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XIYUAN VALVE



阀门管道补偿产品综合样本

<http://www.xiyuanfm.com>

上海喜元阀门制造有限公司

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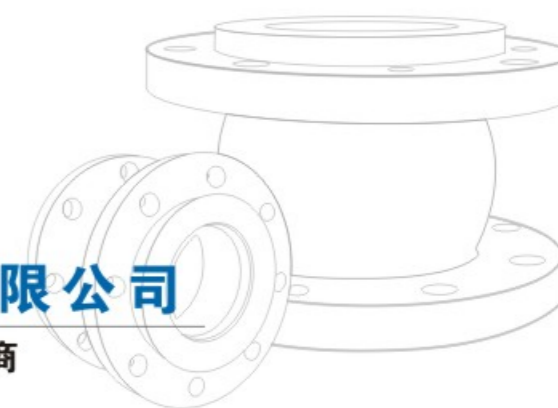
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上海喜元阀门制造有限公司

管道补偿产品专业制造商





公司简介

COMPANY PROFILE

上海喜元阀门制造有限公司是一家专业研发、制造及销售各类管道补偿接头及阀门类为一体的现代化企业，公司坐落在上海市奉贤区。

我公司拥有先进的加工设备和完善的制作技术，具有研制和生产各种管道设备的加工制造能力。在石油、化工、建筑、热力、供排水等行业取得了很好的业绩，获得了良好的口碑，随着企业的不断发展，同时与国内知名泵阀企业的深度合作，深刻意识到只有努力提高卓越的产品质量，提升先进的技术水平，完善良好的服务态度，才是制造企业的立身之本。

产品主要分为五大系列：阀门系列，橡胶接头减震器系列，不锈钢波纹管系列，钢制伸缩接头系列，预埋用防水套管系列等。给管道泵房水表阀门的安装连接和维修提供了极大的方便，给长距离管道因气候温差引起的伸缩位移，起到了极好的补偿、缓解和保护作用。

上海·喜元阀门一切本着用最短的时间解决客户所遇到的问题为目标立足市场；为新老客户提供更新更好的产品和服务，为客户创造价值。

Shanghai Xiyuan Valve Manufacturing Co., Ltd. is a professional R & D, manufacturing and sales of all kinds of pipeline compensation joints and valves as one of the modern enterprises, the company is located in Fengxian District, Shanghai.

Our company has advanced processing equipment and perfect production technology, and has the processing and manufacturing ability to develop and produce various pipeline equipment. In the petroleum, chemical, construction, heating, water supply and drainage industries have achieved good performance and good reputation. With the continuous development of the enterprise, at the same time, with the deep cooperation with domestic well-known pump and valve enterprises, we deeply realize that only strive to improve the excellent product quality, improve the advanced technical level, and improve the good service attitude are the foundation of the manufacturing enterprise.

The products are mainly divided into five series: valve series, rubber joint shock absorber series, stainless steel bellows series, steel expansion joint series, embedded waterproof casing series, etc. It provides great convenience for the installation, connection and maintenance of the water meter valve in the pipeline pump room, and plays an excellent role in compensation, mitigation and protection for the expansion and contraction displacement of long-distance pipeline caused by climate temperature difference.

Xiyuan valve all in line with the shortest time to solve the problems encountered by customers as the goal, based on the market; to provide new and old customers with better products and services, to create value for customers.



目录 CONTENTS

企业文化 CORPORATE CULTURE

公司宗旨 Purpose of the company

以人为本，诚信务实，创新进取，回报社会。
People oriented, honest and pragmatic, innovative and enterprising, repay the society.

质量宗旨 Quality purpose

以最卓越的高品质阀门伸缩节和最完善补偿方案来保护管道，满足客户对产品的最终需求。
With the most excellent high quality valve expansion joint and the most perfect compensation scheme to protect the pipeline, to meet the final needs of customers for products.

营销战略 Marketing strategy

品种独特、质量优良、价格适中、交货及时、策略灵活、服务优质。
Unique variety, excellent quality, moderate price, timely delivery, flexible strategy and high quality service.

经营理念 management idea

不忘初心、诚信经营、业精于专、精诚致远。
Do not forget the original intention, integrity management, industry expertise, sincere Zhiyuan.

01	橡胶制品系列 Rubber products series
13	波纹膨胀节系列 Corrugated expansion joint series
24	伸缩接头系列 Expansion joint series
32	防水套管系列 Waterproof casing series
37	法兰标准 Flange standard
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产品展示 Product display

 P01 可曲挠橡胶接头 Flexible rubber joint	 P02 KXT型单球体可曲挠橡胶接头 KXT type single sphere flexible rubber joint	 P04 KST-F型双球体橡胶接头 KST-F double ball rubber joint	 P05 KXT型同心异径橡胶接头 KXT type concentric reducing rubber joint
 P06 JGD(KXT)型可曲挠偏心异径橡胶接头 JGD (KXT) type flexible rubber joints eccentric reducer	 P07 KXT-L型丝扣连接橡胶接头 KXT-L threaded rubber joint	 P08 橡胶缓闭止回阀(鸭嘴阀) Slow closing check valve rubber	 P09 橡胶隔振垫 Rubber vibration isolation pad
 P09 橡胶剪切隔振器 Rubber shear isolator	 P16 不锈钢波纹补偿器 Stainless steel corrugated compensator	 P17 沟槽金属软管 Grooved metal hose	 P17 沟槽波纹管 Grooved bellows
 P18 不锈钢金属软管 Stainless steel metal hose	 P19 四氟波纹补偿器 Tetrafluoro ripple compensator	 P20 直埋内压轴向波纹补偿器 Directly buried axial corrugated compensator with internal pressure	 P21 直埋型套筒补偿器 Directly buried sleeve compensator

产品展示 Product display

 P22 大拉杆横向波纹补偿器 Large tie bar transverse ripple compensator	 P23 FGFB型矩形单波膨胀节 Fibroblast type rectangular single-wave expansion joint	 P23 FGFB型矩形多波膨胀节 Fibroblast type rectangular double-wave expansion joint	 P24 VSSJA-2(B2F)型双法兰松套限位伸缩接头 VSSJA-2(B2F) double flange limited telescopic joint
 P25 VSSJA-1(BF)型单法兰松套限位伸缩接头 VSSJA-1 (BF) single flange limited telescopic joint	 P26 VSSJAF(C2F)型双法兰松套传力接头 VSSJAF (C2F) double flange dismantling joint	 P27 VSSJAFG(CF)型单法兰松套传力接头 VSSJAFG (CF) single flange dismantling joint	 P28 VSSJAF(C2F)型可拆式双法兰松套传力接头 VSSJAF(C2F) double flange dismantling joint
 P29 SSJB(A Y)型压盖式松套伸缩接头 SSJB (AY) type gland-type loose sleeve expansion joint	 P30 球型补偿器 spherical compensator for thermal expansion	 P30 球型补偿器(接管式) spherical compensator for thermal expansion	 P31 XZ免维护旋转补偿器 XZ maintenance free rotating compensator
 P32 D型大挠度松套补偿接头 D-type large deflection loose sleeve compensating joint	 P33 02S404柔性防水套管 02S404 flexible waterproof sleeve	 P34 02S404刚性防水套管 02S404 rigid waterproof casing	 P35 04FS02柔性密闭套管 04FS02 Flexible Sealed Casing

产品展示 Product display

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04FS02刚性密封套管 04FS02 Rigid Sealed Casing	07FK02通风套管 07FK02 Ventilation Casing	07FD02穿墙管密封肋 07FD02 Wall-piercing Tube Sealing Rib	JZW型轴向外压式波纹补偿器 JZW type bellows compensator with external compression shaft
			
BW无约束型波纹补偿器 BW unconstrained corrugated compensator	JWJ单式万向铰链型波纹补偿器 JWJ single universal joint corrugated compensator	JLJ单式铰链型波纹补偿器 JLJ single hinge corrugated compensator	BZPP型旁通直管压力平衡补偿器 BZPP type bypass straight pipe pressure balance compensator
			
BZYP型腰鼓式直管压力平衡波纹补偿器 BZYP waist drum type straight pipe pressure balance bellows compensator	轴向型复式波纹补偿器 Axial type compound corrugated compensator	BQYP型曲管压力平衡波纹补偿器 BQYP type curved pipe pressure balance bellows compensator	BYZMF煤粉管道三向型波纹补偿器 Byzmf three way corrugated compensator for pulverized coal pipe
			
DBHKXW型大波纹板盒可限位伸缩补偿器 DBHKXW expansion compensator with large corrugated plate and box	旋转补偿器 Rotary compensator	JYXZ注填式无推力旋转补偿器 JYXZ filling type non thrust rotary compensator	三维球型补偿器 Three dimensional spherical compensator

可曲挠橡胶接头 Flexible rubber joint

产品特性

可曲挠橡胶接头又可称为：橡胶软连接、软接头、柔性橡胶接头、橡胶膨胀节、避震喉、减震器等，是一种高弹性、高气密性、耐介质和耐气候性的管道接头。它的性能特点：1、体积小、重量轻、弹性好、安装维修方便。2、安装时可吸收管道震动产生的横向、轴向、角向位移；不受管道不同心，法兰不平行的限制。3、工作时可降低管道水泵等震动产生的噪音，吸振能力强。4、我们自主研发的内无缝高压橡胶接头，在耐高温、耐酸碱、耐油的管道中更有效地防止了腐蚀性介质对橡胶接头内壁的侵蚀，提高了使用寿命。

Product characteristics

The flexible rubber joint is also called rubber expansion joint, shock absorbing throat, shock absorber, it is a pipe joint with high air tightness, medium resistance and weather resistance. Its performance characteristics: 1, Small size, light weight, good elasticity, easy installation and maintenance. 2, Absorb the lateral, axial and angular displacement from the vibration of the pipeline, and the utility is not restricted by the cocenterness of the pipeline, and the flange. 3, Reduce the pipeline pump vibration noise and vibration absorbing ability. 4, Our independent research and development of seamless high pressure rubber joints used in the high temperature, acid and alkali resistant, oil resistant pipeline are more effectively to prevent corrosion of the inner wall of the rubber joint, and the service life is prolonged.



防拉脱装置
Limit tie rods

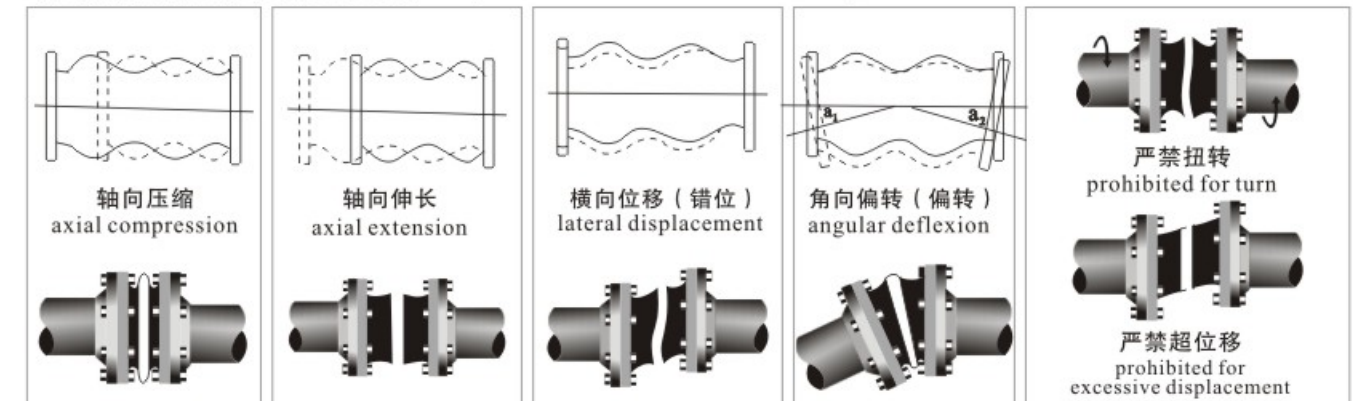
使用范围

由于可曲挠橡胶接头具有良好的综合性能，所以它广泛用于化工、建筑、给水、排水、石油、轻重工业、冷冻、卫生、水暖、消防、电力等基础工程。

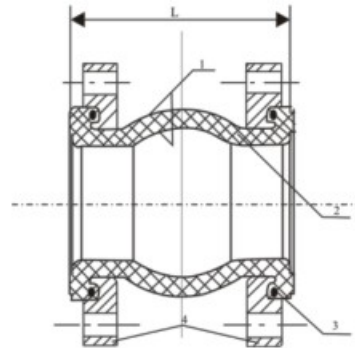
Use scope

As the flexible rubber joint has good comprehensive properties, it is widely used in chemical industry, construction, water supply, drainage, oil, light and heavy industry, refrigeration, sanitation, plumbing, fire fighting, electricity foundation engineering, etc..

可曲挠橡胶接头位移情况示意图 Displacement chart of flexible rubber joint



KXT型单球体可曲挠橡胶接头 KXT type single sphere flexible rubber joint



主要连接尺寸 Main connection dimensions

公称通径DN Nominal diameter		长度L Length (mm)	轴向位移 (mm) Axial displacement		横向位移 Horizontal displacement (mm)	偏转角度 Deflexion angle (α_1, α_2)
mm	inch		伸长 Extension	压缩 Compression		
32	1 $\frac{1}{4}$	95	6	9	9	15°
40	1 $\frac{1}{2}$	95	6	10	9	15°
50	2	105	7	10	10	15°
65	2 $\frac{1}{2}$	115	7	13	11	15°
80	3	135	8	15	12	15°
100	4	150	10	19	13	15°
125	5	165	12	19	13	15°
150	6	180	12	20	14	15°
200	8	210	16	25	22	15°
250	10	230	16	25	22	15°
300	12	245	16	25	22	15°
350	14	255	16	25	22	15°
400	16	255	16	25	22	15°
450	18	255	16	25	22	15°
500	20	255	16	25	22	15°
600	24	260	16	25	22	15°
700	28	260	16	25	22	15°
800	32	260	16	25	22	15°
900	36	260	16	25	22	15°
1000	40	260	18	26	24	15°
1200	48	260	18	26	24	15°
1400	56	350	20	28	26	15°
1600	64	350	25	35	30	10°
1800	72	350	25	35	30	10°
2000	80	420	25	35	30	10°
2200	88	420	25	35	30	10°
2400	96	420	25	35	30	10°
2600	104	450	25	35	30	10°
2800	112	450	25	35	30	10°
3000	120	500	25	35	30	10°

注：1、特殊要求可按用户图纸制作，法兰标准采用GB/T9115.1-2000，可选配（GB、HG、ANSI、DIN、BS、EN、JIS、等）法兰标准生产。橡胶球体可做天然橡胶、三元乙丙橡胶、氯丁橡胶、丁基橡胶、丁晴橡胶、氟橡胶等。

2、悬空给水使用DN200以上产品，管道必须有固定支撑或固定托架，否则产品应安装防拉脱装置。

3、用户使用橡胶接头，对应法兰应是阀门法兰或符合GB/T9115.1（RF）法兰。

Note: 1, special requirements can be made according to user drawings, flange standard GB/T9115.1-2000, optional (GB, HG, ANSI, DIN, BS, EN, JIS) standard production of flange. Rubber body to NR, EPDM, CR, IIR, NBR, VITON, etc

2, the use of suspended water supply above DN200, the pipe must be fixed or fixed support bracket, or pull off device shall be installed.

3, When using rubber joints, the corresponding flange should be the valve flange or GB/T9115.1 (RF) flange.

限位可曲挠橡胶接头 Limited flexible rubber joint

产品特性

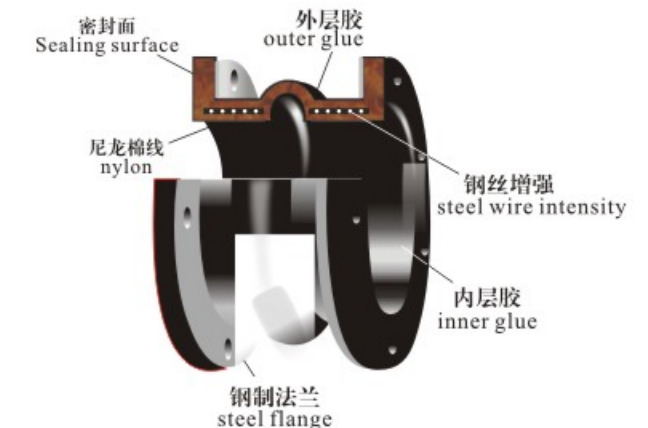
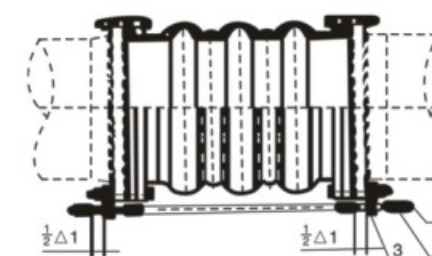
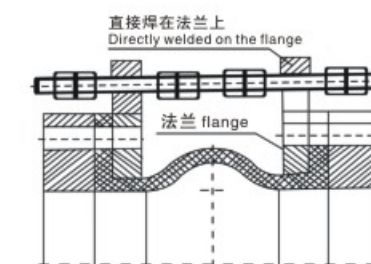
防拉脱装置也称限位防拉脱装置，是在原有产品性能的基础上增设限位装置，管道在允许的伸缩量中可以自由伸缩，一旦超过其最大伸缩量就起到限位，确保管道的安全运行，特别适用于有振动或有一定斜度及拐弯的管路中的连接。高层给水使用橡胶接头时，管道必须有固定支撑或固定托架，否则产品应安装防拉脱装置。

Product characteristics

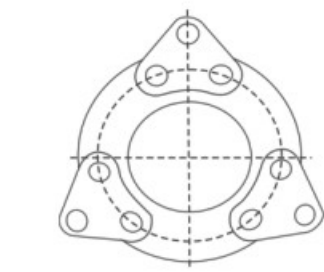
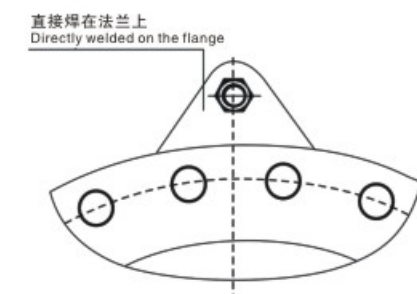
The escapement or limit the escapement, a limiting device is arranged in the original products in the pipeline to limit expansion amount allowed in the free expansion. once the expansion exceeds the maximum expansion amount, the expansion is stopped by the limit device ensuring the safe operation of the pipeline, and the utility is especially suitable for the connection of a pipeline with vibration or a certain inclination and turning. High water supply using rubber joints, The pipe must be fixed or fixed support bracket, otherwise the anti pull off device shall be installed.



防拉脱装置
Limit tie rods

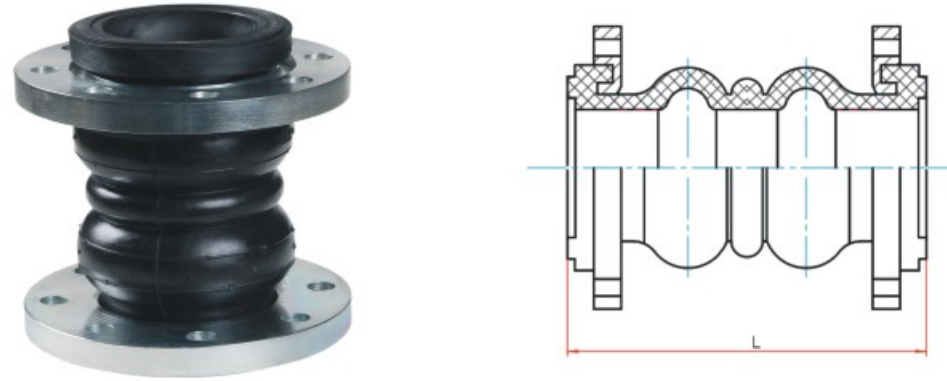


橡胶接头剖析图
Profile chart of rubber joint



1.限位螺杆 2.螺母 3.限位块
1. control rod 2. nut 3. gusset plane

KST-F型双球体橡胶接头 KST-F double ball rubber joint



主要连接尺寸 Main connection dimensions

公称通径DN Nominal diameter		长度 L Length (mm)	螺栓中心 The center of the spiral (mm)	孔径-数量 Aperture Number	轴向位移 Axial displacement		横向位移 Horizontal displacement (mm)	偏转角度 Deflexion angle ($\alpha_1+\alpha_2$)°
mm	Inch				伸长 Extension(mm)	压缩 Compression(mm)		
40	1½	165	110	18-4	30	50	45	35
50	2	165	125	18-4	30	50	45	35
65	2½	175	145	18-4	30	50	45	35
80	3	175	160	18-8	35	50	45	35
100	4	225	180	18-8	35	50	40	35
125	5	225	210	18-8	35	50	40	35
150	6	225	240	22-8	35	50	40	35
200	8	325	295	22-8	35	50	40	35
250	10	325	350	22-12	35	60	35	30
300	12	325	400	22-12	35	60	35	30
350	14	350	460	22-16	35	60	35	30
400	16	350	515	26-16	35	60	35	30
450	18	350	565	26-20	35	60	35	30
500	20	400	620	26-20	35	60	35	30
600	24	400	725	30-20	35	60	35	30
700	28	400	840	30-24	35	60	35	30
800	32	400	950	30-34	35	60	35	30

注：1、特殊要求可按用户图纸制作，法兰标准采用GB/T9115.1-2000，可选配（GB、HG、ANSI、DIN、BS、EN、JIS、等）法兰标准生产。橡胶球体可做天然橡胶、三元乙丙橡胶、氯丁橡胶、丁基橡胶、丁晴橡胶、氟橡胶等。

2、悬空给水使用DN200以上产品，管道必须有固定支撑或固定托架，否则产品应安装防拉脱装置。

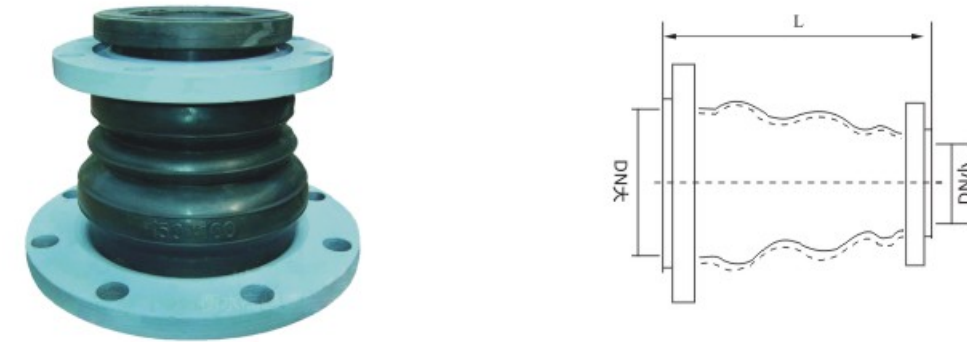
3、用户使用橡胶接头，对应法兰应是阀门法兰或符合GB/T9115.1（RF）法兰。

Note: 1, special requirements can be made according to user drawings, flange standard GB/T9115.1-2000, optional (GB, HG, ANSI, DIN, BS, EN, JIS) standard production of flange. Rubber body to NR, EPDM, CR, IIR, NBR, VITON, etc

2, the use of suspended water supply above DN200, the pipe must be fixed or fixed support bracket, or pull off device shall be installed.

3, When using rubber joints, the corresponding flange should be the valve flange or GB/T9115.1 (RF) flange.

KXT型同心异径橡胶接头 KXT type concentric reducing rubber joint



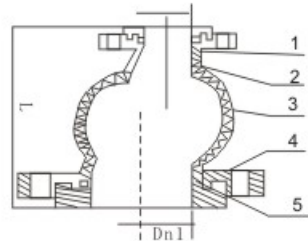
主要连接尺寸 Main connection dimensions

公称通径 Nominal diameter DN, XDN ₂	长度 Length L (mm)	轴向位移 Axial displacement		横向位移 Lateral displacement (mm)	偏转角度 Deflexion angle ($\alpha_1+\alpha_2$)°
		伸长 Extension	压缩 Compression		
50x32	180	20	30	45	35°
50x40	180	20	30	45	35°
65x40	180	20	30	45	35°
65x50	180	20	30	45	35°
80x40	180	20	30	45	35°
80x50	180	20	30	45	35°
80x65	180	20	30	45	35°
100x40	180	20	30	45	35°
100x50	180	20	30	45	35°
100x65	180	22	30	45	35°
100x80	180	22	30	45	35°
125x50	200	22	30	45	35°
125x65	200	22	30	45	35°
125x80	200	22	30	45	35°
125x100	200	22	30	45	35°
150x50	200	22	30	45	35°
150x65	200	22	30	45	35°
150x80	200	22	30	45	35°
150x100	200	22	30	45	35°
150x125	200	22	30	45	35°
200x80	200	22	30	40	30°
200x100	200	22	30	40	30°
200x125	200	25	30	40	30°
200x150	200	25	35	40	30°
250x125	220	25	35	40	30°
250x150	220	25	35	40	30°
250x200	220	25	35	40	30°
300x125	220	25	35	40	30°
300x150	220	25	35	40	30°
300x200	220	25	35	40	30°
300x250	220	25	35	40	30°
350x150	240	25	35	40	30°
350x200	240	28	38	35	26°
350x250	240	28	38	35	26°
350x300	240	25	35	40	30°
400x200	240	25	35	40	30°
400x250	240	28	38	40	30°
400x300	240	28	38	40	30°
400x350	240	28	38	40	30°
450x300	240	28	38	40	30°
450x350	240	28	38	40	30°
450x400	240	28	38	40	30°
500x350	240	28	38	40	30°
500x400	240	28	38	40	30°
500x450	240	28	38	40	30°
600x400	240	28	38	40	30°
600x450	240	28	38	40	30°
600x500	240	28	38	40	30°

注：DN200以上接头，高压、高层建筑使用，管道必须有固定支撑或固定托架，否则产品必须有防拉脱装置（产品实际轴向力<反支撑力）。

Note: The joints above DN200 used in high pressure and high building, anti-pull-off device should be installed if the pipe has no fixed stay or fixed bracket (actual axial force of the product is less than anti-supporting force)

JGD(KXT)型可曲挠偏心异径橡胶接头 JGD (KXT) type flexible rubber joints eccentric reducer



材料表 Materials Table

序号	名称	材料
1	外胶层	11R, CR, EPDM, NR, NBR
2	内胶层	11R, CR, EPDM, NR, NBR
3	骨架层	聚酯帘布
4	法兰	Q235, 304 316L
5	增强圈	钢丝圈

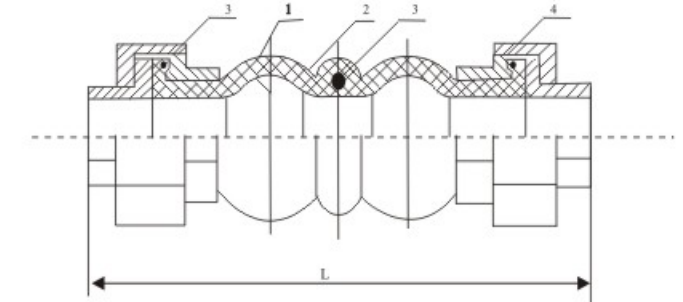
公称通径、长度、位移参数表
Nominal diameter, length, displacement parameters table

单位 (mm)
Unit(mm)

公称通径 Nominal diameter DN, XDN ₂	安装长度 The installation length	轴向位移 Axial displacement		径向位移 The radial displacement	偏转角度 Deflexion angle ($\alpha + \alpha_2$) ^o
		伸长 Compression	压缩 Compression		
50x32	180	20	30	45	350
50x40	180	20	30	45	350
65x40	180	20	30	45	350
65x50	180	20	30	45	350
80x40	180	20	30	45	350
80x50	180	20	30	45	350
80x65	180	20	30	45	350
100x40	180	20	30	45	350
100x50	180	20	30	45	350
100x65	180	22	30	45	350
100x80	180	22	30	45	350
125x50	200	22	30	45	350
125x65	200	22	30	45	350
125x80	200	22	30	45	350
125x100	200	22	30	45	350
150x50	200	22	30	45	350
150x65	200	22	30	45	350
150x80	200	22	30	45	350
150x100	200	22	30	45	350
150x125	200	22	30	45	350
200x80	200	22	30	40	300
200x100	200	22	30	40	300
200x125	200	25	30	40	300
200x150	200	25	35	40	300
250x125	220	25	35	40	300
250x150	220	25	35	40	300
250x200	220	25	35	40	300
300x125	220	25	35	40	300
300x150	220	25	35	40	300
300x200	220	25	35	40	300
300x250	220	25	35	40	300
350x150	240	25	35	40	300
350x200	240	28	38	35	260
350x250	240	28	38	35	260
350x300	240	25	35	40	300
400x200	240	25	35	40	300
400x250	240	28	38	40	300
400x300	240	28	38	40	300
400x350	240	28	38	40	300
450x300	240	28	38	40	300
450x350	240	28	38	40	300
450x400	240	28	38	40	300
500x350	240	28	38	40	300
500x400	240	28	38	40	300
500x450	240	28	38	40	300
600x400	240	28	38	40	300
600x450	240	28	38	40	300
600x500	240	28	38	40	300

注: 1. 特殊要求可来函来图定制, 法兰连接可采用GB/T9115-2000标准或者是其他国家标准。
2. 悬空给水使用以上产品, 管道必须有固定支撑或固定托架, 否者产品应安装防拉脱装置。

KXT-L型丝扣连接橡胶接头 KXT-L threaded rubber joint



各部分材质 Material of all parts

序号 No	名称 Name	材料 Material
1	内、外层胶 Outer/inner rubber	NR, NBR, EPDM
2	主体骨架 Key frame	尼龙帘布 Nylon Cord Fabric
3	加压环 Pressurized ring	钢丝绳 Steel wire
4	螺纹活接头 Thread woggle joint	可锻铸铁 Forged cast iron

技术条件 Technical Conditions

工作压力 Working Pressure	1.6MPa(16Kg f/cm ²)	偏转角度 Deflexion angle	($\alpha + \alpha_2$)45°
爆破压力 Bursting pressure	4.8MPa(48Kg f/cm ²)	真空度 vacuum	53.3KPa(400mmHg)
适用温度 Applicable Temperature °C	-15~+115°C, 特殊可达-30~+250°C -15-115°C, (for special conditions) it can be -30~+250°C		
适用介质 Applicable Media	水、海水、热水、空气、压缩空气、油、酸、碱等化学物质 Water, sea water, hot water, air, compressed air, oil, acid, alkali etc.		

主要连接尺寸 Main connection dimensions

公称通径DN Nominal diameter		长度 L Length (mm)	轴向位移 Axial displacement		横向位移 Lateral displacement (mm)	偏转角度 Deflexion angle ($\alpha + \alpha_2$)
DN	inch		伸长Extension(mm)	压缩Compression(mm)		
15	1/2	203	5-6	22	22	45°
20	3/4	203	5-6	22	22	45°
25	1	203	5-6	22	22	45°
32	1 1/4	203	5-6	22	22	45°
40	1 1/2	203	5-6	22	22	45°
50	2	203	5-6	22	22	45°
65	2 1/2	240/265	8-10	24	24	45°
80	3	240/285	8-10	24	24	45°

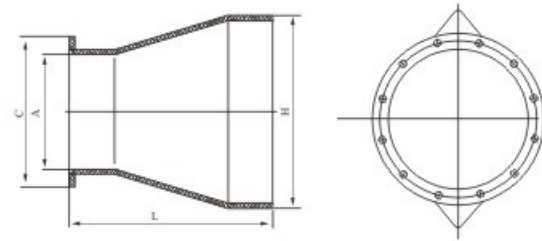
橡胶缓闭逆止阀 (鸭嘴阀) Slow closing check valve rubber (duckbill valve)



XH81



XH41



镶嵌式主要连接尺寸 Mosaic type main joint dimension

型号 type	管道公称直径 nominal diameter of pipe	长度L length	高度H height	法兰外径C external diameter of flange
XH8150-125-X	50	125	47	150
XH8180-175-X	80	175	72	200
XH81100-225-X	100	225	97	225
XH81150-320-X	150	320	47	275
XH81200-375-X	200	375	197	338
XH81250-475-X	250	475	247	400
XH81300-560-X	300	560	297	485
XH81350-625-X	350	625	344	525
XH81400-700-X	400	700	394	588
XH81450-780-X	450	780	444	625
XH81500-880-X	500	880	494	688
XH81600-1000-X	600	1000	494	800
XH81700-1000-X	700	1100	694	969
XH81800-1260-X	800	1260	794	1080
XH81900-1400-X	900	1400	894	1150
XH811000-1520-X	1000	1520	988	125
XH811200-1725-X	1200	1725	1188	1485

法兰式主要连接尺寸 Flange type main joint dimension

型号 type	管道公称直径 nominal diameter of pipe	长度L length	高度H height	法兰外径C external diameter of flange
XH4150-150-F	50	150	100	150
XH4180-220-F	80	220	140	200
XH41100-250-F	100	250	200	225
XH41150-340-F	150	340	265	275
XH41200-420-F	200	420	325	338
XH41250-520-F	250	520	425	400
XH41300-620-F	300	620	525	485
XH41350-700-F	350	700	625	525
XH41400-800-F	400	800	725	588
XH41450-900-F	450	900	825	625
XH41500-980-F	500	980	925	688
XH41600-1120-F	600	1120	1025	800
XH41700-1180-F	700	1180	1125	969
XH41800-1350-F	800	1350	1400	1080
XH41900-1500-F	900	1500	1525	1150
XH411000-1600-F	1000	1600	1725	1325
XH411200-1840-F	1200	1840	1950	1485

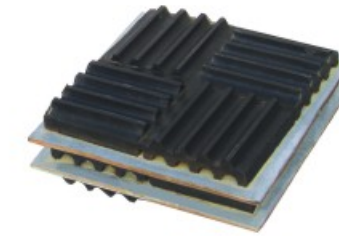
橡胶隔振垫 Rubber vibration isolation pad

产品介绍 Product introduce

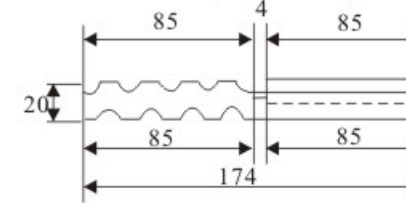
该厂生产的橡胶隔振垫种类繁多、规格齐全。便于裁切，组装灵活，可有效地抗压减震，适用于冲床、锻压机、泵、风机、压缩机、发电机，空调设备等震动设备震动大的机电设备减震安装。

主要尺寸 (长×宽, 单位: mm), 85×42.5, 85×85, 131.5×85, 174×85, 220.5×85, 263×85, 174×174, 263×174, 每一尺寸又分40°、60°、80°三种规格, 可适应不同垂向设计荷载。

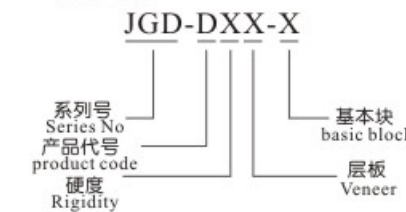
Being complete in specifications and of great variety, the rubber vibration isolators produced by our factory are convenient for cutting and flexible for assembling, and they can effectively resist compression and reduce vibration, applied for the vibration absorbing installation of electromechanical devices with serious vibration such as punching machine, forging press, pump, draught fan, compressor, electric generator and air conditioning unit and so on. Main dimension (Length × width, unit: mm), 85 × 42.5, 85 × 85, 131.5 × 85, 174 × 85, 220.5 × 85, 263 × 85, 174 × 174, 263 × 174, each is divided into three specifications: 40°, 60°, 80°, which get with different vertical design load.



结构示意图 (基本块)
Structure chart (basic block)



代号示意 code chart



JGD-D型橡胶隔振垫插入损失分贝 (dB)

JGD-D type rubber vibration isolator insertion loss dB (dB)

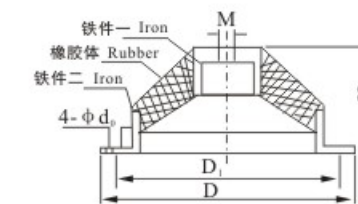
隔振垫橡胶硬度 Rigidity of rubber vibration isolating pad	隔振垫层数 Layers of pad	插入损失 (分贝) 加速度 Insertion loss (db) acceleration		垂向荷载 Vertical loading MPa(Kg·f/cm ²)
		31.5-400赫兹 31.5-400 Hz	线性 Linearity	
40°	1	11-30	31	0.05-0.12 (0.5-1.2)
	2	11-28	26	
	3	7-38	26	
	4	11-34	31	
60°	1	10-32	31	0.2-0.3 (2.0-3.2)
	2	6-32	31	
	3	10-33	26	
	4	8-33	31	
80°	1	5-22	8	0.4-0.8 (4.0-8.0)
	2	9-22	22	
	3	12-29	20	
	4	7-29	23	

橡胶剪切隔振器

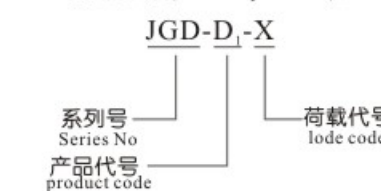
Rubber shear isolator

D₁型橡胶剪切隔振器是由内、外钢套和中间的合成橡胶组成，经硫化呈中间圆锥体橡胶部分受剪切力，具有较大的变形范围和较低的固有频率。工作温度范围在-5~+50℃温度变化时，刚度也有所变化；阻尼比C/C_c>0.07。对于水泵、压缩机、通风机、发电机组、冷冻机等机械设备的积极隔振和仪器仪表的消极隔振，都有良好的隔振效果。

D₁ type rubber cutting vibration isolator is composed of internal and external steel bushing and medial synthetic rubber, after vulcanization, it appears a core in the middle and the rubber part is stressed, and there are large deformation range and low free-running frequency. The working temperature range is -5~+50℃, as the temperature changes, the rigidity changes; damping ratio is C/C_c>0.07. It has good vibration isolating effect for the active vibration isolation of water pump, compressor, ventilator, generating set and refrigerating machine and the passive vibration isolation of instruments and meters.



代号示意 (Code implication):



型号 Type	外形尺寸 External dimension					额定荷载 最小-最大(Kg) Rated load Min-max	刚度 (Kg/cm ²) Stiffness	变形 Distortion	固有频率 (Hz) Natural frequency	最佳荷载 (Kg) Best load
	M	D	D ₁	H	d ₁					
JGD-A	M10	100	80	43	8.5	5-15	20	2-8	8-14	10
JGD-B	M10	100	80	43	8.5	10-30	36			
JGD-A	M12	150	130	65	8.5	20-60	60	4-12	7-12	40
JGD-B	M12	150	130	65	8.5	40-120	90			
JGD-A	M16	200	170	87	12.5	80-240	120	5-16	6-11	160
JGD-B	M16	200	170	87	12.5	160-480	200			
JGD-A	M20	290	260	133	12.5	320-960	300	8-24	5-9	640
JGD-B	M20	290	260	133	12.5	640-1920	650			

橡胶材质推荐选用表
Recommended rubber material table

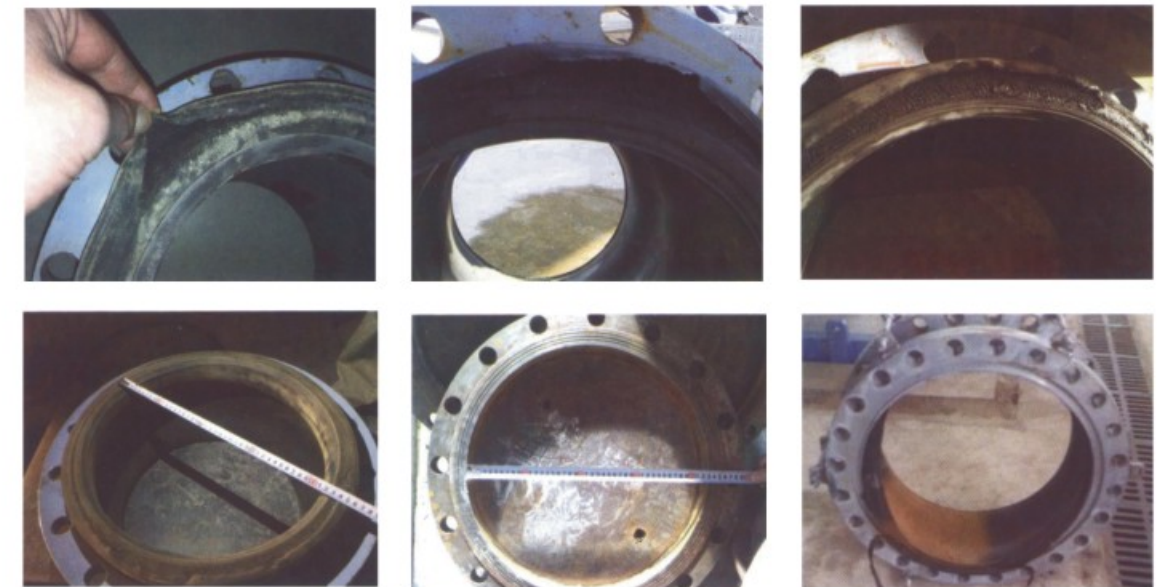
流体 Fluid		天然胶 NR	丁基胶 Butyl rubber	丁腈胶 NBR	氯丁胶 Neoprene	乙丙胶 Ethylene- propylene rubber	硅胶 Silicone	氟胶 Fluorine rubber	氯醇橡胶 Epichlorohydrin rubber	
名称 Name	℃	NR	LLR	NBR	CR	EPDM	Si	-	CHR	CHC
海水 Seawater	90	AB	AB	AB	AB	AB	-	-	AB	AB
温泉水 Hot water	90	-	AB	AB	AB	AB	-	-	-	-
蒸汽 Steam	130	-	AB	-	-	AB	-	AB	-	-
氨水 Ammonia	RT	AB	-	AB	AB	AB	-	AB	-	-
氨水 Ammonia (30%)	RT	AB	-	-	AB	AB	-	AB	-	-
盐酸 Hydrochloric acid(10%)	RT	AB	AB	AB	AB	AB	-	AB	AB	AB
干氯气 Dry chlorine	RT	-	-	-	-	-	-	AB	-	-
湿氯气 Wet chlorine	RT	-	-	-	-	-	-	-	-	-
硝酸 Nitric acid (10%)	RT	-	-	B	AB	-	-	AB	-	-
硫酸 Sulfuric acid (10%)	RT	-	AB	-	AB	AB	AB	AB	-	-
硫酸 Sulfuric acid (30%)	RT	-	-	-	AB	AB	-	AB	-	-
酒精 Alcohol	RT	AB	AB	AB	AB	AB	-	AB	-	-
苛性钠 Caustic soda (50%)	RT	AB	AB	AB	AB	AB	-	AB	AB	AB
润滑油 Lubricating oil	70	-	-	AB	-	-	-	AB	AB	AB
燃料油 Fuel Oil	RT	-	-	AB	-	-	-	AB	AB	AB
重油 Heavy oil	RT	-	-	AB	-	-	-	AB	AB	AB
汽油 Gasoline	RT	-	-	-	-	-	-	-	-	-
挥发油 Volatile oil	RT	-	-	-	-	-	-	AB	-	-
焦油 Tar	RT	-	-	-	-	-	-	AB	-	-
氧气 Oxygen	RT	-	-	-	-	AB	AB	AB	AB	AB
二氧化碳 Carbon dioxide	RT	AB	AB	AB	AB	AB	-	AB	AB	AB
二氧化硫 Sulfur dioxide	RT	-	AB	AB	AB	-	-	AB	-	-
天然气 Natural gas	RT	-	-	AB	AB	-	-	AB	-	-
焦炉煤气 COG	RT	-	-	-	-	-	-	-	-	-
发生炉煤气 Occurring gas stove	RT	-	-	AB	-	-	-	-	-	-
高炉煤气 Blast furnace gas	RT	-	-	AB	AB	-	-	-	-	-
真空管路 Vacuum line	RT	-	-	-	AB	-	-	-	-	-
食品饮料 Food and Drink	RT	AB	-	-	-	-	AB	-	-	-

注：“RT”为常温，“AB”为推荐使用，“B”为根据条件使用。
Note: “RT” is Normal temperature, “AB” is Recommended use, “B” Use according to conditions.

可曲挠合成橡胶接头安装说明
Installation instructions for flexible rubber joints

- 一、可曲挠合成橡胶接头在安装时，严禁超位移极限安装。
- 二、1.0Mpa以上地面横向、悬空、垂直安装橡胶接头，管道两端应有固定支撑或固定托架，以防拉脱或破坏设施。
- 三、固定支撑或固定托架的力，必须大于工作的轴向力，否则应安装防拉脱装置。
- 四、安装可曲挠合成橡胶接头的对应法兰，应按标准GB/T9115.1 (RF) 法兰(即小口径法兰)，以防法兰D2、do尺寸过窄，出现密封面漏水。
- 五、安装可曲挠合成橡胶接头法兰螺栓，要对称逐步加压拧紧，以防承压出现局部泄漏或破坏可曲挠合成橡胶接头的密封面。
- 六、1.0MPa以上工作压力，垂直、悬空使用橡胶接头，安装螺栓要有弹垫，以防工作时螺栓松动，造成局部漏水，渗水。
- 七、垂直安装，可曲挠合成橡胶接头应有固定支撑，严禁橡胶接头受重压。

1. When installing flexible synthetic rubber joints, it is strictly forbidden to install them beyond the limit of displacement.
2. Rubber joints shall be installed horizontally, suspended and vertically on the ground above 1.0 Mpa. Fixed supports or brackets shall be provided at both ends of the pipeline to prevent pull-off or ring breakage.
3. The force of fixed support or fixed bracket must be greater than the axial force of work, otherwise anti-pull-off device should be installed.
4. Installation of flanges corresponding to flexible synthetic rubber joints shall be in accordance with standard GB/T9115.1 (RF) flanges (i.e. small-caliber flanges) in order to prevent flange D2, do size from being too narrow and leakage of sealing surface.
5. Install flange bolts of flexible synthetic rubber joints, and tighten them symmetrically step by step to prevent local leakage of pressure or damage the sealing surface of flexible synthetic rubber joints.
6. Over 1.0 MPa working pressure, rubber joints are used vertically and in suspension. Installation bolts should have cushions to prevent loosening of bolts, causing local leakage and water leakage.
7. Vertical installation. Flexible synthetic rubber joints should be supported by fixed supports. Heavy pressure on rubber joints is strictly prohibited.

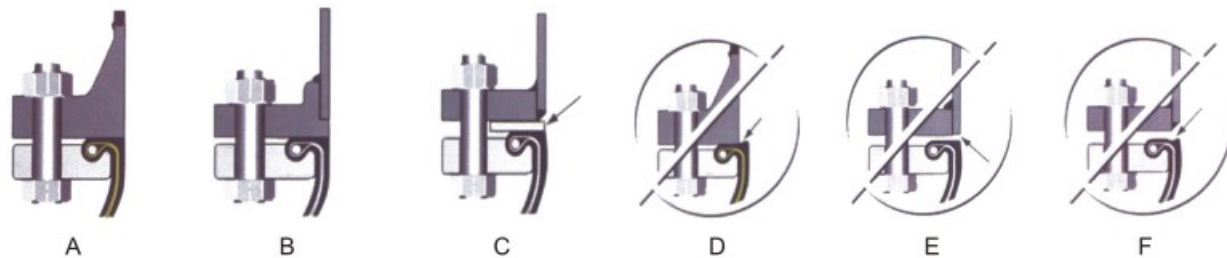


注明：请严格按照安装要求使用可曲挠橡胶接头，如果因为安装不当造成任何后果，工厂不承担责任。
Note: Please use flexible rubber joints in strict accordance with the installation requirements, the factory is not responsible if there are any consequences due to improper installation.

橡胶接头理化数据 Physical and chemical data of rubber joints

- 一、抗疲劳系数(轴向往复1000次); ≥ 0.85 注:长度缩短20%
 - 二、拉伸强度(MPa)内外胶平均 ≥ 12.5
 - 三、热空气老化拉变率, 内外 $\pm 25\%$ (100Cx48h) 扯变率 内外 $\pm 15\%$
 - 四、耐酸系数10% H_2SO_4 168h 室温 ≥ 0.7
 - 五、耐碱系数10% $NaOH$ 168h 室温 ≥ 0.7
 - 六、扯断伸长率(%) ≥ 450
1. Anti-fatigue coefficient (1000 axial reciprocating times); > 0.85 Note: Length shortened by 20%.
 2. Tensile Strength (MPa) Average of Inside and Outside Adhesives (> 12.5)
 3. Tensile strain rate of hot air aging, internal and external ($\pm 25\%$) (100Cx48h) and internal and external ($\pm 15\%$).
 4. Acid resistance coefficient 10% H_2SO_4 168h room temperature (> 0.7)
 5. Alkali Resistance Coefficient 10% $NaOH$ 168h Room Temperature (> 0.7)
 6. elongation at break (%) greater than 450

请选择正确的法兰 Please choose the right flange



- A. 采用正确的配套法兰防止损坏橡胶密封封面
 - B. 正确采用的焊颈法兰防止损坏橡胶密封封面
 - C. 采用大口内径平焊法兰时应安装一个小口径金属垫片可以防止损坏橡胶
 - D. 法兰不能与橡胶密封面完全密封, 冲洗橡胶
 - E. 不平衡端管对橡胶密封面造成损坏
 - F. 法兰内边缘损坏橡胶密封面
- A. Uses the correct supporting flange to prevent damage to the rubber seal cover
 - B. Correctly use welding neck flange to prevent damage to rubber seal surface
 - C. Big diameter flange should be installed on a small caliber metal gasket to prevent damage of rubber
 - D. Flange can not be completely sealed with rubber seal surface, rinse rubber
 - E. Uneven pipe end damage to rubber sealing surface
 - F. Damage of rubber sealing surface at the inner edge of flange

波纹补偿器 (膨胀节) 的有关技术参数、技术条件 Relevant technical parameters and conditions of corrugated compensator (expansion joint)

一、样本系列产品的挠性元件——不锈钢波纹管

波纹管材料主要为奥氏体型不锈钢 (OCr19Ni9、1Cr18Ni9Ti、SUS316L(00Cr17Ni14Mo2)、SUS316 (Ocr17/Ni12Mo2))。也可根据用户需要采用其它金属材料制造。当接管或法兰材料为碳钢时, 产品工作温度范围为-20°C ~ 400°C。当接管或法兰材料为不锈钢时, 产品工作温度范围为-250°C ~ 600°C。

Flexible Components of Sample Series Products—Stainless Steel Bellows
Bellows are mainly made of austenitic stainless steel (OCr19Ni9, 1Cr18Ni9Ti, SUS316L (00Cr17Ni14Mo2), SUS316 (Ocr17/Ni12Mo2)). Other metal materials can also be used according to user's needs. When the material of nozzle or flange is carbon steel, the working temperature range of the product is -20 ~ 400 C. When the material of nozzle or flange is stainless steel, the working temperature range of the product is -250 ~ 600 C.

二、补偿量、刚度在温度变化时的修正

样本所列产品各技术参数均为在20°C的条件下计算得出的, 若补偿器实际使用温度大于或小于20°C时, 表一、表二提供的系数, 补偿量 X_0 、 Y_0 、 O_0 、及刚度 k 进行修正, 以确定补偿器的实际补偿量和刚度。

Correction of Compensation Quantity and Stiffness with Temperature Change
The technical parameters of the products listed in the sample are calculated at 20 °C. If the actual temperature of the compensator is greater than or less than 20 °C, the coefficients provided in Table 1 and Table 2, the compensation amount X_{theta} , Y_{theta} , O_{theta} , and stiffness K are revised to determine the actual compensation amount and stiffness of the compensator.

温度补偿量的修正系数F1 (表一) Correction factor f1 of temperature compensation (table 1)											温度补偿量的修正系数F2 (表二) Correction factor f2 of temperature compensation (table 2)														
温度°C	-200	-150	-100	-50	20	50	100	150	200	300	350	400	温度°C	-200	-150	-100	-50	20	50	100	150	200	300	350	400
F1	0.932	0.924	0.956	0.979	1	1.001	1.002	1.003	1.004	1.025	1.047	1.072	F2	1.071	1.055	1.045	1.028	1	0.992	0.971	0.956	0.937	0.901	0.88	0.86

注: 若温度值在两数之间, 系数F1、F2按插入法选取
Note: If the temperature is between two numbers, the coefficients F1 and F2 are selected by insertion method.

- 例1、求 $N=15000$ 次 $t=300^\circ\text{C}$ 时
2.5JDZ250 \times 6—J轴型内压式补偿器的轴向补偿量和刚度。
查样本: 轴向补偿量 $X_0=60\text{mm}$
轴向刚度 $K_x=113\text{N/mm}$
经修正: $X' = f_1 \cdot X_0 = 1.025 \times 60 = 61.5\text{mm}$
 $K' = f_1 \cdot K_x = 0.901 \times 113 = 101.8\text{N/mm}$
- 例2、求 $N=15000$ 次 $t=300^\circ\text{C}$ 时2.5BDh250-F-000大拉杆
横向型补偿器横向补偿量及横向刚度。
查样本: 轴向补偿量 $Y_0=367\text{mm}$
轴向刚度 $K_y=2.4\text{N/mm}$
经修正: $Y_0' = f_1 \cdot Y_0 = 1.025 \times 367 = 376.18\text{mm}$
 $K_y' = f_1 \cdot K_y = 0.901 \times 2.4 = 2.16\text{N/mm}$

三、疲劳破坏次数, 安全寿命与补偿量

为方便用户合理选择产品, 样本中列出补偿器在几种疲劳破坏次数下的补偿量。如通用型、轴型补偿器、有疲劳破坏次数 N 为1500次、15000次、45000次时的补偿量; 拉杆横向型补偿器、铰链式补偿器、直管压力平衡式补偿器有疲劳破坏次数 N 为15000次时的补偿量; 曲管压力平衡式补偿器有疲劳破坏次数 N 为45000次时的补偿量; 矩型轴向补偿器有1500次、3000次时的补偿量。用户可根据所需产品工作环境与使用寿命来选择不同疲劳次数下的补偿量。

Number of Fatigue Damages, Safety Life and Compensation Quantity
In order to facilitate users to choose products reasonably, the compensation amount of compensators under several times of fatigue damage is listed in the sample. For example, general type, axial type compensators and times of fatigue damage N are as follows. Compensation amount for 1500, 15000 and 45000 times; Fatigue damage times for horizontal tension rod compensator, hinge compensator and straight pipe pressure balancing compensator are 15 000 times. The compensating amount of the moment-type axial compensator is 1500 times and 3000 times when the number of fatigue failure is 45 000 times for the crankshaft pressure balancing compensator, and the compensating amount of the moment-type axial compensator is 1500 times and 3000 times for the moment-type axial compensator. user The compensation amount under different fatigue times can be selected according to the working environment and service life of the product.

疲劳破坏次数是根据波纹管的结构参数、压力值和补偿量, 通过计算和试验而得。由于波纹管的疲劳问题是一个比较复杂的问题, 其数据的覆盖面较大, 因此国家有关标准规定在确定补偿使用疲劳寿命【 N 】时, 其安全系数一般分为四种:

- (1) 对于易燃、易爆、剧毒、剧毒之类容器及大型换热器等设备所用波纹补偿器, 取 ≥ 15 。
- (2) 对于工业生产及人民生活必需的水、电、气三线所用波纹补偿器, 取 ≥ 10 。
- (3) 对于大位移、小循环、直通热源的主蒸汽管道及常通、长输埋地管道之类用波纹补偿器, 取 ≥ 5 。
- (4) 对于设备中吸收机械振动或其它专门场合使用的波纹补偿器, 取 ≥ 2 。

The number of fatigue failure is calculated and tested according to the structural parameters, pressure and compensation of bellows. Because the fatigue problem of bellows is a complicated problem. The data coverage is large, the safety factor of bellows is generally divided into four categories when determining the compensatory service life $[N]$:

- (1) For the corrugated compensators used in inflammable, explosive, highly rotten and poisonous containers, large heat exchangers and other equipment, take 15.

- (2) For the ripple compensator used in industrial production and people's daily life, take 10.
(3) For the main steam pipeline with large displacement, less circulation and direct heat source, as well as the buried pipeline with normal and long distance transportation, the corrugated compensator should be more than 5.
(4) For the ripple compensator used in equipment to absorb mechanical vibration or other special occasions, take

本样本中所列产品均以15倍的安全系数代入计算而得的波纹管的疲劳破坏寿命次数N。

即: $[N] = N/15$

$[N]$ -许用疲劳寿命次数

$[N]$ -疲劳破坏次数

若用户实际选用的疲劳次数与样本所列的疲劳次数不符时,可按表三、表四的系数进行修正:

无铠装环的补偿器疲劳破坏次数对补偿量的修正数F3 (表三)
The correction number f3 of fatigue damage number of compensators without armoured rings to compensation quantity (table 3)

N(次)	2250	4500	7500	9000	10500	12000	15000	30000	60000
F3	1.525	1.33	1.18	1.125	1.085	1.05	1	0.87	0.745

带铠装环的补偿器疲劳破坏次数对补偿量的修正数F3' (表四)
The correction number f3'(table 4) of fatigue damage number of compensators with armoured rings to compensation quantity

N(次)	2250	4500	7500	9000	10500	12000	15000	30000	60000
F3'	1.825	1.48	1.28	1.13	1.85	1.03	1	0.805	0.64

注:若值在两数之间,系数按内插法选取。

例3

求2.5BJZ250×6—F轴向型内压式波纹补偿器N=4500次时的轴向补偿量

查样本: N=15000次时 $X_0=60\text{mm}$

经修正: N=4500次时, $f_3=1.33$ $X_0=f_3 \times X_0=1.33 \times 60=79.8\text{mm}$ 即为N在4500次时, X_0 可以达到79.8mm。

四、工作压力、管道位移同时不等量变化时对补偿器许多寿命的影响。

波纹补偿器的许多寿命与其工作压力、管道的位移量有很大关系。在实际工作压力P'与额定工作压力P'(P'/P)为100%时和实际管道位移Δ'L与额定管道位移Δ'L的比值为100%时,使用寿命为修正后的实际使用疲劳寿命次数,(设1000次)。若P'/P=100%时,而Δ'L'/Δ'L=50%。则许多寿命即为21500次,详见表五。

The service life of corrugated compensator is closely related to its working pressure and displacement of pipeline. When the actual working pressure P' and rated working pressure P (P'/P) are 100% and the ratio of actual pipe displacement Δ'L to rated pipe displacement Δ'L is 100%, the service life is the number of actual service fatigue life (set up 1000 times). If P'/P = 100%. And Δ'L'/Δ'L = 50%. Many life cycles are 2,1500, as shown in Table 5.

工作压力、管道位移变化时补偿器的疲劳寿命次 (表五)
Fatigue life of compensator when working pressure and pipe displacement change (Table 5)

位移变化 Displacement variation Δ'L'/Δ'L×100%	工作压力变化P'/P×100% Change of working pressure P'/P×100%						
	100	80	60	50	40	20	0
120	480	500	530	550	570	600	650
110	680	740	780	830	900	1000	1100
100	1000	1100	1200	1350	1450	1550	1700
90	1500	1700	1850	2000	2200	2700	3200
80	2500	2950	3450	3800	4100	4700	5500
70	4400	5450	6400	6950	7500	8700	10100
60	8900	11500	14900	16500	18000	22000	27000
50	21500	28700	42000	51500	60700	75000	83000
40	69500	1.12×105	1.92×105	2.58×105	5.52×105		

五、位移量的合成

该样本诸系列表中给出的轴向补偿量 X_0 , 横向补偿量 Y_0 和角向位移 θ_0 , 是各种型式补偿器的额定位移量,也是单独实施该类型位移的最大位移范围值,若该补偿器要进行两种或两种以上的位移,则补偿量的选取要符合下列关系式:

$$\frac{X_1}{X_0} + \frac{Y_1}{Y_0} + \frac{\theta_1}{\theta_0} \leq 1$$

X_0 、 Y_0 、 θ_0 为某一疲劳破坏次数下单独进行轴向、横向和角向补偿时的相应补偿量(由样本中查出,并修正得到)。

X_1 、 Y_1 、 θ_1 为该疲劳破坏次数下同时存在的轴向、横向和角向补偿量的实际值。

六、内导流筒的选择

内导流筒可以减少补偿器内流体介质的流动阻力和防止介质高速流动引起波纹管的诱发振动。导流筒的设置一般满足下列要求:

- (1) 系统要求流量损失小,流动平稳及有粉尘的场合。
- (2) 介质为气体时: $DN \leq 150rT]m$ $V \geq 0.05DNr/s$ $DN > 150rnm$ $V > 8m/s$
介质为液体时: $DN \leq 150rnm$ $V \geq 0.02DNm/s$ $DN \geq 150rnm$ $V > 3m/s$
式中: DN: 公称通径 (mm), V: 介质流速 (m/s)
但内导流筒的存在对补偿器的横向和角向位移的补偿量有较大的影响,选用时应予以考虑。

The inner draft tube can reduce the flow resistance of the fluid medium in the compensator and prevent the induced vibration of the bellows caused by the high-speed flow of the medium. The installation of the draft tube generally meets the following requirements:

- (1) The system requires small flow loss, stable flow and dust.
- (2) When the medium is gas: $DN < 150rT]m$ $V (> 0.05DNr/s$ $DN > 150rnmV > 8m/s)$
When the medium is liquid: $DN < 150RNM$ $V < 0.02DNm/s$ $DN < 150RNM$ $V > 3m/s$
Formula: DN: nominal diameter (m m), V: medium velocity (m/s)

However, the existence of inner draft tube has great influence on the compensation of lateral and angular displacement of compensator, which should be considered when selecting.

七、补偿器的预变形

为使补偿器处于一个良好的工作位置和减少管架受力,可以对补偿器在安装前进行“预变形”。

轴向补偿器的轴向预变形量 ΔX 由下式确定: $\Delta X = X \left(\frac{1}{2} - \frac{T_0 - T_{min}}{T_{max} - T_{min}} \right)$

式中: X: 向补偿量mm T_0 : 安装温度 $^{\circ}C$ T_{min} : 最高使用温度 $^{\circ}C$ T_{min} : 最低使用温度 $^{\circ}C$

ΔX 为正值时,表示“预拉”; ΔX 为负值时,表示“预压”。“预变形”是由系统设计确定的,若用户需要,只要在合同上注明变形量我厂可按“预变形”长度交货。轴向补偿器和角向补偿器的冷紧量可取实际补偿量的一半,即1/2Y或1/2。“预变形”是反方向“冷紧”,横向补偿量Y很大时需要进行“冷紧”,横向补偿量较小时,可不进行冷紧。

附件(一): 典型管线分段与补偿器的选型

工程管路系统的设计,由于受各方面的制约是相当复杂的,但是任何复杂的管系都可以通过固定管架的配置,分成若干形状的相对简单的单独管段,如:一字型L、Z、U型管段。再根据这些相对简单的管段来确定管系的变形位移,选择合适的波纹补偿器。

波纹补偿器的种类很多,正确选型十分重要,管系设计在走向,支撑固定管架、导向管架等设计的同时,要综合考虑补偿器的类型和配置,才能保证管系的设计安全、可靠、经济、合理。

以波纹管为核心的挠性元件补偿器,在管线上作轴向、横向和角向三方向的补偿。内压轴向型和通用型补偿器从性能上看,可以同时作三个方向补偿,但因有时加配内导流筒,因此受到内导流筒等附件的限制,往往也只能单一轴向位移,因此,用户在选用及订货时需注明清楚,以便正确选用和按需供货。

本系列产品中,轴向型补偿器用以吸收管路轴向位移,大拉杆横向补偿器吸收垂直于补偿器的轴线的横向位移,小拉杆横向型补偿器适合横向位移,也可以吸收轴向、角向和任意三个位移的组合,铰链补偿器以两个或三个配套使用,用以吸收单平面一个方向或多个方向的横向位移,万向铰链补偿器配套使用,可以在多平面中吸收位移。

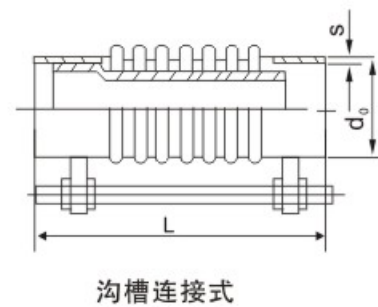
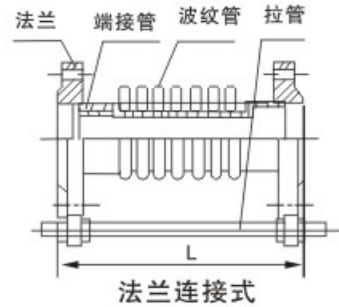
The design of engineering pipeline system is quite complicated due to various constraints. However, any complex pipeline system can be divided into several relatively simple individual sections through the configuration of fixed pipe racks, such as L, Z and U sections. Then, according to these relatively simple sections, the deformation displacement of the pipeline system is determined, and the appropriate corrugation compensator is selected.

Correct selection of corrugated compensators is very important. Pipeline design should take into account the type and configuration of compensators while moving towards supporting the design of fixed pipe rack and guide pipe rack. Only in this way can the design of piping system be safe, reliable, economical and reasonable.

The flexible component compensator with bellows as its core can compensate in three directions: axial, transverse and angular. Internal pressure axial compensator and general compensator can compensate in three directions at the same time from the performance point of view. But sometimes they are equipped with internal draft tube, so they are limited by accessories such as internal draft tube. Often they can only displace in a single axis. Therefore, users need to specify clearly when choosing and ordering. In order to select correctly and supply on demand.

In this series of products, the axial compensator is used to absorb the axial displacement of the pipeline. The large pull rod transverse compensator absorbs the transverse displacement perpendicular to the axis of the compensator. The small pull rod transverse compensator is suitable for transverse displacement. It can also absorb the combination of axial, angular and arbitrary three displacements. The hinge compensator is used in two or three matching sets to absorb one or more directions of a single plane. Transverse displacement, universal hinge compensator matching use, can absorb displacement in multi-plane.

不锈钢波纹补偿器 Stainless steel corrugated compensator



设计温度: $-20^{\circ}\text{C} \sim +400^{\circ}\text{C}$ 设计压力: $0.25\text{Mpa} \sim 2.5\text{Mpa}$ 型号标注: JDZ
位移方向: 轴向 (少量横向、角向) 口径: DN32-DN7000mm

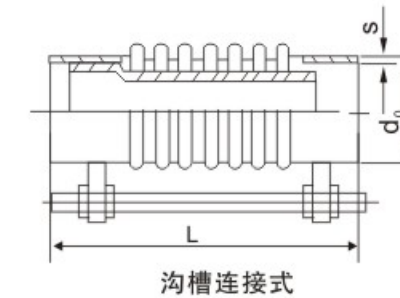
该补偿器由一个波纹管和一个端接头构成它通过波纹管的柔性变形来吸收管线的轴向位移, 其中接管的两端与管道相连, 固定螺栓是保证补偿器在运输过程中波纹管的刚性支撑。

主要连接尺寸 Main connection size

口径 Path	波数 wave number	压力等级 Pressure Level (MPa)					波纹管有效面积 Effective area of bellows (cm ²)	最大外径 Max Outside Diameter (mm)	长度 Length	
		0.25	0.6	1.0	1.6	2.5			法兰 Flange (mm)	接管 take over (mm)
32	8	25/21	22/26	20/26	18/63		16	225	160/250	264/280
32	16	50/11	46/14	41/14	36/32		16	225	224/291	316/321
40	8	25/28	22/44	20/44	18/89	15/98	23	244	164/259	269/289
40	16	50/14	46/22	41/22	36/45	31/47	23	244	230/304	319/334
50	8	25/30	22/51	20/70	18/70	15/106	37	259	172/276	282/306
50	16	50/16	46/26	41/35	36/35	31/55	37	259	240/342	347/372
65	8	33/28	30/35	26/44	22/55	15/138	55	270	215/294	300/322
65	12	42/16	38/22	38/32	34/40	31/70	55	270	260/334	340/362
80	8	40/20	36/26	34/33	28/41	19/68	81	284	240/338	344/366
80	10	53/14	49/17	49/21	43/26	29/50	81	284	270/368	374/390
100	6	45/47	45/60	40/75	35/93	25/54	121	304	235/317	323/345
100	10	76/26	74/32	64/40	57/50	38/33	121	304	305/381	387/409
125	5	48/38	42/47	38/59	34/74	29/117	180	334	282/314	316/342
125	9	85/23	77/29	66/36	58/45	49/63	180	334	382/386	388/414
150	5	49/42	44/50	40/62	34/78	29/92	257	364	282/339	338/367
150	8	79/34	71/43	64/51	54/59	50/56	257	364	356/399	402/427
200	4	52/49	46/55	42/68	38/78	29/97	479	442	280/348	348/372
200	6	73/31	65/44	59/52	53/58	46/65	479	442	340/402	402/426
250	4	72/30	65/34	59/42	52/45	34/111	769	507	315/379	415/379
250	6	108/16	97/21	87/35	79/39	48/78	769	507	393/459	493/399
300	4	72/51	65/55	59/59	52/65	47/55	1105	562	366/427	466/467
300	6	108/32	97/35	87/37	79/41	71/47	1105	562	464/525	564/565
350	4	72/58	65/62	59/67	52/74	47/71	1307	622	397/452	497/492

沟槽金属软管/波纹管 Grooved metal hose / bellows

设计温度: $-20^{\circ}\text{C} \sim +400^{\circ}\text{C}$
设计压力: $0.25\text{Mpa} \sim 2.5\text{Mpa}$
位移方向: 轴向 (少量横向、角向)
口径: DN32-DN350mm



沟槽波纹管 (grooved fittings) 是一种新型的钢管连接补偿器, 具有很多优点。管道沟槽连接技术兴起于20世纪50年代的美国, 90年代末引入中国。此后, 以其安装便捷、质量可靠、经济环保等突出优点, 迅速被国内市场所接受和推广。在国家法规政策的积极引导下, 目前该技术已广泛应用于消防给水、生活给水、中央空调、污水处理、石油化工、热电及军工等多个领域, 并逐步取代法兰和焊接这两种传统的管道连接方式, 成为气、液管道连接的首推技术。虽然管道沟槽连接技术推广应用了较长时间, 但由于相关人员的认识不足、缺乏经验、疏于管理等多方面原因, 导致管件松脱、接头渗水等质量通病多有发生。本文将从材料选择、安装工艺、支 (吊) 架设置等角度, 分析管道沟槽连接质量问题的产生原因, 并就确保管道沟槽连接质量提出见解与体会。

Grooved fittings is a new type of steel pipe connection compensator, which has many advantages. Pipeline groove connection technology rose in the United States in the 1950s and was introduced into China in the late 1990s. Since then, it has been rapidly accepted and promoted by the domestic market for its advantages of convenient installation, reliable quality, economy and environmental protection. Under the active guidance of national laws and policies, this technology has been widely used in many fields, such as fire water supply, domestic water supply, central air conditioning, sewage treatment, petrochemical industry, thermoelectricity and military industry. It has gradually replaced flange and welding as two traditional pipeline connection methods, and has become the first technology for gas-liquid pipeline connection. Although pipeline groove connection technology has been widely used for a long time, due to lack of knowledge, experience and negligence in management and other reasons, pipe parts loosening, joint seepage and other common quality defects often occur. This paper will analyze the causes of the quality problems of pipe groove connection from the angles of material selection, installation technology and support (suspension) frame setting, and put forward opinions and experiences on ensuring the quality of pipe groove connection.

沟槽波纹管连接的优点

1、操作简单

沟槽管件的连接操作是非常简单的, 无需特殊的专业技能, 普通工人经过简单的培训即可操作。这是因为产品已将大量的精细的技术部分以工厂化方式溶入到了产成品中。一处管件连接仅需几分钟时间, 最大限度的简化了现场操作的技术难度, 节省工时, 从而也稳定了工程质量, 提高了工作效率。这也是安装技术发展的总体方向。

而传统的焊接和法兰连接的管道连接方式, 不但需要有相应技能的焊接工人, 而且费时, 工人的操作难度大, 并存在焊接烟尘的污染。由于操作空间和焊接技能的差异, 焊接质量和外观都难以达到满意的结果, 从而影响工程的整体质量。

另外, 由于沟槽管件为成品件, 现场所需要的操作空间小, 可真正的实现靠墙靠角安装, 操作难度大为减小, 从而节省了占地面积, 美化了管道安装的效果。

2、管道原有的特性不受影响

沟槽管件连接, 仅在被连接管道外表面用滚槽机挤压出一个沟槽, 而不破坏管道内壁结构, 这是沟槽管件连接特有的技术优点。如果采用传统的焊接操作, 许多内壁做过防腐层的管道都将遭到破坏。因此规范规定镀锌管道, 衬塑钢管、钢塑复合管等不得使用焊接和法兰连接, 否则需要二次处理。

3、有利于施工安全

采用沟槽管件连接技术, 现场仅需要切割机、滚槽机和紧固螺栓用的扳手, 施工组织方便。而采用焊接和法兰连接, 则需要配备复杂的电源电缆、切割机、焊机及氧气和乙炔气瓶等, 这就给施工组织带来了复杂性, 且也存在着漏电和火灾的危险隐患。同时焊接和气割所产生的焊渣, 不可避免的落入管道内部, 使用中容易产生管路堵塞, 也污染管内水质。

另外, 焊接和法兰连接不可避免需要长时间的高强度的高空作业, 也容易发生生产安全事故。

4、系统稳定性好, 维修方便

沟槽管件连接方式具有独特的柔性特点, 使管路具有抗震动、抗收缩和膨胀的能力, 与焊接和法兰连接相比, 管路系统的稳定性增加, 更适应温度的变化, 从而保护了管路附件, 也减少了管道应力对结构件的破坏。

由于沟槽管件连接操作简单, 所需要的操作空间变小, 这为日后的维修带来了许多方便条件。当管道需要维修和更换时, 只需松开两片卡箍即可任意更换、转动、修改一段管路。不需破坏周围墙体, 减少了维修时间和维修费用。

5、经济分析

沟槽管件连接操作简单, 省工省时, 因此具有良好的经济效益。许多文章都做过经济分析, 认为“采用卡箍连接, 虽然卡箍的单个配件价格较高, 但整个管网安装的综合效益高于法兰连接”。文章在对比时都将法兰连接按二次镀锌处理 (按规范要求这也是必须做的)。

沟槽管件适用范围

沟槽管件连接作为一种先进的管道连接方式, 即可以明设也可以埋设, 即有刚性接头, 也有柔性接头。因此具有广泛的适用范围。

- 按系统分: 可用于消防水系统、空调冷热水系统、给水系统、石油化工管道系统、热电及军工管道系统、污水处理管道系统等;
- 按管道材质分: 可用于连接钢管、铜管、不锈钢管、衬塑钢管、球墨铸铁管、厚壁塑料管及带有钢管接头和法兰接头的软管和附件。

不锈钢金属软管 Stainless steel metal hose

JR 不锈钢金属软管（简称软管）是现代工业管路中的一种高品质的柔性管道。它主要由波纹管、网套和接头组成。它的内管是具有螺旋形或环形的薄壁不锈钢波纹管。波纹管外层的网套，是由不锈钢丝或钢带按一定的参数编织而成。软管两端的接头或法兰是与客户管道的接头或法兰相配的。

波纹金属软管具有了良好的柔软性、抗疲劳性、耐高温、耐低温、耐腐蚀性等诸多特性，它相对其它软管（橡胶、塑料软管）的寿命就要高出许多，故它又具有较高的综合经济效益。随着现代工业的发展，对耐高温、耐高压的波纹金属软管的需要量亦愈来愈大。软管使用范围：需要充分挠性的输送管，防止振动处所配管，对蒸汽、煤气、空气、重油、石油、化工药品类均使用。

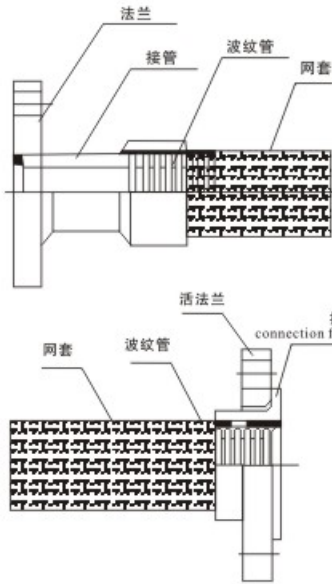
JR stainless steel metal hose (referred to as hose) is a high-quality flexible pipe in modern industrial pipelines. It mainly consists of bellows, net sleeves and joints. Its inner tube is a thin-walled stainless steel bellows with spiral or annular shape. The net sleeve of the outer layer of bellows is made of stainless steel wire or strip according to certain parameters. The joints or flanges at both ends of the hose are compatible with the joints or flanges of the customer's pipelines.

Corrugated metal hose has many characteristics such as good softness, fatigue resistance, high and low temperature resistance, corrosion resistance and so on. Compared with other hoses (rubber and plastic hoses), its life is much longer. Therefore, it has higher comprehensive economic benefits. With the development of modern industry, the demand for corrugated metal hoses with high temperature and high pressure resistance is also increasing.

Hose scope of use: Fully flexible conveyor pipes are needed to prevent vibration in place piping, steam, gas, air, heavy oil, petroleum, chemical drugs are used.

设计温度：-20℃ ~ +400℃
位移方向：轴向、横向、角向

设计压力：0.25Mpa ~ 6.4Mpa
口径：DN32-DN400mm



公称口径 Nominal diameter DN	内径 internal diameter (mm)	外径 external diameter (mm)		最小弯曲半径 Minimum bending radius		最高工作压力 Maximum working pressure Mpa	
		波纹管 corrugated pipe	带一层网套 With a layer of mesh sleeve	静态 static state	动态 dynamic	一层网套 A layer of net cover	二层网套 Two layer net cover
8	8.8	13.2	14.4	50	110	15	20
10	11.7	16.5	17.7	65	145	185	20
15	13.5	19.5	21.1	80	180	18	20
20	20.0	27	28.6	120	270	10	15
25	27.0	34.5	36.1	160	360	6.3	10
32	32.0	40	41.6	175	400	4.0	6.3
40	39.6	52	53.6	225	510	4.0	6.3
50	49.7	62	63.6	280	640	3.0	5.0
65	61.2	80.2	81.8	410	915	3.0	5.0
80	79.0	96.3	97.9	486	1030	3.0	5.0
100	101.2	119.6	121.2	610	1340	2.5	4.0
125	124.1	145.3	146.9	700	1540	2.5	4.0
150	149.4	180.8	182.4	810	1780	2.5	4.0
200	176.0	240	243.2	1000	2000	2.5	4.0
250	248.0	290	294	1250	2500	2.5	4.0
300	298.0	350	354	1500	3000	1.6	2.5
350	347.0	400	404.8	1750	3500	1.6	2.5
400	397.6	460	464.8	2000	4000	1.6	2.5

风机盘管接头

公称口径 Nominal diameter DN	长度L Length (mm)	轴向压缩 Axial compression (mm)	轴向伸长 Axial elongation (mm)	横向位移 Lateral displacement (mm)	偏转角度 Deflection angle (mm)
15	280	10	5	20	450
20	280	10	5	20	450
25	280	10	5	20	450
32	280	10	5	20	450
40	300	10	5	20	450
50	300	10	5	20	450
65	300	10	5	20	450

说明：该产品材质为SUS304不锈钢，具有耐高温、高压、耐腐蚀、位移多变、减震降噪、适用于中央空调和石油、化工等行业。

四氟波纹补偿器 Tetrafluoro ripple compensator



四氟补偿器

- 可耐各种浓度酸、碱、盐。又兼有不锈钢补偿器的压力不怕碰撞等优点
- 可提供：DN25-1600mm
- 压力等级：PN0.6、1.0、1.6MPa
- 连续疲劳寿命：1000次
- 使用温度：≤200℃

中压网套高颈四氟补偿器

- 替补管道与管道中间相隔距离太大，以代替波数太多的补偿器，减少厂家成本费。
- 可提供：DN25-1600mm补偿器
- 压力等级：PN0.25-2.5MPa
- 疲劳次数：≥10000次
- 使用温度：≤220℃

Tetrafluoride compensator

- It can withstand various concentrations of acid, alkali and salt, and has the advantages of stainless steel compensator pressure not afraid of collision, etc.
- Provided: DN25-1600mm
- Pressure grade: PN0.6, 1.0, 1.6 Mpa
- Continuous fatigue life: 1000 times
- Temperature: <200

Medium voltage mesh sleeve high neck tetrafluoro compensator

- The distance between the replacement pipeline and the pipeline is too large to replace the compensator with too many wave numbers and reduce the cost of the manufacturer.
- Provided: DN25-1600mm compensator
- Pressure Grade: PN0.25-2.5MPa
- Fatigue frequency: > 10000 times
- Service Temperature: <220 Temperature

优点 Advantage

外体为不锈钢金属补偿器内衬PTFE。可耐各种浓度酸、碱、盐，又兼有不锈钢补偿器的压力，不怕碰撞等优点。

耐高温——使用工作温度达250℃。

耐低温——具有良好的机械韧性；即使温度下降到-196℃，也可保持5%的伸长率。

耐腐蚀——对大多数化学药品和溶剂，表现出惰性、能耐强酸强碱、水和各种有机溶剂。

耐气候——有塑料中最佳的老化寿命。

高润滑——是固体材料中摩擦系数最低者。

不粘附——是固体材料中最小的表面张力，不粘附任何物质。

无毒害——具有生理惰性，作为人工血管和脏器长期植入体内无不良反应。

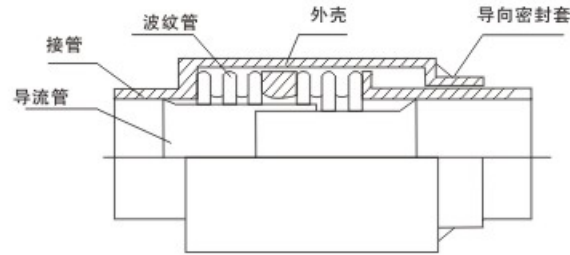
电绝缘性——可以抵抗1500伏高压电。

主要数据 Main data

规格 DN mm	三个波最大补偿能力				允许最大工作力			连接法兰尺寸HG5010-58/HGJ45-92 (HG20593-93/97)									
	轴向 Xmm	横向 Ymm		△θ	内压		负压K	三波长 L mm	PN0.25Pa		PN0.6Pa		PN1.6Pa				
		02-1	02-2		TF02-1	TF02-2			K	n-m	K	n-m	K	n-m			
25	12	8	10	20	0.6	0.7	57	65	75	4-M10	75	4-M10	85	4-M12			
32	14	12	16					52	70	90	4-M12	90	4-M12	100	4-M16	110	
40	17	14	18		47	75	100	110	125								
50	20	17	22		43	82	110	130	145								
65	22	20	26		38	88	130	150	160	8-M16	180	8-M16	210				
80	24	24	32		33	92	150	170	180	8-M16	240		295	8-M20			
100	26	25	33		28	95	170	8-M16	200	8-M16	225	8-M16	240	8-M20			
125	29				24	105	200		225		280		295				
150	32	20	26		0.4	0.5	18	115	225	8-M16	225	8-M16	240	8-M20			
200	40														17	125	280
250	42				0.3	0.35	14	135	335	12-M16	335	12-M16	350	12-M20			
300	44														145	395	12-M20
350	46			15	27	0.2	0.25	13	150	445	12-M20	445	12-M20	460	20-M27		
400	48															160	495
450	48					12	16	0.1	0.1	11	180	550	20-M24	600	20-M24	620	20-M27
500																	
600	49					10	13	0.05	0.06	10	220	705	24-M24	705	24-M24	725	
700	240										810	24-M27	810	24-M27			
800	50	260	920					24-M27	920	24-M27							
900	52	10	13					0.03	0.035	9	280	1020	24-M27	1020	24-M27		
1000				300	1120	28-M27	1120				28-M27						
1200	320	1320	32-M37														
1400	54	8	10	0.02	0.025	7	340	1530	36-M27								
1600							360	1730	40-M27								

直埋内压轴向型波纹补偿器

Directly buried axial corrugated compensator with internal pressure



【设计温度：-20℃ ~ +400℃ 设计压力：0.25Mpa~2.5Mpa 位移方向：轴向（少量横向、角向） 口径：DN50-DN1000mm】

产品特点：Product characteristics

直埋内压式波纹补偿器，适用于只有轴向位移的管路种，本产品具有补偿横向位移和轴向与横向合成位移的能力，但因为补偿量较小一般只做为轴向补偿更能发挥其特性，使用寿命更长，更加安全可靠。

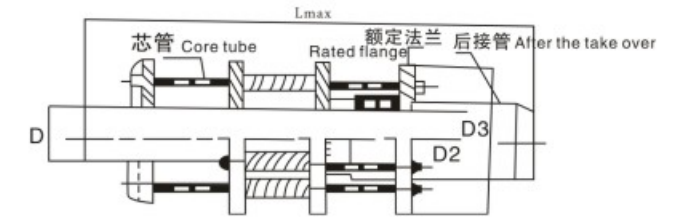
Directly buried internal pressure corrugated compensator is suitable for pipelines with only axial displacement. This product has the ability to compensate transverse displacement and combined axial and transverse displacement. However, because the compensation amount is small, it can only be used as axial compensation to better play its characteristics, longer service life and more safe and reliable.

主要连接尺寸 Main connection size

口径 Path	波数 wave number	压力等级 Pressure Level (MPa)					波纹管有效面积 Effective area of bellows (cm ²)	最大外径 Max Outside Diameter (mm)	接口端尺寸 Interface Size (mm)	总长 Total length (mm)
		0.25	0.6	1.0	1.6	2.5				
		轴向补偿量mm, 刚度N/mm Axial compensation mm, stiffness N/mm								
50	8	14/153	12/318	12/318	11/1310	11/1310	37	120	φ57×3.5	361
50	16	27/76	24/158	24/158	23/655	23/655	37	120	φ57×3.5	445
50	32	52/38	48/79	48/79	46/328	46/328	37	120	φ57×3.5	621
65	8	19/213	18/213	18/213	15/841	15/841	55	159	φ73×4	377
65	12	30/142	29/142	27/142	25/421	25/421	55	159	φ73×4	425
65	24	60/71	58/107	54/107	50/211	50/211	55	159	φ73×4	581
80	8	30/179	30/179	30/358	27/650	27/650	81	162	φ89×4	430
80	10	54/143	37/143	37/286	32/325	32/325	81	162	φ89×4	466
80	20	108/72	74/72	74/143	64/163	64/163	81	162	φ89×4	660
100	6	34/138	34/277	33/417	32/817	32/817	121	180	φ108×4	410
100	10	56/83	56/156	56/250	50/409	50/409	121	180	φ108×4	492
100	20	112/42	112/83	112/125	100/205	100/205	121	180	φ108×4	712
125	5	37/136	36/272	36/408	33/801	33/801	180	221	φ133×4	410
125	9	66/76	65/151	65/227	60/401	60/401	180	221	φ133×4	412
125	18	132/38	130/76	130/114	120/201	120/201	180	221	φ133×4	711
150	5	49/100	49/200	48/300	44/845	44/845	257	245	φ159×4.5	433
150	8	88/63	78/125	77/188	65/423	65/423	257	245	φ159×4.5	518
150	16	159/32	156/63	154/94	130/211	130/211	257	245	φ159×4.5	756
200	4	58/95	56/193	56/288	55/800	55/800	479	327	φ219×6	475
200	6	86/63	85/128	85/192	80/927	80/927	479	327	φ219×6	553
200	12	172/32	170/64	170/96	160/200	160/200	479	327	φ219×6	800
250	4	75/170	74/343	63/588	50/1856	50/1856	769	404	φ273×8	500
250	6	112/113	110/228	95/392	78/927	78/927	769	404	φ273×8	620

直埋套筒补偿器

Directly buried sleeve compensator



ZTB-B普通型套筒补偿器，安装CJ/T3016.2设计制造，主要用于架空管道的轴向补偿，也可以用于直埋管道，吸收温差等引起的管道的轴向伸缩，广泛用于城镇供暖、冶金、矿山、发电、石油、化工、建筑等行业。

本型补偿器采用成型填料加半固态密封油的符合密封结构，具有封闭性能好，耐高温，抗腐蚀，可带压堵漏的有点，可保证管道的长期定期长期稳定运行。

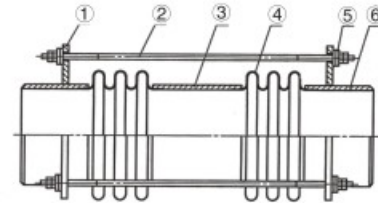
主要连接尺寸 Main connection size

公称口径 DN mm	芯管内径 Inner diameter of heart tube D1(mm)	芯管外径 Outer diameter of core tube D2(mm)	法兰外径 Flange outer diameter D3(mm)	静填料室长度 Length of static packing chamber (mm)	补偿量 Compensation amount	安装长度 Installation length	最大摩擦力 Maximum friction Pc(N) 1.6Mpa
15	14	18	95	36	130	640	579
20	18	23	105	36	130	640	773
25	24	30	115	36	130	640	1060
32	30	36	120	36	130	640	1311
36	36	43	125	36	130	640	1415
40	41	48	130	36	130	640	1518
50	17	55	160	56	150	720	1932
65	63	71	180	56	150	720	2485
70	65	74	190	56	150	720	1588
80	78	87	195	56	150	720	3002
100	94	106	215	56	200	820	6271
125	117	131	245	56	200	820	7750
150	143	157	280	56	200	820	9285
175	178	192	335	70	200	820	13251
200	201	217	335	70	200	820	14977
225	225	242	390	70	200	820	10167
250	253	270	390	70	200	820	21297
300	303	322	440	91	200	820	26399
350	353	373	500	91	200	820	29421
400	404	426	565	91	200	820	33286
450	455	478	615	91	200	820	33852
500	505	528	670	91	250	920	36234
600	653	630	780	91	250	920	13205
700	693	720	880	91	250	920	61771
800	792	820	990	112	250	920	70398
900	890	920	1095	112	250	920	79025
1000	990	1020	1195	112	250	920	87653

大拉杆横向型波纹补偿器 Large tie bar transverse ripple compensator



- ① 端板;
- ② 拉杆
- ③ 中间管;
- ④ 波纹管
- ⑤ 球面、锥面垫圈
- ⑥ 端管



使用说明 Instructions

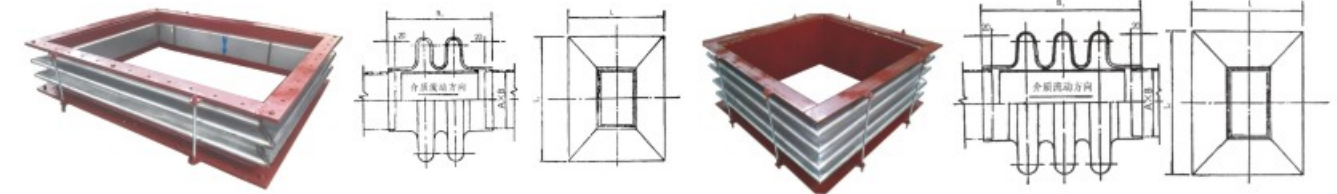
大拉杆横向型波纹补偿器可以补偿弯曲管段的横向位移和量值不大的角位移，通常不用来补偿角位移。该补偿器由接管、二个波纹管以及大拉杆等零件构成。它能吸收管系任意平面内的横向位移。位移球面螺母绕球面垫圈转动，同时拉杆还具有承受内压推力能力。

工作温度 ≤ 420°C 疲劳寿命 1500 次

The transverse corrugated compensator can compensate for the transverse displacement of the curved pipe and the angular displacement with little value. The compensator is connected with Tube, two corrugated tubes and large draw rod and other components. It can absorb the transverse displacement in any plane. The displacement spherical nut rotates around the spherical washer Also has the ability to withstand internal pressure thrust. The fatigue life of working temperature are less than 420 1500 times

公称口径 DN mm Nominal diameter	波数 wave number	压力等级 MPa Pressure level	横向补偿量mm/刚度Nmm Effective area of bellows						最大外径尺寸 mm Maximum outside diameter
			产品长度mm						
			1200	1500	2000	2500	3000	3500	
100	4+4	0.25	177/2.2	243/1.2	354/0.6	465/0.3			310
		0.6	177/2.2	243/1.2	341/0.6	447/0.3			310
		1.0	163/2.2	243/1.2	325/0.6	427/0.3			310
		1.6	91/4	127/2	187/1	247/0.6			310
		2.5	94/8	132/5	194/2	256/1			310
125	4+4	0.25	181/2.8	251/1.5	369/0.7	487/0.4			360
		0.6	172/2.8	239/1.5	351/0.7	463/0.4			360
		1.0	161/2.8	224/1.5	330/0.7	435/0.4			360
		1.6	99/11	140/6	209/3	277/2			360
150	4+4	0.25	199/6	278/3.2	410/1.6	542/1.0			410
		0.6	186/6	259/3.2	382/1.6	506/1.0			410
		1.0	122/10	170/6	251/3	332/2			410
		1.6	108/12	153/6	230/3	307/2			410
		2.5	82/22	117/12	176/5	324/3			410
200	4+4	0.25	155/9.4	220/4.9	327/2.25	435/1.4			480
		0.6	138/9.4	196/4.9	291/2.25	388/1.0			480
		1.0	101/20	143/11	213/5	283/3			480
		1.6	75/42	108/21	164/10	220/6			480
		2.5	59/69	86/35	130/16	176/9			480
250	4+4	0.25	164/10.2	239/5.1	367/2.4	494/1.5			580
		0.6	128/21	188/10	287/5	387/3			580
		1.0	109/35	159/18	243/8	328/5			580
		1.6	76/68	116/33	182/14	249/8			580
		2.5	64/122	98/58	154/25	210/14			580
300	4+4	0.25	144/17.6	174/8.4	287/3.7	379/2			660
		0.6	94/50	144/24	228/0	313/6			660
		1.0		127/39	202/17	277/10	352/6		660
		1.6		169/28	169/28	234/15	299/10		660
		2.5		91/113	148/47	215/26	262/16		660

FGFB型矩形单波/多波膨胀节 Fibroblast type rectangular single-wave/double-wave expansion joint



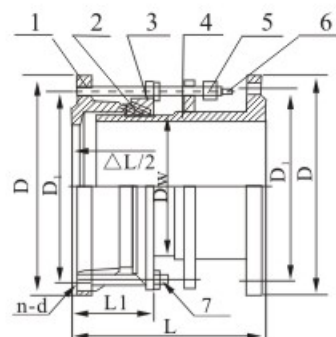
使用温度: -40°C ~ +420°C 设计压力: 真空 ~ 0.1Mpa 位移方向: (轴向) 口径: DN300-DN6000mm

用于输送气体或含尘气体, 任意矩形, 圆形截面的烟气, 通风和鼓风机管道, 作补偿位移减振用。
It is used for conveying gas or dusty gas, flue gas with arbitrary rectangular or circular cross section, ventilation and blower ducts, for compensating displacement and reducing vibration.

主要连接尺寸 Main connection size

序号 NO	标号 Grade	公称口径DN Nominal diameter	A	B	L	B ₁	L ₁	重量 weight (kg)
			毫米 mm					
1	D-LD2000-63101	300 × 400	300	400	709	411	609	39
2	D-LD2000-63102	300 × 500		500	809			44
3	D-LD2000-63103	300 × 600		600	909			48
4	D-LD2000-63104	300 × 700		700	1009			53
5	D-LD2000-63105	400 × 500	400	500	809	709	709	48
6	D-LD2000-63106	400 × 600		600	909			53
7	D-LD2000-63107	400 × 700		700	1009			57
8	D-LD2000-63108	400 × 800		800	1109			62
9	D-LD2000-63109	500 × 600	500	600	909	809	809	57
10	D-LD2000-63110	500 × 800		800	1109			66
11	D-LD2000-63111	500 × 900		900	1209			71
12	D-LD2000-63112	500 × 1000		1000	1413			112
13	D-LD2000-63113	600 × 700	600	700	1009	909	909	66
14	D-LD2000-63114	600 × 800		800	1109			71
15	D-LD2000-63115	600 × 900		900	1313			112
16	D-LD2000-63116	700 × 500		500	809			62
17	D-LD2000-63117	700 × 700	700	700	1009	1009	1009	71
18	D-LD2000-63118	700 × 800		800	1213			112
19	D-LD2000-63119	800 × 800	800	800	1213	1213	1213	119
20	D-LD2000-63120	800 × 1200		1200	1613			146
21	D-LD2000-63121	800 × 1600		1600	2013			172
22	D-LD2000-63122	900 × 400		400	709			66
23	D-LD2000-63123	900 × 700	900	700	1113	1313	1313	119
24	D-LD2000-63124	900 × 1200		1200	1613			152

VSSJA-2(B2F)型双法兰松套限位伸缩接头 VSSJA-2(B2F) double flange limited telescopic joint



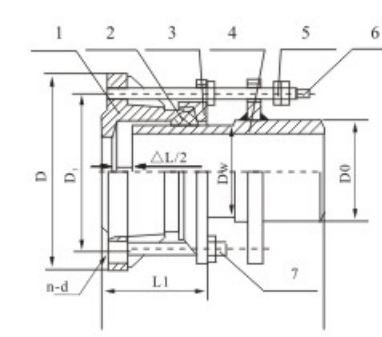
序号 No	名称 Name	数量 Quantity	材料 Material
1	本体 Valve body	1	QT450-10、Q235A
2	密封圈 Gasket	1	NBR/EPDM/CR
3	压盖 Follower	1	QT450-10、Q235A
4	限位短管 Limited short pipe	1	Q235A
5	螺母 Nut	4n	Q235A、20#
6	长螺栓 Long stud	n	Q235A、35#
7	短螺栓 Short stud	n	Q235A、35#

主要连接尺寸 Main connection dimensions

公称通径DN Nominal diameter	管子外径DW External diameter of pipe	外形尺寸 External dimension		伸缩量 ▲ L Compensation length	法兰连接尺寸 Flange connection size					
		L	L ₁		0.6MPa			1.0MPa		
					D	D ₁	n-do	D	D ₁	n-do
65	76	340	105	50	160	130	4-φ14	185	145	4-φ18
80	89				190	150	200	160		
100	108				210	170	220	180		
100	114				210	170	220	180	8-φ18	
125	133				240	200	250	210		
125	140	240	200	250	210					
150	159	340	105	50	265	225	8-φ18	285	240	8-φ22
150	168				265	225	285	240		
200	219				320	280	340	295		
250	273				375	335	395	350	12-φ22	
300	325				440	395	445	400		
350	377				490	445	505	460	16-φ22	
400	426				540	495	565	515	16-φ26	
450	480	595	550	615	565	20-φ26				
500	530	645	600	670	620	20-φ26				
600	630	755	705	780	725	20-φ30				
700	720	860	810	895	840	24-φ30				
800	820	975	920	1015	950	24-φ33				
900	920	1075	1020	1115	1050	28-φ33				
1000	1020	1175	1120	1230	1160	28-φ36				
1200	1220	1405	1340	1455	1380	32-φ40				
1400	1420	1630	1560	1675	1590	36-φ42				
1500	1520	1730	1660							
1600	1620	1830	1760	1915	1820	40-φ48				
1800	1820	2045	1970	2115	2020	44-φ48				
2000	2020	2265	2180	2325	2230	48-φ48				
2200	2220	2475	2390	2550	2440	52-φ56				
2400	2420	2685	2600	2760	2650	56-φ56				
2600	2620	2905	2810	2960	2850	60-φ56				
2800	2820	3115	3020	3180	3070	64-φ56				
3000	3020	3315	3220	3405	3290	68-φ60				
3200	3220	3525	3430							
3400	3420	3735	3640							
3600	3620	3970	3860							

注：本尺寸符合GB/T12465-2007标准 Note: the size meets standard GB/T12465-2007.

VSSJA-1(BF)型单法兰松套限位伸缩接头 VSSJA-1 (BF) single flange limited telescopic joint



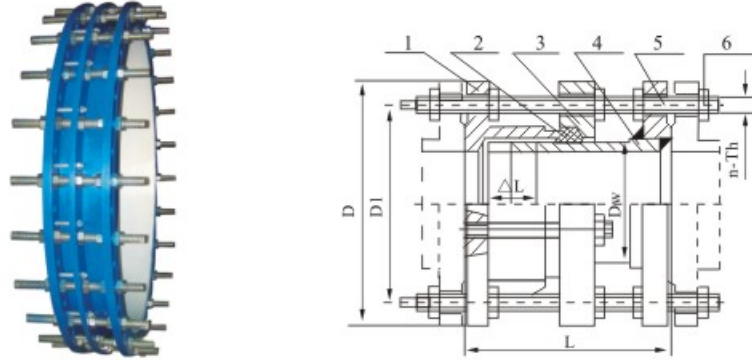
序号 No	名称 Name	数量 Quantity	材料 Material
1	本体 Valve body	1	QT450-10、Q235A
2	密封圈 Gasket	1	NBR/EPDM/CR
3	压盖 Follower	1	QT450-10、Q235A
4	限位短管 Limited short pipe	1	Q235A
5	螺母 Nut	4n	Q235A、20#
6	长螺栓 Long stud	n	Q235A、35#
7	短螺栓 Short stud	n	Q235A、35#

主要连接尺寸 Main connection dimensions

公称通径DN Nominal diameter	管子外径Dw External diameter of pipe		外形尺寸 External dimension		伸缩量 ▲ L Compensation length	法兰连接尺寸 Flange connection size					
	Dw	Do	L	L ₁		0.6MPa			1.0MPa		
						D	D ₁	n-do	D	D ₁	n-do
65	76	76	340	105	50	160	130	4-φ14	185	145	4-φ18
80	89	89				190	150	200	160		
100	108	108				210	170	220	180		
100	114	114				210	170	220	180	8-φ18	
125	133	133				240	200	250	210		
125	140	140	240	200	250	210					
150	159	159	340	105	50	265	225	8-φ18	285	240	8-φ22
150	168	168				265	225	285	240		
200	219	219				320	280	340	295		
250	273	273				375	335	395	350	12-φ22	
300	325	325				440	395	445	400		
350	377	377				490	445	505	460	16-φ22	
400	426	426				540	495	565	515	16-φ26	
450	480	480	595	550	615	565	20-φ26				
500	530	530	645	600	670	620	20-φ26				
600	630	630	755	705	780	725	20-φ30				
700	720	720	860	810	895	840	24-φ30				
800	820	820	975	920	1015	950	24-φ33				
900	920	920	1075	1020	1115	1050	24-φ33				
1000	1020	1020	1175	1120	1230	1160	28-φ33				
1200	1220	1220	1405	1340	1455	1380	28-φ36				
1400	1420	1428	1630	1560	1675	1590	32-φ40				
1500	1520	1528	590	220	130	1730	1660	36-φ36	1675	1590	36-φ42
1600	1620	1628				1830	1760	1915	1820	40-φ48	
1800	1820	1828				2045	1970	2115	2020	44-φ48	
2000	2020	2030				2265	2180	2325	2230	48-φ48	
2200	2220	2230				2475	2390	2550	2440	52-φ56	
2400	2420	2430				2685	2600	2760	2650	56-φ56	
2600	2620	2630				2905	2810	2960	2850	60-φ56	
2800	2820	2830	3115	3020	3180	3070	64-φ56				
3000	3020	3030	3315	3220	3405	3290	68-φ60				
3200	3220	3230	3525	3430							
3400	3420	3430	3735	3640							
3600	3620	3630	3970	3860							

注：本尺寸符合GB/T12465-2007标准 Note: the size meets standard GB/T12465-2007.

VSSJAF(C2F)型双法兰松套传力接头 VSSJAF (C2F) double flange dismantling joint



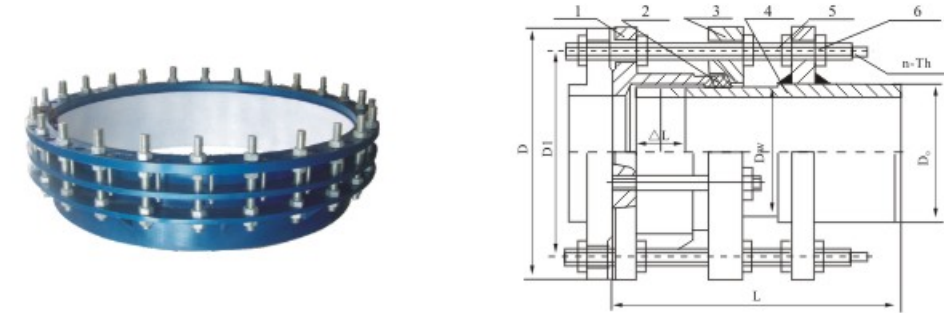
序号 No.	名称 Name	数量 Quantity	材料 Material
1	本体 Valve body	1	QT450-10、Q235A
2	密封圈 Gasket	1	NBR/EPDM/CR
3	压盖 follower	1	QT450-10、Q235A
4	限位短管 limited short pipe	1	Q235A
5	螺栓 stud	n	Q235A、35#
6	螺母 nut	Tn	Q235A、20#

主要连接尺寸 Main connection dimensions

公称通径DN Nominal diameter	管子外径DW External diameter of pipe	外形尺寸 External dimension		法兰连接尺寸 Flange connection size									
				0.6MPa				1.0MPa					
				L	▲L	D	D ₁	n-Th.	b	D	D ₁	n-Th.	b
65	76	200	40	160	130	4-M12	16	185	145	4-M16	20		
80	89			190	150	4-M16	18	200	160	8-M16	22		
100	114			210	170		18	220	180		24		
125	140			240	200	8-M16	20	250	210	8-M20	26		
150	168			265	225		20	285	240		26		
200	219			320	280		22	340	295		28		
250	273			375	335		12-M16	24	395		350	12-M20	28
300	325			220	50	440	395	12-M20	24	445	400	12-M20	28
350	377					490	445		26	505	460		16-M20
400	426					540	495	16-M20	28	565	515	16-M24	32
450	480	595	550			28	615		565	20-M24	32		
500	530	645	600			20-M20	30	670	620	20-M24	34		
600	630	240	60			755	705	20-M24	30	780	725	20-M27	36
700	720					860	810	24-M24	32	895	840	24-M27	40
800	820					975	920	24-M27	34	1015	950	24-M30	44
900	920					1075	1020	24-M27	36	1115	1050	28-M30	46
1000	1020					1175	1120	28-M27	36	1230	1160	28-M33	50
1200	1220			1405	1340	32-M30	40	1455	1380	32-M36	56		
1400	1420			1630	1560	36-M33	44	1675	1590	36-M39	62		
1600	1620			1830	1760	40-M33	48	1915	1820	40-M45	68		
1800	1820			2045	1970	44-M36	50	2115	2020	44-M45	70		
2000	2020			2265	2180	48-M39	54	2325	2230	48-M45	74		
2200	2220	350	80	2475	2390	52-M39	60	2550	2440	52-M52	80		
2400	2420			2685	2600	56-M39	62	2760	2650	56-M52	82		
2600	2620			2905	2810	60-M45	64	2960	2850	60-M52	88		
2800	2820			3115	3020	64-M45	68	3180	3070	64-M52	94		
3000	3020			3315	3220	68-M45	70	3405	3290	68-M56	100		
3200	3220			3525	3430	72-M45	76						

注：本尺寸符合GB/T12465-2007标准 Note: the size meets standard GB/T12465-2007.

VSSJAFG(CF)型单法兰松套传力接头 VSSJAFG (CF) single flange dismantling joint



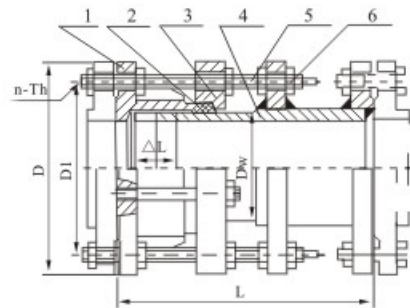
序号 No.	名称 Name	数量 Quantity	材料 Material
1	本体 Valve body	1	QT450-10、Q235A
2	密封圈 Gasket	1	NBR/EPDM/CR
3	压盖 follower	1	QT450-10、Q235A
4	限位短管 limited short pipe	1	Q235A
5	螺栓 bolt	n	Q235A、35#
6	螺母 nut	Tn	Q235A、20#

主要连接尺寸 Main connection dimensions

公称通径DN Nominal diameter	管子外径DW External diameter of pipe	外形尺寸 External dimension		法兰连接尺寸 Flange connection size									
				0.6MPa				1.0MPa					
				L	▲L	D	D ₁	n-Th.	b	D	D ₁	n-Th.	b
65	76	400	40	160	130	4-M12	16	185	145	4-M16	20		
80	89			190	150	4-M16	18	200	160	8-M16	22		
100	114			210	170		18	220	180		24		
125	140			240	200	8-M16	20	250	210	8-M20	26		
150	168			265	225		20	285	240		26		
200	219			320	280		22	340	295		28		
250	273			375	335		12-M16	24	395		350	12-M20	28
300	325			420	50	440	395	12-M20	24	445	400	12-M20	28
350	377					490	445		26	505	460		16-M20
400	426					540	495	16-M20	28	565	515	16-M24	32
450	480	595	550			28	615		565	20-M24	32		
500	530	645	600			20-M20	30	670	620	20-M24	34		
600	630	440	60			755	705	20-M24	30	780	725	20-M27	36
700	720					860	810	24-M24	32	895	840	24-M27	40
800	820					975	920	24-M27	34	1015	950	24-M30	44
900	920					1075	1020	24-M27	36	1115	1050	28-M30	46
1000	1020					1175	1120	28-M27	36	1230	1160	28-M33	50
1200	1220			1405	1340	32-M30	40	1455	1380	32-M36	56		
1400	1420			1630	1560	36-M33	44	1675	1590	36-M39	62		
1600	1620			1830	1760	40-M33	48	1915	1820	40-M45	68		
1800	1820			2045	1970	44-M36	50	2115	2020	44-M45	70		
2000	2020			2265	2180	48-M39	54	2325	2230	48-M45	74		
2200	2220	600	60	2475	2390	52-M39	60	2550	2440	52-M52	80		
2400	2420			2685	2600	56-M39	62	2760	2650	56-M52	82		
2600	2620			2905	2810	60-M45	64	2960	2850	60-M52	88		
2800	2820			3115	3020	64-M45	68	3180	3070	64-M52	94		
3000	3020			3315	3220	68-M45	70	3405	3290	68-M56	100		
3200	3220			3525	3430	72-M45	76						

注：本尺寸符合GB/T12465-2007标准 Note: the size meets standard GB/T12465-2007.

VSSJAFC(CC2F)型可拆式双法兰松套传力接头 VSSJAFC (CC2F) double flange dismantling joint



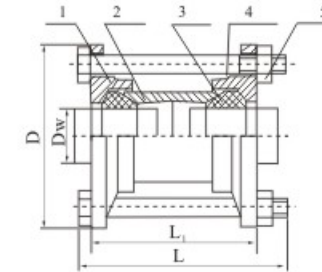
序号 No.	名称 Name	数量 Quantity	材料 Material
1	本体 Valve body	1	QT450-10、Q235A
2	密封圈 Gasket	1	NBR/EPDM/CR
3	压盖 follower	1	QT450-10、Q235A
4	限位短管 limited short pipe	1	Q235A
5	螺栓 stud	n	Q235A、35#
6	螺母 nut	Sn	Q235A、20#

主要连接尺寸 Main connection dimensions

公称通径 DN Nominal diameter	管子外径 DW External diameter of pipe	外形尺寸		法兰连接尺寸 Flange connection size									
				0.6MPa				1.0MPa					
		L	▲L	D	D ₁	n-Th.	b	D	D ₁	n-Th.	b		
65	76	400	40	160	130	4-M12	16	185	145	4-M16	20		
80	89			190	150	4-M16	18	200	160	8-M16	22		
100	114			210	170		18	220	180		24		
125	140			240	200	8-M16	20	250	210	8-M20	26		
150	168			265	225		20	285	240		26		
200	219			320	280	22	340	295	28				
250	273			375	335	12-M16	24	395	350	12-M20	28		
300	325			440	395	12-M20	24	445	400	12-M20	28		
350	377			490	445		26	505	460	16-M20	30		
400	426			420	50	540	495	16-M20	28	565	515	16-M24	32
450	480	595	550			20-M20	28	615	565	20-M24	32		
500	530	645	600				30	670	620	20-M24	34		
600	630	755	705			20-M24	30	780	725	20-M27	36		
700	720	860	810			24-M24	32	895	840	24-M27	40		
800	820	600	60			975	920	24-M27	34	1015	950	24-M30	44
900	920					1075	1020	24-M27	36	1115	1050	28-M30	46
1000	1020					1175	1120	28-M27	36	1230	1160	28-M33	50
1200	1220					1405	1340	32-M30	40	1455	1380	32-M36	56
1400	1420					1630	1560	36-M33	44	1675	1590	36-M39	62
1600	1620			1830	1760	40-M33	48	1915	1820	40-M45	68		
1800	1820			2045	1970	44-M36	50	2115	2020	44-M45	70		
2000	2020			2265	2180	48-M39	54	2325	2230	48-M45	74		
2200	2220			2475	2390	52-M39	60	2550	2440	52-M52	80		
2400	2420			2685	2600	56-M39	62	2760	2650	56-M52	82		
2600	2620	840	80	2905	2810	60-M45	64	2960	2850	60-M52	88		
2800	2820			3115	3020	64-M45	68	3180	3070	64-M52	94		
3000	3020			3315	3220	68-M45	70	3405	3290	68-M56	100		
3200	3220			3525	3430	72-M45	76						

注：本尺寸符合GB/T12465-2007标准 Note: the size meets standard GB/T12465-2007.

SSJB (AY) 型压盖式松套伸缩接头 SSJB (AY) type gland-type loose sleeve expansion joint



序号 NO	名称 Name	数量 Number	材料 Material
1	压盖 Gland	2	QT400-15, Q235A, ZG230-450, 1Cr13, 20
2	套管 Bushing	1	Q235A, 20, 16Mn, 1Cr18Ni9Ti
3	密封圈 Seal ring	2	NBR, CR, FPM, NR
4	螺栓 Bolt	n	Q234A, 35, 1Cr18Ni9Ti
5	螺母 Nut	n	Q235A, 20, 1Cr8Ni9Ti

主要外型尺寸 Main Outward Size

公称通径 DN	管子外径 D _w	外形尺寸		N-Th				
		L ₁	L	D	0.25-1.6Mpa	2.5-6.4Mpa		
65	76	180	208	155	4-M12	4-M12		
80	89			165				
100	108			195				
114								
125	133			225	4-M16			
140								
150	159			220	4-M16	6-M16		
168								
200	219			223	6-M20	8-M20		
225	245							
250	273	220	273	375	8-M20	10-M20		
300	325			440				
350	355			540	10-M20	12-M20		
400	426							
450	457			590	12-M20	14-M20		
500	508							
600	610			750	12-M20	16-M24		
700	720							
800	820			290	377	855	14-M24	18-M24
900	920					970		
1000	1020	1070	20-M27			28-M27		
1200	1220	1170						
1400	1420	1405	22-M27			30-M30		
1500	1520	1590						
1600	1620	1690	24-M27			32-M30		
1800	1820	1795						
2000	2020	2000	26-M30			28-M30		
2200	2220	2200						
2400	2420	2420	30-M30	32-M33				
2600	2620	2635						
2800	2820	2835	34-M33	36-M33				
3000	3020	3030						
3200	3220	3240	38-M33	40-M33				
3400	3420	3440						
3600	3620	3640	40-M36	42-M36				
3800	3820	3860						
4000	4020	4080						
		4300						

注：本尺寸符合GB/T12456-2002标准

压盖式伸缩接头：该产品适用于两边于管子插接，勿需焊接，结构合理，密封，安装快速方便。

Cover-type expansion joint: This product is suitable for pipe insertion on both sides without welding, reasonable structure, sealing, quick and convenient installation.

球型补偿器

spherical compensator for thermal expansion



型号No	名称name	数量quantity	材料material
1	球形管Spherical tube	1	ZG230-450, Q235A, 20, QT400-15
2	压盖Gland	1	ZG230-450, Q235A, 20, QT400-15
3	螺栓bolts	n	Q235A, 35, 1Cr8Ni9Ti
4	螺母Nut	n	Q235A, 20, 1Cr8Ni9Ti
5	密封圈Seal ring	2	NBR
6	本体Noumenon	2	ZG230-450, Q235A, 20, QT400-15

性能特点 Performance characteristics

球型补偿器主要适用于地面沉降大、振动大、地形复杂的管道连接，安装在管道上后，球体可以以回转中心在θ角范围内自由转动，来补偿管道因地基沉降、热胀冷缩引起的挠曲。具有补偿量大，占据空间小，流体阻力小，安装方便，综合成本低等优点。

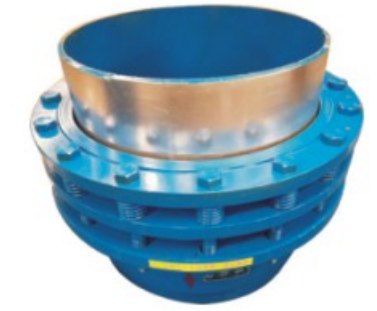
The spherical compensator is mainly suitable for the pipeline connection with large ground settlement, large vibration and complex terrain. When installed on the pipeline, the sphere can rotate freely in the range of theta angle with the center of rotation to compensate the pipeline deflection caused by foundation settlement, thermal expansion and cold contraction. The utility model has the advantages of large compensation amount, small occupying space, small fluid resistance, convenient installation and low comprehensive cost.

安装数据表 Install data sheet

公称口径 Nominal Diameter DN (mm)	D0	L	θ	法兰连接尺寸 Flange connection dimensions								
				0.6Mpa			1.0Mpa			1.6Mpa		
				D	K	n-do	D	K	n-do	D	K	n-do
100	282	290	15	210	170	4-Φ19	220	180	8-Φ19	220	180	8-Φ19
150	364	320		265	225	8-Φ19	285	240	8-Φ23	285	240	8-Φ23
200	410	382		320	280	8-Φ19	340	295	8-Φ23	340	295	12-Φ23
250	464	410		275	335	12-Φ19	395	350	12-Φ23	405	355	12-Φ27
300	535	430		440	395	12-Φ23	445	400	12-Φ23	460	410	12-Φ27
350	607	470		490	445	12-Φ23	505	460	16-Φ23	520	470	16-Φ27
400	668	550		540	495	16-Φ23	565	515	20-Φ27	580	525	16-Φ30
450	728	600		595	550	16-Φ23	615	565	20-Φ27	640	585	20-Φ30
500	798	689		645	600	20-Φ23	670	620	20-Φ30	715	650	20-Φ34
600	918	725		755	705	20-Φ27	780	725	24-Φ30	840	770	20-Φ37
700	1056	800	860	810	24-Φ27	895	840	24-Φ34	910	840	24-Φ37	
800	1160	893	975	920	24-Φ27	1015	950	28-Φ34	1025	950	24-Φ40	
900	1310	920	1075	1020	24-Φ30	1115	1050	28-Φ37	1125	1050	28-Φ40	
1000	1433	975	1175	1120	28-Φ30	1230	1160	32-Φ40	1255	1170	28-Φ43	
1200	1693	1125	1405	1340	32-Φ34	1455	1380	36-Φ43	1485	1390	32-Φ48	
1400	1942	1290	1630	1560	36-Φ37	1675	1590	40-Φ48				
1600	2164	1385	1830	1760	40-Φ37	1915	1820	44-Φ48				
1800	2400	1580	2045	1970	44-Φ40	2115	2020	48-Φ48				
2000	2730	1870	2265	2180	48-Φ43	2325	2230	52-Φ56				
2200	2910	1950	2475	2390	52-Φ43	2550	2440	56-Φ56				
2400	3135	2080	2685	2600	56-Φ42	2760	2650					

XZ免维护旋转补偿器

XZ maintenance free rotating compensator



免维护旋转补、封座外套、柔性石墨填料、螺母螺栓N个压簧组合、填料压盖及弹簧压紧法兰构成：所述填料压紧法兰与压紧上法兰之间设有压簧，压紧法兰纵截面为U型的槽圈。U型槽圈中以及内导管右端面两个定环之间设有与变径管相配合运动的滚珠式滚动环。

Maintenance free rotation compensation, the sealing base coat, flexible graphite packing, nuts and bolts N spring combination, the packing gland and the spring pressing flange form: the pressure spring is provided with the packing gland flange and pressing on the flange between the groove ring type U longitudinal section of a pressing flange. And the reducer pipe is matched with the motion of the ball rolling ring is arranged between the U type groove ring and inner catheter right end surfaces of the two ring.

工作原理:

免维护旋转补偿器和旋转补偿器产品使用都是靠填料腔内的柔性填料进行密封。产品使用过程中每旋转一次填料就会磨损一点，当磨损量达到一定值时，产品就会出现泄漏。免维护旋转补偿器因在填料压紧法兰上方增加了一组弹簧，当填料出现微量磨损时，依靠压紧弹簧的张力给予补偿，从而延长产品发生泄漏时间（泄漏时间延后3-5年）。当磨损量超过弹簧张力补偿量时，只需扳紧弹簧压紧法兰上方的螺母即可，不需要停气修复，运行无次数限制，不易产生泄漏，从而大大提高供气单位和用气单位的社会经济效益。该产品在.0Mpa的压力下补偿5000次不产生泄漏，密封效果优越。

免维护式旋转补偿器的密封填料采用目前国内最先进的填料，耐温-60℃—800℃，由于补偿器的内套管外部和外套管内部焊有挡环，两挡环之间设有在减小摩擦力的(滚动环)滚珠，减小了内套管对密封填料的磨损。且由于补偿器装置上多组弹簧的自然张力推着填料压盖法兰，使磨损极为轻微的密封填料永远处于紧凑状态，从而使管道中的液体或气体介质不产生泄漏，当填料磨损量大时，弹簧张力无法满足调整，可用外力对弹簧压紧进行调整从而达到不停止工作状态下达到所要求的密封效果，所以本产品克服了其它同类产品的不足，原有的旋转式、套管式补偿器当填料磨损后无法得到及时补偿调整本免维护式补偿器因为使用了内管和变径管为同径，使介质能够顺通、畅流、解决于上述问题。

The working principle of:

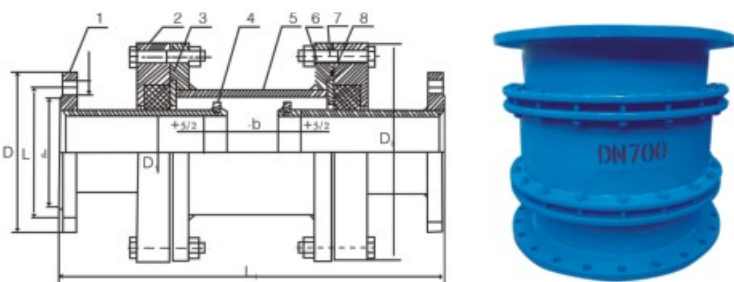
Maintenance free rotating compensator and the rotating compensator product use is to rely on flexible filler packing chamber sealing. Products used in the process of each spin Turn a filler will wear a little, when the wear amount reaches a certain value, the leakage of products will appear. Maintenance free rotating compensator for the packing gland A group of spring to increase the flange above, when the filler had little wear, by the pressing spring tension compensation, so as to prolong the product leak (leak time delay time 3-5 years). When the amount of wear Over the spring tension compensation amount, just pull tension spring clamping flange above the nut can, do not need to stop the gas repair, running unlimited, being not easy to leak, thereby greatly improving the air supply unit and Gas unit of social and economic benefit. This product is 5000 time compensation does not produce leakage under the pressure of.0Mpa, the sealing effect is excellent.

Free sealing filler is currently the most advanced packing aintenance rotary compensator, resistance to temperature of -60 DEG C and 800 C, because the inner casing and the outer casing external internal welding compensator with a baffle ring, the two retaining ring installed in the decrease of the friction (rolling ring) ball, decreases the inner sleeve on the abrasion of the sealing filler. And because of the natural tension multiple spring compensator device pushes a gland flange, so wear extremely Slight sealing filler forever in a compact state, so that the liquid or gas medium in the pipe does not produce leakage, when the filler wear quantity is big, the tension of the spring can not meet the adjustment, available external force on the spring pressure Tight adjusted so as to achieve does not stop working state to achieve the required sealing effect, so the product overcomes the defects of other products of the same type, rotary type, sleeve type compensator original when the packing wear Unable to get timely compensation adjustment of the maintenance free type compensator for the use of the inner pipe and variable diameter pipe for the same size, so that the medium can flow, Shun, to solve the above problem.

序号 NO.	公称口径 Nominal diameter	接口尺寸D Interface size	最大外形尺寸D, The biggest size	产品长度 The length of products
1	50	57	142	225
2	80	89	190	250
3	100	108	220	250
4	125	133	240	280
5	150	159	275	250
6	200	219	335	300
7	250	273	395	300
8	300	325	450	350
9	350	377	510	350
10	400	426	560	350
11	450	480	610	380
12	500	530	670	380
13	600	630	760	400

D型大挠度松套补偿接头 D-type large deflection loose sleeve compensating joint

D型大挠度松套补偿接头是由短管法兰、本体、压盖、挡圈、限位块、密封装置、压紧构件组成，它采用独特的抗轴力设计，结构简单，密封性能可靠抗拉脱能力强，用于吸收轴向位移和挠度为6-7度的角位移的管道松套连接装置。



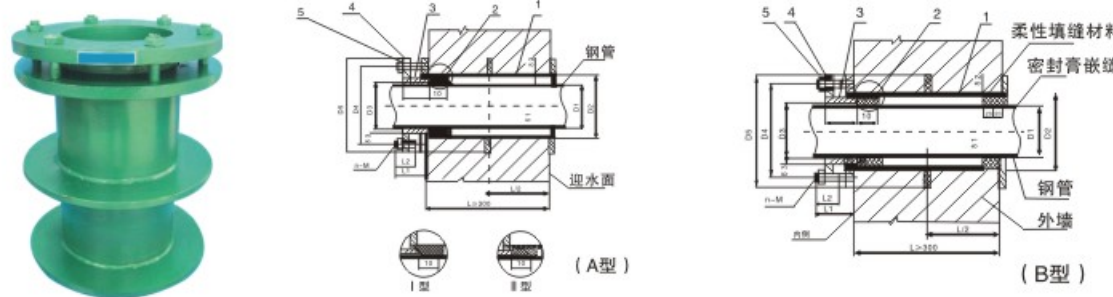
工作压力：0.6~1.6Mpa 位移方向：轴向、角向 口径：DN100~DN3200mm

序号 NO	名称 Name	数量 Number	材料 Material
1	短管法兰 Short pipe flange	2	Q235、20、不锈钢
2	固定螺柱 Fixed stud	-	Q235
3	固定螺母 Fixed nut	-	
4	压盖 Gland	2	
5	滑动管 Slide pipe	1	Q235、20、不锈钢
6	螺栓 Bolt	1	Q235、35、不锈钢
7	螺母 Nut	-	
8	限位块 Limit block	2	
9	挡圈 Retaining ring	2	
10	密封圈 Seal ring	2	NBR/FPM/NBR

D型大挠度松套补偿接头基本尺寸 Basic Dimensions of D-type Large Deflection Loose Sleeve Compensation Joints

公称尺寸 Nominal size DN	可挠量 DN torsion (°)	伸缩量 Expansion capacity ΔL	L	D ₁	法兰连接尺寸 Flange connection dimensions								
					0.6Mpa			1.0Mpa			1.6Mpa		
					D	K	n-do	D	K	n-do	D	K	n-do
100	7	±60	520	305	210	170	4-φ18	220	180	8-φ18	220	180	8-φ19
200			560	415	320	280	8-φ18	340	295	8-φ23	340	295	12-φ23
300			530	440	395	2-φ23	445	400	12-φ23	460	410	12-φ27	
400			660	645	540	495	16-φ23	565	515	16-φ27	580	525	16-φ30
500			670	750	645	600	20-φ23	670	620	20-φ27	715	650	20-φ33
600			720	870	755	705	20-φ27	780	725	20-φ30	840	770	20-φ36
700	6.5	±65	750	960	860	810	24-φ27	895	840	24-φ30	910	840	24-φ36
800			810	1085	975	920	24-φ30	1015	950	24-φ33	1025	950	24-φ39
900			855	1185	1075	1020	24-φ30	1115	1050	28-φ33	1125	1050	28-φ39
1000			950	1305	1175	1120	28-φ30	1230	1160	28-φ36	1255	1170	28-φ42
1200			1000	1505	1405	1340	32-φ33	1455	1380	32-φ39	1485	1390	32-φ48
1400			1050	1715	1630	1560	36-φ36	1675	1590	36-φ42	1685	1590	36-φ48
1600			1140	1930	1830	1760	40-φ36	1915	1820	40-φ48	1930	1820	40-φ56
1800			1200	2150	2045	1970	44-φ40	2115	2020	44-φ48	2130	2020	44-φ56
2000			1250	2370	2265	2180	48-φ42	2325	2230	48-φ48	2345	2230	48-φ62
2200			1300	2570	2475	2390	52-φ42	2550	2440	52-φ56	-	-	-
2400			1420	2820	2685	2600	56-φ42	2760	2650	56-φ56	-	-	-
2600	1450	3020	2905	2810	60-φ48	2960	2850	60-φ56	-	-	-		
2800	1500	3230	3115	3020	64-φ48	3180	3070	64-φ56	-	-	-		
3000	1600	3440	3315	3220	68-φ48	3405	3290	68-φ62	-	-	-		
3200	1780	3685	3525	3430	72-φ48	-	-	-	-	-	-		

02S404柔性防水套管 02S404 flexible waterproof sleeve



使用范围 Scope of use

本产品适用于民用、一般工业、市政给排水工程（建）构筑物。 This product is suitable for civil, general industrial and municipal water supply and drainage engineering structures (buildings).

分类应用 Classification application

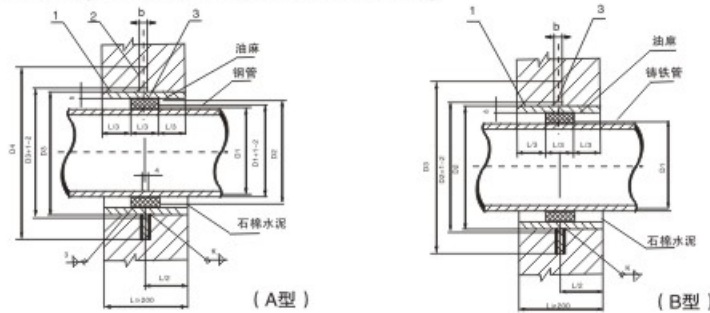
防水套管结构形式分为柔性防水套管（A/B管型）、刚性防水套管（A/B/C型）及刚性防水翼环三种类型。 柔性防水套管适用于有地震设防要求的地区，管道穿墙处承受振动和管道伸缩变形、或有严密防水要求的构（建）筑物外墙。

I型密封圈适用于一般防水要求，II型适用于比较严密的防水要求。 适用温度：-20℃~250℃。特殊要求请订货时说明。 当穿墙管与泵或增压设备连接的进、出管道时，宜在连接处设置柔性连接。 Waterproof sleeve structure is divided into three types: flexible waterproof sleeve (A/B tube type), rigid waterproof sleeve (A/B/C type) and rigid waterproof wing ring. Flexible waterproof sleeve is suitable for areas requiring seismic fortification, where the pipeline passes through the wall to withstand vibration, pipe expansion and deformation, or external walls of structures or buildings requiring strict waterproofing. Type I seals are suitable for general waterproofing requirements and type II seals are suitable for more strict waterproofing requirements. Applicable temperature: -20 ~250 C. Special requirements should be specified when ordering. Flexible connections should be set at the joints when the wall-piercing pipe is connected with the inlet and outlet pipes of pumps or superchargers.

主要尺寸、重量表 Main Dimensions and Weight Meters

DN	D1	D2	D3	D4	D5	I	10		11	12	D1	D2	D3	n-M	A型重量 (kg)		B型重量 (kg)	
							I型	II型							I型	II型		
50	60	95	65	145	200	65	28	/	72	30	3.5	4	8	4-M12	14.40	/	14.40	/
65	76	114	80	165	220	65	28	25	72	30	3.75	4	8	4-M12	16.89	17.07	17.18	17.35
80	89	127	95	180	235	65	28	25	76	38	4	4	10	4-M16	21.12	21.31	21.42	21.61
100	108	146	114	200	255	65	28	25	76	38	4	4.5	10	4-M16	24.37	24.58	24.71	24.92
125	133	180	140	235	290	65	28	25	76	38	4	6	10	4-M16	31.92	32.31	32.43	32.82
150	159	203	165	260	315	65	28	25	76	38	4.5	6	10	4-M16	35.77	36.17	36.31	36.72
200	219	265	226	320	375	65	28	25	76	38	6	6	10	4-M16	44.69	45.29	45.29	45.87
250	273	325	280	380	435	65	28	25	76	38	8	8	10	4-M16	59.41	60.22	60.43	61.33
300	325	377	333	435	495	72	28	30	90	46	8	10	10	4-M20	89.37	90.02	90.35	91.14
350	377	426	385	485	545	72	32	30	90	46	10	10	10	4-M20	99.74	100.3	100.7	101.5
400	426	430	435	540	600	72	32	30	90	46	10	10	10	12-M20	114.0	114.8	115.3	116.4
450	480	530	488	590	650	72	32	30	90	46	10	10	10	12-M120	124.1	124.7	/	/
500	530	582	538	645	705	72	32	30	90	46	10	10	10	16-M20	139.3	140.5	/	/
600	630	690	640	755	820	75	32	30	104	54	10	10	12	16-M24	197.2	198.2	/	/
700	720	780	730	845	910	75	40	30	104	54	10	10	12	20-M24	222.6	223.7	/	/
800	820	880	830	950	1020	80	40	40	117	60	10	10	12	20-M27	280.0	282.3	/	/
900	920	980	930	1050	1120	80	40	40	117	60	10	10	12	20-M27	309.6	312.2	/	/
1000	1020	1030	1030	1150	1220	80	40	40	117	60	10	10	12	24-M27	341.1	344.0	/	/

02S404刚性防水套管 02S404 rigid waterproof casing



适用范围 Scope of use

刚性防水套管适用于管道穿墙处不承受管道振动和伸缩变形的构(建)筑物, 对于地震设防要求的地区, 如采用刚性防水套管, 应在进入池壁或建筑物外墙的管道上就近设置柔性连接, A型适用于钢, B型适用于球墨铸铁管。

Rigid waterproof sleeve is suitable for structures (buildings) where pipelines do not bear vibration and expansion deformation of pipelines through walls. For areas requiring seismic fortification, if rigid waterproof sleeve is used, flexible connections should be installed near pipes entering pool walls or building exterior walls. A type is suitable for steel and B type is suitable for ductile iron pipes.

刚性防水套管 (A型) 尺寸、重量表 Dimension and Weight Table of Rigid Waterproof Casing (Type A)

DN	D ₁	D ₂	D ₃	D ₄	δ	b	k	重量 (kg)	DN	D ₁	D ₂	D ₃	D ₄	δ	b	k	重量 (kg)
50	60	80	114	225	3.54	10	4	4.494	500	530	550	590	730	10	16	10	44.54
65	75.5	95	121	230	3.75	10	4	4.66	600	630	660	690	830	10	16	10	54.50
80	89	110	140	250	4	10	4	5.33	700	720	750	790	920	10	16	10	61.43
100	108	130	159	270	4.5	10	5	6.36	800	820	850	880	1020	10	16	10	69.12
125	133	155	180	290	6	10	6	8.33	900	920	950	980	1120	10	16	10	76.81
150	159	180	219	330	6	10	6	10.06	1000	1020	1050	1080	1230	10	16	10	84.50
200	219	240	273	385	8	12	8	15.9	1200	1220	1250	1290	1430	12	20	12	122.5
250	273	295	325	435	8	12	8	18.68	1400	1420	1450	1490	1630	12	20	12	141.3
300	325	345	377	500	10	14	10	27.40	1600	1620	1650	1690	1830	14	20	14	176.4
350	377	400	426	550	10	14	10	30.95	1800	1820	1850	1900	2040	16	20	16	216.6
400	426	445	480	600	10	14	10	34.35	2000	2020	2050	2100	2240	16	20	16	239.3
450	480	500	530	650	10	14	10	37.85									

刚性防水套管 (B型) 尺寸、重量表 Dimension and Weight Table of Rigid Waterproof Casing (Type B)

DN	D ₁		D ₂	D ₃	δ	b	k	重量 (kg)	DN	D ₁		D ₂	D ₃	δ	b	k	重量 (kg)
	铸铁管	球墨铸铁管								铸铁管	球墨铸铁管						
75	93	/	140	250	4	10	4	5.33	500	528	532	590	730	10	16	10	44.54
100	118	118	168	280	4.5	10	5	6.27	600	630.8	635	690	830	10	16	10	54.50
150	169	170	219	330	6	10	6	10.06	700	733	738	790	930	10	16	10	62.19
200	220	220	273	385	8	12	8	15.90	800	836	842	900	1040	10	16	10	70.65
250	271.6	274	325	435	8	12	8	18.68	900	936	945	1000	1140	10	16	10	78.34
300	322.8	326	377	500	10	14	10	27.40	1000	1041	1048	1100	1240	10	16	10	104.7
350	374	378	426	550	10	14	10	30.98	1100	1144	/	1200	1340	20	20	20	114.1
400	425.6	429	480	600	10	14	10	34.35	1200	1246	1255	1310	1450	20	20	20	124.4
450	476.8	/	530	650	10	14	10	37.85									

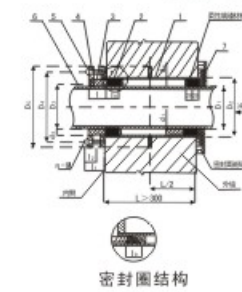
说明: 1、套管穿墙处如遇非混凝土墙壁时, 应改为混凝土墙壁, 其浇注范围应比翼环直径(A型D₄或B型D₃)大200, 而且必须将套管一次浇灌于混凝土墙内。套管内的填料应紧密捣实。

2、穿墙处混凝土墙厚不应小于200, 否则应使墙壁一边或两边加厚。加厚部分的直径至少为D₄+200。

3、焊接结构尺寸公差与形位公差按照JB/T500.3-1998执行。焊接采用手工电弧焊, 焊条型号E4303, 牌号J422。焊缝坡口的基本形式与尺寸按照GB985-88执行。

Explanation: 1. When the casing penetrates the wall, it should be replaced by concrete wall. Its casting range should be 200 times larger than the diameter of wing ring (A-D₄ or B-D₃), and the casing must be fixed in the concrete wall once. Packing in casing should be compactly tampered.
2. The thickness of concrete wall should be no less than 200 at the piercing point, otherwise one or both sides of the earth wall should be thickened. The diameter of the thickening part is at least D₄+200.
3. Dimension tolerance and shape tolerance of welded structure shall be carried out in accordance with JB/T500.3-1998. Welding adopts manual arc welding, electrode type E4303, brand J422. The basic form and size of weld groove shall be carried out in accordance with GB985-88.

04FS02柔性密闭套管 04FS02 Flexible Sealed Casing



说明:

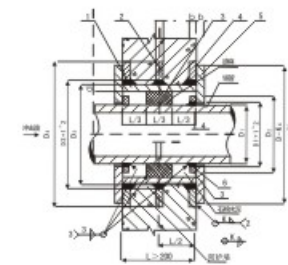
- 1、柔性填料材料: 沥青麻丝、聚苯乙烯板、聚氯乙烯泡沫塑料板。
- 2、密封胶: 聚硫密封胶、聚氨酯密封胶。
- 3、穿管处混凝土墙厚不应小于300, 否则应使墙壁一边加厚或两边加厚, 加厚部分的直径至少为D₅±200。
- 4、钢管和挡板焊接后经镀锌处理, 再试行与套管安装。
- 5、焊接采用手工电弧焊, 焊条型号E4303。

Explain:

1. Flexible filler materials: asphalt bast fiber, polystyrene board, polyvinyl chloride foam board.
2. Sealing paste: polysulfide sealant and polychloride grease sealant.
3. The thickness of concrete wall should not be less than 300. Otherwise, one side of the wall should be thickened or both sides should be thickened. The diameter of the thickened part should be at least D₅+200.
4. The steel pipe and baffle are welded and galvanized, and then the casing is installed on trial.
5. Manual arc welding is used for welding. Electrode type E4303.

序号NO	名称 Name	数量 Number	材料Material	备注 Remarks
1	法兰套管 Flange casing	1	Q235-A	焊接件 Weldments
2	密封圈 Seal ring	1	氯丁橡胶	
3	法兰压盖 Flange gland	1	Q235-A	焊接件 Weldments
4	螺栓 Bolt	n	Q235-A	GB897-88A
5	螺母 Nut	n	Q235-A	GB/T41-2000
6	钢管 Steel pipe		Q235-A	
7	挡板 baffle		Q235-A	

04FS02刚性密闭套管 04FS02 Rigid Sealed Casing



说明:

- 1、穿管处混凝土墙厚不应小于200, 否则应使墙壁一边加厚或两边加厚, 加厚部分的直径至少为D₄±200。
- 2、钢管和挡焊焊接后经镀锌处理, 再施行与套管安装, 全部施工安装后再施行挡板和固定法兰焊接。
- 3、焊接采用手工电弧焊, 焊条型号E4303。

Explain:

1. The thickness of concrete wall should not be less than 200. Otherwise, one side of the wall should be thickened or both sides should be thickened. The diameter of the thickened part should be at least D₄ ± 200.
2. Galvanized steel pipes and gears are welded and then installed with casing. After all construction and installation, baffles and fixed flanges are welded.
3. Manual arc welding is used for welding. Electrode type E4303.

**柔性密闭套管尺寸
Flexible airtight sleeve dimensions**

DN	D ₁	D ₂	D ₃	D ₄	D ₅	D ₇	l	l ₀	l ₁	l ₂	d ₁	d ₂	d ₃	d ₄	d ₅	k	n-M
50	60	95	65	145	200	81	65	/	72	30	3.5	4	8	65	86	4	4-M12
65	76	114	80	165	220	96	65	25	72	30	3.75	4	8	80	105	4	4-M12
80	89	127	95	180	235	115	65	25	72	38	4	4	10	95	118	4	4-M12
100	103	146	114	200	255	134	65	25	72	38	4	4.5	10	114	136	4	4-M12
125	133	180	140	235	290	160	65	25	76	38	4	6	10	140	167	6	6-M12
150	159	203	165	260	315	185	65	25	76	38	4.5	6	10	160	190	6	6-M12
200	219	265	226	320	375	246	65	25	76	38	6	6	10	226	226	6	6-M12

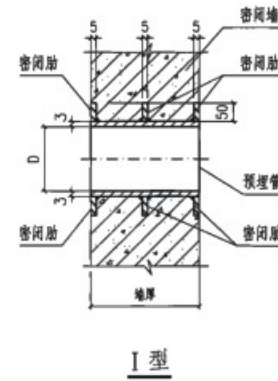
**刚性密闭套管尺寸
Dimension of rigid airtight sleeve**

DN	D ₁	D ₂	D ₃	D ₄	d	b	k
50	60	80	114	225	3.5	10	4
65	75.5	95	121	230	3.75	10	4
80	89	110	140	250	4	10	4
100	108	130	159	270	4.5	10	5
125	133	155	180	290	6	10	6
150	159	180	219	330	6	10	6
200	219	240	273	385	8	12	8

07FK02通风套管 07FK02 Ventilation Casing

人防通风密闭套管适用于人防通风工程，是风管穿密闭墙预留套管，其主管采用3mm厚钢板卷制而成，密闭肋采用5mm厚钢板加工制作，焊接采用手工电弧焊，焊缝坡口的基本形式与尺寸按照GB985-88执行。

因为材料在运输或配送过程中，表面可能会有刮花或弄脏，材料在储存过程中也可能因为表面氧化而造成表面不够美观，图片和实物也可能有所不同。购买时可以与在线客服联系。因为材料的特殊性，所有材料都是买家付款后才进发货的，都是属于专门为买家订做的产品，一经售出，非材质问题，概不退换！敬请谅解。



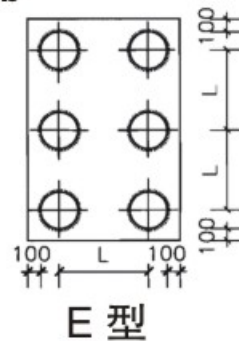
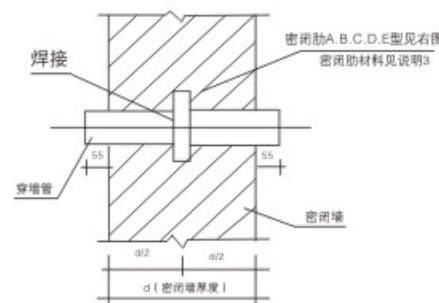
Civil air ventilation airtight sleeve is suitable for civil air ventilation engineering. It is reserved sleeve for air duct passing through airtight wall. Its main pipe is rolled with 3 mm thick steel plate, and the airtight sleeve is 5 mm thick. 5 mm thick steel plate processing, welding using manual arc welding, the basic form and size of weld groove in accordance with GB985-88.

Because the surface of materials may be scratched or dirty in the course of transportation or distribution, and the surface of materials may not be beautiful due to surface oxidation or in the course of storage. Views, pictures and objects may also be different. You can contact online customer service when purchasing. Because of the particularity of materials, all materials are purchased and shipped after payment by the buyer. All of them belong to the products specially made for buyers. Once they are sold, they will not be exchanged for non-material problems. Please forgive me.

手动密闭阀门接管尺寸表 (内径)
Dimension Table for Manual Closed Valve Nozzle (Internal Diameter)

公称口径 Nominal diameter	DN150	DN200	DN300	DN400	DN500	DN600	DN800	DN1000
内径 Internal diameter								
D(mm)	166	215	315	441	560	666	870	1090

07FD02穿墙管密闭肋 07FD02 Wall-piercing Tube Sealing Rib



(防护) 密闭管和密闭尺寸表 (Protection) Closure Pipe and Closure Dimension Table

序号 NO	镀锌钢管 Galvanized steel pipe		管距尺寸 L(mm) Pipe spacing size L(mm)	备注 Remarks
	公称直径(mm) Nominal diameter (mm)	外径(mm) Outer diameter (mm)		
1	20	26.8	50	
2	25	33.5	50	
3	32	42.3	60	
4	40	48	75	
5	50	60	100	
6	70	75.5	125	
7	80	88.5	150	
8	100	114	200	

PN 6 板式平焊钢制管法兰 (GB/T 9124.1—2019)

公称尺寸 DN	钢管外径 A/mm		连接尺寸					法兰厚度 C/mm	密封面		法兰内径 B/mm	
			法兰 外径 D/mm	螺栓孔中 心圆直径 K/mm	螺栓孔 直径 L/mm	螺栓						
	系列 I	系列 II				数量 n/个	螺纹 规格	d/mm	f ₁ /mm	系列 I	系列 II	
10	17.2	14	75	50	11	4	M10	12	35	2	18.0	15
15	21.3	18	80	55	11	4	M10	12	40	2	22.0	19
20	26.9	25	90	65	11	4	M10	14	50	2	27.5	26
25	33.7	32	100	75	11	4	M10	14	60	2	34.5	33
32	42.4	38	120	90	14	4	M12	16	70	2	43.5	39
40	48.3	45	130	100	14	4	M12	16	80	3	49.5	46
50	60.3	57	140	110	14	4	M12	16	90	3	61.5	59
65	73.0	76	160	130	14	4	M12	16	110	3	75.0	78
80	88.9	89	190	150	18	4	M16	18	128	3	90.5	91
100	114.3	108	210	170	18	4	M16	18	148	3	116.0	110
125	141.3	133	240	200	18	8	M16	20	178	3	143.5	135
150	168.3	159	265	225	18	8	M16	20	202	3	170.5	161
200	219.1	219	320	280	18	8	M16	22	258	3	221.5	222
250	273.0	273	375	335	18	12	M16	24	312	3	276.5	276
300	323.9	325	440	395	22	12	M20	24	365	4	327.5	328
350	355.6	377	490	445	22	12	M20	26	415	4	359.5	380
400	406.4	426	540	495	22	16	M20	28	465	4	411.0	430
450	457	480	595	550	22	16	M20	30	520	4	462.0	484
500	508	530	645	600	22	20	M20	30	570	4	513.5	534
600	610	630	755	705	26	20	M24	32	670	5	616.5	634
700	711	720	860	810	26	24	M24	40	775	5	715	724
800	813	820	975	920	30	24	M27	44	880	5	817	824
900	914	920	1075	1020	30	24	M27	48	980	5	918	924
1000	1016	1020	1175	1120	30	28	M27	52	1080	5	1020	1024
1200	1219	1220	1405	1340	33	32	M30	60	1295	5	1223	1224
1400	1422	1420	1630	1560	36	36	M33	72(68) ^a	1510	5	1426	1424
1600	1626	1620	1830	1760	36	40	M33	80(76) ^a	1710	5	1630	1624
1800	1829	1820	2045	1970	39	44	M36	88(84) ^a	1920	5	1833	1824
2000	2032	2020	2265	2180	42	48	M39	96(92) ^a	2125	5	2036	2024

a: 括号内为原标准法兰厚度尺寸，对于原有设备或供需双方认可仍可采用括号内的法兰厚度尺寸。

PN 10 板式平焊钢制管法兰 (GB/T 9124.1—2019)

公称尺寸 DN	钢管外径 A/mm		连接尺寸					法兰厚度 C/mm	密封面		法兰内径 B/mm	
			法兰 外径 D/mm	螺栓孔中 心圆直径 K/mm	螺栓孔 直径 L/mm	螺栓						
						数量 n/个	螺纹 规格					
10	17.2	14	90	60	14	4	M12	14	40	2	18.0	15
15	21.3	18	95	65	14	4	M12	14	45	2	22.0	19
20	26.9	25	105	75	14	4	M12	16	58	2	27.5	26
25	33.7	32	115	85	14	4	M12	16	68	2	34.5	33
32	42.4	38	140	100	18	4	M16	18	78	2	43.5	39
40	48.3	45	150	110	18	4	M16	18	88	3	49.5	46
50	60.3	57	165	125	18	4	M16	20	102	3	61.5	59
65	73.0	76	185	145	18	8 ^a	M16	20	122	3	75.0	78
80	88.9	89	200	160	18	8	M16	20	138	3	90.5	91
100	114.3	108	220	180	18	8	M16	22	158	3	116.0	110
125	141.3	133	250	210	18	8	M16	22	188	3	143.5	135
150	168.3	159	285	240	22	8	M20	24	212	3	170.5	161
200	219.1	219	340	295	22	8	M20	24	268	3	221.5	222
250	273.0	273	395	350	22	12	M20	26	320	3	276.5	276
300	323.9	325	445	400	22	12	M20	26	370	4	327.5	328
350	355.6	377	505	460	22	16	M20	30	430	4	359.5	381
400	406.4	426	565	515	26	16	M24	32	482	4	411.0	430
450	457	480	615	565	26	20	M24	36	532	4	462.0	485
500	508	530	670	620	26	20	M24	38	585	4	513.5	535
600	610	630	780	725	30	20	M27	42	685	5	616.5	636
700	711	720	895	840	30	24	M27	50	800	5	715	724
800	813	820	1015	950	33	24	M30	56	905	5	817	824
900	914	920	1115	1050	33	28	M30	62	1005	5	918	924
1000	1016	1020	1230	1160	36	28	M33	70	1110	5	1020	1024
1200	1219	1220	1455	1380	39	32	M36	83	1330	5	1223	1224
1400	1422	1420	1675	1590	42	36	M39	90 ^b	1535	5	1426	1424
1600	1626	1620	1915	1820	48	40	M45	100 ^b	1760	5	1630	1624
1800	1829	1820	2115	2020	48	44	M45	110 ^b	1960	5	1833	1824
2000	2032	2020	2325	2230	48	48	M45	120 ^b	2170	5	2036	2024

注：公称尺寸 DN10~DN40 的法兰使用 PN40 法兰的尺寸；公称尺寸 DN50~DN150 的法兰使用 PN16 法兰的尺寸。

a：对于铸铁法兰和铜合金法兰，该规格的法兰可能是4个螺栓孔的，因此，当制造厂和用户协商同意后，与铸铁法兰和铜合金法兰配对使用的钢制法兰可以采用4个螺栓孔。

b：用户可以根据计算确定法兰厚度。

PN 16 板式平焊钢制管法兰 (GB/T 9124.1—2019)

公称尺寸 DN	钢管外径 A/mm		连接尺寸					法兰厚度 C/mm	密封面		法兰内径 B/mm	
			法兰 外径 D/mm	螺栓孔中 心圆直径 K/mm	螺栓孔 直径 L/mm	螺栓						
						数量 n/个	螺纹 规格					
10	17.2	14	90	60	14	4	M12	14	40	2	18.0	15
15	21.3	18	95	65	14	4	M12	14	45	2	22.0	19
20	26.9	25	105	75	14	4	M12	16	58	2	27.5	26
25	33.7	32	115	85	14	4	M12	16	68	2	34.5	33
32	42.4	38	140	100	18	4	M16	18	78	2	43.5	39
40	48.3	45	150	110	18	4	M16	18	88	3	49.5	46
50	60.3	57	165	125	18	4	M16	20	102	3	61.5	59
65	73.0	76	185	145	18	8 ^a	M16	20	122	3	75.0	78
80	88.9	89	200	160	18	8	M16	20	138	3	90.5	91
100	114.3	108	220	180	18	8	M16	22	158	3	116.0	110
125	141.3	133	250	210	18	8	M16	22	188	3	143.5	135
150	168.3	159	285	240	22	8	M20	24	212	3	170.5	161
200	219.1	219	340	295	22	12	M20	26	268	3	221.5	222
250	273.0	273	405	355	26	12	M24	29	320	3	276.5	276
300	323.9	325	460	410	26	12	M24	32	378	4	327.5	328
350	355.6	377	520	470	26	16	M24	35	438	4	359.5	381
400	406.4	426	580	525	30	16	M27	38	490	4	411.0	430
450	457	480	640	585	30	20	M27	42	550	4	462.0	485
500	508	530	715	650	33	20	M30	46	610	4	513.5	535
600	610	630	840	770	36	20	M33	55	725	5	616.5	636
700	711	720	910	840	36	24	M33	63	795	5	715	724
800	813	820	1025	950	39	24	M36	74	900	5	817	824
900	914	920	1125	1050	39	28	M36	82	1000	5	918	924
1000	1016	1020	1255	1170	42	28	M39	90	1115	5	1020	1024
1200	1219	1220	1485	1390	48	32	M45	95 ^b	1330	5	1223	1224
1400	1422	1420	1685	1590	48	36	M45	103 ^b	1530	5	1426	1424
1600	1626	1620	1930	1820	56	40	M52	115 ^b	1750	5	1630	1624
1800	1829	1820	2130	2020	56	44	M52	126 ^b	1950	5	1833	1824
2000	2032	2020	2345	2230	62	48	M56	138 ^b	2150	5	2036	2024

注：公称尺寸 DN10~DN40 的法兰使用 PN40 法兰的尺寸。

a：对于铸铁法兰和铜合金法兰，该规格的法兰可能是4个螺栓孔的，因此，当制造厂和用户协商同意后，与铸铁法兰和铜合金法兰配对使用的钢制法兰可以采用4个螺栓孔。

b：用户可以根据计算确定法兰厚度。

PN 25 板式平焊钢制管法兰 (GB/T 9124.1—2019)

公称尺寸 DN	钢管外径 A/mm		连接尺寸					法兰厚度 C/mm	密封面		法兰内径 B/mm	
			法兰外径 D/mm	螺栓孔中心圆直径 K/mm	螺栓孔直径 L/mm	螺栓						
	系列 I	系列 II				数量 n/个	螺纹规格		d/mm	f1/mm	系列 I	系列 II
10	17.2	14	90	60	14	4	M12	14	40	2	18.0	15
15	21.3	18	95	65	14	4	M12	14	45	2	22.0	19
20	26.9	25	105	75	14	4	M12	16	58	2	27.5	26
25	33.7	32	115	85	14	4	M12	16	68	2	34.5	33
32	42.4	38	140	100	18	4	M16	18	78	2	43.5	39
40	48.3	45	150	110	18	4	M16	18	88	3	49.5	46
50	60.3	57	165	125	18	4	M16	20	102	3	61.5	59
65	73.0	76	185	145	18	8	M16	22	122	3	75.0	78
80	88.9	89	200	160	18	8	M16	24	138	3	90.5	91
100	114.3	108	235	190	22	8	M20	26	162	3	116.0	110
125	141.3	133	270	220	26	8	M24	28	188	3	143.5	135
150	168.3	159	300	250	26	8	M24	30	218	3	170.5	161
200	219.1	219	360	310	26	12	M24	32	278	3	221.5	222
250	273.0	273	425	370	30	12	M27	35	335	3	276.5	276
300	323.9	325	485	430	30	16	M27	38	395	4	327.5	328
350	355.6	377	555	490	33	16	M30	42	450	4	359.5	381
400	406.4	426	620	550	36	16	M33	48	505	4	411.0	430
450	457	480	670	600	36	20	M33	54	555	4	462.0	485
500	508	530	730	660	36	20	M33	58	615	4	513.5	535
600	610	630	845	770	39	20	M36	68	720	5	616.5	636
700	711	720	960	875	42	24	M39	85	820	5	715	724
800	813	820	1085	990	48	24	M45	95	930	5	817	824

PN 40 板式平焊钢制管法兰 (GB/T 9124.1—2019)

公称尺寸 DN	钢管外径 A/mm		连接尺寸					法兰厚度 C/mm	密封面		法兰内径 B/mm	
			法兰外径 D/mm	螺栓孔中心圆直径 K/mm	螺栓孔直径 L/mm	螺栓						
	系列 I	系列 II				数量 n/个	螺纹规格		d/mm	f1/mm	系列 I	系列 II
10-150	请参考PN 25 板式平焊钢制管法兰 (GB/T 9124.1—2019)											
200	219.1	219	375	320	30	12	M27	36	285	3	221.5	222
250	273.0	273	450	385	33	12	M30	42	345	3	276.5	276
300	323.9	325	515	450	33	16	M30	52	410	4	327.5	328
350	355.6	377	580	510	36	16	M33	58	465	4	359.5	381
400	406.4	426	660	585	39	16	M36	65	535	4	411.0	430
450	457	480	685	610	39	20	M36	66	560	4	462.0	485
500	508	530	755	670	42	20	M39	72	615	4	513.5	535
600	610	630	890	795	48	20	M45	84	735	5	616.5	636



品质承诺 Quality commitment

喜元阀门一贯奉行“以质量赢得用户，以信誉发展企业，以价格占领市场”的经营原则，公司以满足顾客需要为宗旨，愿意通过自己的努力共同促进双方的合作，为顾客提供优质的产品和优良的服务，为确保用户买得放心，用时舒心，喜元阀门实行公开服务承诺。

优质体系

1. 产品的设计、制造、装配、检验及相关过程严格贯彻ISO9001/14001国际管理体系的标准。
2. 产品一律按国家和行业有关标准进行设计、制造和检验，同时可以根据用户的要求进行专用产品的开发，满足用户需求。产品的测试范围：规格1~2000mm，压力0.1~32MPa。

售前服务

喜元阀门拥有最全面最专业的技术队伍，可根据用户的要求就产品的类别、结构、性能、技术指标、产品选型等进行技术研讨及交流、非标产品设计、疑难解答及前期技术性常见故障的分析与预测。

售中服务

用心周到的服务与产品技术的不断创新同等重要，优质的产品加上优质的服务，才能真正体现品牌的优势。在合作过程中，信守合同，保质保量按时供应，随时保持与用户联系沟通。在产品的安装或使用过程中，可免费提供产品的使用性能、安装调试、故障排除及维修等方面的培训与指导。对特殊或定制的专用产品，可指派专业技术人员亲临现场服务。

售后服务

喜元阀门实行完善的用户档案和全程服务制度，每个用户都指派专业的项目经理进行全程免费技术咨询、安装指导、跟踪服务以及相关咨询服务，让用户真正体会到专业化的服务优势。

实景拍摄 Live action



实景拍摄 Live action



卓越的品质

» Excellent Quality



优质的服务

» High Quality Service

