	640	585	40	457	486	20	M27	71.6
450	457.2	20	328.2								32.5
20 (7041N)	20.000	300	94200	715	650	43	508	537	20	M30	103.4
500	508.0	20	405.2								47.0
24 (7041N)	24.000	300	135650	840	770	48	610	635	20	M33	160.6
600	609.6	20	583.4								73.0

Note: 2" - 6" flange drilling to PN10 / PN16 and 8" and above to PN16. See below for required bolt torque.
* Working Pressure is based on roll grooved standard wall carbon steel pipe.

Required bolt torque

The tables show standard torque values for proper assembly of **Shurjoint** flange adapters. Use a torque wrench so that all the nuts are tightened equally with the same torque value. **Shurjoint** flange adapters are sealed with elastic (rubber) gaskets, which require much lower torques than those that utilize metallic gaskets.

Required Torque for Model 7041 Flange Adapters (ANSI Class 125 / 150, BS 10-E)

Nominal Size inch	Bolt		Required Torque	
	Size inch	No.	Lbs-Ft	Nm
2	⅝	4	110 ~ 140	149 ~ 190
2½	⅝	4	110 ~ 140	149 ~ 190
3	⅝	4	110 ~ 140	149 ~ 190
4	⅝	8	110 ~ 140	149 ~ 190
5	¾	8	220 ~ 250	298 ~ 339
6	¾	8	220 ~ 250	298 ~ 339
8	¾	8	220 ~ 250	298 ~ 339
10	⅞	12	320 ~ 400	434 ~ 542
12	⅞	12	320 ~ 400	434 ~ 542
14	1	12	360 ~ 520	488 ~ 705
16	1	16	360 ~ 520	488 ~ 705
18	1⅛	16	450 ~ 725	610 ~ 982
20	1⅛	20	450 ~ 725	610 ~ 982
24	1¼	20	620 ~ 1000	841 ~ 1356

Required Torque for Model 7041 Flange Adapters (PN 10/16)

Nominal Size inch	Bolt		Required Torque	
	Size inch	No.	Lbs-Ft	Nm
50	M16	4	110 ~ 140	149 ~ 190
65	M16	4	110 ~ 140	149 ~ 190
80	M16	8	110 ~ 140	149 ~ 190
100	M16	8	110 ~ 140	149 ~ 190
125	M20	8	220 ~ 250	298 ~ 339
150	M20	8	220 ~ 250	298 ~ 339
200	M20	12	220 ~ 250	298 ~ 339
250	M24	12	320 ~ 400	434 ~ 542
300	M24	12	320 ~ 400	434 ~ 542
350	M24	16	320 ~ 400	434 ~ 542
400	M27	16	360 ~ 520	488 ~ 705
450	M27	20	360 ~ 520	488 ~ 705
500	M30	20	450 ~ 725	610 ~ 982
600	M33	20	620 ~ 1000	841 ~ 1356

Required Torque for Model 7043 Flange Adapters (ANSI Class 300)

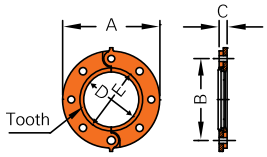
Nominal Size inch	Bolt		Required Torque	
	Size inch	No.	Lbs-Ft	Nm
2	⅝	8	110 ~ 140	149 ~ 190
2½	¾	8	220 ~ 250	298 ~ 339
3	¾	8	220 ~ 250	298 ~ 339
4	¾	8	220 ~ 250	298 ~ 339
5	¾	8	220 ~ 250	298 ~ 339
6	¾	12	220 ~ 250	298 ~ 339
8	⅞	12	320 ~ 400	434 ~ 542
10	1	16	360 ~ 520	488 ~ 705
12	1⅛	16	450 ~ 725	610 ~ 982

Model

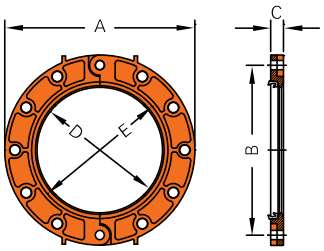
7041 Flange Adapter - BS 10-E

The **Shurjoint** Model 7041 flange adapter allows for a direct connection with BS 10 Table E flanges. The two-segment design provides an easy and fast installation.

2″ through 12″ flange adapters are supplied hinged as a single assembly, while 14″ - 24″ (7041N) are supplied with two independent segments and a draw kit.



2½"~12"(Hinged)



7041N 14"~24"
(Supplied with a draw kit)

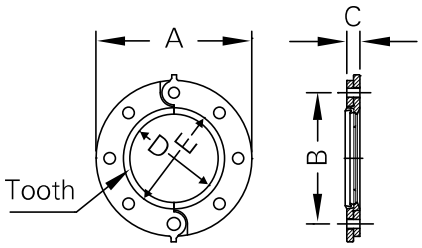
Nominal Size	Pipe O.D.	Max. Working Pressure (CWP)**	Max. End Load (CWP)	Dimensions			Sealing Surface		Bolt		Weight
				A	B	C	D	E	No.	Size	
mm	mm	Bar	kN	mm	mm	mm	mm	mm		in	Kgs
76.1 mm	76.1	20	6.36	165	127	22	76	92	4	⅝	2.5
80	88.9	20	8.69	184	146	24	89	106	4	⅝	2.8
100	114.3	20	14.36	216	178	24	114	132	8	⅝	3.4
139.7 mm	139.7	20	21.45	254	210	24	140	170	8	⅝	4.5
165.1 mm	165.1	20	29.96	279	235	24	165	182	8	¾	5.0
200	219.1	20	52.76	343	292	29	219	236	8	¾	8.4
250	273.0	20	81.91	405	356	30	273	295	12	¾	10.8
350 (7041N)	355.6	20	198.53	527	470	32	356	383	12	⅞	20.8
400 (7041N)	406.4	20	259.30	578	521	32	406	431	12	⅞	21.0
450 (7041N)	457.2	20	328.18	641	584	36	457	486	16	⅞	28.9
500 (7041N)	508.0	20	405.16	705	641	38	508	537	16	⅞	38.1
600 (7041N)	609.6	20	583.43	826	756	42	610	635	16	1⅛	54.6

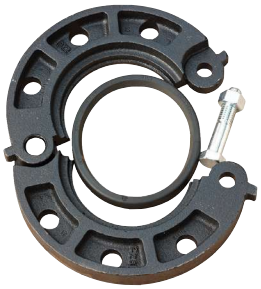
See page 34 for required bolt torque.
** Working Pressure is based on roll grooved standard wall carbon steel pipe.

Model

7043 Flange Adapter - ANSI Class 300

The **Shurjoint** Model 7043 flange adapter allows for direct connection of a grooved system to ANSI Class 300 flanged components. 2" through 8" Model 7043 flange adapters are supplied hinged as a single assembly, while large sizes are supplied with separate segments.





Nominal Size	Pipe O.D.	Max. Working Pressure (CWP)*	Max. End Load (CWP)	Dimensions			Sealing Surface		Bolt		Weight
				A	B	C	D	E	No.	Size	
in	in	PSI	Lbs	in	in	in	in	in		in	Lbs
mm	mm	Bar	kN	mm	mm	mm	mm	mm			Kgs
2	2.375	750	3320	6.50	5.00	0.94	2.38	3.07	8	⅝	5.3
50	60.3	52	14.84	165	127	24	60	78			2.4
2½	2.875	750	4860	7.50	5.88	1.06	2.88	3.54	8	¾	7.9
65	73.0	52	21.75	191	149	27	73	90			3.6
3	3.500	750	7210	8.25	6.63	1.19	3.50	4.17	8	¾	10.0
80	88.9	52	32.26	210	168	30	89	106			4.6
4	4.500	750	11920	10.00	7.95	1.31	4.50	5.20	8	¾	17.3
100	114.3	52	53.33	254	202	33	114	132			7.8
5	5.563	750	18220	11.00	9.25	1.44	5.56	5.55	8	¾	21.3
125	141.3	52	81.50	279	235	37	141	141			9.7
6	6.625	750	25840	12.50	10.63	1.50	6.63	7.32	12	¾	26.9
150	168.3	52	115.62	318	270	38	168	186			12.2
8	8.625	750	43790	15.00	13.00	1.61	8.63	9.29	12	⅞	36.2
200	219.1	52	195.96	381	330	41	219	236			16.4
10	10.750	750	68030	17.68	15.25	1.89	10.75	11.61	16	1	56.9
250	273.0	52	304.23	449	387	48	273	295			25.8
12	12.750	750	95700	20.50	17.75	1.93	12.75	13.62	16	1⅛	77.7
300	323.9	52	428.25	521	451	49	324	346			35.2

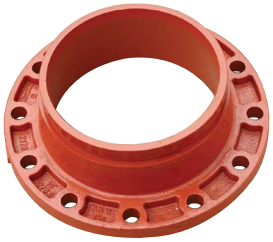
See page 34 for required bolt torque.
* Working Pressure is based on roll grooved standard wall carbon steel pipe.

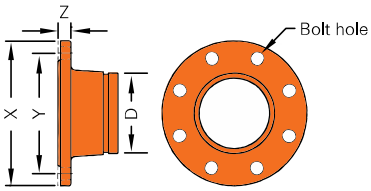
SHURJOINT®

Model

7170 Flange Adapter - ANSI Class 125/150

The Model 7170 Flange Adapter provides a rigid transition between ANSI class 125/150 flanged components and a grooved system.



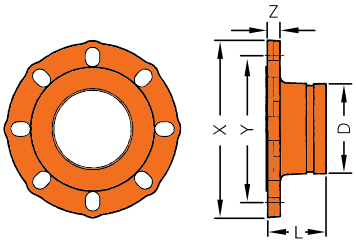


Nominal Size	X	Y	Z	Bolt Size	Bolt Hole Dia.	Bolt Hole No.	D	L	Weight
in	in	in	in	in	in		in	in	Lbs
mm	mm	mm	mm				mm	mm	Kgs
10	15.98	14.25	1.18	⅞	1	12	10.75	5.00	48.4
250	406.0	362.0	30.0				273.0	127.0	22.0
12	19.00	17.00	1.25	⅞	1	12	12.75	5.00	61.6
300	483.0	432.0	32.0				323.9	127.0	28.0
14	21.00	18.75	1.38	1	1⅛	12	14.00	5.00	108.9
350	533.0	476.3	35.0				355.6	127.0	49.5
16	23.50	21.25	1.46	1	1⅛	16	16.00	5.00	110.0
400	597.0	539.7	37.0				406.4	127.0	50.0
18	25.00	22.75	1.57	1⅛	1¼	16	18.00	5.50	137.5
450	635.0	577.8	40.0				457.2	140.0	62.5
20	27.50	25.00	1.69	1⅛	1¼	20	20.00	5.71	158.4
500	699.0	635.0	43.0				508.0	145.0	72.0
24	32.00	29.50	1.89	1¼	1⅜	20	24.00	6.00	218.9
600	813.6	749.3	48.0				609.6	152.0	99.5

Model

7180 Universal Flange Adapter

The Model 7180 Universal Flange Adapter provides a rigid transition from a flanged component to a grooved system. The single unit is compatible for a range of flange types including ANSI Class 125/150, PN10, PN16, and JIS 10K.

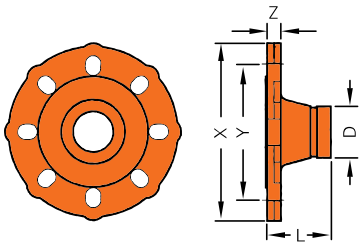


Nominal Size	Pipe O.D.	L	X	Y : Flange Drilling ANSI 125 / 150	PN 10 / 16	JIS 10K	BS 10E	Z	Bolt Size Dia	No.	Weight
in	in	in	in	in	in	in	in	in	in		Lbs
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm		Kgs
2	2.375	2.50	6.50	4.75	4.92	4.72	4.49	0.63	⅝	4	5.10
50	60.3	64	165	121	125	120	114	16	M16	4	2.30
2½	2.875	2.99	7.28	5.50	5.70	5.50	5.00	0.63	⅝	4	6.53
65	73.0	76	185	140	145	140	127	16	M16	4	2.96
76.1 mm	3.000	2.99	7.28	5.50	5.70	5.50	5.00	0.63	⅝	4	6.40
	76.1	76	185	140	145	140	127	16	M16	4	2.90
3	3.500	2.95	7.87	6.00	6.30	5.90	5.75	0.63	⅝	4 / 8	7.47
80	88.9	75	200	152	160	150	146	16	M16	4 / 8	3.39
4	4.500	2.95	8.86	7.50	7.09	6.89	7.00	0.63	⅝	8	8.49
100	114.3	75	225	191	180	175	178	16	M16	8	3.85
139.7 mm	5.500	2.95	10.00	8.50	8.27	8.27	8.27	0.63	⅝ / ¾	8	14.33
	139.7	75	254	216	210	210	210	16	M16 / M20	8	6.50
5	5.563	2.95	10.00	8.50	8.27	8.27	—	0.87	⅝ / ¾	8	14.33
125	141.3	75	254	216	210	210	—	22	M16 / M20	8	6.50
165.1 mm	6.500	2.95	10.71	9.50	9.45	9.45	9.30	0.63	¾	8	13.86
	165.1	75	272	241	240	240	235	16	M20	8	6.30
6	6.625	2.95	10.71	9.50	9.45	9.45	—	0.63	¾	8	12.58
150	168.3	75	272	241	240	240	—	16	M20	8	5.72
8	8.625	4.00	13.50	11.75	11.61	11.42	11.50	0.87	¾	8 / 12	30.09
200	219.1	102	343	298	295	290	292	22	M20	8 / 12	13.65
200 JIS	8.516	4.00	13.50	11.75	11.61	11.42	—	0.87	¾	8 / 12	30.09
	216.3	102	343	298	295	290	—	22	M20	8 / 12	13.65

Model

7181 Universal Reducing Flange Adapter

The Model 7181 Universal Reducing Flange Adapter provides a rigid transition between a flanged piping system and a one or two-size reduced grooved system without the need of a concentric reducer. The flange drilling is compatible to ANSI 125/150, PN10/16, BS-10E and JIS 10K.

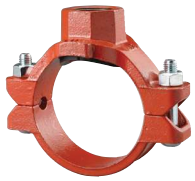


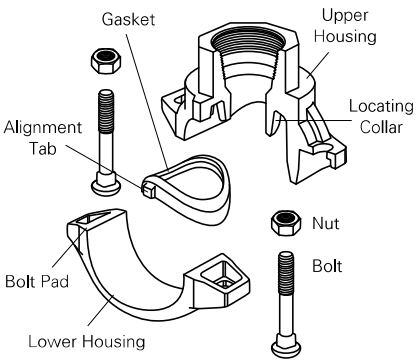
Nominal Size	Pipe O.D.	L	X	Z	Y: Flange Drilling ANSI 125 / 150	PN 10 / 16	JIS 10K	D	Bolt Dia.	No.	Weight
in	in	in	in	in	in	in	in	in	in		Lbs
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm		Kgs
3 x 2	3.500 x 2.375	2.95	8.19	0.63	8.00	6.30	5.90	2.000	⅝	8	5.95
80 x 50	88.9 x 60.3	75.0	208.0	16.0	152	160	150	60.3	M16		2.70
4 x 2½	4.500 x 2.875	3.00	8.88	0.63	7.52	7.09	6.89	2.875	⅝	8	8.80
100 x 65	114.3 x 73.0	76.0	225.5	16.0	191	180	175	73.0	M16		4.00
100 x 76.1 mm	4.500 x 3.000	3.00	8.88	0.63	7.52	7.09	6.89	3.000	⅝	8	8.80
	114.3 x 76.1	76.0	225.5	16.0	191	180	175	76.1	M16		4.00
4 x 3	4.500 x 3.500	2.95	8.88	0.63	7.50	7.09	6.89	3.000	⅝	8	7.61
100 x 80	114.3 x 88.9	75.0	225.5	16.0	191	180	175	88.9	M16		3.45
6 x 4	6.625 x 4.500	2.95	11.46	0.95	9.50	9.45	9.45	4.000	¾	8	15.61
150 x 100	168.3 x 114.3	75.0	291.0	24.0	241	240	240	114.3	M20		7.08

Mechanical Tees

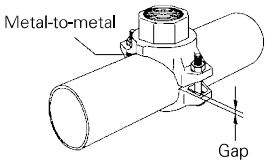
***Shurjoint** mechanical tees provide a fast and easy mid-point branch outlet, eliminating the need for welding or the use of multiple fittings.*

The Model M21 features a female threaded outlet and M22 features a grooved end outlet. Model 7721 (female threaded outlet) and 7722 (grooved end outlet) are available in 8" sizes. The Model 723 Saddle-let features a compact-design for making direct connections to sprinkler heads, drop nipples and or gauges.





When bolts are tightened with a proper torque, the outlet housing makes metal to metal contact with the outer surface of the pipe.

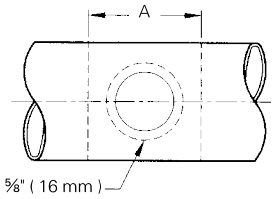


It is normal to see bolt pad gaps, though they should be equal on both sides of the mechanical tee.

The hole must be cleanly cut using the correct size hole-saw and shall have a smooth edge. Never use a torch for cutting a hole.

Hole-cutting

The hole-cut method of pipe preparation is required when using mechanical tees, mechanical crosses, and saddle-lets. The method of pipe preparation requires the cutting or drilling of a specified hole size on the centerline of the pipe.



Always use the correct hole saw size as shown in each data chart and never use a torch for cutting a hole. After the hole has been cut all rough edges must be removed and the area within ⅝" (16 mm) of the hole should be inspected to ensure a clean smooth surface, free of any indentations or projections that could affect proper gasket sealing. The area within the "A" dimension should also be inspected and must be free of dirt, scale or any imperfection that could affect proper seating or assembly of the fitting.

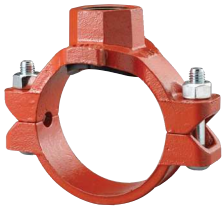
Hole Size: The hole sizes are dictated by the branch size of the mechanical tee. Refer to product data chart.

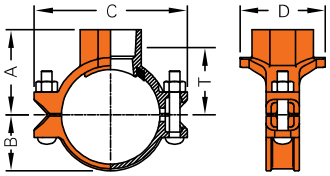
Ridgid Model No. HC-300
Hole Cutting Tool

Model

7721 Mechanical Tee Female Threaded Outlet

The Model 7721 & M21 Mechanical Tees provide a fast and easy mid-pipe threaded branch outlet. The 7721 & M21 eliminate the need for welding or multiple fittings. The mechanical tee utilizes ductile iron housings, a grade E moulded gasket and heat-treated carbon steel track bolts and nuts. UL/FM working pressure of Model 7721 rated to 300 psi (20 Bar).





Nominal Size Run x Branch	Max. Working Pressure (CWP)*	Hole Dia. Ŧ +3.2, -0 / +0.13, -0	Dimensions					Bolt Size	Weight
			T‡	A	B	C	D		
in	PSI	in	in	in	in	in	in	in	Lbs
mm	Bar	mm	mm	mm	mm	mm	mm	mm	Kgs
2 x ½	300	1.50	1.97	2.50	1.57	5.04	2.87	⅜ x 2⅛	2.4
50 x 15	20	38	50	64	40	128	73	M10 x 55	1.1
2 x ¾	300	1.50	1.97	2.50	1.57	5.04	2.87	⅜ x 2⅛	2.4
50 x 20	20	38	50	64	40	128	73	M10 x 55	1.1
2 x 1	300	1.50	2.00	2.68	1.57	5.04	2.87	⅜ x 2⅛	2.6
50 x 25	20	38	51	68	40	128	73	M10 x 55	1.2
2 x 1¼	300	1.75	2.08	2.80	1.57	5.04	3.22	⅜ x 2⅛	2.9
50 x 32	20	45	53	71	40	128	82	M10 x 55	1.3
2 x 1½	300	1.75	2.08	2.80	1.57	5.04	3.22	⅜ x 2⅛	2.9
50 x 40	20	45	53	71	40	128	82	M10 x 55	1.3
2½ x ½	300	1.50	2.25	2.80	1.89	5.75	2.87	½ x 3	3.1
65 x 15	20	38	57	71	48	146	73	M12 x 75	1.4
2½ x ¾	300	1.50	2.32	2.88	1.89	5.75	2.87	½ x 3	3.1
65 x 20	20	38	59	73	48	146	73	M12 x 75	1.4
2½ x 1	300	1.50	2.28	2.95	1.89	5.75	2.87	½ x 3	3.3
65 x 25	20	38	58	75	48	146	73	M12 x 75	1.5
2½ x 1¼	300	2.00	2.40	3.11	1.89	5.75	3.22	½ x 3	3.5
65 x 32	20	51	61	79	48	146	82	M12 x 75	1.6
2½ x 1½	300	2.00	2.40	3.11	1.89	5.75	3.22	½ x 3	3.5
65 x 40	20	51	61	79	48	146	82	M12 x 75	1.6
3 x ½	300	1.50	2.47	3.19	2.20	6.39	2.63	½ x 3	3.5
80 x 15	20	38	63	81	56	160	67	M12 x 75	1.6
3 x ¾	300	1.50	2.44	3.07	2.09	6.30	2.76	½ x 3	3.5
80 x 20	20	38	62	78	53	160	70	M12 x 75	1.6
3 x 1	300	1.50	2.50	3.19	2.20	6.39	2.63	½ x 3	3.7
80 x 25	20	38	64	81	56	160	67	M12 x 75	1.7
3 x 1¼	300	2.00	2.80	3.50	2.20	6.39	3.46	½ x 3	4.2
80 x 32	20	51	71	89	56	160	88	M12 x 75	1.9
3 x 1½	300	2.00	2.80	3.50	2.20	6.39	3.46	½ x 3	4.4
80 x 40	20	51	71	89	56	160	88	M12 x 75	2.0
3 x 2	300	2.50	2.83	3.58	2.20	6.39	3.98	½ x 3	5.1
80 x 50	20	64	72	91	56	160	101	M12 x 75	2.3
4 x ½	300	1.50	3.00	3.70	2.83	7.48	2.63	½ x 3	4.2
100 x 15	20	38	76	94	72	190	67	M12 x 75	1.9
4 x ¾	300	1.50	2.95	3.58	2.68	7.48	2.91	½ x 3	4.2
100 x 20	20	38	75	91	68	190	74	M12 x 75	1.9
4 x 1	300	1.50	3.03	3.70	2.83	7.48	2.63	½ x 3	4.4
100 x 25	20	38	77	94	72	190	67	M12 x 75	2.0
4 x 1¼	300	2.00	3.19	3.89	2.83	7.48	3.35	½ x 3	4.8
100 x 32	20	51	81	99	72	190	85	M12 x 75	2.2
4 x 1½	300	2.00	3.19	3.89	2.83	7.48	3.35	½ x 3	5.1
100 x 40	20	51	81	99	72	190	85	M12 x 75	2.3
4 x 2	300	2.50	3.38	4.13	2.83	7.48	3.98	½ x 3	5.9
100 x 50	20	64	86	105	72	190	101	M12 x 75	2.7
4 x 2½	300	2.75	3.23	4.37	2.83	7.48	4.40	½ x 3	7.3
100 x 65	20	70	82	111	72	190	112	M12 x 75	3.3
4 x 3	300	3.50	3.23	4.40	2.83	7.48	5.35	⅝ x 3½	12.3
100 x 80	20	89	82	112	72	190	136	M16 x 90	5.6
5 x 2	300	2.50	4.13	4.88	3.39	9.29	4.00	⅝ x 3½	9.2
125 x 50	20	64	105	124	86	236	102	M16 x 90	4.2
5 x 2½	300	2.75	3.89	5.00	3.39	9.29	4.65	⅝ x 3½	9.9
125 x 65	20	70	99	127	86	236	118	M16 x 90	4.5

Continued on next page.

Continued from previous page.

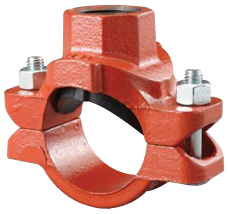
Nominal Size Run x Branch	Max. Working Pressure (CWP)*	Hole Dia. ∓ +3.2, -0 / +0.13, -0	Dimensions					Bolt Size	Weight
			T‡	A	B	C	D		
in	PSI	in	in	in	in	in	in	in	Lbs
mm	Bar	mm	mm	mm	mm	mm	mm	mm	Kgs
6 x ½	300	2.00	4.48	4.96	3.78	10.24	3.54	⅝ x 5 5/16	9.7
150 x 15	20	51	114	126	96	260	90	M16 x 135	4.4
6 x 1	300	2.00	4.33	5.00	3.86	10.07	3.50	⅝ x 5 5/16	9.7
150 x 25	20	51	110	127	98	256	89	M16 x 135	4.4
6 x 1¼	300	2.00	4.29	5.00	3.86	10.07	3.66	⅝ x 5 5/16	9.7
150 x 32	20	51	109	127	98	256	93	M16 x 135	4.4
6 x 1½	300	2.00	4.29	5.00	3.86	10.07	3.66	⅝ x 5 5/16	9.7
150 x 40	20	51	109	127	98	256	93	M16 x 135	4.4
6 x 2	300	2.50	4.45	5.29	3.86	10.07	3.98	⅝ x 5 5/16	10.6
150 x 50	20	64	113	132	98	256	101	M16 x 135	4.8
6 x 2½	300	2.75	4.37	5.50	3.86	10.07	4.65	⅝ x 5 5/16	11.9
150 x 65	20	70	111	140	98	256	118	M16 x 135	5.4
6 x 3	300	3.50	4.33	5.50	3.86	10.07	5.39	⅝ x 5 5/16	13.2
150 x 80	20	89	110	140	98	256	137	M16 x 135	6.0
6 x 4	300	4.50	4.21	5.50	3.86	10.07	6.46	⅝ x 5 5/16	14.5
150 x 100	20	114	107	140	98	256	164	M16 x 135	6.6
8 x ½	300	2.75	5.31	5.82	4.72	12.87	4.40	¾ x 4¾	12.5
200 x 15	20	70	135	148	120	327	112	M20 x 120	5.7
8 x 1	300	2.75	5.31	5.98	4.72	12.87	4.40	¾ x 4¾	12.5
200 x 25	20	70	135	152	120	327	112	M20 x 120	5.7
8 x 1¼	300	2.75	5.31	5.98	4.72	12.87	3.98	¾ x 4¾	12.5
200 x 32	20	70	135	152	120	327	101	M20 x 120	5.7
8 x 1½	300	2.75	5.31	5.98	4.72	12.87	3.98	¾ x 4¾	12.5
200 x 40	20	70	135	152	120	327	101	M20 x 120	5.7
8 x 2	300	2.75	5.31	6.54	4.72	12.87	3.98	¾ x 4¾	13.6
200 x 50	20	70	135	166	120	327	101	M20 x 120	6.2
8 x 2½	300	2.75	5.39	6.54	4.72	12.87	4.09	¾ x 4¾	13.9
200 x 65	20	70	137	166	120	327	104	M20 x 120	6.3
8 x 3	300	3.50	5.35	6.54	4.72	12.87	5.04	¾ x 4¾	15.6
200 x 80	20	89	136	166	120	327	128	M20 x 120	7.1
8 x 4	300	4.50	5.24	6.54	4.72	12.87	6.46	¾ x 4¾	17.6
200 x 100	20	114	133	166	120	327	164	M20 x 120	8.0

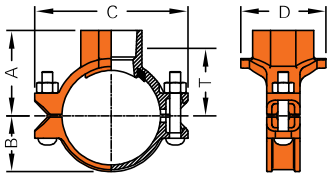
∓ Hole diameters listed are suggested hole diameters.
‡ T: Take-Out (Center of run to end of pipe to be engaged.)
* Working pressure is based on standard wall carbon steel pipe.

Model

M21 Mechanical Tee Female Threaded Outlet

Threads are NPT per ANSI B1.20.1 or BSPT per ISO 7. UL/FM working pressure is 300 psi (20 Bar).





Nominal Size Run x Branch	Pipe O.D.	Max. Working Pressure (CWP)**	Hole Dia. ₮ +3.2, -0 / +0.13, -0	Dimensions					Bolt Size	Weight
				T‡	A	B	C	D		
in	in	PSI	in	in	in	in	in	in	in	Lbs
mm	mm	Bar	mm	mm	mm	mm	mm	mm	mm	Kgs
2 x ½	2.375 x 0.840	300	1.50	1.97	2.50	1.50	4.56	3.19	⅜ x 2⅛	2.18
50 x 15	60.3 x 21.3	20	38	50	63.5	38.1	115.9	81	M10 x 55	0.99
2 x ¾	2.375 x 1.050	300	1.50	1.97	2.50	1.50	4.56	3.19	⅜ x 2⅛	2.22
50 x 20	60.3 x 26.7	20	38	50	63.5	38.1	115.9	81	M10 x 55	1.01
2 x 1	2.375 x 1.315	300	1.50	1.85	2.50	1.50	4.56	3.19	⅜ x 2⅛	2.40
50 x 25	60.3 x 33.4	20	38	47	63.5	38.1	115.9	81	M10 x 55	1.09
2 x 1¼	2.375 x 1.660	300	[1.75]	2.05	2.87	1.50	4.56	3.31	⅜ x 2⅛	2.77
50 x 32	60.3 x 42.2	20	[45]	52	73.0	38.1	115.9	84	M10 x 55	1.26
2 x 1½	2.375 x 1.900	300	[1.75]	2.08	3.00	1.50	4.56	3.31	⅜ x 2⅛	3.01
50 x 40	60.3 x 48.3	20	[45]	52	76.2	38.1	115.9	84	M10 x 55	1.37
2½ x ½	2.875 x 0.840	300	1.50	2.20	2.75	1.75	5.56	3.19	⅛ x 2⅜	2.60
65 x 15	73.0 x 21.3	20	38	56	69.9	44.5	141.3	81	M12 x 60	1.20
2½ x ¾	2.875 x 1.050	300	1.50	2.20	2.75	1.75	5.56	3.19	⅛ x 2⅜	2.70
65 x 20	73.0 x 26.7	20	38	56	69.9	44.5	141.3	81	M12 x 60	1.20
2½ x 1	2.875 x 1.315	300	1.50	2.09	2.75	1.75	5.56	3.19	⅛ x 2⅜	2.86
65 x 25	73.0 x 33.4	20	38	53	69.9	44.5	141.3	81	M12 x 60	1.30
2½ x 1¼	2.875 x 1.660	300	2.00	2.28	3.00	1.75	5.56	3.70	⅛ x 2⅜	3.21
65 x 32	73.0 x 42.2	20	51	58	76.2	44.5	141.3	94	M12 x 60	1.46
2½ x 1½	2.875 x 1.900	300	2.00	2.28	3.00	1.75	5.56	3.70	⅛ x 2⅜	3.43
65 x 40	73.0 x 48.3	20	51	58	76.2	44.5	141.3	94	M12 x 60	1.56
76.1 mm x 15	3.000 x 0.840	300	1.50	2.20	2.75	1.81	5.69	3.19	⅛ x 2⅜	2.64
	76.1 x 21.3	20	38	56	69.9	46.1	144.5	81	M12 x 60	1.20
76.1 mm x 20	3.000 x 1.050	300	1.50	2.20	2.75	1.81	5.69	3.19	⅛ x 2⅜	2.64
	76.1 x 26.7	20	38	56	69.9	46.1	144.5	81	M12 x 60	1.20
76.1 mm x 25	3.000 x 1.315	300	1.50	2.09	2.75	1.81	5.69	3.19	⅛ x 2⅜	2.86
	76.1 x 33.4	20	38	53	69.9	46.1	144.5	81	M12 x 60	1.30
76.1 mm x 32	3.000 x 1.660	300	2.00	2.28	3.00	1.81	5.69	3.70	⅛ x 2⅜	3.21
	76.1 x 42.2	20	51	58	76.2	46.1	144.5	94	M12 x 60	1.46
76.1 mm x 40	3.000 x 1.900	300	2.00	2.28	3.00	1.81	5.69	3.70	⅛ x 2⅜	3.43
	76.1 x 48.3	20	51	58	76.2	46.1	144.5	94	M12 x 60	1.56
3 x ½	3.500 x 0.840	300	1.50	2.36	3.06	2.09	6.19	3.19	½ x 3	3.17
80 x 15	88.9 x 21.3	20	38	60	77.8	53.2	157.2	81	M12 x 75	1.44
3 x ¾	3.500 x 1.050	300	1.50	2.32	3.06	2.09	6.19	3.19	½ x 3	3.21
80 x 20	88.9 x 26.7	20	38	59	77.8	53.2	157.2	81	M12 x 75	1.46
3 x 1	3.500 x 1.315	300	1.50	2.40	3.06	2.09	6.19	3.19	½ x 3	3.37
80 x 25	88.9 x 33.4	20	38	61	77.8	53.2	157.2	81	M12 x 75	1.53
3 x 1¼	3.500 x 1.660	300	2.00	2.56	3.25	2.09	6.19	3.70	½ x 3	3.98
80 x 32	88.9 x 42.2	20	51	65	82.6	53.2	157.2	94	M12 x 75	1.81
3 x 1½	3.500 x 1.900	300	2.00	2.80	3.50	2.09	6.19	3.70	½ x 3	4.14
80 x 40	88.9 x 48.3	20	51	71	88.9	53.2	157.2	94	M12 x 75	1.88
3 x 2	3.500 x 2.375	300	2.50	2.76	3.50	2.09	6.19	4.25	½ x 3	4.55
80 x 50	88.9 x 60.3	20	64	70	88.9	53.2	157.2	108	M12 x 75	2.07
4 x ½	3.500 x 0.840	300	1.50	2.83	3.69	2.63	7.19	3.13	½ x 3	3.59
100 x 15	114.3 x 21.3	20	38	72	93.7	66.7	182.6	79.4	M12 x 75	1.63
4 x ¾	4.500 x 1.050	300	1.50	2.79	3.69	2.63	7.19	3.13	½ x 3	3.61
100 x 20	114.3 x 26.7	20	38	71	93.7	66.7	182.6	79.4	M12 x 75	1.64
4 x 1	4.500 x 1.315	300	1.50	2.87	3.69	2.63	7.19	3.13	½ x 3	3.74
100 x 25	114.3 x 33.4	20	38	73	93.7	66.7	182.6	79.4	M12 x 75	1.70
4 x 1¼	4.500 x 1.660	300	2.00	3.07	3.63	2.63	7.19	4.00	½ x 3	4.18
100 x 32	114.3 x 42.2	20	51	78	92.1	66.7	182.6	101.6	M12 x 75	1.90
4 x 1½	4.500 x 1.900	300	2.00	3.31	3.63	2.63	7.19	4.00	½ x 3	4.49
100 x 40	114.3 x 48.3	20	51	84	92.1	66.7	182.6	101.6	M12 x 75	2.04

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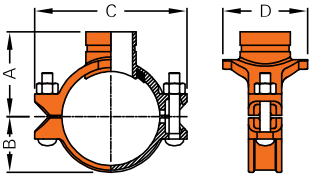
Nominal Size Run x Branch	Pipe O.D.	Max. Working Pressure (CWP)**	Hole Dia. ∓ +3.2, -0 / +0.13, -0	Dimensions					Bolt Size	Weight
				T‡	A	B	C	D		
in	in	PSI	in	in	in	in	in	in	in	Lbs
mm	mm	Bar	mm	mm	mm	mm	mm	mm	mm	Kgs
4 x 2	4.500 x 2.375	300	2.50	3.27	4.00	2.63	7.19	4.00	½ x 3	5.00
100 x 50	114.3 x 60.3	20	64	83	101.6	66.7	182.6	101.6	M12 x 75	2.27
4 x 2½	4.500 x 2.875	300	2.75	2.87	4.00	2.63	7.19	4.44	½ x 3	5.43
100 x 65	114.3 x 73.0	20	70	73	101.6	66.7	182.6	112.7	M12 x 75	2.47
100 x 76.1 mm	4.500 x 3.000	300	2.75	2.87	4.00	2.63	7.19	4.44	½ x 3	5.65
	114.3 x 76.1	20	70	73	101.6	66.7	182.6	112.7	M12 x 75	2.57
4 x 3	4.500 x 3.500	300	3.50	3.31	4.13	2.63	7.19	5.06	½ x 3	6.41
100 x 80	114.3 x 88.9	20	89	84	104.8	66.7	182.6	128.6	M12 x 75	2.91
139.7 mm x 50	5.500 x 2.375	300	2.50	3.27	4.75	3.19	8.81	4.19	⅝ x 3½	6.38
	139.7 x 60.3	20	64	83	120.7	81.0	223.8	106.4	M16 x 90	2.90
139.7 mm x 76.1 mm	5.500 x 3.000	300	2.75	3.67	4.75	3.19	8.81	4.57	⅝ x 3½	7.40
	139.7 x 76.1	20	70	93	120.7	81.0	223.8	115.9	M16 x 90	3.40
139.7 mm x 80	5.500 x 3.500	300	3.50	3.82	4.75	3.19	8.81	5.19	⅝ x 3½	8.41
	139.7 x 88.9	20	89	97	127.0	81.0	223.8	131.8	M16 x 90	3.82
5 x 2	5.563 x 2.375	300	2.50	3.27	4.75	3.19	8.81	4.19	⅝ x 3½	6.38
125 x 50	141.3 x 60.3	20	64	83	120.7	81.0	223.8	106.4	M16 x 90	2.90
5 x 2½	5.563 x 2.875	300	2.75	3.67	4.75	3.19	8.81	4.44	⅝ x 3½	7.46
125 x 65	141.3 x 73.0	20	70	93	120.7	81.0	223.8	112.7	M16 x 90	3.39
5 x 3	5.563 x 3.500	300	3.50	3.82	4.75	3.19	8.81	5.19	⅝ x 3½	8.40
125 x 80	141.3 x 88.9	20	89	97	127.0	81.0	223.8	131.8	M16 x 90	3.82
165.1 mm x 32	6.500 x 1.660	300	2.00	4.41	5.13	3.72	9.87	3.63	⅝ x 3½	5.57
	165.1 x 42.2	20	51	112	130.2	94.5	250.8	92.1	M16 x 90	2.53
165.1 mm x 40	6.500 x 1.900	300	2.00	4.41	5.13	3.72	9.87	3.63	⅝ x 3½	6.60
	165.1 x 48.3	20	51	112	130.2	94.5	250.8	92.1	M16 x 90	3.00
165.1 mm x 50	6.500 x 2.375	300	2.50	4.37	5.13	3.72	9.87	4.19	⅝ x 3½	6.97
	165.1 x 60.3	20	64	111	130.2	94.5	250.8	106.4	M16 x 90	3.17
165.1 mm x 65	6.500 x 2.875	300	2.75	3.98	5.13	3.72	9.87	4.44	⅝ x 3½	7.88
	165.1 x 73.0	20	70	101	130.2	94.5	250.8	112.7	M16 x 90	3.58
165.1 mm x 76.1 mm	6.500 x 2.875	300	2.75	3.98	5.13	3.72	9.87	4.56	⅝ x 3½	8.25
	165.1 x 76.1	20	70	101	130.2	94.5	250.8	115.9	M16 x 90	3.75
165.1 mm x 80	6.500 x 3.500	300	3.50	4.33	5.50	3.72	9.87	5.19	⅝ x 3½	9.09
	165.1 x 88.9	20	89	110	139.7	94.5	250.8	131.8	M16 x 90	4.13
165.1 mm x 100	6.500 x 4.500	300	4.50	4.45	5.75	3.72	9.87	6.25	⅝ x 3½	10.50
	165.1 x 114.3	20	114	113	146.1	94.5	250.8	158.8	M16 x 90	4.77
6 x 1¼	6.625 x 1.660	300	2.00	4.41	5.13	3.72	9.87	3.63	⅝ x 3½	6.41
150 x 32	168.3 x 42.2	20	51	112	130.2	94.5	250.8	92.1	M16 x 90	2.91
6 x 1½	6.625 x 1.900	300	2.00	4.41	5.13	3.72	9.87	3.63	⅝ x 3½	6.58
150 x 40	168.3 x 48.3	20	51	112	130.2	94.5	250.8	92.1	M16 x 90	2.99
6 x 2	6.625 x 2.375	300	2.50	4.37	5.13	3.72	9.87	4.19	⅝ x 3½	7.00
150 x 50	168.3 x 60.3	20	64	111	130.2	94.5	250.8	106.4	M16 x 90	3.18
6 x 2½	6.625 x 2.875	300	2.75	3.98	5.13	3.72	9.87	4.44	⅝ x 3½	7.88
150 x 65	168.3 x 73.0	20	70	101	130.2	94.5	250.8	112.7	M16 x 90	3.58
150 x 76.1 mm	6.625 x 2.875	300	2.75	3.98	5.13	3.72	9.87	4.56	⅝ x 3½	9.02
	168.3 x 76.1	20	70	101	130.2	94.5	250.8	115.9	M16 x 90	3.58
6 x 3	6.625 x 3.500	300	3.50	4.33	5.50	3.72	9.87	5.19	⅝ x 3½	9.02
150 x 80	168.3 x 88.9	20	89	110	139.7	94.5	250.8	131.8	M16 x 90	4.10
6 x 4	6.625 x 4.500	300	4.50	4.45	5.75	3.72	9.87	6.25	⅝ x 3½	10.47
150 x 100	168.3 x 114.3	20	114	113	146.1	94.5	250.8	158.8	M16 x 90	4.76

∓ Hole diameters listed are suggested hole diameters.
‡ T: Take-Out (Center of run to end of pipe to be engaged.)
[ ] Important: Make special note of the hole saw size and maximum diameter allowed on these sizes, deviation could lead to joint failure.
**Working pressure is based on standard wall carbon steel pipe.

Model

7722 Mechanical Tee Grooved-End Outlet

The Model 7722 Mechanical Tee provides a fast and easy mid-pipe threaded branch outlet. The mechanical tee utilizes ductile iron housings, a grade E gasket and heat-treated carbon steel track bolts and nuts. Housings are painted orange or red, or as an option can be supplied hot dipped zinc galvanized or epoxy coated. Maximum working pressure: 300 psi (20 Bar). Gaskets are interchangeable between Models 7721 & 7722.



Nominal Size Run x Branch	Pipe O.D.	Max. Working Pressure (CWP)**	Hole Dia. ₮ +0.13, -0 / +3.2, -0	Dimensions				Bolt Size	Weight
				A	B	C	D		
in	in	PSI	in	in	in	in	in	in	Lbs
mm	mm	Bar	mm	mm	mm	mm	mm	mm	Kgs
2 x 1	2.375 x 1.315	300	1.50	2.68	1.57	5.04	2.87	⅜ x 2⅛	2.2
50 x 25	60.3 x 33.4	20	38	68	40	128	73	M10 x 55	1.0
2 x 1¼	2.375 x 1.660	300	1.75	2.80	1.57	5.04	3.22	⅜ x 2⅛	2.2
50 x 32	60.3 x 42.2	20	45	71	40	128	82	M10 x 55	1.0
2 x 1½	2.375 x 1.900	300	1.75	2.80	1.57	5.04	3.22	⅜ x 2⅛	2.6
50 x 40	60.3 x 48.3	20	45	71	40	128	82	M10 x 55	1.2
2½ x 1	2.875/3.000 x1.315	300	1.50	2.95	1.89	5.75	2.87	½ x 3	4.0
65 x 25	73.0/76.1 x 33.4	20	38	75	48	146	73	M12 x 75	1.8
2½ x 1¼	2.875/3.000 x 1.660	300	2.00	3.11	1.89	5.75	3.22	½ x 3	3.7
65 x 32	73.0/76.1 x 42.2	20	51	79	48	146	82	M12 x 75	1.7
2½ x 1½	2.875/3.000 x 1.900	300	2.00	3.11	1.89	5.75	3.22	½ x 3	4.2
65 x 40	73.0/76.1 x 48.3	20	51	79	48	146	82	M12 x 75	1.9
3 x 1	3.500 x 1.315	300	1.50	3.30	2.20	6.30	2.91	½ x 3	3.7
80 x 25	88.9 x 33.4	20	38	84	56	160	74	M12 x 75	1.7
3 x 1¼	3.500 x 1.660	300	2.00	3.50	2.20	6.30	3.46	½ x 3	4.0
80 x 32	88.9 x 42.2	20	51	89	56	160	88	M12 x 75	1.8
3 x 1½	3.500 x 1.900	300	2.00	3.50	2.20	6.30	3.46	½ x 3	4.2
80 x 40	88.9 x 48.3	20	51	89	56	160	88	M12 x 75	1.9
3 x 2	3.500 x 2.375	300	2.50	3.58	2.20	6.30	3.98	½ x 3	4.8
80 x 50	88.9 x 60.3	20	64	91	56	160	101	M12 x 75	2.2
4 x 1	4.500 x 1.315	300	1.50	3.89	2.83	7.48	2.63	½ x 3	4.4
100 x 25	114.3 x 33.4	20	38	94	72	190	67	M12 x 75	2.0
4 x 1¼	4.500 x 1,660	300	2.00	3.89	2.83	7.48	3.35	½ x 3	4.6
100 x 32	114.3 x 42.2	20	51	99	72	190	85	M12 x 75	2.1
4 x 1½	4.500 x 1.900	300	2.00	3.89	2.83	7.48	3.35	½ x 3	4.8
100 x 40	114.3 x 48.3	20	51	99	72	190	85	M12 x 75	2.2
4 x 2	4.500 x 2.375	300	2.50	4.13	2.83	7.48	3.98	½ x 3	5.9
100 x 50	114.3 x 60.3	20	64	105	72	190	101	M12 x 75	2.7
4 x 2½	4.500 x 2.875	300	2.75	4.37	2.83	7.48	4.40	½ x 3	6.6
100 x 65	114.3 x 73.0	20	70	111	72	190	112	M12 x 75	3.0
4 x 2½	4.500 x 3.000	300	2.75	4.37	2.83	7.48	4.40	½ x 3	6.6
100 x 65	114.3 x 76.1	20	70	111	72	190	112	M12 x 75	3.0
4 x 3	4.500 x 3.500	300	3.50	4.40	2.83	7.48	5.35	⅝ x 3½	11.4
100 x 80	114.3 x 88.9	20	89	112	72	190	136	M16 x 90	5.2
5 x 2	5.500/5.563 x 2.375	300	2.50	4.88	3.39	9.29	4.00	⅝ x 3½	9.2
125 x 50	139.7/141.3 x 60.3	20	64	124	86	236	102	M16 x 90	4.2
5 x 2½	5.563 x 2.875	300	2.75	5.00	3.39	9.29	4.65	⅝ x 3½	9.5
125 x 65	141.3 x 73.0	20	70	127	86	236	118	M16 x 90	4.2
5 x 2½	5.500 x 3.000	300	2.75	5.00	3.39	9.29	4.65	⅝ x 3½	9.5
125 x 65	139.7 x 76.1	20	70	127	86	236	118	M16 x 90	4.3
6 x 1¼	6.500/6.625 x 1.660	300	2.00	5.00	3.86	10.08	3.66	⅝ x 5 5/16	9.2
150 x 32	165.1/168.3 x 42.2	20	51	127	98	256	93	M16 x 135	4.2
6 x 1½	6.500/6.625 x 1.900	300	2.00	5.00	3.86	10.08	3.66	⅝ x 5 5/16	9.5
150 x 40	165.1/168.3 x 48.3	20	51	127	98	256	93	M16 x 135	4.3
6 x 2	6.500/6.625 x 2.375	300	2.50	5.20	3.86	10.08	3.98	⅝ x 5 5/16	10.6
150 x 50	165.1/168.3 x 60.3	20	64	132	98	256	101	M16 x 135	4.8
6 x 2½	6.625 x 2.875	300	2.75	5.50	3.86	10.08	4.65	⅝ x 5 5/16	12.1
150 x 65	168.3 x 73.0	20	70	140	98	256	118	M16 x 135	5.5
6 x 2½	6.500 x 3.000	300	2.75	5.50	3.86	10.08	4.65	⅝ x 5 5/16	12.1
150 x 65	165.1 x 76.1	20	70	140	98	256	118	M16 x 135	5.5
6 x 3	6.500/6.625 x 3.500	300	3.50	5.50	3.86	10.08	5.39	⅝ x 5 5/16	12.3
150 x 80	165.1/168.3 x 88.9	20	89	140	98	256	137	M16 x 135	5.6

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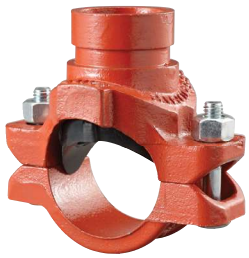
Nominal Size Run x Branch	Pipe O.D.	Max. Working Pressure (CWP)**	Hole Dia. Ŧ +0.13, -0 / +3.2, -0	Dimensions				Bolt Size	Weight
				A	B	C	D		
in	in	PSI	in	in	in	in	in	in	Lbs
mm	mm	Bar	mm	mm	mm	mm	mm	mm	Kgs
6 x 4	6.500/6.625 x 4.500	300	4.50	5.50	3.86	10.08	6.46	⅝ x 5 5/16	15.4
150 x 100	165.1/168.3 x 114.3	20	114	140	98	256	164	M16 x 135	7.0
8 x 2	8.625 x 2.375	300	2.75	6.54	4.72	12.87	3.89	¾ x 4¾	12.8
200 x 50	219.1 x 60.3	20	70	166	120	327	104	M20 x 120	5.8
8 x 2½	8.625 x 2.875	300	2.75	6.54	4.72	12.87	4.09	¾ x 4¾	13.2
200 x 65	219.1 x 73.0	20	70	166	120	327	104	M20 x 120	6.0
8 x 2½	8.625 x 3.000	300	2.75	6.54	4.72	12.87	4.09	¾ x 4¾	13.2
200 x 65	219.1 x 76.1	20	70	166	120	327	104	M20 x 120	6.0
8 x 3	8.625 x 3.500	300	3.50	6.54	4.72	12.87	5.04	¾ x 4¾	15.8
200 x 80	219.1 x 88.9	20	89	166	120	327	128	M20 x 120	7.2
8 x 4	8.625 x 4.500	300	4.50	6.54	4.72	12.87	6.46	¾ x 4¾	16.5
200 x 100	219.1 x 114.3	20	114	166	120	327	164	M20 x 120	7.5

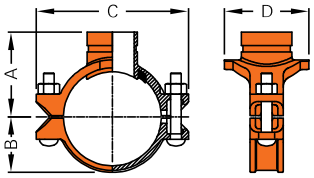
Ŧ Hole diameters listed are suggested hole diameters.
**Working pressure is based on roll- or cut-grooved standard wall carbon steel pipe.

Model

M22 Mechanical Tee Grooved-End Outlet

The groove dimensions conform to AWWA C606. UL/FM working pressure is 300 psi (20 Bar).





Nominal Size Run x Branch	Pipe O.D.	Max. Working Pressure (CWP)**	Hole Dia. Ŧ +0.13, -0 / +3.2, -0	Dimensions				Bolt Size	Weight
				A	B	C	D		
in	in	PSI	in	in	in	in	in	in	Lbs
mm	mm	Bar	mm	mm	mm	mm	mm	mm	Kgs
2 x 1	2.375 x 1.315	300	1.50	2.87	1.50	4.57	3.19	⅜ x 2⅛	2.27
50 x 25	60.3 x 33.4	20	38	73.0	38.1	115.9	81.0	M10 x 55	1.03
2 x 1¼	2.375 x 1.660	300	[1.75]	3.00	1.50	4.57	3.31	⅜ x 2⅛	2.44
50 x 32	60.3 x 42.2	20	[45]	76.2	38.1	115.9	84.0	M10 x 55	1.11
2 x 1½	2.375 x 1.900	300	[1.75]	3.00	1.50	4.57	3.31	⅜ x 2⅛	2.60
50 x 40	60.3 x 48.3	20	[45]	76.2	38.1	115.9	84.0	M10 x 55	1.18
2½ x 1	2.875 x 1.315	300	1.50	3.13	1.75	5.56	3.19	½ x 2⅜	2.71
65 x 25	73.0 x 33.4	20	38	79.4	44.5	141.3	81.0	M12 x 60	1.23
2½ x 1¼	2.875 x 1.660	300	2.00	3.25	1.75	5.56	3.70	½ x 2⅜	3.06
65 x 32	73.0 x 42.2	20	51	82.6	44.5	141.3	94.0	M12 x 60	1.39
2.5 x 1½	2.875 x 1.900	300	2.00	3.25	1.75	5.56	3.70	½ x 2⅜	3.12
65 x 40	73.0 x 48.3	20	51	82.6	44.5	141.3	94.0	M12 x 60	1.42
76.1 mm x 25	3.000 x 1.315	300	1.50	3.13	1.81	5.69	3.19	½ x 2⅜	2.71
	76.1 x 33.4	20	38	79.4	46.1	144.5	81.0	M12 x 60	1.23
76.1 mm x 32	3.000 x 1.660	300	2.00	3.25	1.81	5.69	3.70	½ x 2⅜	3.06
	76.1 x 42.2	20	51	82.6	46.1	144.5	94.0	M12 x 60	1.39
76.1 mm x 40	3.000 x 1.900	300	2.00	3.25	1.81	5.69	3.70	½ x 2⅜	3.12
	76.1 x 48.3	20	51	82.6	46.1	144.5	94.0	M12 x 60	1.42
3 x 1	3.500 x 1.315	300	1.50	3.37	2.09	6.19	3.19	½ x 3	3.19
80 x 25	88.9 x 33.4	20	38	85.7	53.2	157.2	81.0	M12 x 75	1.45
3 x 1¼	3.500 x 1.660	300	2.00	3.56	2.09	6.19	3.70	½ x 3	3.70
80 x 32	88.9 x 42.2	20	51	90.5	53.2	157.2	94.0	M12 x 75	1.68
3 x 1½	3.500 x 1.900	300	2.00	3.56	2.09	6.19	3.70	½ x 3	3.74
80 x 40	88.9 x 48.3	20	51	90.5	53.2	157.2	94.0	M12 x 75	1.70
3 x 2	3.500 x 2.375	300	2.50	3.56	2.09	6.19	4.25	½ x 3	4.03
80 x 50	88.9 x 60.3	20	64	90.5	53.2	157.2	108.0	M12 x 75	1.83
4 x 1	4.500 x 1.315	300	1.50	3.69	2.63	7.19	3.13	½ x 3	3.63
100 x 25	114.3 x 33.4	20	38	93.7	66.7	182.6	79.4	M12 x 75	1.65
4 x 1¼	4.500 x 1,660	300	2.00	3.63	2.63	7.19	4.00	½ x 3	3.96
100 x 32	114.3 x 42.2	20	51	92.1	66.7	182.6	101.6	M12 x 75	1.80
4 x 1½	4.500 x 1.900	300	2.00	3.63	2.63	7.19	4.00	½ x 3	3.98
100 x 40	114.3 x 48.3	20	51	92.1	66.7	182.6	101.6	M12 x 75	1.81
4 x 2	4.500 x 2.375	300	2.50	4.00	2.63	7.19	4.00	½ x 3	4.25
100 x 50	114.3 x 60.3	20	64	101.6	66.7	182.6	101.6	M12 x 75	1.93
4 x 2½	4.500 x 2.875	300	2.75	4.00	2.63	7.19	4.44	½ x 3	5.85
100 x 65	114.3 x 73.0	20	70	101.6	66.7	182.6	112.7	M12 x 75	2.66
100 x 76.1 mm	4.500 x 3.000	300	2.75	4.00	2.63	7.19	4.44	½ x 3	4.78
	114.3 x 76.1	20	70	101.6	66.7	182.6	112.7	M12 x 75	2.17
4 x 3	4.500 x 3.500	300	3.50	4.13	2.63	7.19	5.06	½ x 3	5.30
100 x 80	114.3 x 88.9	20	89	104.8	66.7	182.6	128.6	M12 x 75	2.41
139.7 mm x 50	5.500 x 2.375	300	2.50	4.75	3.19	8.81	4.19	⅝ x 3½	5.79
	139.7 x 60.3	20	64	120.7	81.0	223.8	106.4	M16 x 90	2.63
139.7 mm	5.500 x 3.000	300	2.75	4.75	3.19	8.81	4.44	⅝ x 3½	6.50
x 76.1 mm	139.7 x 76.1	20	70	120.7	81.0	223.8	112.7	M16 x 90	2.95-
139.7 mm x 80	5.500 x 3.500	300	2.75	4.63	3.19	8.81	5.19	⅝ x 3½	6.78
	139.7 x 88.9	20	70	117.5	81.0	223.8	131.8	M16 x 90	3.08
5 x 2	5.563 x2.375	300	2.50	4.75	3.19	8.81	4.19	⅝ x 3½	5.79
125 x 50	141.3 x 60.3	20	64	120.7	81.0	223.8	106.4	M16 x 90	2.63
5 x 2½	5.563x 2.875	300	2.75	4.75	3.19	8.81	4.44	⅝ x 3½	6.34
125 x 65	141.3 x 73.0	20	70	120.7	81.0	223.8	112.7	M16 x 90	2.88
125 x 76.1 mm	5.563x 3.000	300	2.75	4.75	3.19	8.81	4.44	⅝ x 3½	6.49
	141.3 x 76.1	20	70	120.7	81.0	223.8	112.7	M16 x 90	2.95

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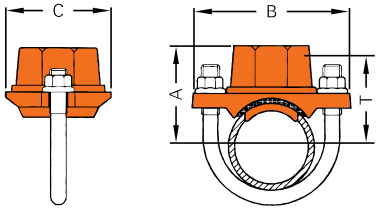
Nominal Size Run x Branch	Pipe O.D.	Max. Working Pressure (CWP)**	Hole Dia. ₮ +0.13, -0 / +3.2, -0	Dimensions				Bolt Size	Weight
				A	B	C	D		
in	in	PSI	in	in	in	in	in	in	Lbs
mm	mm	Bar	mm	mm	mm	mm	mm	mm	Kgs
5 x 3	5.563 x 3.500	300	2.75	4.63	3.19	8.81	5.19	⅝ x 3½	6.78
125 x 80	141.3 x 88.9	20	70	117.5	81.0	223.8	131.8	M16 x 90	3.08
165.1 mm x 32	6.500 x 1.660	300	2.00	5.13	3.72	9.87	3.63	⅝ x 3½	6.03
	165.1 x 42.2	20	51	130.2	94.5	250.8	92.1	M16 x 90	2.74
165.1 mm x 40	6.500 x 1.900	300	2.00	5.13	3.72	9.87	3.63	⅝ x 3½	6.12
	165.1 x 48.3	20	51	130.2	94.5	250.8	92.1	M16 x 90	2.78
165.1 mm x 50	6.500 x 2.375	300	2.50	5.13	3.72	9.87	4.19	⅝ x 3½	6.40
	165.1 x 60.3	20	64	130.2	94.5	250.8	106.4	M16 x 90	2.91
165.1 mm x 76.1 mm	6.500 x 3.000	300	2.75	5.13	3.72	9.87	4.56	⅝ x 3½	7.44
	165.1 x 76.1	20	70	130.2	94.5	250.8	115.9	M16 x 90	3.38
165.1 mm x 80	6.500 x 3.500	300	3.50	5.13	3.72	9.87	5.19	⅝ x 3½	8.01
	165.1 x 88.9	20	89	130.2	94.5	250.8	131.8	M16 x 90	3.64
165.1 mm x 100	6.500 x 4.500	300	4.50	5.40	3.72	9.87	6.25	⅝ x 3½	8.91
	165.1 x 114.3	20	114	137.1	94.5	250.8	158.8	M16 x 90	4.05
6 x 1¼	6.625 x 1.660	300	2.00	5.13	3.72	9.87	3.63	⅝ x 3½	6.05
150 x 32	168.3 x 42.2	20	51	130.2	94.5	250.8	92.1	M16 x 90	2.75
6 x 1½	6.625 x 1.900	300	2.00	5.13	3.72	9.87	3.63	⅝ x 3½	6.12
150 x 40	168.3 x 48.3	20	51	130.2	94.5	250.8	92.1	M16 x 90	2.78
6 x 2	6.625 x 2.375	300	2.50	5.13	3.72	9.87	4.19	⅝ x 3½	6.42
150 x 50	168.3 x 60.3	20	64	130.2	94.5	250.8	106.4	M16 x 90	2.92
6 x 2½	6.625 x 2.875	300	2.75	5.13	3.72	9.87	4.44	⅝ x 3½	7.08
150 x 65	168.3 x 73.0	20	70	130.2	94.5	250.8	112.7	M16 x 90	3.22
6 x 3	6.625 x 3.500	300	3.50	5.13	3.72	9.87	5.19	⅝ x 3½	8.10
150 x 80	168.3 x 88.9	20	89	130.2	94.5	250.8	131.8	M16 x 90	3.68
6 x 4	6.625 x 4.500	300	4.50	5.40	3.72	9.87	6.25	⅝ x 3½	8.91
150 x 100	168.3 x 114.3	20	114	137.1	94.5	250.8	158.8	M16 x 90	4.05

₮ Hole diameters listed are suggested hole diameters.
[ ] Important: Make special note of the hole saw size and maximum diameter allowed on these sizes, deviation could lead to joint failure.
**Working pressure is based on grooved standard wall carbon steel pipe.

Model
723 Saddle-Let

The Model 723 Saddle-Let is the ideal outlet fitting for making direct connections to sprinkler heads, drop nipples and or gauges. No need for welding, just cut or drill a hole at the desired outlet location.



Nominal Size Run x Branch	Max. Working Pressure (CWP)	Hole Dia. Ŧ +3.2, -0 / +0.13, -0	Dimensions			Take-Out, T‡ D	Bolt Size	Bolt Torque	Weight
			A	B	C				
in	PSI	in	in	in	in	in	in	Lbs-Ft	Lbs
mm	Bar	mm	mm	mm	mm	mm		Nm	Kgs
1¼ x ½	300	1.18	1.97	3.50	2.20	1.73	⅜Ø	15-22	0.9
32 x 15	20	30	50.0	89.0	56.0	44.0	U-Bolt	20-30	0.4
1¼ x ¾	300	1.18	1.97	3.50	2.20	1.73	⅜Ø	15-22	0.9
32 x 20	20	30	50.0	89.0	56.0	44.0	U-Bolt	20-30	0.4
1¼ x 1	300	1.18	2.13	3.50	2.20	1.85	⅜Ø	15-22	0.9
32 x 25	20	30	54.0	89.0	56.0	47.0	U-Bolt	20-30	0.4
1½ x ½	300	1.18	2.09	3.50	2.24	1.81	⅜Ø	15-22	0.9
40 x 15	20	30	53.0	89.0	57.0	46.0	U-Bolt	20-30	0.4
1½ x ¾	300	1.18	2.09	3.50	2.24	1.81	⅜Ø	15-22	0.9
40 x 20	20	30	53.0	89.0	57.0	46.0	U-Bolt	20-30	0.4
1½ x 1	300	1.18	2.28	3.50	2.24	1.93	⅜Ø	15-22	0.9
40 x 25	20	30	58.0	89.0	57.0	49.0	U-Bolt	20-30	0.4
2 x ½	300	1.18	2.36	3.82	2.24	2.09	⅜Ø	15-22	0.9
50 x 15	20	30	60.0	97.0	57.0	53.0	U-Bolt	20-30	0.4
2 x ¾	300	1.18	2.36	3.82	2.24	2.09	⅜Ø	15-22	0.9
50 x 20	20	30	60.0	97.0	57.0	53.0	U-Bolt	20-30	0.4
2 x 1	300	1.18	2.52	3.82	2.24	2.20	⅜Ø	15-22	0.9
50 x 25	20	30	64.0	97.0	57.0	56.0	U-Bolt	20-30	0.4
2½ x ½	300	1.18	2.60	4.37	2.24	2.28	⅜Ø	15-22	0.9
65 x 15	20	30	66.0	111.0	57.0	58.0	U-Bolt	20-30	0.4
2½ x ¾	300	1.18	2.60	4.37	2.24	2.28	⅜Ø	15-22	0.9
65 x 20	20	30	66.0	111.0	57.0	58.0	U-Bolt	20-30	0.4
2½ x 1	300	1.18	2.76	4.37	2.24	2.40	⅜Ø	15-22	1.1
65 x 25	20	30	70.0	111.0	57.0	61.0	U-Bolt	20-30	0.5

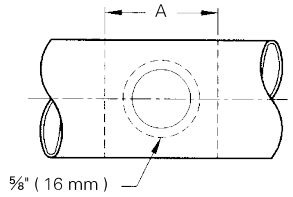
Ŧ Hole diameters listed are suggested hole saw diameters.
‡ T: Take-out (Center of run to end of pipe to be engaged)
* Working Pressure is based on standard wall carbon steel pipe.

Hole Cutting

The method of pipe preparation requires the cutting or drilling of a specified hole size on the centerline of the pipe. Always use the correct hole saw size as shown in the table and never use a torch for cutting a hole. After the hole has been cut all rough edges must be removed and the area within ⅝" (16 mm) of the hole should be inspected to ensure a clean smooth surface, free of any indentations or projections that could affect proper gasket sealing.

Hole Sizes for 723 Saddle-let

Saddle- Let Branch Size	Hole Dimensions		Surface Preparation "A"
	Hole Saw Size	Max dia. Allowed	
in	in	in	in
mm	mm	mm	mm
½, ¾, 1	1 3/16	1¼	3½
15, 20, 25	30	32	89



Pressure Performance Data

Ductile Iron Couplings on Carbon Steel & Stainless Steel Pipe

The following tables show maximum working pressures (CWP) of **Shurjoint** ductile iron couplings and flange adapters 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 as the flow media does not come in direct contact with the coupling housings but rather only the gasket. Stated pressure ratings have been developed with a safety factor. Please see Shurjoint's 2017 online installation for most recently updated instructions. Proper installation is important to proper performance.

Model Z05 on Carbon Steel Pipe

Nom.	Cut-Grooved		Roll-Grooved		
Size	XS	STD	STD	. 10	Sch. 7*
in	psi	psi	psi	psi	psi
mm	Bar	Bar	Bar	Bar	Bar
1¼	600	600	500	400	250
32	42	42	35	28	17
1½	600	600	500	400	250
40	42	42	35	28	17
2	600	600	500	400	250
50	42	42	35	28	17
2½	600	600	500	400	250
65	42	42	35	28	17
3	600	600	500	400	250
80	42	42	35	28	17
4	600	600	500	400	200
100	42	42	35	28	14
5	450	450	350	300	175
125	31	31	24	20	12
6	450	450	350	300	175
150	31	31	24	20	12
8	450	450	350	300	150
200	31	31	24	20	10

* Schedule 7 is in reference to "Fire Protection Specialty Pipe", or "Flow Pipe" and are based on UL and FM agency listings. Please refer to these listings for particular pipe manufacturers which can be found on our UL and FM listing pages, or downloaded from our web site.

Model Z05 on Stainless Steel Pipe

Nom.	Cut-Grooved		Roll-Grooved		
Size	Sch. 80S	Sch. 40S	Sch. 40S	Sch. 10S	Sch. 5S
in	psi	psi	psi	psi	psi
mm	Bar	Bar	Bar	Bar	Bar
1¼	600	600	450	300	250
32	42	42	31	20	17
1½	600	600	450	300	250
40	42	42	31	20	17
2	600	600	450	300	250
50	42	42	31	20	17
2½	600	600	450	300	250
65	42	42	31	20	17
3	600	600	450	300	250
80	42	42	31	20	17
4	600	600	450	300	200
100	42	42	31	20	14
5	450	450	300	200	NR
125	31	31	20	14	
6	450	450	300	125	NR
150	31	31	20	9	
8	450	450	300	100	NR
200	31	31	20	7	

Model K-9 on Carbon Steel Pipe

Nom.	Cut-Grooved		Roll-Grooved		
Size	XS	STD	STD	Sch. 10	Sch. 7
in	psi	psi	psi	psi	psi
mm	Bar	Bar	Bar	Bar	Bar
1¼	600	600	500	400	300
32	42	42	35	28	20
1½	600	600	500	400	300
40	42	42	35	28	20
2	600	600	500	400	300
50	42	42	35	28	20
2½	600	600	500	400	300
65	42	42	35	28	20
3	600	600	500	400	300
80	42	42	35	28	20
4	600	600	500	400	300
100	42	42	35	28	20
5	450	450	450	350	250
125	31	31	31	24	17
6	450	450	450	350	250
150	31	31	31	24	17
8	450	450	350	250	200
200	31	31	24	17	14
8 (K-9H)	450	450	350	250	200
200	31	31	24	17	14

Model K-9 on Stainless Steel Pipe

Nom.	Cut-Grooved		Roll-Grooved		
Size	Sch. 80S	Sch. 40S	Sch. 40S	Sch. 10S	Sch. 5S
in	psi	psi	psi	psi	psi
mm	Bar	Bar	Bar	Bar	Bar
1¼	600	600	450	300	250
32	42	42	31	20	17
1½	600	600	450	300	250
40	42	42	31	20	17
2	600	600	450	300	250
50	42	42	31	20	17
2½	600	600	450	300	250
65	42	42	31	20	17
3	600	600	450	300	250
80	42	42	31	20	17
4	600	600	450	300	200
100	42	42	31	20	14
5	450	450	300	200	NR
125	31	31	20	14	
6	450	450	300	125	NR
150	31	31	20	9	
8	450	450	300	100	NR
200	31	31	20	7	
8 (K-9H)	450	450	300	100	NR
200	31	31	20	7	

Model Z07 on Carbon Steel Pipe

Nom. Size	Cut-Grooved XS	Cut-Grooved STD	Roll-Grooved STD	Roll-Grooved Sch. 10	Roll-Grooved Sch. 7
in	psi	psi	psi	psi	psi
mm	Bar	Bar	Bar	Bar	Bar
1¼	750	750	750	600	400
32	52	52	52	42	28
1½	750	750	750	600	400
40	52	52	52	42	28
2	750	750	750	600	400
50	52	52	52	42	28
2½	750	750	750	600	400
65	52	52	52	42	28
3	750	750	750	600	400
80	52	52	52	42	28
4	750	750	750	600	400
100	52	52	52	42	28
5	750	750	750	500	350
125	52	52	52	35	24
6	700	700	700	400	300
150	48	48	48	28	20
8	600	600	600	350	250
200	42	42	42	24	17
10	500	500	500	300	200
250	35	35	35	20	14
12	400	400	400	250	150
300	28	28	28	17	10

Model Z07 on Stainless Steel Pipe

Nom. Size	Cut-Grooved Sch. 80S	Cut-Grooved Sch. 40S	Roll-Grooved Sch. 40S	Roll-Grooved Sch. 10S	Roll-Grooved Sch. 5S
in	psi	psi	psi	psi	psi
mm	Bar	Bar	Bar	Bar	Bar
1¼	750	750	750	600	300
32	52	52	52	42	20
1½	750	750	750	600	300
40	52	52	52	42	20
2	750	750	750	600	300
50	52	52	52	42	20
2½	750	750	750	600	300
65	52	52	52	42	20
3	750	750	750	500	300
80	52	52	52	35	20
4	750	750	750	500	250
100	52	52	52	35	17
5	750	750	650	500	NR
125	52	52	45	35	
6	700	700	600	300	NR
150	48	48	42	20	
8	600	600	450	300	NR
200	42	42	31	20	
10	500	500	450	150	NR
250	35	35	31	10	
12	400	400	400	125	NR
300	28	28	28	9	

Model 7771 on Carbon Steel Pipe

Nom. Size	Cut-Grooved XS	Cut-Grooved STD	Roll-Grooved STD	Roll-Grooved Sch. 10	Roll-Grooved Sch. 7
in	psi	psi	psi	psi	psi
mm	Bar	Bar	Bar	Bar	Bar
1½	750	750	750	600	400
40	52	52	52	42	28
2	750	750	750	600	400
50	52	52	52	42	28
2½	750	750	750	600	400
65	52	52	52	42	28
3	750	750	750	600	400
80	52	52	52	42	28
4	750	750	750	600	400
100	52	52	52	42	28
5	750	750	750	500	350
125	52	52	52	35	24
6	700	700	700	400	300
150	48	48	48	28	20
8	600	600	600	350	250
200	42	42	42	24	17
10	500	500	500	300	200
250	35	35	35	20	14
12	400	400	400	250	150
300	28	28	28	17	10

Model 7771 on Stainless Steel Pipe

Nom. Size	Cut-Grooved Sch. 80S	Cut-Grooved Sch. 40S	Roll-Grooved Sch. 40S	Roll-Grooved Sch. 10S	Roll-Grooved Sch. 5S
in	psi	psi	psi	psi	psi
mm	Bar	Bar	Bar	Bar	Bar
1½	750	750	700	500	300
40	52	52	48	35	20
2	750	750	700	500	300
50	52	52	48	35	20
2½	750	750	700	500	300
65	52	52	48	35	20
3	750	750	700	500	300
80	52	52	48	35	20
4	750	750	700	400	250
100	52	52	48	28	17
5	750	750	600	300	NR
125	52	52	42	20	
6	700	700	500	200	NR
150	48	48	35	14	
8	600	600	400	150	NR
200	42	42	28	10	
10	500	500	300	100	NR
250	35	35	20	7	
12	400	400	250	100	NR
300	28	28	17	7	

Model XH-1000 on Carbon Steel Pipe

Nom. Size	Cut-Grooved XS	Cut-Grooved STD	Roll-Grooved STD	Roll-Grooved Sch. 10	Roll-Grooved Sch. 7
in	psi	psi	psi	psi	psi
mm	Bar	Bar	Bar	Bar	Bar
2	1000	1000	1000	750	NR
50	69	69	69	52	
2½	1000	1000	1000	600	NR
65	69	69	69	42	
3	1000	1000	1000	600	NR
80	69	69	69	42	
4	1000	1000	1000	600	NR
100	69	69	69	42	
6	1000	1000	1000	450	NR
150	69	69	69	31	
8	800	800	800	300	NR
200	55	55	55	20	
10	800	800	800	300	NR
250	55	55	55	20	
12	800	800	800	200	NR
300	55	55	55	14	

Model XH-1000 on Stainless Steel Pipe

Nom. Size	Cut-Grooved Sch. 80S	Cut-Grooved Sch. 40S	Roll-Grooved Sch. 40S	Roll-Grooved Sch. 10S	Roll-Grooved Sch. 5S
in	psi	psi	psi	psi	psi
mm	Bar	Bar	Bar	Bar	Bar
2	1000	1000	750	700	NR
50	69	69	52	48	
2½	1000	1000	750	700	NR
65	69	69	52	48	
3	1000	1000	750	500	NR
80	69	69	52	35	
4	1000	1000	750	500	NR
100	69	69	52	35	
6	1000	1000	750	350	NR
150	69	69	52	24	
8	800	800	650	350	NR
200	55	55	45	24	
10	800	800	600	300	NR
250	55	55	42	20	
12	800	800	600	300	NR
300	55	55	42	20	

Model G28 on Carbon Steel Pipe

Nom. Size	Cut-Grooved XS	Cut-Grooved STD	Roll-Grooved STD	Roll-Grooved Sch. 10	Roll-Grooved Sch. 7
in	psi	psi	psi	psi	psi
mm	Bar	Bar	Bar	Bar	Bar
1½	300	300	300	300	NR
40	20	20	20	20	
2	300	300	300	300	NR
50	20	20	20	20	
2½	300	300	300	300	NR
65	20	20	20	20	
3	300	300	300	300	NR
80	20	20	20	20	
4	300	300	300	300	NR
100	20	20	20	20	
5	300	300	300	300	NR
125	20	20	20	20	
6	300	300	300	300	NR
150	20	20	20	20	
8	300	300	300	250	NR
200	20	20	20	17	
10	300	300	300	250	NR
250	20	20	20	17	

Model G28 on Stainless Steel Pipe

Nom. Size	Cut-Grooved Sch. 80S	Cut-Grooved Sch. 40S	Roll-Grooved Sch. 40S	Roll-Grooved Sch. 10S	Roll-Grooved Sch. 5S
in	psi	psi	psi	psi	psi
mm	Bar	Bar	Bar	Bar	Bar
1½	300	300	300	300	NR
40	20	20	20	20	
2	300	300	300	300	NR
50	20	20	20	20	
2½	300	300	300	300	NR
65	20	20	20	20	
3	300	300	300	300	NR
80	20	20	20	20	
4	300	300	300	175	NR
100	20	20	20	12	
5	300	300	250	150	NR
125	20	20	17	10	
6	300	300	250	150	NR
150	20	20	17	10	
8	300	300	200	NR	NR
200	20	20	14		
10	300	300	200	NR	NR
250	20	20	14		

Model 7705 on Carbon Steel Pipe

Nom. Size	Cut-Grooved XS	Cut-Grooved STD	Roll-Grooved STD	Roll-Grooved Sch. 10	Roll-Grooved Sch. 7
in	psi	psi	psi	psi	psi
mm	Bar	Bar	Bar	Bar	Bar
1	600	600	500	400	300
25	42	42	35	28	20
1¼	600	600	500	400	300
32	42	42	35	28	20
1½	600	600	500	400	300
40	42	42	35	28	20
2	600	600	500	400	300
50	42	42	35	28	20
2½	600	600	500	400	300
65	42	42	35	28	20
3	600	600	500	400	300
80	42	42	35	28	20
4	600	600	500	400	300
100	42	42	35	28	20
5	450	450	450	350	250
125	31	31	31	24	17
6	450	450	450	350	250
150	31	31	31	24	17
8	450	450	300	300	200
200	31	31	20	20	14
10	350	350	300	200	175
250	24	24	20	14	12
12	350	350	300	200	175
300	24	24	20	14	12

Model 7705 on Stainless Steel Pipe

Nom. Size	Cut-Grooved Sch. 80S	Cut-Grooved Sch. 40S	Roll-Grooved Sch. 40S	Roll-Grooved Sch. 10S	Roll-Grooved Sch. 5S
in	psi	psi	psi	psi	psi
mm	Bar	Bar	Bar	Bar	Bar
1	600	600	750	500	250
25	42	42	52	35	17
1¼	600	600	750	500	250
32	42	42	52	35	17
1½	600	600	650	500	250
40	42	42	45	35	17
2	600	600	500	500	250
50	42	42	35	35	17
2½	600	600	500	500	250
65	42	42	35	35	17
3	600	600	500	400	250
80	42	42	35	28	17
4	600	600	500	400	200
100	42	42	35	28	14
5	450	450	450	350	NR
125	31	31	31	24	
6	450	450	300	300	NR
150	31	31	20	20	
8	450	450	300	250	NR
200	31	31	20	17	
10	350	350	200	75	NR
250	24	24	14	5	
12	350	350	200	50	NR
300	24	24	14	3	

Model 7707 on Carbon Steel Pipe

Nom. Size	Cut-Grooved XS	Cut-Grooved STD	Roll-Grooved STD	Roll-Grooved Sch. 10	Roll-Grooved Sch. 7
in	psi	psi	psi	psi	psi
mm	Bar	Bar	Bar	Bar	Bar
¾	1000	1000	1000* / 750	750* / 600	500
20	69	69	69* / 52	52* / 42	35
1	1000	1000	1000* / 750	750* / 600	500
25	69	69	69* / 52	52* / 42	35
1¼	1000	1000	1000* / 750	750* / 600	500
32	69	69	69* / 52	52* / 42	35
1½	1000	1000	1000* / 750	750* / 600	500
40	69	69	69* / 52	52* / 42	35
2	1000	1000	1000* / 750	750* / 600	500
50	69	69	69* / 52	52* / 42	35
2½	1000	1000	1000* / 750	600	500
65	69	69	69* / 52	42	35
3	1000	1000	1000* / 750	600	500
80	69	69	69* / 52	42	35
4	1000	1000	1000* / 750	600	400
100	69	69	69* / 52	42	28
5	1000	1000	1000* / 750	500	350
125	69	69	69* / 52	35	24
6	1000	1000	1000* / 700	450	300
150	69	69	69* / 48	31	20
8	800	800	800* / 600	350	250
200	55	55	55* / 42	24	17
10	800	800	800* / 550	300	200
250	55	55	55* / 38	20	14
12	800	800	800* / 500	300	200
300	55	55	55* / 35	20	14

Note: * Maximum line pressure, including surge, to which a joint should be subjected.

Model 7707 on Stainless Steel Pipe

Nom. Size	Cut-Grooved Sch. 80S	Cut-Grooved Sch. 40S	Roll-Grooved Sch. 40S	Roll-Grooved Sch. 10S	Roll-Grooved Sch. 5S
in	psi	psi	psi	psi	psi
mm	Bar	Bar	Bar	Bar	Bar
¾	750	750	750	500	325
20	52	52	52	35	22
1	750	750	750	500	325
25	52	52	52	35	22
1¼	750	750	750	500	325
32	52	52	52	35	22
1½	750	750	750	500	325
40	52	52	52	35	22
2	750	750	750	500	325
50	52	52	52	35	22
2½	750	750	750	500	325
65	52	52	52	35	22
3	750	750	750	500	325
80	52	52	52	35	22
4	750	750	750	500	250
100	52	52	52	35	17
5	750	750	650	500	NR
125	52	52	45	35	
6	750	750	500	350	NR
150	52	52	35	24	
8	600	600	450	300	NR
200	42	42	31	20	
10	600	600	400	125	NR
250	42	42	28	9	
12	600	600	400	125	NR
300	42	42	28	9	

Model 7706 on Carbon Steel Pipe

Nom. Size	Cut-Grooved		Roll-Grooved		
	XS	STD	STD	Sch. 10	Sch. 7
in	psi	psi	psi	psi	psi
mm	Bar	Bar	Bar	Bar	Bar
1½ x 1¼	500	500	500	350	300
40 x 32	35	35	35	24	20
2 x 1½	500	500	500	350	300
50 x 40	35	35	35	24	20
2½ 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 2½	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 2½	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

Model 7706 on Stainless Steel Pipe

Nom. 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
1½ x 1¼	500	500	350	300	250
40 x 32	35	35	24	20	17
2 x 1½	500	500	350	300	250
50 x 40	35	35	24	20	17
2½ 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 2½	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 2½	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	
6 x 3	400	400	300	200	NR
150 x 80	28	28	20	14	
6 x 4	400	400	300	175	NR
150 x 100	28	28	20	12	
8 x 6	400	400	300	175	NR
200 x 150	28	28	20	12	

Model C-7 on Carbon Steel Pipe

Nom. Size	Cut-Grooved		Roll-Grooved		
	XS	STD	STD	Sch. 10	Sch. 7
in	psi	psi	psi	psi	psi
mm	Bar	Bar	Bar	Bar	Bar
1½ x *	500	500	500	350	300
40 x *	35	35	35	24	20
2 x *	500	500	500	350	300
50 x *	35	35	35	24	20
2½ x *	500	500	500	350	300
65 x *	35	35	35	24	20
3 x *	500	500	500	350	300
80 x *	35	35	35	24	20
4 x *	500	500	500	350	300
100 x *	35	35	35	24	20
6 x *	400	400	400	350	300
150 x *	28	28	28	24	20

* = all branch sizes, threaded and grooved

Model C-7 on Stainless Steel Pipe

Nom. 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
1½ x *	500	500	350	300	250
40 x *	35	35	24	20	17
2 x *	500	500	350	300	250
50 x *	35	35	24	20	17
2½ x *	500	500	350	300	250
65 x *	35	35	24	20	17
3 x *	500	500	350	300	250
80 x *	35	35	24	20	17
4 x *	500	500	350	300	250
100 x *	35	35	24	20	17
6 x *	400	400	300	300	250
150 x *	28	28	20	20	17

* = all branch sizes, threaded and grooved

Model 7043 on Carbon Steel Pipe

Nom. Size	Cut-Grooved		Roll-Grooved		
	XS	STD	STD	Sch. 10	Sch. 7
in	psi	psi	psi	psi	psi
mm	Bar	Bar	Bar	Bar	Bar
2	750	750	750	500	NR
50	52	52	52	35	
2½	750	750	750	500	NR
65	52	52	52	35	
3	750	750	750	500	NR
80	52	52	52	35	
4	750	750	750	500	NR
100	52	52	52	35	
5	750	750	750	450	NR
125	52	52	52	31	
6	750	750	750	450	NR
150	52	52	52	31	
8	750	750	750	300	NR
200	52	52	52	20	
10	750	750	750	300	NR
250	52	52	52	20	
12	750	750	750	250	NR
300	52	52	52	17	

Hydrostatic shell test: 1125 psi (77 Bar) per ANSI B16.5

Model 7043 on Stainless Steel Pipe

Nom. 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
2	400	400	400	NR	NR
50	28	28	28		
2½	400	400	400	NR	NR
65	28	28	28		
3	400	400	400	NR	NR
80	28	28	28		
4	300	300	300	NR	NR
100	20	20	20		
5	300	300	250	NR	NR
125	20	20	17		
6	300	300	200	NR	NR
150	20	20	14		
8	250	250	150	NR	NR
200	17	17	10		
10	250	250	150	NR	NR
250	17	17	10		
12	250	250	150	NR	NR
300	17	17	10		

Model 7041 on Carbon Steel Pipe

Nom. Size	Cut-Grooved		Roll-Grooved		
	XS	STD	STD	Sch. 10	Sch. 7
in	psi	psi	psi	psi	psi
mm	Bar	Bar	Bar	Bar	Bar
2	300	300	300	250	NR
50	20	20	20	17	
2½	300	300	300	250	NR
65	20	20	20	17	
3	300	300	300	250	NR
80	20	20	20	17	
4	300	300	300	250	NR
100	20	20	20	17	
5	300	300	300	250	NR
125	20	20	20	17	
6	300	300	300	250	NR
150	20	20	20	17	
8	300	300	300	200	NR
200	20	20	20	14	
10	300	300	300	200	NR
250	20	20	20	14	
12	300	300	300	200	NR
300	20	20	20	14	
14	300	300	300	200	NR
350	20	20	20	14	
16	300	300	300	175	NR
400	20	20	20	12	
18	300	300	300	175	NR
450	20	20	20	12	
20	300	300	300	150	NR
500	20	20	20	10	
24	300	300	300	150	NR
600	20	20	20	10	

Model 7041 on Stainless Steel Pipe

Nom. 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
2	300	300	275	275	250
50	20	20	19	19	17
2½	300	300	275	275	250
65	20	20	19	19	17
3	300	300	275	275	250
80	20	20	19	19	17
4	300	300	275	275	250
100	20	20	19	19	17
5	300	300	275	200	200
125	20	20	19	14	14
6	300	300	250	200	200
150	20	20	17	14	14
8	300	300	200	75	NR
200	20	20	14	5	
10	300	300	200	75	NR
250	20	20	14	5	
12	300	300	200	50	NR
300	20	20	14	3	
14	250	250	125	NR	NR
350	17	17	9		
16	250	250	125	NR	NR
400	17	17	9		
18	250	250	125	NR	NR
450	17	17	9		
20	250	250	100	NR	NR
500	17	17	7		
24	250	250	100	NR	NR
600	17	17	7		

Model 7707N on Carbon Steel Pipe

Nom. Size	Cut-Grooved	Roll-Grooved	
	XS (0.500″)	STD (0.375″)	LW (0.312″)
in	psi	psi	psi
mm	Bar	Bar	Bar
14	300	300	250
350	20	20	17
16	300	300	250
400	20	20	17
18	300	300	250
450	20	20	17
20	300	300	250
500	20	20	17
22	300	300	250
550	20	20	17
24	300	300	250
600	20	20	17

Model Z07N on Carbon Steel Pipe

Nom. Size	Cut-Grooved	Roll-Grooved	
	XS (0.500″)	STD (0.375″)	LW (0.312″)
in	psi	psi	psi
mm	Bar	Bar	Bar
14	NR	250	200
350		17	14
16	NR	250	200
400		17	14
18	NR	250	200
450		17	14
20	NR	250	200
500		17	14
24	NR	250	200
600		17	14

Model 7707L on Carbon Steel Pipe

Nom. Size	Cut-Grooved	Roll-Grooved	
	XS (0,500″)	STD (0,375″)	LW (0,312″)
in	psi	psi	psi
mm	Bar	Bar	Bar
28	250	175	125
700	17	12	9
30	250	175	125
750	17	12	9
32	250	175	125
800	17	12	9
34	250	175	125
850	17	12	9
36	250	175	125
900	17	12	9
40	250	175	125
1000	17	12	9
42	250	175	125
1050	17	12	9

Stated pressure ratings have been developed with a safety factor. Please see Shurjoint's 2017 online installation instructions for most recently updated instructions. Proper installation is important to proper performance.