

WPT[®]

Water Piping Technology



Ductile Iron Grooved Fitting



Profile Company

Weifang Changsheng Group is a professional manufacture of Steel Pipes, Grooved Couplings and Fittings, Malleable Iron Threaded Fittings whose annual production capacity is more than 500,000 tons of pipes, 50,000 tons of Grooved Couplings and Fittings and 30,000 tons of Malleable Iron Threaded Fittings.

The company was founded 20 years ago, and has already exported our products to more than 80 countries and areas in the world.

The company now owns five factories, two for pipes, two for grooved couplings and fittings, one for malleable fittings, and totally covers an area of 500,000 square meters.

Our company has gradually got FM, UL, CE and CCC approvals, which can guarantee the good quality of our products. To further improve our administrations and production standards, ISO approval was also got to standardize all related procedures and operations. Insurances have already covered all our products, which will give all customers 100% guarantee during using of our products.

Complete logistics system is already well organized to cater to customers different requirements, the goods can be delivered to anywhere in the world as per different trade terms and customers' requirements. Among all the 1,000 professional staff, 20% of them are engineers and technicians, who are in charge of the design, development and inspections of the products. No matter OEM or Customization, we have great ability to do all that for you..



MATERIALS

HOUSING

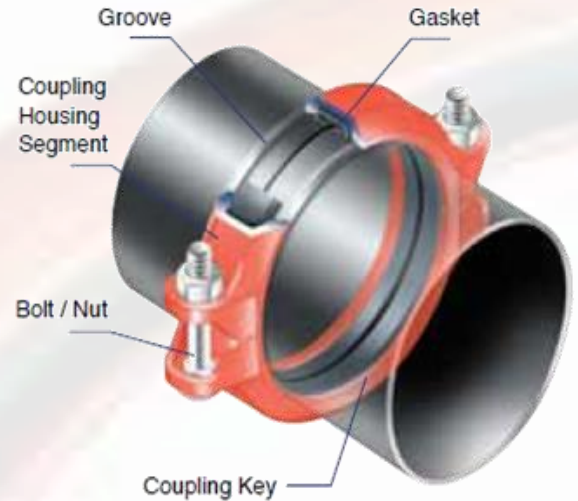
The housing segments not only provide significant strength to the joint but they also compress and protect the gasket from exposure. W P T coupling housings and components are cast in a variety of materials as shown below.

Ductile Iron:

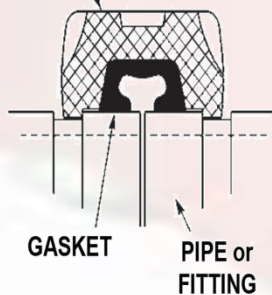
Standard coupling housings and fittings are made of ductile iron conforming to **ASTM A536 Gr. 65-45-12**. The properties of Grade 65-45-12 ductile iron are as follows; **65,000 psi (448 MPa) tensile strength, 45,000 psi (310 MPa) yield strength and 12% elongation**. As an option we also offer ductile iron made to ASTM A395 Gr. 60-40-18, for applications where required or where boiler codes may apply.



Stainless Steel :W P T offers a variety of stainless steel casting materials depending on your intended application. Standard coupling housing and fitting materials include CF8 (304), CF8M (316) or CF3M (316L) per ASTM A743. Optional materials include 2205 Duplex, 2507 Super Duplex and ASTM CK-3MCuN (UNSJ 93245).



GROOVED COUPLING



GASKETS (UL-FM)

W P T gaskets are available in a variety of configurations and compounds to meet your specific requirements. These gaskets have excellent self sealing capabilities and are designed to provide a leak tight seal. During assembly the gasket is first stretched over the pipe ends which forms the initial seal. As the housing segments are installed and secured the pressure responsive gasket is slightly compressed to form a leak-tight joint. The strength of the seal is further enhanced by internal line pressure that creates downward pressure on the lips of the gasket. The gasket also seals well under vacuum conditions up to 10 inHg (254 mmHg) which may occur when a system is drained. Please refer to the W P T Gasket Selection Guide for additional details and gasket materials.

NUTS & BOLTS

W P T products utilize oval neck track bolts and heavy duty hex nuts, available either in UNC threaded or ISO metric threaded. The oval neck track bolts mate into the oval holes in the housing segments to allow for easy tightening using only a single wrench/spanner. The UNC bolts and nuts are electro zinc plated in a silver chromate color and ISO bolts and nuts in a gold chromate color.

Hot-dip galvanized bolts and nuts are also available upon request. M10 to M22 only

Stainless steel track bolts and nuts, type 304 or 316, are supplied with W P T stainless steel couplings. Stainless steel track bolts and nuts are molybdenum disulfide (MoS₂) coated to inhibit galling.

Nominal Size mm/in	Pipe O.D. mm/in	Max. Working Pressure Bar/PSI	Max. End Load kN/Lbs	Axial Displacement mm/in	Angular Movement		Dimensions			Bolt Size in	Torque N-m/Lbs-Ft
					Degree Per Coupling(°)	Pipe mm/m in/G	A mm/in	B mm/in	C mm/in		
□	□	□	□	□	□	□	□	□	□	□	□

ATA CHART NOTES

Nominal Size :W P T couplings and fittings are identified by the nominal IPS pipe size in inches or nominal diameter of pipe (DN) in millimeters.

Pipe OD: Actual outside diameter of pipe in inches and millimeters.

Maximum Working Pressure: Maximum working pressures listed are CWP (cold water pressure) or maximum allowed working pressure within the service temperature range of the gasket used in the coupling, based on standard wall or sch. 7/10/40 steel pipe, cut or roll-grooved to ANSI/AWWA C606-04 specifications. These ranges may occasionally differ from maximum working pressures listed and/or approved by UL, ULC, and/or FM as testing conditions and test pipes differ. For performance data on other pipe schedules contact W P T.

Note: For one time field test only the maximum joint working pressure may be increased 1.5 times the figures shown

Maximum End Load: Maximum end loads listed are total of internal and external forces to which the joint can be subjected, based on standard wall or sch. 7/10/40 steel pipe, cut or roll-grooved to ANSI/AWWA C606-04 specifications.

Axial Displacement: Designed range of the gap between pipe ends based on roll grooved pipe.

Angular Movement (Deflection): Maximum allowable deflection of pipe from centerline when the joint is used with cut or roll- grooved steel pipe under no internal pressure.

Dimensions: "A", "B", "C" and so on are external dimensions for reference purpose only in millimeters and inches

Bolt Size: UNC bolt size and length in inches and ISO metric bolt size and length in millimeters with numbers of bolts where applicable.

Bolt Torque: Recommended bolt fastening torque in Lbs-Ft and N-m.

GENERAL NOTES

Service Fluid and Temperature: Service fluid and temperature limitations for W P T couplings are primarily governed by the gasket used within the coupling. Always refer to and consult the W P T Gasket Selection Guide.

Working Pressure :W P T grooved couplings are generally engineered for use with standard or sch. 7/10/40 steel pipes (except for some high pressure models) and can be used within the rated working pressures as shown in the W P T literature. A one time only field test at 1.5 times the working pressure is allowed.

As there are limitations in service temperatures, the W P T couplings and fittings do not adopt the ANSI temperature-pressure ranges (Class 150, Class 300, etc.), ISO or JIS methods of pressure ranges (PN10, PN16, JIS 10K or 20K, etc.). All the published working pressures are CWP, non-shock cold water pressures, unless otherwise specified. Actual allowed working pressures for a specific coupling will vary depending on the coupling size, pipe material, pipe schedule (or thickness) and types of grooves used. Special attention is required when using thin wall stainless steel pipe such as sch. 5. For further details request the performance data for specific thin wall pipe.

The dimensions, weights, performance data, and other specifications shown in this catalog supersede all previous published data.

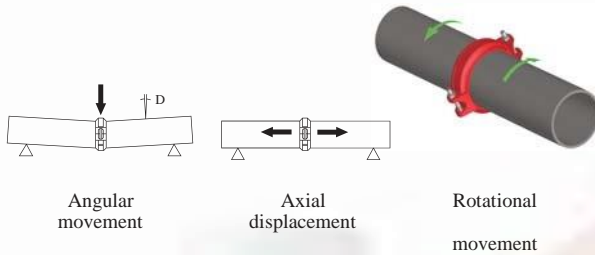
W P T reserves the right to change product designs and or specifications without notice and without obligation.

Illustrations shown within this catalog are for illustrative purposes. They are not drawn to scale and may have been exaggerated for clarity. Any person who makes use of the information or materials contained herein shall do so at their own risk and shall be liable for any results arising from such use.

RIGID or FLEXIBLE

W P T grooved couplings are classified into two types, flexible and rigid.

The following information is intended for system designers and installers to better understand the nature of the grooved piping systems. This will allow the designer and installer to make better use of the design features and advantages of grooved piping components and systems



TYPE	ANGULAR MOVEMENT DEG.	AXIAL DISPLACEMENT	ROTATION AFTER INSTALLATION
Flexible Coupling	$\leq 1^\circ$	3.2 - 1.6	Yes
Rigid Coupling	$> 1^\circ$	1.6 $>$	No

Note: Angular movement of flexible coupling 8" and larger sizes should be $.0.5^\circ$
 Axial displacement data based on roll-grooved pipe.

RIGID COUPLINGS

W P T rigid couplings can be used in application where you require a rigid joint similar to that of a traditional flanged, welded and or threaded connection. You need not worry about the snaking of the pipe on straight runs, as all W P T rigid couplings utilize both a mechanical and frictional interlock design to provide rigidity. Rigid couplings eliminate or reduce undesired angular movement, axial displacement and rotation after installation as is required under normal service conditions. Rigid couplings are some of the most popular and most widely used today.

FLEXIBLE COUPLINGS

W P T flexible couplings allow for full design features in applications such as 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. The ability to design in controlled flexibility is an advantageous feature when compared to traditional rigid joining methods such as threading, flanging and welding. When designing with flexible couplings you must allow for proper support to the system so as to eliminate undesired stress.

There are several published standards and codes covering grooved piping component. These codes or standards may vary as to the definition or standard for flexible couplings. System designers should confirm which standard(s) and or code(s) are required for the system being designed and they should select the applicable coupling for the application.



DESIGN FEATURES

NFPA 13 defines a FLEXIBLE COUPLING as: “a listed coupling or fitting that allows axial displacement, rotation, and at least 1 degree of angular movement of the pipe without inducing harm on the pipe. For pipe diameters of 8 in. and larger, the angular movement shall be permitted to be less than 1 degree but not less than 0.5 degrees”.

NFPA 13-2007 3.5.4

For sprinkler systems, NFPA 13 specifies the use of flexible couplings to protect the system against damage from earthquakes and sets some specific examples of how and where they should be used.

Designers and installers should design their fire protection systems in compliance with this standard.



Flexible Coupling

Axial Displacement & Angular Movement

Axial Displacement & Angular Movement (Left)					Axial Displacement & Angular Movement (Right)				
Size		Axial Displace		Angular Movement	Size		Axial Displace		Angular Movement
Nom.Size mm/in	Actual OD mm/in	-ment mm/in	Per coupling degrees	Per pipe mm/m, in/G	Nom.Size mm/in	Actual OD mm/in	-ment mm/in	Per coupling degrees	Per pipe mm/m, in/G
20	26.7	1.6	'46-°6	118	150	159.0	3.2	'18-°2	40
0.75	1.050	0.0625		1.42	6	6.250	0.125		0.48
25	33.4	1.6	'30-°5	96	150	165.1	3.2	'14-°2	39
1	1.315	0.0625		1.16	6	6.500	0.125		0.47
32	42.4	1.6	'20-°4	76	150	168.3	3.2	'10-°2	38
1.25	1.660	0.0625		0.91	6	6.625	0.125		0.45
40	48.3	1.6	'48-°3	66	200JIS	216.3	3.2	'42-°1	30
1.5	1.900	0.0625		0.80	8	8.516	0.125		0.36
50	60.3	1.6	'01-°3	53	200	219.1	3.2	'40-°1	29
2	2.375	0.0625		0.63	8	8.625	0.125		0.35
65	73	1.6	'30-°2	44	250JIS	267.4	3.2	'22-°1	24
2.5	2.875	0.0625		0.52	10	10.528	0.125		0.29
65	76.1	1.6	'24-°2	42	250	273.0	3.2	'20-°1	23
2.5	3.000	0.0625		0.50	10	10.750	0.125		0.28
80	88.9	1.6	'04-°2	36	300JIS	318.5	3.2	'10-°1	20
3	3.500	0.0625		0.43	12	12.539	0.125		0.25
90	101.6	1.6	'48-°1	31	300	323.9	3.2	'08-°1	20
3.5	4.000	0.0625		0.38	12	12.750	0.125		0.24
100	108.0	3.2	'24-°3	59.0	350	355.6	3.2	'02-°1	18
4	4.25	0.125		0.71	14	14.000	0.125		0.22
100	114.3	3.2	'12-°3	55	400	406.4	3.2	'54-°0	16
4	4.500	0.125		0.67	16	16.000	0.125		0.19
125	127.0	3.2	'53-°2	50.0	450	457.0	3.2	'48-°0	14
5	5.000	0.125		0.60	18	18.000	0.125		0.17
125	133	3.2	'46-°2	48	500	508.0	3.2	'44-°0	13
5	5.250	0.125		0.58	20	20.000	0.125		0.15
125	139.7	3.2	'37-°2	46	550	559.0	3.2	'38-°0	11
5	5.500	0.125		0.55	22	22.000	0.125		0.13
125	141.3	3.2	'36-°2	45	600	610.0	3.2	'36-°0	10
5	5.563	0.125		0.54	24	24.000	0.125		0.13

Note: Axial displacement is the maximum value when the system is pressurized to the maximum working pressure.

Angular movement is the maximum value that a coupling allows under no internal pressure.

The W P T couplings is an angle-pad design standard rigid coupling for moderate pressure piping services including fire mains, long straight runs and value 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.

Available Sizes

"1through 12" 25 through 300 mm

Pipe Material

Carbon steel, Schedule 10, Schedule 40

For use with alternative materials and wall thicknesses please contact W P T.

Maximum Working Pressure

Up to 365 psi/2517 kPa.

Function

Joins carbon steel pipe.

Provides a rigid pipe joint designed to restrict axial or angular movement.

CERTIFICATIONS/LISTINGS

Underwriters Laboratories, -, Factory Mutual.

SPECIFICATIONS - MATERIAL

Housing Sections: Ductile Iron conforming to ASTM A 536, Grade 65-45-12

Housing Coating:

Standard :RedEnamel Available: Hot Dipped Galvanized

Gasket:

Standard: Grade E EPDM Type A

W P T's products are listed by Underwriters Laboratories UL Canada and Approved by Factory Mutual for wet and dry (oil free air) sprinkler services within the rated working pressure.

Bolts and Nuts

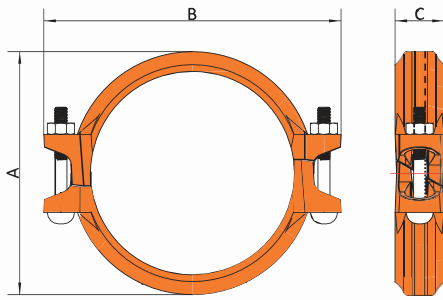
Standard: Carbon Steel oval neck track bolts meeting ASTM A449 and ISO 898-1. Carbon steel hex nuts meet ASTM A563 Grade B.

Nuts and Bolts are zinc electroplated per ASTM B633 NZ/FE5, finish Type III.

Available: Stainless Steel. Meets ASTM F593, Group 2 (316 stainless steel), condition CW.

Hex nuts meets ASTM F594, Group 2 (316 stainless steel), condition CW, with galling-resistant coating.





W P T Grooved Couplings are suitable for fire protection systems, water supply systems, and other process systems of higher working pressure.

Dimensions

Nominal Size in/mm	Maximum Working Pressure psi/kPa	Maximum End Load lb/N	Axial Displacement in/mm	A inches mm	B inches mm	C inches mm	Bolt inches mm	Weight lb kg
"1	300	405	0.06-0	2.17	3.82	1.77	"3/8x"1-1/2	0.81
25	20	1.80	1.6-0	55	97	45	M10x40	
"1/4-1	300	656	0.06-0	2.50	4.23	1.77	"3/8x"1-3/4	1.23
32	20	2.92	1.6-0	63.5	107.5	45	M10x45	
"1/2-1	300	852	0.06-0	2.72	4.49	1.77	"3/8x"1-3/4	1.32
40	20	3.79	1.6-0	69	114	45	M10x45	
"2	300	1327	0.06-0	3.29	4.88	1.81	"3/8x"2-1/8	1.58
50	20	5.91	1.6-0	83.6	124	46	M10x55	
"1/2-2	300	1945	0.06-0	3.86	5.39	1.81	"3/8x"2-1/8	
65	20	8.66	1.6-0	98	137	46	M10x55	
"3	300	2885	0.06-0	4.49	6.14	1.81	"3/8x"2-1/8	
80	20	12.84	1.6-0	114	156	46	M10x55	
"4	300	4258	0.16-0	5.43	7.32	1.97	"1/2x"2-5/8	
100	20	18.94	4.1-0	138	186	50	M12x65	
"5	300	6457	0.16-0	6.46	8.39	1.97	"1/2x"2-5/8	
125	20	28.73	4.1-0	164	213	50	M12x65	
"6	300	9229	0.06-0	7.56	9.61	1.97	"1/2x"2-5/5	
150	20	41.06	4.1-0	192	244	50	M12x65	
"8	300	17079	0.16-0	10.00	13.39	2.44	"3/4x"3-1/2	
200	20	75.99	4.1-0	254	340	62	M16x90	
"10	300	26101	0.16-0	12.32	15.75	2.52	"3/4x"3-1/2	
250	20	116.13	4.1-0	313	400	64	M20x90	
"12	300	37031	0.16-0	14.49	18.27	2.52	"7/8x"4-1/3	
300	20	164.76	4.1-0	368	464	64	M22x110	

Working Pressure and End Load are total, from all internal and external loads, based on standard weight (ANSI) steel pipe, standard roll or cut grooved in accordance with W P T specifications.

The allowable pipe separation dimension shown is for system layout purposes only. W P T couplings are considered rigid connections and will not accommodate expansion or contraction of the piping system.

When assembling W P T couplings onto end caps, take additional care to make certain the end cap is fully seated against the gasket end stop.

INSTALLATION INSTRUCTIONS:

STANDARD RIGID COUPLING

Depressurize and drain the piping system before attempting to install, remove, or adjust any piping products.

Wear safety glasses, hardhat, and foot protection.

CHECK PIPE ENDS:

The outside surface of the pipe from the pipe end to the groove must be smooth and free from indentations, projections (including weld seams), and roll marks to ensure a leaktight seal for the gasket. All oil, grease, loose paint, and dirt must be removed.

CHECK GASKET AND LUBRICATE:

Check the gasket to make sure it is suitable for the intended service. Apply a thin coat of Tuf-Lube Gasket Grease Lubricant to the gasket lips and exterior.

POSITION GASKET:

Position the gasket over the pipe end. Make sure the gasket does not overhang the pipe end.

JOIN PIPE ENDS:

Align and bring the two pipe ends together. Slide the gasket into position, and make sure it is centered between the grooves in each pipe.

Make sure no portion of the gasket extends into the groove in either pipe.

ASSEMBLE HOUSINGS:

Insert one bolt into the housings, and thread the nut loosely onto the bolt (nut should be flush with end of bolt).

INSTALL HOUSINGS:

Install the housings over the gasket. Make sure the housings' keys engage the grooves properly on both pipes.

Torque Value

When a torque value is specified for coupling installation, this torque **MUST** be applied to the nuts in order to achieve proper installation. However, torque beyond specified values will not improve sealing.

Exceeding the specified torque by more than 25% may cause damage to the product, resulting in pipe-joint failure.

SPECIFIED TORQUE LB/FT

SIZE	MIN	MAX
"1	30	45
"1/4-1	30	45
"1/2-1	30	45
"2	80	100
"1/2-2	80	100
"3	80	100
"1/2-3	100	130
"4	100	130

Using Impact Wrenches

When using an impact wrench, the speed of assembly may require extra care to ensure nuts are tightened evenly by alternating sides until proper assembly is complete.

Impact wrenches do not provide the installer with direct "wrench feel" or torque to judge nut tightness. Since some impact wrenches are capable of high output, it is important to develop a familiarity with the impact wrench to avoid damaging or fracturing bolts or coupling bolt pads during installation.

DO NOT continue to use an impact wrench after the visual installation guidelines for the coupling are achieved.

Perform trial assemblies with the impact wrench and socket or torque wrenches to help determine the capability of the impact wrench. Using the same method, periodically check additional nuts throughout the system installation.

In addition, verify that proper impact grade sockets are being used for coupling installation.



Available Sizes

" 1 through 12" 25 through 300 mm

Pipe Material

Carbon steel, Schedule 10, Schedule .40

For use with alternative materials and wall thicknesses please contact W P T.

Maximum Working Pressure

Up to 365 psi/2517 kPa.

Function

Joins carbon steel pipe.

Provides a rigid pipe joint designed to restrict axial or angular movement.

CERTIFICATIONS/LISTINGS

Underwriters Laboratories, -, Factory Mutual.

SPECIFICATIONS - MATERIAL

Housing Sections: Ductile Iron conforming to ASTM A 536, Grade .65-45-12

Housing Coating:

Standard :RedEnamel Available: Hot Dipped Galvanized

Gasket:

Standard: Grade E EPDM

W P T's products are listed by Underwriters Laboratories UL Canada and Approved by Factory Mutual for wet and dry (oil free air) sprinkler services within the rated working pressure.

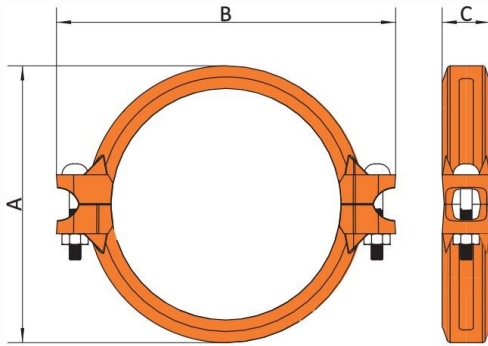
Bolts and Nuts

Standard: Carbon Steel oval neck track bolts meeting ASTM A449 and ISO 898-1. Carbon steel hex nuts meet ASTM A563 Grade B.

Nuts and Bolts are zinc electroplated per ASTM B633 NZ/FE5, finish Type III.

Available: Stainless Steel. Meets ASTM F593, Group 2 (316 stainless steel), condition CW.

Hex nuts meets ASTM F594, Group 2 (316 stainless steel), condition CW, with galling-resistant coating.



W P T Grooved Couplings are suitable for fire protection systems, water supply systems, and other process systems of higher working pressure.

Nominal Size in/mm	Maximum Working Pressure psi/kPa	Maximum End Load lb/N	Axial Displacement in/mm	Angular Movement		Dimensions			Bolt inches mm
				per coupling degrees	per pipe in/ft, mm/m	A inches mm	B inches mm	C inches mm	
"1	300	405	0.0625	'30-°5	0.71	2.17	3.82	1.77	"3/8x"1-1/2
25	20	1.80	1.6		58	55	97	45	M10x40
"1/4-1	300	656	0.0625	'20-°4	0.58	2.50	4.23	1.77	"3/8x"1-3/4
32	20	2.92	1.6		48	63.5	107.5	45	M10x45
"1/2-1	300	852	0.0625	'48-°3	0.45	2.72	4.49	1.77	"3/8x"1-3/4
40	20	3.79	1.6		38	69	114	45	M10x45
"2	300	1327	0.0625	'01-°3	0.4	3.29	4.88	1.81	"3/8x"2-1/8
50	20	5.91	1.6		33	83.6	124	46	M10x55
"1/2-2	300	1945	0.0625	'30-°2	0.31	3.86	5.39	1.81	"3/8x"2-1/8
65	20	8.66	1.6		26	98	137	46	M10x55
"3	300	2885	0.0625	'04-°2	0.21	4.49	6.14	1.81	"3/8x"2-1/8
80	20	12.84	1.6		18	114	156	46	M10x55
"4	300	4258	0.125	'14-°3	0.34	5.43	7.32	1.97	"1/2x"2-5/8
100	20	18.94	3.2		28	138	186	50	M12x65
"5	300	6457	0.125	'53-°2	0.27	6.46	8.39	1.97	"1/2x"2-5/8
125	20	28.73	3.2		23	164	213	50	M12x65
"6	300	9229	0.125	'18-°2	0.23	7.56	9.61	1.97	"1/2x"2-5/8
150	20	41.06	3.2		19	192	244	50	M12x65
"8	300	17079	0.125	'40-°1	0.18	10.00	13.39	2.44	"3/4x"3-1/2
200	20	75.99	3.2		15	254	340	62	M20x90
"10	300	26101	0.125	'20-°1	0.14	12.32	15.75	2.52	"3/4x"3-1/2
250	20	116.13	3.2		12	313	400	64	M20x90
"12	300	37031	0.125	'08-°1	0.12	14.49	18.27	2.52	"7/8x"4-1/3
300	20	164.76	3.2		10	368	464	64	M22x110

Note: Allowable Axial Displacement figures are for roll grooved standard steel pipe. Values for cut grooved pipe will be double that of roll grooved. These values are maximums; for design and installation purposes these figures should be reduced by: 50% for 3/4" – 3 1/2"; 25% for 4" and larger to compensate for jobsite conditions.

Working Pressure and End Load are total, from all internal and external loads, based on standard weight (ANSI) steel pipe, standard roll or cut grooved in accordance with W P T specifications.

When assembling W P T couplings onto end caps, take additional care to make certain the end cap is fully seated against the gasket end stop.

The NFPA 13 defines a flexible coupling as:

"a listed coupling or fitting that allows axial displacement, rotation, and at least 1 degree of angular movement of the pipe without inducing harm on the pipe. For pipe diameters of 8 in. and larger, the angular movement shall be permitted to be less than 1 degree but not less than 0.5 degrees." (NFPA 13- (2007 3.5.4

For sprinkler systems, NFPA 13 specifies the use of flexible couplings to protect the system against damage from earthquakes and sets some specific examples of how and where they should be used. Designers and installers should design their fire protection systems in compliance with this standard.

GROOVED REDUCING COUPLINGS

The W P T .reducing coupling allows for direct reduction on a piping run and eliminates the need for a concentric reducer and couplings. The specially designed rubber gasket helps prevent small pipe from telescoping into larger pipe during vertical assembly.

Caution: . couplings should not be used with an end cap, as the end may be sucked into the pipe when draining the system.

Pipe Material

Carbon steel, Schedule 10, Schedule .40

For use with alternative materials and wall thicknesses please contact W P T.

Maximum Working Pressure

Up to 365 psi/2517 kPa.

Function

Joins carbon steel pipe.

Provides a rigid pipe joint designed to restrict axial or angular movement

CERTIFICATIONS/LISTINGS

Underwriters Laboratories, -, Factory Mutual.

SPECIFICATIONS - MATERIAL

Housing Sections: Ductile Iron conforming to ASTM A 536, Grade .65-45-12

Housing Coating:

Standard :RedEnamel Available: Hot Dipped Galvanized

Gasket:

Standard: Grade E EPDM

W P T's products are listed by Underwriters Laboratories UL Canada and Approved by Factory Mutual for we and dry (oil free air) sprinkler services within the rated working pressure.

Bolts and Nuts

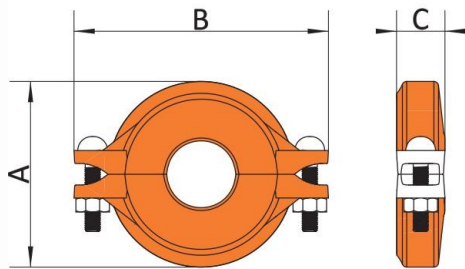
Standard: Carbon Steel oval neck track bolts meeting ASTM A449 and ISO 898-1. Carbon steel hex nuts meet ASTM A563 Grade B.

Nuts and Bolts are zinc electroplated per ASTM B633 NZ/FE5, finish Type III.

Available: Stainless Steel. Meets ASTM F593, Group 2 (316 stainless steel), condition CW.

Hex nuts meets ASTM F594, Group 2 (316 stainless steel), condition CW, with galling-resistant coating.





W P T Grooved Couplings are suitable for fire protection systems, water supply systems, and other process systems of higher working pressure.

					Deflection		Dimensions			
Nominal Size in/mm	Actual O.D. in/mm	Max. Working Pressure psi/Bar	Max. End Load Lbs/KN	Axial Displacement in/mm	Degree Per Coupling(°)	Pipe in/ft mm/m	A inches mm	B inches mm	C inches mm	Bolt Size inches mm
1/2-1x1-1/4	1.9x 1.669	300	852	0.0625	'54-°1	33	2.76	4.45	1.77	3/8x 2
40x 32	48.3x 42.4	20	3.79	1.6	'54-°1	0.4	70	113	45	M10 x 50
2x 1-1/2	2.375x 1.9	300	1327	0.0625	'31-°1	27	3.23	5.12	1.81	3/8x 2-1/8
50x 40	60.3x 48.3	20	5.91	1.6	'31-°1	0.32	82	130	46	M10 x 50
1/2-2x 2	2.875x 2.375	300	1945	0.0625	'15-°1	22	3.82	5.94	1.81	3/8x 2-1/8
65x 50	73x 60.3	20	8.66	1.6	'15-°1	0.26	97	151	46	M10 x 50
3x 2	3.5x 2.375	300	2885	0.0625	'02-°1	18	4.41	6.56	1.81	1/2x 2-5/8
80x 50	88.9x 60.3	20	12.84	1.6	'02-°1	0.22	112	166.6	46	M12 x 65
3x 2-1/2	3.5x 2.875	300	2885	0.0625	'02-°1	18	4.41	6.56	1.81	1/2x 2-5/8
80x 65	88.9x 73.0	20	12.84	1.6	'02-°1	0.22	112	166.6	46	M12 x 65
4x 2	4.5x 2.375	300	4769	0.125	'36-°1	28	5.55	7.87	1.97	1/2x 2-5/8
100x 50	114.3x 2.375	20	21.22	3.2	'36-°1	0.34	141	200	50	M12 x 65
4x 2-1/2	4.5x 2.875	300	4769	0.125	'36-°1	28	5.55	7.87	1.97	1/2x 2-5/8
100x 65	114.3x 73.0	20	21.22	3.2	'36-°1	0.34	141	200	50	M12 x 65
4x 3	4.5x 3.5	300	4769	0.125	'36-°1	28	5.58	7.87	1.97	1/2x 2-5/8
100x 80	114.3x 88.9	20	21.22	3.2	'36-°1	0.34	141.8	200	50	M12 x 65
5x 4	5.5x 4.5	300	7124	0.125	'18-°1	23	6.65	9.25	2.05	5/8x 3-1/8
125x 100	139.7x 114.3	20	31.70	3.2	'18-°1	0.27	169	235	52	M16 x 80
6x 4	6.5x 4.5	300	9950	0.125	'07-°1	20	7.76	10.83	2.05	5/8x 3-1/8
150x 100	165.1x 114.3	20	44.27	3.2	'07-°1	0.24	197	275	52	M16 x 80
8x 6	8.625x 6.525	300	17524	0.125	'50-°1	15	10.08	13.23	2.28	3/4x 4-1/3
200x 150	219.1x 168.3	20	77.97	3.2	'50-°1	0.18	256	336	58	M20 x 110

- Deflection or angular movement is the maximum value that a coupling allows under no internal pressure.
- Working Pressure and End Load are total, from all internal and external loads, based on standard weight (ANSI) steel pipe, standard roll or cut grooved in accordance with W P T specifications.
- The allowable pipe separation dimension shown is for system layout purposes only .W P T couplings are considered rigid connections and will not accommodate expansion or contraction of the piping system.



Available Sizes

"1 through 12" 25 through 300 mm

Pipe Material

Carbon steel, Schedule 10, Schedule .40

For use with alternative materials and wall thicknesses please contact W P T.

Maximum Working Pressure

Up to 300 psi/20 bar

Function

Joins carbon steel pipe.

Provides a rigid pipe joint designed to restrict axial or angular movement.

CERTIFICATIONS/LISTINGS

Underwriters Laboratories, -, Factory Mutual.

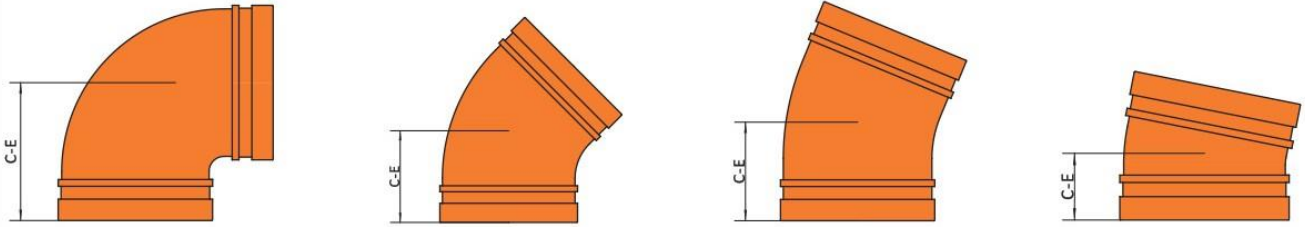
SPECIFICATIONS - MATERIAL

Housing Sections: Ductile Iron conforming to ASTM A 536, Grade .65-45-12

Housing Coating:

Standard :Red Enamel Available: Hot Dipped Galvanized





GROOVED ELBOWS

			201 °90Elbow Standard		208 °45Elbow		206 °22.5Elbow		207 °11.25Elbow	
Nominal Size in/mm	Pipe O.D. in/mm	Max Working Pressure psi/Bar	Item#	C-E inches mm	Item#	C-E inches mm	Item#	C-E inches mm	Item#	C-E inches mm
"1/4-1	1.669	300	7010041	2.76	7010062	1.77	7010073	1.77	7010245	1.38
32	42.4	20		70		45		45		35
"1/2-1	1.9	300	7010042	2.76	7010063	1.77	7010074	1.89	7010246	1.38
40	48.3	20		70		45		48		35
"2	2.375	300	7010043	3.27	7010064	2.01	7010075	2.01	7010247	1.50
50	60.3	20		83		51		51		38
"1/2-2	2.875	300	7010044	3.74	7010065	2.44	7010076	2.01	7010248	1.50
65	73	20		95		62		51		38
"3	3.5	300	7010045	4.25	7010066	2.76	7010077	2.87	7010249	1.77
80	88.9	20		108		70		73		45
"4	4.25	300	7010046	5	7010067	2.99	7010078	2.87	7010250	1.77
100	108	20		127		76		73		45
"5	5.25	300	7010047	5.51	7010068	3.27	7010079	2.87	7010251	2.01
125	133	20		140		83		73		51
"6	6.25	300	7010048	6.25	7010069	3.50	7010080	3.11	7010252	2.01
150	159	20		165		89		79		51
"8	8.265	300	7010049	7.76	7010070	4.25	7010081	4.37	7010253	2.13
200	219.1	20		197		108		111		54
"10	10.75	300	7010050	9.02	7010071	4.76	7010082	4.88	7010254	2.24
250	273	20		229		121		124		57
"12	12.75	300	7010051	10	7010072	---	7010083	---	7010255	---
300	323.9	20		254		---		---		---

- Working Pressure and End Load are total, from all internal and external loads, based on standard weight (ANSI) steel pipe, standard roll or cut grooved in accordance with W P T specifications.
- The allowable pipe separation dimension shown is for system layout purposes only .W P T couplings are considere rigid connections and will not accommodate expansion or contraction of the piping system.
- When assembling W P T couplings onto end caps, take additional care to make certain the end cap is fully seated against the gasket end stop.

GROOVED END OF RUN REDUCING ELBOW

Ductile iron 90° grooved-end elbow with base support, designed for installation at the bottom of a riser system. An anchor can be placed in conjunction with the base to support the weight of the pipe, coupling and fluid.

Pipe Material

Carbon steel, Schedule 10, Schedule .40

Maximum Working Pressure

Up to 300 psi/20 bar

Function

Joins carbon steel pipe grooved pipe to threaded.

CERTIFICATIONS/LISTINGS

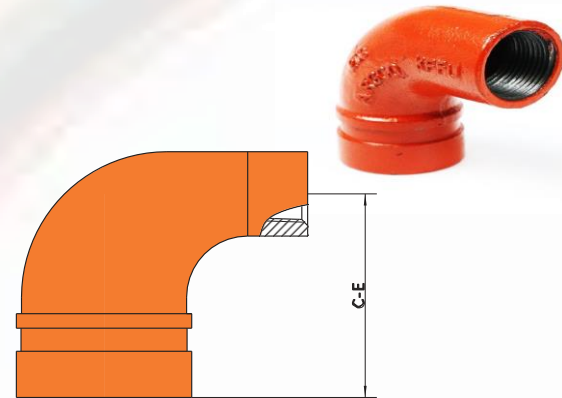
Underwriters Laboratories
 -Factory Mutual.

SPECIFICATIONS - MATERIAL

Housing Sections:

Ductile Iron conforming to ASTM A 536, Grade .65-45-12

Housing Coating: Standard :RedEnamel Available: Hot Dipped Galvanized



Nominal Size in/mm	NPT BSP	Max Working Pressure psi/Bar	C-E inches mm
"1/4-1x "1/2	"1/2	300	2.40
32x 15	15	20	61
"1/4-1x "3/4	"3/4	300	2.40
32x 20	20	20	61
"1/4-1x "1	"1	300	2.40
32x 25	25	20	61
"1/2-1x "1/2	"1/2	300	2.52
40x 15	15	20	64
"1/2-1x "3/4	"3/4	300	2.52
40x 20	20	20	64
"1/2-1x "1	"1	300	2.52
40x 25	25	20	64
"2x "1/2	"1/2	300	2.52
50x 15	15	20	64
"2x "3/4	"3/4	300	2.76
50x 20	20	20	70
"2x "1	"1	300	2.76
50x 25	25	20	70





W P T short radius fittings, while primarily designed for fire protection applications, can also be used for general service requirements



Available Sizes

"2through 12" 50 through 300 mm

Pipe Material

Carbon steel, Schedule 10, Schedule .40

For use with alternative materials and wall thicknesses please contact W P T.

Maximum Working Pressure

Up to 300 psi/20 bar

Function

Joins carbon steel pipe.

Provides a rigid pipe joint designed to restrict axial or angular movement.

CERTIFICATIONS/LISTINGS

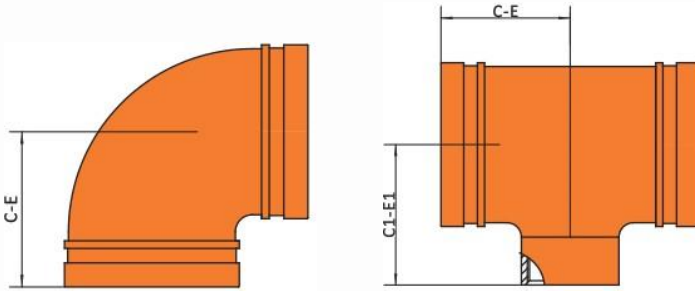
Underwriters Laboratories, -, Factory Mutual.

SPECIFICATIONS - MATERIAL

Housing Sections: Ductile Iron conforming to ASTM A 536, Grade .65-45-12

Housing Coating:

Standard :RedEnamel Available: Hot Dipped Galvanized



GROOVED TEES

			301 °90Elbow Short		302 Tee Short	
Nominal Size in/mm	Pipe O.D. in/mm	Max Working Pressure psi/Bar	Item#	C-E inches mm	Item#	C-E inches mm
"2	2.375	300	7010032	2.76	7010085	2.76
50	60.3	20		70		70
"1/2-2	2.875	300	7010033	2.99	7010086	2.99
65	73	20		76		76
"3	3.5	300	7010034	3.35	7010087	3.35
80	88.9	20		85		85
"4	4.25	300	7010035	4.02	7010088	4.02
100	108	20		102		102
"5	5.25	300	7010036	4.76	7010089	4.76
125	133	20		121		121
"6	6.25	300	7010037	5.12	7010090	5.12
150	159	20		130		130
"8	8.625	300	7010038	5.12	7010091	6.89
200	219.1	20		130		175

- Working Pressure and End Load are total, from all internal and external loads, based on standard weight (ANSI) steel pipe, standard roll or cut grooved in accordance with W P T specifications.

User Responsibility for Product Selection and Suitability

Each user bears final responsibility for making a determination as to the suitability of W P T products for a particular end-use application, in accordance with industry standards and project specifications, and the applicable building codes and related regulations as well as W P T performance, maintenance, safety, and warning instructions. Nothing in this or any other document, nor any verbal recommendation, advice, or opinion from any W P T employee, shall be deemed to alter, vary, supersede, or waive any provision of Allied Rubber and Gasket Company's standard conditions of sale, installation guide, or this disclaimer.

Note

All products to be installed in accordance with current W P T installation/assembly instructions .W P T reserves the right to change product specifications, designs and standard equipment without notice and without incurring obligations.

Installation

Reference should always be made to the W P T installation instructions of the product you are installing.

Warranty

Refer to the Warranty section of the current Price List or contact W P T for details.

GROOVED DRAIN ELBOW

a grooved-end ductile iron cast elbow with an integral 1" NPT drain.
 IT was primarily designed for, but not limited to, used on fire protection standpipes



Pipe Material

Carbon steel, Schedule 10, Schedule .40

Maximum Working Pressure

Up to 300 psi/20 bar

Function

Joins carbon steel pipe.
 Provides a rigid pipe joint designed to restrict axial or angular movement.

CERTIFICATIONS/LISTINGS

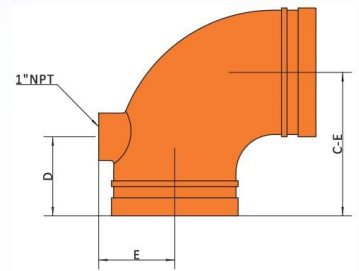
Underwriters Laboratories, -, Factory Mutual.

SPECIFICATIONS - MATERIAL

Housing Sections:
 Ductile Iron conforming to ASTM A 536, Grade 65-.45-12

Housing Coating:

Standard :RedEnamel Available: Hot Dipped Galvanized



Nominal Size in/mm	Pipe O.D. in/mm	Dimensions		
		C-E inches mm	D inches mm	E inches mm
2	2.375	3.27	2.76	1.48
50	60.3	83	70	37.5
1/2-2	2.875	3.74	2.76	1.77
65	73	95	70	45
3	3.5	4.25	2.76	2.17
80	88.9	108	70	55
4	4.5	5.00	2.76	2.70
100	114.3	127	70	68.5
6	6.625	6.50	2.76	3.76
150	168.3	165	70	95.5

Working Pressure is total, from all internal and external loads, based on standard weight (ANSI) steel pipe, standard roll or cut grooved in accordance with W P T specifications.

The allowable pipe separation dimension shown is for system layout purposes only .W P T couplings are considere rigid connections and will not accommodate expansion or contraction of the piping system.

When assembling W P T couplings onto end caps, take additional care to make certain the end cap is fully seated against the gasket end stop.



Available Sizes

"2 through 12" (50 through 300 mm)

Pipe Material

Carbon steel, Schedule 10, Schedule .40

For use with alternative materials and wall thicknesses please contact W P T.

Maximum Working Pressure

Up to 300 psi/20 bar

Function

Joins carbon steel pipe.

Provides a rigid pipe joint designed to restrict axial or angular movement.

CERTIFICATIONS/LISTINGS

Underwriters Laboratories, -, Factory Mutual.

SPECIFICATIONS - MATERIAL

Housing Sections: Ductile Iron conforming to ASTM A 536, Grade .65-45-12

Housing Coating:

Standard :RedEnamel Available: Hot Dipped Galvanized



GROOVED TEES

			Tee		Cross	
Nominal Size in/mm	Pipe O.D. in/mm	Max Working Pressure psi/Bar	Item#	C-E inches mm	Item#	C-E inches mm
"1	1.327	300				
25	33.7	20				
"1/4-1	1.669	300	7010092	2.76	7010230	
32	42.4	20		70		
"1/2-1	1.9	300	7010093	2.76	7010231	
40	48.3	20		70		
"2	2.375	300	7010094	3.31	7010232	7.00
50	60.3	20		84		178
"1/2-2	2.875	300	7010095	3.74	7010233	7.75
65	73	20		95		197
"3	3.5	300	7010096	4.25	7010234	8.50
80	88.9	20		108		216
"4	4.25	300	7010097	5.00	7010235	10.50
100	108	20		127		12.50
"5	5.25	300	7010098	5.51	7010236	318
125	133	20		140		14.00
"6	6.25	300	7010099	6.50	7010237	356
150	159	20		165		18.00
"8	8.625	300	7010100	7.76	7010238	457
200	219.1	20		197		20.50
"10	10.75	300	7010101	9.02	7010239	521
250	273	20		229		23.00
"12	12.75	300	7010102	10.00	7010240	584
300	323.9	20		254		
"14		300			7010241	
		20				
"16		300			7010242	
		20				

Working Pressure and End Load are total, from all internal and external loads, based on standard weight (ANSI) steel pipe, standard roll or cut grooved in accordance with W P T specifications.



Pipe Material

Carbon steel, Schedule 10, Schedule .40

For use with alternative materials and wall thicknesses please contact W P T.

Maximum Working Pressure

Up to 300 psi/20 bar

Function

Joins carbon steel pipe.

Provides a rigid pipe joint designed to restrict axial or angular movement.

CERTIFICATIONS/LISTINGS

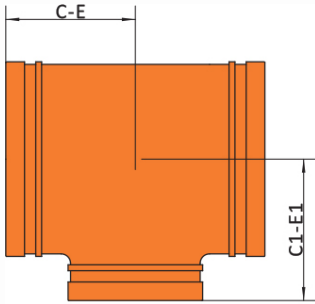
Underwriters Laboratories, -, Factory Mutual.

SPECIFICATIONS - MATERIAL

Housing Sections: Ductile Iron conforming to ASTM A 536, Grade .65-45-12

Housing Coating:

Standard :RedEnamel Available: Hot Dipped Galvanized



GROOVED TEES

			Dimensions	
Nominal Size in/mm	Pipe O.D. in/mm	Max Working Pressure psi/Bar	C1-E1 inches mm	C-E inches mm
2x 1-1/4	2.375x 4.669	300	2.76	2.76
50x 32	60.3x 42.4	20	70	70
2x 1-1/2	2.375x 1.9	300	2.76	2.76
50x 40	60.3x 48.3	20	70	70
1/2-2x 1-1/4	2.875x 1.669	300	2.99	2.99
65x 32	73x 42.4	20	76	76
1/2-2x 1-1/2	2.875x 1.9	300	2.99	2.99
65x 40	73x 48.3	20	76	76
1/2-2x 2	2.875x 2.375	300	2.99	2.99
65x 50	73x 60.3	20	76	76
3x 1-1/4	3.5x 1.669	300	3.39	3.39
80x 32	88.9x 42.4	20	86	86
3x 1-1/2	3.5x 1.9	300	3.39	3.39
80x 40	88.9x 48.3	20	86	86
3x 2	3.5x 2.375	300	3.39	3.39
80x 50	88.9x 60.3	20	86	86
3x 2-1/2	3.5x 2.875	300	3.39	3.39
80x 65	88.9x 73	20	86	86
4x 1-1/4	4.5x 1.669	300	3.54	3.86
100x 32	114.3x 42.4	20	90	*98
4x 1-1/2	4.5x 1.9	300	3.54	3.86
100x 40	114.3x 48.3	20	90	*98
4x 2	4.5x 2.375	300	4.02	4.02
100x 50	114.3x 60.3	20	102	102
4x 2-1/2	4.5x 2.875	300	4.02	4.02
100x 65	114.3x 73	20	102	102
4x 3	4.5x 3.5	300	4.02	4.02
100x 80	114.3x 88.9	20	102	102
5x 2	5.5x 2.375	300	4.13	4.13
125x 50	139.7x 60.3	20	105	105
5x 2-1/2	5.5x 3	300	4.13	4.13
125x 65	139.7x 76.1	20	105	105
5x 3	5.5x 3.5	300	4.13	4.13
125x 80	139.7x 88.9	20	105	105
5x 4	5.5x 4.25	300	4.13	4.13
125x 100	139.7x 108	20	105	105

			Dimensions	
Nominal Size in/mm	Pipe O.D. in/mm	Max Working Pressure psi/Bar	C1-E1 inches mm	C-E inches mm
150x 65	6.25x 3	300	4.33	4.72
6x 3	159x 76.1	20	110	*120
150x 80	6.25x 3.5	300	4.33	4.72
6x 4	159x 88.9	20	110	*120



W P T End Cap with Hole is an ideal transition fitting when a large reduction is required such as 6"×1", 4"×1" etc. The 602 can be used as an alternative to expensive swaged nipples.



Pipe Material

Carbon steel, Schedule 10, Schedule .40

For use with alternative materials and wall thicknesses please contact W P T.

Maximum Working Pressure

Up to 300 psi/20 bar

Function

Joins carbon steel pipe.

Provides a rigid pipe joint designed to restrict axial or angular movement.

CERTIFICATIONS/LISTINGS

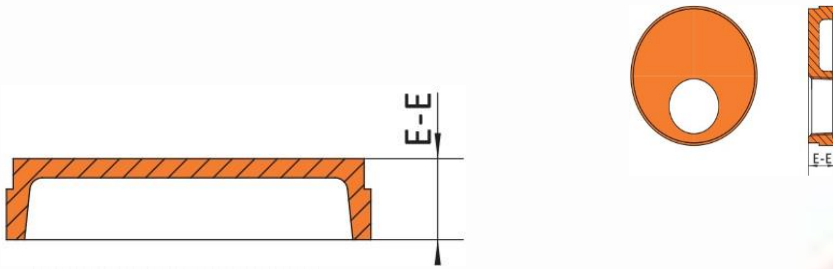
Underwriters Laboratories, -, Factory Mutual.

SPECIFICATIONS - MATERIAL

Housing Sections: Ductile Iron conforming to ASTM A 536, Grade .65-45-12

Housing Coating:

Standard :RedEnamel Available: Hot Dipped Galvanized



GROOVED END CAP

Nominal Size in/mm	Pipe O.D. in/mm	Max Working Pressure psi/Bar	E-E inches mm
1/4-1	1.669	300	0.94
32	42.4	20	2.38
1/2-1	1.9	300	0.94
40	48.3	20	2.38
2	2.375	300	0.94
50	60.3	20	2.38
1/2-2	3	300	0.94
65	76.1	20	2.38
3	3.5	300	0.94
80	88.9	20	2.38
4	4.25	300	1.00
100	108	20	25.4
5	5.25	300	1.00
125	133	20	25.4
6	6.5	300	1.00
150	165.1	20	25.4
8	8.625	300	1.19
200	219.1	20	30.2
10	10.75	300	1.19
250	273	20	30.2
12	12.75	300	1.19
300	323.9	20	30.2

Nominal Size in/mm	Pipe O.D. in/mm	Max Working Pressure psi/Bar	E-E inches mm
1/2-2x 1	2.875x 1.327	300	0.94
65x 25	73x 33.7	20	23.8
2x 1	2.375x 1.327	300	0.94
50x 25	60.3x 33.7	20	23.8
3x 1	3.5x 1.327	300	0.94
80x 25	88.9x 33.7	20	23.8
4x 1	4.5x 1.327	300	1.00
100x 25	114.3x 33.7	20	25.4
5x 1			
6x 1	6.5x 1.327	300	1.00
150x 25	165.1x 33.7	20	25.4



Pipe Material

Carbon steel, Schedule 10, Schedule .40

For use with alternative materials and wall thicknesses please contact W P T.

Maximum Working Pressure

Up to 300 psi/20 bar

Function

Joins carbon grooved pipe system to flange components

CERTIFICATIONS/LISTINGS

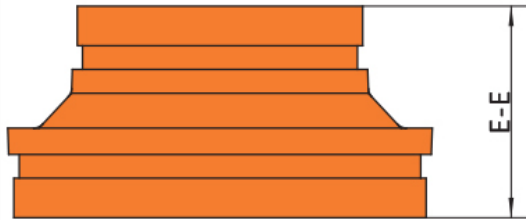
Underwriters Laboratories, -, Factory Mutual.

SPECIFICATIONS - MATERIAL

Housing Sections: Ductile Iron conforming to ASTM A 536, Grade .65-45-12

Housing Coating:

Standard :RedEnamel Available: Hot Dipped Galvanized



GROOVED REDUCER

Nominal Size in/mm	Pipe O.D. in/mm	E-E in/mm
"1/2-1x"1-1/4 40x 32	"1.9x"1.669 48.3x 42.4	2.52 64
"2x"1	"2.375x"1.669 60.3x 42.4	2.52 64
"2x"1-1/4 50x 32		2.52 64
"2x"1-1/2 50x 40	"2.375x"1.9 60.3x 48.3	2.52 64
"1/2-2x"1-1/4 65x 32	"2.875x"1.669 73x 42.4	2.52 64
"1/2-2x"1-1/2 65x 40	"2.875x"1.9 73x 48.3	2.52 64
"1/2-2x"2 65x 50	"2.875x"2.375 60.3 73	2.52 64
"3x"1-1/4 80x 32	"3.5x"1.669 88.9x 42.4	2.52 64
"3x"1-1/2 80x 40	"3.5x 88.9 x 48.3	2.52 64
"3x"2 80x 50	"3.5x"2.375 88.9x 60.3	2.52 64
"3x"2-1/2 80x 65	3.5x"2.875 88.9x 73	2.52 64
"4x"2 100x 50	"4.5x"2.375 114.3x 60.3	2.99 76
"4x"2-1/2 100x 65	"4.5x"2.875 114.3x 73	2.99 76
"4x"3 100x 80	"4.5x"3.5 114.3x 88.9	2.99 76

Nominal Size in/mm	Pipe O.D. in/mm	E-E in/mm
"5x"2 125x 50	"5.25x"2.375 133x 60.3	3.35 85
"5x"3 125x 80	"5.5x"3.5 139.7x 88.9	3.35 85
"5x"4 125x 100	"5.5x"4.25 139.7x 108	3.35 85
"6x"3		3.35 85
"6x"4 150x 100	"6.25x"4.25 159x 108	3.35 85
"6x"5 150x 125	"6.25x"5.5 159x 139.7	3.35 85
"8x"4 200x 100	"8.625x"4.5 219.1x 114.3	3.35 85
"8x"5 200x 125	"8.625x"5.5 219.1x 139.7	3.35 85
"8x"6 200x 150	"8.625x"6.25 219.1x 159	3.35 85
"10x"6 250x 150	"10.75x"6.25 273x 159	3.54 90
"10x"8 250x 200	"10.75x"8.625 273x 219.1	3.54 90
"12x"6 300x 150	"12.75x"6.25 323.9x 159	3.54 90
"12x"8 300x 200	"12.75x"8.63 323.9x 219.1	3.54 90
"12x"10 300x 250	"12.75x"10.75 323.9x 273	3.54 90

THREADED CONCENTRIC REDUCER

W P T[®]

W P T concentric reducers are cast of ductile iron.

The end-to-end dimensions of these reducers are less than that of fabricated reducers.



Pipe Material

Carbon steel, Schedule 10, Schedule .40

For use with alternative materials and wall thicknesses please contact W P T.

Maximum Working Pressure

Up to 250 psi/17 bar

Function

Joins carbon grooved pipe system to flange components

CERTIFICATIONS/LISTINGS

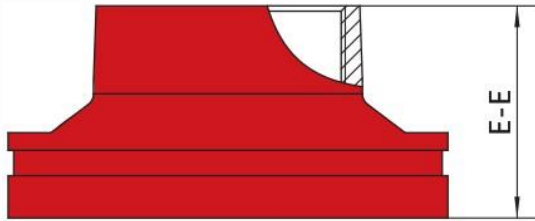
Underwriters Laboratories, -, Factory Mutual.

SPECIFICATIONS - MATERIAL

Housing Sections: Ductile Iron conforming to ASTM A 536, Grade .65-45-12

Housing Coating:

Standard :RedEnamel Available: Hot Dipped Galvanized



GROOVED REDUCER

Nominal Size in/mm	Pipe O.D.	Max. Working Pressure PSI/Bar	E - E in/mm	Nominal Size in/mm	Pipe O.D. in/mm	Max. Working Pressure PSI/Bar	E-E in/mm
"1/4-1x"1				"4x"2 100x 50	"4.25x"2.375 108.0x 60.3	230 16	3.35 85
"1/2-1x"1-1/4				"4x"3 100x 80	"4.25x"3.5 108x 88.9	230 16	3.35 85
"2x"1	"2.375x"1.327 60.3x 33.7	230 16	2.25 16	"5x"1-1/4 125x 32	"5.5x"1.669 139.7x 42.4	230 16	3.35 85
"2x"1-1/4	"2.375x"1.669 60.3x 42.4	230 16	2.25 16	"5x"1-1/2 125x 40	"5.5x"1.9 139.7x 48.3	230 16	3.35 85
"2x"1-1/2 50x 40	"2.375x"1.9 60.3x 48.3	230 16	2.25 64	"5x"2 125x 50	"5.5x"2.375 139.7x 60.3	230 16	3.35 85
"1/2-2x"1-1/4 65x 32	"2.875x"1.669 73x 42.4	230 16	2.52 64	"5x"3 125x 80	"5.5x"3.5 139.7x 88.9	230 16	3.35 85
"1/2-2x"1-1/2 65x 40	"2.875x"1.9 73x 48.3	230 16	2.52 64	"6x"1-1/4 150x 32	"6.5x"1.669 165.1x 42.4	230 16	3.35 85
"1/2-2x"2 65x 50	"2.875x"2.375 73x 60.3	230 16	2.52 64	"6x"1-1/2 150x 40	"6.5x"1.9 165.1x 48.3	230 16	3.35 85
"3x"1 80x 25	"3.5x"1.327 88.9x 33.7	230 16	2.52 64	"6x"2 150x 50	"6.5x"2.375 165.1x 60.3	230 16	3.35 85
"3x"1-1/4 80x 32	"3.5x"1.669 88.9x 42.4	230 16	2.52 64	"6x"2-1/2 150x 65	"6.5x"3 165.1x 76.1	230 16	3.35 85
"3x"1-1/2 80x 40	"3.5x"1.9 88.9x 48.3	230 16	2.52 64	"6x"3 150x 80	"6.5x"3.5 165.1x 88.9	230 16	3.35 85
"3x"2 80x 50	"3.5x"2.375 88.9x 60.3	230 16	2.52 64	"8x"1 200x 25	"8.625x"1.327 219.1x 33.7	230 16	3.35 85
"3x"2-1/2 80x 65	"3.5x"3 88.9x 76.1	230 16	2.52 64	"8x"1-1/4 200x 32	"8.625x"1.669 219.1x 42.4	230 16	3.35 85
"4x"1 100x 25	"4.25x"1.327 108.0x 33.7	230 16	2.99 76	"8x"1-1/2 200x 40	"8.625x"1.9 219.1x 48.3	230 16	3.35 85
"4x"1-1/4 100x 32	"4.25x"1.669 108.0x 42.4	230 16	2.99 76	"8x"2 200x 50	"8.625x"2.375 219.1x 60.3	230 16	3.35 85
"4x"1-1/2 100x 40	"4.25x"1.9 108.0x 48.3	230 16	2.99 76	"8x"2-1/2 200x 65	"8.625x"2.875 219.1x 73	230 16	3.35 85

Saddle-Lets is the ideal outlet fitting for 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.

Position the Saddle-Let so that the locating collar fits within the hole and secure with the U-bolt and nuts. The Saddle-Let allows full bore flow and is pressure rates to 300 psi (20 bar.)

Pipe Material

Carbon steel, Schedule 10, Schedule .40

For use with alternative materials and wall thicknesses please contact W P T.

Maximum Working Pressure

Up to 365 psi/2517 kPa.

Function

Joins carbon steel pipe.

Provides a rigid pipe joint designed to restrict axial or angular movement

CERTIFICATIONS/LISTINGS

Underwriters Laboratories, -, Factory Mutual.

SPECIFICATIONS - MATERIAL

Housing Sections: Ductile Iron conforming to ASTM A 536, Grade .65-45-12

Housing Coating:

Standard :RedEnamel Available: Hot Dipped Galvanized

Gasket:

Standard: Grade E EPDM (Type A)

W P T's products are listed by Underwriters Laboratories UL Canada and Approved by Factory Mutual for wet and dry (oil free air) sprinkler services within the rated working pressure.

Bolts and Nuts

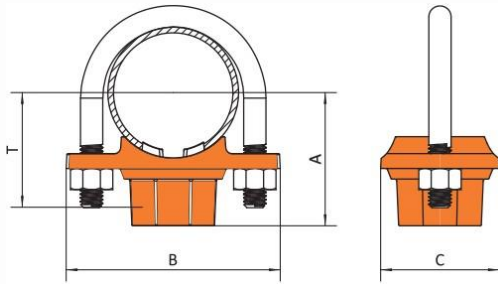
Standard: Carbon Steel oval neck track bolts meeting ASTM A449 and ISO 898-1. Carbon steel hex nuts meet ASTM A563 Grade B.

Nuts and Bolts are zinc electroplated per ASTM B633 NZ/FE5, finish Type III.

Available: Stainless Steel. Meets ASTM F593, Group 2 (316 stainless steel), condition CW.

Hex nuts meets ASTM F594, Group 2 (316 stainless steel), condition CW, with galling-resistant coating.





Item#	Nominal Size in/mm	Hole Dia. T 0-, .004+ 0-, .1+	Dimensions			Take-Out T/D in/mm	Bolt Size in	Bolt Torque N-M/Lbs-Ft
			A inches mm	B inches mm	C inches mm			
7010285	1/4-1x 1/2	1.18	2.09	3.50	2.20	1.73	3/8	29-22
	35x 15	30	53	89	56	44	U-Bolt	40-30
7010286	1/4-1x 3/4	1.18	2.09	3.50	2.20	1.73	3/8	29-22
	32x 20	30	53	89	56	44	U-Bolt	40-30
7010287	1/4-1x 1	1.18	2.20	3.50	2.20	1.85	3/8	29-22
	32x 25	30	56	89	56	47	U-Bolt	40-30
7010288	1/2-1x 1/2	1.18	2.17	3.50	2.20	1.81	3/8	29-22
	40x 15	30	55	89	56	46	U-Bolt	40-30
7010289	1/2-1x 3/4	1.18	2.17	3.50	2.20	1.81	3/8	29-22
	40x 20	30	55	89	56	46	U-Bolt	40-30
7010290	1/2-1x 1	1.18	2.28	3.50	2.20	1.93	3/8	29-22
	40x 25	30	58	89	56	49	U-Bolt	40-30
7010291	2x 1/2	1.18	2.52	3.86	2.20	2.09	3/8	29-22
	50x 15	30	64	98	56	53	U-Bolt	40-30
7010292	2x 3/4	1.18	2.52	3.86	2.20	2.09	3/8	29-22
	50x 20	30	64	98	56	53	U-Bolt	40-30
7010293	2x 1	1.18	2.64	3.86	2.20	2.20	3/8	29-22
	50x 25	30	67	98	56	56	U-Bolt	40-30
7010294	1/2-2x 1/2	1.18	2.72	4.37	2.20	2.28	3/8	29-22
	65x 15	30	69	111	56	58	U-Bolt	40-30
7010295	1/2-2x 3/4	1.18	2.72	4.37	2.20	2.28	3/8	29-22
	65x 20	30	69	111	56	58	U-Bolt	40-30
7010296	1/2-2x 1	1.18	2.83	4.37	2.20	2.40	3/8	29-22
	65x 25	30	72	111	56	61	U-Bolt	40-30



The 302 Mechanical Tee provides a fast and easy mid-pipe threaded branch outlet. It eliminates 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. Pressure rated to 300 psi / 20 bar.



Pipe Material

Carbon steel, Schedule 10, Schedule .40

For use with alternative materials and wall thicknesses please contact W P T.

Maximum Working Pressure

Up to 300 psi/20 bar

Function

Joins carbon steel pipe.

Provides a rigid pipe joint designed to restrict axial or angular movement.

CERTIFICATIONS/LISTINGS

Underwriters Laboratories, -, Factory Mutual.

SPECIFICATIONS - MATERIAL

Housing Sections: Ductile Iron conforming to ASTM A 536, Grade .65-45-12

Housing Coating:

Standard :RedEnamel Available: Hot Dipped Galvanized

Gasket:

Standard: Grade E EPDM (Type A)

W P T's products are listed by Underwriters Laboratories UL Canada and Approved by Factory Mutual for wet and dry (oil free air) sprinkler services within the rated working pressure.

Bolts and Nuts

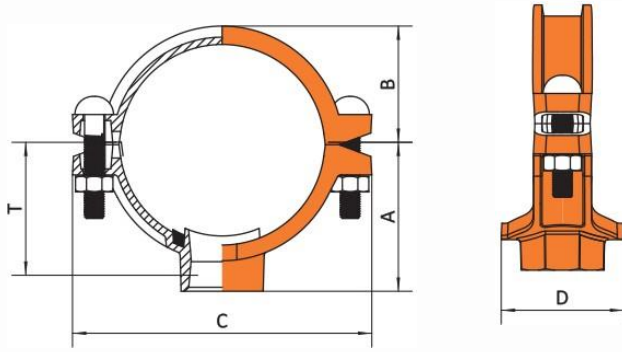
Standard: Carbon Steel oval neck track bolts meeting ASTM A449 and ISO 898-1. Carbon steel hex nuts meet ASTM A563 Grade B.

Nuts and Bolts are zinc electroplated per ASTM B633 NZ/FE5, finish Type III.

Available: Stainless Steel. Meets ASTM F593, Group 2 (316 stainless steel), condition CW.

Hex nuts meets ASTM F594, Group 2 (316 stainless steel), condition CW, with galling-resistant coating.

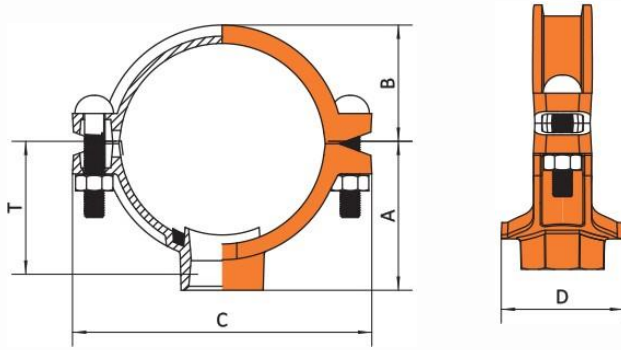
MECHANICAL TEE THREAD



GROOVED MECHANICAL

Nominal Size in/mm	Pipe O.D.	Hole Dia. \mp 0-.3.2+ 0-.0.13+/-	Dimensions - in/mm					Bolt Size in/mm
			Tt	A	B	C	D	
2x 3/4	2.375x 1.05	1.50	1.97	2.20	1.65	4.72	2.99	3/8x 2-3/8
50x 20	60.3x 26.7	38	50	56	42	120	76	M 10 x 60
1/2-2x 3/4	2.875x 1.05	1.50	2.02	2.42	1.85	5.63	2.99	1/2x 2-5/8
65x 20	73x 26.7	38	56	61.5	47	143	76	M 12 x 65
2x 1	2.375x 1.327	1.50	1.85	2.20	1.65	4.72	2.99	3/8x 2-3/8
50x 25	60.3x 33.7	38	47	56	42	120	76	M 10 x 60
2x 1-1/4	2.375x 1.669	1.75	2.05	2.68	1.65	4.72	3.31	3/8x 2-3/8
50x 32	60.3x 42.4	44.5	52	68	42	120	84	M 10 x 60
2x 1-1/2	2.375x 1.9	1.75	2.05	2.80	1.65	4.72	3.37	3/8x 2-3/8
50x 40	60.3x 48.3	44.5	52	71	42	120	84	M 10 x 60
1/2-2x 1	2.875x 1.327	1.50	2.09	4.42	1.85	5.63	2.99	1/2x 2-5/8
65x 25	73.0x 33.7	38	53	61.5	47	143	76	M 12 x 65
1/2-2x 1-1/4	2.875x 1.669	1.75	2.28	2.89	1.85	5.63	3.31	1/2x 2-5/8
65x 32	73.0x 42.4	44.5	58	73.5	47	143	84	M 12 x 65
1/2-2x 1-1/2	2.875x 1.9	2.00	2.28	2.89	1.85	5.63	3.54	1/2x 2-5/8
65x 40	73.0x 48.3	50.8	58	73.5	47	143	90	M 12 x 65
3x 1	3.5x 1.327	1.50	2.40	2.74	2.17	6.22	2.99	1/2x 2-5/8
80x 25	88.9x 33.7	38	61	69.5	55	158	76	M 12 x 65
3x 1-1/4	3.5x 1.669	1.75	2.56	3.19	2.17	6.22	3.31	1/2x 2-5/8
80x 32	88.9x 42.4	44.5	65	81	55	158	84	M 12 x 65
3x 1-1/2	3.5x 1.9	2.00	2.80	3.19	2.17	6.22	3.54	1/2x 2-5/8
80x 40	88.9x 48.3	50.8	71	81	55	158	90	M 12 x 65
3x 2	3.5x 2.375	2.50	2.76	3.19	2.17	6.22	3.98	1/2x 2-5/8
80x 50	88.9x 60.3	63.5	70	81	55	158	101	M 12 x 65
4x 1	4.250x 1.327	1.50	2.87	2.99	2.44	6.57	2.99	1/2x 2-5/8
100x 25	108.1x 33.7	38	73	76	62	167	76	M 12 x 65
4x 1-1/4	4.25x 1.669	1.81	3.07	2.99	2.44	6.57	3.27	1/2x 2-5/8
100x 32	108.0x 42.4	46	78	76	62	167	83	M 12 x 65
4x 1-1/2	4.25x 1.9	2.09	3.27	2.99	2.44	6.57	3.54	1/2x 2-5/8
100x 40	108.0x 48.3	53	83	76	62	167	90	M 12 x 65
4x 2	4.25x 2.375	2.50	3.27	3.07	2.44	6.57	3.94	1/2x 2-5/8
100x 50	108.0x 60.3	63.5	83	78	62	167	100	M 12 x 65
4x 2-1/2	4.25x 3	2.76	2.87	4.13	2.44	6.57	4.61	1/2x 2-5/8
100x 65	108.0x 76.1	70	73	105	62	167	117	M 12 x 65

Continued on next page



Nominal Size in/mm	Pipe O.D.	Hole Dia. \mp 0-.3.2+ 0-.0.13+/-	Dimensions - in/mm					Bolt Size in/mm
			Tt	A	B	C	D	
4x 3	4.5x 3.5	3.50	3.31	3.94	2.56	7.13	5.35	1/2x 2-3/4
100x 80	114.3x 88.9	89	84	100	65	181	136	M 12 x 70
5x 1	5.250x 1.327	1.50	3.35	3.50	2.91	8.07	2.99	1/2x 3
125x 25	133.0x 33.7	38	85	89	74	205	76	M 12 x 75
5x 1-1/4	5.25x 1.669	1.81	3.54	3.50	2.91	8.07	3.27	1/2x 3
125x 32	133.0x 42.4	46	90	89	74	205	83	M 12 x 75
5x 1-1/2	5.25x 1.9	2.09	3.74	3.50	2.91	8.07	3.54	1/2x 3
125x 40	133.0x 48.3	53	95	89	74	205	90	M 12 x 75
5x 2	5.25x 2.375	2.52	3.74	3.50	2.91	8.07	3.94	1/2x 3
125x 50	133.0x 60.3	64	95	89	74	205	100	M 12 x 75
5x 2-1/2	5.25x 3	3.15	3.82	3.62	2.91	8.07	4.61	1/2x 3
125x 65	133.0x 76.1	80	97	92	74	205	117	M 12 x 75
5x 3	5.25x 3.5	3.62	4.17	3.70	2.91	8.07	5.08	1/2x 3
125x 80	133.0x 88.9	92	106	94	74	205	129	M 12 x 75
6x 1	6.250x 1.327	1.50	4.45	4.00	3.58	9.17	2.99	9/16x 3
150x 25	159x 33.7	38	113	101.5	91	233	76	M 14 x 75
6x 1-1/4	6.250x 1.669	1.81	4.45	4.00	3.58	9.17	3.27	1/2x 3
150x 32	159.0x 42.4	46	113	101.5	91	233	83	M 12 x 75
6x 1-1/2	6.250x 1.9	2.09	4.41	4.00	3.58	9.17	3.54	1/2x 3
150x 40	159.0x 48.3	53	112	101.5	91	233	90	M 12 x 75
6x 2	6.250x 2.375	2.52	4.37	4.00	3.58	9.17	3.94	1/2x 3
150x 50	159.0x 60.3	64	111	101.5	91	233	100	M 12 x 75
6x 2-1/2	6.250x 3	3.15	4.37	4.15	3.58	9.17	4.61	5/8x 3-1/3
150x 65	159.0x 76.1	80	111	105.5	91	233	117	M 16 x 85
6x 3	6.250x 3.5	3.62	4.33	4.15	3.58	9.17	5.08	5/8x 3-1/3
150x 80	159.0x 88.9	92	110	105.5	91	233	129	M 16 x 85
8x 1	8.625x 1.327	1.50	5.98	5.35	1.92	12.68	2.99	5/8x 3-1/2
200x 25	219.1x 33.7	38	152	136	125	322	76	M 20 x 90
8x 1-1/4	8.625x 1.669	1.75	5.98	5.79	1.92	12.68	3.31	5/8x 3-1/2
200x 32	219.9x 42.4	44.5	152	147	125	322	84	M 20 x 90
8x 1-1/2	8.625x 1.9	2.00	5.98	5.79	1.92	12.68	3.54	5/8x 3-1/2
200x 40	219.1x 48.3	50.8	152	147	125	322	90	M 20 x 90
8x 2	8.625x 2.375	2.50	5.43	5.79	1.92	12.68	3.98	5/8x 3-1/2
200x 50	219.1x 60.3	63.5	138	147	125	322	101	M 20 x 90
8x 2-1/2	8.625x 3	2.76	5.08	6.14	1.92	12.68	4.61	5/8x 3-1/2
200x 65	219.1x 76.1	70	129	156	125	322	117	M 20 x 90
8x 3	8.625x 3.5	3.50	5.31	6.24	1.92	12.68	136	5/8x 3-1/2
200x 80	219.1x 88.9	89	135	158.5	125	322	5.35	M 20 x 90

GROOVED MECHANICAL

SMALL MECHANICAL TEE THREAD

Saddle-Lets is the ideal outlet fitting for 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. Position the Saddle-Let so that the locating collar fits within the hole and secure with the U-bolt and nuts. The Saddle-Let allows full bore flow and is pressure rates to 300 psi (20 bar).



Pipe Material

Carbon steel, Schedule 10, Schedule .40

For use with alternative materials and wall thicknesses please contact W P T.

Maximum Working Pressure

Up to 300 psi/20 bar

Function

Joins carbon steel pipe.

Provides a rigid pipe joint designed to restrict axial or angular movement.

CERTIFICATIONS/LISTINGS

Underwriters Laboratories, -, Factory Mutual.

SPECIFICATIONS - MATERIAL

Housing Sections: Ductile Iron conforming to ASTM A 536, Grade .65-45-12

Housing Coating:

Standard :RedEnamel Available: Hot Dipped Galvanized

Gasket:

Standard: Grade E EPDM (Type A)

W P T's products are listed by Underwriters Laboratories UL Canada and Approved by Factory Mutual for wet and dry (oil free air) sprinkler services within the rated working pressure.

Bolts and Nuts

Standard: **Carbon** Steel oval neck track bolts meeting ASTM A449 and ISO 898-1. Carbon steel hex nuts meet ASTM A563 Grade B.

Nuts and Bolts are zinc electroplated per ASTM B633 NZ/FE5, finish Type III.

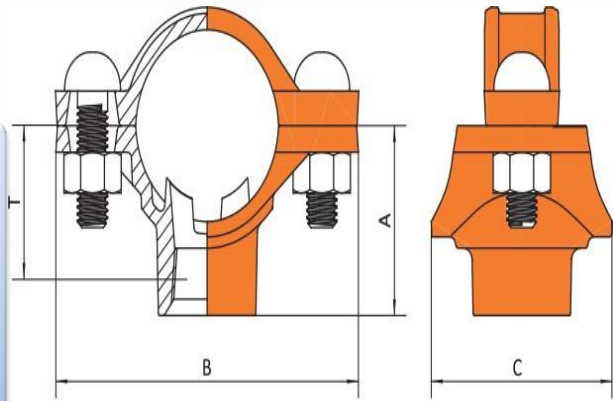
Available: Stainless Steel. Meets ASTM F593, Group 2 (316 stainless steel), condition CW.

Hex nuts meets ASTM F594, Group 2 (316 stainless steel), condition CW, with galling-resistant coating.

SMALL MECHANICAL TEE THREAD



GROOVED MECHANICAL



Item#	Nominal Size in/mm	Hole Dia. T 0- ,0.04+ 0- ,1+	Dimensions			Take-Out T/D in/mm	Bolt Size in	Bolt Torque N-M/Lbs-Ft
			A inches mm	B inches mm	C inches mm			
7010300	1x 1-1/2	0.95	1.10	3.66	1.89	1.14	3/8	29-22
100050		24	28	93	48	29		30-40
7010300	1/4-1x 1/2	1.18	1.77	3.86	2.56	1.30	3/8	29-22
125050	35x 15	30	45	98	65	33		40-30
7010300	1/4-1x 3/4	1.18	1.77	3.86	2.56	1.28	3/8	29-22
125075	32x 20	30	45	98	65	32.5		40-30
7010300	1/4-1x 1	1.18	2.13	3.86	2.20	1.52	3/8	29-22
125100	32x 25	30	54	98	56	38.6		40-30
7010300	1/2-1x 1/2	1.18	1.89	3.86	2.20	1.42	3/8	29-22
150050	40x 15	30	48	98	56	36.1		30-40
7010300	1/2-1x 3/4	1.18	1.89	3.86	2.20	1.40	3/8	29-22
150075	40x 20	30	48	98	56	35.6		30-40
7010300	1/2-1x 1	1.18	2.24	3.86	2.20	1.64	3/8	29-22
150100	40x 25	30	57	98	56	41.7		40-30
7010300	2x 1/2	1.18	2.13	3.86	2.20	1.66	3/8	29-22
200050	50x 15	30	54	98	56	42.2		40-30
7010300	2x 3/4	1.18	2.13	3.86	2.20	1.64	3/8	29-22
200075	50x 20	30	54	98	56	41.7		40-30
7010300	2x 1	1.18	2.44	3.86	2.20	1.88	3/8	29-22
200100	50x 25	30	62	98	56	47.8		40-30
7010300	1/2-2x 1/2	1.18	2.40	3.86	2.20	1.91	3/8	29-22
250005	65x 15	30	61	98	56	48.5		40-30
7010300	1/2-2x 3/4	1.18	2.40	3.86	2.20	1.89	3/8	29-22
250075	65x 20	30	61	98	56	48		40-30
7010300	1/2-2x 1	1.18	2.80	3.86	2.20	2.13	3/8	29-22
250100	65x 25	30	71	98	56	54.1		40-30



The Mechanical Tee provides a fast and easy mid-pipe grooved branch outlet. The mechanical tee utilizes ductile iron housings, a grade E gasket and heat-treated carbon steel track bolts and nuts. Maximum working pressure: 300 psi (20 bar.)



Pipe Material

Carbon steel, Schedule 10, Schedule .40

For use with alternative materials and wall thicknesses please contact W P T.

Maximum Working Pressure

Up to 300 psi/20 bar

Function

Joins carbon steel pipe.

Provides a rigid pipe joint designed to restrict axial or angular movement.

CERTIFICATIONS/LISTINGS

Underwriters Laboratories, -, Factory Mutual.

SPECIFICATIONS - MATERIAL

Housing Sections: Ductile Iron conforming to ASTM A 536, Grade .65-45-12

Housing Coating:

Standard :RedEnamel Available: Hot Dipped Galvanized

Gasket:

Standard: Grade E EPDM

W P T's products are listed by Underwriters Laboratories UL Canada and Approved by Factory Mutual for wet and dry (oil free air) sprinkler services within the rated working pressure.

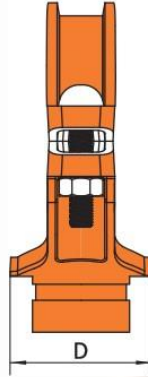
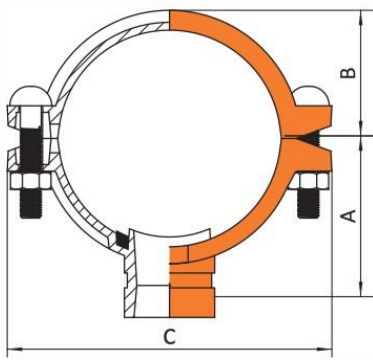
Bolts and Nuts

Standard: Carbon Steel oval neck track bolts meeting ASTM A449 and ISO 898-1. Carbon steel hex nuts meet ASTM A563 Grade B.

Nuts and Bolts are zinc electroplated per ASTM B633 NZ/FE5, finish Type III.

Available: Stainless Steel. Meets ASTM F593, Group 2 (316 stainless steel), condition CW.

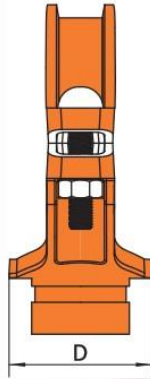
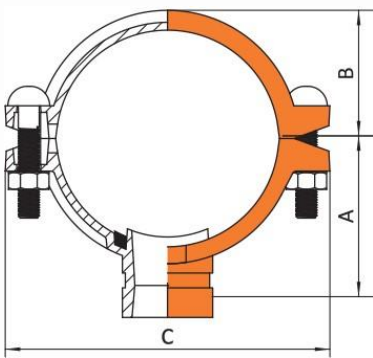
Hex nuts meets ASTM F594, Group 2 (316 stainless steel), condition CW, with galling-resistant coating.



Nominal Size in/mm	Pipe O.D.	Hole Dia. ± 0-,3.2+ 0-,0.13+/-	Dimensions - in/mm				Bolt Size in/mm
			A	B	C	D	
2x 1-1/4	2.375x 1.669	1.75	2.85	1.65	4.72	3.31	3/8x2-3/8
50x 32	60.3x 42.4	44.5	72.5	42	120	84	M 10 x 60
2x 1-1/2	2.375x 1.9	1.75	2.85	1.65	4.72	3.31	3/8x2-3/8
50x 40	60.3x 42.4	44.5	72.5	42	120	84	M 10 x 60
1/2-2x 1-1/4	2.875x 1.669	1.75	3.09	1.85	5.63	3.31	1/2x2-5/8
65x 32	73x 42.4	44.5	78.5	47	143	84	M 12 x 65
1/2-2x 1-1/2	2.875x 1.9	2.00	3.09	1.85	5.63	3.54	1/2x2-5/8
65x 40	73x 48.3	50.8	78.5	47	143	90	M 12 x 65
3x 1-1/4	3.5x 1.669	1.72	3.39	2.17	6.22	3.31	1/2x2-5/8
80x 32	88.9x 42.4	44.5	86	55	158	84	M 12 x 65
3x 1-1/2	3.5x 1.9	2.00	3.39	2.17	6.22	3.54	1/2x2-5/8
80x 40	88.9x 48.3	50.8	86	55	158	90	M 12 x 65
3x 2	3.5x 2.375	2.50	3.43	2.17	6.22	3.98	1/2x2-5/8
80x 50	88.9x 60.3	63.5	87	55	158	101	M 12 x 65
4x 1-1/4	4.5x 1.669	1.75	3.90	2.56	7.13	3.31	1/2x2-3/4
100x 32	114.3x 42.4	44.5	99	65	181	84	M 12 x 70
4x 1-1/2	4.5x 1.9	2.00	3.90	2.56	7.13	3.54	1/2x2-3/4
100x 40	114.3x 48.3	50.8	99	65	181	90	M 12 x 70
4x 2	4.25x 2.375	2.52	3.64	2.44	6.77	3.54	1/2x2-5/8
100x 50	108x 60.3	64	92.5	62	172	90	M 12 x 65
4x 2-1/2	4.25x 3	3.15	3.64	2.44	6.77	4.21	1/2x2-5/8
100x 65	108x 76.1	80	92.5	62	172	107	M 12 x 65
4x 3	4.5x 3.5	3.50	3.90	2.56	7.13	5.35	1/2x2-3/4
100x 80	114.3x 88.9	89	99	65	181	136	M 12 x 70
5x 1-1/4	5.5x 1.669	1.75	4.41	2.91	8.62	3.31	5/8x3-1/3
125x 32	139.7x 42.4	44.5	112	74	219	84	M 16 x 85
5x 1-1/2	5.25x 1.9	2.09	4.15	2.91	8.07	3.54	1/2x 2
125x 40	133x 48.3	53	105.5	74	205	90	M 12 x 75
5x 2	5.25x 2.375	2.52	4.15	2.91	8.07	3.94	1/2x 2
125x 50	133x 60.3	64	105.5	74	205	100	M 12 x 75
5x 2-1/2	5.25x 3	3.15	4.15	2.91	8.07	4.61	1/2x 2
125x 65	133x 76.1	80	105.5	74	205	117	M 12 x 75
5x 3	5.25x 3.5	3.62	4.15	2.91	8.07	5.08	1/2x 2
125x 80	133x 88.9	92	105.5	74	205	129	M 12 x 75
6x 1-1/4	6.5x 1.669	1.75	4.92	3.7	9.76	3.31	9/16x3
150x 32	165x 42.4	44.5	125	94	248	84	M 14 x 75

Continued on next page

GROOVED MECHANICAL



Nominal Size in/mm	Pipe O.D.	Hole Dia. \mp 0-.3.2+ 0-.0.13+/-	Dimensions - in/mm				Bolt Size in/mm
			A	B	C	D	
6x1-1/2	6.5x 1.9	2.00	4.92	3.7	9.76	3.54	5/8x3-1/3
150x40	165.1x 48.3	50.8	125	94	248	90	M 16 x 85
6x 2	6.25x 2.375	2.52	4.65	3.58	9.71	3.94	9/16x3
150x50	159x 60.3	64	118	91	233	100	M 14 x 75
6x2-1/2	6.25x 3	3.15	4.65	3.58	9.17	4.61	9/16x3
150x65	159x 76.1	80	118	91	233	117	M 14 x 75
6x 3	6.25x 3.5	3.62	4.65	3.58	9.17	5.08	9/16x3
150x80	159x 88.9	92	118	91	233	129	M 14 x 75
6x 4	6.25x 4.25	4.09	4.70	3.58	9.17	5.63	9/16x3
150x 100	159.0x 108.0	104	119.5	91	233	143	M 14 x 75
8x 2	8.625x 2.375	2.50	5.98	1.92	12.68	3.98	5/8x3-1/2
200x50	219.1x 60.3	63.5	152	125	322	101	M 20 x 90
8x2-1/2	8.625x 2.875	2.76	6.06	1.92	12.68	4.61	5/8x3-1/2
200x65	219.1x 60.3	70	154	125	322	117	M 20 x 90
8x 3	8.625x 3.5	3.50	6.06	1.92	12.68	5.35	5/8x3-1/2
200x80	219.1x 88.9	89	154	125	322	136	M 20 x 90
8x 4	8.625x 4.25	4.49	6.14	1.92	12.68	6.38	5/8x3-1/2
200x 100	219.1x 108	114	156	125	322	162	M 20 x 90



Flange Adapter allows for direct connection of a grooved system to ANSI class 125/150 flanged components
 * PN16 Available

SPECIFICATIONS - MATERIAL

Housing Sections: Ductile Iron
 conforming to ASTM A 536, Grade .65-45-12



Pipe Material

Carbon steel, Schedule 10, Schedule .40
 Maximum Working Pressure

Up to 250 psi/17 bar

- PN16 Available

Function

Joins carbon grooved pipe system to flange components

CERTIFICATIONS/LISTINGS

Underwriters Laboratories

↳ Factory Mutual.

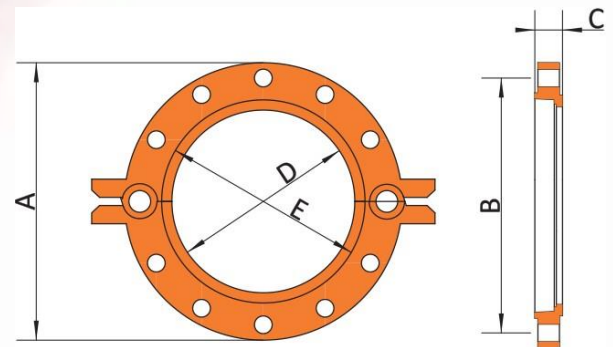
*PN16 Available

Housing Coating:

Standard :RedEnamel Available: Hot Dipped Galvanized

Bolts and Nuts

Standard: Carbon Steel oval neck track bolts meeing ASTM A449 and ISO 898-1. Carbon steel hex nuts meet ASTM A563 Grade B. Nuts and Bolts are zinc electroplated per ASTM B633 NZ/FE5, finish Type III.



Nominal Size in/mm	Pipe O.D. in/mm	Max. Working Pressure PSI/Bar	Max. End Load Lbs./KN	A inches mm	B inches mm	C inches mm	D inches mm	E inches mm	Bolt Holes No.	Bolt Size in/mm
2	2.375	250	1330	6.10	4.74	0.98	2.36	3.07	4	5/8
50	60.3	17	5.71	155	120.5	25	60	78	4	M16
1/2-2	2.875	250	1950	7.09	5.51	0.98	2.87	3.66	4	5/8
65	73.0	17	8.37	180	140	25	73	93	4	M16
3	3.500	250	2880	7.48	6.02	0.98	3.50	4.21	8	5/8
80	88.9	17	12.41	190	153	25	89	107	8	M16
4	4.500	250	4770	9.06	7.52	0.98	4.49	5.16	8	5/8
100	114.3	17	20.51	230	191	25	114	131	8	M16
5	5.563	250	7390	10.04	8.50	0.98	5.55	6.18	8	3/4
125	141.3	17	31.35	255	216	25	141	157	8	M20
6	6.625	250	10340	11.02	9.49	0.98	6.61	7.28	8	3/4
150	168.3	17	44.47	280	241	25	168	185	8	M20
8	8.625	250	17520	13.58	11.77	1.06	8.62	9.21	8	3/4
200	219.1	17	75.37	345	299	27	219	234	8	M20
10	10.750	250	27210	15.94	14.25	1.18	10.75	11.57	12	1
250	237.0	17	164.71	405	362	30	273	294	12	M24
12	12.75	250	38280	19.09	17.01	1.26	12.76	13.43	12	1
300	323.9	17	164.71	485	432	32	324	341	12	M24

Flange Adapter provides a rigid transition from a flanged component to a grooved system.



SPECIFICATIONS - MATERIAL

Housing Sections: Ductile Iron
conforming to ASTM A 536, Grade .65-45-12

Housing Coating:

Standard :RedEnamel Available: Hot
Dipped Galvanized

Pipe Material

Carbon steel, Schedule 10, Schedule .40
Maximum Working Pressure
Up to 250 psi/17 bar
• PN16 Available

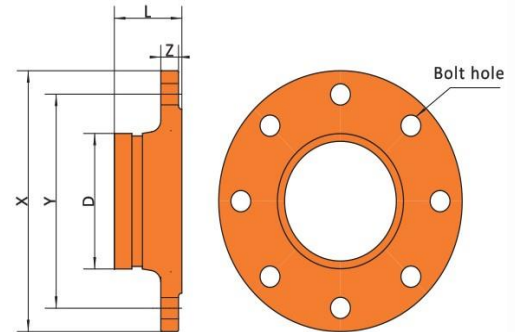
Function

Joins carbon grooved pipe system to flange components

CERTIFICATIONS/LISTINGS

Underwriters Laboratories
-Factory Mutual.

*PN16 Available



Nominal Size in/mm	Pipe O.D. in/mm	Max. Working Pressure PSI/Bar	Z inches mm	Y inches mm	Z inches mm	L inches mm	Bolt Holes No.	Bolt Size in/mm
2	2.375	300	6.10	4.74	0.98	2.36	4	5/8
50	60.3	20	155	120.5	25	60	4	M16
1/2-2	2.875	300	7.09	5.51	0.98	2.87	4	5/8
65	73.0	20	180	140	25	73	4	M16
3	3.500	300	7.48	6.02	0.98	3.50	8	5/8
80	88.9	20	190	153	25	89	8	M16
4	4.500	300	9.06	7.52	0.98	4.49	8	5/8
100	114.3	20	230	191	25	114	8	M16
5	5.563	300	10.04	8.50	0.98	5.55	8	3/4
125	141.3	20	255	216	25	141	8	M20
6	6.625	300	11.02	9.49	0.98	6.61	8	3/4
150	168.3	20	280	241	25	168	8	M20
8	8.625	300	13.58	11.77	1.06	8.62	8	3/4
200	219.1	20	345	299	27	219	8	M20
10	10.750	300	15.94	14.25	1.18	10.75	12	1
250	237.0	20	405	362	30	273	12	M24
12	12.75	300	19.09	17.01	1.26	12.76	12	1
300	323.9	20	485	432	32	324	12	M24

GASKET SELECTION GUIDE

W P T utilizes the finest gasket materials available in our products. Over the past 50 year great advanced have been made in synthetic elastomer technologies, allowing us to offer a full range of synthetic rubber gasket materials for a wide variety of piping applications. Lede gaskets are engineered and designed to meet and exceed standards such as ASTM D2000, AWWA C606, NSF61 and IAPMO. Our own stringent internal laboratory testing confirms this. Our continual re- search, development and testing are designed to advance the elastomer field and to develop new and beer solutions for our ever changing industry.

Chemical resistance is primarily determined by the grade and or the compound of the gasket. The color coding identifies the gasket grade and or compound. Always verify that the gasket selected is correct for the intended service. Service temperature is controlled by factors including the gasket compound, fluid medium (air, water, oils, etc.), and continuity (continuous or intermittent) of service. Under no circumstances should gaskets be exposed to temperatures above or below their individual ratings. For additional informa- tion or specific applications contact W P T for recommenda- tions.

GASKET SELECTION

Standard Gaskets

Compound	Grade	Color Dode	Recommended Services	Maximum Temp. Range
EPDM	E	Green Stripe	Good for cold & hot water up to +230°F (+110°C). Also good for services for water with acid, water with chlorine, deionized water, seawater and waste water, dilute acids, oil-free air and many chemicals. Not recommended for petroleum oils, solvents and aromac hydrocarbons.	°29-F (-34°C) to °230+F (+110°C)
Nitrile	T	RedStripe	Good for petroleum oils, mineral oils, vegetable oils, aromac hydrocarbons, many acids and water ≤ +150°F (+65°C.)	°20-F (-29°C) to °180+F (+82°C)
White Nitrile	A	White Gasket	Good for oily and greasy food products and processing, as well as pharmaceucal and cosmecs manufacturing. Compounded from FAD approved ingrediients (CFR Title 21 Part .(177.2600	°20-F (-7°C) to °180+F (+82°C)
Silicone	L	Red Stripe	Good for dry, hot air without hydrocarbons and some high temperature chemical services. May also be used for □re protection dry systems.	°29-F (-34°C) to °350+F (+177°C)
Fluoro-elastomer (Viton)	O	Blue Stripe	Good for many oxidizing acids, petroleum oils, halogenated hydrocarbons, lubricants, hydraulic □uids, organic liquids and air with hydrocarbons to +300°F (+149°C.)	°20-F (-7°C) to °300+F (+149°C)



W P T couplings and mechanical tees are supplied complete with factory bolts and nuts. The bolt and nut torque is primarily a function of the bolt and nut size. The following table shows guidelines for nut and bolt torque and can be used when setting the torque on power drivers

Design Bolt Torques

Bolt Size in	N-m Lbs - G	Bolt Size in	N-m Lbs - G
5/16	20 - 15	3/4	135 - 1100
M8	15 - 11	M20	100 - 74
3/8	30 - 25	7/8	275 - 170
M10	22 - 18	M22	200 - 125
1/2	68 - 50	1	400 - 275
M12	50 - 37	M24	300 - 200
5/8	120 - 80		
M16	90 - 60		

Do not exceed the design torque guidelines by more than 25%, as excessive torque could lead to joint failure. Always tighten nuts evenly and equally by alternating sides to prevent the gasket from being pinched and always check to make sure the coupling keys are fully engaged in the grooves.

FLEXIBLE COUPLINGS

The bolt pads on flexible couplings have been designed to meet metal to metal when properly installed. Bolt pad gaps

Table 1
Flexible Coupling Torque Guidelines

Bolt Size in	XGQT2 N-m/Lbs-G	1212 N-m/Lbs-G
1	70-60	---
	50-45	---
1/4-1	70-60	70-60
	50-45	50-45
1/2-1	70-60	70-60
	50-45	50-45
2	70-60	70-60
	50-45	50-45
1/2-2	70-60	100-90
	50-45	75-65
3	70-60	100-90
	50-45	75-65
4	100-90	100-90
	75-65	75-65
5	100-90	230-200
	75-65	170-145
6	100-90	230-200
	75-65	170-145
8)230-200JIS(216 270-300	300-270
)170-145JIS (216 200-220	220-200
10	300-270	300-270
	220-200	220-200
12	300-270	300-270
	220-200	220-200
14	300-270	---
	220-200	---
16	300-270	---
	220-200	---
18	300-270	---
	220-200	---
20	300-270	---
	220-200	---
22	300-270	---
	220-200	---
24	340-320	---
	250-235	---

regardless of their size, are not acceptable on flexible couplings. The listed values in the table 1 are guideline torque values listed by the coupling size. Please note these are only guidelines and that the actual torque value may be less than those listed to achieve a proper assembly. Actual torques for assembly of flexible couplings are normally as low as 15-20

N-m (11-15 Lbs-) for the bolt size of M10 (3/8") and 30-40 N-m (22 to 30 Lbs-) for the M12 (1/2") bolt size.

Do not attempt to add further torque after the bolt pads make metal to metal contact. If the bolt pads do not make full metal to metal contact, increase the torque to the listed guideline in table 1. Do not exceed the listed torque by more than 25%, as excessive torque could lead to joint failure. If bolt pad gaps still exist after bolts and nuts have been tightened to the guideline torque, then this would indicate a problem in the assembly, pipe and or groove dimensions.

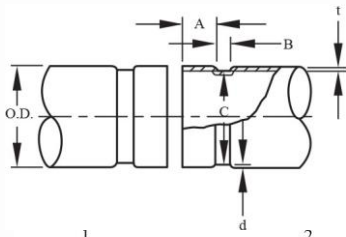
ANGLE PAD RIGID COUPLINGS

The bolt pads on angle-pad rigid couplings and butt-joint rigid couplings have been designed to meet metal to metal when properly installed. In addition as the bolts are tightened the bolt pads will slide against one another creating a slight offset. This offset should be equal on each side and is your visual indication that the coupling has been installed properly for a rigid connection. Bolt pad gaps, regardless of their size, are not acceptable on angle-pad coupling. The listed values in the table 2 are guideline torque values listed by the coupling size. Please note these are only guidelines and that the actual torque value may be less than those listed to achieve a proper assembly.

Table 2
Torque Guidelines for Angle-pad Rigid Couplings

Size in	1512 N-m/Lbs-G	GKS N-m/Lbs-G	XGQT4 N-m/Lbs-G
1	---	70-60	70-60
	---	50-45	50-45
1/4-1	70-60	70-60	70-60
	50-45	50-45	50-45
1/2-1	70-60	70-60	70-60
	50-45	50-45	50-45
2	70-60	70-60	70-60
	50-45	50-45	50-45
1/2-2	100-90	70-60	70-60
	75-65	50-45	50-45
3	100-90	70-60	100-90
	75-65	50-45	75-65
4	100-90	100-90	100-90
	75-65	75-65	75-65
5	230-200	100-90	100-90
	170-145	75-65	75-65
6	230-200	100-90	230-200
	170-145	75-65	170-145
8	300-270	230-200	230-200
	220-200	170-145	170-145
10	300-270	300-270	---
	220-200	220-200	---
12	300-270	300-270	---
	220-200	220-200	---

Standard Roll Groove for ANSI B36.10 and Other IPS Pipe



Nominal Size mm/in	Pipe O.D.		A ±0.76 ±0.030	B ±0.76 ±0.030	C +0.00 +0.000	Min. Wall t mm/in	Groove Depth d (ref.) mm/in	Max. Allowed Flare Dia. mm/in
	Basic mm/in	Tolerances						
20	26.7	+0.25 -0.25	15.88	7.14	23.83-0.38	1.65	1.42	29.2
0.75	1.050	+0.010 -0.010	0.625	0.281	0.938-0.015	0.065	0.056	1.15
25	33.4	+0.33 -0.33	15.88	7.14	30.23-0.38	1.65	1.60	36.3
1	1.315	+0.013 -0.013	0.625	0.281	1.190-0.015	0.065	0.063	1.43
32	42.2	+0.41 -0.41	15.88	7.14	38.99-0.38	1.65	1.60	45.0
1.25	1.660	+0.016 -0.016	0.625	0.281	1.535-0.015	0.065	0.063	1.77
40	48.3	+0.48 -0.48	15.88	7.14	45.09-0.38	1.65	1.60	51.1
1.5	1.900	+0.019 -0.019	0.625	0.281	1.775-0.015	0.065	0.063	2.01
50	60.3	+0.61 -0.61	15.88	8.74	57.15-0.38	1.65	1.60	63.0
2	2.375	+0.024 -0.024	0.625	0.344	2.250-0.015	0.065	0.063	2.48
65	73.0	+0.74 -0.74	15.88	8.74	69.09-0.46	2.11	1.98	75.7
2.5	2.875	+0.029 -0.029	0.625	0.344	2.720-0.018	0.083	0.078	2.98
80	88.9	+0.89 -0.79	15.88	8.74	84.94-0.46	2.11	1.98	91.4
3	3.500	+0.035 -0.031	0.625	0.344	3.344-0.018	0.083	0.078	3.60
90	101.6	+1.02 -0.79	15.88	8.74	97.38-0.51	2.11	2.11	104.1
3.5	4.000	+0.040 -0.031	0.625	0.344	38.34-0.020	0.083	0.083	4.10
100	114.3	+1.14 -0.79	15.88	8.74	110.08-0.51	2.11	2.11	116.8
4	4.500	+0.045 -0.031	0.625	0.344	4.334-0.020	0.083	0.083	4.60
125	141.3	+1.42 -0.79	15.88	8.74	137.03-0.56	2.77	2.11	143.8
5	5.563	+0.056 -0.031	0.625	0.344	5.395-0.022	0.109	0.083	5.66
150	168.3	+1.60 -0.79	15.88	8.74	163.96-0.56	2.77	2.16	170.9
6	6.625	+0.063 -0.031	0.625	0.344	6.455-0.022	0.109	0.085	6.73
200	219.1	+1.60 -0.79	19.05	11.91	214.40-0.64	2.77	2.34	223.5
8	8.625	+0.063 -0.031	0.750	0.469	8.441-0.025	0.109	0.092	8.80
250	273.0	+1.60 -0.79	19.05	11.91	268.27-0.69	3.40	2.39	277.4
10	10.750	+0.063 -0.031	0.750	0.469	10.562-0.027	0.134	0.094	10.92
300	323.9	+1.60 -0.79	19.05	11.91	318.29-0.76	3.96	2.77	328.2
12	12.750	+0.063 -0.031	0.750	0.469	12.531-0.030	0.156	0.109	12.92
350	355.6	+1.60 -0.79	23.83	11.91	350.04-0.76	3.96	2.77	358.1
14	14.000	+0.063 -0.031	0.938	0.469	13.781-0.030	0.156	0.109	14.10
400	406.4	+1.60 -0.79	23.83	11.91	400.84-0.76	4.19	2.77	408.9
16	16.000	+0.063 -0.031	0.938	0.469	15.781-0.030	0.165	0.109	16.10
450	457.2	+1.60 -0.79	25.40	11.91	451.64-0.76	4.19	2.77	461.3
18	18.000	+0.063 -0.031	1.000	0.469	17.781-0.030	0.165	0.109	18.16
500	508.0	+1.60 -0.79	25.40	11.91	502.44-0.76	4.78	2.77	512.1
20	20.000	+0.063 -0.031	1.000	0.469	19.781-0.030	0.188	0.109	20.16
550	558.8	+1.60 -0.79	25.40	12.70	550.06-0.76	4.78	4.37	563.9
22	22.000	+0.063 -0.031	1.000	0.500	21.656-0.030	0.188	0.172	22.20
600	609.6	+1.60 -0.79	25.40	12.70	600.86-0.76	4.78	4.37	614.7
24	24.000	+0.063 -0.031	1.000	0.500	23.656-0.030	0.188	0.172	24.20

Pipe OD (Column 2): Maximum allowable tolerances from square cut ends is 0.03" for size up to 3 1/2"; 0.045" for 4" thru 6"; and 0.060" for size 8" and above.

Gasket Sealing Surface (Column 3): The gasket sealing surface shall be free from deep scores, marks, or ridges that could prevent a positive seal.

Groove Width (Column 4): Groove width is to be measured between vertical flanks of the groove side walls.

Groove Diameter (Column 5): The "C" diameters are average values. The groove must be of uniform depth around the entire pipe circumference.

Minimum Wall Thickness (Column 6): The "t" is the minimum allowable wall thickness that may be roll-grooved.

Groove Depth (Column 7): The "d" is for reference use only. The groove dimension shall be determined by the groove diameter "C."

Flare Diameter (Column 8): The pipe end that may flare when the groove is rolled shall be within this limit when measured at the extreme end of the pipe.



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