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GROOVED FITTINGS & COUPLINGS

LUYUAN®

SHANDONG LUYUAN FIRE TECHNOLOGY CO.,LTD



Company profile



Shandong Luyuan Fire Technology Co.,Ltd was established in 2005, located in Weifang City, Shandong Province. It covers an area of 60,000 square meters and owns 200 staffs, among which 15 R&D officer, and 26 staffs are Quality control officer. We are specializing in producing grooved pipe fittings and have more than 14 years professional experiences. Our products are widely used in many fields such as fire protection, mine, chemical, municipal construction, etc.

LUYUAN obtained FM approvals, UL certificate, CE certificate, LR certificate and ISO9001 certificate. There are two advanced DISA production lines in our factory, among which one line is imported from Denmark, which is the World's most advanced casting line currently. Annual production capacity is over 40,000 tons. The company is equipped with advanced powder coated production line, electrostatic coating production line and CNC lathe. We have own standard lab and R&D system, to ensure the high quality of each link.

Advanced production line and strict quality control makes our "LUYUAN" grooved pipe fitting very popular in domestic and foreign markets. Products sold throughout the country and exports to more than 50 countries, such as the United State, Canada, Mexico, Australia, Spain, Italy, Norway, Chile, Peru, Korea, Viet Nam, Saudi Arabia, Dubai, Qatar, Bangladesh, South Africa etc.

We thank you for your attention and look forward to becoming your good business partner In the near future!

Certificates

Certificate of Compliance
This certificate is issued for the following:

Pipe Fittings, Side Outlet, Rigid, Grooved Couplings, Standard-Flexible, Grooved Couplings, Standard-Rigid, and Grooved Split Flanges-Flexible
(see attached listing)

Prepared for: Shandong Luyuan Fire Technology Co Ltd
Station of Fang an Sub-District Office
Fangzi District, Weifang City
Shandong Province
China

Manufactured by: Shandong Luyuan Fire Technology Co Ltd
Station of Fang an Sub-District Office
Fangzi District, Weifang City
Shandong Province
China

FM Approvals Class: 1920
Approval Identification: 0003051073 Date Approved: May 28, 2014
Approval Identification: 0003058271 Date Approved: August 1, 2017
Succeeded by: RR215473 Date Approved: September 19, 2018

To verify the availability of the Approved product, please refer to www.approvalside.com

Said Approval is subject to satisfactory field performance, continuing Surveillance Audits, and strict conformity to the constructions as shown in the Approval Guide, an online resource of FM Approvals.

David B. Fuller
David B. Fuller
AVP, Manager of Fire Protection
FM Approvals
1151 Boston-Providence Turnpike
Newwood, MA 02062 USA

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위생안전기준 인증서

1. 인증번호: KCW-2019-0013

2. 제조업체명: Shandong Luyuan Fire Technology Co., Ltd.

3. 대표자: Sun Zhang

4. 본사 주소: Fangzi District, Weifang, Shandong Province, China.

5. 공장 소재지: Fangzi District, Weifang, Shandong Province, China.

6. 제품명: 3인치 표준형 관배출
Maximum Working Pressure (MWP): 2.07

7. 종류, 용도 또는 용법: 관배출
Grooved Rigid Coupling XGQT2
Maximum Working Pressure (MWP): 2.07

8. 용도: 일반 수돗물 사용 안전기준

2019년 11월 17일

한국상수도협회

Lloyd's Register

Type Approval Certificate

This is to certify the certificate (0800342) for the underlined product is granted and maintained as shown:

PRODUCER	Shandong Luyuan Fire Technology Co., Ltd.
PLACE OF PRODUCTION	Fangzi Industrial Park, Fangzi District, Weifang City, Shandong Province, People's Republic of China
DESCRIPTION	Ductile iron grooved couplings and fittings
TYPE	Grooved Rigid Coupling XGQT01 Grooved Rigid Coupling XGQT02 Grooved Rigid Coupling XGQT08
APPLICATION	Mainly applications for the following systems: For applications to specific systems refer to Alarm and Regulation for the Construction of Fire Part 5, Chapter 5.2, Section 5.2.1 and 5.2.2.3
STANDARD	Local Register Rules and Regulations for the Construction of Fire (WC) 08 P 2.1.1 - Rev 4 March 2018
NAMES	Grooved Rigid Coupling XGQT1 Maximum Working Pressure (MWP): 2.5 - 8.0 Grooved Rigid Coupling XGQT2 Maximum Working Pressure (MWP): 2.07

Certificate No: 0800342(1)
Issue Date: 10 September 2018
Expiry Date: 28 June 2023
Sheet: 1 of 2

Shanghai Technical Support Office
Lloyd's Register Certification Society (China) Co., Ltd.

Material Manufacturer Certificate

This is to certify that the product identified herein conforms to the requirements of the Pressure Equipment Directive 2014/68/EU Annex I (Paragraph 4.3)

Certificate Number: HPV01P021-080-0-01
Date of Issue: 13-Jun-2019
Date of Expiry: 13-Apr-2019

Manufacturer: Shandong Luyuan Fire Technology Co Ltd
Jianhua Village, Fangzi District, Weifang City, Shandong Province, China.

Description of Material Manufactured: Grooved (PDR) fittings, Couplings (DN15-300), Elbows (DN25-300), Tee (DN25-300), Cross (DN25-300), Mechanical Tee (DN25-200), Mechanical Cross (DN25-200), Pressure (DN25-300), Cap (DN25-300), Stop Flange (DN25-300), Adapter Flange (DN25-300), Thickness 5.3-F 3mm, Material grade: ASTM A536 65-45-12, GB/T 12446 QT 450-10

Other Certification: Section 01 001 Certificate No. 14569201600
Name of Issuing Authority: The Director of Issue Manufacture

Report Reference: HPV01P021-080-0-01

This Certificate is valid in any European Economic Area Member State.

This Certificate has been issued by HPI Verification Services Ltd which is a body notified by the European Commission according to the provisions of the Pressure Equipment Directive (Directive 2014/68/EU).

This Certificate is issued following the assessment of the documentation and inspection of the Quality System in accordance with the provisions of Annex I Paragraph 4.3 of the above Directive for the manufacture and certification of the equipment as shown. This certification information may be found on the EN 10204 Part 1 certificate issued by the manufacturer to accompany the products listed above.

CERTIFICATE OF COMPLIANCE

Certificate Number: 20180624-EX26539
Report Reference: EX26539-20150130
Issue Date: 2018-AUGUST-24

Issued to: SHANDONG LUYUAN FIRE TECHNOLOGY CO LTD
STATION OF FANG AN SUB-DISTRICT OFFICE
FANGZI DISTRICT
WEIFANG
SHANDONG 261210 CHINA

This is to certify that representative samples of: FITTINGS, RUBBER GASKETED Rubber Gasketed fittings for use with cut, rolled or grooved steel pipe
Rigid Coupling (for use with grooved end pipe or this manufacturer's grooved end fittings): XGQT1
Flexible Coupling (for use with grooved end pipe or this manufacturer's grooved end fittings): XGQT2
Flange Adapter: XGQT8

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 213, Rubber Gasketed Fittings for Fire-Protection Service
ULC-ORD 213, Other Recognized Document for Rubber Gasketed Fittings for Fire-Protection Service

Additional Information: See the UL Online Certifications Directory at www.ul.com/database for additional information

Only those products bearing the UL Certification Mark should be considered as being covered by UL's Certification and Follow-Up Service.
Look for the UL Certification Mark on the product.

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CERTIFICATE OF COMPLIANCE

Certificate Number: 20180624-EX26538
Report Reference: EX26538-20150130
Issue Date: 2018-AUGUST-24

Issued to: SHANDONG LUYUAN FIRE TECHNOLOGY CO LTD
STATION OF FANG AN SUB-DISTRICT OFFICE
FANGZI DISTRICT
WEIFANG
SHANDONG 261210 CHINA

This is to certify that representative samples of: FITTINGS, GROOVED AND PLAIN END Grooved end ductile iron fittings: XGQT01, XGQT02, XGQT03, XGQT13, XGQT13S, XGQT14, XGQT07, XGQT07S, XGQT08, XGQT8S, XGQT09

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 213C, Grooved and Plain End Fittings
ULC-ORD 213, Rubber Gasketed Fittings for Fire-Protection Service

Additional Information: See the UL Online Certifications Directory at www.ul.com/database for additional information

Only those products bearing the UL Certification Mark should be considered as being covered by UL's Certification and Follow-Up Service.
Look for the UL Certification Mark on the product.

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SEATONE

ENVIRONMENTAL MANAGEMENT SYSTEM
CERTIFICATE OF CONFORMITY

NO. 18040214182004

This is to certify that the Environmental Management System of SHANDONG LUYUAN FIRE TECHNOLOGY CO., LTD. (1680, Jianhua Village, Fangzi District, Weifang City, Shandong Province, China, Business Code: 9137152776200014) meets the requirements of the following standard:

GB/T 24001-2016/ISO 14001:2015

The system is valid to:

* CASTING, MACHINING OF GROOVED CASTING PIPE FITTINGS CONNECTION (AS SPECIFIED BY 3C CERTIFICATE) AND RELATED EMS MANAGEMENT ACTIVITIES BY SHANDONG LUYUAN FIRE TECHNOLOGY CO., LTD. LOCATED AT JIANHUA VILLAGE, FANGAN OFFICE, FANGZI DISTRICT, WEIFANG CITY, SHANDONG PROVINCE.*

Further information regarding the scope of the certificate and the applicability of GB/T 24001-2016/ISO 14001:2015 may be obtained by the body responsible. Certificate is the sole responsibility of the manufacturer. The regular surveillance visits of the certification body are carried out within the validity period. The regular surveillance visits of the certification body are carried out within the validity period. The regular surveillance visits of the certification body are carried out within the validity period. The regular surveillance visits of the certification body are carried out within the validity period.

Issue date: 31-10-2018
Change date: 07-24-2018
Term of validity: 06-28-2019 TO 06-27-2021
Change date: 07-24-2018

SEATONE

CERTIFICATE OF CONFORMITY
QUALITY MANAGEMENT SYSTEM CERTIFICATION

NO. 18040214182004

This is to certify that the Quality Management System of SHANDONG LUYUAN FIRE TECHNOLOGY CO., LTD. (1680, Jianhua Village, Fangzi District, Weifang City, Shandong Province, China, Business Code: 9137152776200014) meets the requirements of the following standard:

GB/T 19001-2016/ISO 9001:2015

The system is valid to:

* PROCESSING AND SERVICES OF GROOVED CASTING PIPE FITTINGS CONNECTION (AS SPECIFIED BY 3C CERTIFICATE)*

Further information regarding the scope of the certificate and the applicability of GB/T 19001-2016/ISO 9001:2015 may be obtained by the body responsible. Certificate is the sole responsibility of the manufacturer. The regular surveillance visits of the certification body are carried out within the validity period. The regular surveillance visits of the certification body are carried out within the validity period. The regular surveillance visits of the certification body are carried out within the validity period. The regular surveillance visits of the certification body are carried out within the validity period.

Issue date: 31-10-2018
Change date: 07-24-2018
Term of validity: 11-20-2016 TO 10-19-2019
Change date: 07-24-2018

SEATONE

OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT
SYSTEM CERTIFICATE OF CONFORMITY

NO. 18040214182004

This is to certify that the Occupational Health and Safety Management System of SHANDONG LUYUAN FIRE TECHNOLOGY CO., LTD. (1680, Jianhua Village, Fangzi District, Weifang City, Shandong Province, China, Business Code: 9137152776200014) meets the requirements of the following standard:

GB/T 28001-2011/OHSAS 18001:2007

The system is valid to:

* CASTING, MACHINING OF GROOVED CASTING PIPE FITTINGS CONNECTION (AS SPECIFIED BY 3C CERTIFICATE) AND RELATED OHS MANAGEMENT ACTIVITIES BY SHANDONG LUYUAN FIRE TECHNOLOGY CO., LTD. LOCATED AT JIANHUA VILLAGE, FANGAN OFFICE, FANGZI DISTRICT, WEIFANG CITY, SHANDONG PROVINCE.*

Further information regarding the scope of the certificate and the applicability of GB/T 28001-2011/OHSAS 18001:2007 may be obtained by the body responsible. Certificate is the sole responsibility of the manufacturer. The regular surveillance visits of the certification body are carried out within the validity period. The regular surveillance visits of the certification body are carried out within the validity period. The regular surveillance visits of the certification body are carried out within the validity period. The regular surveillance visits of the certification body are carried out within the validity period.

Issue date: 06-28-2018
Change date: 07-24-2018
Term of validity: 06-28-2019 TO 06-27-2019
Change date: 07-24-2018

Production Flow



Sand Mixing



Modeling



Casting



Shot Blasting



Finished Products Warehouse

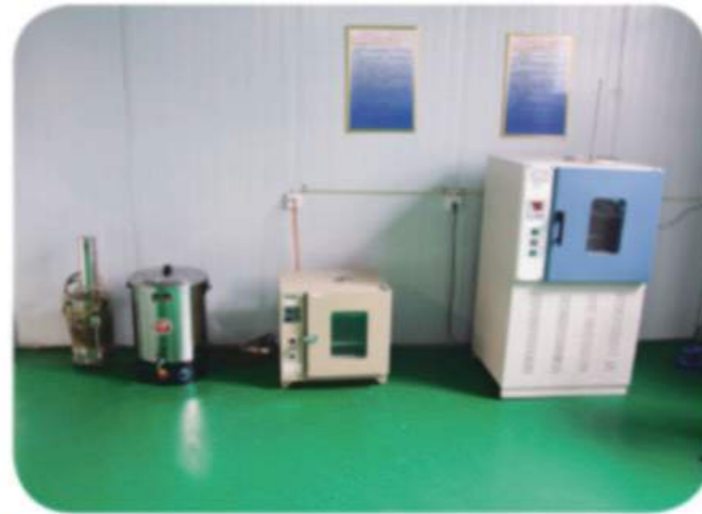
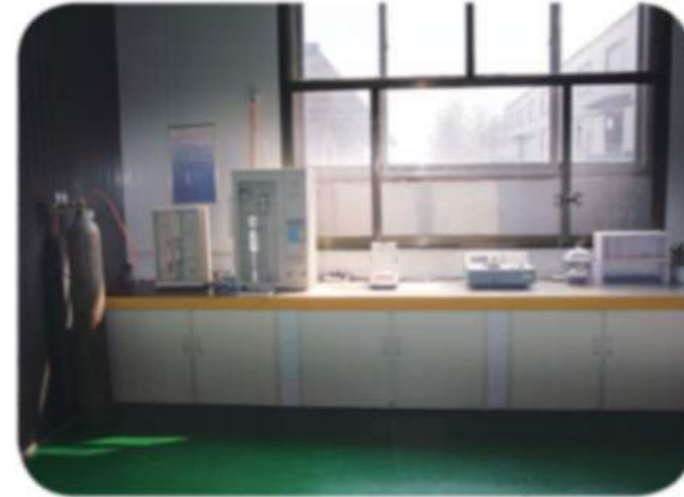


Painting Workshop



Semi-finished products warehouse

Testing Laboratory



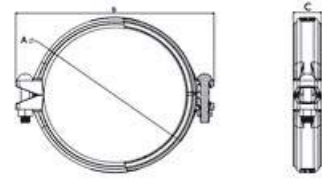
Product show

Rigid Coupling
XGQT1Flexible Coupling
XGQT2Reducing Flexible Coupling
XGQT5Angle Pad Rigid Coupling
XGQT6Heavy Duty
Flexible Coupling
XGQT12Shouldered Flexible
Coupling

Boltless Coupling

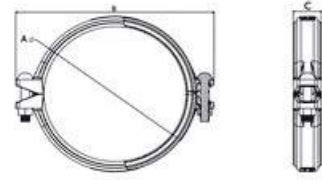
Grooved Fitting Galvanized Threaded Concentric Reducer
XGQT07SGrooved Concentric Reducer
XGQT07Tee
XGQT03Threaded Reducing Tee
XGQT13SGrooved Reducing Tee
XGQT13Cross
XGQT1490° Elbow
XGQT0145° Elbow
XGQT0222.5° Elbow
XGQT1611.25° Elbow
XGQT10Grooved Reducing Cross
XGQT15Threaded Reducing Cross
XGQT15SCap
XGQT09U-Bolt Mechanical Tee
XGQT3UGrooved Flange
XGQT8Adaptor Flange
XGQT08Mechanical Tee Threaded Outlet
XGQT3SMechanical Tee Grooved Outlet
XGQT3Mechanical Cross Threaded Outlet
XGQT4S

XGQT1
Rigid Coupling



Nominal Size mm/in	Pipe O.D mm/in	Working Pressure PSI/MPa	Dimension			Bolt/Nut
			A mm/in	B mm/in	C mm/in	
25	33.7	300	56	96	45	10*45
1	1.327	2.07	2.205	3.780	1.772	10*45
32	42.4	300	66	106	45	10*45
1¼	1.669	2.07	2.598	4.173	1.772	10*45
40	48.3	300	72	114	45	10*45
1½	1.9	2.07	2.835	4.488	1.772	10*45
50	60.3	300	81	126	47	10*55
2	2.375	2.07	3.189	4.961	1.772	10*55
65	73	300	95	139	47	10*55
2½	2.875	2.07	3.740	5.472	1.772	10*55
65	76.1	300	99	143	47	10*55
3OD	3	2.07	3.898	5.630	1.772	10*55
80	88.9	300	112	157	48	10*55
3	3.5	2.07	4.409	6.181	1.890	10*55
100	114.3	300	138	193	50	12*65
4	4.5	2.07	5.433	7.598	1.969	12*65
125	139.7	300	166	221	50	12*65
5½OD	5.5	2.07	6.535	8.701	1.969	12*65
125	141.3	300	169	222	50	12*65
5	5.563	2.07	6.654	8.740	1.969	12*65
150	165.1	300	193	250	51	12*70
6½ OD	6.5	2.07	7.598	9.843	2.008	12*70
150	168.3	300	196	256	51	12*70
6	6.625	2.07	7.717	10.079	2.008	12*70
200	219.1	300	254	322	63	16*85
8	8.625	2.07	10.000	12.677	2.480	16*85
250	273	300	313	392	64	20*100
10	10.75	2.07	12.323	15.433	2.520	20*100
300	323.9	300	366	445	66	20*110
12	12.75	2.07	14.409	17.520	2.598	20*110

XGQT2
Flexible Coupling



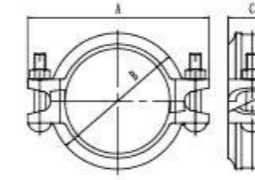
Nominal Size mm/in	Pipe O.D mm/in	Working Pressure PSI/MPa	Dimension			Bolt/Nut
			A mm/in	B mm/in	C mm/in	
25	33.7	300	56	96	45	10*45
1	1.327	2.07	2.205	3.780	1.772	10*45
32	42.4	300	66	106	45	10*45
1¼	1.669	2.07	2.598	4.173	1.772	10*45
40	48.3	300	72	114	45	10*45
1½	1.9	2.07	2.835	4.488	1.772	10*45
50	60.3	300	81	126	47	10*50
2	2.375	2.07	3.189	4.961	1.850	10*50
65	73	300	95	139	47	10*55
2½	2.875	2.07	3.740	5.472	1.850	10*55
65	76.1	300	99	143	47	10*55
3OD	3	2.07	3.898	5.630	1.850	10*55
80	88.9	300	112	157	48	10*55
3	3.5	2.07	4.409	6.181	1.890	10*55
100	114.3	300	138	193	50	12*65
4	4.5	2.07	5.433	7.598	1.969	12*65
125	139.7	300	166	221	50	12*65
5½ OD	5.5	2.07	6.535	8.701	1.969	12*65
150	165.1	300	193	250	51	12*70
6½ OD	6.5	2.07	7.598	9.843	2.008	12*70
150	168.3	300	196	256	51	12*70
6	6.625	2.07	7.717	10.079	2.008	12*70
200	219.1	300	254	322	63	16*85
8	8.625	2.07	10.000	12.677	2.480	16*85
250	273	300	313	392	64	20*100
10	10.75	2.07	12.323	15.433	2.520	20*100
300	323.9	300	366	445	66	20*110
12	12.75	2.07	14.409	17.520	2.598	20*110

Shouldered Flexible Coupling



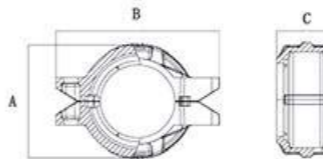
Nominal Size mm/in	Pipe O.D mm/in	Working Pressure PSI/MPa	Dimension			Bolt/Nut
			A mm/in	B mm/in	C mm/in	
50	60.3	580	88	125	46	10
2	2.375	4.0	3.465	4.92	1.81	10
80	88.9	580	119	160	49	10
3	3.5	4.0	4.685	6.299	1.929	10
100	114.3	507.5	152	190	50	12
4	4.5	3.5	5.984	7.48	1.97	12
150	165.1	507.5	201	256	50	14
6	6.5	3.5	7.913	10.079	1.969	14
200	219.1	435	265	340	60	20
8	8.625	3.0	10.433	13.39	2.36	20
250	273	362.5	321	408	62	22
10	10.75	2.5	12.638	16.063	2.441	22
300	323.9	362.5	380	463	64	22
12	12.75	2.5	14.961	18.23	2.52	22

XGQT6
Angle Rad Rigid Coupling



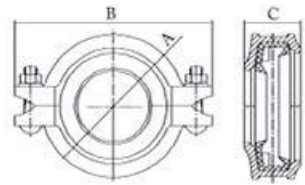
Nominal Size mm/in	Pipe O.D mm/in	Working Pressure PSI/MPa	Dimension			Bolt/Nut
			A mm/in	B mm/in	C mm/in	
50	60.3	300	83	126	48	10*55
2	2.375	2.07	3.268	4.96	1.89	10*55
65	76.1	300	99	143	48	10*60
2 1/2	3	2.07	3.898	5.630	1.890	10*60
80	88.9	300	112	161	48	12*65
3	3.5	2.07	4.409	6.34	1.89	12*65
100	114.3	300	139	198	51	14*75
4	4.5	2.07	5.472	7.795	2.008	14*75
125	139.7	300	170	228	52	14*75
5	5.5	2.07	6.693	8.98	2.05	14*75
150	165.1	300	194	261	52	16*85
6	6.5	2.07	7.638	10.276	2.047	16*85
200	219.1	300	258	332	62	20*100
8	8.625	2.07	10.157	13.07	2.44	20*100

Heavy Duty Flexible/Rigid Coupling



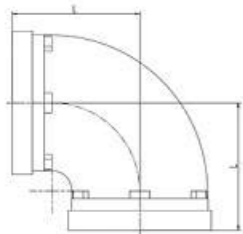
Nominal Size mm/in	Pipe O.D mm/in	Working Pressure PSI/MPa	Dimension			Bolt/Nut
			A mm/in	B mm/in	C mm/in	
50	60.3	500	86	125	46	M10*55
2	2.375	3.45	3.386	4.92	1.81	M10*55
65	73	500	99	146.00	47	M12*65
2½	2.875	3.45	3.89	5.75	1.85	M12*65
65	76.1	500	102	150	47	M12*65
2½	3	3.45	4.02	5.90	1.85	M12*65
80	88.9	500	115	164	47	M12*65
3	3.5	3.45	4.53	6.46	1.85	M12*65
100	114.3	500	142	190	50	M12*70
4	4.5	3.45	5.59	7.48	1.97	M12*70
150	165.1	500	200	256	50	M14*90
6	6.5	3.45	7.87	10.00	1.97	M14*90
150	168.3	500	204	260	50	M14*90
6	6.625	3.45	8.03	10.24	1.97	M14*90
200	219.1	500	266	340	60	M20*110
8	8.625	3.45	10.47	13.39	2.36	M20*110

XGQT5 Reducing Flexible Coupling



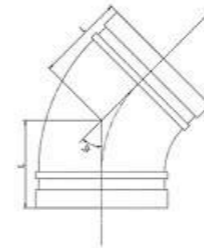
Nominal Size mm/in	Pipe O.D mm/in	Working Pressure PSI/MPa	Dimension			Bolt/Nut
			A mm/in	B mm/in	C mm/in	
50 x 40 2 x 1½	60.3 x 48.3 2.375 x 1.900	300 2.07	87 3.425	130 5.118	48 1.89	10*55
65 x 40 2½ x 1½	73.0 x 48.3 2.875 x 1.900	300 2.07	100 3.937	142 5.591	48 1.890	10*60
65 x 50 2½ x 2	73.0 x 60.3 2.875 x 2.375	300 2.07	100 3.937	142 5.591	48 1.890	10*60
65 x 40 3OD x 1½	76.1 x 48.3 3.000 x 1.900	300 2.07	102 4.016	147 5.787	48 1.890	10*60
65 x 50 3OD x 2	76.1 x 60.3 3.000 x 2.375	300 2.07	102 4.016	147 5.787	48 1.890	10*60
80 x 40 3 x 1½	88.9 x 48.3 3.500 x 1.900	300 2.07	116 4.567	165 6.496	49 1.929	12*70
80 x 50 3 x 2	88.9 x 60.3 3.500 x 2.375	300 2.07	116 4.567	165 6.496	49 1.929	12*70
80 x 65 3 x 2½	88.9 x 73.0 3.500 x 2.875	300 2.07	116 4.567	165 6.496	49 1.929	12*70
80 x 65 3 x 3OD	88.9 x 76.1 3.500 x 3.000	300 2.07	116 4.567	165 6.496	49 1.929	12*70
100 x 32 4 x 1¼	114.3 x 42.4 4.500 x 1.689	300 2.07	146 5.748	200 7.874	52 2.047	14*75
100 x 40 4 x 1½	114.3 x 48.3 4.500 x 1.900	300 2.07	146 5.748	200 7.874	52 2.047	14*75
100 x 50 4 x 2	114.3 x 60.3 4.500 x 2.375	300 2.07	146 5.748	200 7.874	52 2.047	14*75
100 x 65 4 x 2½	114.3 x 73.0 4.500 x 2.875	300 2.07	146 5.748	200 7.874	52 2.047	14*75
100 x 65 4 x 3OD	114.3 x 76.1 4.500 x 3.000	300 2.07	146 5.748	200 7.874	52 2.047	14*75
100 x 80 4 x 3	114.3 x 88.9 4.500 x 3.500	300 2.07	146 5.748	200 7.874	52 2.047	14*75
150 x 100 6½ x 4	165.1 x 114.3 6.500 x 4.500	300 2.07	197 7.756	255 10.039	51 2.008	16*90
150 x 80 6 x 3	168.3 x 88.9 6.625 x 3.500	300 2.07	200 7.874	259 10.197	52 2.047	16*90
150 x 100 6 x 4	168.3 x 114.3 6.625 x 4.500	300 2.07	200 7.874	259 10.197	52 2.047	16*90
150 x 125 6 x 5½OD	168.3 x 139.7 6.625 x 5.500	300 2.07	210 8.268	259 10.197	53 2.087	16*90
200 x 150 8 x 6	219.1 x 168.3 8.625 x 6.625	300 2.07	258 10.157	335 13.189	62 2.441	20*110

XGQT01 90° Elbow



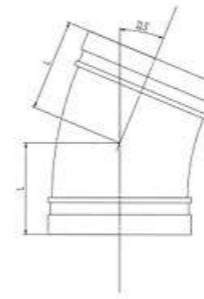
Nominal Size mm/in	Pipe O.D mm/in	Working Pressure PSI/MPa	Dimension L mm/in	
			Standard	Short
25	33.7	300	57	57
1	1.315	2.07	2.244	2.244
32	42.4	300	70	60
1¼	1.66	2.07	2.756	2.362
40	48.3	300	70	60
1½	1.9	2.07	2.756	2.362
50	60.3	300	83	70
2	2.375	2.07	3.268	2.756
65	73	300	95	76
2½	2.875	2.07	3.740	2.992
65	76.1	300	95	76
3OD	3	2.07	3.740	2.992
80	88.9	300	108	86
3	3.5	2.07	4.252	3.386
100	114.3	300	127	102
4	4.5	2.07	5.000	4.016
125	139.7	300	140	122
5½OD	5.5	2.07	5.512	4.803
150	165.1	300	165	140
6¼OD	6.5	2.07	6.496	5.512
150	168.3	300	165	140
6	6.625	2.07	6.496	5.512
200	219.1	300	197	175
8	8.625	2.07	7.756	6.890
250	273	300	229	215
10	10.75	2.07	9.016	8.465
300	323.9	300	254	245
12	12.75	2.07	10.000	9.646

XGQT02 45° Elbow



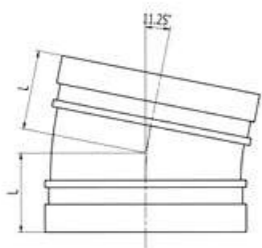
Nominal Size mm/in	Pipe O.D mm/in	Working Pressure PSI/MPa	Dimension L mm/in
25	33.7	300	44
1	1.315	2.07	1.732
32	42.4	300	45
1¼	1.66	2.07	1.772
40	48.3	300	45
1½	1.9	2.07	1.772
50	60.3	300	51
2	2.375	2.07	2.008
65	73	300	57
2½	2.875	2.07	2.244
65	76.1	300	57
3OD	3	2.07	2.244
80	88.9	300	64
3	3.5	2.07	2.520
100	114.3	300	76
4	4.5	2.07	2.992
125	139.7	300	83
5½OD	5.5	2.07	3.268
150	165.1	300	89
6¼OD	6.5	2.07	3.504
150	168.3	300	89
6	6.625	2.07	3.504
200	219.1	300	108
8	8.625	2.07	4.252
250	273	300	121
10	10.75	2.07	4.764
300	323.9	300	133
12	12.75	2.07	5.236

XGQT16 22.5° Elbow



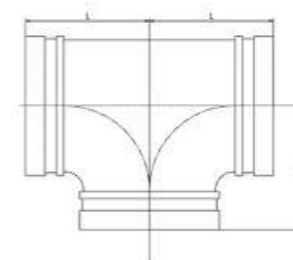
Nominal Size mm/in	Pipe O.D mm/in	Working Pressure PSI/MPa	Dimension L mm/in
25	33.7	300	44
1	1.315	2.07	1.732
32	42.4	300	45
1¼	1.66	2.07	1.772
40	48.3	300	45
1½	1.9	2.07	1.772
50	60.3	300	51
2	2.375	2.07	2.008
65	73	300	51
2½	2.875	2.07	2.008
65	76.1	300	51
3OD	3	2.07	2.008
80	88.9	300	57
3	3.5	2.07	2.244
100	114.3	300	73
4	4.5	2.07	2.874
125	139.7	300	73
5½OD	5.5	2.07	2.874
150	165.1	300	79
6¼OD	6.5	2.07	3.110
150	168.3	300	79
6	6.625	2.07	3.110
200	219.1	300	98
8	8.625	2.07	3.858
250	273	300	111
10	10.75	2.07	4.370
300	323.9	300	124
12	12.75	2.07	4.882

XGQT10
11.25° Elbow



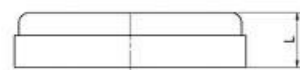
Nominal Size mm/in	Pipe O.D mm/in	Working Pressure PSI/MPa	Dimension L mm/in	
			11.25° Elbow	
25	33.7	300	35	
1	1.315	2.07	1.378	
32	42.4	300	35	
1¼	1.66	2.07	1.378	
40	48.3	300	35	
1½	1.9	2.07	1.378	
50	60.3	300	35	
2	2.375	2.07	1.378	
65	73	300	38	
2½	2.875	2.07	1.496	
65	76.1	300	38	
3OD	3	2.07	1.496	
80	88.9	300	38	
3	3.5	2.07	1.496	
100	114.3	300	45	
4	4.5	2.07	1.772	
125	139.7	300	51	
5½OD	5.5	2.07	2.008	
150	165.1	300	51	
6½OD	6.5	2.07	2.008	
150	168.3	300	51	
6	6.625	2.07	2.008	
200	219.1	300	51	
8	8.625	2.07	2.008	
250	273	300	54	
10	10.75	2.07	2.126	
300	323.9	300	57	
12	12.75	2.07	2.244	

XGQT03
Tee



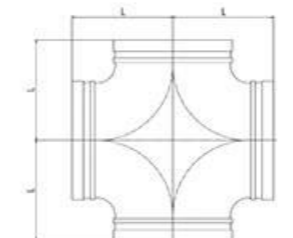
Nominal Size mm/in	Pipe O.D mm/in	Working Pressure PSI/MPa	Dimension L mm/in	
			Standard	Short
25	33.7	300	57	57
1	1.315	2.07	2.244	2.244
32	42.4	300	70	60
1¼	1.66	2.07	2.756	2.362
40	48.3	300	70	60
1½	1.9	2.07	2.756	2.362
50	60.3	300	83	70
2	2.375	2.07	3.268	2.756
65	73	300	95	76
2½	2.875	2.07	3.740	2.992
65	76.1	300	95	76
3OD	3	2.07	3.740	2.992
80	88.9	300	108	86
3	3.5	2.07	4.252	3.386
100	114.3	300	127	102
4	4.5	2.07	5.000	4.016
125	139.7	300	140	122
5½OD	5.5	2.07	5.512	4.803
150	165.1	300	165	140
6½OD	6.5	2.07	6.496	5.512
150	168.3	300	165	140
6	6.625	2.07	6.496	5.512
200	219.1	300	197	175
8	8.625	2.07	7.756	6.890
250	273	300	229	215
10	10.75	2.07	9.016	8.465
300	323.9	300	254	245
12	12.75	2.07	10.000	9.646

XGQT09
Cap



Nominal Size mm/in	Pipe O.D mm/in	Working Pressure PSI/MPa	Dimension L mm/in	
			Cap	
25	33.7	300	22	
1	1.315	2.07	0.866	
32	42.4	300	24	
1¼	1.66	2.07	0.945	
40	48.3	300	24	
1½	1.9	2.07	0.945	
50	60.3	300	24	
2	2.375	2.07	0.945	
65	73	300	24	
2½	2.875	2.07	0.945	
65	76.1	300	24	
3OD	3	2.07	0.945	
80	88.9	300	24	
3	3.5	2.07	0.945	
100	108	300	27	
4¼OD	4.25	2.07	1.063	
100	114.3	300	27	
4	4.5	2.07	1.063	
125	139.7	300	27	
5½OD	5.5	2.07	1.063	
150	165.1	300	27	
6½OD	6.5	2.07	1.063	
150	168.3	300	27	
6	6.625	2.07	1.063	
200	219.1	300	30	
8	8.625	2.07	1.181	
250	273	300	32	
10	10.75	2.07	1.260	
300	323.9	300	32	
12	12.75	2.07	1.260	

XGQT14
Cross



Nominal Size mm/in	Pipe O.D mm/in	Working Pressure PSI/MPa	Dimension L mm/in	
			Cross	
25	33.7	300	57	
1	1.315	2.07	2.244	
32	42.4	300	60	
1¼	1.66	2.07	2.362	
40	48.3	300	60	
1½	1.9	2.07	2.362	
50	60.3	300	70	
2	2.375	2.07	2.756	
65	73	300	76	
2½	2.875	2.07	2.992	
65	76.1	300	76	
3OD	3	2.07	2.992	
80	88.9	300	86	
3	3.5	2.07	3.386	
100	114.3	300	102	
4	4.5	2.07	4.016	
125	139.7	300	122	
5½OD	5.5	2.07	4.803	
150	165.1	300	140	
6½OD	6.5	2.07	5.512	
150	168.3	300	140	
6	6.625	2.07	5.512	
200	219.1	300	175	
8	8.625	2.07	6.890	
250	273	300	215	
10	10.75	2.07	8.465	
300	323.9	300	245	
12	12.75	2.07	9.646	

XGQT13 Grooved Reducing Tee

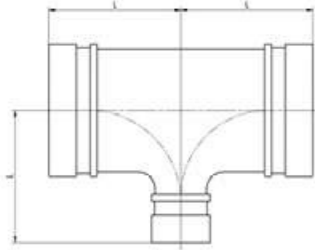


Table with 4 columns: Nominal Size, Pipe O.D., Working Pressure, Dimension L. Lists specifications for sizes 50x25 to 80x65.

Table with 4 columns: Nominal Size, Pipe O.D., Working Pressure, Dimension L. Lists specifications for sizes 100x25 to 100x80.

Table with 4 columns: Nominal Size, Pipe O.D., Working Pressure, Dimension L. Lists specifications for sizes 125x50 to 125x100.

XGQT07 Grooved Concentric Reducer

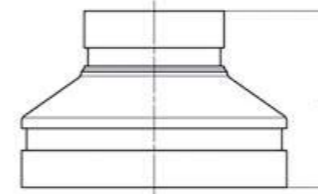


Table with 4 columns: Nominal Size, Pipe O.D., Working Pressure, Dimension L. Lists specifications for sizes 32x25 to 80x50.

Table with 4 columns: Nominal Size, Pipe O.D., Working Pressure, Dimension L. Lists specifications for sizes 80x65 to 125x26.

Table with 4 columns: Nominal Size, Pipe O.D., Working Pressure, Dimension L. Lists specifications for sizes 125x50 to 150x125.

Table with 4 columns: Nominal Size, Pipe O.D., Working Pressure, Dimension L. Lists specifications for sizes 150x125 to 150x100.

Table with 4 columns: Nominal Size, Pipe O.D., Working Pressure, Dimension L. Lists specifications for sizes 150x100 to 200x125.

Table with 4 columns: Nominal Size, Pipe O.D., Working Pressure, Dimension L. Lists specifications for sizes 200x125 to 250x100.

Table with 4 columns: Nominal Size, Pipe O.D., Working Pressure, Dimension L. Lists specifications for sizes 250x100 to 300x100.

Table with 4 columns: Nominal Size, Pipe O.D., Working Pressure, Dimension L. Lists specifications for sizes 125x32 to 300x100.

Table with 4 columns: Nominal Size, Pipe O.D., Working Pressure, Dimension L. Lists specifications for sizes 125x32 to 150x100.

Table with 4 columns: Nominal Size, Pipe O.D., Working Pressure, Dimension L. Lists specifications for sizes 150x100 to 200x100.

Table with 4 columns: Nominal Size, Pipe O.D., Working Pressure, Dimension L. Lists specifications for sizes 200x100 to 250x150.

Installation Instruction For Threaded & Grooved Mechanical Tee



1. Pipe preparation

Clean the gasket sealing surface within 16mm of the hole and visually inspect the sealing surface for defects that may prevent proper sealing of the gasket. Don't drill the hole on weld line.



2. Remove burrs

If any burrs or slug exists at the pipe hole, please remove them before assembly, to protect the gasket and avoid leakage.



3. Gasket installation

Insert the gasket into outlet housing making sure the tab in the gasket line up with the tab recesses in the housing. Align outlet housing over the pipe hole making sure that the locating collar is in the pipe hole.



4. Alignment

Align the strap around the pipe, insert the bolts and tighten the nuts finger tight.



5. Tighten nuts

Alternatively and evenly tighten the nuts to the specified bolt torque.



6. Assembly completed

There should be even gaps on two sides between upper and lower housings.

Caution
<p>Proper torquing of bolts is required to obtain specified performance.</p> <ul style="list-style-type: none"> – Over torquing the bolts may result in damage to the bolt and / or casting which could result in pipe joint separation. – Under torquing the bolts may result in lower pressure retention capabilities, lower bend load capabilities, joint leakage and pipe joint separation. Pipe joint separation may result in significant property damage and serious injury.

Specified Bolt Torque		
ANSI BOLTS		
Bolt Size	Specified Bolt Torque	
Inch	Lbs-Ft.	N.m
3/8	30-45	40-60
1/2	80-100	110-135
5/8	100-130	135-175
3/4	—	—
7/8	—	—

Installation Instruction For Grooved Flange



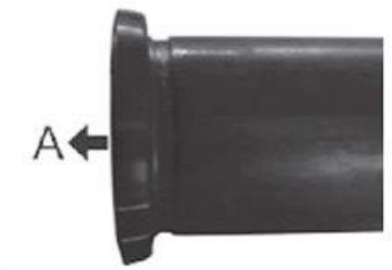
1. Pipe preparation

Check pipe end for proper groove dimensions and to assure that pipe end is free of indentations and projections that would prevent proper sealing.



2. Lubricate gasket

Check gasket to be sure it's compatible for the intended service. Apply thin lubricant to the outside and sealing lips of the gasket.



3. Gasket installation

Slip the gasket over pipe end, with the gasket opening side towards 'A'. Make sure the gasket sealing lip is even with pipe end.



4. Housing installation

Remove bolts and nuts, place two housings over the gasket, making sure the housing keys fit into the pipe grooves. Re-insert the bolts and hand tighten the nuts.



5. Tighten nuts

Securely tighten nuts alternatively and equally to the specified bolt torque by using spanner.



6. Connect mating flange

Align flange bolt holes with mating flange (or valve) bolt holes. Insert a standard flange bolt through bolt hole and hand tighten a nut. Insert another bolt opposite the first and hand tighten a nut. Continue this until all bolt holes are fitted. Tighten nuts evenly to specified bolt torque, so flange faces remain parallel. Assembly completed.

Caution
<p>Proper torquing of bolts is required to obtain specified performance.</p> <ul style="list-style-type: none"> – Over torquing the bolts may result in damage to the bolt and / or casting which could result in pipe joint separation. – Under torquing the bolts may result in lower pressure retention capabilities, lower bend load capabilities, joint leakage and pipe joint separation. Pipe joint separation may result in significant property damage and serious injury.

Specified Bolt Torque		
ANSI BOLTS		
Bolt Size	Specified Bolt Torque	
Inch	Lbs-Ft.	N.m
M10	30-45	40-60
M12	80-100	110-135
M16	—	—
M20	—	—
M22	—	—
M24	—	—

GASKET DATA



Gasket	Name	Temperature Range	General Service Recommendations	Color Mark
E	EPDM	-34~+110°C (-30~+230°F)	Recommended for hot water service within the specified temperature range plus a variety of dilute acids, oil-free air and many chemical services. UL classified in accordance with ANSI/NSF 61 or cold +86°F(+30°C) and hot +180°F (+82°C) potable water service. Not recommended for petroleum service.	Green Strip
D	NBR	-29~+82°C (-20~+180°F)	Recommended for petroleum products, air with oil vapors, vegetable and mineral oils within the specified temperature range. Not recommended for hot water services.	Orange Strip
S	Silicon Rubber	-40~+177°C (-40~+350°F)	Recommended for high temperature dry air and some high temperature chemical products.	White

Bolts and Nuts

Raw material of oval neck track bolts and hex nuts are taken as 35# steel, and its mechanical properties reach ISO 898-1 Gr.8.8. The bolts and nuts are electro zinc plated in a silver chromate color. 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, safely and firmly.

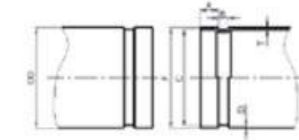


Bolt dimension	M10	M12	M16	M20	M22
Spanner dimension	15	18	24	30	34

Roll Groove Dimensions



Roll Grooving Machine



Nominal Size mm/in	Pipe OD		Gasket seat A ±0.76/±0.03 mm/in	Groove Width B ±0.76/±0.03 mm/in	Groove Dia C		Groove Depth D(ref) mm/in	Max Allow Flare Dia F mm/in	Min. Allow wall thickness T mm/in	
	Basic mm/in	Tolerance mm/in			Basic mm/in	Tolerance mm/in				
25 1	33.7 1.327	+0.41 +0.016	-0.68 -0.026	15.88 0.625	7.14 0.281	30.23 1.190	-0.38 -0.015	1.60 0.063	34.5 1.358	1.8 0.071
32 1¼	42.4 1.669	+0.50 +0.020	-0.60 -0.023	15.88 0.625	7.14 0.281	38.99 1.535	-0.38 -0.015	1.60 0.063	43.3 1.705	1.8 0.071
40 1½	48.3 1.900	+0.44 +0.017	-0.52 -0.020	15.88 0.625	7.14 0.281	45.09 1.779	-0.38 -0.015	1.60 0.063	49.4 1.945	1.8 0.071
50 2	60.3 2.375	+0.61 +0.024	-0.61 -0.024	15.88 0.625	8.74 0.344	57.15 2.250	-0.38 -0.015	1.60 0.063	62.2 2.449	1.8 0.071
65 2½	73.0 2.875	+0.74 +0.029	-0.74 -0.029	15.88 0.625	8.74 0.344	69.09 2.720	-0.46 -0.018	1.98 0.078	75.2 2.961	2.3 0.091
80 3	88.9 3.500	+0.76 +0.030	-0.76 -0.030	15.88 0.625	8.74 0.344	72.26 2.845	-0.46 -0.018	1.99 0.078	77.7 3.059	2.3 0.091
100 4	108.0 4.250	+0.89 +0.035	-0.79 -0.031	15.88 0.625	8.74 0.344	84.94 3.344	-0.46 -0.018	1.98 0.078	90.6 3.567	2.3 0.091
125 5	114.3 4.500	+1.07 +0.042	-0.79 -0.031	15.88 0.625	8.74 0.344	103.73 4.084	-0.51 -0.020	2.11 0.083	109.7 4.319	2.3 0.091
150 6	133.0 5.250	+1.14 +0.045	-0.79 -0.031	15.88 0.625	8.74 0.344	110.08 4.334	-0.51 -0.020	2.11 0.083	116.2 4.575	2.3 0.091
175 7	139.7 5.500	+1.32 +0.052	-0.79 -0.031	15.88 0.625	8.74 0.344	129.13 5.084	-0.51 -0.020	2.11 0.083	134.9 5.311	2.9 0.114
200 8	141.3 5.583	+1.40 +0.055	-0.79 -0.031	15.88 0.625	8.74 0.344	135.48 5.334	-0.51 -0.020	2.11 0.083	141.7 5.579	2.9 0.114
225 9	141.3 5.583	+1.42 +0.056	-0.79 -0.031	15.88 0.625	8.74 0.344	137.03 5.395	-0.56 -0.022	2.13 0.084	143.5 5.850	2.9 0.114
250 10	159.0 6.250	+1.60 +0.063	-0.79 -0.031	15.88 0.625	8.74 0.344	154.50 6.083	-0.56 -0.022	2.16 0.085	161.0 6.339	2.9 0.114
275 11	165.1 6.500	+1.60 +0.063	-0.79 -0.031	15.88 0.625	8.74 0.344	160.8 6.330	-0.56 -0.022	2.16 0.085	167.1 6.579	2.9 0.114
300 12	168.3 6.625	+1.60 +0.063	-0.79 -0.031	15.88 0.625	8.74 0.344	163.96 6.455	-0.56 -0.022	2.16 0.085	170.7 6.720	2.9 0.114
350 14	216.3 8.516	+1.60 +0.063	-0.79 -0.031	19.05 0.750	11.91 0.469	211.60 8.331	-0.64 -0.025	2.35 0.093	219.8 8.653	2.9 0.114
400 16	219.1 8.625	+1.60 +0.063	-0.79 -0.031	19.05 0.750	11.91 0.469	214.40 8.441	-0.64 -0.025	2.34 0.092	221.5 8.720	2.9 0.114
450 18	267.4 10.528	+1.60 +0.063	-0.79 -0.031	19.05 0.750	11.91 0.469	262.60 10.339	-0.69 -0.027	2.40 0.095	270.9 10.665	3.6 0.142
500 20	273.0 10.750	+1.60 +0.063	-0.79 -0.031	19.05 0.750	11.91 0.469	268.28 10.562	-0.69 -0.027	2.39 0.094	275.4 10.842	3.6 0.142
550 22	318.5 12.539	+1.60 +0.063	-0.79 -0.031	19.05 0.750	11.91 0.469	312.90 12.319	-0.76 -0.030	2.77 0.109	322.0 12.677	4.0 0.158
600 24	323.9 12.750	+1.60 +0.063	-0.79 -0.031	19.05 0.750	11.91 0.469	318.29 12.531	-0.76 -0.030	2.77 0.109	326.2 12.842	4.0 0.158
650 26	377.0 14.842	+1.60 +0.063	-0.79 -0.031	23.83 0.938	11.91 0.469	371.44 14.623	-0.76 -0.030	2.77 0.109	379.5 14.941	4.5 0.177
700 28	426.0 16.772	+1.60 +0.063	-0.79 -0.031	23.83 0.938	11.91 0.469	420.46 16.553	-0.76 -0.030	2.77 0.109	428.5 16.870	4.5 0.177
750 30	529.0 20.827	+1.60 +0.063	-0.79 -0.031	25.40 1.000	11.91 0.469	523.46 20.608	-0.76 -0.030	2.77 0.109	533.0 20.984	5.0 0.197