JAINSONS INDUSTRIES

BUILDING SAFER TOMORROWS

UL LISTED FM APPROVED

FIRE PROTECTION PRODUCT CATALOGUE

COMPLETE
PIPING SOLUTIONS
FOR A SAFER TOMORROW



GROOVED FITTINGS

THREADED FITTINGS



DI VALVES

PREMIUM QUALITY PRODUCTS

RELIABLE PERFORMANCE IN EVERY DETAIL

YOUR SAFETY OUR PRIORITY

CONTENT

1. COMPANY PROFILE / ABOUT US	1
2. LIST OF MAJOR PROJECTS	4
3. JAINSONS DI VALVES	7
4. JAINSONS DI THREADED FITTINGS	29
5. JAINSONS GROOVED FITTINGS	35
6. RUBBER GASKET SPECIFICATION	72
7. TECHNICAL INFORMATION	77



भारतीय मानक ब्यूरो
BUREAU OF INDIAN STANDARDS

Chandigarh Branch Office-I,
Northern Regional Office,
Bureau of Indian Standards

Address: Plot No. A-8, Sector 27-B, Madhya Marg Chandigarh 160019
Phone: 0172-2696972
Fax: 0172-2699372
E-Mail: mdd2@bis.org.in
Web: http://www.bis.org.in

REGISTERED A.D

Our Ref: CHBO-I /L- 1180942 Dated: 17 May 2017

Subject : RENEWAL OF CERTIFICATION MARKS LICENCE NO. CML- 1180942 AS PER IS 1879 : 2010

मेसर्स जैनसन्स इंडस्ट्रीज
बस्ती बाबा खेल, कपूरथला रोड,
जिला. जालंधर
पंजाब

M/s Jainsons Industries
Basti Bawa Khel, Kapurthala Road,
Distt : Jalandhar
Punjab

Dear Sir,

With reference to your application dated 23/2/2017 for renewal of the above mentioned Certification Marks Licence,we are pleased to inform you that it has been renewed fom 01/05/2017 to 30/04/2018.

It may please be noted that your license shall expire at the end of the above mentioned period.You are, therefore, requested to send your application for its renewal at least two months before the expiry of the license.

The endorsement sheet regarding renewal of licence is enclosed. This may be annexed to the original license document available with you.

You are also requested to subscribe to our monthly Technical Journal 'Standards India' and also make use to publicise your product through advertisement. The details of the advertisement charges and subscription rates are available in our website www.bis.org.in

Thanking you.

Yours faithfully,
Scientist E

Encl : As above

For JAINSONS INDUSTRIES
Partner
Manager / Partner



भारतीय मानक ब्यूरो
BUREAU OF INDIAN STANDARDS

NORTHERN REGIONAL OFFICE
CHANDIGARH BRANCH OFFICE-I

ATTACHMENT TO LICENCE NO. CML- 1180942

S.No.	NAME OF THE LICENSEE WITH ADDRESS	PRODUCT	IS NO
1180942	Jainsons Industries Basti Bawa Khel Kapurthala Road Jalandhar Punjab	Malleable Iron Pipe fittings	IS 1879 : 2010

ENDORSEMENT NO: 05 Dated: 22-05-2017

Consequent upon the renewal of date of marking fee (column 7 of the Second Schedule of the Bureau of Indian Standards Rules, 1987) as notified vide S.O. 1390(E) dated 23rd December, 2004, the fee payable in respect of the above mentioned licence has been revised to Rs. 30,000 per annum (Rupees Thirty Thousand only) for the first year and Rs. 10,000 per annum (Rupees Ten Thousand only) for the remaining years, as relevant with the provisions of Rule 17 (1)(b) of the aforesaid Rules, 1987.

Renewed for a further period of one year from 01st May Two Thousand and Seventeen to 30th April Two Thousand and Eighteen.

All other terms and conditions of License remain the same.

For JAINSONS INDUSTRIES
Partner
Manager / Partner



INTERCERT

CERTIFICATE OF REGISTRATION

INTERCERT hereby certifies that the Occupational Health and Safety Management Systems of

JAINSONS INDUSTRIES

Basti Bawa Khel, Kapurthala Road, Jalandhar-144021, Punjab, India

Has been successfully assessed as per the requirements of

ISO 45001:2018

For the scope of

Manufacturing of Malleable, Forged & Ductile Iron Pipe Fittings & Butt Weld Fittings and Marketing of ULFM (Underwriter's Laboratory Factory Mutual) Approved Grooved Fittings, Brass Ball Valves, Brass Fittings, Flanges & DI Valves for Industrial & Domestic Applications (for Natural Gas, Air, Water & Fire Fighting & HVAC.

Initial Certification Date: May 22, 2021
Certification Issue Date: May 22, 2024
Recertification Date: May 21, 2027

Registration Number: ICI-OS-2105090

Issued on behalf of InterCert
Head - Certifications



CERTIFICATE OF COMPLIANCE

Certificate Number: EX28468
Report Reference: EX28468-20201223
Date: 2021-January-11

Issued to: Jainsons Malleables
B-8, Sports & Surgical Complex, Kapurthala Road
Jalandhar Punjab, 144021 IN

This is to certify that representative samples of: FITTINGS, CAST IRON, DUCTILE IRON, MALLEABLE IRON AND BRONZE

See Addendum Page for Product Designation(s).

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

Standard(s) for Safety: ANSI/CAN/UL 213 Standard for Safety for Rubber Gasketed Fittings for Fire-Protection Service; ANSI B16.3 Malleable Iron Threaded Fittings

Additional Information: See the UL Online Certifications Directory at https://iq.ulprospector.com for additional information

This Certificate of Compliance does not provide authorization to apply the UL Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Certification Mark on the product.



CERTIFICATE OF COMPLIANCE

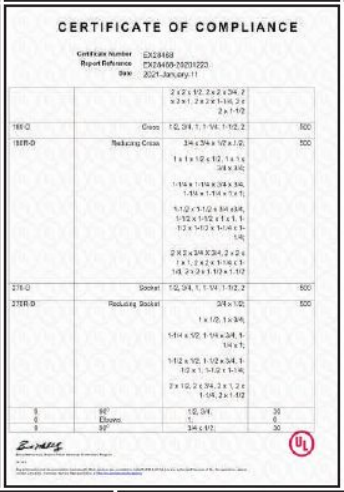
Certificate Number: EX28468
Report Reference: EX28468-20201223
Date: 2021-January-11

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Models:

UDL - Fittings, Cast Iron, Ductile Iron, Malleable Iron Fittings

Model	Fitting type	Size, inch	Rated Pressure psig
90-D	90° Elbows	1/2, 3/4, 1, 1-1/4, 1-1/2, 2	500
90R-D	90° Reducing Elbows	3/4 x 1/2 1 x 1/2, 1 x 3/4 1-1/4 x 1/2, 1-1/4 x 3/4, 1-1/4 x 1 1-1/2 x 3/4, 1-1/2 x 1, 1-1/2 x 1-1/4 2 x 3/4, 2 x 1, 2 x 1-1/4, 2 x 1-1/2	500
90-D	Tee	1/2, 3/4, 1, 1-1/4, 1-1/2, 2	500
90R-D	Reducing Tee	3/4 x 3/4 x 1/2 1 x 1 x 1/2, 1 x 1 x 3/4, 1 x 1 x 1-1/4, x 1-1/2, x 2 1-1/4 x 1-1/4 x 1/2, 1-1/4 x 1-1/4 x 3/4, 1-1/4 x 1-1/4 x 1, 1-1/4 x 1-1/4 x 1-1/2, 1-1/4 x 1-1/4 x 2 1-1/2 x 1, 1-1/2 x 1-1/2, 1-1/2 x 1-1/4, 1-1/2 x 1-1/2 x 3/4, 1-1/2 x 1-1/2 x 1, 1-1/2 x 1-1/2 x 1-1/4, 1-1/2 x 1-1/2 x 2	500



CERTIFICATE OF COMPLIANCE

Certificate Number: EX28468
Report Reference: EX28468-20201223
Date: 2021-January-11

		Cross	2 x 2 x 1/2, 2 x 2 x 3/4, 2 x 2 x 1, 2 x 2 x 1-1/4, 2 x 2 x 1-1/2	500
166-D				
166R-D	Reducing Cross		3/4 x 3/4 x 1/2, 1 x 1 x 1/2, 1 x 1 x 3/4, 1-1/4 x 1-1/4 x 1/2, 1-1/4 x 1-1/4 x 3/4, 1-1/4 x 1-1/4 x 1, 1-1/2 x 1-1/2 x 3/4, 1-1/2 x 1-1/2 x 1, 1-1/2 x 1-1/2 x 1-1/4, 2 x 2 x 3/4, 2 x 2 x 1, 2 x 2 x 1-1/4, 2 x 2 x 1-1/2	500
276-D		Socket	1/2, 3/4, 1, 1-1/4, 1-1/2, 2	500
276R-D	Reducing Socket		3/4 x 1/2 1 x 1/2, 1 x 3/4 1-1/4 x 1/2, 1-1/4 x 3/4, 1-1/4 x 1 1-1/2 x 1/2, 1-1/2 x 3/4, 1-1/2 x 1, 1-1/2 x 1-1/4 2 x 1/2, 2 x 3/4, 2 x 1, 2 x 1-1/4, 2 x 1-1/2	500
5	90°		1/2, 3/4	30
6	Elbows		1	6
5	90°		3/4 x 1/2	30



FM APPROVED

Certificate of Compliance

This certificate is issued for the following:

Pipe Fittings for Aboveground Fire Protection Systems

Model FM-1G/R Rigid Coupling	Model FM-1GS Rigid Coupling	Model FM-1X Rigid Coupling	Model FM-1XR Reducing Coupling
Model FM-3J Threaded Mechanical Tee	Model FM-3JS Threaded Mechanical Tee	Model FM-3G Grooved Mechanical Tee	Model FM-3L U-Bolt Mechanical Tee
Model FM-4V Flexible Coupling	Model FM-4VG1 Flexible Coupling	Model FM-3GS Split Flange	

Prepared for:
Jainsons Industries
Basti Bawa Khel
Kapurthala Road
Jalandhar, 144021
India

FM Approvals Class: 1920 – "Pipe Couplings and Fittings for Aboveground Fire Protection Systems" (November 2007)

Approval Identification: FR46775 Approval Granted: 5 September 2023

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

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

FM Approvals
Member of the FM Global Group

David B. Fuller
VP, Manager – Fire Protection
FM Approvals
1151 Boston-Providence Turnpike
Norwood, MA 02062



FM APPROVED

Certificate of Compliance

This certificate is issued for the following:

Pipe Fittings for Aboveground Fire Protection Systems

Model FM-90 90° Elbow	Model FM-90S 90° Elbow	Model FM-90RE 90° Reducing Elbow	Model FM-90RS 90° Reducing Elbow
Model FM-45S 45° Elbow	Model FM-45E 45° Elbow	Model FM-45RE 45° Reducing Elbow	Model FM-45RS 45° Reducing Elbow
Model FM-TE Tee	Model FM-TES Tee	Model FM-TEE Tee	Model FM-TES Tee
Model FM-TEE Reducing Tee	Model FM-TES Reducing Tee		

Prepared for:
Jainsons Industries
Basti Bawa Khel
Kapurthala Road
Jalandhar, 144021
India

FM Approvals Class: 1920 – "Pipe Couplings and Fittings for Aboveground Fire Protection Systems" (November 2007)

Approval Identification: FR46775 Approval Granted: 5 September 2023

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1151 Boston-Providence Turnpike
Norwood, MA 02062



FM APPROVED

Certificate of Compliance

This certificate is issued for the following:

Pipe Fittings for Aboveground Fire Protection Systems

Model FM-100 Equal Cross	Model FM-100S Equal Cross	Model FM-120 Eccentric Reducer
Model FM-120 Concentric Reducer	Model FM-120S Concentric Reducer	Model FM-122G Flange Adapter
Model FM-300 End Cap	Model FM-300SH End Cap	Model FM-300HZ End Cap

Prepared for:
Jainsons Industries
Basti Bawa Khel
Kapurthala Road
Jalandhar, 144021
India

FM Approvals Class: 1920 – "Pipe Couplings and Fittings for Aboveground Fire Protection Systems" (November 2007)

Approval Identification: FR46775 Approval Granted: 5 September 2023

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FM APPROVED

Certificate of Compliance

This certificate is issued for the following:

Pipe Couplings and Fittings for Aboveground Fire Protection Systems

Model 1G Rigid Coupling	Model 1GK Rigid Coupling	Model 1GS Rigid Coupling	Model 1S Flexible Coupling
Model 1FM Flexible Coupling	Model 3G Mechanical Tee	Model 3GS Mechanical Tee	Model 3L Mechanical Tee
Model 4G Mechanical Cross	Model 4GS Mechanical Cross	Model 12G Split Flange	Model 12GE Split Flange

Prepared for:
Jainsons Industries
Basti Bawa Khel, Kapurthala Road
Jalandhar, 144021
India

FM Approvals Class: 1920 – "Pipe Couplings and Fittings for Aboveground Fire Protection Systems" (November 2007)

Approval Identification: FR46972 Approval Granted: April 14, 2021

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

Said Approval is subject to satisfactory field performance, continuing follow-up facilities and Procedures Audits, and strict conformity to the construction as shown in the Approval Guide, an online resource of FM Approvals.

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Norwood, MA 02062



FM APPROVED

Certificate of Compliance

This certificate is issued for the following:

Pipe Couplings and Fittings for Aboveground Fire Protection Systems

Model 90 90° Elbow	Model 90S 90° Short Radius Elbow	Model 90MJ 90° Reducing Elbow	Model 90SR 90° Reducing Elbow
Model 120 45° Elbow	Model 110 22.5° Elbow	Model 105 11.25° Elbow	Model 130 Equal Tee
Model 131 Equal Tee	Model 130S Short Radius Equal Tee	Model 130R Reducing Tee	Model 130S Reducing Tee

Prepared for:
Jainsons Industries
Basti Bawa Khel, Kapurthala Road
Jalandhar, 144021
India

FM Approvals Class: 1920 – "Pipe Couplings and Fittings for Aboveground Fire Protection Systems" (November 2007)

Approval Identification: FR46972 Approval Granted: April 14, 2021

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

Said Approval is subject to satisfactory field performance, continuing follow-up facilities and Procedures Audits, and strict conformity to the construction as shown in the Approval Guide, an online resource of FM Approvals.

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Norwood, MA 02062



FM APPROVED

Certificate of Compliance

This certificate is issued for the following:

Pipe Couplings and Fittings for Aboveground Fire Protection Systems

Model 220 Coupling	Model 120 Concentric Reducer	Model 120S Eccentric Reducer
Model 220S Concentric Reducer	Model 140 Reducing Socket	Model 140S Concentric Reducer
Model 240S Concentric Reducer	Model 241 Bushing	Model 225 Tee

Prepared for:
Jainsons Industries
Basti Bawa Khel, Kapurthala Road
Jalandhar, 144021
India

FM Approvals Class: 1920 – "Pipe Couplings and Fittings for Aboveground Fire Protection Systems" (November 2007)

Approval Identification: FM46972 Approval Granted: April 14, 2021

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Norwood, MA 02062



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Certificate of Compliance

This certificate is issued for the following:

Pressure & Supervisory Switches for Sprinkler Valves

Model FM-1 (sizes 15NB (1/2", DN15) to 50NB (2", DN50))

Prepared for:
Jainsons Industries
Basti Bawa Khel, Kapurthala Road
Jalandhar, 144021
India

FM Approvals Class: FM 1120 (September 2021)

Approval Identification: FR46806 Approval Granted: June 6, 2022

To verify the product continues to be Approved please refer to www.approvalguide.com

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

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VP, Manager – Fire Protection
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1151 Boston-Providence Turnpike
Norwood, MA 02062



FM APPROVED

Certificate of Compliance

This certificate is issued for the following:

Indicating Valves (Butterfly or Ball Type)

Models:
D(F)(X)-(F)-16, D(F)(X)-(F)-16A, D(BX)-(F)-16, X(D)(F)(X)-(F)-16, XD(F)(X)-(F)-16
in sizes 2-12 (2, 3, 4, 5, 6, 8, 10, 12 inch) NPS

Prepared for:
Jainsons Industries
Basti Bawa Khel, Kapurthala Road
Jalandhar, 144021
India

FM Approvals Class: FM 1312 (December 2020)

Approval Identification: FR46806 Approval Granted: June 6, 2022

To verify the product continues to be Approved please refer to www.approvalguide.com

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

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1151 Boston-Providence Turnpike
Norwood, MA 02062



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Certificate of Compliance

This certificate is issued for the following:

Swing Check Valves

D(HD)(-F)(-S)16 in sizes 2, 2 1/2, 3, 4, 5, 6, 8, 10, 12 inch NPS
D(HD)(-F)(-S)16 in sizes 2, 2 1/2, 3, 4, 5, 6, 8, 10, 12 inch NPS and 70, 3, 139.7, 165.1 mm NPS

Anti-Water Hammer Check Valves

D(F)(X)(S)D-(F)-(S)16 in sizes 2, 2 1/2, 3, 4, 5, 6, 8, 10, 12, 14, 16 inch NPS

Prepared for:
Jainsons Industries
Basti Bawa Khel, Kapurthala Road
Jalandhar, 144021
India

FM Approvals Class: FM 1210 (June 2001), FM 1310 (December 2018)

Approval Identification: FR46806 Approval Granted: June 6, 2022

To verify the product continues to be Approved please refer to www.approvalguide.com

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

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Norwood, MA 02062



FM APPROVED

Certificate of Compliance

This certificate is issued for the following:

Fire Service Water Control Valves (OS&Y and NRS Type Gate Valves)

X(O)(-F)-(S)16 in sizes 2, 2 1/2, 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24 inch NPS
X(N)(-F)-(S)16 in sizes 2, 2 1/2, 3, 4, 6, 8, 10, 12 inch NPS
Z(O)(-F)-(S)16 in sizes 2, 2 1/2, 3, 4, 6, 8, 10, 12 inch NPS
Z(N)(-F)-(S)16 in sizes 2, 2 1/2, 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24 inch NPS
ZBF(-F)-(S)16 in sizes 2, 2 1/2, 3, 4, 6, 8, 10, 12 inch NPS

Prepared for:
Jainsons Industries
Basti Bawa Khel, Kapurthala Road
Jalandhar, 144021
India

FM Approvals Class: FM 1120, 1130 (April 1997)

Approval Identification: FR46806 Approval Granted: June 6, 2022

To verify the product continues to be Approved please refer to www.approvalguide.com

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

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Norwood, MA 02062

COMPANY PROFILE

We are leading Manufacturer & Supplier of G.I. / D.I. Pipe Fittings & Brass Valves for Water Supply, Plumbing, Fire Fighting & Natural Gas Distribution for more than 5 decades.

We have maintained a high standard of Quality, Variety & Service that we offer to ourEsteemed clients in India and around the globe. Strict Quality Control at each stage of the manufacturing process ensures the higher quality of our Pipe Fittings. As for variety, we offer: -

Each product supplied by Jainsons Industries withstand the most rigid tests like Compression Test, Tensile Test & Pressure Test etc. We also have a well equipped in house laboratory to perform these tests.

The high standard of quality, variety & service reflects the decades of our experience & efforts that we have put in our consistent R & D to develop world class Plumbing & Fire Fighting Fittings & Valves. A number of Government of India owned organizations & various companies in Piped Gas Distribution Business consume a large chunk of our supplied products in India & Abroad. We have more than 30% share in Indian Market for Natural Gas fittings & Brass Ball valves suitable for Natural Gas Distribution.

Under the dynamic leadership of Mr. Ashok Jain (B.Tech-1974) & Mr. Rakesh Jain (MA-English), we are an ISO 9001:2008, ISO:14001 & ISO:45001 certified company and have expanded our product range to Malleable Iron Pipe Fittings, Steel Nipples. **Ductile Iron Fire Fighting Fittings, Ductile Iron Grooved Fittings,** Pipe Nipples, Forged Brass Valves & more with group turnover of about USD 6 million.

We have certification of Bureau of Indian Standards (BIS / ISI). To further certify our quality, the process systems at Jainsons Industries are ISO-9001: 2008.

We have already shipped 30 FCL of Malleable Fittings, **DI Black Threaded Fittings & Grooved Fittings** in last 1 year to countries like USA, Argentina, Cyprus , Egypt, Dubai, Turkey etc. & we can supply fittings as per British / European Standard as well as per American Standard.

List of our major clients in India will help you identify with our credibility and product quality.

1. Larsen & Toubro Limited
2. Godrej & Boyce Mfg. Co. Ltd. Electrical & Electronics
3. Universal Mep Projects & Engineering Services Ltd
4. Tata Projects Ltd
5. Blue Star Ltd
6. Lloyd Insulations (India) Ltd.
7. Sterling And Wilson Pvt Ltd

To add on to our credibility, we are also on the approved vendor list of DMRC, i.e. Delhi Metro Rail Corporation, Bangalore Metro.

We always take care of on time delivery & quality workmanship to satisfy customer needs.

In case you have any query, feel free to contact us or visit our website **www.jainsonsindustries.com**



APPLICATION FIELDS













LIST OF PROJECTS

(Undertaken by JAINSONS INDUSTRIES in last few years)

METRO

- Bangalore Metro
- Chennai Metro
- Delhi Metro
- Lucknow Metro

FACTORY & PLANTS

- Ford India Pvt. Ltd., Ahmedabad
- AMP Motors at Mcie, Delhi
- Anchor Logistics Private Limited, Bangalore
- Anmol Spintex Pvt. Ltd., Kalol, Gandhinagar
- Ashirwad Pipes Pvt. Ltd., Bangalore
- Avery Dennison - Fire Protection System
- Bayer Crop Science Ltd., Thane
- BMW India Pvt. Ltd., Kancheepuram
- Bosch India Ltd., Ramnagar
- Caterpiller (I) Pvt. Ltd., Chennai
- Colgate Palmolive (India) Ltd., Andhra Pradesh
- Container Corporation of India Ltd., Chennai
- Cookson India Pvt. Ltd., Chennai
- Crompton Greaves Ltd., Chattisgarh
- Crystal Crop Protection Private Limited, Sonipat
- Danfoss Industries Pvt. Ltd., Kancheepuram
- Durr, Chennai
- DIC India Ltd, Bangalore
- ECR Buildtech (P) Ltd., Haryana
- Force Motors Ltd., Tamilnadu
- GE India Ind. Pvt. Ltd., Pune
- Hariharan Foundations (P) Ltd., Kanchipuram
- Hima Ceramics, Rajkot
- Hll Biotech Ltd., Kancheepuram
- Ingersoll Rand India Limited, Gujarat
- ITC Food Factory, Karnataka
- ITC Filtrona Ltd., Bangalore
- Jain Irrigation Systems Ltd., Jalgaon
- JK Tyre Industries Ltd., Tamilnadu
- John Deere India Pvt. Ltd., Madhya Pradesh
- Johnson & Johnson Ltd., Arena Space, Mumbai
- Kellogg India Pvt. Ltd., Chittoor
- Kohler India Corporation Pvt. Ltd., Pune
- Kool Solutions India Pvt Ltd, Taloja,
- Magneti Marelli Powertrain India (P) Ltd, Gurgaon
- Man Trucks India Pvt. Ltd., Madhya Pardesh
- Medreich Limited, Bangalore
- Michelin India Tamilnadu Tyres Pvt. Ltd.,
- Mohan Mutha Poytech Pvt. Ltd., Chittoor
- Mondelez India Foods Limited, Andhra Pradesh
- Nivia, Sanand
- Noble Powder Coating, Surat
- Nokia India Pvt. Ltd., Sriperumpudur, Chennai
- P One Infrastructure Private Ltd., Pune
- Paras Pharma, Baddi, H.P
- Pepsico India Holdings Pvt. Ltd., Ranjangaon, Pune
- Perfect Office Management Service Pvt. Ltd.
- Perkin India Pvt. Ltd., Aurangabad
- Pfizer Testing Lab, New Delhi
- Proctor & Gamble Home Product Pvt. Ltd., Bhopal
- Ravi Furniture House, Sonipat
- Reckitt Benckiser India Ltd., Mysore
- Renault Nissan Automative India Pvt. Ltd.
- Rexam Pharma Packaging India Pvt. Ltd.
- SCA Hygiene Products India Pvt. Ltd., Pune
- SEZ Biotech Services Pvt. Ltd.
- Shree Balaji Landmark Hotel Pvt Ltd., Indore
- Summit Auto Seats Industries, Kancheepuram
- Tata Steel, Kalinganagar
- Toshiba, Chennai
- U.O.P. Honeywell, Gurgaon
- Volkswagen India Private Limited, Pune
- Volupia Developers Pvt Ltd, Gujarat

RESIDENTIAL

- 1517-Ireo Victory Valley, Gurgaon
- 3C Lotus Zing, Noida
- Amrapali Eden Park, Noida
- Amrapali Sapphire, Noida
- Amrapali Silicon City, Noida
- Amrapali Princeley, Noida
- Cardinal - Thane by Hiranandani
- CHD Developers Ltd., Golf Avenue Project, Gurgaon
- DLF Crest, Gurgoan
- Emerald Bay, Gurgaon by Puri Constructions
- Enigma at India Bulls, Gurgaon
- Forum Homes Private Limited, Mumbai
- Godrej Summit, Gurgaon

- Green Square Building, Thane
- Hamilton Heights, Faridabad
- Hiranandani Garden Blue Bell, Mumbai
- Hiranandani Heritage Estonia, Thane
- Hiranandani Heritage, Kandivali Mumbai
- Hiranandani Hill Crest, Bangalore
- Hiranandani Lake Verandahs, Bangalore
- Hiranandani Park Willow Crest, Thane
- Hiranandani The Walk Castalia & Fortuna, Thane
- Hiranandani Zen Atlantis, Powai
- Hiranandani Lavinia - A & B Building & Basement
- Hiranandani Rodas Enclave Woodville, Thane
- Hiranandani The Walk Castalia & Fortuna, Thane
- Hirnandani Upscale Project, Bangalore
- Jagran Developers Pvt. Ltd., Haryana
- Jaypee Arena, Noida
- Jaypee Green Kosmos, Noida
- Jaypee Green, Noida
- Kosmos Tower, Noida
- Landmark Housing Projects Chennai Pvt. Ltd.
- Leona at Rodas Enclave, Thane
- Lotos 300, Noida
- Lotos Boulevard, Noida
- Lotus Espacia, Noida
- Lotus Panache, Noida
- M3M Woodshire Project, Gurgaon
- Mohini Mansion, Kolkata
- New Cuffe Parade, Wadala
- Nirala Aspire, Noida
- Omkar 1973 Worli, Mumbai
- Prateek Stylome, Noida
- Presidia Residential Tower, Gurgaon
- Puri Emerald Bay by Puri Construction, Gurgaon
- Raheja Exotica Sorento, Mumbai
- Raheja Exotica, Mumbai
- RG Residency, Noida
- Rivali Park, Borivili
- Rodas Enclave Annora by Hiranandani
- Rodas Enclave Marvela, Thane
- Rodas Enclave Rosehill, Thane
- Rodas Enclave Rosemount, Thane
- Samriddhi Building, Thane
- Samtanagar Re-Development Project Infra, Mumbai
- Shri Radha Sky Garden, Noida
- Siddhartha Build Home Pvt. Ltd., Gurgaon
- Tata Housing Development Co., Gurgaon
- Tata Housing, Standard Farms, Gurgaon
- Tata Parimanti, Tata Housing, Gurgaon
- Winter Hills, Gurgaon
- Z1 Estate, Bhubaneshwar

HOSPITALS / HEALTHCARE

- Aakash Healthcare Pvt. Ltd., New Delhi
- Ashwin's Medical College & Hospitals Pvt. Ltd., Nepal
- Fortis Hospital, Gurgaon
- Glaxo Smith Kline Pharmaceuticals Ltd., Nashik
- Hira Hospital, Thane
- Humancare Medical Charitable Trust, Dwarka
- Kolar by Shimizu Corporation India Pvt. Ltd.
- Max Hospital, Shalimar Bagh, New Delhi
- Nayati Healthcare & Research P. Ltd., Mathura
- Postgraduate Institute of Medical Education & Research, Chandigarh
- RB Healthcare India Limited, Baddi
- Suasth Hospital, Navi Mumbai

HOTELS

- Barque Hotel Pvt. Ltd., Chennai
- Bhutan Hotels, Thimpu Bhutan
- Eros Group's Five Star Hotels in NCR Region
- Holiday Inn, Delhi
- Hotel Dan, Bangalore
- Hotel Formula-I, Hyderabad
- Hotel Park Plaza, Zirakpur
- ITC's Today Hotel Project in Bengaluru & Delhi
- JW Marriot, Aerocity, New Delhi
- Lulu Grand Hyatt Hotel & Convention Centre, Cochin
- Marriot Hotel, Chandigarh
- Pride Hotel, New Delhi
- Pullman Hotel, IGI Airport, New Delhi
- Seven Seas Hotel
- Sheraton Hotel, Chandigarh
- The Oberoi Sukhvilas Resort, Chandigarh
- Westin Hotel, Gurgaon

BANK

- Barclays Shared Services Pvt. Ltd., Chennai
- Lakshmi Villas Bank Ltd., Chennai
- RBS - Royal Bank of Scotland, Gurgaon

Brand : JAINSONS

MALLS

- R.D.E Mall, Gurgaon
- SLN Terminus, Hyderabad

COMMERCIAL

- Robert Bosch Engg. & Business Solutions Ltd., Coimbatore
- Unitech Ltd., Delhi
- Adobe System India Pvt. Ltd., Noida
- Appu Ghar, Gurgaon by International Amusement Limited
- ASF Towers, Gurgaon
- Barco India, Noida
- Bestech Group, Gurgaon
- Bharti Retail Ltd., Hapur
- Chhaya Centre Thamel, Nepal
- Ctrls Data Centers Ltd., Noida
- Cummins Technology
- Dell International, Noida
- GB Formula 1 Racing Circuit, Greater Noida
- Global Foyer Mall, Gurgaon
- Godrej Properties, Noida
- Golden Temple
- HBN Suncity, Bathinda
- Hiranandani Lighthall, Chandivli
- Hostel Building - 10 & Gymkhana Building AtIit Complex, Mumbai
- IBM India Pvt. Ltd., Navi Mumbai
- India Bulls, Gurgaon
- Indian Express Towers, Mumbai
- Indian Institute of Technology, Indore
- Indospace Industrial & Logistic Park, Kancheepuram
- Infosys Limited, Chandigarh
- JMD Suburio, Gurgaon
- Logix Park, Noida
- Magnum Tower, Gurgaon.
- Meenakshi Technova, Gachibowli
- Noida City Centre, Noida
- One BKC, Mumbai
- ShapoorJi Pallonji & Co. Ltd., Noida
- Siyat Property Pvt. Ltd., Gurgaon
- Spire TEC, Noida
- Star Court, Noida
- Sukham Tower, Bhiwadi
- Tata Communications, Delhi
- Tata Consultancy Services, Chennai
- Tata Consultancy Services, Thane
- Tech Park, Delhi
- TrilInfopark Ltd.
- Vodafone, Mumbai
- Wipro Group, Gurgaon

AIRPORTS

- Aspen Build Tech, IGI Airport, Dial Aerocity, New Delhi
- Hindon Air Force Station
- Raja Bhoj Airport, Bhopal
- Rajeev Gandhi International Airport Hyderabad, Andhra Pradesh
- Ranchi Airport, Jharkhand

POWER PROJECTS

- Abir Infrastructure Pvt. Ltd., Chhattisgarh
- Coming Technologies, Pune
- KSK Power Projects, Champa, Chhattisgarh
- Larsen & Toubro, Jabalpur
- NTPC Limited, Bihar
- Power Grid Corporation of India Ltd. (Thru L & T), Jind
- Power Grid Corporation of India Ltd., (Thru ABB India), Solarpur
- Power Grid Corporation of India Ltd., (Thru Alstom T & D India) Aurangabad
- Power Grid Corporation of India Ltd., (Thru CGL) Jammu
- Power Grid Corporation of India Ltd., (Thru CGL), Ludhiana
- Power Grid Corporation of India Ltd., (Thru Alstom T & D India) Wardha
- Reliance Power Projects, Samalkot
- Suratgarh Super Thermal Power Station, Suratgarh
- Talwandi Sabo Power Ltd., Mansa
- Unosugen, Surat

RANGE OF PRODUCTS



D.I. OS & Y Resilient Gate Valve



Grooved OS & Y Resilient Gate Valve



D.I. NRS Resilient Gate Valve



Flanged Resilient NRS Gate Valve With Post Flange



Vertical Indicator Post (IP)



Supervisory Switch for OS & Y Resilient Gate Valve



Universal Wafer Butterfly Valve L/H



Wafer Butterfly Valve With Temper Switch



Grooved Butterfly Valve With Tamper Switch



D.I. Wafer Type Check Valve



Double Door Wafer Check Valve



Supervisory Switch for OS & Y Resilient Gate Valve

Brand : JAINSONS

RANGE OF PRODUCTS



Grooved Resilient Swing Check Valve



Flanged Y-Type Stainer (PN-20)



Grooved Y-Type Strainer (V4)
PN 10/16, UL Listed



Test & Drain Valve



Pressure Reducing Value



Flanged Wet Alarm Valve



Deluge Alarm Valve



Zone Control Valve Assembly



Zone Control Valve Assembly



Zone Control Valve Assembly



Zone Control Valve Assembly

BS 5163 Flanged Resilient (OS&Y Type) Gate Valves
(XZ41X) PN10/PN16 (UL/FM Approved)



XZ41X

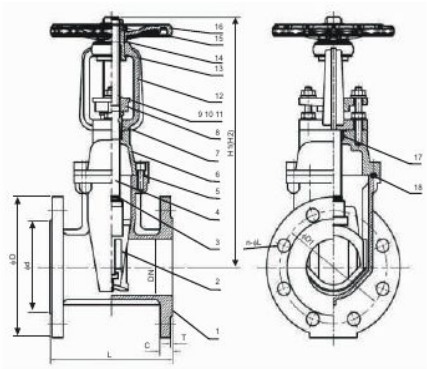
- Connection Ends Flange to BS EN 1092-2:1997
- Working Pressure PN10/16
- Temprature Range 0°C - 80°C
- Coating: Fusion Bonded Epoxy Coating in accordance with ANSI/AWWA C550

Listed FM Approved NSF/ANSI 61 NSF/ANSI 372



XZ41X-1
With Supervisory switch

MATERIAL SPECIFICATION



Part No.	Part	Standard Specification
1	Valve Body	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
2	Resilient Wedge Disc	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12 + EPDM
3	O-Ring	NBR
4	Stem	Stainless Steel
5	Bolt	Carbon Steel Zinc Plated
6	Bonnet	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
7	Stem Bushing	Brass Hpb59-1
8	Gland	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
9	Flat Washer	Carbon Steel Zinc Plated
10	Stud	Carbon Steel Zinc Plated
11	Nut	Carbon Steel Zinc Plated
12	Yoke	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
13	Stem Nut	Brass Hpb59-1
14	Washer	Brass Hpb59-1
15	Locknut	Carbon Steel Zinc Plated (Type A) Not Available (Type B)
16	Handwheel	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
17	Stem Packing	EPDM
18	Bonnet Gasket	EPDM

Note : For special material request other than standard specification,please indicate clearly on the enquiry or order list.

DN		PN	Dimensions (mm)										
				Type A		Type B							
INCH	mm		L	H1 (Close)	H2 (Open)	H1 (Close)	H2 (Open)	D	D1	d	C	T	n - ØL
2"	50	10/16	178	323	373	348	400	165	125	99	19	3	4 - Ø19
2.5"	65	10/16	190	343	408	373	440	185	145	118	19	3	4 - Ø19
3"	80	10/16	203	370	450	408	490	200	160	132	19	3	8 - Ø19
4"	100	10/16	229	442	542	471	573	200	180	156	19	3	8 - Ø19
5"	125	10/16	254	541	665	541	665	250	210	184	19	3	8 - Ø23
6"	150	10/16	267	608	758	593	743	285	240	211	19	3	8 - Ø23
8"	200	10	292	720	920	774	975	340	295	266	20	3	8 - Ø19
		16											12 - Ø23
10"	250	10	330	940	1190	940	1190	405	350	319	22	3	12 - Ø23
		16							355				12 - Ø28
12"	300	10	356	1065	1370	1065	1370	480	400	370	24.5	4	12 - Ø23
		16							410				12 - Ø28
14"	350	10	381	1415	1780	1415	1780	516	460	429	26.5	4	16 - Ø23
		16							470				16 - Ø28
16"	400	10	406	1385	1790	1385	1790	575	515	480	28	4	16 - Ø28
		16							525				16 - Ø31
18"	450	10	432	1835	2290	1835	2290	635	565	530	30	4	20 - Ø28
		16							585	548			20 - Ø31
20"	500	10	457	1830	2380	1830	2380	710	620	582	31.5	4	20 - Ø28
		16							650	609			20 - Ø34
24"	600	10	508	2030	2830	2030	2830	836	725	682	36	5	20 - Ø31
		16							770	720			20 - Ø37

Dimensional Tolerance :
± 5 mm upto 200 mm &
±10 mm for above 200 mm.
This is applicable for all products in catalogue.

Flanged Resilient (OS&Y Type) Gate Valves
(XZ41X) PN20 (UL/FM Approved)



XZ41X

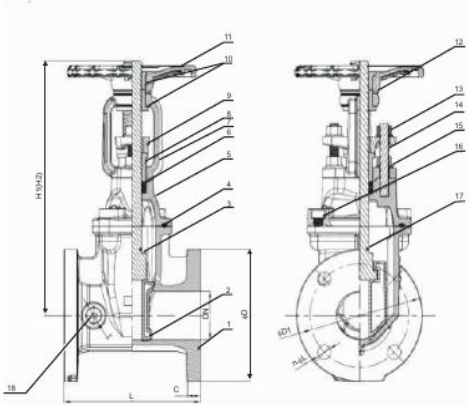
- Connection Ends: Flange to ASME B16.1 CL 125
- Working Pressure: 300PSI
  200PSI AND 250PSI available upon request
- Temprature Range: 0°C - 80°C
- Coating: Fusion Bonded Epoxy Coating Complies with
  ANSI/AWWA C550

Listed Approved NSF/ANSI 61 NSF/ANSI 372



XZ41X-1
With Supervisory switch

MATERIAL SPECIFICATION



Part No.	Part	Standard Specification
1	Valve Body	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
2	Resilient Wedge Disc	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12 + EPDM
3	Stem	AISI 420
4	Bonnet Gasket	EPDM
5	Bonnet	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
6	Packing	EPDM
7	Yoke	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
8	Stem Bushing	Brass Hpb59-1
9	Gland	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
10	Stem Nut	Brass Hpb59-1
11	Handwheel	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
12	Washer	Brass Hpb59-1
13	Gland Nut	Carbon Steel Zinc Plated
14	Stud	Carbon Steel Zinc Plated
15	Flat Washer	Carbon Steel Zinc Plated
16	Bolt	Carbon Steel Zinc Plated
17	O-Ring	NBR
18	Plug	C89833

Note : For special material request other than standard specification, please indicate clearly on the enquiry or order list.

Size : 2" - 5" With 1 Pc of ½" bronze NPT tapping plug size 6"-12" with 1 Pc of 3/4" bronze NPT tapping plug

DN		Dimensions (mm)						
INCH	mm	L	H1 (Close)	H2 (Open)	D	D1	C	n - ØL
2"	50	178	348	400	152	120.7	16.0	4 - Ø19.1
2.5"	65	190	373	440	178	139.7	17.5	4 - Ø19.1
3"	80	203	408	490	191	152.4	19.1	4 - Ø19.1
4"	100	229	471	573	229	190.5	19.1	8 - Ø19.1
5"	125	254	541	665	254	215.9	19.1	8 - Ø22.2
6"	150	267	601	755	279	241.3	19.1	8 - Ø22.2
8"	200	292	774	975	343	298.5	22.2	8 - Ø22.2
10"	250	330	939	1193	406	362.0	23.8	12 - Ø25.4
12"	300	356	1055	1370	483	431.8	25.4	12 - Ø25.4
14"	350	381	1415	1780	528	476.3	25.4	12 - Ø28.6
16"	400	405	1385	1790	592	539.8	25.4	16 - Ø28.6
18"	450	432	1835	2290	635	577.9	25.4	16 - Ø31.8
20"	500	457	1830	2390	710	635	28.6	20 - Ø31.8
24"	600	508	2030	2830	836	749.3	30.1	20 - Ø34.9

Dimensional Tolerance :
± 5 mm upto 200 mm &
±10 mm for above 200 mm.
This is applicable for all products in catalogue.

Grooved Resilient OS&Y Type Gate Valve

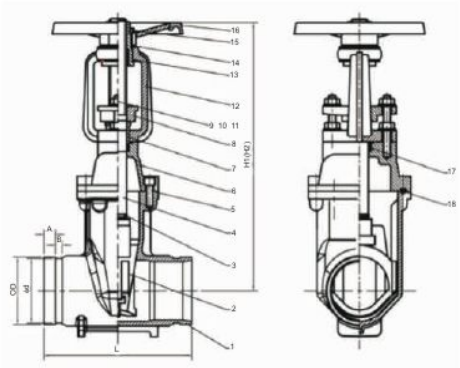
(RXZ81X) PN10/PN16 (UL/FM Approved)



- Connection Ends: Groove to ISO 6182
- Working Pressure: PN10/16
- Temprature Range: 0°C - 80°C
- Coating: Fusion Bonded Epoxy Coating in accordance with ANSI/AWWA C550 or painting upon request.

Listed

Approved



MATERIAL SPECIFICATION

Part No.	Part	Standard Specification
1	Valve Body	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
2	Resilient Wedge Disc	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12 + EPDM
3	O-Ring	NBR
4	Stem	Stainless Steel
5	Nut	Carbon Steel Zinc Plated
6	Bonnet	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
7	Stem Bushing	Brass Hpb59-1
8	Gland	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
9	Flat Washer	Carbon Steel Zinc Plated
10	Stud	Carbon Steel Zinc Plated
11	Nut	Carbon Steel Zinc Plated
12	Yoke	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
13	Stem Nut	Brass Hpb59-1
14	Washer	Brass Hpb59-1
15	Locknut	Carbon Steel Zinc Plated
16	Handwheel	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
17	Stem Packing	EPDM
18	Bonnet Gasket	EPDM

Note : For special material request other than standard specification, please indicate clearly on the enquiry or order list.

DN		Dimensions (mm)						
INCH	mm	L	H1 (Close)	H2 (Open)	OD	d	A	B
2"	50	178	323	373	60.3	57.15	15.88	7.92
2.5"	65	190	343	408	73	69.09	15.88	7.92
2.5"	65	190	343	408	76.1	72.26	15.88	7.92
3"	80	203	370	450	88.9	84.94	15.88	7.92
4"	100	229	442	542	114.3	110.08	15.88	9.52
5"	125	254	541	665	139.7	135.48	15.88	9.52
5"	125	254	541	665	141.3	137.03	15.88	9.52
6"	150	267	608	758	159.0	154.50	15.88	9.52
6"	150	267	608	758	165.1	160.90	15.88	9.52
6"	150	267	608	758	168.3	163.96	15.88	9.52
8"	200	292	720	920	219.1	214.40	19.05	11.13
10"	250	330	939	1193	273.0	268.28	19.05	12.70
12"	300	356	1065	1370	323.9	318.29	19.05	12.70

Dimensional Tolerance :
± 5 mm upto 200 mm &
±10 mm for above 200 mm.
This is applicable for all products in catalogue.

BS Flanged Resilient NRS Gate Valve

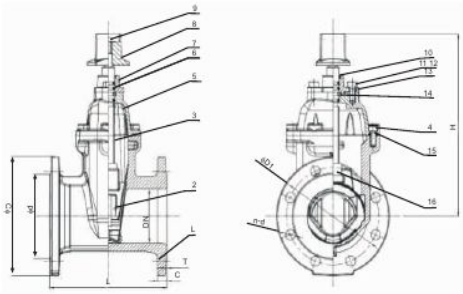
(Z45XC) PN10/PN16 (UL/FM Approved)



- Connection Ends: Flange to BS EN 1092-2:1997
- Working Pressure: PN10/16
- Temprature Range: 0°C - 80°C
- Coating: Fusion Bonded Epoxy Coating in accordance with ANSI/AWWA C550

Listed Approved NSF/ANSI 61 NSF/ANSI 372

MATERIAL SPECIFICATION



Part No.	Part	Standard Specification
1	Valve Body	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
2	Resilient Wedge Disc	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12 + EPDM
3	Stem	Stainless Steel
4	Bolt	Carbon Steel Zinc Plated
5	Bonnet	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
6	O-Ring	NBR
7	Gland	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
8	Stem Cap	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
9	Bolt	Carbon Steel Zinc Plated
10	Ring Wiper	EPDM
11	Bolt	Carbon Steel Zinc Plated
12	Flat Washer	Carbon Steel Zinc Plated
13	O-Ring	NBR
14	Washer (TypeA) Axis Guide (TypeB)	Brass Hpb59-1
15	Bonnet Gasket	EPDM
16	Wedge Nut	Brass Hpb59-1

Note : For special material request other than standard specification, please indicate clearly on the enquiry or order list.



Z45X



Z45X-1



XZ45X-1



XZ45X-1



XZ45X-2

DN		PN	Dimensions (mm)								
INCH	mm		L	H		D	D1	d	C	T	n-d
				TypeA	TypeB						
2"	50	10/16	178	241	279	165	125	98	19	3	4 - Ø19
2.5"	65	10/16	190	255	297	185	145	118	19	3	4 - Ø19
3"	80	10/16	203	304	323	200	160	132	19	3	8 - Ø19
4"	100	10/16	229	337	376	200	180	156	19	3	8 - Ø19
5"	125	10/16	254	404	404	250	210	184	19	3	8 - Ø19
6"	150	10/16	267	436	457	285	240	211	19	3	8 - Ø23
8"	200	10	292	443	557	340	295	266	20	3	8 - Ø23
		16									12 - Ø23
10"	250	10	330	541	641	405	350	319	22	3	12 - Ø23
		16					355				12 - Ø28
12"	300	10	356	743	743	460	400	370	24.5	4	12 - Ø23
		16					410				12 - Ø28
14"	350	10	381	1364	928	520	460	429	26.5	4	16 - Ø23
		16					470				16 - Ø28
16"	400	10	406	1364	928	580	515	480	28	4	16 - Ø28
		16					525				16 - Ø31
18"	450	10	432	1364	1165	640	565	530	30	4	20 - Ø28
		16					585	548			20 - Ø31
20"	500	10	457	1364	1188	715	620	582	31.5	4	20 - Ø28
		16					650	609			20 - Ø34
24"	600	10	508	1364	1364	840	725	682	36	5	20 - Ø28
		16					770	720			20 - Ø37

Dimensional Tolerance : ± 5 mm upto 200 mm & ±10 mm for above 200 mm. This is applicable for all products in catalogue.

BS Flanged Resilient NRS Gate Valve with Post Flange

(Z45XC-2) PN10/PN16 (UL/FM Approved)



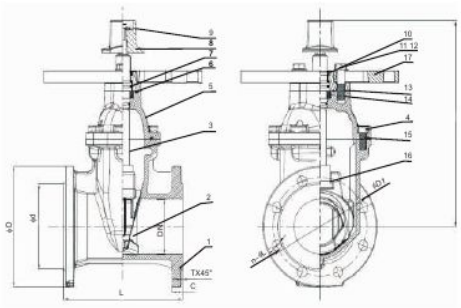
Z45XC-2

- Connection Ends: Flange to BS EN 1092-2:1997
- Working Pressure: PN10/16
- Temprature Range: 0°C - 80°C
- Coating: Fusion Bonded Epoxy Coating in accordance with ANSI/AWWA C550

Listed

Approved

MATERIAL SPECIFICATION



Part No.	Part	Standard Specification
1	Valve Body	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
2	Resilient Wedge Disc	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12 + EPDM
3	Stem	Stainless Steel
4	Bolt	Carbon Steel Zinc Plated
5	Bonnet	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
6	O-Ring	NBR
7	Gland	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
8	Stem Cap	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
9	Bolt	Carbon Steel Zinc Plated
10	Ring Wiper	NBR
11	Bolt	Carbon Steel Zinc Plated
12	Flat Washer	Carbon Steel Zinc Plated
13	O-Ring	NBR
14	Thrust Washer	Brass HPb59-1 (Type A) Not Available (Type B)
15	Bonnet Gasket	EPDM
16	Wedge Nut	Brass HPb59-1
17	Post Flange	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12

Note : For special material request other than standard specification,please indicate clearly on the enquiry or order list.

DN		PN	Dimensions (mm)								
INCH	mm		L	H		D	D1	d	C	T	n-d
				TypeA	TypeB						
4"	100	10/16	190	347	395	220	180	156	19	3	8-Φ19
5"	125	10/16	200	415	432	250	210	184	19	3	8-Φ19
6"	150	10/16	210	443	475	285	240	211	19	3	8-Φ23
8"	200	10	230	518	585	340	295	266	20	3	8-Φ23
		16									12-Φ23
10"	250	10	250	665	665	405	350	319	22	3	12-Φ23
		16					355				12-Φ28
12"	300	10	270	751	751	460	400	370	25.4	4	12-Φ23
		16					410				12-Φ28
14"	350	10	381	952	952	520	460	429	26.5	4	16-Φ23
		16					470				16-Φ28
16"	400	10	406	952	952	580	515	480	28	4	16-Φ28
		16					525				16-Φ31

Dimensional Tolerance :

± 5 mm upto 200 mm & ±10 mm for above 200 mm.

This is applicable for all products in catalogue.

Vertical Indicator Post (IP)
(UL FM Approved)

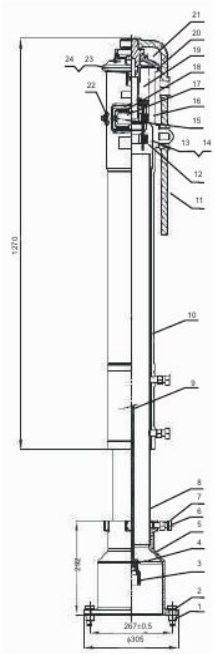


IP

- Statement:
  Vertical indicator post provides a means to operate a buried or otherwise inaccessible valve and able to indicate the open or shut position of the valve.
- Coating:
  Fusion Bonded Epoxy Coating in accordance with ANSI/AWWA C.550

Listed

Approved



MATERIAL SPECIFICATION

Part No.	Part	Standard Specification
1	Hex NUT	Carbon Steel Zinc Plated
2	Hex Bolt	Carbon Steel Zinc Plated
3	Socket	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
4	Cotter Pin	Ss304
5	Base Flange	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
6	Hex Bolt	Carbon Steel Zinc Plated
7	Hex Nut	Carbon Steel Zinc Plated
8	Standpipe	Carbon Steel ASTM A53
9	Stem 1" Square	Carbon Steel AISI 1045
10	Body	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
11	Locking Wrench	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
12	Target Carrier Nut	SS304 (SIZE: 100-400) Brass HPb59-1 (SIZE: 450-600)
13	Hex Bolt	Carbon Steel Zinc Plated
14	Hex Nut	Carbon Steel Zinc Plated
15	Hex Bolt	Carbon Steel Zinc Plated
16	Instructs the plate	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
17	Window Class	Plexiglass
18	Gasket	EPDM
19	Operating NUT	SS304
20	Top Section	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
21	Snap Ring	Stainless Steel AIS11066
22	Plug	Malleable iron Galvanized
23	Square Nut	Carbon Steel Zinc Plated
24	Hex Bolt	Carbon Steel Zinc Plated

Field Adjustment :

1. Remove the Top Section from the top of the Indicator Post assembly
2. Cut the required stem length and adjust the Standpipe to match upto the ground line.
3. Set the "OPEN" and "SHUT" targets for the appropriate valve size.
4. Reattach the Top Section to the top of the Indicator Post assembly

Dimensional Tolerance :
± 5 mm upto 200 mm & ±10 mm for above 200 mm.
This is applicable for all products in catalogue.

Supervisory Switch for OS&Y Gate Valve
(MXHQ)

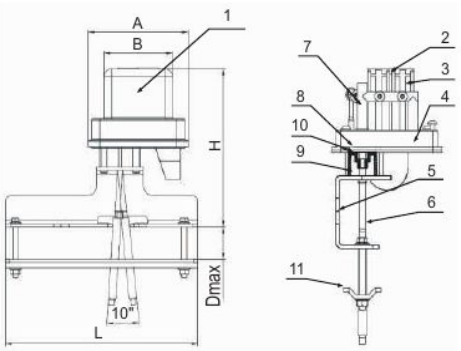


MXHQ

Listed Approved

- Service Environment: Indoor or Outdoor use, all parts have corrosion resistant finishes.
- Temprature Range: 0°C - 80°C
- Cover Tamper: Tamper Resistant Screws Optional Cover T amper Switch Avaialble.
- Electrical Ratings: 15 Amps at 125/250VAC
- Appliance Standards: NFP A-13, NFPA-13D NFPA-13R, NFPA-72
- Statement: The Model MXHQ Supervisory Switch is used to monitor the open or close status of an OS&Y (outside screw and yoke) type gate valve. There are two sizes, the model MXHQ D50 serves the OS&Y Gate valves ranging in size form 2"-16"(50mm - 400mm), the other model MXHQ D450 is fit for the OS&Y Gate valves ranging in size from 18" - 24" (450mm - 600mm).

MATERIAL SPECIFICATION

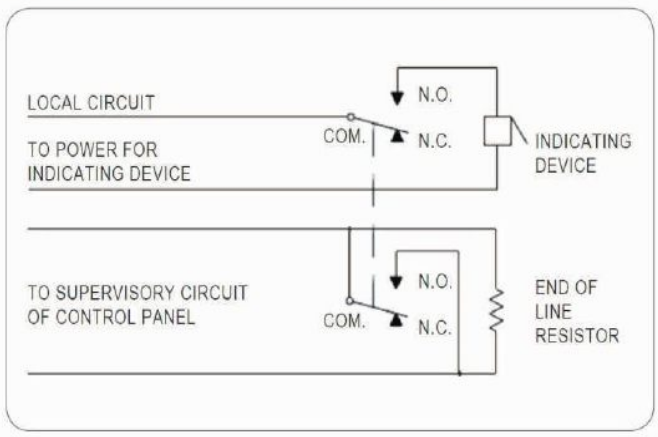


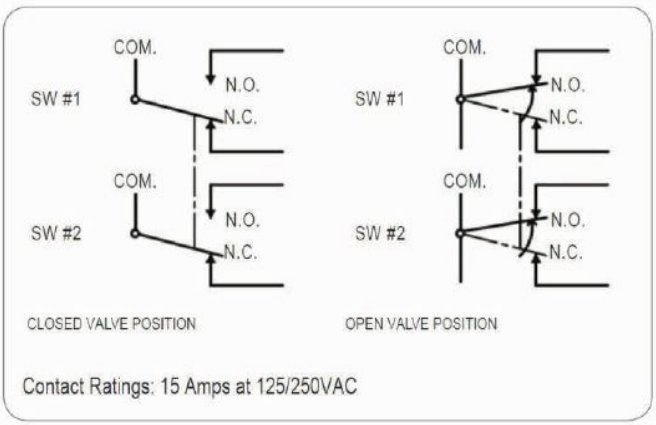
Part No.	Part	Standard Specification	Options
1	Outer Shell	ADC12	
2	Brace	Carbon Steel Q235	SS304, SS316
3	Micro Switch		
4	Base	ADC12	
5	Connection Plate	Carbon Steel Q235	SS304, SS316
6	Driving Lever	SS304	SS316
7	Axis	Nylon	
8	Sealing Gasket	CR Foam Cotton	
9	Pressing Sleeve	PTFE	
10	Rubber Ring	EPDM	
11	Clamp Plate	Carbon Steel Q235	

Note : For special material request other than standard specification, please indicate clearly on the enquiry or order list.

DN		Dimensions (mm)				
INCH	mm	A	B	H	L	Dmax
2"-16"	50-400	99	68	148	200	4 - Ø19.1
18"-24"	450-600	99	68	148	360	4 - Ø19.1

Supervisory Switch for OS&Y Gate Valve





Dimensional Tolerance : ± 5 mm upto 200 mm & ±10 mm for above 200 mm. This is applicable for all products in catalogue.

BS EN 593 Universal Wafer Butterfly Valve
(D71X4,D371X4), PN16 / PN20

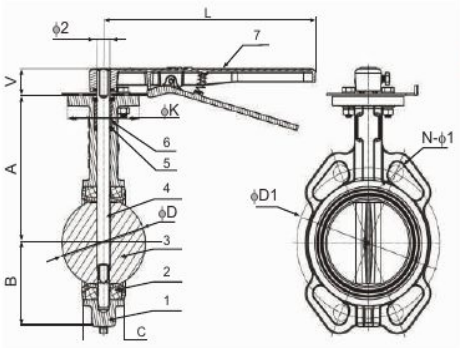


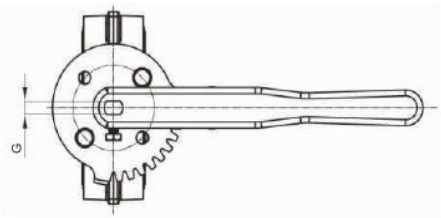
D71X4

Rubber Seat With Backing Cartridge Style

NSF/ANSI 61 NSF/ANSI 372

- Design Standard: BS EN 593
- Connection Ends: Universal Flange to BS EN 1092 PN10/PN16, AS129 TABLE E,JIS B2212 10K, BS 10 TABLE D/E.
- Top Flange Standard: ISO 521 1
  Stem Drive by keys, parallel or diagonal square or flat head.
- Working Pressure : PN10/16
- Temprature Range : 0°C - 100°C
- Coating: Fusion Bonded Epoxy Coating in accordance with ANSI AWWA C550





MATERIAL SPECIFICATION

Part No.	Part	Standard Specification
1	Valve Body	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
2	Seat	DN40-400: EPDM & Backing DN450-800: EPDM Vulcanized on Valve Body
3	Disc	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
4	Stem	DN40-350: Stainless Steel, One Piece Stem Design DN400-800: Stainless Steel, Two Piece Stem Design
5	O-Ring	NBR
6	Bushing	DN40-350: Nylon 1010 DN400-800: Lubricating Bronze
7	Lever	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
8	Shaft Cover (DN400-800)	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
9	Gear Box	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12

Note : For special material request other than standard specification, please indicate clearly on the enquiry or order list.

DN		Dimensions (mm)																
INCH	mm	A	B	V	C	ØD	Ø2	ØK	G	L	ØD1	N-Ø1	ISO 5211	Ø3	H	H1	H2	P
											PN16							
1.5"	40	138	64.5	32	33	43.9	14	90	9.45	267	110	4-Ø19	F07	150	206	158	52	43.5
2"	50	140.5	64.5	32	43	53.9	14	90	9.53	267	125	4-Ø19	F07	150	206	158	52	43.5
2.5"	65	153	72	32	46	65.2	14	90	9.53	267	145	4-Ø19	F07	150	206	158	52	43.5
3"	80	157.5	86	32	46	79.7	14	90	9.53	267	160	8-Ø19	F07	150	206	158	52	43.5
4"	100	176	100	32	52	105	16	90	11.14	267	180	8-Ø19	F07	150	206	158	52	43.5
5"	125	191	112	32	56	130	16	90	11.14	267	210	8-Ø19	F07	150	206	158	52	43.5
6"	150	202.5	128	32	56	156	20	90	12.7	267	240	8-Ø23	F07	150	206	158	52	43.5
8"	200	243.5	162	45	60	206.7	26	125	20.6	356	295	12-Ø23	F10	300	310	239	69	62.5
10"	250	273	194	45	68	253.3	26	125	20.6	490	355	12-Ø28	F10	300	310	239	69	62.5
12"	300	311	223	45	78	301.9	28	125	22.1	490	410	12-Ø28	F10	300	307	229	73	77.5
14"	350	340	267	48	78	333.9	31.6	150	22.1	-	470	16-Ø28	F12	300	307	229	73	77.5
16"	400	400	319.5	48	102	389.6	33.2	175	27	-	525	16-Ø31	F14	380	418	288	110	120
18"	450	422	345.4	48	114	441	38.1	175	27	-	585	20-Ø31	F14	380	418	288	110	120
20"	500	480	380	70.2	127	492.4	41.2	210	-	-	650	20-Ø34	F16	380	465	215	123	185
24"	600	562	441	70.2	154	592.8	50.6	210	-	-	770	20-Ø37	F16	380	500	215	129	185
INCH	mm	A	B	V	C	ØD	Ø2	ØK	G	L	ØD1	N-Ø1	ISO 5211	Ø3	H	H1	H2	P
											PN16							
28"	700	575	505	70.2	165	695	63.4	300	-	-	840	24-Ø31	F25	380	543	213	132	218
30"	750	660	550	70.2	165	744	63.4	300	-	-	900	24-Ø34	F25	380	543	213	132	218
32"	800	667	577	70.2	190	795.7	63.4	300	-	-	950	24-Ø34	F25	380	543	213	132	218

Note: Not designed for dead end service

Dimensional Tolerance : ± 5 mm upto 200 mm & ±10 mm for above 200 mm. This is applicable for all products in catalogue.

Wafer Butterfly Valve with Tamper Switch

(XD371X), PN16 / PN20, UL FM VdS Approved

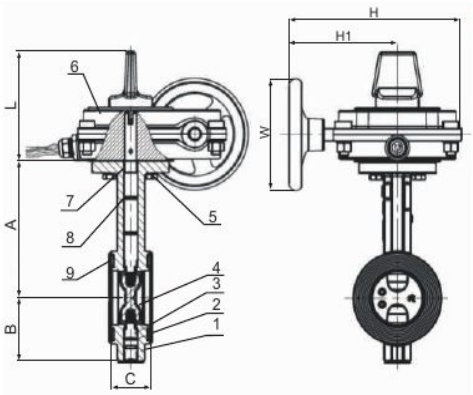


XD371X

Listed Approved VdS

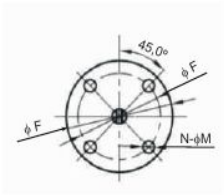
- Design Standard: BS EN 593
- Top Flange Standard: ISO 521 1
- Working Pressure: PN10/16
- Temperature Range: 0°C - 80°C
- Coating: Fusion Bonded Coating in accordance with ANSI/AWWA C550
- Flange Specification: BS EN 1092-2 PN10/PN16, ASME B16, 1 CL 125 ASME B16.5 Cl150, JIS B2210 10K.

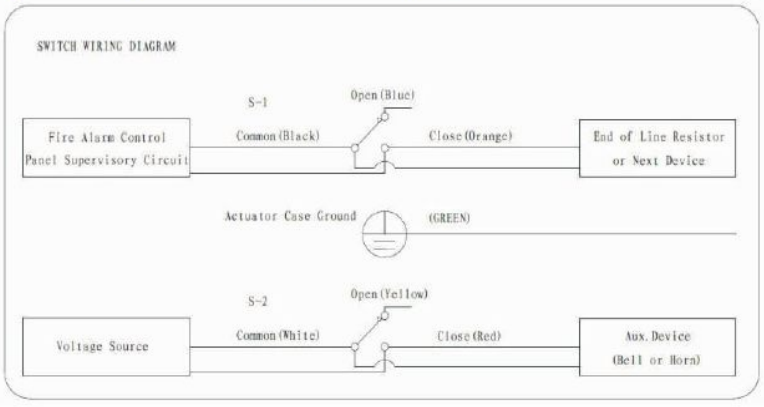
MATERIAL SPECIFICATION



Part No.	Part	Standard Specification
1	Body	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
2	O-Ring	NBR
3	Stub Shaft	SS431
4	Disc	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12 + EPDM
		DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12 + NBR
5	Hex Nut	Carbon Steel Zinc Plated
6	Signal Gearbox	Body DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
7	Drive Shaft	SS431
8	O-Ring	NBR
9	End Face Seal	EPDM

Note : For special material request other than standard specification, please indicate clearly on the enquiry or order list.





DN		Dimensions (mm)										
INCH	mm	A	B	C	L	H1	H	W	ISO5211	ØE	ØF	N-ØM
2"	50	140.5	65	43	122.5	127	202.2	125	F07	70	90	4-Ø10
2.5"	65	153	71	46	122.5	127	202.2	125	F07	70	90	4-Ø10
3"	80	157.5	81	46	122.5	127	202.2	125	F07	70	90	4-Ø10
4"	100	176	95	52	122.5	127	202.2	125	F07	70	90	4-Ø10
5"	125	191	111	56	122.5	127	202.2	125	F07	70	90	4-Ø10
6"	150	202.5	133	56	122.5	139.5	215	225	F07	70	90	4-Ø10
8"	200	243.5	164	60	122.5	198.5	274	225	F07	102	125	4-Ø12
10"	250	273	196	68	122.5	198.5	274	225	F07	102	125	4-Ø12
12"	300	311	225	78	132	198.5	293.5	225	F07	102	125	4-Ø12

Dimensional Tolerance : ± 5 mm upto 200 mm & ±10 mm for above 200 mm. This is applicable for all products in catalogue.

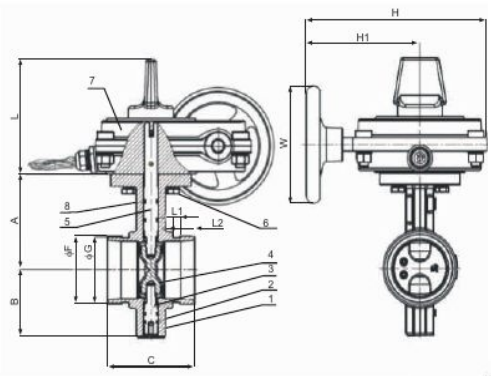
Grooved Butterfly Valve With Tamper Switch
(XD381X), UL / FM / VdS Approved



XD381X

Listed Approved VdS

- Design Standard: BS EN 593
- Connection Ends: Groove to ISO 6182
- Top Flange Standard: ISO 521 1
  Stem Drive by keys, parallel or diagonal square or flat head.
- Working Pressure : PN10/16
- Temprature Range : 0°C - 80°C
- Coating: Fusion Bonded Epoxy Coating in accordance with ANSI AWWA C550 or painting upon request.



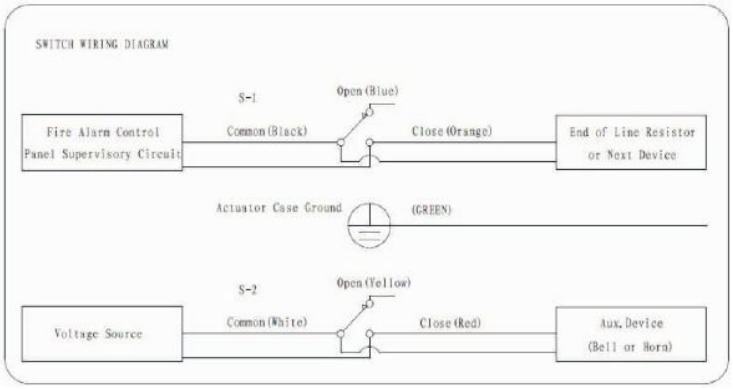
MATERIAL SPECIFICATION

Part No.	Part	Standard Specification
1	Body	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
2	O-Ring	NBR
3	Stub Shaft	SS431
4	Disc	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12 + EPDM
		DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12 + NBR
5	Drive Shaft	SS431
6	Hex Nut	Crabon Steel Zinc Plated
7	Signal Gearbox	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
8	O-Ring	NBR

Note : For special material request other than standard specification, please indicate clearly on the enquiry or order list.



XD381X39



DN		Dimensions (mm)														
INCH	mm	A	B	C	F	G	L	L1	L2	H1	H	W	ΦE	ΦF	N - ΦM	ISO 5211
2"	50	89	65	81	60.3	57.15	122.5	7.93	15.88	127	202.2	125	70	90	4 - Φ10	F07
2.5"	65	102	71	97	73.0	69.09	122.5	7.93	15.88	127	202.2	125	70	90	4 - Φ10	F07
2.5"	65	102	71	97	76.1	72.25	122.5	7.93	15.88	127	202.2	125	70	90	4 - Φ10	F07
3"	80	109	81	97	88.9	84.94	122.5	7.93	15.88	127	202.2	125	70	90	4 - Φ10	F07
4"	100	128	95	116	114.3	110.08	122.5	9.53	15.88	127	202.2	125	70	90	4 - Φ10	F07
5"	125	141	111	148	139.7	135.48	122.5	9.53	15.88	127	202.2	125	70	90	4 - Φ10	F07
5"	125	141	111	148	141.3	137.03	122.5	9.53	15.88	127	202.2	125	70	90	4 - Φ10	F07
6"	150	153	133	148	165.1	160.90	122.5	9.53	15.88	139.5	215	225	70	90	4 - Φ10	F07
6"	150	153	133	148	168.3	163.96	122.5	9.53	15.88	139.5	215	225	70	90	4 - Φ10	F07
8"	200	184	164	133	219.1	214.40	122.5	11.10	19.05	198.5	274	225	102	125	4 - Φ12	F10
10"	250	216	196	159	273.1	268.28	122.5	12.70	19.05	198.5	274	225	102	125	4 - Φ12	F10
12"	300	254	226	165	323.9	318.29	132.0	12.70	19.05	198.5	293.5	225	102	125	4 - Φ12	F10

Note: Not designed for dead end service

Dimensional Tolerance : ± 5 mm upto 200 mm & ±10 mm for above 200 mm. This is applicable for all products in catalogue.

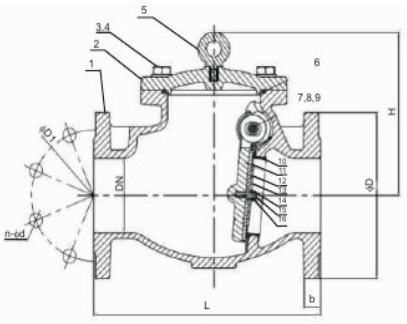
Flanged Resilient Swing Check Valve
(H44X2), PN10 / PN16, UL / FM / LPCB Approved

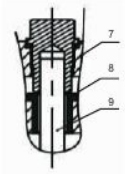


H44X2

- Connection Ends: Flange to BS EN 1092-2: 1997
- Working Pressure: PN10/16
- Temperature Range: 0°C - 80°C
- Coating: Fusion Bonded Coating in accordance with ANSI/AWWA C550.

UL Listed FM Approved LPCB NSF/ANSI 61 NSF/ANSI 372





MATERIAL SPECIFICATION

Part No.	Part	Standard Specification
1	Valve Body	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
2	Bonnet	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
3	Bolts	Carbon Steel Zinc Plated
4	Flat Washer	Carbon Steel Zinc Plated
5	Eye Bolt	Carbon Steel Zinc Plated
6	O-Ring	EPDM
7	Plug	SS304
8	Bushing	Brass CW617N
9	Hinge Pin	SS420
10	Seat	Bronze C83600
11	Disc	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
12	Disc Sealing Ring	EPDM
13	Retainer Washer	SS420 (DN50-DN100) DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12 (DN125-DN300)
14	Washer	SS304
15	Stud	SS304
16	Nut	SS304

Note : For special material request other than standard specification, please indicate clearly on the enquiry or order list.

DN		PN	Dimensions (mm)							
INCH	mm		L	D	D1	d	b	E	H	N - ΦM
2"	50	10/16	203	165	125	99	19	3	133	4 - Φ19
2.5"	65	10/16	216	185	145	118	19	3	150	4 - Φ19
3"	80	10/16	241	200	160	132	19	3	150	8 - Φ19
4"	100	10/16	292	220	180	155	19	3	218	8 - Φ19
5"	125	10/16	330	250	210	184	19	3	245	8 - Φ19
6"	150	10/16	356	285	240	211	19	3	290	8 - Φ23
8"	200	10	495	340	295	266	20	3	330	8 - Φ23
		16								12 - Φ23
10"	250	10	622	405	350	319	22	3	350	12 - Φ23
		16			355					12 - Φ28
12"	300	10	698	460	400	370	24.5	4	376	12 - Φ23
		16			410					12 - Φ28

Dimensional Tolerance :
± 5 mm upto 200 mm & ±10 mm for above 200 mm.
This is applicable for all products in catalogue.

Flanged Resilient Swing Check Valve

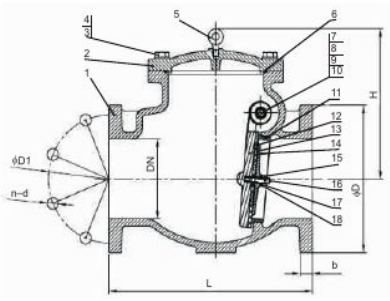
(H44X2 / H44X24), PN 20,UL / FM / LPCB Approved

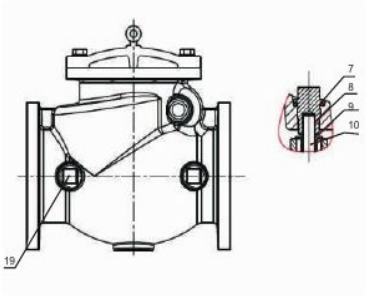


- Connection Ends: Flanged to ASME B16.1
- Working Pressure : 300PSI / 363PSI
  200PSI AND 250PSI available upon request
- Temprature Range : 0°C - 80°C
- Coating: Fusion Bonded Epoxy Coating in accordance with ANSI AWWA C550.

H44X2

Listed Approved NSF/ANSI 61 NSF/ANSI 372





MATERIAL SPECIFICATION

Part No.	Part	Standard Specification
1	Body	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
2	Bonnet	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
3	Bolts	Carbon Steel Zinc Plated
4	Washer	Carbon Steel Zinc Plated
5	Eye Bolt	Carbon Steel Zinc Plated
6	O-Ring	NBR
7	Washer	PTFE
8	Plug	AISI 304
9	Hinpe	AISI 420
10	Seat Ring	Bronze ASTM B62
11	Seal	EPDM
12	Disc	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
13	Plate	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12 (6"-12") AISI 304(2"-4")
14	Nut	AISI 304
15	Bolt	AISI 304
16	Spring Washer	AISI 304
17	Flat Washer	AISI 304
18	Plug	AISI 304

Note : For special material request other than standard specification, please indicate clearly on the enquiry or order list.

DN		Dimensions (mm)						
INCH	mm	L		D	D1	b	n - Φd	H
		Standard	Optional					
2"	50	203	203	152	120.5	16	4 - Φ19.1	133
2.5"	65	254	216	178	139.5	17.5	4 - Φ19.1	150
3"	80	278	241	191	152.5	19	4 - Φ19.1	150
4"	100	330	292	229	190.5	24	8 - Φ19.1	218
6"	150	406	356	279	241.5	25.5	8 - Φ22.2	290
8"	200	495	495	343	298.5	28.5	8 - Φ22.2	330
10"	250	622	622	406	362	30.5	12 - Φ25.4	350
12"	300	660	698	483	432	32	12 - Φ25.4	376

Note: Standard of Face to Face in according with AWWA C508.
Optional of Face to Face in according with ASME B16.10 CL 125.

Dimensional Tolerance :
± 5 mm upto 200 mm & ±10 mm for above 200 mm.
This is applicable for all products in catalogue.

Grooved Resilient Swing Check Valve

(RH84XD), PN10 / PN16, UL / FM / LPCB Approved



RH84XD

- Connection Ends: Groove to ISO 6182
- Working Pressure: PN10/16
- Temperature Range: 0°C - 80°C
- Coating: Fusion Bonded Coating in accordance with ANSI/AWWA C550 or painting upon request.

Listed Approved NSF/ANSI 61 NSF/ANSI 372



RH84XDF4

MATERIAL SPECIFICATION

Part No.	Part	Standard Specification
1	Valve Body	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
2	Hinge Pin	SS420
3	Spring	SS304
4	Eye Bolt	Carbon Steel Zinc Plated
5	Disc	DN50-100 SS304 DN150-300 DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
6	Disc Sealing Ring	EPDM
7	Seat Ring	ASTM B62 C83600 (Pressed Fit)
8	Plug	Malleable Iron Galvanized
9	Plug	Malleable Iron Galvanized
10	Plug	Malleable Iron Galvanized
11	Plug	Malleable Iron Galvanized
12	Bolt	SS304
13	Washer	SS304
14	Nut	SS304

Note : For special material request other than standard specification, please indicate clearly on the enquiry or order list.

DN		Dimensions (mm)								
INCH	mm	L	D1	D2	B	C	P1	P3		P2
								Standard	Optional	
2"	50	171	57.15	60.3	7.93	15.88	1 / 2	1 / 2	1	3/8
2.5"	65	184	69.09	73	7.93	15.88	1 / 2	1 / 2	1 1/4	3/8
2.5"	65	184	72.26	76.1	7.93	15.88	1 / 2	1 / 2	1 1/4	3/8
3"	80	197	84.94	88.9	7.93	15.88	1 / 2	1 / 2	1 1/4	3/8
4"	100	210	110.08	114.3	9.53	15.88	1 / 2	1 / 2	2	1 / 2
5"	125	248	135.48	139.7	9.53	15.88	1 / 2	1 / 2	2	1 / 2
5"	125	248	137.03	141.3	9.53	15.88	1 / 2	1 / 2	2	1 / 2
6"	150	324	160.9	165.1	9.53	15.88	1 / 2	1 / 2	2	1 / 2
6"	150	324	163.96	168.3	9.53	15.88	1 / 2	1 / 2	2	1 / 2
8"	200	371	214.4	219.1	11.13	19.05	1 / 2	1 / 2	2	1 / 2
10"	250	457	268.28	273	12.7	19.05	1 / 2	1 / 2	2	1 / 2
12"	300	535	318.29	323.9	12.7	19.05	1 / 2	1 / 2	2	1 / 2

Dimensional Tolerance :
± 5 mm upto 200 mm & ±10 mm for above 200 mm.
This is applicable for all products in catalogue.

Double Door Wafer Check Valve
(DH77X), PN10 / PN16 / PN25



DH77X

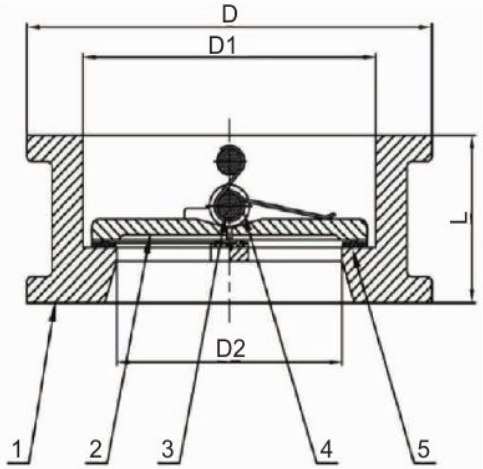
NSF/ANSI 61 NSF/ANSI 372

- Connection Ends: BS EN 1092 PN10/16/25, AS2129 TABLE E, JIS B2212 10K, BS 10 TABLE D/E
- Working Pressure: PN10/16/25
- Temperature Range: 0°C - 80°C
- Coating: Fusion Bonded Coating in accordance with ANSI/AWWA C550.

MATERIAL SPECIFICATION

Part No.	Part	Standard Specification	Options
1	Valve Body	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12	
2	Disc	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12	SS304, SS316, AL-Bronze UNC 95400
3	Stem	SS420	SS304, SS316, SS416
4	Spring	SS304	SS316
5	Rubber Seat	EPDM	NBR

Note : For special material request other than standard specification, please indicate clearly on the enquiry or order list.



DN		Dimensions (mm)				
INCH	mm	L	D		D1	D2
			PN10/16	PN25		
1.5"	40	54	92	-------	58	46
2"	50	54	106	107	68	46
2.5"	65	60	127	127	78	60
3"	80	57	134	142	102	70
4"	100	67	162	168	117	84
5"	125	83	194	192	145	115
6"	150	95	218	224	170	134
8"	200	127	277	283	226	184
10"	250	140	336	340	265	220
12"	300	181	406	390	310	280
14"	350	184	447	467	360	302
16"	400	191	505	------	410	350
18"	450	203	539	------	450	385

Dimensional Tolerance :
± 5 mm upto 200 mm & ±10 mm for above 200 mm.
This is applicable for all products in catalogue.

Flanged Y-Type Stainer

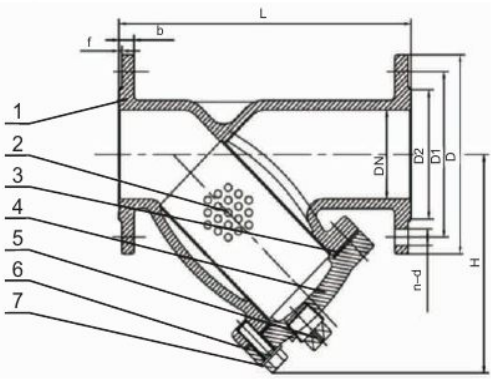
(V4) PN 10 / PN 16,UL Listed



V4

- Connection Ends: Flange to BS EN 1092-2-1997
- Working Pressure : PN 10 / PN 16
- Temprature Range : 0°C - 80°C
- Coating: Fusion Bonded Epoxy Coating in accordance with ANSI AWWA C550.

Listed NSF/ANSI 61 NSF/ANSI 372



MATERIAL SPECIFICATION

Part No.	Part	Standard Specification
1	Valve Body	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
2	Screen	Ss304 (Perforated)
3	Gasket	Graphite + Acanthopore Plate
4	Bonnet	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
5	Plug	Malleable Iron Galvanized
6	Bolt	Carbon Steel Zinc Plated
7	Flat Washer	Carbon Steel Zinc Plated

Note : For special material request other than standard specification, please indicate clearly on the enquiry or order list.

DN		PN	Dimensions (mm)							
INCH	mm		L	D	D1	D2	b	n - Φd	f	H
2"	50	10/16	230	165	125	99	19	4 - Φ19	3	140
2.5"	65	10/16	290	185	145	118	19	4 - Φ19	3	175
3"	80	10/16	310	200	160	132	19	8 - Φ19	3	198
4"	100	10/16	350	220	180	156	19	8 - Φ19	3	229
5"	125	10/16	400	250	210	184	19	8 - Φ19	3	287
6"	150	10/16	480	285	240	211	19	8 - Φ23	3	304
8"	200	10	600	340	295	266	20	8 - Φ23	3	370.5
		16						12 - Φ23		
10"	250	10	730	405	350	319	22	12 - Φ23	3	469
		16			355			12 - Φ28		
12"	300	10	850	460	400	370	24.5	12 - Φ23	4	540
		16			410			12 - Φ28		
18"	450	10	1200	640	565	530	30	20 - Φ28	4	862
		16			585	548		20 - Φ31		
20"	500	10	1200	715	620	582	31.5	20 - Φ28	4	926
		16			650	609		20 - Φ34		
24"	600	10	1450	840	725	682	36	20 - Φ31	5	1057
		16			770	720		20 - Φ37		

Note : UL Listed from 2" to 12".

Dimensional Tolerance :
± 5 mm upto 200 mm &
±10 mm for above 200 mm.
This is applicable for all products in catalogue.

SHORT STYLE

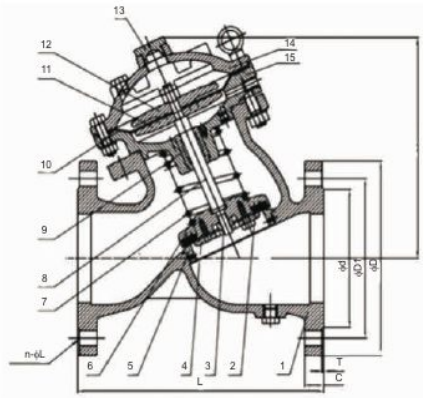
DN		PN	Dimensions (mm)							
INCH	mm		L	D	D1	D2	b	n - Φd	f	H
18"	450	10	850	640	565	530	30	20 - Φ28	4	693
		16			585	548		20 - Φ31		
20"	500	10	1000	715	620	582	31.5	20 - Φ28	4	774
		16			650	609		20 - Φ34		
24"	600	10	1100	840	725	682	36	20 - Φ31	5	956
		16			770	720		20 - Φ37		

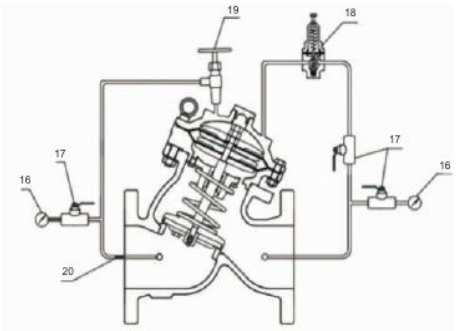
Pressure Reducing Valve
(SK720X), PN16 / PN25



SK720X

- Design Standard : CJ/T 219 , CJ/T 256 , JB/T 10674
- Correction Standard: BS EN 1092-2
- Working Pressure: PN25
- Temperature Range : 0°C - 80°C
- Coating: Fusion Bonded Epoxy Coating in accordance with ANSI/AWWA C550.





MATERIAL SPECIFICATION

Part No.	Part	Standard Specification
1	Valve Body	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
2	Main Gasket	EPDM
3	Disc Head	SS304
4	Gland of Main Disc	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
5	Seat	SS304
6	Main Disc	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
7	Spring	SS304
8	Stem	SS304
9	Bushing	C89833
10	Diaphragm	EPDM
11	Bottom Gland	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
12	Up Gland	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
13	Cap Plug	C89833
14	Up Bonnet	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
15	Middle Bonnet	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
16	Pressure Guage	assembling unit
17	Ball Valve	assembling unit
18	Pilot Valve	assembling unit
19	Needle Valve	assembling unit
20	Built-in Stainer	assembling unit

Note : For special material request other than standard specification, please indicate clearly on the enquiry or order list.

DN		PN	Dimensions (mm)							
INCH	mm		H	L	D	D1	d	C	T	n - ØL
2"	50	25	170	203	165	125	90	19	3	4 - Ø19
2.5"	65	25	195	216	185	145	118	19	3	8 - Ø19
3"	80	25	215	241	200	160	132	19	3	8 - Ø19
4"	100	25	255	292	235	190	156	19	3	8 - Ø23
5"	125	25	290	330	270	220	184	19	3	8 - Ø28
6"	150	25	360	356	300	250	211	20	3	8 - Ø28
8"	200	25	450	495	350	310	274	22	3	12 - Ø28
10"	250	25	550	622	425	370	330	24.5	3	12 - Ø31
12"	300	25	645	698	485	430	389	27.5	4	16 - Ø31

Dimensional Tolerance :
± 5 mm upto 200 mm & ±10 mm for above 200 mm.
This is applicable for all products in catalogue.

Flanged Wet Alarm Valve (ZSFZ4X9)

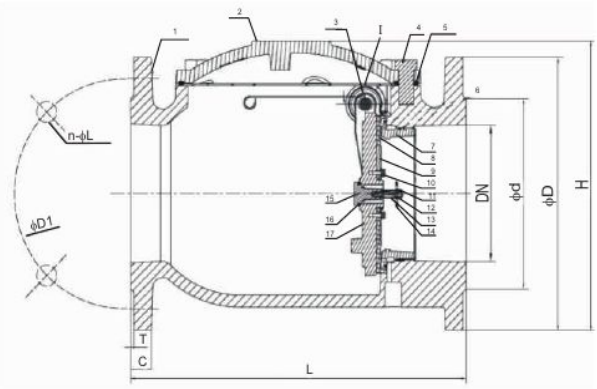


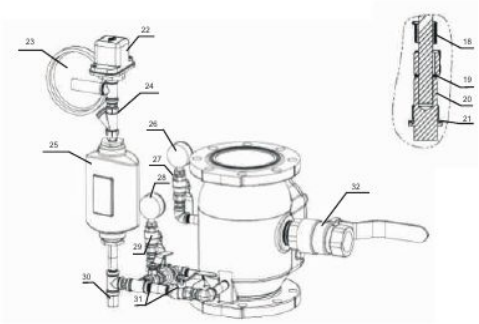
V4

Listed

- Connection Ends: BS EN 1092-2-1997
- Temprature Range : 0°C - 80°C
- Coating: Fusion Bonded Epoxy Coating in accordance with ANSI AWWA C55
- Statement : The Alarm check valve works as a check value by preventing the reverse flow of water from the system piping to the water supply. The valve is trimmed with a water bypass line, which has an in-line swing check valve. The bypass line allows pressure surges to enter the system and to be trapped above the alarm check valve's clapper without the clapper lifting and causing false alarms.

  When a significant flow of water occurs, such as from an open sprinkler, the alarm valve's clapper lifts and allows water to enter the system. Simultaneously, water enters an intermediate chamber, which allows the water to activate an alarm or through a water pressure alarm. These alarms

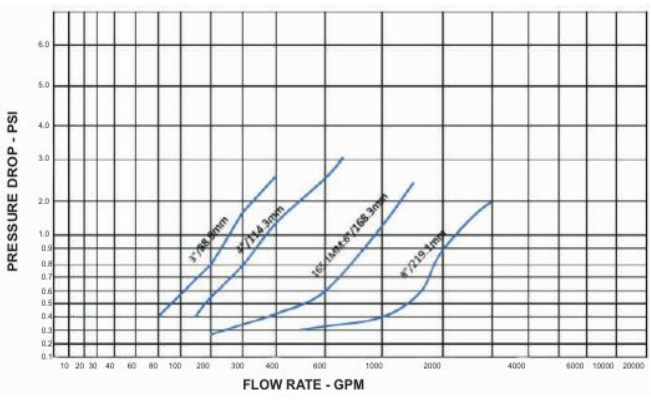




MATERIAL SPECIFICATION

Part No.	Part	Standard Specification
1	Valve Body	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
2	Bonnet	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
3	Pin	SS304
4	Hex Bolt	Carbon Steel Zinc Plated
5	Body Gasket	EPDM
6	O-Ring	NBR
7	Seat	C83600
8	Gasket	EPDM
9	Disc Gland	SS304
10	Slotted Screw	SS304
11	Hexagonal Nut	SS304
12	Adjusting Screw	SS304
13	Core Tube	SS304
14	Core Board	SS304
15	Disc Core	C89633
16	O-Ring	NBR
17	Disc	C83600
18	Spring	SS304
19	Sealing Fillet Gasket	PTFE
20	Sealing Plug	SS304
21	Sealing Fillet Gasket	PTFE

Note : For special material request other than standard specification, please indicate clearly on the enquiry or order list.



DN		PN	Dimensions (mm)						
INCH	mm		L	D	D1	d	n - Φd	C	T
3"	80	10/16	241	200	160	132	8 - Φ19	19	3
4"	100	10/16	292	220	180	156	8 - Φ19	19	3
6"	150	10/16	356	285	240	211	8 - Φ23	19	3
8"	200	10	495	340	295	266	8 - Φ23	20	3
		16		340	295	266	12 - Φ23	20	3

EXTERNAL ACCESSORIES			
Part No.	Part	Part No.	Part
22	Pressure Switch	28	Pressure Gauge
23	Alarm	29	Ball Valve
24	Strainer	30	Drip Valve
25	Retard Chamber	31	Locking Valve
26	Pressure Gauge	32	Check Ball Valve
27	Ball Valve		

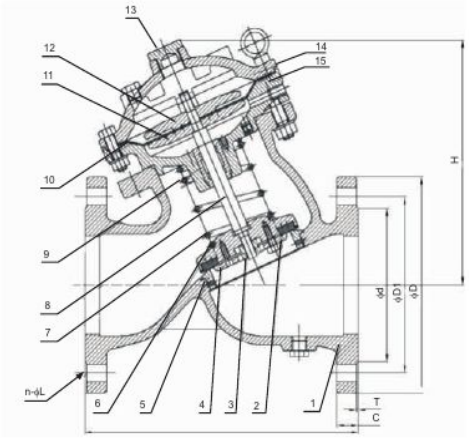
Dimensional Tolerance : ± 5 mm upto 200 mm & ±10 mm for above 200 mm. This is applicable for all products in catalogue.

Deluge Alarm Valve
(SK790X), PN10/16



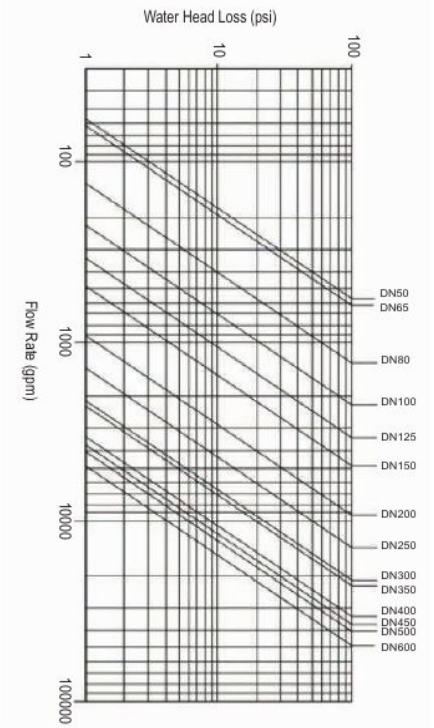
SK790X

- Connection Ends: BS EN 1092-2: 1997
- Working Pressure: PN10 / PN16
- Temperature Range : 0°C - 80°C
- Coating: Fusion Bonded Epoxy Coating in accordance with ANSI/AWWA C550.
- Statement: SK790X Deluge Alarm Valve is a diaphragm type of hydraulic control valve driven by the hydraulic pressure within the piping system, functioning as flow control and alarming device in the sprinkler system for quenching of the fire i.e. to start the sprinkler and system for quenching of the fire and send out fire alarm through the fire bell when there is fire detected.



MATERIAL SPECIFICATION

Part No.	Part	Standard Specification
1	Valve Body	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
2	Main Gasket	EPDM
3	Disc Head	SS304
4	Gland of Main Disc	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
5	Seat	SS304
6	Main Disc	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
7	Spring	SS304
8	Stem	SS304
9	Bushing	C89833
10	Diaphragm	EPDM
11	Bottom Gland	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
12	Up Gland	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
13	Cap Plug	C89833
14	Up Bonnet	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12
15	Middle Bonnet	DUCTILE CAST IRON EN-GJS-450-10 / ASTM A536, 65-45-12



Note : For special material request other than standard specification, please indicate clearly on the Inquiry or order list.

DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600
Kv	41	53	105	175	285	402	730	1160	1400	1770	3010	3225	3395	4272

DN		PN	Dimensions (mm)							
INCH	mm		H	L	D	D1	d	C	T	n - ΦL
2"	50	10/16	203	170	165	125	90	19	3	4 - Φ19
2.5"	65	10/16	216	195	185	145	118	19	3	4 - Φ19
3"	80	10/16	241	215	200	160	132	19	3	8 -Φ 19
4"	100	10/16	292	255	220	180	156	19	3	8 -Φ 19
5"	125	10/16	330	290	250	210	184	19	3	8 -Φ 19
6"	150	10/16	356	360	285	240	211	19	3	8 -Φ 23
8"	200	10	495	450	340	295	266	20	3	8 -Φ 23
		16	495		340	295	266	20	3	12 -Φ 23
10"	250	10	622	550	405	350	319	22	3	12 -Φ 23
		16	622		405	355	319	22	3	12 -Φ 28
12"	300	10	698	645	460	400	370	24.5	4	12 -Φ 23
		16	698		460	410	370	24.5	4	12 -Φ 28

Dimensional Tolerance :
± 5 mm upto 200 mm & ±10 mm for above 200 mm.
This is applicable for all products in catalogue.

Model Universal Test & Drain (UTD)



The Jainsons Model UTD Test and Drain allows for draining of a sprinkler system as well as performing the required Water Flow Test with one combined valve incorporating a single handle. The UTD eliminates the need to utilize two separate valves and additional fittings to perform the test and drain functions. The Jainsons Model UTD is equipped with a test orifice K-Factor of 2.8 (40.3 metric). As such, the Model UTD is UL Listed for, and meets the NFPA 13 requirement of providing a flow equal to or less than the smallest orifice sprinkler on the system, when no installed sprinkler is smaller than a K 2.8 (40.3 metric). These features of the Model UTD reduce the need for additional Test and Drain Valve inventory with multiple test orifices.

The Model UTD contains two integrated ports with clear Lexan plugs allowing for a visual means to determine if water is flowing through the valve. A third port is available for the drain connection of an optional pressure relief valve. The Jainsons Model UTD comes in threaded end connections for sizes 3/4" through 2" and also grooved end connections for sizes 1 1/4" through 2".

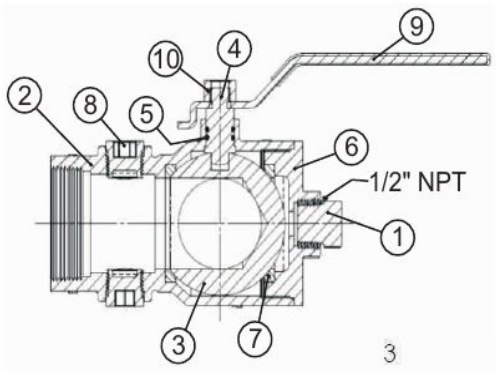
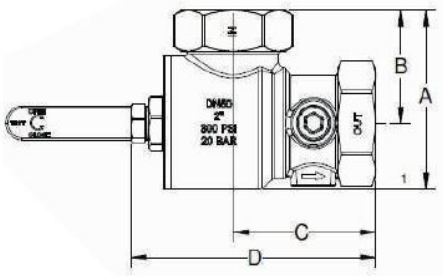
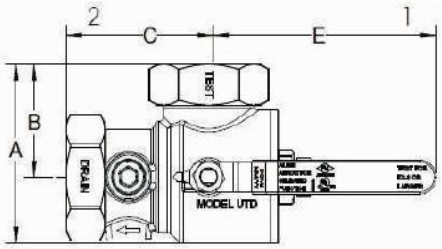


FIGURE 1 : MODEL UTD MATERIALS OF CONSTRUCTION

Part No.	Description	Material	QTY
1	1/2-14 NPT Pipe Plug	Steel	1
2	3-WAY Test & Drain Body	Bronze	1
3	UTD Test & Drain Ball	Stainless Steel	1
4	UTD Test & Drain Handle Stem	Stainless Steel	1
5	3-WAY Test & Drain Stem O-Ring	Edpm	2
6	3-WAY Test & Drain Cover	Bronze	1
7	UTD Test & Drain Teflon Seal	Teflon	2
8	Sight Glass	Lexan	3
9	3-WAY Red Handle	Edpm	1
10	Retaining Nut	Stainless Steel	1





Valve Size NPT	Nominal Installation Dimensions Inches (mm)				
	A	B	C	D	E
1" (DN25)	3.22 (82)	2.42 (61)	2.62 (67)	5.29 (134)	4.16 (106)
2" (DN50)	4.41 (112)	2.83 (60)	3.78 (96)	6.72 (159)	6.02 (153)

MODEL UTD CARE AND MAINTENANCE

The Jainsons Model UTD Test and Drain does not require any regularly scheduled maintenance.

System testing in accordance with NFPA 25 or other applicable Standard shall be followed to insure the in-tegrity of the entire system, including alarm functions as well as other system components.

The following procedures shall be performed, as needed, to conduct a waterflow alarm test of the flow switch, a drain test to verify adequate water supply, or to drain a section of the sprinkler system.

Where impairments or deficiencies are found, they must be corrected in accordance with NFPA25 or other applicable Standard.

When conducting a Waterflow Alarm Test, Flow Test (Main Drain Test), or draining of the system, position arrow (opposite the handle location near the stem of the valve) to the appropriate labeled function on the body of the valve.

ORDERING INFORMATION

MODEL UTD TEST AND DRAIN

Specify : MODEL UTD TEST AND DRAIN, TXT,

SIZE (1", 2") PN :

1" (DN25)

2" (DN50)

Note : Metric threads for the inlet and outlet of the valve are available upon request. Inform Customer Service at time of order.

Dimensional Tolerance : ± 5 mm upto 200 mm & ±10 mm for above 200 mm. This is applicable for all products in catalogue.

ADDITIONAL PRODUCTS



Zone Control Valve Assembly



Zone Control Valve Assembly





DUCTILE IRON PIPE FITTINGS

AMERICAN STANDARD

Material : ASTM A536 Dimensions : ASME, B16.3, B16.14, B16.39, EN10242

Improved Quality as compared to **EXPENSIVE FORGED FITTING**

90 Elbow, 90º



90R Elbow, 90º, Reducing



130 Tee



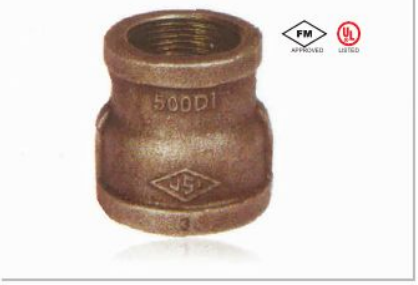
130R Tee, Reducing



270 Socket



270R, Socket, Reducing



180 Cross



180R Cross, Reducing



241 Bushing



300 Cap



342 Union



291 Plug



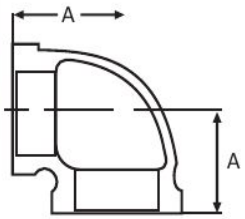
DUCTILE IRON PIPE FITTINGS

90-D
Elbow, 90°

LISTED APPROVED LISTED

Size	Inch	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	
	mm	15	20	25	32	40	50	65	80	100	
Dimensions	A	28.5	33.3	38.1	44.5	49.3	57.2	68.6	78.2	96.3	
Packing Domestic		400	200	120	70	50	30				
Packing Export		200	120	70	40	30	18	10	4	2	

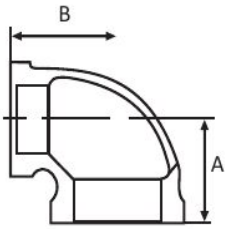




90R-D
Elbow, 90°, Reducing

Size	Inch	3/4"×1/2"	1"×1/2"	1"×3/4"	1-1/4"×1/2"	1-1/4"×3/4"	1-1/4"×1"	1-1/2"×3/4"	1-1/2"×1"	1-1/2"×1-1/4"	2"×3/4"	2"×1"	2×1/1/4"	2"×1/1/2"
	mm	20×15	25×15	25×20	32×15	32×20	32×25	40×20	40×25	40×32	50×20	50×25	50×32	50×40
Dimenions	A	30.5	32	34.8	34	36.8	40.1	38.6	41.9	46.2	40.6	43.9	48.5	51.3
	B	31	35.5	36.8	38.9	41.2	42.4	44.5	45.7	47.8	50	51.3	53.3	54.9
Packing Domestic			200	150	80	80	80		80			40	40	40
Packing Export		150	90	90	40	40	50	30	25	30	25	16	20	20



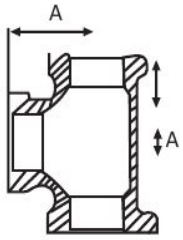


130-D
Tee

LISTED APPROVED LISTED

Size	Inch	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	
	mm	15	20	25	32	40	50	65	80	100	
Dimensions	A	28.5	33.3	38.1	44.5	49.3	57.2	68.6	78.2	96.3	
Packing Domestic		200	120	90	50	40	24				
Packing Export		140	80	45	25	20	10	6	4	2	

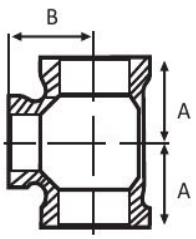




130R-D
Tee, Reducing

Size	Inch	3/4"×1/2"	1"×1/2"	1"×3/4"	1-1/4"×1/2"	1-1/4"×3/4"	1-1/4"×1"	1-1/2"×1/2"	1-1/2"×3/4"	1-1/2"×1"	1-1/2"×1-1/4"	2"×1/2"	2"×3/4"	2"×1"	2×1-1/4"	2"×1-1/2"
	mm	20×15	25×15	25×20	32×15	32×20	32×25	40×15	40×20	40×25	40×32	50×15	50×20	50×25	50×32	50×40
Dimenions	A	30.5	32	34.8	34	36.8	40.1	35.8	38.6	41.9	46.2	37.9	40.6	43.9	48.3	51.3
	B	31	35.5	36.8	38.9	41.2	42.4	42.2	44.5	45.7	47.8	47.8	50	51.3	53.3	54.9
Packing Domestic			120	90	90		72	60	60	50	50	40		35	35	30
Packing Export		75	60	60	40	40	30	30	30	25	20	24	16	16	16	14



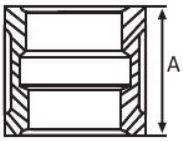


DUCTILE IRON PIPE FITTINGS

270-D
Socket/COUPLING

Size	Inch	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	
	mm	15	20	25	32	40	50	65	80	100	
Dimensions	A	34	38.6	42.4	48.5	54.6	64.3	73.2	80.8	93.7	
Packing Domestic				200	80	70	50				
Packing Export		300	150	100	60	40	24	18			

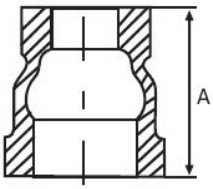




270R-D
Reducing Socket/Coupling

Size	Inch	3/4"×1/2"	1"×1/2"	1"×3/4"	1-1/4"×1/2"	1-1/4"×1"	1-1/2"×1/2"	1-1/2"×1"	1-1/2"×1-1/4"	2"×1/2"	2"×1"	2"×1-1/4"	2"×1-1/2"
	mm	20×15	25×15	25×20	32×15	32×25	40×15	40×25	40×32	50×15	50×25	50×32	50×40
Dimenions	A	36.6	42.4	42.4	52.3	52.3	58.7	58.7	58.7	71.4	71.4	71.4	71.4
Packing Domestic			400		70	120	60	100	80	40	35	30	50
Packing Export		200	120	130	70	60	30	60	50	24	60	36	35

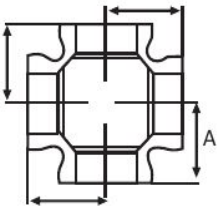




180-D
Cross

Size	Inch	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
	mm	15	20	25	32	40	50
Dimensions	A	28.5	33.3	38.1	44.5	49.3	57.2
Packing Domestic				50	40	30	20
Packing Export		110	60	40	18	17	7

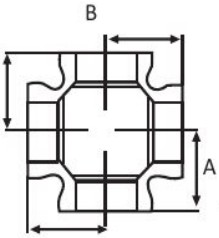




180R-D
Cross Reducing

Size	Inch	1"×1/2"	1-1/4"×1"	1-1/2"×1"	1-1/2"×1-1/4"	2"×1"	2"×1-1/4"	2"×1-1/2"
	mm	25×15	32×15	40×25	40×25	50×15	50×32	50×40
Dimensions	A	32	40.1	41.9	46.2	43.9	48.3	51.3
	B	35.5	42.4	45.7	47.8	51.3	53.3	54.4
Packing Domestic			60	35	40	30	24	24
Packing Export		45	20	20	18	10	8	8



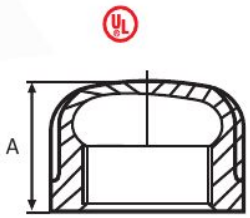


DUCTILE IRON PIPE FITTINGS

300-D
Cap

Size	Inch	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"			
	mm	15	20	25	32	40	50			
Dimensions	A	22.5	25	30	33	34	37			
Packing Export		500	300	140	100	80	50			

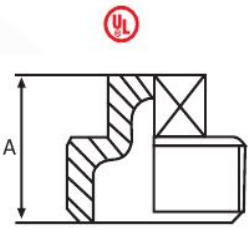




291-D
Plug

Size	Inch	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"			
	mm	15	20	25	32	40	50			
Dimensions	A	23.9	27.2	31.8	34.5	36.8	39.6			
Packing Export		800	500	300	100	100	50			

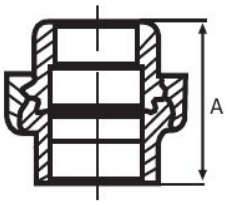




342-D
Union F/F, Brass to iron seat

Size	Inch	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"			
	mm	15	20	25	32	40	50			
Dimensions	A	44	50	53	58	62	70			
Packing Domestic				100	70	60	50			
Packing Export		120	70	50	30	25	14			

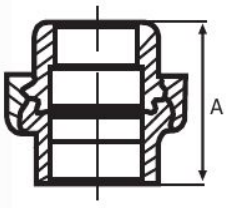




340-D
Union Concial, F/F Iron to Iron

Size	Inch	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"			
	mm	15	20	25	32	40	50			
Dimensions	A	49	52	58	66	69	78			
Packing Domestic				100	70	60	50			
Packing Export		120	70	50	30	25	14			



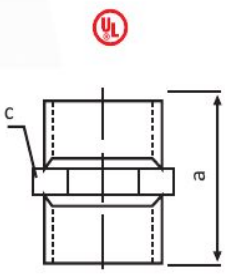


DUCTILE IRON PIPE FITTINGS

280-D
HEX NIPPLE EN: 10242

Size	Inch	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
	mm	15	20	25	32	40	50	65	80	100
Dimensions	A	44	47	53	57	59	68	75	83	95
Packing Export		350	200	130	70	60	30	18	12	6

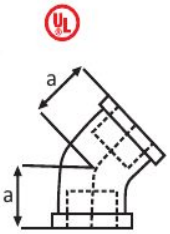




120-D
ELBOW 45°

Size	Inch	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"			
	mm	15	20	25	32	40	50			
Dimensions	A	22.4	25	28.5	32.8	36.3	42.7			
Packing Export		200	150	90	45	30	20			

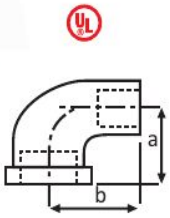




92-D
M/F ELBOW

Size	Inch	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"			
	mm	15	20	25	32	40	50			
Dimensions	A	28.5	33.3	38.1	44.5	49.3	57.2			
Dimensions	B	41.2	48	54.4	62.2	68.3	81.8			
Packing Export		200	120	70	40	30	18			

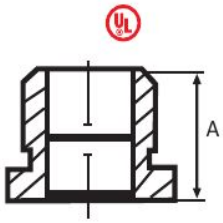




241-D Bushing

Size	Inch	1"×1/2"	1"×3/4"	1-1/4"×3/4"	1-1/4"×1"	1-1/2"×1"	1-1/2"×1-1/4"	2"×1-1/4"	2"×1-1/2"	
	mm	25×15	25×20	32×20	32×25	40×25	40×32	50×32	50×40	
Dimensions	A	26	26	27.5	27.5	29	29	31	31	
Dimensions	B	36.1	36.1	44.7	44.7	50.8	50.8	63	63	
Packing Domestic		300	300		200	200	100	100	100	
Packing Export		250	250	130	130	110	110	50	50	

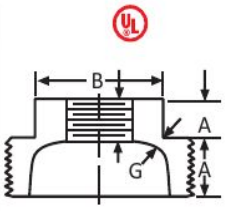




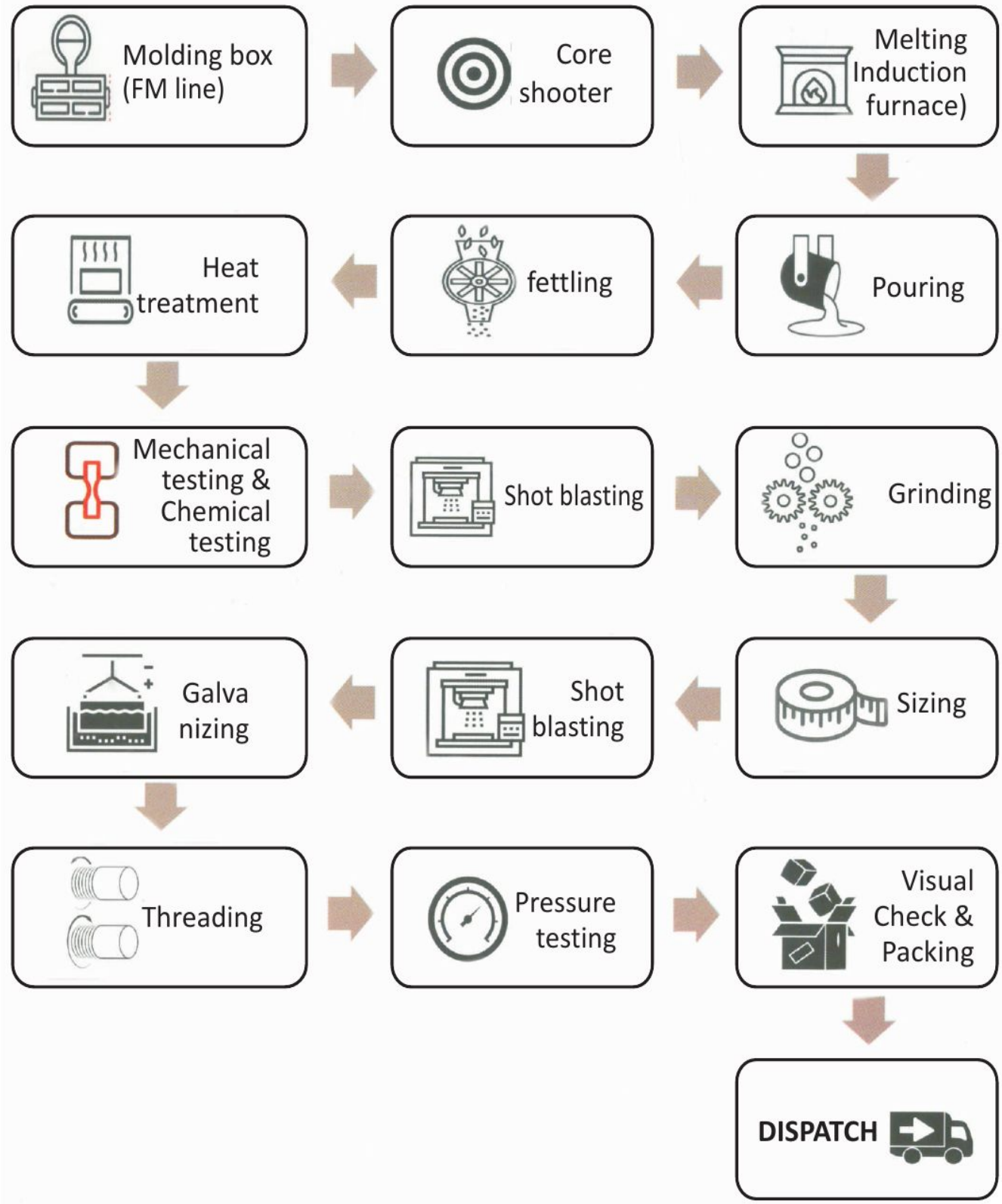
241-N
Reducer Bush Insider

Size	Inch	1-1/4"×1/2"	1-1/2"×1/2"	1-1/2"×3/4"	2"×1/2"	2×3/4"	2"×1"			
	mm	32×15	40×15	40×20	50×15	50×20	50×25			
Dimensions	A	29	30.5	30.5	33	33	33			
	B	34	34	41.4	34	41.4	49.5			
Packing Export		130	120	110	50	50	50			





PROCESS FLOW CHART



Products Presentation

Three traditional methods to connect steel pipes, namely welding, flange connection and screw connection.

JSI grooved piping system use the grooved couplings & branch out let fittings as the key, supplemented by a variety of non-gasket pipe fittings. This is a pipe connection revolution.

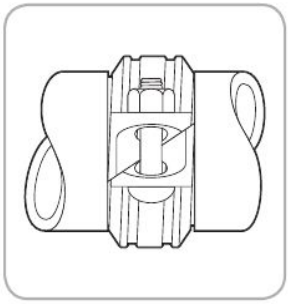
At present, JSI manufactures all kinds of grooved branch outlet fittings and non-gasket fittings. In order to meet the needs of customers, JSI also developed extended products such as grooved end valves, filters, etc. JSI will continue to improve and optimize so that the company's product line can fulfill demands in civil construction, municipal and industrial fields.

JSI groove piping system is a universal, economic, safe and practical piping system components, the installation process will not bring any pollution to the pipe line. It is an environmentally friendly green product.

JSI groove piping system builds pipe connection on the external surface of steel pipes. The inner diameter & interior surface of the pipe has no matter of the connection, which makes the range of application of this product much more extended.

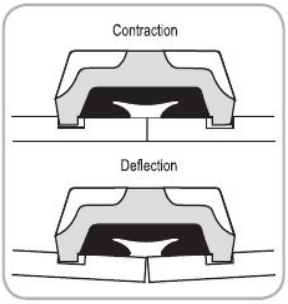
Products Strong Point

Compared with the traditional piping methods such as welded, flanges or threaded connection, the grooved and mechanical outlet fittings has very significant advantages, mainly in the following aspects:



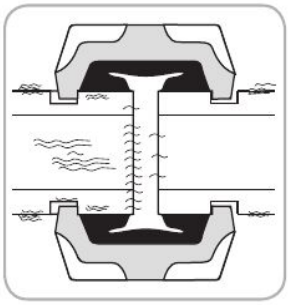
- Rigid

Rigid coupling provides enough rigidity to resist tube twisting and bending moment.



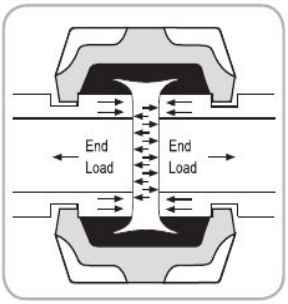
- Flexibility

Flexible coupling provides radial and axial deflection. It absorbs expansion, contraction, deflection and vibration.



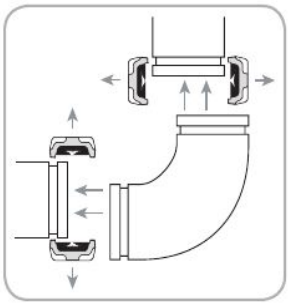
- Noise and vibration

The separation between pipe ends reduces the transmission of noise and vibration, provides the entire system a significant dampening effect



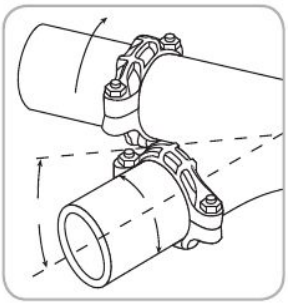
- Earthquake stress

The full circumferential engage between couplings keys and pipe grooves provides sufficient internal pressure and pipe end load capacity to withstand pipe movement.



- system maintenance

System unit can be disassembled without moving the pipeline, thus facilitating system maintenance and modification.



- Easy alignment

Groove system allows free rotation of pipe and system components prior final fixing.

Products Type

JSI grooved piping system covers following categories:

• Grooved Couplings

Grooved couplings are designed as a ring self-centering connector, the inner key area of the housing engages in the pipe grooves to provide a pipe connection. When the flexible coupling is assembled in the pipeline, a gap is formed between the pipe ends to allow axial displacement and lateral deflection. Rigid coupling locks the pipes directly without deflection.

• Mechanical Outlets

The housing of branch outlet fittings has two different parts, respectively, the outlet housing and the cover. The mechanical outlets can be composed of two outlet housing (said the mechanical cross), or one outlet housing plus one cover (said as mechanical tee). The outlet housing is designed as a self-positioning structure, to builds a branch outlet on the main pipe run.

• Grooved Non-Gasket Fittings

Grooved fittings have a variety of styles, to provide flow direction turning, diameter reducing, branching and other functions.

Products Component

• Housing

Material : Ductile cast iron conforming to ASTM A-536, Grade 65-45-12.

Surface Finish : Standard : Epoxy powder coating

Optional : Galvanized (Zinc Plated, HDG), Dip painted

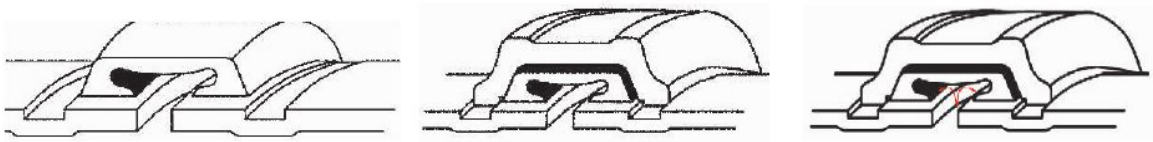
Surface Color : Variable colors for choice

• Rubber Gasket

Standard: EPDM.

Optional : Nitrile, Silicone, Fluoroelastomer, Neoprene

The sealing mechanism of grooved couplings and mechanical outlets is basically the same, the main structure of the gasket has "C" shape, forming a triple seal function. The first seal is formed by the elasticity of the gasket during the static state. After the coupling is installed, the gasket is confined by the housing of groove coupling or the mechanical outlet, the second seal is formed. Medium inside the pipe system press the "C" cavity after pressurizing, it increases the adhesion between gasket lip and steel pipe surface, so as to achieve the third reactive seal. The greater the pressure of the fluid within the pipe, The better the sealing of the coupling.



The material of the gasket must be chosen to follow the characteristics of the fluid medium below. The commonly used gasket are shown in the following table:

Grade	Temperature Range	Rubber Compound	Color Code	General Service Recommendations
E	-30°F to +230°F -34°C to +110°C	EPDM	Green Stripe	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 for cold +86°F/+30°C and hot +180°F/+82°C potable water service. **NOT RECOMMENDED FOR PETROLEUM SERVICES.**
T	-20°F to +180°F -29°C to +82°C	Nitrile	Orange Stripe	Recommended for petroleum products, hydrocarbons, air with oil vapors, vegetable and mineral oils within the specified temperature range; except hot dry air over +140°F/+60°C and water over +150°F/+66°C. **NOT RECOMMENDED FOR HOT WATER SERVICES.**
O	-20°F to +300°F -29°C to +149°C	Fluoroelastomer	Blue Stripe	Recommended for many oxidizing acids, petroleum oils, halogenated hydrocarbons, lubricants, hydraulic fluids, organic liquids and air with hydrocarbons to +300°F/+149°C.
L	-30°F to +350°F -34°C to +177°C	Silicone	Body white	Recommended for dry heat, air without hydrocarbons to +350°F/+177°C and certain chemical services.
V	-30°F to +180°F -34°C to +82°C	Neoprene	Yellow Stripe	Recommended for hot lubricating oils and certain chemicals. Good oxidation resistance. Will not support combustion.

For specific compound and temperature compatibility, see this book Chemical Application Table

• Bolt/Nut

Heat treated and electro galvanized bolts with oval neck, and heavy duty hexagon nuts.

Track head meeting the physical and chemical requirements of ASTM A-449 and physical requirements of ASTM A-183.



As the manufacturer and innovator of grooved coupling technology, JSI offers a variety of coupling sizes and styles for almost any piping application.

All grooved couplings are made up of four parts, namely housing, gasket, bolt and nut. The housing is made of ductile iron and the surface finish is orange, but also available for a variety of fluid piping systems to provide a matching color scheme. Standard gasket material is EPDM, also prepared for a variety of pipeline media rubber material. The bolt's tensile rating is class 8.8 and the nut's rating is 8.0.

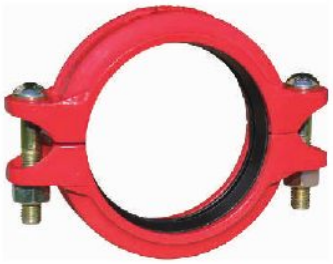
JSI couplings provide pipe system with versatility not found in other pipe connection methods. JSI rigid and flexible couplings can be combined to allow for thermal growth within the system. Additionally, the use of three consecutive flexible couplings reduces noise and vibration and eliminates costly noise dampeners.



Style 1GS Rigid Coupling
DN25~DN300 1″~12″
33.4mm~323.9mm



Style 1X Angle-pad Rigid Coupling
DN25~DN300 1″~12″
33.4mm~323.9mm



Style 1N Flexible Coupling
DN25~DN300 1″~12″
33.4mm~323.9mm



Style 1NH H.D. Flexible Coupling
DN25~DN300 1″~12″
33.4mm~323.9mm

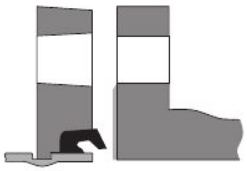


Style 1NR Reducing Flexible Coupling
DN32~DN200 1 $^{1}/_{4}$″~8″
42.4mm~219.1mm

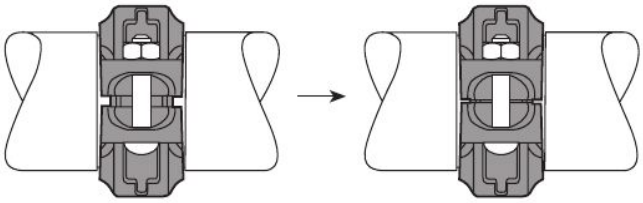


Style 321 Split Flange Adaptor
DN50~DN200 2″~8″
60.3mm~219.1mm

Rubber Gasket Types

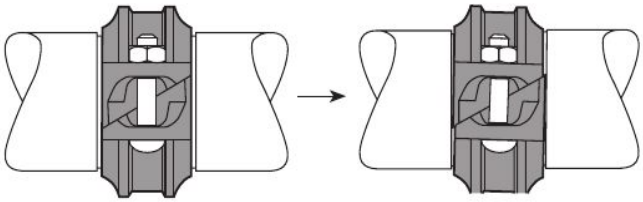
Rubber Gasket Types		Style 1GS	Style 1X	Style 1N	Style 1NR	Style 321
CG1		★	★	★		
RCG1					★	
CG4		★	★	★		
FG1						★

Rigid coupling connection & performance



The structure of the socket type rigid coupling is compact, with the inner and outer female and male teeth, socket type, meshing design, the use of the gap between the female and male port socket combination of pipe and joint meshing to achieve the rigid requirements.

Due to the improved interface structure, it is not easy to make the gasket to produce transverse and oblique twists and turns, the positioning of the gasket is more accurate, the abnormal pressing and destructive pressure loss of the gaskets are avoided, the sealing property is increased, and the overall joint is increased service life.



The Angle-pad rigid coupling is designed to sliding rather than vertical moving when tightening the housing. So the pipe tightly stuck to form a rigid connection. This 60°diagonal sliding also forces the coupling housing keys to make double sided contact on the inside and outside edges of the groove so that axial and radial movement of the tube cannot occur and the effect of rigid connecting pipe is truly achieved. No deflection after installation.
This rigid coupling allows for more accurate positioning of the tube end forming a fixed tube end separation that should be considered in the design and installation (see the following list of parameters).

Allow. Pipe End Sep.

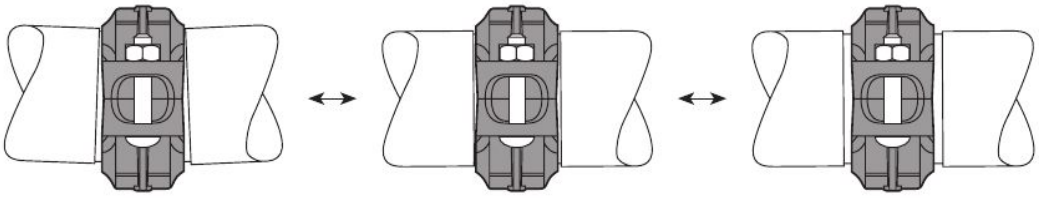
Size		Allow. Pipe End Sep.	
Nominal Dia.	Actual O.D.	Style 1GS	Style 1X
DN Inches	mm Inches	mm Inches	mm Inches
25 1	33.4 1.315	2.3 0.091	2.2 0.087
32 $1^1/_4$	42.4 1.660	2.3 0.091	2.2 0.087
40 $1^1/_2$	48.3 1.900	2.3 0.091	2.2 0.087
50 2	60.3 2.375	2.3 0.091	2.2 0.087
65 $2^1/_2$	73.0 2.875	2.3 0.091	2.7 0.106
65 $2^1/_2$	76.1 3.000	2.3 0.091	2.7 0.106
80 3	88.9 3.500	2.7 0.106	2.7 0.106
100 4	108.0 4.250	2.7 0.106	3.3 0.130
100 4	114.3 4.500	2.7 0.106	3.3 0.130

Size		Allow. Pipe End Sep.	
Nominal Dia.	Actual O.D.	Style 1GS	Style 1X
DN Inches	mm Inches	mm Inches	mm Inches
125 5	133.0 5.250	2.7 0.106	3.3 0.130
125 5	139.7 5.500	2.7 0.106	3.3 0.130
125 5	141.3 5.563	2.7 0.106	3.3 0.130
150 6	159.0 6.250	2.7 0.106	3.3 0.130
150 6	165.1 6.500	2.7 0.106	3.3 0.130
150 6	168.3 6.625	2.7 0.106	3.3 0.130
200 8	219.1 8.625	4.9 0.193	4.9 0.193
250 10	273.0 10.750	4.9 0.193	4.9 0.193
300 12	323.9 12.750	4.9 0.193	4.9 0.193

- Rigid couplings cannot be used to absorb any piping system movement.
- For the absorption of pipe system movement, please use flexible couplings.

Flexible Coupling Systems & Performance

Using of flat joint design, flexible coupling keeps a separation between pipe ends to achieve flexibility of pipeline. This structure ensures the strength without fully holding the pipes, allows axial and radial displacement, suitable for deflection requirements of the pipeline. The flexible coupling is designed to absorb the deviation of the pipe outer diameter without affecting the joint performance



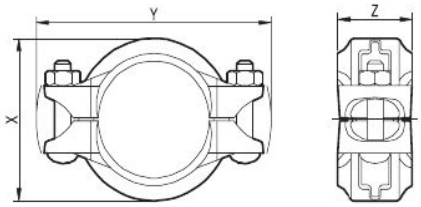
Allow. Pipe End Sep. & Flexibility

Size		Allow. Pipe End Sep.	Flexibility	
Nominal Dia.	Actual O.D.		Max. Degrees	Misalignment
DN Inches	mm Inches	mm Inches	Degree(°)	mm/m In./Ft.
25 1	33.4 1.315	2.2 0.087	2.7	47 0.57
32 $1^1/_4$	42.4 1.660	2.2 0.087	2.2	38 0.46
40 $1^1/_2$	48.3 1.900	2.2 0.087	2.0	34 0.42
50 2	60.3 2.375	2.2 0.087	1.9	33 0.40
65 $2^1/_2$	73.0 2.875	2.4 0.094	1.8	31 0.38
65 $2^1/_2$	76.1 3.000	2.4 0.094	1.8	31 0.38
80 3	88.9 3.500	2.8 0.110	1.7	29 0.36
100 4	108.0 4.250	3.3 0.130	1.6	27 0.34
100 4	114.3 4.500	3.3 0.130	1.6	27 0.34

Size		Allow. Pipe End Sep.	Flexibility	
Nominal Dia.	Actual O.D.		Max. Degrees	Misalignment
DN Inches	mm Inches	mm Inches	Degree(°)	mm/m In./Ft.
125 5	133.0 5.250	3.6 0.142	1.3	22 0.27
125 5	139.7 5.500	3.6 0.142	1.3	22 0.27
125 5	141.3 5.563	3.6 0.142	1.3	22 0.27
150 6	159.0 6.250	3.9 0.154	1.1	19 0.23
150 6	165.1 6.500	3.9 0.154	1.1	19 0.23
150 6	168.3 6.625	3.9 0.154	1.1	19 0.23
200 8	219.1 8.625	4.9 0.193	0.85	14 0.18
250 10	273.0 10.750	4.9 0.193	0.67	11 0.14
300 12	323.9 12.750	4.9 0.193	0.58	10 0.12

- All the parameters in the above table are the maximum tolerance of each flexible couplingßá
- These values are based on standard roll grooved pipe. Figures for standard cut grooved pipe may increase.
- All the parameters in the above table are the maximum performance parameters. When designing and installing, the corresponding safety factor should be considered. It is suggested that the pipe diameter of DN25 ~ DN80 should be reduced to 50% and the pipe diameter of DN100 ~ DN300 should be reduced to 75%ßá

Style 1GS Rigid Coupling





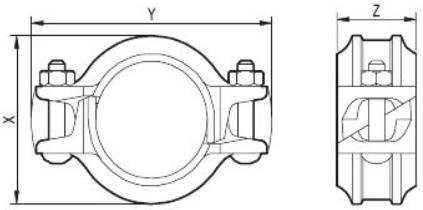
- Model 1GS rigid coupling, socketed & meshing design
- Female and male port socket design is not easy to make the horizontal and horizontal seal twists and turns, the gasket is not exposed, increasing the sealing and improve the overall service life of the joint
- Enhanced body resists 4 times working pressure.

Size		Max. Work Pressure	Max. End Load	Allow. Pipe End Sep.	Dimensions			Bolt/Nut Size
Nominal Dia.	Actual O.D.				X	Y	Z	
DN Inches	mm Inches	KPa PSI	N Lbs.	mm Inches	mm Inches	mm Inches	mm Inches	mm Inches
25	33.4	5170	4530	2.3	56	97	46	M10X55
1	1.315	750	1020	0.091	2.21	3.82	1.81	$^{3}/_{8}$X2$^{1}/_{8}$
32	42.4	5170	7300	2.3	64	104	44	M10X55
1$^{1}/_{4}$	1.660	750	1620	0.091	2.52	4.10	1.73	$^{3}/_{8}$X2$^{1}/_{8}$
40	48.3	5170	9470	2.3	69	111	45	M10X55
1$^{1}/_{2}$	1.900	750	2130	0.091	2.72	4.37	1.77	$^{3}/_{8}$X2$^{1}/_{8}$
50	60.3	4140	11820	2.3	84	125	46	M10X55
2	2.375	600	2660	0.091	3.31	4.93	1.81	$^{3}/_{8}$X2$^{1}/_{8}$
65	73.0	3780	15820	2.3	96	141	46	M10X60
2$^{1}/_{2}$	2.875	550	3570	0.091	3.78	5.56	1.81	$^{3}/_{8}$X2$^{3}/_{8}$
65	76.1	3780	17190	2.3	100	143	46	M10X60
2$^{1}/_{2}$	3.000	550	3890	0.091	3.94	5.63	1.81	$^{3}/_{8}$X2$^{3}/_{8}$
80	88.9	3780	23460	2.7	114	161	48	M10X60
3	3.500	550	5290	0.106	4.49	6.34	1.89	$^{3}/_{8}$X2$^{3}/_{8}$
100	114.3	3450	35400	2.7	140	190	48	M12X70
4	4.500	500	7950	0.106	5.52	7.49	1.89	$^{1}/_{2}$X2$^{3}/_{4}$
125	139.7	3450	52880	2.7	170	219	50	M12X75
5	5.500	500	11880	0.106	6.70	8.63	1.97	$^{1}/_{2}$X3
150	165.1	3450	73860	2.7	192	245	50	M12X75
6	6.500	500	16590	0.106	7.56	9.65	1.97	$^{1}/_{2}$X3
150	168.3	3450	76750	2.7	197	253	51	M12X75
6	6.625	500	17240	0.106	7.76	9.97	2.01	$^{1}/_{2}$X3
200	219.1	2750	103680	4.9	255	324	58	M16X90
8	8.625	400	23370	0.193	10.05	12.77	2.29	$^{5}/_{8}$X3$^{1}/_{2}$
250	273.0	2500	146340	4.9	315	393	64	M20X100
10	10.750	350	31770	0.193	12.41	15.48	2.52	$^{3}/_{4}$X4
300	323.9	2500	205990	4.9	365	447	65	M20X110
12	12.750	350	44690	0.193	14.38	17.61	2.56	$^{3}/_{4}$X4$^{3}/_{8}$

- **Housing material :** Ductile iron conforming to ASTM A-536, grade 65-45-12.
- **FM Approved & UL Listed :** R.W.P. rated working pressure 300PSI(2.065MPa / 20.65bars)
- **Housing Finish :** Fusion Bonded Epoxy Coated (Optional : Hot Deep Galvanized and Others)
- **Coupling gasket material :** EPDM (Optional : Nitrile NBR, Silicone and Others)
- **Bolts and Nuts :** Heat treated and electro galvanized bolts with oval neck, and heavy duty hexagon nuts. Track head meeting the physical and chemical requirements of ASTM A-449 and physical requirements of ASTM A-183.
- **Size Range :** DN25 through DN300 (1" through 12")

Dimensional Tolerance :
± 5 mm upto 100 mm length & ±10 mm above 100 mm.
Nut Bolt length ± 6 mm

Style 1X Rigid Coupling –Angle pad





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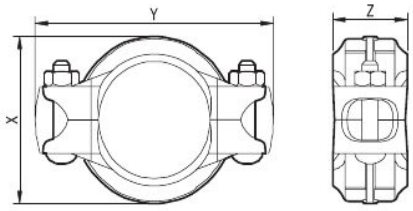
- Model 1X Angle pad rigid coupling
- This rigid coupling allows for more accurate positioning of the tube end, forming a fixed tube end separation, which should be considered in the design and installation.
- Enhanced body resists 4 times working pressure.

Size		Max. Work Pressure	Max. End Load	Allow. Pipe End Sep.	Dimensions			Bolt/Nut Size
Nominal Dia.	Actual O.D.				X	Y	Z	
DN Inches	mm Inches	KPa PSI	N Lbs.	mm Inches	mm Inches	mm Inches	mm Inches	mm Inches
25	33.4	5170	4530	2.2	57	90	45	M10X55
1	1.315	750	1020	0.086	2.25	3.55	1.77	3/8X2 1/8
32	42.4	5170	7300	2.2	66	105	46	M10X55
$1^1/_4$	1.660	750	1620	0.086	2.60	4.14	1.81	3/8X2 1/8
40	48.3	5170	9470	2.2	72	109	45	M10X55
$1^1/_2$	1.900	750	2130	0.086	2.84	4.29	1.77	3/8X2 1/8
50	60.3	4140	11820	2.2	86	125	45	M10X55
2	2.375	600	2660	0.086	3.39	4.93	1.77	3/8X2 1/8
65	73.0	3780	15820	2.7	98	140	49	M10X60
$2^1/_2$	2.875	550	3570	0.106	3.86	5.52	1.93	3/8X2 3/8
65	76.1	3780	17190	2.7	104	144	49	M10X60
$2^1/_2$	3.000	550	3890	0.106	4.10	5.67	1.93	3/8X2 3X8
80	88.9	3780	23460	2.7	115	159	48	M10X60
3	3.500	550	5290	0.106	4.53	6.26	1.89	3/8X2 3X8
100	114.3	3450	35400	3.3	142	193	50	M12X70
4	4.500	500	7950	0.130	5.59	7.60	1.97	1/2X2 3/4
125	139.7	3450	52880	3.3	170	221	50	M12X75
5	5.500	500	11880	0.130	6.70	8.71	1.97	1/2X3
150	165.1	3450	73860	3.3	197	253	51	M12X75
6	6.500	500	16590	0.130	7.76	9.97	2.01	1/2X3
150	168.3	3450	76750	3.3	199	257	52	M12X75
6	6.625	500	17240	0.130	7.84	10.13	2.05	1/2X3
200	219.1	2750	103680	4.9	255	324	60	M16X90
8	8.625	400	23370	0.193	10.05	12.77	2.36	5/8X3 1/2
250	273.0	2500	146340	4.9	313	395	63	M20X115
10	10.750	350	31770	0.193	12.33	15.56	2.48	3/4X 4 1/2
300	323.9	2500	205990	4.9	368	445	65	M20X110
12	12.750	350	44690	0.193	14.50	17.53	2.56	3/4X 4 3/8

- **Housing material :** Ductile iron conforming to ASTM A-536, grade 65-45-12.
- **FM Approved & UL Listed:** R.W.P. rated working pressure 300PSI(2.065MPa / 20.65bars)
- **Housing Finish:** Fusion Bonded Epoxy Coated (Optional: Hot Deep Galvanized and Others)
- **Coupling gasket material:** EPDM (Optional: Nitrile NBR, Silicone and Others)
- **Bolts and Nuts:** Heat treated and electro galvanized bolts with oval neck, and heavy duty hexagon nuts. Track head meeting the physical and chemical requirements of ASTM A-449 and physical requirements of ASTM A-183.
- **Size Range:** DN25 through DN300 (1" through 12")

Dimensional Tolerance :
± 5 mm upto 100 mm length & ±10 mm above 100 mm.
Nut Bolt length ± 6 mm

Style 1N Flexible Coupling





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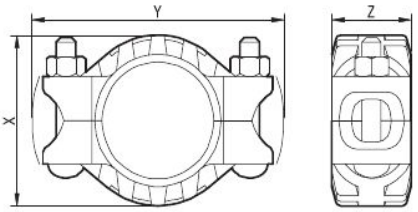
- Style 1N standard flexible coupling provides flexible connection by the gap between pipe groove and coupling key.
- Unique design allows both axial and radial movement, suitable for pipeline with flexibility under intermediate pressure.
- Enhanced body resists 4 times working pressure.

Size		Max. Work Pressure	Max. End Load	Allow. Pipe End Sep.	Dimensions			Bolt/Nut Size
Nominal Dia.	Actual O.D.				X	Y	Z	
DN Inches	mm Inches	KPa PSI	N Lbs.	mm Inches	mm Inches	mm Inches	mm Inches	mm Inches
25	33.4	5170	4530	2.2	56	92	44	M10X55
1	1.315	750	1020	0.087	2.21	3.62	1.73	3/8X2 1/8
32	42.4	5170	7300	2.2	68	104	45	M10X55
$1^1/_4$	1.660	750	1620	0.087	2.68	4.10	1.77	3/8X2 1/8
40	48.3	5170	9470	2.2	73	110	45	M10X55
$1^1/_2$	1.900	750	2130	0.087	2.88	4.33	1.77	3/8X2 1/8
50	60.3	4140	11820	2.2	87	125	45	M10X55
2	2.375	600	2660	0.087	3.43	4.93	1.77	3/8X2 1/8
65	73.0	3780	15820	2.4	101	139	46	M10X60
$2^1/_2$	2.875	550	3570	0.094	3.98	5.48	1.81	3/8X2 3/8
65	76.1	3780	17190	2.4	104	142	46	M10X70
$2^1/_2$	3.000	550	3890	0.094	4.10	5.59	1.81	1/2X2 3/4
80	88.9	3780	23460	2.8	118	166	47	M10X70
3	3.500	550	5290	0.110	4.65	6.54	1.85	1/2X2 3/4
100	114.3	3450	35400	3.3	140	194	49	M10X70
4	4.500	500	7950	0.130	5.52	7.64	1.93	1/2X2 3/4
125	139.7	3450	52880	3.6	174	220	50	M12X85
5	5.500	500	11880	0.142	6.86	8.67	1.97	1/2X3 3/8
150	165.1	3450	73860	3.9	198	248	50	M12X75
6	6.500	500	16590	0.154	7.80	9.77	1.97	1/2X3
150	168.3	3450	76750	3.9	202	251	50	M12X75
6	6.625	500	17240	0.154	7.96	9.89	1.97	1/2X3
200	219.1	2750	103680	4.9	259	326	60	M16X90
8	8.625	400	23370	0.193	10.20	12.84	2.36	5/8X 3 ½
250	273.0	2500	146340	4.9	318	402	64	M20X100
10	10.750	350	31770	0.193	12.53	15.84	2.52	3/4X4
300	323.9	2500	205990	4.9	368	448	64	M20X100
12	12.750	350	44690	0.193	14.50	17.65	2.52	3/4X4

- **Housing material**: Ductile iron conforming to ASTM A-536, grade 65-45-12.
- **FM Approved & UL Listed**: R.W.P. rated working pressure 300PSI (2.065MPa / 20.65bars)
- **Housing Finish**: Fusion Bonded Epoxy Coated (Optional: Hot Deep Galvanized and Others)
- **Coupling gasket material**: EPDM (Optional: Nitrile NBR, Silicone and Others)
- **Bolts and Nuts**: Heat treated and electro galvanized bolts with oval neck, and heavy duty hexagon nuts. Track head meeting the physical and chemical requirements of ASTM A-449 and physical requirements of ASTM A-183.
- **Size Range**: DN25 through DN300 (1" through 12")

Dimensional Tolerance :
± 5 mm upto 100 mm length & ±10 mm above 100 mm.
Nut Bolt length ± 6 mm

Style 1NH Heavy Duty Flexible Coupling





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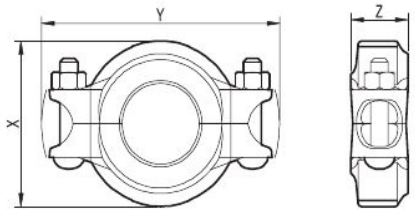
- Style 1NH heavy duty flexible coupling provides flexible connection by the gap between pipe groove and coupling key.
- Unique design allows both axial and radial movement, suitable for pipeline with flexibility under intermediate pressure.
- Enhanced body resists 4 times working pressure.

Size		Max. Work Pressure	Max. End Load	Allow. Pipe End Sep.	Dimensions			Bolt/Nut Size
Nominal Dia.	Actual O.D.				X	Y	Z	
DN Inches	mm Inches	KPa PSI	N Lbs.	mm Inches	mm Inches	mm Inches	mm Inches	mm Inches
25	33.4	10350	9068	2.2	59	92	46	M10X55
1	1.315	1500	2037	0.087	2.32	3.62	1.81	3/8X2 1/8
32	42.4	860	1214	2.2	68	109	45	M12X60
$1^1/_4$	1.660	1250	2705	0.087	2.68	4.29	1.77	1/2X2 3/8
40	48.3	860	1576	2.2	74	115	46	M12X60
$1^1/_2$	1.900	1250	3544	0.087	2.92	4.53	1.81	1/2X2 3/8
50	60.3	860	2456	2.2	89	131	47	M12X60
2	2.375	1250	5538	0.087	3.51	5.16	1.85	1/2X2 3/8
65	73.0	6900	28879	2.4	101	152	49	M12X75
$2^1/_2$	2.875	1000	6492	0.094	3.976	5.984	1.929	$^1/_2$X3
65	76.1	6900	31384	2.4	106	153	49	M12X70
$2^1/_2$	3.000	1000	7069	0.094	4.18	6.03	1.93	1/2X2 3/4
80	88.9	6900	42830	2.8	120	166	49	M12X70
3	3.500	1000	9621	0.110	4.73	6.54	1.93	1/2X2 3/4
100	114.3	6900	70800	3.3	149	205	51	M16X90
4	4.500	1000	15904	0.130	5.87	8.08	2.01	5/8X3 1/2
125	139.7	6900	105763	3.6	177	240	52	M20X110
5	5.500	1000	23758	0.142	6.97	9.46	2.05	3/4X4 3/8
150	165.1	6900	147718	3.9	204	270	52	M20X115
6	6.500	1000	33183	0.154	8.04	10.64	2.05	3/4X4 1/2
150	168.3	6900	153500	3.9	208	273	53	M20X115
6	6.625	1000	34472	0.154	8.20	10.76	2.09	3/4X4 1/2
200	219.1	5500	207366	4.9	267	347	62	M22X135
8	8.625	800	46741	0.193	10.52	13.67	2.44	7/8X5 3/8
250	273.0	5500	321943	4.9	322	426	67	M24X150
10	10.750	800	72610	0.193	12.69	16.78	2.64	1X5 7/8
300	323.9	5500	453185	4.9	376	481	67	M24X150
12	12.750	800	102141	0.193	14.81	18.95	2.64	1X5 7/8

- **Housing material**: Ductile iron conforming to ASTM A-536, grade 65-45-12.
- **FM Approved & UL Listed**: R.W.P. rated working pressure 300PSI (2.065MPa / 20.65bars)
- **Housing Finish**: Fusion Bonded Epoxy Coated (Optional: Hot Deep Galvanized and Others)
- **Coupling gasket material**: EPDM (Optional: Nitrile NBR, Silicone and Others)
- **Bolts and Nuts**: Heat treated and electro galvanized bolts with oval neck, and heavy duty hexagon nuts. Track head meeting the physical and chemical requirements of ASTM A-449 and physical requirements of ASTM A-183.
- **Size Range**: DN25 through DN300 (1" through 12")

Dimensional Tolerance :
± 5 mm upto 100 mm length & ±10 mm above 100 mm.
Nut Bolt length ± 6 mm

Style 1NR Reducing Flexible Coupling





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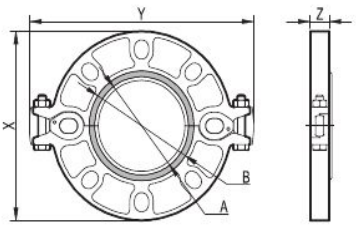
- Model 1NR is a reducing flexible coupling. Two ends can connect to different diameter of steel pipe. The middle of the coupling with a steel plate to avoid telescope by vertical installation.
- The structure ensures lower cost and faster installation under the premise of ensuring the strength.
- Enhanced body resists 4 times working pressure.

Size			Max. Work Pressure	Max. End Load	Allow. Pipe End Sep.	Dimensions			Bolt/Nut Size
Run Pipe	X	Branch Pipe				X	Y	Z	
mm Inches	X	mm Inches	KPa PSI	N Lbs.	mm Inches	mm Inches	mm Inches	mm Inches	mm Inches
42.3	X	33	–	–	–	64 2.52	104 4.10	45 1.77	M10X55 3/8X2 1/8
48.3 1 1/2	X	42.4 1 1/4	3800 550	5365 1190	2.4 0.094	71 2.80	109 4.29	45 1.77	M10X55 3/8X2 1/8
60.3 2	X	42.4 1 1/4	3800 550	5365 1190	2.6 0.102	85 3.35	125 4.93	46 1.81	M10X55 3/8X2 1/8
		48.3 1 1/2	3800 550	6963 1559	2.6 0.102	83 3.27	125 4.93	46 1.81	M10X55 3/8X2 1/8
73.0 2 1/2	X	60.3 2	3800 550	10852 2437	2.9 0.114	100 3.94	146 5.75	50 1.97	M12X75 1/2X3
76.1 2 1/2		60.3 2	3800 550	10852 2437	2.9 0.114	103 4.06	149 5.87	47 1.85	M12X75 1/2X3
88.9 3	X	60.3 2	3450 500	9852 2215	3.1 0.122	116 4.57	161 6.34	49 1.93	M12X75 1/2X3
		73.0 2 1/2	3800 550	15905 3571	3.1 0.122	116 4.57	161 6.34	49 1.93	M12X75 1/2X3
		76.1 2 1/2	3800 550	17284 3888	3.1 0.122	116 4.57	161 6.34	49 1.93	M12X75 1/2X3
114.3 4	X	60.3 2	3450 500	9852 2215	3.5 0.138	145 5.71	200 7.88	51 2.01	M16X90 5/8X3 1/2
		73.0 2 1/2	3450 500	14440 3246	3.5 0.138	144 5.67	201 7.92	52 2.05	M16X90 5/8X3 1/2
		76.1 2 1/2	3450 500	15692 3534	3.5 0.138	144 5.67	201 7.92	51 2.01	M16X90 5/8X3 1/2
		88.9 3	3800 550	23587 5292	3.5 0.138	144 5.67	201 7.92	52 2.05	M16X90 5/8X3 1/2
139.7 5	X	88.9 3	2750 400	17070 3848	4.0 0.157	116 4.57	161 6.34	49 1.93	M12X75 1/2X3
		114.3 4	3100 450	31809 7157	4.0 0.157	144 5.67	200 7.88	51 2.01	M16X90 5/8X3 1/2
165.1 6	X	114.3 4	2750 400	28217 6362	4.7 0.185	199 7.84	271 10.68	51 2.01	M20X115 3/4X4 1/2
168.3	X	73.0 3	–	–	–	203 8.00	275 10.84	52 2.05	M20X115 3/4X4 1/2
		88.9 3	–	–	–	204 8.04	274 10.80	51 2.01	M20X115 3/4X4 1/2
		114.3 4	2750 400	28217 6362	4.7 0.185	202 7.96	273 10.76	51 2.01	M20X115 3/4X4 1/2
219.9	X	88.9 3	–	–	–	264 10.40	345 13.59	62 2.44	M22X135 7/8X5 3/8
219.1 8	X	114.3 4	–	–	–	264 10.40	345 13.59	65 2.56	M22X135 7/8X5 3/8
		165.1 6	2750 400	58873 13273	4.9 0.193	262 10.32	347 13.67	62 2.44	M22X135 7/8X5 3/8
		168.3 6	2750 400	61178 13789	4.9 0.193	262 10.32	349 13.75	63 2.48	M22X135 7/8X5 3/8

Dimensional Tolerance :
± 5 mm upto 100 mm length
& ±10 mm above 100 mm.
Nut Bolt length ± 6 mm

- **Housing material :** Ductile iron conforming to ASTM A-536, grade 65-45-12.
- **FM Approved & UL Listed :** R.W.P. rated working pressure 300PSI(2.065MPa / 20.65bars)
- **Housing Finish :** Fusion Bonded Epoxy Coated (Optional: Hot Deep Galvanized and Others)
- **Coupling gasket material :** EPDM (Optional: Nitrile NBR, Silicone and Others)
- **Bolts and Nuts :** Heat treated and electro galvanized bolts with oval neck, and heavy duty hexagon nuts. Track head meeting the physical and chemical requirements of ASTM A-449 and physical requirements of ASTM A-183.
- **Size Range :** DN40 X DN32 through DN200 X DN150 (1 1/2" X 1 1/4" through 8"X6")

Style 321 Split Flange





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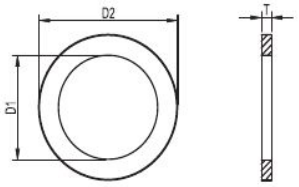
- Style 321 split flange mainly use for the flange connection with the valve, equipment or pipe conversion connection to solve the groove connection and flange connection conversion, installation is simple and fast.
- Model 321 split flange's bolt holes designed into oval hole. ANSI Class 125 & 150 and PN16 grade flanges are universally available, with DN50 to DN80 (2" to 3") for both PN10 and PN25 nominal flanges; DN100 to DN150 (4" to 6") for both flanges PN10 nominal grade flange.
- In addition to the standard flanges described above, it is also available to provide flanges under other standards such as JIS 10K and ANSI Class 300.

Size		Max. Work Pressure	Max. End Load	Gasket Seat		Dimensions			Bolt/Nut Size
Nominal Dia.	Actual O.D.			A	B	X	Y	Z	
DN Inches	mm Inches	KPa PSI	N Lbs.	mm Inches	mm Inches	mm Inches	mm Inches	mm Inches	mm Inches
50	60.3	3450	9852	64	78	167	206	22	M10X70
2	2.375	500	2215	2.520	3.071	6.58	8.12	0.87	3/8X2 3/4
65	73.0	3450	14440	77	91	179	223	22	M10X70
$2^1/_2$	2.875	500	3246	3.031	3.583	7.05	8.79	0.87	3/8X2 3/4
65	76.1	3450	15692	80	94	186	230	22	M10X70
$2^1/_2$	3.000	500	3534	3.150	3.701	7.33	9.06	0.87	3/8X2 3/4
80	88.9	3450	21415	93	107	201	246	22	M10X70
3	3.500	500	4811	3.661	4.213	7.92	9.69	0.87	3/8X2 3/4
100	114.3	3450	35400	119	133	230	276	24	M10X70
4	4.500	500	7952	4.685	5.236	9.06	10.87	0.95	3/8X2 3/4
125	139.7	3450	52881	145	159	254	301	24	M10X70
5	5.500	500	11879	5.709	6.260	10.01	11.86	0.95	3/8X2 3/4
150	165.1	3450	73859	171	185	286	342	25	M12X75
6	6.500	500	16592	6.732	7.283	11.27	13.47	0.99	1/2X3
150	168.3	3450	76750	174	188	284	339	26	M12X75
6	6.625	500	17236	6.850	7.402	11.19	13.36	1.02	1/2X3
200	219.1	2750	103683	225	242	345	400	30	M12X75
8	8.625	400	23371	8.858	9.528	13.59	15.76	1.18	1/2X3

- **Housing material**: Ductile iron conforming to ASTM A-536, grade 65-45-12.
- **FM Approved & UL Listed**: R.W.P. rated working pressure 300PSI (2.065MPa / 20.65bars)
- **Housing Finish**: Fusion Bonded Epoxy Coated (Optional: Hot Deep Galvanized and Others)
- **Coupling gasket material**: EPDM (Optional: Nitrile NBR, Silicone and Others)
- **Bolts and Nuts**: Heat treated and electro galvanized bolts with oval neck, and heavy duty hexagon nuts. Track head meeting the physical and chemical requirements of ASTM A-449 and physical requirements of ASTM A-183.
- **Size Range**: DN50 through DN200 (2" through 8")

Dimensional Tolerance :
± 5 mm upto 100 mm length & ±10 mm above 100 mm.
Nut Bolt length ± 6 mm

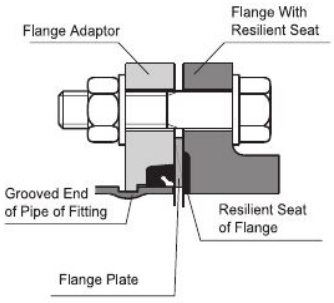
Style FW Flange Steel Plate

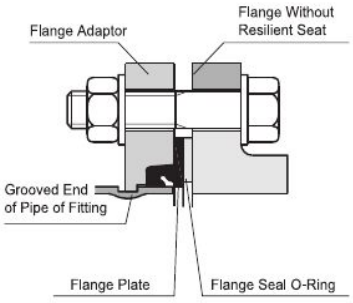




- Suitable for all variety of style 321 split flanges.
- Hot -dip galvanized surface
- Size : DN50~DN200
  2″ ~ 8″

Size		Dimensions			Approx. Wgt. Each
Nominal Dia.	Actual O.D.	D1	D2	T	
DN Inches	mm Inches	mm Inches	mm Inches	mm Inches	kg Lbs.
50	60.3	60	99	3	0.11
2	2.375	2.362	3.898	0.118	0.25
65	73.0	73	118	3	0.16
$2^1/_2$	2.875	2.874	4.646	0.118	0.35
65	76.1	76	118	3	0.15
$2^1/_2$	3.000	2.992	4.646	0.118	0.33
80	88.9	89	132	3	0.17
3	3.500	3.504	5.197	0.118	0.38
100	108.0	108	156	4	0.31
4	4.250	4.252	6.142	0.157	0.68
100	114.3	114	156	4	0.28
4	4.500	4.488	6.142	0.157	0.61
125	133.0	133	184	5	0.49
5	5.250	5.236	7.244	0.197	1.09
125	139.7	140	184	5	0.44
5	5.500	5.512	7.244	0.197	0.96
125	141.3	140	184	5	0.44
5	5.563	5.512	7.244	0.197	0.96
150	159.0	159	211	5	0.59
6	6.250	6.260	8.307	0.197	1.30
150	165.1	165	211	5	0.53
6	6.500	6.496	8.307	0.197	1.17
150	168.3	168	211	5	0.50
6	6.625	6.614	8.307	0.197	1.10
200	219.1	219	273	6	0.98
8	8.625	8.622	10.748	0.236	2.15





- Model 321 split flange assembled on a flange with a soft sealing surface, a steel plate will be added in the middle.
- Model 321 split flanges are connected with the flange without soft sealing surface, the middle of the flange should be attached metal flange gasket and rubber flange.

General





Grooved pipe fittings mainly include groove elbows, tee, cross, head, end cap and flange adaptor, etc. and are an indispensable accessory in the grooved piping system, widely used in the whole system. Due to the grooved pipe fittings, on-site installation and piping becomes quick and easy, making it a very ideal way of piping.

The commonly used grooved fittings are made by the casting process. Most of the groove parts are made by casting. The advanced equipment and exquisite casting technology ensure the dimension accuracy of the groove. Machined grooves are used with high precision machining to ensure the reliability of the pipe system connection.

The material of the grooved pipe fitting is ductile iron, which has the same performance as the connector shell. It has very high strength and toughness and is a high-quality and long-life product.

The power of the pipeline system is provided by the pump. After passing through the entire piping system, it is ensured that sufficient pressure will be obtained on reaching the water equipment or appliances, and the pressure loss of the piping system will be minimized and the energy saving effect of the system will also be achieved.

The pressure loss of the pipe system is mainly caused by the pressure loss of pipes, pipe fittings, valves and some other fittings or accessories. The most serious pressure loss is the fittings of the pipe fittings. Therefore, it is very necessary to effectively control and improve the pressure loss of pipe fittings.

JSI groove fittings have carried out the calculation of the flow coefficient, to ensure product safety and life expectancy, but also to ensure adequate flow path diameter, turning radius and the smoothness of the inner surface, so as to ensureThe pressure loss of the entire pipeline system is reduced, and the energy saving effect is achieved.

The pressure loss of JSI grooved pipe fittings carbe estimated by referring to the flow coefficient table on the next page.

JSI groove fittings in addition to the standard ductile iron parts, there are other types of pipe fittings:

- lined plastic grooved pipe fittings
- The lining plastic is lined with a layer of PTFE material on the inner surface of the pipe fitting, which is tasteless and non-toxic, and is an environmentally friendly food-grade material. Plastic pipe fittings are mainly used in domestic water piping systems or food-grade requirements of the pipeline system, such as pharmaceutical, food and other industries process pipeline.
- hot galvanized groove pipe fittings
- Steel grooved pipe fittings

Flow Data

The chart expresses the frictional resistance of various JSI fittings as equivalent feet of straight pipe. Fittings not listed can be estimated from the data given, for example, a 22.5° elbow is approximately one-half the resistance of a 45° elbow. Values of mid-sizes can be interpolated.

Size		90° Elbow		45° Elbow		Tee		Size		90° Elbow		45° Elbow		Tee	
Nominal Dia.	Actual O.D.	Style 90	Style 9015D	Style 120	Style 9015D	Branch	RUN	Nominal Dia.	Actual O.D.	Style 90	Style 9015D	Style 120	Style 9015D	Branch	RUN
DN Inches	mm Inches	m Feet	m Feet	m Feet	m Feet	m Feet	m Feet	DN Inches	mm Inches	m Feet	m Feet	m Feet	m Feet	m Feet	m Feet
25	33.4	0.5	—	0.2	—	1.3	0.5	125	133.0	2.5	1.9	1.2	0.8	6.2	2.5
1	1.315	1.6	—	0.7	—	4.3	1.6	5	5.250	8.2	6.2	3.9	2.6	20.3	8.2
32	42.4	0.8	—	0.4	—	1.8	0.8	125	139.7	2.6	2.0	1.3	0.8	6.4	2.6
$1^1/_4$	1.660	2.6	—	1.3	—	5.9	2.6	5	5.500	8.5	6.6	4.3	2.6	21.0	8.5
40	48.3	0.9	—	0.4	—	2.0	0.9	125	141.3	2.6	2.0	1.3	0.8	6.4	2.6
$1^1/_2$	1.900	3.0	—	1.3	—	6.6	3.0	5	5.563	8.5	6.6	4.3	2.6	21.0	8.5
50	60.3	1.1	0.8	0.5	0.3	2.6	1.1	150	159.0	2.9	2.2	1.5	0.9	7.6	2.9
2	2.375	3.6	2.6	1.6	1.0	8.5	3.6	6	6.250	9.5	7.2	4.9	3.0	24.9	9.5
65	73.0	1.2	0.9	0.6	0.4	3.2	1.2	150	165.1	2.9	2.3	1.5	0.9	7.6	3.0
$2^1/_2$	2.875	3.9	3.0	2.0	1.3	10.5	3.9	6	6.500	9.5	7.2	4.9	3.0	24.9	9.5
65	76.1	1.3	1.0	0.7	0.4	3.3	1.3	150	168.3	3.0	2.3	1.5	0.9	7.6	3.0
$2^1/_2$	3.000	4.3	3.3	2.3	1.3	10.8	4.3	6	6.625	9.8	7.5	4.9	3.0	24.9	9.8
80	88.9	1.5	1.2	0.8	0.5	4.0	1.5	200	219.1	4.0	3.0	2.0	1.2	10.1	4.0
3	3.500	4.9	3.9	2.6	1.6	13.1	4.9	8	8.625	13.1	9.8	6.6	3.9	33.1	13.1
100	108.0	2.0	1.4	0.9	0.6	4.7	2.0	250	273.0	5.2	3.7	2.5	1.5	12.5	5.2
4	4.250	6.6	4.6	3.0	2.0	15.4	6.6	10	10.750	17.1	12.1	8.2	4.9	41.0	17.1
100	114.3	2.1	1.5	1.0	0.6	4.9	2.1	300	323.9	6.1	4.4	3.0	1.8	15.2	6.1
4	4.500	6.9	4.9	3.3	2.0	16.1	6.9	12	12.750	20.0	14.4	9.8	5.9	49.9	20.0

Note: The flow data listed is based upon the pressure drop of Schedule 40 pipe.

Material Specifications

Housing :

- Ductile cast iron, QT450-12.conforming to ASTM A—536 Grade 65—45—12. Ductile cast iron material is not easy to rust, high strength & toughness, good extensibility, but also has strong shock absorption properties.
- Steel, steel groove pipe fittings made of high-quality cold-rolled steel pipe, the groove is made of rolled (also according to customer requirements for cutting groove.

Housing color:

Standard color: orange red paint.

Electrostatic powder epoxy resin powder, salt spray time more than 600 hours, superior corrosion resistance.

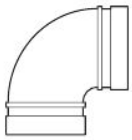
Other Optional : blue paint, gray paint, galvanized, etc. (order must be specified).

Dimensions Tolerance for all fittings :

upto 100 MM	upto 200 MM	upto 500 MM & above
± 2.0 MM	± 3.5 MM	± 5.0 MM

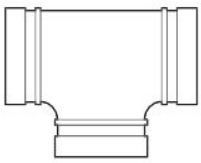
Brand : JAINSONS

- The rated pressure of all standard pipe fittings is equal to the rated pressure of the coupling is used
- All pipe fittings are cut groove ends, as well as thread, flange and other conversion ends.
- Housing Finish: Fusion Bonded Epoxy Coated(Optional:Hot Deep Galvanized and Others)



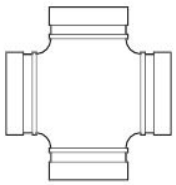
Style 90S 90° Short Elbow
DN50~DN200 2"~8"
60.3mm~219.1mm

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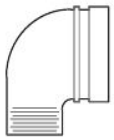
Style 130S Short Equal Tee
DN50~DN200 2"~8"
60.3mm~219.1mm

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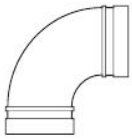
Style 180S Short Equal Cross
DN50~DN200 2"~8"
60.3mm~219.1mm

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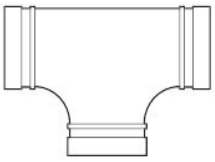
Style 90RT 90°Reducing Elbow GxT
DN25~DN65 $1^1/_4$"~$2^1/_2$"
42.4mm~76.1mm

FM UL



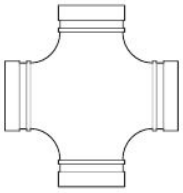
Style 90 90° Std. Elbow
DN25~DN300 1"~12"
33.4mm~323.9mm

FM APPROVED UL LISTED



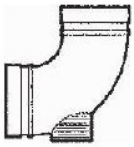
Style 130 Std. Equal Tee
DN25~DN300 1"~12"
33.4mm~323.9mm

FM APPROVED UL LISTED



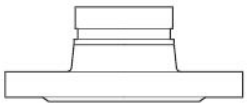
Style 180 Std. Equal Cross
DN25~DN300 1"~12"
33.4mm~323.9mm

FM APPROVED UL LISTED



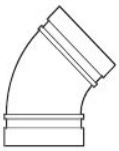
Style 90DE 90° Drain Elbow
DN50~DN200 2"~8" 60.3mm~219.1mm

FM UL



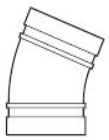
Style 321G Flange Adaptor Nipple
DN50~DN300 2"~12"
60.3mm~323.9mm

FM UL



Style 120 45°Elbow
DN25~DN300 1"~12"
33.4mm~323.9mm

FM APPROVED UL LISTED



Style 110 22.5°Elbow
DN25~DN300 1"~12"
33.4mm~323.9mm

FM APPROVED UL LISTED

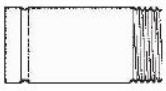


Style 105 11.25° Elbow
DN25~DN300 1"~12"
33.4mm~323.9mm

FM APPROVED UL LISTED



Style 018GG Grooved X Grooved Nipple
DN25~DN300 1"~12"
33.4mm~323.9mm

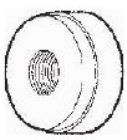


Style 018GT Grooved X Threaded Nipple
DN25~DN300 1"~12"
33.4mm~323.9mm



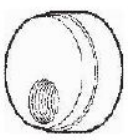
Style 300 End Cap
DN25~DN300 1"~12"
33.4mm~323.9mm

FM APPROVED UL LISTED



Style 300CH End Cap
With Center Hole
DN50~DN300 2"~12"
60.3mm~323.9mm

FM APPROVED UL LISTED

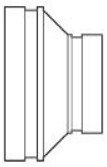


Style 300EH End Cap
With Eccentric Hole
DN50~DN300 2"~12"
60.3mm~323.9mm

FM APPROVED UL LISTED

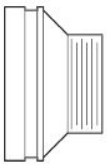


Style 018GB Grooved X Bevel Nipple
DN25~DN300 1"~12"
33.4mm~323.9mm



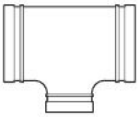
Style 240 Grooved Concentric Reducer
DN32X25~DN300X250
$1^{1}/_{4}$X1"~12X10"
42.4X33.4mm~323.9X273.0mm

FM APPROVED UL LISTED



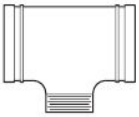
Style 240N Threaded Concentric Reducer
DN32X15~DN300X80
$1^{1}/_{4}X^{1}/_{2}$"~12X3"
42.4X21.3mm~323.9X88.9mm

FM APPROVED UL LISTED



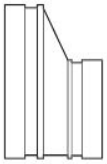
Style 131 Grooved Reducing Tee
DN32X25~DN300X250
$1^{1}/_{4}$X1"~12X10"
42.4X33.4mm~323.9X273.0mm

FM APPROVED UL LISTED



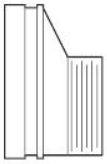
Style 131N Threaded Reducing Tee
DN32X15~DN300X80
$1^{1}/_{4}X^{1}/_{2}$"~12X3"
42.4X21.3mm~323.9X88.9mm

FM APPROVED UL LISTED



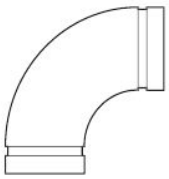
Style 230 Grooved Eccentric Reducer
DN32X25~DN300X250
$1^{1}/_{4}$X1"~12X10"
42.4X33.4mm~323.9X273.0mm

FM APPROVED UL LISTED

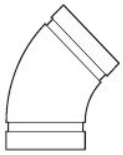


Style 230N Threaded Eccentric Reducer
DN32X15~DN300X80
$1^{1}/_{4}$X1/2"~12X3"
42.4X21.3mm~323.9X88.9mm

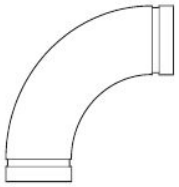
FM APPROVED UL LISTED



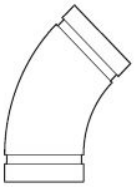
Style 9015D Long Radius 90°Elbows 1.5 D
DN50~DN300 2"~12"
60.3mm~323.9mm



Style 4515D Long Radius 45°Elbows 1.5 D
DN50~DN300 2"~12"
60.3mm~323.9mm

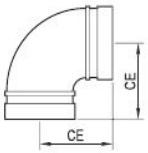


Style 9030DLong Radius 90°Elbows 3D
DN50~DN300 2"~12"
60.3mm~323.9mm

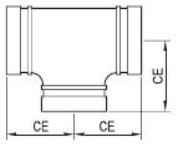


Style 4530DLong Radius 45°Elbows 3D
DN50~DN300 2"~12" 60.3mm~323.9mm

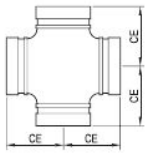
90° Short Elbow, Short Equal Tee & Short Equal Cross



Style 90S



Style 130S



Style 180S

Style 90S 90° Short Elbow



Style 130S Short Equal Tee



Style 180S Short Equal Cross

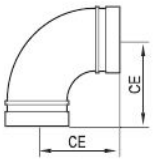


FM APPROVED UL LISTED

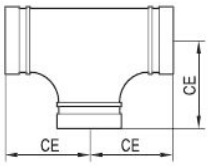
Size		Style 90S 90°Short Elbow	Style 130S Short Equal Tee	Style 180S Short Equal Cross
Nominal Dia.	Actual O.D.	CE	CE	CE
DN Inches	mm Inches	mm Inches	mm Inches	mm Inches
50 2	60.3 2.375	70 2.76	70 2.76	70 2.75
65 $2^1/_2$	73.0 2.875	76 2.99	76 2.99	76 3.00
65 $2^1/_2$	76.1 3.000	76 2.99	76 2.99	76 3.00
80 3	88.9 3.500	86 3.39	86 3.39	86 3.40
100 4	114.3 4.500	102 4.02	102 4.02	102 4.00
125 5	139.7 5.500	124 4.89	124 4.89	124 4.88
150 6	165.1 6.500	140 5.52	140 5.52	140 5.50
150 6	168.3 6.625	140 5.52	140 5.52	140 5.50
200 8	219.1 8.625	173 6.82	173 6.82	173 6.80

- **Housing material**:Ductile iron conforming to ASTM A-536, grade 65-45-12.
- **FM Approved & UL Listed**:R.W.P. rated working pressure 300PSI(2.065MPa / 20.65bars)
- **Housing Finish**:Fusion Bonded Epoxy Coated(Optional:Hot Deep Galvanized and Others)
- **Size Range**:DN50 through DN200 (2" through 8")

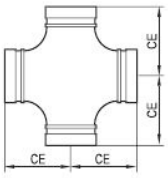
90° Standard Elbow, Standard Equal Tee & Standard Equal Cross



Style 90



Style 130



Style 180

Style 90 90°Standard Elbow



Style 130 Standard Equal Tee



Style 180 Standard Equal Cross



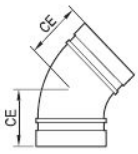
FM APPROVED

UL LISTED

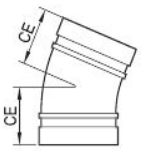
Size		Style 90 90° Std. Elbow	Style 130 Std. Equal Tee	Style 180 Std. Equal Cross
Nominal Dia.	Actual O.D.	CE	CE	CE
DN Inches	mm Inches	mm Inches	mm Inches	mm Inches
25 1	33.4 1.315	67 2.25	57 2.25	57 2.25
32 $1^1/_4$	42.4 1.660	70 2.76	70 2.76	70 2.75
40 $1^1/_2$	48.3 1.900	70 2.76	70 2.76	70 2.75
50 2	60.3 2.375	83 3.27	83 3.27	83 3.25
65 $2^1/_2$	73.0 2.875	95 3.27	95 3.74	95 3.75
65 $2^1/_2$	76.1 3.000	95 3.74	95 3.74	95 3.75
80 3	88.9 3.500	108 4.26	108 4.26	108 4.25
100 4	114.3 4.500	127 5.00	127 5.00	127 5.00
125 5	139.7 5.500	140 5.52	140 5.52	140 5.50
150 6	165.1 6.500	165 6.50	165 6.50	165 6.50
150 6	168.3 6.625	165 6.50	165 6.50	165 6.50
200 8	219.1 8.625	197 7.76	197 7.76	197 7.75
250 10	273.0 10.750	229 9.00	229 9.00	229 9.00
300 12	323.9 12.750	254 10.00	254 10.00	254 10.00

- **Housing material**:Ductile iron conforming to ASTM A-536, grade 65-45-12.
- **FM Approved & UL Listed**:R.W.P. rated working pressure 300PSI(2.065MPa / 20.65bars)
- **Housing Finish**:Fusion Bonded Epoxy Coated(Optional:Hot Deep Galvanized and Others)
- **Size Range**:DN25 through DN300 (1" through 12")

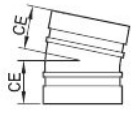
45° Elbow, 22.5° Elbow & 11.25° Elbow



Style 120



Style 110



Style 105

Style 120 45° Elbow



Style 110 22.5° Elbow



Style 105 11.25° Elbow



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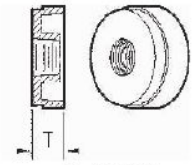
Size		Style 120 45° Elbow	Style 110 22.5° Elbow	Style 105 11.25° Elbow
Nominal Dia.	Actual O.D.	CE	CE	CE
DN Inches	mm Inches	mm Inches	mm Inches	mm Inches
25 1	33.4 1.315	44 1.73	44 1.75	35 1.38
32 $1^1/_4$	42.4 1.660	44 1.73	44 1.75	35 1.38
40 $1^1/_2$	48.3 1.900	44 1.73	44 1.75	35 1.38
50 2	60.3 2.375	51 2.01	51 2.00	35 1.38
65 $2^1/_2$	73.0 2.875	57 2.25	51 2.00	38 1.50
65 $2^1/_2$	76.1 3.000	57 2.25	51 2.00	38 1.50
80 3	88.9 3.500	64 2.52	57 2.25	38 1.50
100 4	114.3 4.500	76 2.99	73 2.87	44 1.75
125 5	139.7 5.500	83 3.27	73 2.87	51 2.00
150 6	165.1 6.500	89 3.51	79 3.11	51 2.00
150 6	168.3 6.625	89 3.51	79 3.11	51 2.00
200 8	219.1 8.625	108 4.26	83 3.25	51 2.00
250 10	273.0 10.750	121 4.75	89 3.50	54 2.15
300 12	323.9 12.750	133 5.25	102 4.00	57 2.25

- **Housing material:** Ductile iron conforming to ASTM A-536, grade 65-45-12.
- **FM Approved & UL Listed:** R.W.P. rated working pressure 300PSI(2.065MPa / 20.65bars)
- **Housing Finish:** Fusion Bonded Epoxy Coated (Optional: Hot Deep Galvanized and Others)
- **Coupling gasket material:** EPDM (Optional: Nitrile NBR, Silicone and Others)
- In addition to the points listed in this table, but also according to customer requirements to provide a variety of special point of the elbow
- **Size Range:** DN25 through DN300 (1"through 12")

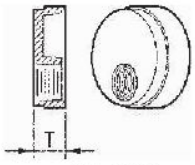
End Cap & End Cap with Hole



Style 300



Style 300CH



Style 300EH

Style 300 End Cap



Style 300CH End Cap With Center Hole



Style 300EH End Cap With Eccentric Hole



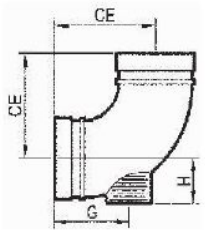
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UL LISTED US

Size		Style 300 End Cap	Style 300CH End Cap With Center Hole	Style 300EH End Cap With Eccentric Hole
Nominal Dia.	Actual O.D.	T	T	T
DN Inches	mm Inches	mm Inches	mm Inches	mm Inches
25 1	33.4 1.315	27 1.06	--- ---	--- ---
32 $1^1/_4$	42.4 1.660	27 1.06	--- ---	--- ---
40 $1^1/_2$	48.3 1.900	27 1.06	--- ---	--- ---
50 2	60.3 2.375	29 1.14	25 1.00	25 1.00
65 $2^1/_2$	73.0 2.875	29 1.14	25 1.00	25 1.00
65 $2^1/_2$	76.1 3.000	29 1.14	25 1.00	25 1.00
80 3	88.9 3.500	31 1.22	25 1.00	25 1.00
100 4	114.3 4.500	33 1.30	25 1.00	25 1.00
125 5	139.7 5.500	35 1.38	25 1.00	25 1.00
150 6	165.1 6.500	35 1.38	25 1.00	25 1.00
150 6	168.3 6.625	35 1.38	25 1.00	25 1.00
200 8	219.1 8.625	43 1.69	30 1.18	30 1.18
250 10	273.0 10.750	50 1.97	32 1.25	32 1.25
300 12	323.9 12.750	50 1.97	32 1.25	32 1.25

- **Housing material**:Ductile iron conforming to ASTM A-536, grade 65-45-12.
- **FM Approved & UL Listed**:R.W.P. rated working pressure 300PSI(2.065MPa / 20.65bars)
- **Housing Finish**:Fusion Bonded Epoxy Coated(Optional:Hot Deep Galvanized and Others)
- End cap standard thread is 1", for other specifications, please indicate on the order
- **Size Range**:DN25 through DN300 (1" through 12")

Style 90DE 90° Drain Elbow with 1″ Threaded



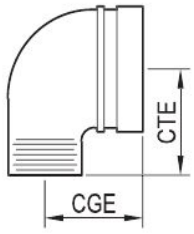
Style 90DE

FM APPROVED UL LISTED

Size		Style 90DE 90° Drain Elbow		
Nominal Dia.	Actual O.D.	CE	G	H
DN Inches	mm Inches	mm Inches	mm Inches	mm Inches
50	60.3	83	57	40
2	2.375	3.25	2.25	1.57
65	73.0	95	70	40
$2^1/_2$	2.875	3.75	1.79	1.57
65	76.1	95	70	40
$2^1/_2$	3.000	3.75	1.79	1.57
80	88.9	108	70	49
3	3.500	4.25	1.79	1.93
100	108.0	127	70	63
4	4.250	5.00	1.79	2.48
100	114.3	127	70	63
4	4.500	5.00	1.79	2.48
125	133.0	140	70	76
5	5.250	5.50	1.79	3.00
125	139.7	140	70	76
5	5.500	5.50	1.79	3.00
125	141.3	140	70	76
5	5.563	5.50	1.79	3.00
150	159.0	165	70	90
6	6.250	6.50	1.79	3.54
150	165.1	165	70	90
6	6.500	6.50	1.79	3.54
150	168.3	165	70	90
6	6.625	6.50	1.79	3.54
200	219.1	197	84	114
8	8.625	7.75	3.31	4.50

- **Housing material**: Ductile iron conforming to ASTM A-536, grade 65-45-12.
- **FM Approved & UL Listed**: R.W.P. rated working pressure 300PSI (2.065MPa / 20.65bars)
- **Housing Finish**: Fusion Bonded Epoxy Coated (Optional: Hot Deep Galvanized and Others)
- Hydrophobic port thread standard size is 1", for other specifications, please indicate on the order.
- **Size Range**: DN50 through DN200 (2"through 8")

Style 90RT 90° Reducing Elbow with Threaded Small End (Add-a-cap)



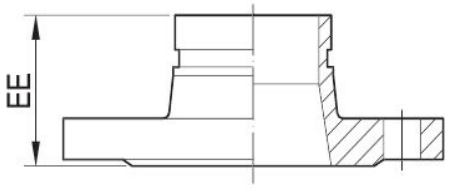
Style 90RT

FM APPROVED UL LISTED

Size			Style 90RT 90° Reducing Elbow	
Run Pipe	X	Branch Pipe	C to GE	C to GE
mm Inches	X X	mm Inches	mm Inches	mm Inches
42.4	X	21.3	48	32
$1^1/_4$		$^1/_2$	1.89	1.26
		26.9	51	34
		$^3/_4$	2.01	1.34
		33.4	55	37
		1	2.17	1.46
48.3	X	21.3	48	35
$1^1/_2$		$^1/_2$	1.89	1.38
		26.9	51	37
		$^3/_4$	2.01	1.46
		33.4	55	40
		1	2.17	1.58
60.3	X	21.3	48	41
2		$^1/_2$	1.89	1.62
		26.9	51	43
		$^3/_4$	2.01	1.69
		33.4	55	46
		1	2.17	1.81
73.0	X	21.3	48	48
$2^1/_2$		$^1/_2$	1.90	1.90
		26.9	51	50
		$^3/_4$	2.00	1.97
		33.4	55	53
		1	2.17	2.10
76.1	X	21.3	48	51
$2^1/_2$		$^1/_2$	1.90	2.00
		26.9	51	53
		$^3/_4$	2.00	2.10
		33.4	55	56
		1	2.17	2.20

- **Housing material**: Ductile iron conforming to ASTM A-536, grade 65-45-12.
- **FM Approved & UL Listed**: R.W.P. rated working pressure 300PSI (2.065MPa / 20.65bars)
- **Housing Finish**: Fusion Bonded Epoxy Coated (Optional: Hot Deep Galvanized and Others)
- **Size Range**: DN32 X DN15 through DN65 X DN25 ($1^1/_4$" X $^1/_2$" through $2^1/_2$" X 1")

Style 321G Flange Adaptor Nipple



FM APPROVED UL LISTED

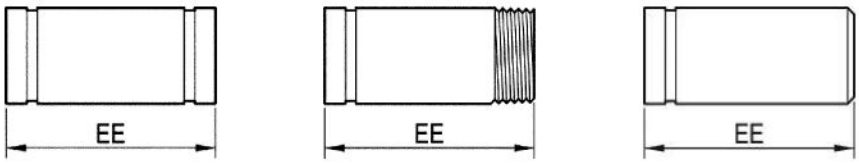
- Model 321G flanged adaptor is mainly used for the conversion connection of valves, equipment or pipes which interface with some flanges, which solves the conversion of the grooved connection and the flanged connection, and the installation is quick and easy.
- Model 321G flanged adaptor has bolt hole designed into an oval shape. ANSI Class 125 & 150 and PN16 grade flanges are universally available, with DN50 to DN80(2"to 3") for both PN10 and PN25 nominal flanges; DN100 to DN150 (4"to 6") for both flanges PN10 nominal grade flange.
- In addition to the above standard flanged short pipe products, other flange standards such as JIS 10K and ANSI Class 300 can also be supplied.

Size		EE
Nominal Dia.	Actual O.D.	
DN Inches	mm Inches	mm Inches
32 1¼	42.4 1.660	60 2
40 1½	48.3 1.900	60 2
50 2	60.3 2.375	60 2
65 $2^1/_2$	73.0 2.875	60 2
65 $2^1/_2$	76.1 3.000	60 2
80 3	88.9 3.500	60 2
100 4	114.3 4.500	70 3
125 5	139.7 5.500	80 3

Size		EE
Nominal Dia.	Actual O.D.	
DN Inches	mm Inches	mm Inches
150 6	165.1 6.500	70 3
150 6	168.3 6.625	70 3
200 8	219.1 8.625	75 3
250 10	273.0 10.750	90 4
300 12	323.9 12.750	95 4

- **Housing material**:Ductile iron conforming to ASTM A-536, grade 65-45-12.
- **FM Approved & UL Listed**:R.W.P. rated working pressure 300PSI(2.065MPa / 20.65bars)
- **Housing Finish**:Fusion Bonded Epoxy Coated(Optional:Hot Deep Galvanized and Others)
- **Size Range**:DN50 through DN300 (2"through 12")

Nipple



Style 018GG　　Style 018GT　　Style 018GB

- The table EE value is the standard value, but can also be customized according to user requirements length
- Nipple's wall thickness is the standard US' SCH40 thickness, weight is based on the wall thickness, but also according to user requirements choose a different wall thickness
- Standard cutting groove, but also can do the rolling groove

Size		Style 018GG Grooved X Grooved Nipple	Style 018GT Grooved X Threaded Nipple	Style 018GB Grooved X Bevel Nipple
Nominal Dia.	Actual O.D.	EE	EE	EE
DN Inches	mm Inches	mm Inches	mm Inches	mm Inches
25 1	33.4 1.315	76 3.00	76 3.00	76 3.00
32 $1^{1}/_{4}$	42.4 1.660	102 4.00	102 4.00	102 4.00
40 $1^{1}/_{2}$	48.3 1.900	102 4.00	102 4.00	102 4.00
50 2	60.3 2.375	102 4.00	102 4.00	102 4.00
65 $2^{1}/_{2}$	73.0 2.875	102 4.00	102 4.00	102 4.00
65 $2^{1}/_{2}$	76.1 3.000	102 4.00	102 4.00	102 4.00
80 3	88.9 3.500	102 4.00	102 4.00	102 4.00
100 4	108.0 4.250	152 6.00	--- ---	152 6.00
100 4	114.3 4.500	152 6.00	--- ---	152 6.00
125 5	133.0 5.250	152 6.00	--- ---	152 6.00
125 5	139.7 5.500	152 6.00	--- ---	152 6.00
125 5	141.3 5.563	152 6.00	--- ---	152 6.00
150 6	159.0 6.250	152 6.00	--- ---	152 6.00
150 6	165.1 6.500	152 6.00	--- ---	152 6.00
150 6	168.3 6.625	152 6.00	--- ---	152 6.00
200 8	219.1 8.625	152 6.00	--- ---	152 6.00
250 10	273.0 10.750	203 8.00	--- ---	203 8.00
300 12	323.9 12.750	203 8.00	--- ---	203 8.00

- **Housing material :** Steel
- **Housing Finish :** Fusion Bonded Epoxy Coated (Optional: Hot Deep Galvanized and Others)
- **Size Range :** DN25 through DN300 (1" through 12")

Concentric Reducer



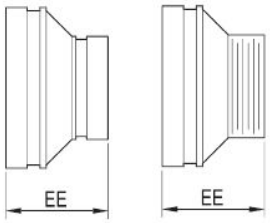
Style 240 Grooved Concentric Reducer

FM APPROVED UL LISTED



Style 240N Threaded Concentric Reducer

FM APPROVED UL LISTED



Style 240 Style 240N

Size			Style 240 Concentric Reducer	Style 240N Concentric Reducer
Run Pipe	X	Branch Pipe	EE	EE
mm Inches	X	mm Inches	mm Inches	mm Inches
42.4 $1^1/_4$	X	33.4 1	64 2.52	– –
48.3 $1^1/_2$	X	42.4 $1^1/_4$	64 2.52	– –
60.3 2	X	33.4 1	64 2.52	64 2.52
		42.4 $1^1/_4$	64 2.52	64 2.52
		48.3 $1^1/_2$	64 2.52	64 2.52
73.0 $2^1/_2$	X	33.4 1	64 2.52	64 2.52
		42.4 $1^1/_4$	64 2.52	64 2.52
		48.3 $1^1/_2$	64 2.52	64 2.52
		60.3 2	64 2.52	64 2.52
76.1 $2^1/_2$	X	33.4 $^1/_2$	64 2.52	64 2.52
		42.4 $1^1/_4$	64 2.52	64 2.52
		48.3 $1^1/_2$	64 2.52	64 2.52
		60.3 2	64 2.52	64 2.52
88.9 3	X	33.4 1	64 2.52	64 2.52
		42.4 $1^1/_4$	64 2.52	64 2.52
		48.3 $1^1/_2$	64 2.52	64 2.52

Size			Style 240 Concentric Reducer	Style 240N Concentric Reducer
Run Pipe	X	Branch Pipe	EE	EE
mm Inches	X	mm Inches	mm Inches	mm Inches
88.9 3	X	60.3 2	64 2.52	64 2.52
		73.0 $2^1/_2$	64 2.52	64 2.52
		76.1 $2^1/_2$	64 2.52	64 2.52
114.3 4	X	33.4 1	76 2.99	76 2.99
		42.4 $1^1/_4$	76 2.99	76 2.99
		48.3 $1^1/_2$	76 2.99	76 2.99
		60.3 2	76 2.99	76 2.99
		73.0 $2^1/_2$	76 2.99	– –
		76.1 $2^1/_2$	76 2.99	76 2.99
		88.9 3	76 2.99	– –
139.7 5	X	42.4 $1^1/_4$	– –	89 3.51
		48.3 $1^1/_2$	– –	89 **3.51**
		60.3 2	89 **3.51**	89 **3.51**
		76.1 $2^1/_2$	89 **3.51**	89 **3.51**
		88.9 3	89 **3.51**	– –

- **Housing material**:Ductile iron conforming to ASTM A-536, grade 65-45-12.
- **FM Approved & UL Listed**:R.W.P. rated working pressure 300PSI(2.065MPa/ 20.65bars)
- **Housing Finish**:Fusion Bonded Epoxy Coated(Optional:Hot Deep Galvanized and Others)
- **Size Range**:DN32 X DN25 through DN300 X DN250 ($1^1/_4$" X 1" through 12" X 10")

Dimensional Tolerance :
± 5 mm upto 100 mm length & ±10 mm above 100 mm.
Nut Bolt length ± 6 mm

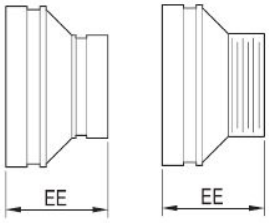
Concentric Reducer



Style 240 Grooved Concentric Reducer



Style 240N Threaded Concentric Reducer



Style 240 Style 240N

Size			Style 240 Concentric Reducer	Style 240N Concentric Reducer
Run Pipe	X	Branch Pipe	EE	EE
mm Inches	X	mm Inches	mm Inches	mm Inches
165.1 6	X	33.4 1	-- --	102 4.02
		42.4 $1^1/_4$	-- --	102 4.02
		48.3 $1^1/_2$	102 4.02	102 4.02
		60.3 2	102 4.02	102 4.02
		76.1 $2^1/_2$	102 4.02	102 4.02
		88.9 3	102 4.02	-- --
		114.3 4	102 4.02	-- --
		139.7 5	102 4.02	-- --
168.3 6	X	33.4 1	-- --	102 4.02
		42.4 $1^1/_4$	-- --	102 4.02
		48.3 $1^1/_2$	-- --	102 4.02
		60.3 2	102 4.02	102 4.02
		73.0 $2^1/_2$	102 4.02	102 4.02
		76.1 $2^1/_2$	102 4.02	102 4.02
		88.9 3	102 4.02	-- --
219.1 8	X	33.4 1	-- --	127 5.00
		42.4 $1^1/_4$	-- --	127 5.00
		48.3 $1^1/_2$	-- --	127 5.00
		60.3 2	127 5.00	127 5.00

Size			Style 240 Concentric Reducer	Style 240N Concentric Reducer
Run Pipe	X	Branch Pipe	EE	EE
mm Inches	X	mm Inches	mm Inches	mm Inches
219.1 8	X	76.1 $2^1/_2$	127 5.00	-- --
		88.9 3	127 5.00	-- --
		114.3 4	127 5.00	-- --
		139.7 5	127 5.00	-- --
		165.1 6	127 5.00	-- --
		168.3 6	127 5.00	-- --
273.0 10	X	219.1 8	152 5.99	-- --

Reducing Tee



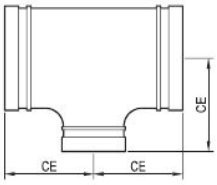
Style 131 Grooved Reducing Tee

FM APPROVED UL LISTED

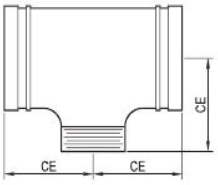


Style 131N Threaded Reducing Tee

FM APPROVED UL LISTED



Style 131



Style 131N

Size			Style 131 Reducing Tee	Style 131N Reducing Tee
Run Pipe	X	Branch Pipe	EE	EE
mm Inches	X	mm Inches	mm Inches	mm Inches
60.3 2	X	33.4 1	70 2.76	70 2.76
		42.4 $1^1/_4$	70 2.76	70 2.76
		48.3 $1^1/_2$	70 2.76	70 2.76
73.0 $2^1/_2$	X	33.4 1	76 2.99	76 2.99
		42.4 $1^1/_4$	76 2.99	76 2.99
		48.3 $1^1/_2$	76 2.99	76 2.99
		60.3 2	76 2.99	76 2.99
76.1 $2^1/_2$	X	33.4 $^1/_2$	76 2.99	76 2.99
		42.4 $1^1/_4$	76 2.99	76 2.99
		48.3 $1^1/_2$	76 2.99	76 2.99
		60.3 2	76 2.99	76 2.99
88.9 3	X	33.4 1	86 3.39	86 3.39
		42.4 $1^1/_4$	86 3.39	86 3.39
		48.3 $1^1/_2$	86 3.39	86 3.39
		60.3 2	86 3.39	86 3.39
		73.0 $2^1/_2$	86 3.39	86 3.39
		76.1 $2^1/_2$	86 3.39	86 3.39

Size			Style 131 Reducing Tee	Style 131N Reducing Tee
Run Pipe	X	Branch Pipe	EE	EE
mm Inches	X	mm Inches	mm Inches	mm Inches
114.3 4	X	33.4 1	102 4.02	102 4.02
		42.4 $1^1/_4$	102 4.02	102 4.02
		48.3 $1^1/_2$	102 4.02	102 4.02
		60.3 2	102 4.02	102 4.02
		73.0 $2^1/_2$	102 4.02	102 4.02
		76.1 $2^1/_2$	102 4.02	102 4.02
		88.9 3	102 4.02	102 4.02
139.7 5	X	33.4 1	124 4.89	124 4.89
		42.4 $1^1/_4$	124 4.89	124 4.89
		48.3 $1^1/_2$	124 4.89	124 4.89
		60.3 2	124 4.89	124 4.89
		76.1 $2^1/_2$	124 4.89	124 4.89
		88.9 3	124 4.89	124 4.89
		114.3 4	124 4.89	-- --

- **Housing material**:Ductile iron conforming to ASTM A-536, grade 65-45-12.
- **FM Approved & UL Listed**:R.W.P. rated working pressure 300PSI(2.065MPa / 20.65kgf/cm^2)
- **Housing Finish**:Fusion Bonded Epoxy Coated(Optional:Hot Deep Galvanized and Others)
- **Size Range**:DN32 X DN25 through DN300 X DN250 ($1^1/_4$" X 1" through 12" X 10")

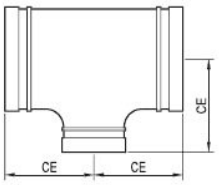
Reducing Tee



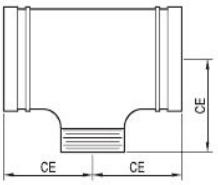
Style 131 Grooved Reducing Tee



Style 131N Threaded Reducing Tee



Style 131



Style 131N

Size			Style 131 Reducing Tee	Style 131N Reducing Tee
Run Pipe	X	Branch Pipe	EE	EE
mm Inches	X X	mm Inches	mm Inches	mm Inches
165.1 6	X	33.4 1	140 5.52	140 5.52
		42.4 $1^1/_4$	140 5.52	140 5.52
		48.3 $1^1/_2$	140 5.52	140 5.52
		60.3 2	140 5.52	140 5.52
		76.1 $2^1/_2$	140 5.52	140 5.52
		88.9 3	140 5.52	140 5.52
		114.3 4	140 5.52	-- --
		139.7 5	140 5.52	-- --
168.3 6	X	42.4 $1^1/_4$	140 5.52	140 5.52
		48.3 $1^1/_2$	140 5.52	140 5.52
		60.3 2	140 5.52	140 5.52
		73.0 $2^1/_2$	140 5.52	140 5.52
		76 $2^1/_2$	140 5.52	-- --
		88.9 3	140 5.52	140 5.52
		114.3 4	140 5.52	-- --
		140.3 5	140 5.52	-- --

Size			Style 131 Reducing Tee	Style 131N Reducing Tee
Run Pipe	X	Branch Pipe	EE	EE
mm Inches	X X	mm Inches	mm Inches	mm Inches
219.1 8	X	76.1 $2^1/_2$	173 6.82	-- --
		88.9 3	173 6.82	-- --
		114.3 4	173 6.82	-- --
		139.7 5	173 6.82	-- --
		165.1 6	173 6.82	-- --
		168.3 6	173 6.82	-- --
273.0 10	X	114.3 4	189.0 7.5	-- --
	X	139.7 5	189.0 7.5	-- --
	X	141.3 5	189.0 7.5	-- --
	X	165.1 6	189.0 7.5	-- --
	X	168.3 6	189.0 7.5	-- --
	X	219.1 8	189.0 7.5	-- --

Eccentric Reducer



Style 230 Grooved Eccentric Reducer



Style 230N Threaded Eccentric Reducer



Size			Style 230 Eccentric Reducer	Style 230N Eccentric Reducer
Run Pipe	X	Branch Pipe	EE	EE
mm Inches	X X	mm Inches	mm Inches	mm Inches
48.3 $1^1/_2$	X	33.4 1	64 2.52	64 2.52
		42.4 $1^1/_4$	64 2.52	64 2.52
60.3 2	X	33.4 1	64 2.52	64 2.52
		48.3 $1^1/_2$	64 2.52	64 2.52
73.0 $2^1/_2$	X	33.4 1	64 2.52	64 2.52
		42.4 $1^1/_4$	64 2.52	64 2.52
		48.3 $1^1/_2$	64 2.52	64 2.52
		60.3 2	64 2.52	64 2.52
76.1 $2^1/_2$	X	33.4 $^1/_2$	64 2.52	64 2.52
		42.4 $1^1/_4$	64 2.52	64 2.52
		48.3 $1^1/_2$	64 2.52	64 2.52
		60.3 2	64 2.52	64 2.52
88.9 3	X	33.4 1	64 2.52	64 2.52
		42.4 $1^1/_4$	64 2.52	64 2.52
		48.3 $1^1/_2$	64 2.52	64 2.52
		60.3 2	64 2.52	64 2.52
		73.0 $2^1/_2$	64 2.52	64 2.52
		76.1 $2^1/_2$	64 2.52	64 2.52

Size			Style 230 Eccentric Reducer	Style 230N Eccentric Reducer
Run Pipe	X	Branch Pipe	EE	EE
mm Inches	X X	mm Inches	mm Inches	mm Inches
114.3 4	X	33.4 1	76 2.99	76 2.99
		42.4 $1^1/_4$	76 2.99	76 2.99
		48.3 $1^1/_2$	76 2.99	76 2.99
		60.3 2	76 2.99	76 2.99
		73.0 $2^1/_2$	76 2.99	76 2.99
		76.1 $2^1/_2$	76 2.99	76 2.99
		88.9 3	76 2.99	76 2.99
139.7 5	X	60.3 2	89 3.51	89 3.51
		76.1 $2^1/_2$	89 3.51	89 3.51
		88.9 3	89 3.51	89 3.51
		114.3 4	89 3.51	89 3.51

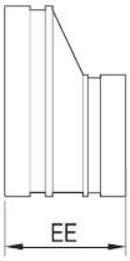
Eccentric Reducer



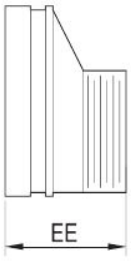
Style 230 Grooved Eccentric Reducer



Style 230N Threaded Eccentric Reducer



Style 230



Style 230N

Size			Style 230 Eccentric Reducer	Style 230N Eccentric Reducer
Run Pipe	X	Branch Pipe	EE	EE Approx. Wgt.
mm Inches	X	mm Inches	mm Inches	mm Inches
159.0 6	X	60.3 2	102 4.02	102 4.02
		76.1 $2^1/_2$	102 4.02	102 4.02
		88.9 3	102 4.02	102 4.02
		108.0 4	102 4.02	-- --
		114.3 4	102 4.02	-- --
		133.0 5	102 4.02	-- --
		139.7 5	102 4.02	-- --
165.1 6	X	60.3 2	102 4.02	102 4.02
		76.1 $2^1/_2$	102 4.02	102 4.02
		88.9 3	102 4.02	102 4.02
		114.3 4	102 4.02	102 4.02
		139.7 5	102 4.02	102 4.02
168.3 6	X	60.3 2	102 4.02	102 4.02
		73.0 $2^1/_2$	102 4.02	102 4.02
		88.9 3	102 4.02	102 4.02
		114.3 4	102 4.02	102 4.02
		141.3 5	102 4.02	-- --
219.1 8	X	60.3 2	127 5.00	127 5.00
		73.0 $2^1/_2$	127 5.00	127 5.00
		76.1 $2^1/_2$	127 5.00	127 5.00
		88.9 3	127 5.00	127 5.00

Size			Style 230 Eccentric Reducer	Style 230N Eccentric Reducer
Run Pipe	X	Branch Pipe	EE	EE
mm Inches	X	mm Inches	mm Inches	mm Inches
219.1 8	X	114.3 4	127 5.00	127 5.00
		139.7 5	127 5.00	127 5.00
		165.1 6	127 5.00	127 5.00
		168.3 6	127 5.00	127 5.00
273.0 10	X	108.0 4	152 6.00	-- --
		114.3 4	152 6.00	-- --
		133.0 5	152 6.00	-- --
		139.7 5	152 6.00	-- --
		141.3 5	152 6.00	-- --
		159.0 6	152 6.00	-- --
		165.1 6	152 6.00	-- --
		168.3 6	152 6.00	-- --
		219.1 8	152 6.00	-- --
323.9 12	X	108.0 4	178 7.00	-- --
		114.3 4	178 7.00	-- --
		133.0 5	178 7.00	-- --
		139.7 5	178 7.00	-- --
		141.3 5	178 7.00	-- --
		159.0 6	178 7.00	-- --
		165.1 6	178 7.00	-- --
		168.3 6	178 7.00	-- --
		219.1 8	178 7.00	-- --
		273.0 10	178 7.00	-- --

- **Housing material**:Ductile iron conforming to ASTM A-536, grade 65-45-12.
- **FM Approved & UL Listed**:R.W.P. rated working pressure 300PSI(2.065MPa / 20.65kgf/cm^2)
- **Housing Finish**:Fusion Bonded Epoxy Coated(Optional:Hot Deep Galvanized and Others)
- **Size Range**:DN32 X DN25 through DN300 X DN250 ($1^1/_4$" X 1" through 12" X 10")



- JSIBranch outlet fitting is a supplement to the grooved piping system. It is a very important piping unit in the mechanical piping system. The appearance of the branch outlet fitting makes the installation of the piping system more convenient and quick. Branch outlet fittings replaced welding and reducing Tee, to solve the problem of the connection branch.
- JSIBranch outlet fitting is another way of piping innovation, is the use of bolted connections branch pipe fittings. No need to weld directly from the supervisor on the branch pipe. The method used is in the need to take over the main branch pipe processing a round hole, fitted with branch outlet housing. The opening must be secured on the centerline of the pipe and be mechanically perforated by a dedicated opening.
- JSI branch outlet fitting, including mechanical tee, mechanical cross, U-bolt.

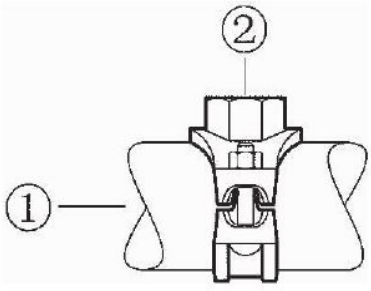
Flow Date

The flow coefficient and flow resistance of the product at 16°C (60 F) are shown in the table on the right.

Since the pressure of the medium varies across the manifolds, the connection of the product functions best when the medium flows between ① and ②

As shown below

The physical relationship between the various parameters under different pressures can be calculated from the formula on the right and from the data on the right.



Formulas for CV Values:

$$\Delta P = Q^2 / C_V{}^2$$

$$Q = C_V \times \sqrt{\Delta P}$$

ΔP : Pressure Drop, MPa

Q : Flow, L/min

C_V : Flow Coefficient

Size		C_V Values	Equiv. of Pipe		Size		CV Values	Equiv. of Pipe	
Nominal Dia.	Actual O.D.		Grooved	Threaded	Nominal Dia.	Actual O.D.		Grooved	Threaded
DN Inches	mm Inches		m Feet	m Feet	DN Inches	mm Inches		m Feet	m Feet
15 1/2	21.3 0.840	775	---	0.6 2.0	65 2 1/2	73.0 2.875	6154	3.4 11.0	3.8 12.5
20 3/4	26.9 1.050	957	---	1.2 4.0	65 2 1/2	76.1 3.000	6154	3.4 11.0	3.8 12.5
25 1	33.4 1.315	1140	---	1.5 5.0	80 3	88.9 3.500	9117	4.1 13.5	4.7 15.5
32 1 1/4	42.4 1.660	2051	1.7 5.5	1.8 6.0	100 4	108.0 4.250	18234	6.1 20.0	6.7 22.0
40 1 1/2	48.3 1.900	2735	2.1 7.0	2.4 8.0	100 4	114.3 4.500	18234	6.1 20.0	6.7 22.0
50 2	60.3 2.375	4558	2.7 9.0	3.2 10.5					

Mechanical Cross





Mechanical cross description:

- Model 3GG grooved mechanical cross is built by 2 pieces of model 3G's outlet housing.
- Model 3JJ threaded mechanical cross is built by 2 pieces of model 3J's outlet housing

All sizes of 3G / 3J mechanical tee can be combined into a mechanical cross, but must be combined according to certain principles, otherwise it will affect the strength of the pipeline, see the table on the right.

In the sprinkler system, the use of mechanical cross should be in accordance with the following principles, otherwise it will affect the strength of the pipeline:

Run Pipe Size		Max. Branch Pipe Size			
Nominal Dia.	Actual O.D.	Mechanical Tee		Mechanical Cross	
		Nominal Dia.	Actual O.D.	Nominal Dia.	Actual O.D.
DN Inches	mm Inches	DN Inches	mm Inches	DN Inches	mm Inches
50 2	60.3 2.375	25 1	33.4 1.315	25 1	33.4 1.315
65 $2^{1}/_{2}$	73.0 2.875	40 $1^{1}/_{2}$	48.3 1.900	32 $1^{1}/_{4}$	42.4 1.660
65 $2^{1}/_{2}$	76.1 3.000	40 $1^{1}/_{2}$	48.3 1.900	32 $1^{1}/_{4}$	42.4 1.660
80 3	88.9 3.500	50 2	60.3 2.375	40 $1^{1}/_{2}$	48.3 1.900
100 4	108.0 4.250	65 $2^{1}/_{2}$	76.1 3.000	50 2	60.3 2.375
100 4	114.3 4.500	80 3	88.9 3.500	50 2	60.3 2.375
125 5	133.0 5.250	80 3	88.9 3.500	65 $2^{1}/_{2}$	76.1 3.000
125 5	139.7 5.500	80 3	88.9 3.500	65 $2^{1}/_{2}$	76.1 3.000
125 5	141.3 5.563	80 3	88.9 3.500	65 $2^{1}/_{2}$	73.0 2.875
150 6	159.0 6.250	100 4	114.3 4.500	80 3	88.9 3.500
150 6	165.1 6.500	100 4	114.3 4.500	80 3	88.9 3.500
150 6	168.3 6.625	100 4	114.3 4.500	80 3	88.9 3.500
200 8	219.1 8.625	100 4	114.3 4.500	100 4	114.3 4.500

- With mechanical outlet fittings, the branch pipe can be built directly from the main pipe without welding.
- Gasket designed with the pipe arc to pipe surface, so as to achieve a more ideal sealing effect.
- Hole cut must be ensured on the center line of the pipe and be perforated by hole saw.



Style 3G Grooved Outlet Mechanical Tee
DN65X25~DN200X100
$2^{1}/_{2}$X1"~8X4"
60.3X33.4mm~219.1X114.3mm



Style 3J Threaded Outlet Mechanical Tee
DN65X15~DN200X80
$2^{1}/_{2}X1^{1}/_{2}$"~8X3"
60.3X21.3mm~219.1X88.9mm



Style 3L U-bolt Mechanical Tee
DN32X15~DN65X25
$1^{1}/_{4}X1^{1}/_{2}$"~$2^{1}/_{2}$"X1"
42.4X21.3mm~76.1X33.4mm



Style 3CC Grooved Mechanical Cross

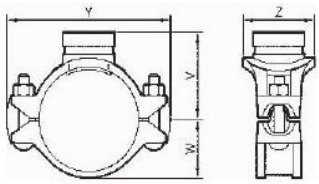


Style 3RR Threaded Mechanical Cross

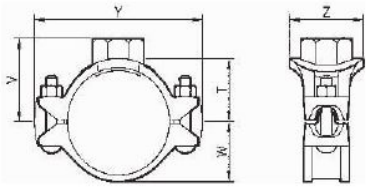


Style 3CR Grooved/Threaded Mechanical Cross

Mechanical Tee



Style 3G



Style 3J

Style 3G Grooved Outlet Mechanical Tee



Style 3J Threaded Outle Mechanical Tee



FM APPROVED

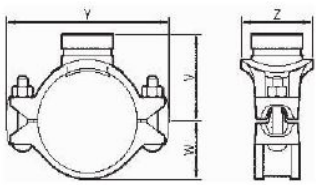
UL LISTED US

- By using the bolting method, the branch pipe is directly connected with the main pipe without welding.
- All products have 21.3mm (1/2") outlets and 26.9mm (3/4") outlets. All sizes is the same wth 33.4mm (1") outlets.
- Enhanced body resists 4 times working pressure.

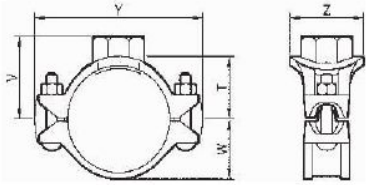
Size			Max. Work Pressure	Hole Size	Dimensions						Bolt/Nut Size
Run Pipe	X	Branch Pipe			W	Y	Z	3G V	3J V	3J T	
mm Inches	X X	mm Inches	KPa PSI	mm Inches	mm Inches	mm Inches	mm Inches	mm Inches	mm Inches	mm Inches	mm Inches
60.3 2	X	33.4 1	3450 500	38 1.50	35 1.38	129	72 2.84	65 2.56	62 2.44	46 1.81	M12X60 1/2X2 1/2
		42.4 1 1/4	3450 500	44.5 1.75	36 1.42	128 5.04	79 3.11	64 2.52	65 2.56	46 1.81	M12X60 1/2X2 1/2
		48.3 1 1/2	3450 500	44.5 1.75	35 1.38	128 5.04	78 3.07	63 2.48	65 2.56	46 1.81	M12X60 1/2X2 1/2
73.0 2 1/2	X	33.4 1	3450 500	38 1.50	42 1.65	139 5.48	70 2.76	71 2.80	64 2.52	46 1.81	M12X75 1/2X3
		42.4 1 1/4	3450 500	44.5 1.75	43 1.69	140 5.52	78 3.07	72 2.84	67 2.64	46 1.81	M12X75 1/2X3
		48.3 1 1/2	3450 500	51 2.00	44 1.73	142 5.59	85 3.35	73 2.88	67 2.64	46 1.81	M12X75 1/2X3
76.1 2 1/2	X	21 1/2	3450 500	38 1.50	45 1.77	151 5.94	68 2.68		66 2.60	47 1.85	M12X75 1/ X3
		27 3/4	3450 500	38 1.50	45 1.77	151 5.94	68 2.68		66 2.60	47 1.85	M12X75 1/ X3
		33.4 1	3450 500	38 1.50	45 1.77	151 5.94	68 2.68		66 2.60	47 1.85	M12X75 1/2X3
		42.4 1 1/4	3450 500	44.5 1.75	44 1.73	143 5.63	79 3.11	72 2.84	68 2.68	47 1.85	M12X75 1/2X3
		48.3 1 1/2	3450 500	51 2.00	42 1.65	139 5.48	84 3.31	71 2.80	69 2.72	47 1.85	M12X75 1/ 2X3
		60 2	3450 500	51 2.00	43 1.69	143 5.63	96 3.78	73 2.88	69 2.72	47 1.85	M12X75 1/ 2X3
88.9 3	X	33.4 1	3450 500	38 1.50	50 1.97	153 6.03	69 2.72	79 3.11	72 2.83	54 2.13	M12X75 1/2X3
		42.4 1 1/4	3450 500	44.5 1.75	50 1.97	153 6.03	77 3.03	78 3.07	74 2.91	54 2.13	M12X75 1/2X3
		48.3 1 1/2	3450 500	51 2.00	51 2.01	152 5.99	83 3.27	78 3.07	75 2.95	54 2.13	M12X75 1/2X3
		60.3 2	3450 500	64 2.50	50 1.97	152 5.99	96 3.78	79 3.11	79 3.11	54 2.13	M12X75 1/2X3
114.3 4	X	33.4 1	3450 500	38 1.50	63 2.48	180 7.09	76 2.99	92 3.62	87 3.43	68 2.68	M12X75 1/2X3
		42.4 1 1/4	3450 500	44.5 1.75	63 2.48	179 7.05	76 2.99	92 3.62	89 3.50	68 2.68	M12X75 1/2X3
		48.3 1 1/2	3450 500	51 2.00	63 2.48	180 7.09	84 3.31	92 3.62	89 3.50	68 2.68	M12X75 1/2X3
		60.3 2	3450 500	64 2.50	64 2.52	184 7.25	96 3.78	93 3.66	93 3.66	68 2.68	M12X75 1/2X3
		73.0 21/2	3450 500	70 2.75	63 2.48	180 7.09	105 4.14	95 3.74	97 3.82	68 2.68	M12X75 1/2X3
		76.1 2 1/2	3450 500	70 2.75	63 2.48	179 7.05	104 4.10	94 3.70	97 3.82	68 2.68	M12X75 1/2X3
		88.9 3	3450 500	89 3.50	63 2.48	180 7.09	128 5.04	95 3.74	100 3.94	68 2.68	M12X75 1/2X3
139.7 5	X	48.3 1 1/2	3450 500	51 2.01	78 3.07	232 9.13	81 3.19	110 4.33	103 4.06	82 3.23	M16x90 5/8X3 1/2
		60.3 2	3450 500	64 2.51	78 3.07	232 9.13	95 3.74	110 4.33	107 4.21	82 3.23	M16x90 5/8X3 1/2
		76.1 2 1/2	3450 500	70 2.76	78 3.07	232 9.13	103 4.06	110 4.33	110 4.33	82 3.23	M16x90 5/8X3 1/2
		88.9 3	3450 500	89 3.51	78 3.07	232 9.13	120 4.72	110 4.33	114 4.49	82 3.23	M16x90 5/8X3 1/2

- **Housing material**: Ductile iron conforming to ASTM A-536, grade 65-45-12.
- **FM Approved & UL Listed**: R.W.P. rated working pressure 300PSI(2.065MPa / 20.65bars)
- **Housing Finish**:Fusion Bonded Epoxy Coated(Optional:Hot Deep Galvanized and Others)
- **Coupling gasket material**:EPDM(Optional:Nitrile NBR,Silicone and Others)
- **Bolts and Nuts**:Heat treated and electro galvanized bolts with oval neck, and heavy duty hexagon nuts. Track head meeting the physical and chemical requirements of ASTM A-449 and physical requirements of ASTM A-183.
- **Size Range**:DN50 X DN25 through DN200 X DN100 (2" X 1" through 8" X 4")

Mechanical Tee



Style 3G



Style 3J

Style 3G Grooved Outlet Mechanical Tee



Style 3J Threaded Outle Mechanical Tee



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- By using the bolting method, the branch pipe is directly connected with the main pipe without welding
- All products have 21.3mm (1/2") outlets and 26.9mm (3/4") outlets are the same as 33.4mm (1") outlets.
- Enhanced body resists 4 times working pressure.

Size			Max. Work Pressure	Hole Size	Dimensions						Bolt/Nut Size
Run Pipe	X	Branch Pipe			W	Y	Z	3G V	3J V	3J T	
mm Inches	X	mm Inches	KPa PSI	mm Inches	mm Inches	mm Inches	mm Inches	mm Inches	mm Inches	mm Inches	mm Inches
165.1	X	33.4	3450	38	95	124	114	92	257	68	M16X85
6		1	500	1.50	3.74	4.88	4.49	3.62	10.12	2.68	5/8X3 3/8
		42.4	3450	44.5	91	251	77	121	257	74	M16X85
		1 1/4	500	1.75	3.59	9.89	3.03	4.77	10.12	2.91	5/8X3 3/8
		48.3	3450	51	90	251	85	121	257	80	M16X85
		1 1/2	500	2.00	3.55	9.89	3.35	4.77	10.12	3.15	5/8X3 3/8
		60.3	3450	64	90	252	97	121	257	94	M16X85
		2	500	2.50	3.55	9.93	3.82	4.77	10.12	3.70	5/8X3 3/8
		76.1	3450	70	90	251	107	121	257	103	M16X85
		2 1/2	500	2.75	3.55	9.89	4.22	4.77	10.12	4.06	5/8X3 3/8
		88.9	3450	89	91	253	128	122	257	120	M16X85
		3	500	3.50	3.59	9.97	5.04	4.81	10.12	4.72	5/8X3 3/8
		114.3	3450	114	90	251	155	124	257	146	M16X85
		4	500	4.50	3.55	9.89	6.11	4.89	10.12	5.75	5/8X3 3/8
168.3	X	33.4	3450	38	97	126	116	94	260	68	M16X85
6		1	500	1.50	3.82	4.96	4.57	3.70	10.24	2.68	5/8X3 3/8
		42.4	3450	44.5	92	255	76	122	260	74	M16X85
		1 1/4	500	1.75	3.62	10.05	2.99	4.81	10.24	2.91	5/8X3 3/8
		48.3	3450	51	91	253	85	123	260	80	M16X85
		1 1/2	500	2.00	3.59	9.97	3.35	4.85	10.24	3.15	5/8X3 3/8
		60.3	3450	64	90	253	96	123	260	94	M16X85
		2	500	2.50	3.55	9.97	3.78	4.85	10.24	3.70	5/8X3 3/8
		73.0	3450	70	92	254	107	123	260	103	M16X85
		2 1/2	500	2.75	3.62	10.01	4.22	4.85	10.24	4.06	5/8X3 3/8
		88.9	3450	89	89	256	127	123	260	120	M16X85
		3	500	3.50	3.51	10.09	5.00	4.85	10.24	4.72	5/8X3 3/8
		114.3	3450	114	92	255	157	126	260	146	M16X85
		4	500	4.50	3.62	10.05	6.19	4.96	10.24	5.75	5/8X3 3/8
219.1	X	60.3	3450	64	118	321	96	149	328	94	M20X115
8		2	500	2.50	4.65	12.65	3.78	5.87	12.91	3.70	3/4X4 1/2
		73.0	3450	70	118	322	108	148	328	103	M20X115
		21/2	500	2.75	4.65	12.69	4.26	5.83	12.91	4.06	3/4X4 1/2
		76.1	3450	70	118	322	108	148	328	103	M20X115
		2 1/2	500	2.75	4.65	12.69	4.26	5.83	12.91	4.06	3/4X4 1/2
		88.9	3450	89	118	321	128	148	328	120	M20X115
		3	500	3.50	4.65	12.65	5.04	5.83	12.91	4.72	3/4X4 1/2
		114.3	3450	114	118	322	156	150	328	145	M20X115
		4	500	4.50	4.65	12.69	6.15	5.91	12.91	5.71	3/4X4 1/2
273	X	89	3450	89	147	374	128	174	328	145	M20X115
10		3	500	3.51	5.79	14.74	5.04	6.86	12.91	5.71	3/4X4 1/2

- **Housing material**: Ductile iron conforming to ASTM A-536, grade 65-45-12.
- **FM Approved & UL Listed**: R.W.P. rated working pressure 300PSI(2.065MPa / 20.65bars)
- **Housing Finish**:Fusion Bonded Epoxy Coated(Optional:Hot Deep Galvanized and Others)
- **Coupling gasket material:**EPDM(Optional:Nitrile NBR,Silicone and Others)
- **Bolts and Nuts**:Heat treated and electro galvanized bolts with oval neck, and heavy duty hexagon nuts. Track head meeting the physical and chemical requirements of ASTM A-449 and physical requirements of ASTM A-183.
- **Size Range**:DN50 X DN25 through DN200 X DN100 (2" X 1" through 8" X 4")

Mechanical Cross

Mechanical Tee, all the sizes can be combined into a mechanical cross. But it should be in accordance with certain principles of combination, otherwise it will affect pipe strength.
This table shows the principle of combination.

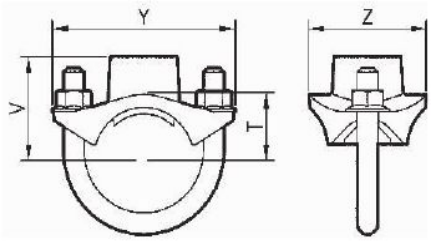


★ Can be combined into mechanical cross.
※ Not recommended to assemble a mechanical cross.

Size			Branch Pipe						
Run Pipe	X	Branch Pipe	33.4 1	42.4 1¼	48.3 1¼	60.3 2	73.0 2½	76.1 2½	88.9 3
73.0 2½	X	33.4 1	★	★	★				
		42.4 1¼	★	★	★				
		48.3 1½	★	★	※				
76.1 2½	X	33.4 1	★	★	★				
		42.4 1¼	★	★	★				
		48.3 1½	★	★	※				
88.9 3	X	33.4 1	★	★	★	★			
		42.4 1¼	★	★	★	★			
		48.3 1½	★	★	★	★			
		60.3 2	★	★	★	※			
108.0 4	X	33.4 1	★	★	★	★		★	
		42.4 1¼	★	★	★	★		★	
		48.3 1½	★	★	★	★		★	
		60.3 2	★	★	★	★		※	
		76.1 2½	★	★	★	※		※	
114.3 4	X	33.4 1	★	★	★	★	★	★	★
		42.4 1¼	★	★	★	★	★	★	★
		48.3 1½	★	★	★	★	★	★	★
		60.3 2	★	★	★	★	※	※	※
		73.0 2½	★	★	★	※	※	※	※
		76.1 2½	★	★	★	※	※	※	※
		88.9 3	★	★	★	※	※	※	※
133.0 5	X	33.4 1	★	★	★	★		★	★
		42.4 1¼	★	★	★	★		★	★
		48.3 1½	★	★	★	★		★	★
		60.3 2	★	★	★	★		★	★
		76.1 2½	★	★	★	★		★	※
		88.9 3	★	★	★	★		※	※
139.7 5	X	33.4 1	★	★	★	★		★	★
		42.4 1¼	★	★	★	★		★	★
		48.3 1½	★	★	★	★		★	★
		60.3 2	★	★	★	★		★	★
		76.1 2½	★	★	★	★		★	※
		88.9 3	★	★	★	★		※	※

Size			Branch Pipe								
Run Pipe	X	Branch Pipe	33.4 1	42.4 1¼	48.3 1¼	60.3 2	73.0 2½	76.1 2½	88.9 3	108.0 4	114.3 4
141.3 5	X	33.4 1	★	★	★	★	★		★		
		42.4 1¼	★	★	★	★	★		★		
		48.3 1½	★	★	★	★	★		★		
		60.3 2	★	★	★	★	★		★		
		73.0 2½	★	★	★	★	★		※		
		88.9 3	★	★	★	★	※		※		
159.0 6	X	33.4 1	★	★	★	★		★	★	★	★
		42.4 1¼	★	★	★	★		★	★	★	★
		48.3 1½	★	★	★	★		★	★	★	★
		60.3 2	★	★	★	★		★	★	★	★
		76.1 2½	★	★	★	★		★	★	★	★
		88.9 3	★	★	★	★		★	★	※	※
		108.0 4	★	★	★	★		★	※	※	※
		114.3 4	★	★	★	★		★	※	※	※
165.1 6	X	33.4 1	★	★	★	★		★	★	★	★
		42.4 1¼	★	★	★	★		★	★	★	★
		48.3 1½	★	★	★	★		★	★	★	★
		60.3 2	★	★	★	★		★	★	★	★
		76.1 2½	★	★	★	★		★	★	★	★
		88.9 3	★	★	★	★		★	★	※	※
		108.0 4	★	★	★	★		★	※	※	※
		114.3 4	★	★	★	★		★	※	※	※
168.3 6	X	33.4 1	★	★	★	★	★		★		★
		42.4 1¼	★	★	★	★	★		★		★
		48.3 1½	★	★	★	★	★		★		★
		60.3 2	★	★	★	★	★		★		★
		76.1 2½	★	★	★	★	★		★		★
		88.9 3	★	★	★	★	★		★		★
		108.0 4	★	★	★	★	★		★		※
		114.3 4	★	★	★	★	★		※		※
219.1 8	X	33.4 1	★	★	★	★	★	★	★	★	★
		42.4 1¼	★	★	★	★	★	★	★	★	★
		48.3 1½	★	★	★	★	★	★	★	★	★
		60.3 2	★	★	★	★	★	★	★	★	★
		73.0 2½	★	★	★	★	★	★	★	★	★
		76.1 2½	★	★	★	★	★	★	★	★	★
		88.9 3	★	★	★	★	★	★	★	★	★
		108.0 4	★	★	★	★	★	★	★	★	★
		114.3 4	★	★	★	★	★	★	★	★	★

Mechanical Tee



Style 3L U-bolt Mechanical Tee



FM APPROVED UL LISTED

- U-bolt replaces cover part, without welding ,directly from the main pipe branch
- Enhanced body resists 4 times working pressure.

Size			Max. Work Pressure	Hole Size	Dimensions				Bolt/Nut Size
Run Pipe	X	Branch Pipe			Y	Z	V	T	
mm Inches	X X	mm Inches	KPa PSI	mm Inches	mm Inches	mm Inches	mm Inches	mm Inches	mm Inches
42.4	X	21.3	2500	30.5	87	58	40	28	M10 X 68 X 38
$1^1/_4$		$^1/_2$	350	1.20	3.43	2.29	1.58	1.10	$^3/_8$ X $2^5/_8$X $1^1/_2$
		26.9	2500	30.5	87	58	43	30	M10 X 68 X 38
		$^3/_4$	350	1.20	3.43	2.29	1.69	1.81	**$^3/_8$ X $2^5/_8$X $1^1/_2$**
		33.4	2500	30.5	87	58	53	34	M10 X 68 X 38
		1	350	1.20	3.43	2.29	2.09	1.34	$^3/_8$ X $2^5/_8$X $1^1/_2$
48.3	X	21.3	2500	30.5	86	57	43	31	M10 X 68 X 38
$1^1/_2$		$^1/_2$	350	1.20	3.39	2.25	1.69	1.22	$^3/_8$ X $2^5/_8$X $1^1/_2$
		26.9	2500	30.5	86	57	46	33	M10 X 68 X 38
		$^3/_4$	350	1.20	3.39	2.25	1.81	1.30	$^3/_8$ X $2^5/_8$X $1^1/_2$
		33.4	2500	30.5	86	57	55	37	M10 X 68 X 38
		1	350	1.20	3.39	2.25	2.17	1.46	$^3/_8$ X $2^5/_8$X $1^1/_2$
60.3	X	21.3	2500	30.5	92	58	50	37	M10 X 74 X 47
2		$^1/_2$	350	1.20	3.62	2.29	1.97	1.46	$^3/_8$ X $2^7/_8$ X $1^7/_8$
		26.9	2500	30.5	92	58	52	39	M10 X 74 X 47
		$^3/_4$	350	1.20	3.62	2.29	2.05	1.54	$^3/_8$ X $2^7/_8$ X $1^7/_8$
		33.4	2500	30.5	93	57	62	43	M10 X 74 X 47
		1	350	1.20	3.66	2.25	2.44	1.69	$^3/_8$ X $2^7/_8$ X $1^7/_8$
73	X	21.3	2500	30.5	108	58	59	43	M10 X 89 X 57
$2^1/_2$		$^1/_2$	350	1.20	4.26	2.29	2.32	1.69	$^3/_8$ X $3^1/_2$ X $2^1/_4$
		26.9	2500	30.5	108	58	62	45	M10 X 89 X 57
		$^3/_4$	350	1.20	4.26	2.29	2.44	1.77	$^3/_8$ X $3^1/_2$ X $2^1/_4$
		33.4	2500	30.5	108	57	68	49	M10 X 89 X 57
		1	350	1.20	4.26	2.25	2.68	1.93	$^3/_8$ X $3^1/_2$ X $2^1/_4$
76.1	X	21.3	2500	30.5	108	57	59	45	M10 X 89 X 57
$2^1/_2$		$^1/_2$	350	1.20	4.25	2.25	2.32	1.77	$^3/_8$ X $3^1/_2$ X $2^1/_4$
		26.9	2500	30.5	108	57	62	47	M10 X 89 X 57
		$^3/_4$	350	1.20	4.25	2.25	2.44	1.85	$^3/_8$ X $3^1/_2$ X $2^1/_4$
		33.4	2500	30.5	108	57	69	51	M10 X 89 X 57
		1	350	1.20	4.25	2.25	2.72	2.00	$^3/_8$ X $3^1/_2$ X $2^1/_4$

- **Housing material**: Ductile iron conforming to ASTM A-536, grade 65-45-12.
- **FM Approved & UL Listed**: R.W.P. rated working pressure 300PSI(2.065MPa / 20.65bars)
- **Housing Finish**:Fusion Bonded Epoxy Coated(Optional:Hot Deep Galvanized and Others)
- **Coupling gasket material**:EPDM(Optional:Nitrile NBR,Silicone and Others)
- **Bolts and Nuts**:Heat treated and electro galvanized bolts with oval neck, and heavy duty hexagon nuts. Track head meeting the physical and chemical requirements of ASTM A-449 and physical requirements of ASTM A-183.
- **Size Range**:DN32 X DN15 through DN65 X DN25 ($1^1/_4$" X $^1/_2$" through $2^1/_2$" X 1")

Rubber Gasket



JSI gaskets are designed to provide life-of-the-system service in a wide variety of applications.
Gasket materials are a vailable to meet most piping applications. For a list of service recommendations by gasket type see next page.

Rubber Gasket Styles



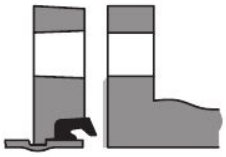
Standard C type:
Usually with grooved fittings. 1GS, 1X, 1N, 1NH, such as no special requirements are supporting this type of rubber seals



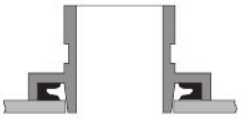
E type:
Usually with grooved fittings. 1GS, 1X, 1N, 1NH can be matched with this type of rubber seal



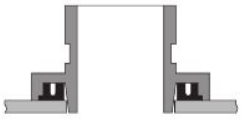
Reducing type:
Usually with grooved reducing fitting. 1NR supporting this type of rubber ring.



Flange type:
321-type slip flange are matched with this type of rubber ring



Opening reaction type:
3G, 3J are optional matching this type of rubber ring



Hole labyrinth type:
3G, 3J are optional matching this type of rubber ring

Rubber Gasket Materials

As elastomer technology advanced, superior gasket materials became avilable and were added to the JSI line. This allows JSI to presently offer a variety of synthetic rubber gaskets to provide the option of selecting JSI products for the widest variety of applications.

For most water system piping applications, JSI grade EPDM rubber is recommended. JSI E-grade rubber gasket material with excellent performance in anti-aging and heat resistance, the material at 125°C (257°F) temperature, the material for hot air aging test, the physical properties of the basic unchanged. When the rubber in a non-air environment, such as water piping system, its anti-aging properties will be further strengthened.

Since water has no deteriorating effect on the elastomer, temperature is the only limiting factor to be considered in determining the life expectancy of the elastomer in water service. The superior performance of the Grade “E” elastomer permits its use for hot water service upto +230°F/+H10°C. The Grade “E” gasket is superior to previous gasket materials by all performance barometers, including high and low temperature limits, tensile strength, chemical resistance and shelf life.

Rubber Gasket Date

To assure the maximum life for the service intended, proper gasket selection and specification in ordering is essential. Many factors must be considered in determining the optimum gasket for a specific service. The foremost consideration is temperature along with concentration of product, duration of service and continuity of service. Temperatures beyond the recommended limits have a degrading effect on the polymer. Therefore, there is a direct relationship between temperature, continuity of service and gasket life.

Services listed are General Service Recommendations only. It should be noted that there are services for which these gaskets are not recommended. For a list of application-specific and non-recommended application recommendations, reference should be made to the latest selection guide for seals.

The use of gasket only for the selection of rubber materials in the product, does not involve the selection of metal shell, fittings and bolts and nuts. For the housing, accessories and bolts and nuts selection, should be selected according to the actual application environment.

Rubber Gasket Lubricant

When installing the product, the outer surface of the gasket should be lubricated. This will help prevent the gasket from being crushed during installation. It is recommended to lubricate the outer surface of the gasket, including the lip and/or tube end, and the housing cavity, and the lubricated aprons surface will help to properly install the product.

Under normal circumstances recommended the use of special lubricants, if necessary, consult hte relevant JSI institutions. Also available household human body can be directly exposed to the washing products, add water after modulation, such as detergents, soap, detergent, etc., avoid using mechanical lubricants, such as butter and so on.

Warning

To ensure that the rubber seal in the application of the longest life expectancy, the correct choice when ordering rubber seal material and specifications are the most basic requirements.
Failure to select the right rubber seal material can result in personal injury or property damage, joint leakage, or connection failure.

Rubber Gasket Materials

The material of the gasket must be determined according to the characteristics of the fluid medium. The commonly used sealing rings are shown in the following table.

Grade	Temperature Range	Rubber Compound	Color Code	General Service Recommendations
E	-30°F to +230°F -34°C to +110°C	EPDM	Green Stripe	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 for cold +86°F/+30°C and hot +180°F/+82°C potable water service. NOT RECOMMENDED FOR PETROLEUM SERVICES.
T	-20°F to +180°F -29°C to +82°C	Nitrile	Orange Stripe	Recommended for petroleum products, hydrocarbons, air with oil vapors, vegetable and mineral oils within the specified temperature range; except hot dry air over +140°F/+60°C and water over +150°F/+66°C. NOT RECOMMENDED FOR HOT WATER SERVICES.
O	-20°F to +300°F -29°C to +149°C	Fluoroelastomer	Blue Stripe	Recommended for many oxidizing acids, petroleum oils, halogenated hydrocarbons, lubricants, hydraulic fluids, organic liquids and air with hydrocarbons to +300°F/+149°C.
L	-30°F to +350°F -34°C to +177°C	Silicone	White	Recommended for dry heat, air without hydrocarbons to +350°F/+177°C and certain chemical services.
V	-30°F to +180°F -34°C to +82°C	Neoprene	Yellow Stripe	Recommended for hot lubricating oils and certain chemicals. Good oxidation resistance. Will not support combustion.

For specific compound and temperature compatibility, see this book Chemical Application Table

Rubber Gasket Selection

The temperatures listed in the table below are the recommended maximum temperatures. If not listed, it is ambient temperature.Not listed chemicals and chemical formulations, please contact the relevant JSI institutions for the selection of recommendations. Do not determine the selected gasket materials based on experience and similar applications.

The listed parameters and recommendations for use are ba sed on many years of field experience from JSI and the best performance from laboratory tests at JSI. In addition, JSI incorporates the usage suggestions of the major rubber material manufacturers and the opinions and suggestions of the rubber suppliers.

The information provided in this Atlas is, for its part, general information and should be used where available a nd with full understanding of the operating conditions. In unusual, critical or harsh application conditions, the relevant JSI institutions should be provided with complete and complete working condition information.

Whenever possible, rubber materials should be tested for simulated service conditions to determine their suitability for the intended operating conditions. In addition, the rubber seals are unaffected when several substances are used alone, and it cannot be concluded that their mixture will not react to the rubber seal. For flammable or toxic fluids should be double the caution. All gasket recommendations are based on the pressure and temperature published by JSI on the basis of use. Suspected application conditions should be related to JSI institutions to contact and confirm. When two or all of the material codes appear in the material code column, these two or three rubber seal materials are suitable under normal operating conditions listed.

Chemical Services

Rating Code Key	
G	Good
C	Conditional (Submit analysis of materials to JSI for positive recommendations)
NR	Not Recommended

Chemical Composition	Rating Code	Gasket Grade	Chemical Composition	Rating Code	Gasket Grade	Chemical Composition	Rating Code	Gasket Grade	Chemical Composition	Rating Code	Gasket Grade
ASTM #3 Oil	G	T	Ammonium Alum	G	V	Antimony Chloride	G	E	Butadiene	C	V
Acetaldehyde	G	E	Ammonium Bifluoride	G	T	Antimony Trichloride	G	E	Butane Gas	C	T
Acetamide	G	T	Ammonium Carbonate	G	E	Argon Gas	G	E/O	Butanol (see Butyl Alcohol)	G	E/T
Acetic Acid up to 10% 100oF/38℃	G	E	Ammonium Chloride	G	T	Aroclor(s)	G	O	Butter	G	L
Acetic Acid up to 10-50% 100oF/38℃	G	L	Ammonium Fluoride	G	E	Arsenic Acid, to 75%	G	T	Butyl Acetate	C	E
Acetic Acid, Glacial 100oF/38℃	G	L	Ammonium Hydroxide	G	E	Arylsulfonic Acid	NR	—	Butyl Acetyl Ricinoleate	G	E
Acetic Anhydride	G	E	Ammonium Metaphosphate	G	E	Barium Carbonate	G	E	Butyl Alcohol	G	E/T
Acetone	G	E	Ammonium Nitrate	G	T	Barium Chloride	G	E/T	Butyl "Cellosolve Adipate"	G	E/T
Acetonitrile	G	T	Ammonium Nitrite	G	E	Barium Hydroxide	G	E/T	Butyl Phenol	C	E
Acetophenone	G	E	Ammonium Persulfate, to 10%	G	E	Barium Nitrate	G	V	Butyl Stearate	G	T
Acetylene	C	E/T	Ammonium Phosphate	G	T	Barium Sulfide	G	T	Butylene	G	T
Acrylic Resin	G	V	Ammonium Sulfamate	G	T	Beer	G	A	Butylene Glycol	G	E
Acrylonitrile	NR	—	Ammonium Sulfate	G	E/T	Beet Sugar Liquors	G	A	Butyne Diol	NR	—
Adipic Acid	G	T	Ammonium Sulfide	G	E	Benzaldehyde	C	E	Butyraldehyde	C	V
Alkalis	G	E	Ammonium Thiocyanate	G	E	Benzene	G	O	Cadmium Cyanide	C	V
Allyl Alcohol to 96%	G	E	Amyl Acetate	G	E	Benzene Sulfonic (Aromatic Acid)	C	V	Calcium Acetate	C	T
Allyl Chloride	NR	—	Amyl Acetate	G	E	Benzine (see Petroleum Ether)	G	O	Calcium Bisulphate	G	T
Alum Sulfuric Acid	C	O	Amyl Alcohol	G	E	Benzoic Acid	G	E	Calcium Bisulphide	G	T
Alums	G	E/T	Amyl Borate	G	V	Benzol	G	O	Calcium Bisulphite	G	T
Aluminum Chloride	G	E/T	Amyl Chloride	NR	—	Benzyl Alcohol	G	E	Calcium Chloride	G	E/T
Aluminum Fluoride	G	E/T	Amyl Chloronaphthalene	C	T	Benzyl Benzoate	G	E	Calcium Fluophosphate	C	V
Aluminum Hydroxide	G	E	Anderol	G	O	Black Sulfate Liquor	G	T	Calcium Hydroxide (Lime)	G	E/T
Aluminum Nitrate	G	V/E/T	Anthraquinone	NR	—	Blast Furnace Gas	C	T	Calcium Hypochlorite	G	E
Aluminum Oxychloride	C	T	Anthraquinone Sulfonic Acid	NR	—	Bleach, 12% Active Cl2	C	E	Calcium Hypochloride	G	E
Aluminum Phosphate	G	E	Aniline	G	E	Borax	G	E	Calcium Nitrate	G	V/E/T
Aluminum Salts	G	E	Aniline Dyes	C	E	Bordeaux Mixture	G	E	Calcium Sulfate	G	E/T
Aluminum Sulfate	G	E/T	Aniline Hydrochloride	C	E	Boric Acid	G	E/T	Calcium Sulfide	G	E
Ammonia, Anhydrous (Pure Ammonia)	NR	—	Aniline Oil	G	E	Bromine	G	O	Caliche Liquors	G	T
Ammonia, Aqueous (40% Max)	G	E	Animal Fats	G	L	Bromine Water	G	V	Cane Sugar Liquors	G	L

Chemical Composition	Rating Code	Gasket Grade
Carbitol	G	E/T
Carbonic Acid, Phenol	G	O
Carbon Bisulphide	C	O
Carbon Dioxide, Dry	G	E/T
Carbon Dioxide, Wet	G	E/T
Carbon Disulphide	G	O
Carbon Monoxide	G	E
Carbon Tetrachloride	G	O
Castor Oil	G	A
Caustic Potash	G	E
Cellosolve Acetate	G	E
Cellosolve (Alcohol Ether)	G	E
Cellulose Acetate	G	E
Cellulube 220 (Tri-Aryl-Phosphate)	G	E
Cellulube Hydraulic Fluids	G	E
China Wood Oil, Tung Oil	G	T
Chloralhydrate	NR	—
Chloric Acid to 20%	C	E
Chlorine, Dry	C	O
Chlorine, Water 4000 PPM (max.)	C	E
Chlorinated Parafine (ChlorßĤosane)	G	T
Chloroacetic Acid	G	E
Chloroacetone	G	E
Chlorobenzene	C	O
Chlorobromomethane	NR	—
Chlor*Form	G	O
Chlorosulphonic Acid	NR	—
Chrome Alum	G	T
Chrome Plating Solutions	G	O
Chromic Acid, to 25%	G	O
Citric Acid	G	E
CßĤoanut Oil	G	A
Cod Liver Oil	G	A
Coke Oven Gas	G	T/O
Copper Chloride	G	T
Copper Cyanide	G	T
Copper Fluoride	G	E
Copper Nitrate	G	E/T
Copper Sulfate	G	E/T
Corn Oil	G	A
Ferrus Ammonium Sulfate to 30%	G	V
Fish Oils	G	A
Fluboric Acid	G	E
Fluorine Gas, Wet	NR	—
Fluorosilicic Acid	G	V
Fly Ash	G	E
Foam	G	E
Fog Oil	G	T
Formaldehyde	G	E/T
Formanide	G	T
Formic Acid	G	E
Freon 11, 130°F/54ßĤ	G	T
Freon 12, 130°F/54ßĤ	G	T
Freon 21	NR	—
Freon 22, 130°F/54ßĤ	G	V
Freon 113 130°F/54ßĤ	G	T
Freon 114,130°F/54ßĤ	G	T
Freon 123	NR	—
Freon 134a,176°/80ßĤ	G	E/T
Fructose	G	T

Chemical Composition	Rating Code	Gasket Grade
Fuel Oil	G	T
Fumaric Acid	G	E
Furan	NR	—
Furfuryl Alcohol	G	E
Gallic Acid	NR	—
Gasoline, Refined	G	T
Gasoline, Refined, Unleaded	C	O
Gelatin	G	A
Glucose	G	A
Glue	G	T/E
Glycerin	G	E/T
Glycerol	G	E/T
Glycol	G	E/T
Glycolic Acid	C	E
Grease	G	T
Green Sulfate Liquor	G	T
Halon 1301	G	E
Heptane	G	T
Hexaldehyde	G	E
Hexane	G	T
Hexanol Tertiary	G	T
Hexyl Alcohol	G	V/T
Hexylene	G	T
Hydrobromic Acid, to 40%	G	E
HydrßĤloric Acid, to 36%, 75°F/24ßĤ	G	E
HydrßĤloric Acid, to 36%, 158°F/70ßĤ	C	O
HydrßĤyanic Acid	G	E
Hydr*Fluoric Acid, to 75%, 75°F/24ßĤ	G	O
Hydr*Fluosilicic Acid	G	T
Hydrogen	C	E/T
Hydrogen Gas, Hot	C	E
Hydrogen Peroxide, to 50%	C	L
Hydrogen Peroxide, to 90%	C	O
Hydrogen Phosphide	NR	—
Hydrogen Sulfide	G	E
Hydroquinone	G	T
Hydroxylamine Sulfate	C	E
HypßĤlorous Acid, Dilute	G	E
Iso ßĤtane, 100°F/38ßĤ	G	T
Isododecane	G	V
Isobutyl Alcohol	G	E
Isopropyl Acetate	G	E
Isopropyl Alcohol	G	E
Isopropyl Ether	G	T
JP-3	G	T
JP-4	G	T
JP-5, 6, 7, 8	G	T
Kerosene	G	T
Ketones	G	E
Lactic Acid	G	A
Lard	G	A
Lard Oil	G	V
Latex (1% Styrene & Butadiene)	G	O
Lauric Acid	G	T
Lauryl Chloride	NR	—
Lavender Oil	G	T
Lead Acetate	G	T
Lead Chloride	C	E
Lead Sulfamate	G	V
Lead Sulfate	G	T

Chemical Composition	Rating Code	Gasket Grade
Lime and H2O	G	E/T
Linoleic Acid	G	O
Linseed Oil	G	A
Lithium Bromide	G	T
Lithium Chloride	G	T
Lubricating Oil, Refined	G	T
Lubricating Oil, Sour	G	T
Lubricating Oil, to 150°F/66ßĤ	G	T
Lubricating Oil, 150°F/66ßĤto180°F/82ßĤ	G	V
Magnesium Ammonium Sulfate	C	V
Magnesium Chloride	G	E/T
Magnesium Hydroxide	G	E/T
Magnesium Nitrate	G	V
Magnesium Oxide	C	V
Magnesium Sulfate	G	E/T
Maleic Acid	G	T
Malic Acid	G	T
Mercuric Chloride	G	E/T
Mercuric Cyanide	G	T
Mercurous Nitrate	G	E/T
Mercury	G	T
Methane	C	T
Methyl Acetate	C	V
Methyl Alcohol, Methanol	G	E/T
Methyl Cellosolve (Ether)	G	V
Methyl Chloride	C	O
Methyl Cyclopentane	C	V
Methyl Ethyl Ketone	C	E
Methyl Isobutyl Carbinol	G	E
Methyl Isobutyl Ketone	NR	—
Methylene Chloride	C	O
Methylene Dichloride 100°F/38ßĤ	G	O
MIL-L7808	G	O
MIL-05606	G	O
MIL-08515	G	O
Milk	G	A
Mineral Oils	G	T
Naptha, 160°F/71ßĤ	G	O
Napthalene	NR	—
Napthenic Acid	C	T
Natural Gas	C	T
Nevoil	G	E
Nickel Acetate to 10%, 100°F/38ßĤ	G	V
Nickel Ammonium Sulfate	G	V
Nickel Chloride	G	E/T
Nickel Nitrate	G	V
Nickel Plating Solution 125°F/52ßĤ	G	E
Nickel Sulfate	G	E/T
Nicotine	C	V
Nicotine Acid	C	V
Nitric Acid to 10%, 75°F/24ßĤ	G	E
Nitric Acid, 10-50%, 75°F/24ßĤ	G	O
Nitric Acid, 50-86%, 75°F/24ßĤ	C	O
Nitric Acid, Red Fuming	C	O
NitrßĤellulose	G	V
Nitroethane	C	E
Nitromethane	G	E
Nitrous Oxide	G	E
ßĤtyl Alcohol	G	V
Ogisogiric Acid, to 75%, 150°F/66ßĤ	G	O

Chemical Composition	Rating Code	Gasket Grade
Oil, Crude Sour	G	T
Oil, Motor	G	T
Oleic Acid	G	T
Olive Oil	G	A
Oronite 8200 Silicate Ester Fluid	G	O
Orthodichlorobenzene	G	O
OS-45 Silicate Ester Fluid	G	O
OS-45-1	G	O
Oxalic Acid	G	E
Oxygen, Cold †	C	E
Ozone (100 ppm)	G	E
Palmitic Acid	G	T
Peanut Oil	G	A
Pentane	G	T
Perchloroethylene	G	O
Perchloric Acid	NR	—
Petroleum Ether (see Benzene)	G	O
Petroleum Oils	G	T
Phenol (Carbolic Acid)	G	O
Phenylhydrazine	C	E
Phenylhydrazine HydrßĤhloride	C	E
Phosphate Ester	G	E
Phosphoric Acid, to 50% and 70 °F	G	E
Phosphoric Acid, to 85% and 200 °F	G	O
Photographic Solutions	G	T
Phthalic Anhydride	G	E
Picric Acid, Molten	G	V
Plating Solutions (gold, brass, cadmium, copper, lead, silver, nickel, tin, zinc)	G	V
Polybutene	G	V
Polyvinyl Acetate, Solid(In Liquid State is 50% solution °F Methanol or 60% solution °F H2O)	G	E
Potassium Alum	G	E/T
Potassium Bicarbonate	G	E/T
Potassium Bichromate	G	T/E
Potassium Borate	G	E
Potassium Bromate	G	E
Potassium Bromide	G	E/T
Potassium Carbonate	G	E/T
Potassium Chlorate	G	E
Potassium Chloride	G	T
Potassium Chromate	G	T
Potassium Cyanide	G	E/T
Potassium Dichromate	G	E
Potassium Ferricyanide	G	E
Potassium FerrßĤlyanide	G	E
Potassium Fluoride	G	E
Potassium Hydroxide	G	T
Potassium Iodide	G	V
Potassium Nitrate	G	T
Potassium Perborate	G	E

Rating Code	Rating Code Key
G	Good
C	Conditional
NR	Not Recommended

Brand : JAINSONS

Chemical Composition	Rating Code	Gasket Grade
Potassium Perchlorate	G	T
Potassium Permanganate, Saturated to 10%	G	E
Potassium Permanganate, Saturate 10-25%	G	E
Potassium Persulfate	G	T
Potassium Phosphate	G	V
Potassium Silicate	G	V/E/T
Potassium Sulfate	G	T
Potassium Thiosulfate	G	V
Prestone	G	T
Propane Gas	C	T
Propanol	G	E
Propargyl Alcohol	G	E
Propyl Acetate	C	V
Propyl Alcohol	G	T
Propylene Dichloride	C	L
Propylene Glycol	G	E
Pydraul F - 9 and 150	NR	—
Pyranol 1467	G	T
Pyranol 1476	G	T
Pyroguard "C"	G	T
Pyroguard "D"	G	T
Pyroguard 55	G	E
Pyrrole	G	E
Rapeseed Oil	G	A
Ref. Fuel (70 ISO Octane, 30 Toluene)	G	T
Rosin Oil	G	V/T
Salicylic Acid	G	E
Secondary Butyl Alcohol	G	T
Sewage	G	E/T
Silver Cyanide	C	V
Silver Nitrate	G	E
Silver Plating Solution	C	V
Silver Sulfate	G	E
Skydrol, 200°F/93°C	G	L
Skydrol 500 Phosphate Ester	C	E
Soap Solutions	G	E/T
Soda Ash, Sodium Carbonate	G	E/T
Sodium Acetate	G	E
Sodium Alum	G	T
Sodium Benzoate	G	E/T
Sodium Bicarbonate	G	E/T
Sodium Bisulfate	G	E/T
Sodium Bisulfite (Black Liquor)	G	E/T
Sodium Bromide	G	E/T
Sodium Carbonate	G	E/T
Sodium Chlorate	G	E
Sodium Chloride	G	E/T
Sodium Cyanide	G	E/T
Sodium Dichromate, to 20%	G	E/T
Sodium Ferricyanide	G	E/T
Sodium Ferrocyanide	G	E/T
Sodium Fluoride	G	E/T
Sodium Hydro Sulfide	G	T
Sodium Hydroxide to 50%	G	E
Sodium Hypochlorite, to 20%	G	E
Sodium Metaphosphate	G	T
Sodium Nitrate	G	E
Sodium Nitrite	G	E/T

Chemical Composition	Rating Code	Gasket Grade
Sodium Perborate	G	E
Sodium Peroxide	G	E
Sodium Phosphate, Dibasic	G	T
Sodium Phosphate, Monobasic	G	T
Sodium Phosphate, Tribasic	G	T
Sodium Silicate	G	T
Sodium Sulfate	G	E/T
Sodium Sulfide	G	T
Sodium Sulfite Solution, to 20%	G	T
Sodium Thiosulfate, "Hypo"	G	T
Sohovis 47	G	T
Sohovis 78	G	T
Solvasol #1	G	T
Solvasol #2	G	T
Solvasol #3	G	T
Solvasol #73	C	T
Solvasol #74	NR	—
Soybean Oil	G	A
Spindle Oil	G	T
Stannic Chloride	G	T
Stannous Chyoride, to 15%	G	T
Starch	G	T
Steam	NR	—
Stearic Acid	G	T
Stoddard Solvent	G	T
Styrene	G	O
Sucrose Solutions	G	A
Sulfonic Acid	G	E
Sulphite Acid Liquor	G	E
Sulfur	G	V/E
Sulfur Chloride	G	O
Sulfur Dioxide, Dry	C	E/T
Sulfur Dioxide, Liquid	G	E
Sulfur Trioxide, Dry	G	O
Sulfuric Acid, to 25%, 150°F/66°C	G	E
Sulfuric Acid, 25-50%, 200°F/93°C	G	O
Sulfuric Acid, 50-95%, 150°F/66°C	G	O
Sulfuric Acid, Fuming	C	O
Sulfuric Acid, Oleum	C	O
Sulfurous Acid	G	O
Tall Oil	C	T
Tannic Acid, All Conc.	G	V
Tanning Liquors (50 g. alum. solution, 50 g. dichromate solution)	G	T
Tartaric Acid	G	E
Terpineol	G	V
Tertiary Butyl Alcohol	G	V/E/T
Tetrabutyl Titanate	G	E
Tetrachloroethylene	G	O
Tetrahydrofuran	NR	—
Tetralin	NR	—
Thionyl Chloride	C	T
Terpineol	C	T
Thiopene	NR	—
Titanium Tetrachloride	G	O
Toluene, 30%	G	T
Transmission Fluid, Type A	G	O
Triacetin	G	T
Trichloroethane	G	O
Trichloroethylene, to 200°F/93°C	G	O

Chemical Composition	Rating Code	Gasket Grade
Tricresyl Phosphate	G	E
Triethanolamine	G	E/T
Trisodium Phosphate	G	E
Tung Oil	G	T
Turbo Oil #15 Diester Lubricant	G	O
Turpentine	C	T
Urea	G	T
Vegetable Oils	G	A
Vinegar	G	A
Vinyl Acetate	G	E
Vi-Pex	G	T
Water, to 150°F/66°C	G	E/T/
Water, to 200°F/93°C	G	E
Water, to 230°F/110°C	G	E

Chemical Composition	Rating Code	Gasket Grade
Water, Acid Mine	G	E/T
Water, Bromine	G	V
Water, Chlorine	C	E
Water, Deionized	G	E
Water, Seawater	G	E
Water, Waste	G	E/T
Whiskey	G	A
White Liquor	G	E
Wood Oil	G	T
Xylene	C	O
Zinc Chloride, to 50%	G	E
Zinc Nitrate	G	E
Zinc Sulfate	G	E/T

Services Not Recommended

The services listed below have been tested and are NOT RECOMMENDED with any of the presently available gasket materials. Services not shown as recommended or not recommended should be submitted to JSI for specific recommendations.

Chemical Composition	Rating Code	Gasket Grade
Acrylonitrile	NR	
Allyl Chloride	NR	
Amyl Chloride	NR	
Anthraquinone	NR	
Anthraquinone Sulfonic Acid	NR	
Arylsulfonic Acid	NR	
Butyne Diol	NR	
Chloralhydrate	NR	
Chlorobromomethane	NR	
Chlorosulphonic Acid	NR	
Ethylene Oxide	NR	
Fluorine Gas Wet	NR	
Freon 21	NR	
Furan	NR	
Gallic Acid	NR	
Hydrogen Phosphide	NR	
Lauryl Chloride	NR	
Methyl Isobutyl Ketone	NR	
Napthalene	NR	
Perchloric Acid	NR	
Pydraul F -9 and F - 150	NR	
Solvasol #74	NR	
Steam	NR	
Tetra Hydrofuran	NR	
Tetralin	NR	
Thiophene	NR	

Water and Air Services

*Recommended for water only.
Not recommended for steam service, except where cou plings are accessible for frequent gasket replacement.

Chemical Composition	Rating Code	Gasket Grade
Air, Temp. -20°F to 200°F / -29°C to +93°C (no oil vapors)	G	E
Air, Temp. -30°F to 230°F / -34°C to +110°C (no oil vapors)	G	E
Air, Temp. 230°F to 350°F / 110°C to 177°C (no oil vapors)	G	L
Air, Oil Vapor, Temp. 0°F to 150°F / -18°C to 66°C	G	T
Air, Oil Vapor, Temp. 150°F to 300°F / 66°C to 149°C	G	O
Water, Temp. to 150°F/66°C	G	E/T
Water, Temp. to 200°F/93°C	G	E/M
Water, Temp. to 230°F/110°C *	G	E
Water, Acid Mine	G	E/T
Water, Bromine	G	V
Water, Chlorine	C	E/M
Water, Deionized	G	E/M
Water, Seawater	G	E
Water, Waste	G	E/T

Rating Code	Rating Code Key
G	**Good**
C	**Conditional**
NR	**Not Recommended**

Standard Pipe Wall Thickness

Standard pipe wall thickness(including GB/T 3091 ANSI B36.10/B36.19)

Size		GB/T 3091		ANSI B36.10/B36.19								
Nominal Dia.	Actual O.D.	Std.	Thicken	Sch. 5S	Sch. 5	Sch. 10S	Sch. 10	Sch. 20	Sch. 30	Sch. 40	Sch. Std.	Sch. 80
DN Inches	mm Inches	mm Inches	mm Inches	mm Inches	mm Inches	mm Inches	mm Inches	mm Inches	mm Inches	mm Inches	mm Inches	mm Inches
20	26.9	2.8	3.5	1.65	1.65	2.11	---	---	---	2.87	2.87	3.91
3/4	1.050	0.110	0.138	0.065	0.065	0.083	---	---	---	0.113	0.113	0.154
25	33.4	3.2	4.0	1.65	1.65	2.77	---	---	---	3.38	2.87	4.55
1	1.315	0.126	0.157	0.065	0.065	0.109	---	---	---	0.133	0.113	0.179
32	42.4	3.5	4.0	1.65	1.65	2.77	---	---	---	3.56	3.56	4.85
1 1/4	1.660	0.138	0.157	0.065	0.065	0.109	---	---	---	0.14	0.14	0.191
40	48.3	3.5	4.5	1.65	1.65	2.77	---	---	---	3.68	3.68	5.08
1 1/2	1.900	0.138	0.177	0.065	0.065	0.109	---	---	---	0.145	0.145	0.2
50	60.3	3.8	4.5	1.65	1.65	2.77	---	---	---	3.91	3.91	5.54
2	2.375	0.150	0.177	0.065	0.065	0.109	---	---	---	0.154	0.154	0.218
65	73.0	---	---	2.11	2.11	3.05	---	---	---	5.16	5.16	7.01
2 1/2	2.875	---	---	0.083	0.083	0.12	---	---	---	0.203	0.203	0.276
65	76.1	4.0	4.5	---	---	---	---	---	---	---	---	---
2 1/2	3.000	0.157	0.177	---	---	---	---	---	---	---	---	---
80	88.9	4.0	5.0	2.11	2.11	3.05	---	---	---	5.49	5.49	7.62
3	3.500	0.157	0.197	0.083	0.083	0.12	---	---	---	0.216	0.216	0.3
90	101.6	---	---	2.11	2.11	3.05	---	---	---	5.74	5.74	8.08
3 1/2	4.000	---	---	0.083	0.083	0.12	---	---	---	0.226	0.226	0.318
100	114.3	4.0	5.0	2.11	2.11	3.05	---	---	---	6.02	6.02	8.56
4	4.500	0.157	0.197	0.083	0.083	0.12	---	---	---	0.237	0.237	0.337
125	139.7	4.0	5.5	---	---	---	---	---	---	---	---	---
5	5.500	0.157	0.217	---	---	---	---	---	---	---	---	---
125	141.3	---	---	2.77	2.77	3.4	---	---	---	6.55	6.55	9.53
5	5.563	---	---	0.109	0.109	0.134	---	---	---	0.258	0.258	0.375
150	168.3	4.5	6.0	2.77	2.77	3.4	---	---	---	7.11	7.11	10.97
6	6.625	0.177	0.236	0.109	0.109	0.134	---	---	---	0.28	0.28	0.432
200	219.1	---	---	2.77	2.77	3.76	---	6.35	7.04	8.18	8.18	12.7
8	8.625	---	---	0.109	0.109	0.148	---	0.25	0.277	0.322	0.322	0.5
250	273.0	---	---	3.4	3.4	4.19	---	6.35	7.8	9.27	9.27	15.09
10	10.750	---	---	0.134	0.134	0.165	---	0.25	0.307	0.365	0.365	0.594
300	323.9	---	---	3.96	3.96	4.57	---	6.35	8.38	10.31	9.53	17.48
12	12.750	---	---	0.156	0.156	0.18	---	0.25	0.33	0.406	0.375	0.688

Pipe Coatings

To ensure the highest rated working pressure and end load and other performance parameters published in this catalog, the maximum coating thickness of JSI products shall not exceed 250 μm . If additional corrosion protection is required, apply a layer of anti-corrosion after installation. In addition, the pipe end of the coating thickness should not exceed 250μm. In particular, the thickness of the coating on the surface of the gasket seat of the pipeline and the entire circumference of the groove should also be guaranteed to be below 250μm.

Pipe ends and product surface coatings such as over 250 μm will reduce the performance of pipe connections.

Pipe Size

Before making groove,should assure the size of the pipe, the most important are the pipe diameter, ovality, pipe end perpendicularity and wall thickness etc. These dimensions will directly affect the performance of pipe connections

The pipe O.D. shall not exceed tolerance specified in the groove parameters.

The maximum allowable pipe ovality cannot exceed 1% of the pipe standard OD.

The requirements for pipe end verticality are as follows

DN20~DN90 ($^{3}/_{4}$"~$3^{1}/_{2}$") : ≤0.8mm

DN100~DN150 (4"~6") : ≤1.1mm

DN200~DN300 (8"~12") : ≤1.5mm

Pipe wall thickness values will affect the coupling connection strength, it should not less than the groove data sheet parameter values

Pipe Tools & Machines



DKG—III Roll grooving machine

Performance parameters	
Steel pipe range	DN25~DN100 (1"~4")
Maximum WT	5mm
Output speed	23r/min
Three-phase motor parameters	
Voltage	380V
Power	550W
Frequency	50~60Hz
Weight	109kg
Package Size	660X600X1080



DKC—III Pipe cutting machine

Performance parameters	
Steel pipe range	DN50~DN300 (2"~12")
Maximum WT	10mm
Output speed	23r/min
Three-phase motor parameters	
Voltage	380V
Power	750W
Frequency	50~60Hz
Weight	132kg
Package Size	670X720X960



DKG—II Roll grooving machine

Performance parameters	
Steel pipe range	DN50~DN300 (2"~12")
Maximum WT	10mm
Output speed	23r/min
Three-phase motor parameters	
Voltage	380V
Power	750W
Frequency	50~60Hz
Weight	119kg
Package Size	870X470X860



DKC—IVPipe cutting machine

Performance parameters	
Steel pipe range	DN150~DN400 (6"~16")
Maximum WT	12mm
Output speed	23r/min
Three-phase motor parameters	
Voltage	380V
Power	750W
Frequency	50~60Hz
Weight	158kg
Package Size	770X720X1100



DKG—IVRoll grooving machine

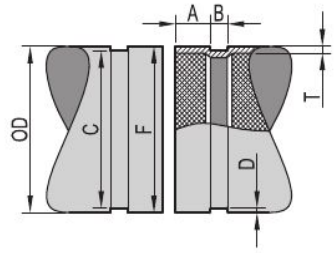
Performance parameters	
Steel pipe range	DN200~DN300 (8"~12")
Maximum WT	13mm
Output speed	15r/min
Three-phase motor parameters	
Voltage	380V
Power	1500W
Frequency	50~60Hz
Weight	334kg
Package Size	1030X830X1400



DKH—III Hole machine

Performance parameters	
Opening hole area	16~114mm
Maximum WT	10mm
Output speed	110r/min
Three-phase motor parameters	
Voltage	380V
Power	550W
Frequency	50~60Hz
Weight	26kg
Package Size	300X300X560

Roll Groove Parameters

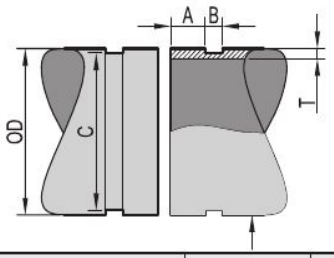


Standard Roll Groove Specifications-Steel and Other IPS Pipe

Size				Gasket Seat	Grv. Width	Grv. Diameter C		Grv. Depth	Min. Wall	Max. Flare
Nominal Dia.	Actual O.D.	Tolerance		A	B	Std.	Tolerance	D(Ref.)	T	F
DN Inches	mm Inches	mm Inches	mm Inches	±0.76mm ±0.03In.	±0.76mm ±0.03In.	mm Inches	mm Inches	mm Inches	mm Inches	mm Inches
20 3/4	26.9 1.050	0.25 0.01	0.25 0.01	15.88 0.625	7.14 0.281	23.83 0.938	-0.38 -0.015	1.42 0.056	1.65 0.065	29.2 1.15
25 1	33.4 1.315	0.33 0.013	0.33 0.013	15.88 0.625	7.14 0.281	30.23 1.19	-0.38 -0.015	1.6 0.063	1.65 0.065	36.3 1.43
32 1 1/4	42.4 1.660	0.041 0.016	0.041 0.016	15.88 0.625	7.14 0.281	38.99 1.535	-0.38 -0.015	1.6 0.063	1.65 0.065	45 1.77
40 1 1/2	48.3 1.900	0.048 0.019	0.048 0.019	15.88 0.625	7.14 0.281	45.09 1.775	-0.38 -0.015	1.6 0.063	1.65 0.065	51.1 2.01
50 2	57.0 2.250	0.57 0.022	0.57 0.022	15.88 0.625	8.74 0.344	53.85 2.12	-0.38 -0.015	1.6 0.063	1.65 0.065	59.7 2.35
50 2	60.3 2.375	0.61 0.024	0.61 0.024	15.88 0.625	8.74 0.344	57.15 2.25	-0.38 -0.015	1.6 0.063	1.65 0.065	63 2.48
65 2 1/2	73.0 2.875	0.74 0.029	0.74 0.029	15.88 0.625	8.74 0.344	69.09 2.72	-0.46 -0.018	1.98 0.078	2.11 0.083	75.7 2.98
65 2 1/2	76.1 3.000	0.76 0.03	0.76 0.03	15.88 0.625	8.74 0.344	72.26 2.845	-0.46 -0.018	1.98 0.078	2.11 0.083	78.7 3.1
80 3	88.9 3.500	0.89 0.089	0.79 0.031	15.88 0.625	8.74 0.344	84.94 3.344	-0.46 -0.018	1.98 0.078	2.11 0.083	91.4 3.6
90 3 1/2	101.6 4.000	1.02 0.04	0.79 0.031	15.88 0.625	8.74 0.344	97.38 3.834	—0.51 -0.02	2.11 0.083	2.11 0.083	104.1 4.1
100 4	108.0 4.250	1.07 0.042	0.79 0.031	15.88 0.625	8.74 0.344	103.73 4.084	-0.51 -0.02	2.11 0.083	2.11 0.083	110.5 4.35
100 4	114.3 4.500	1.14 0.045	0.79 0.031	15.88 0.625	8.74 0.344	110.08 4.334	-0.51 -0.02	2.11 0.083	2.11 0.083	116.8 4.6
120 4 1/2	127 5.000	1.27 0.05	0.79 0.031	15.88 0.625	8.74 0.344	122.78 4.834	—0.51 -0.02	2.11 0.083	2.41 0.095	129.5 5.098
125 5	133.0 5.250	1.32 0.052	0.79 0.031	15.88 0.625	8.74 0.344	129.13 5.084	-0.51 -0.02	2.11 0.083	2.77 0.109	135.9 5.35
125 5	139.7 5.500	1.42 0.056	0.79 0.031	15.88 0.625	8.74 0.344	135.48 5.334	—0.51 -0.02	2.11 0.083	2.77 0.109	142.2 5.6
125 5	141.3 5.563	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	2.77 0.109	143.8 5.66
6 6OD	152.4 6.000	1.42 0.056	0.79 0.031	15.88 0.625	8.74 0.344	148.08 5.83	—0.56 -0.022	2.16 0.085	2.77 0.109	154.9 6.1
150 6	159.0 6.250	1.6 0.063	0.79 0.031	15.88 0.625	8.74 0.344	154.5 6.082	-0.56 -0.022	2.16 0.085	2.77 0.109	161.3 6.35
150 6	165.1 6.500	1.6 0.063	0.79 0.031	15.88 0.625	8.74 0.344	160.9 6.334	-0.56 -0.022	2.16 0.085	2.77 0.109	167.6 6.6
150 6	168.3 6.625	1.6 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	2.77 0.109	170.9 6.73
200 8	216.3 8.500	1.6 0.063	0.79 0.031	19.05 0.75	11.91 0.469	211.61 8.331	—0.64 -0.025	2.34 0.092	2.77 0.109	220.7 8.69
200 8	219.1 8.625	1.6 0.063	0.79 0.031	19.05 0.75	11.91 0.469	214.4 8.441	-0.64 -0.025	2.34 0.092	2.77 0.109	223.5 8.8
250 10	267.4 10.500	1.6 0.063	0.79 0.031	19.05 0.75	11.91 0.469	262.6 10.339	—0.69 -0.027	2.39 0.094	3.4 0.134	271.8 10.7
250 10	273.0 10.750	1.6 0.063	0.79 0.031	19.05 0.75	11.91 0.469	268.28 10.562	-0.69 -0.027	2.39 0.094	3.4 0.134	277.4 10.92
300 12	318.4 12.500	1.6 0.063	0.79 0.031	19.05 0.75	11.91 0.469	312.9 12.319	—0.76 -0.03	2.77 0.109	3.96 0.156	322.8 12.71
300 12	323.9 12.750	1.6 0.063	0.79 0.031	19.05 0.75	11.91 0.469	318.29 12.531	-0.76 -0.03	2.77 0.109	3.96 0.156	328.2 12.92

- Pipe standard OD and tolerance OD: Confirmed before rolling the groove pipe áëif not, then the pipe is not suitable for rolling grooveáù
- Sealing surface A: confirm the sealing surface size in line with the requirements of the above table, if it is too large, it will affect the joint installation, too small will affect the joint sealing performance;
- Groove width B: Confirm that the width of the groove conforms to the above requirements, if it exceeds the requirement, it will affect the flexibility of the flexible coupling;
- Groove bottom diameter C: The standard value is its maximum, which has only negative tolerances. It affect the pressure bearing capacity and the various indicators of sex, if C is too large will appear the possibility of joint tripping;
- Groove depth D: for reference only. When the pipe outer diameter is the standard outer diameter, it is the minimum depth of the groove.
- Minimum wall thickness T: control the quality of the pipeline after rolling groove, if it is too small, there will be pipeline cracking or lowering pipe pressure capacity;
- Max.flare F: After the pipe grooved, the pipe-end flare will generally occur. If it is oversized or over-pressed, it may exceed the requirements in the following table, which will lead to the installation quality of the joint and the seal exposed Sealing performance.

Cut Groove Parameters



Standard Roll Groove Specifications-Steel and Other IPS Pipe

Size				Gasket Seat	Grv. Width	Grv. Diameter C		Grv. Depth	Min. Wall
Nominal Dia.	Actual O.D.	Tolerance		A	B	Std.	Tolerance	D(Ref.)	T
DN Inches	mm Inches	mm Inches	mm Inches	± 0.76mm ± 0.03In.	± 0.76mm ± 0.03In.	mm Inches	mm Inches	mm Inches	mm Inches
20 3/4	26.9 1.050	0.25 0.01	0.25 0.01	15.88 0.625	7.95 0.313	23.83 0.938	-0.38 -0.015	1.42 0.056	2.87 0.113
25 1	33.4 1.315	0.33 0.013	0.33 0.013	15.88 0.625	7.95 0.313	30.23 1.19	-0.38 -0.015	1.6 0.063	3.38 0.133
32 1 1/4	42.4 1.660	0.041 0.016	0.041 0.016	15.88 0.625	7.95 0.313	38.99 1.535	-0.38 -0.015	1.6 0.063	3.56 0.140
40 1 1/2	48.3 1.900	0.048 0.019	0.048 0.019	15.88 0.625	7.95 0.313	45.09 1.775	-0.38 -0.015	1.6 0.063	3.68 0.145
50 2	57.0 2.250	0.57 0.022	0.57 0.022	15.88 0.625	7.95 0.313	53.85 2.12	-0.38 -0.015	1.6 0.063	3.91 0.154
50 2	60.3 2.375	0.61 0.024	0.61 0.024	15.88 0.625	7.95 0.313	57.15 2.25	-0.38 -0.015	1.6 0.063	3.91 0.154
65 2 1/2	73.0 2.875	0.74 0.029	0.74 0.029	15.88 0.625	7.95 0.313	69.09 2.72	-0.46 -0.018	1.98 0.078	4.78 0.188
65 2 1/2	76.1 3.000	0.76 0.03	0.76 0.03	15.88 0.625	7.95 0.313	72.26 2.845	-0.46 -0.018	1.98 0.078	4.78 0.188
80 3	88.9 3.500	0.89 0.089	0.79 0.031	15.88 0.625	7.95 0.313	84.94 3.344	-0.46 -0.018	1.98 0.078	4.78 0.188
90 3 1/2	101.6 4.000	1.02 0.04	0.79 0.031	15.88 0.625	7.95 0.313	97.38 3.834	—0.51 -0.02	2.11 0.083	4.78 0.188
100 4	108.0 4.250	1.07 0.042	0.79 0.031	15.88 0.625	9.53 0.375	103.73 4.084	-0.51 -0.02	2.11 0.083	5.17 0.203
100 4	114.3 4.500	1.14 0.045	0.79 0.031	15.88 0.625	9.53 0.375	110.08 4.334	-0.51 -0.02	2.11 0.083	5.17 0.203
120 4 1/2	127 5.000	1.27 0.05	0.79 0.031	15.88 0.625	9.53 0.375	122.78 4.834	—0.51 -0.02	2.11 0.083	5.17 0.203
125 5	133.0 5.250	1.32 0.052	0.79 0.031	15.88 0.625	9.53 0.375	129.13 5.084	-0.51 -0.02	2.11 0.083	5.17 0.203
125 5	139.7 5.500	1.42 0.056	0.79 0.031	15.88 0.625	9.53 0.375	135.48 5.334	—0.51 -0.02	2.11 0.083	5.17 0.203
125 5	141.3 5.563	1.42 0.056	0.79 0.031	15.88 0.625	9.53 0.375	137.03 5.395	-0.56 -0.022	2.13 0.084	5.17 0.203
6 6OD	152.4 6.000	1.42 0.056	0.79 0.031	15.88 0.625	9.53 0.375	148.08 5.83	—0.56 -0.022	2.16 0.085	5.56 0.219
150 6	159.0 6.250	1.6 0.063	0.79 0.031	15.88 0.625	9.53 0.375	154.5 6.082	-0.56 -0.022	2.16 0.085	5.56 0.219
150 6	165.1 6.500	1.6 0.063	0.79 0.031	15.88 0.625	9.53 0.375	160.9 6.334	-0.56 -0.022	2.16 0.085	5.56 0.219
150 6	168.3 6.625	1.6 0.063	0.79 0.031	15.88 0.625	9.53 0.375	163.96 6.455	-0.56 -0.022	2.16 0.085	5.56 0.219
200 8	216.3 8.500	1.6 0.063	0.79 0.031	19.05 0.75	11.13 0.438	211.61 8.331	—0.64 -0.025	2.34 0.092	6.05 0.238
200 8	219.1 8.625	1.6 0.063	0.79 0.031	19.05 0.75	11.13 0.438	214.4 8.441	-0.64 -0.025	2.34 0.092	6.05 0.238
250 10	267.4 10.500	1.6 0.063	0.79 0.031	19.05 0.75	12.7 0.500	262.6 10.339	—0.69 -0.027	2.39 0.094	6.35 0.250
250 10	273.0 10.750	1.6 0.063	0.79 0.031	19.05 0.75	12.7 0.500	268.28 10.562	-0.69 -0.027	2.39 0.094	6.35 0.250
300 12	318.4 12.500	1.6 0.063	0.79 0.031	19.05 0.75	12.7 0.500	312.9 12.319	—0.76 -0.03	2.77 0.109	7.09 0.279
300 12	323.9 12.750	1.6 0.063	0.79 0.031	19.05 0.75	12.7 0.500	318.29 12.531	-0.76 -0.03	2.77 0.109	7.09 0.279

- Pipe standard OD and tolerance OD: Confirmed before rolling the groove pipe, if not, then the pipe is not suitable for rolling groove;
- Sealing surface A: confirm the sealing surface size in line with the requirements of the above table, if it is too large, it will affect the joint installation, too small will affect the joint sealing performance;
- Groove width B: Confirm that the width of the groove conforms to the above requirements, if it exceeds the requirement, it will affect the flexibility of the flexible coupling;
- Groove bottom diameter C: The standard value is its maximum, which has only negative tolerances. It affect the pressure bearing capacity and the various indicators of sex, if C is too large will appear the possibility of joint tripping;
- Groove depth D: for reference only. When the pipe outer diameter is the standard outer diameter, it is the minimum depth of the groove.
- Minimum wall thickness T: control the quality of the pipeline after rolling groove, if it is too small, there will be pipeline cracking or lowering pipe pressure capacity;

Design Considerations

The JSI piping method may be used for joining a variety of piping systems for a wide variety of services. It may be utilized for varied pipe sizes, pipe materials and wall thickness. Products are available to provide rigid or flexible systems. For specific product information relating to use on varied pipe materials refer to the appropriate sections of this catalog.

As with any piping method, the nature of the method should be considered in designing the piping systems. This design data applies primarily to grooved end pipe, however, much of the information applies to other piping products used in conjunction with grooved components.

The material presented is intended solely for piping design reference in utilization of JSI products for their intendedapplication. It is not intended as a replacement for competent,professional assistance which is an obvious requisite to any specific application. Good piping practice should always prevail.Specific pressures, temperatures, external or internal loads,performance standards and tolerances must never beexceeded.

While every effort has been made to ensure its accuracy,JSI Company , its subsidiaries and affiliated companies, make no express or implied warranty of mer-chantability or fitness for a particular purpose respecting the information contained in this Catalog or the materials referred to therein. Illustrations shown within this catalog are not drawn to scale and may have been exaggerated for clarity. Anyone making use of the information or material contained herein does so at his own risk and assumes any and all liability resulting from such use.

Rigid Coupling

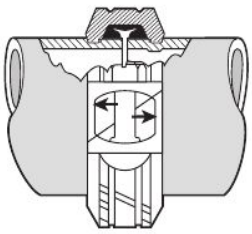
Rigid grooved end piping systems (including Styles 1G, 1GS,1X, and others) provide a mechanical and frictional interlock onto the pipe ends sufficient to result in a rigid joint.

1G type, 1GS type rigid coupling adopts internal and external male and female mouth, socket type and meshing design. It uses the gap between the male and female mouth socket and the pipe to mesh with the joint to form a rigid coupling.

Type 1X rigid coupling is designed with a 60°angle pad design. This design assembles and tightens the coupling housing obliquely rather than vertically, resulting in a smaller internal diameter, which holds the pipe tightly and creates a rigid connection. This oblique sliding also forces the joint housing keys to form double-sided contact on opposite sides of the inner and outer edges of the groove so that axial and radial movements cannot be generated after the tubes are connected, and the rigid connecting pipe is actually achieved.



Model 1G, Model1GS Rigid Coupling



Model 1X Style Rigid Coupling

These products can be considered to have system behavior characteristics similar to those of welded or flanged systems, in that all piping remains in strict alignment and is not subject to deflections during operation. For this reason, these products require support techniques similar to those used in traditional flanged or welded systems.

Systems incorporating rigid couplings require the calculated thermal growth/contraction of the piping system to be fully compensated for in the design of the piping system. This requires adequate use of flexible components, (i.e. flexible couplings, expansion joints, expansion loops using flexible couplings at the elbows, etc.) such that no bending moments can be developed and imparted at the pipe joints. Please refer to The following sections for further details.

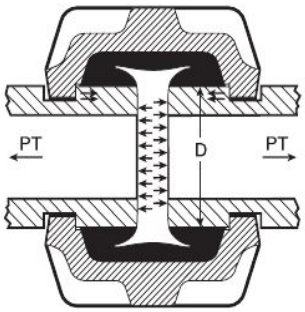
Flexible Coupling

The following factors must be considered when designing or installing flexible grooved end piping systems (including Styles 1G, 1GS,1X, and others).

Pressure Thrust

When a flexible grooved type mechanical coupling is sustaining forces trying to separate the pipe ends, the shoulder of the groove is pulled hard against the inside face of the coupling key. This is what prevents the pipes from separating.

The allowable force which a joint can sustain varies for different types of couplings, pipe wall thickness, types of pipes and grooving. The product data under the column "Maximum Permissible End Load" shows the maximum allowable end force due to internal pressure and external loading that different couplings will sustain.



When this end force is due to a closed end or change in direction, the pressure thrust transmitted by the joint can be computed fromthe formula:

$$PT = \frac{\pi}{4} D^2 P$$

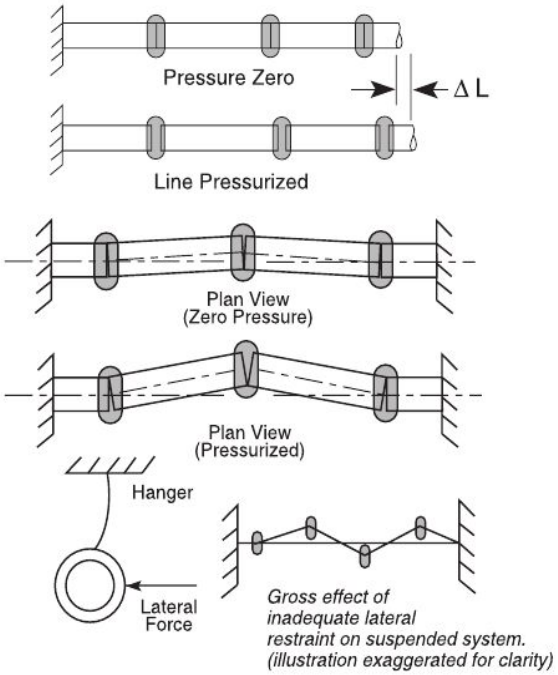
Where:

PT = Pressure thrust or end load (lbs.)

D = Outside diameter of pipe (inches)

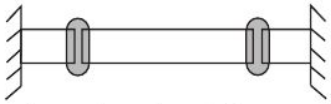
p = Internal pressure (psi)

Pipe will be moved to the full extent of the available pipe end gaps when allowed to float. Ensure resulting movement of randomly installed systems is not harmful to joints at changes in directions or branch connections or to parts of structure or other equipment. Note also that thermal expansion of pipes will add to total movement in these cases.

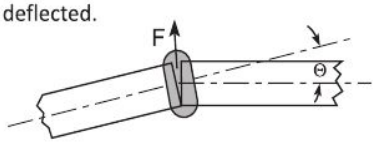


For anchored systems, where pressure thrusts do not act to hold the joints in tension, or in systems where the joints have been intentionally deflected (e.g., curves), provide lateral restraint to prevent movement of the pipes due to pressure thrusts acting at deflections. Lightweight hangers are not adequate in preventing sideways movement of pipes. It should be anticipated that small

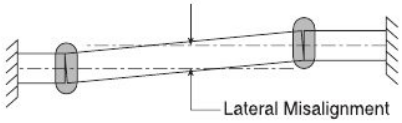
deflections will occur in all straight lines and side thrusts will be exerted on the joints.



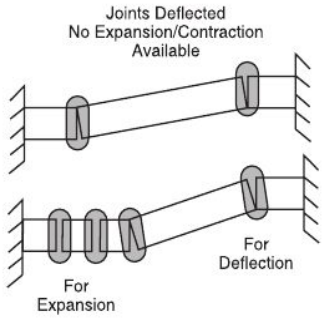
Angular deflection at butted or fully spaced joints is not possible unless the ends of the pipes are free to move as required. Unrestrained deflected joints will straighten up under the action of axial pressure thrusts or other forces acting to pull pipes apart. If joints are to be maintained deflected, then lines must be anchored to restrain pressure thrusts and end pull forces, otherwise sufficient lateral force must be exerted to keep joint deflected.



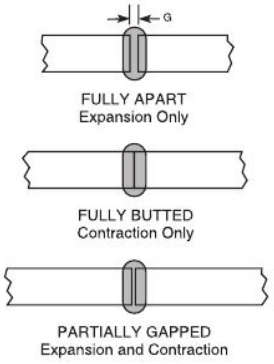
Lateral forces (F) will always act on deflected joints due to internal pressure. A fully deflected joint will no longer be capable of providing the full linear movement normally available at the joint.



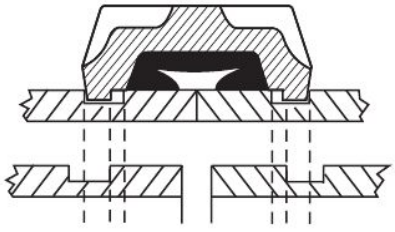
At least two flexible couplings are required to provide for lateral misalignment of pipes. Angular deflection of each joint must not exceed Maximum Deflection From Centerline published for each JSI coupling style



The grooved piping method will not allow both maximum linear movement and maximum angular movement simultaneously at the same joint. If both are expected simultaneously, systems should be designed with sufficient joints to accommodate both, including allowance for recommended tolerances. Flexible couplings do not automatically provide for expansion or contraction of piping. Always consider best setting for pipe end gaps. In anchored systems, gaps must be set to handle combinations of expansion and contraction. In free floating systems offsets of sufficient length must be used to accommodate movement without over deflecting joints.



Linear movement available at flexible grooved pipe joints is published under performance data for each JSI coupling style. These values are MAXIMUMS. For design and installation purposes, these figures should be reduced by the following factors to allow for pipe groove tolerances.



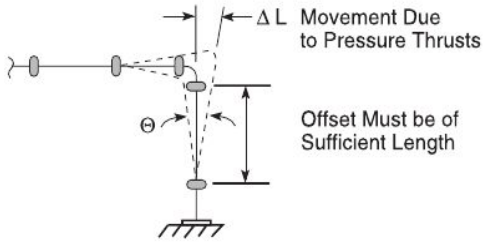
Suggestáø

DN25~DN80(1"~3")Reduce published figures to 50%áê

DN100~DN300(4"~12") Reduce published figures to 75%

Standard cut grooved pipe will provide double the expansion/ contraction or deflection capabilities of the same size standard roll groove pipe.

OFFSETS AND BRANCH CONNECTIONS

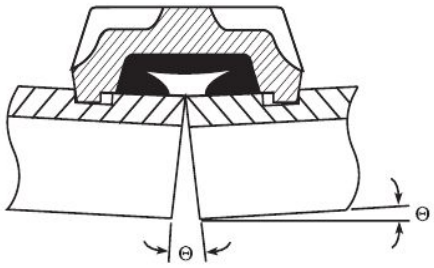


Ensure that branch connections and offsets are sufficiently long so that the maximum angular deflection of coupling (shown in Performance Data for each coupling style) is never exceeded and can accommodate anticipated total movement of pipes. Otherwise, anchor system to direct movement away from these. Also ensure that adjacent pipes can move freely to provide anticipated movements. (Refer to the belowing sections for more details.)

Angular Deflections

Angular deflection available at flexible grooved pipe joints is published under Performance Data for each JSI coupling style. These values are MAXIMUMS. For design and installation purposes these figures should be reduced by the following factors to allow for pipe grooving tolerances.

θ= Maximum angular deflection between center lines as shown under Performance Data.



DN25~DN80(1"~3") Reduce published figures to 50%.

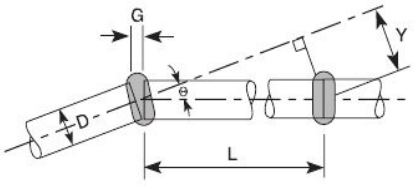
DN100~DN300(4"~12")Reduce published figures to 75%.

Standard cut grooved pipe will provide double the expansion/ contraction or deflection capabilities of the same size standard roll groove pipe.

The angular deflection available at a JSIflexible grooved pipe joint is useful in simplifying and speeding installation.

NOTE: Joints which are fully deflected can no longer provide linear movement. Partially deflected joints will provide some portion of linear movement.

NOTE: Pressure thrusts will tend to straighten deflected pipe.



Where:

Y = Misalignment (Inches)

G = Maximum Allowable Pipe End Movement (Inches) as shown under Performance Data (Published value to be reduced be Design Tolemrance.)

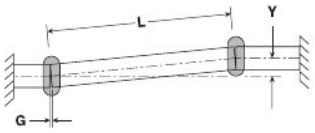
θ= Maximum Deflection (Degrees) from Center Line as shown under Performance Data (Published value to be reduced by Design Tolerance.)

D = Pipe Outside Diameter (Inches)

L = Pipe Length (Inches)

Misalignment

Pipe misalignment can be accommodated with a JSI flexible grooved piping system. Note that at least two flexible couplings must be used for the combined lateral displacement and angulardeflection (Y). (Refer belowing sections for details.)



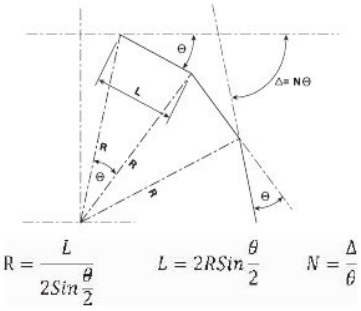
The movement available can be calculated from the flexible coupling Performance Data.

Curve Layout

Curves may be installed with straight pipe lengths utilizing the angular deflection (under performance data) available at each flexible coupling.

Note that if the maximum angle of deflection at the couplings is used to lay the curve, no allowance is left for expansion/ contraction.

NOTE: Pressure thrusts will tend to straighten the curve. Consideration must be given to proper anchoring.



$$R = \frac{L}{2Sin\frac{\theta}{2}} \qquad L = 2RSin\frac{\theta}{2} \qquad N = \frac{\Delta}{\theta}$$

Where:

N = Number of Couplings

R = Radius of Curve (Feet)

L = Pipe Length (Feet)

θ= Deflection from Centerline (°) of each Coupling (See Data Sheets- Published value to be reduced by Design Tolerance)

Δ= Combined Angular Deflection of all couplings

For curves of less than 90° total deflection, the data shown on the previous page can be used to determine:

1. The radius of curvature that can be made using pipes of a given length and utilizing either the full or partial angle of deflection available from the couplings used. Alternatively, the maximum length of pipe that can be used to negotiate a curve of a certain radius using either the maximum or partial angle of deflectionavailable from the couplings.

2. The total number of flexible couplings required to negotiate a curve having a given deflection angle.

Pipe Support Anchorage and Guidance

Rigid Coupling & Flexible Coupling

When designing anchorage, support and guidance systems for piping joined with flexible or rigid mechanical grooved type couplings, it is necessary to give consideration to certain characteristics of these couplings. These characteristics distinguish flexible grooved type couplings from other types and methods of pipe joining. When this is understood, the designer can utilize the many advantages that these coupling provide.

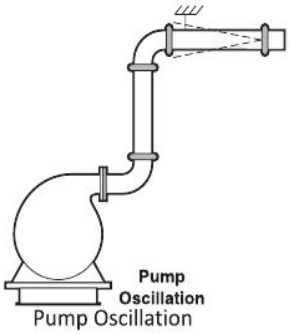
Coupling Key:

= Rigid Coupling

= Flexible coupling

USE OF HANGERS AND SUPPORTS

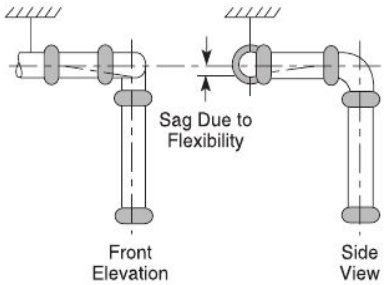
The use of hangers and supports offering freedom of movement in one or more directions has to be considered to allow pipes to move freely. Spring hangers are good practice at change of direction to allow freedom of pipe movement.



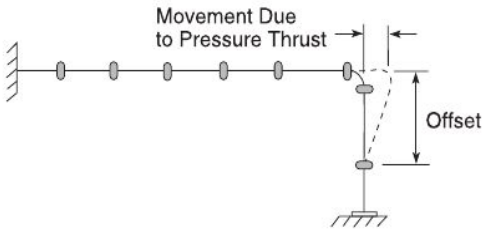
Pump Oscillation

Accommodating Coupling Flexibility

Flexible grooved type couplings allow angular flexibility and rotational movement to take place at joints. These features provide advantages in installing and engineering piping systems, but must be considered when determining hanger and support spacing.



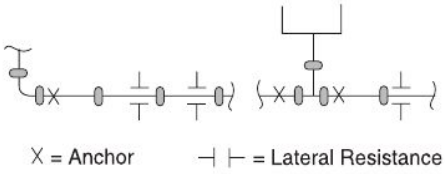
As illustrated, it is obvious that this system would require further hangers to eliminate the drooping of the pipes that would occur. Hanger positions must therefore be considered in relation to the angular and rotational movement that will occur at joints.Good use can be made of 1X style rigid couplings in boiler and machinery rooms. These will increase rigidity where needed.



In the system illustrated, if the joints had all been installed butted or only partially open when pressurized, the pipe ends would all move to the maximum extent allowed by the coupling and this movement would all accumulate at the end of the system. The offset would have to be capable of deflecting sufficiently, otherwise harmful bending moments would be induced in the joints of the offset.

Note, if the pipes were to expand due to thermal changes, then further growth of the pipes would also take place at the ends.

Anchorage and Support



Ensure anchorage and support is adequate. Use anchors to direct movement away from or to protect critical changes in direction, branch connections and structure. Spacing and types of supports should consider anticipated pipe movements.If rigid couplings are used, consideration must be given to use of expansion joints if thermal movement is expected.

Rules Applicable to Long Runs of Pipe

For long pipe runs incorporating flexible couplings, it is normal practice to anchor or block all changes in direction of piping to prevent pressure thrusts from creating linear growth at the flexible joints. It may be necessary to guide the pipe to prevent lateral movement of the pipe between the anchors. Intermediate anchors can be installed to control pipe movement in selected areas and to reduce pipe end forces on joints. When changes in direction are located in a structure (i.e. pump room) a main anchor can be used at the change in direction to handle loads created by pressure thrusts. The anchor would also prevent unwanted movement of the piping at equipment connections.

Pipe Support

Rigid Coupling & Flexible Coupling

Piping joined with grooved type couplings, like all other piping systems, requires support to carry the weight of pipes, equipment and fluid. Like all other methods of joining pipes, the support or hanging method must be such as to eliminate undue stresses on joints, piping and other components. Additionally, the method of support must be such as to allow movement of the pipes where required and to provide for other special requirements such as drainage, etc. as may be required by the designer. The support system for flexible mechanical grooved type pipe couplings must consider some of the special requirements of these couplings. The tables show suggested maximum span between pipe supports for horizontal straight runs of standard weight steel pipe carrying water or similarly dense liquids. They are not intended to be used as specifications for all installations. These DO NOT apply where critical calculations are made or where there are concentrated loads between supports.

Do not attach supports directly to the couplings. Support adjoining pipe and equipment only.

Rigid Systems

For JSI rigid coupling Styles 1G, 1GS, 1X,and others, the Maximum Hanger Spacing below may be used.

Size		Suggested Maximum Span Between Supports					
Nominal Dia.		Water Service			Gas or Air Service		
		1	2	3	1	2	3
DN	Inches	m Feet	m Feet	m Feet	m Feet	m Feet	m Feet
25	1	2.1 7	2.7 9	3.7 12	2.7 9	2.7 9	3.7 12
32	$1^1/_4$	2.1 7	3.4 11	3.7 12	2.7 9	3.4 11	3.7 12
40	$1^1/_2$	2.1 7	3.7 12	4.6 15	2.7 9	4.0 13	4.6 15
50	2	3.1 10	4.0 13	4.6 15	4.0 13	4.6 15	4.6 15
65	$2^1/_2$	-- --	-- --	-- --	-- --	-- --	-- --
80	3	3.7 12	4.6 15	4.6 15	4.6 15	5.2 17	4.6 15
100	4	4.3 14	5.2 17	4.6 15	5.2 17	6.4 21	4.6 15
125	5	-- --	-- --	-- --	-- --	-- --	-- --
150	6	5.2 17	6.1 20	4.6 15	6.4 21	7.6 25	4.6 15
200	8	5.8 19	6.4 21	4.6 15	7.3 24	8.5 28	4.6 15
250	10	5.8 19	6.4 21	4.6 15	7.3 24	9.5 31	4.6 15
300	12	7.0 23	6.4 21	4.6 15	9.1 30	10.1 33	4.6 15
350	14	7.0 23	6.4 21	4.6 15	9.1 30	10.1 33	4.6 15
400	16	8.2 27	6.4 21	4.6 15	10.7 35	10.1 33	4.6 15
450	18	8.2 27	6.4 21	4.6 15	10.7 35	10.1 33	4.6 15
500	20	9.1 30	6.4 21	4.6 15	11.9 39	10.1 33	4.6 15
600	24	9.8 32	6.4 21	4.6 15	12.8 42	10.1 33	4.6 15

1.Spacing corresponds to ASME B31.1 Power Piping Code.
2.Spacing corresponds to ASME B31.9 Building Services Piping Code.
3.Spacing corresponds to NFPA 13 Fire Sprinkler Systems

Flexible Systems

For coupling Styles including 1N,1ZN. Standard grooved-type couplings allow angular,linear and rotational movement at each joint, to accommodate expansion,contraction, settling, vibration, noise and other piping system movement. These features provide advantages in designing piping systems but must be considered when determining hanger and support bracing and location.

Maximum Hanger Spacing

For straight runs without concentrated loads and where full linear movement is required.

Size	Average Hangers per Pipe Length Evenly Spaced									
Nominal Dia.	Pipe Length m Pipe Length Feet									
DN Inches	2.1 7	3.0 10	3.7 12	4.6 15	6.1 20	6.7 22	7.6 25	9.1 30	10.7 35	12.2 40
20~25 $^3/_4$~1	1	2	2	2	3	3	4	4	5	6
32~50 $1^1/_4$~2	1	2	2	2	3	3	4	4	5	5
65~100 $2^1/_2$~4	1	1	2	2	2	2	2	3	4	4
125~200 5~8	1	1	1	2	2	2	2	3	3	3
250~300 10~12	1	1	1	2	2	2	2	3	3	3
350~400 14~16	1	1	1	2	2	2	2	3	3	3
450~600 18~24	1	1	1	2	2	2	2	3	3	3
700~1050 28~42	1	1	1	1	2	2	2	3	3	3

No pipe length should be left unsupported between any two couplings

Maximum Hanger Spacing

For straight runs without concentrated loads and where full linear movement is not required.

Pipe Size Nominal Dia.	Suggested Maximum Span Between Supports
DN Inches	M Feet
20~25 $^3/_4$~1	2.4 8
32~50 $1^1/_4$~2	3.0 10
65~100 $2^1/_2$~4	3.7 12
125~200 5~8	4.3 14
250~300 10~12	4.9 16
350~400 14~16	5.5 18
450~600 18~24	6.1 20
700~1050 28~42	6.4 21

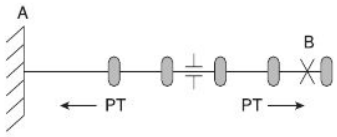
Anchors

Rigid Coupling & Flexible Coupling

Anchors can be used to prevent movement due to pressure thrust. There are two types of anchors which are commonly used:

A. Main anchors

B. Intermed



A. MAIN ANCHORS

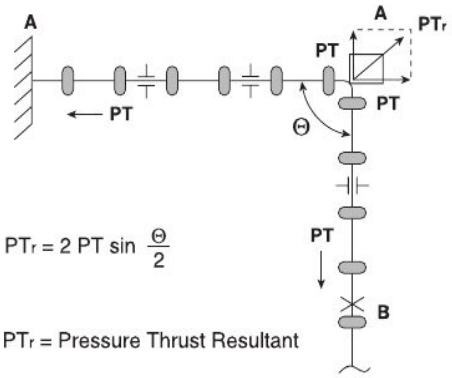
Main anchors are installed at or near terminations and changes of direction of a pipe line. The forces acting on a main anchor will result from internal pressure thrust. These forces can generate substantial loads which may require structural analysis.

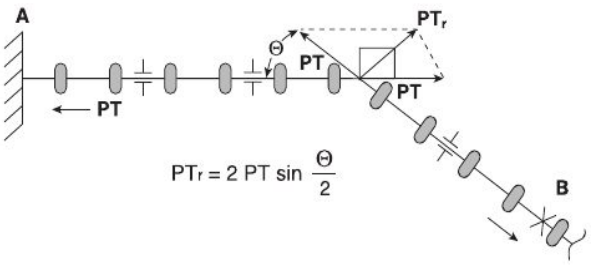
$$PT = \frac{\pi}{4} D^2 P$$

PT = Pressure Thrust (Pounds)

D = Outside Diameter of Pipe (Inches)

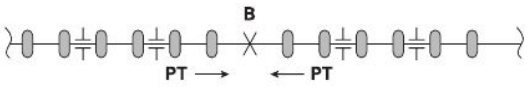
P = Internal Pressure (PSI)



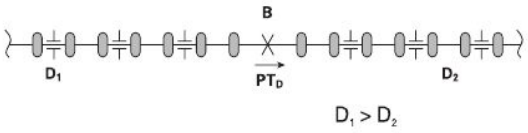


B. INTERMEDIATE ANCHORS

Intermediate anchors divide a long pipe run, with main anchors at each end, into individual expanding sections. The pressure thrust



Where there is a change in pipe diameter, there will be a differential pressure thrust acting on an intermediate anchor.



The differential pressure thrust PTD is calculated by:

$$PTD = p\left(\frac{\pi D_1^{\,2}}{4} - \frac{\pi D_2^{\,2}}{4}\right)$$

To keep pipe in alignment, guidance to prevent lateral movement or deflection at flexible coupling joints may be required. An alternative would be to use rigid couplings to keep joints from deflecting where not desired.



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