

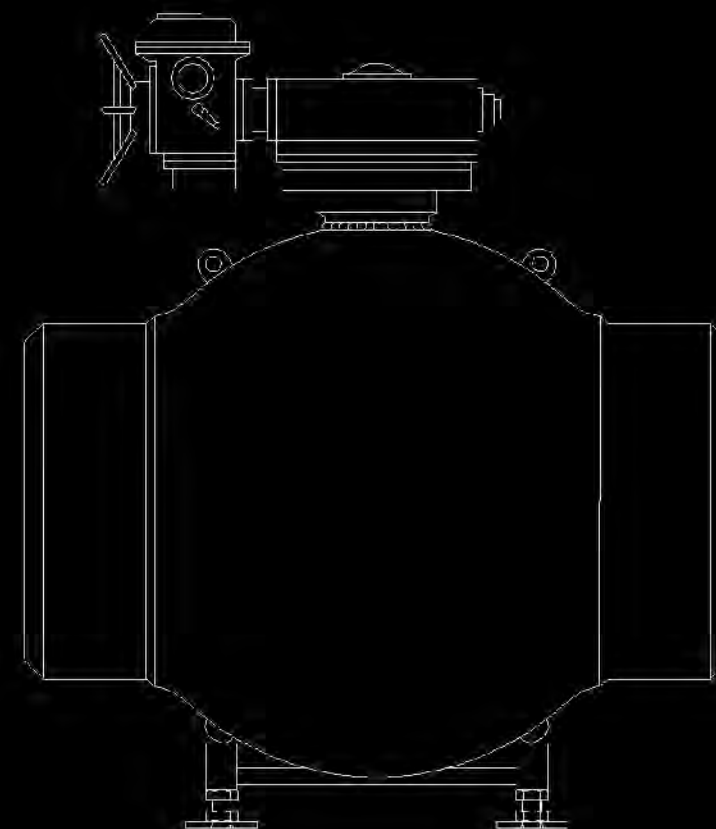
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www.trk-group.cn

TRK®

Welded Valve Pioneer 焊接阀门领航者



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TIX TECHNOLOGY GROUP



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Company

Introduction

集团简介



替科斯集团

TIX TECHNOLOGY GROUP

替科斯集团是集研发、制造、销售高端流体控制系统产品的大型装备制造企业。公司成立于2011年，集团总部位于首都北京，生产基地位于长寿之乡丽水，总占地面积200亩。依托国际先进的技术创新与产品研发理念，借鉴并融合国际顶尖专家顾问的先进经验，积极融入国家“以国代进”重大发展战略，致力于高精端阀门的机械功能多元化、结构设计标准化、控制模块智能化。打造高端智能阀门并为用户提供最优的一站式集成解决方案。

替科斯引进国内外最先进的精密数控加工设备，坚持走智能化、自动化、高端化、差异化的产品创新和研发策略，突破同质化壁垒。替科斯以替代进口为己任，多项技术创新成果填补国内空白并在产品中得到了良好应用，其中包括自主研发的面向石油化工、煤化工、硅化工行业严苛工况关键位置上使用的盘阀、耐磨球阀、快切盲板装置、防结焦抗冲刷耐磨剪切阀、黑灰水角阀、三偏心蝶阀；面向石油、天然气输送管线上使用的高温高压阀门；面向供热、电力、燃气行业长输管网上的全焊接球阀等在不同领域具备较强的创新能力和竞争优势，取得了积极的市场反馈，技术实力正逐步处于主导地位。

TIX Group is a large manufacturing enterprise integrating R&D, manufacturing and sales of high-end fluid control system products. Our company was founded in 2011, with its headquarters in Beijing and its production base in Lishui, covering total area of 200 mu. Relying on internationally technology innovation and product research concept, drawing on and integrating the advanced experience of international top experts and consultants, we actively integrating into our national major development strategy of "promoting with the country", we are committed to the diversification of mechanical functions, standardization of structural design and intelligent control modules of high-end valves and create high-end intelligent valves and provide users with the best one-stop integrated solutions.

TIX introduced the most advanced precision CNC processing equipment, insisted on product innovation and R&D strategy of intelligence, automation, high precision and differentiation and broke through the homogenization barrier. TIX strives to produce best products to replace imported ones. We have a number of technological innovations and have developed disc valves, wear-resistant ball valves, Quick cutting blind plate device, Anti-coking, anti-erosion, wear-resistant shear gate valve, black ash water angle valves, and triple eccentric butterfly valves, which are used in key locations under severe working conditions in petrochemical, coal chemical, and silicon chemical industries; High temperature, high pressure valves for oil and gas transmission pipelines; Fully welded ball valves for long-distance pipeline networks in heating, power and gas industries have strong innovation ability and competitive advantages in relevant fields and we have obtained positive market feedback, meanwhile, our technical strength is gradually taking a leading position.



替科斯产品及服务，拥有遍布全国20多个省市自治区，中石油、中石化、中海油、国家能源、中国大唐、中国华能、中国有色金属、中国硅业、中煤集团、中国化工等3000多位用户，形成覆盖全国的销售网络，并积极拓展国内外战略合作伙伴。

替科斯以优质高效的售后服务结合千万保额的产品质量保险（替科斯携手PICC—中国人民保险公司千万保额）为客户提供优质的产品、精湛的技术支持和健全的售后服务。同时替科斯还为战略合作伙伴提供免费的专业的阀门维修技术指导，达到强强联合，互利共赢。最终实现全方位战略对接和持续合作。

诚信立足天下，品质引领未来，创新推动阀门制造业转型升级，依靠质量和技术优势，实现质量效益型发展；注重科研投入，集聚高端人才，加速成果转化；大力推进创新驱动，以科技为先导，以品牌创造为动力，替科斯愿与注重诚信和品质的您携手共进，助力中国制造强国建设。

TIX products and services have more than 3000 users in more than 20 provinces, cities and autonomous regions across the country, including PetroChina, Sinopec, CNOOC, National Energy, China Datang, China Huaneng, China Nonferrous Metals, China Silicon, China Coal Group, and China Chemical, forming a nationwide sales network and actively expanding strategic partners at home and abroad.

TIX provides customers with high-quality products, exquisite technical support and sound after-sales service and we have cooperated with PICC to provide ten million insurance for our products. At the same time, TIX also provides free and professional valve maintenance guidance for strategic partners, so as to achieve strong cooperation and mutual benefit and finally achieve all-round strategic and continuous cooperation.

Integrity wins the world and quality leads future. We work hard on transformation and upgrading of valve manufacturing industry, and relies on quality and technical advantages to achieve quality benefit development; Focus on scientific research investment, gather high-end talents, and accelerate the transformation of achievements; We will vigorously promote innovation and take science and technology as the guide. We are willing to work with you who focus on integrity and quality to help build China into a manufacturing power.



Welded Valve Pioneer 焊接阀门领航者 资质 Certificate

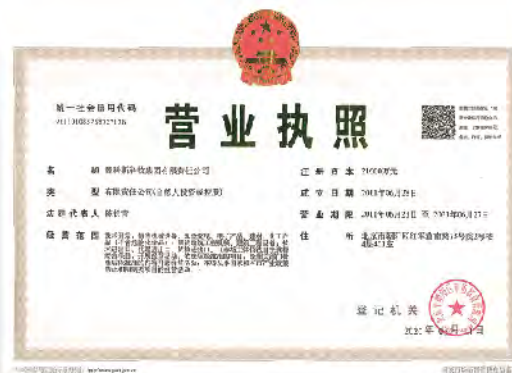
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TIX GROUP CHINA

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注册证书 Registration certificate

替科斯具备完善的企业管理模式及强大的技术研发实力，坚持以高端阀门为核心的产品研发战略，致力于提高工程配套与创新能力。

TIX has perfect enterprise management mode and strong technical research and development strength, adheres to product research and development strategy with high-end valves as the core, and is committed to improving the engineering supporting and innovation ability.



Certification certificate

认证证书

借鉴并融合国际顶尖专家顾问的先进经验 积极融入国家“以国代进”重大发展战略

Draw on and integrate the advanced experience of top international experts and consultants. It has actively integrated into the national development strategy of "Domestic import substitution".



Letter patents

专利证书

ZL

发明专利 3 项

外观设计专利 2 项

实用新型专利 27 项

3 invention patents
1 appearance design patent
29 utility model patents

荣誉证书 Honorary certificate

- I 国家高新技术企业
National high-tech enterprise
- II 高新技术企业研究开发中心
High-tech enterprise research and development center
- III 国家标准委员会编委
Member of the National Standards Commission



TRK 03

打造高端阀门制造 引领智能科技创新
Create high-end valve manufacturing leading intelligent technology innovation

One-stop integrated solution
严苛工况一站式集成解决方案



Welded Valve Pioneer 焊接阀门领航者 生产设备 Processing Equipment

TRK
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TIX GROUP CHINA

Gantry Machining Center 龙门加工中心



生产基地占地面积13万平方米，厂房建设面积5.5万平方米。年生产能力达5万吨。
各类生产检验设备200余台套，其中核心机械加工及检验试验环节全部采用进口设备。

The production base covers an area of 130,000 square meters, and the plant construction area is 55,000 square meters. The annual production capacity is 50,000 tons.
More than 200 sets of various production and inspection equipment, among which the core mechanical processing and inspection and test links are all imported equipment.



加工范围 3000mm Range of machining – 3000mm

加工精度 0.01mm Precision of machining – 0.01mm



打造高端阀门制造 引领智能科技创新
Create high-end valve manufacturing leading intelligent technology innovation

One-stop integrated solution
严苛工况一站式集成解决方案



Welded Valve Pioneer 焊接阀门领航者 生产设备 Processing Equipment

TRK
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4 M

CNC vertical machining center
数控立式加工中心



TOSHIBA

TMD-16

东芝双工作台交换
车铣加工中心
exchange turning and
milling machining center
≡



加工长度 2000mm Length of machining – 2000mm
加工精度 0.01mm Precision of machining – 0.01mm



打造高端阀门制造 引领智能科技创新
Create high-end valve manufacturing leading intelligent technology innovation

One-stop integrated solution
严苛工况一站式集成解决方案



Welded Valve Pioneer 焊接阀门领航者 生产设备 Processing Equipment

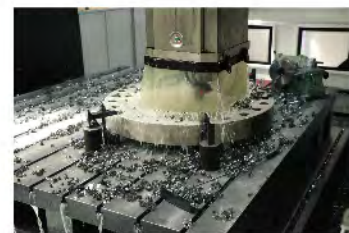
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HMC 1200



数控卧式加工中心

加工精度: 0.01mm
加工高度: 1600mm
加工直径: 2600mm



CNC horizontal machining center

Precision of machining - 0.01mm
Working height - 1600mm
Machining diameter - 2600mm

OTC
MADE IN JAPAN

全自动 埋弧焊机

Automatic Submerged Arc Welding Machine



TRK 09

打造高端阀门制造 引领智能科技创新
Create high-end valve manufacturing leading intelligent technology innovation

One-stop integrated solution
严苛工况一站式集成解决方案



Welded Valve Pioneer 焊接阀门领航者 生产设备 Processing Equipment

四柱立式 装配压机

Four-column Vertical
Assembly Pressure Test Bench



ASSEMBLY

AIT



打造高端阀门制造 引领智能科技创新
Create high-end valve manufacturing leading intelligent technology innovation

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TIX GROUP CHINA

LOW
temperature test



低温试验



One-stop integrated solution
严苛工况一站式集成解决方案



Welded Valve Pioneer 焊接阀门领航者 检验设备 Equipment for Inspection

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Physical & chemical examination

理化检验

国际先进的理化、无损检测、光谱分析、材料力学性能试验、超声波探伤仪、超声波测厚仪；综合性能测试、阀门扭矩、寿命试验装置和设备。

International advanced physics and chemistry, nondestructive testing, spectral analysis, material mechanical properties test, ultrasonic flaw detector, ultrasonic thickness meter; Comprehensive performance test, valve torque, life test device and equipment.



理化试验中心
Physical and chemical test center

数字三坐标测量仪
Digital three coordinate measuring instrument

尺寸检验
Survey of dimensions

磁粉探伤
Magnetic particle detection



打造高端阀门制造 引领智能科技创新
Create high-end valve manufacturing leading intelligent technology innovation

One-stop integrated solution
严苛工况一站式集成解决方案



智能数字压力试验台

Intelligent Digital Pressure Test Bench

国内最大口径及最大承压力的智能数字压力试验台、可自动完成阀门的各项试验，试验过程中的试验数据（压力和保压时间等），可分别以数字和压力曲线图形式储存和打印。避免人为看表，判断和记录试验结果所可能产生的隐患，同步实现全自动分析压力试验曲线图，自动判断阀门的试验是否合格。

The intelligent digital pressure test bench with the largest caliber and maximum bearing pressure in China can automatically complete the valve tests. The test data (pressure and pressure holding time, etc.) in the test process can be stored and printed in the form of figures and pressure curves respectively. Avoid human watch, judge and record test results may produce hidden dangers, synchronous automatic analysis of pressure test curve, automatically judge whether the valve test is qualified.



最大试验口径：2 米
最大承受压力：42 兆帕
最大顶压力：4000 吨



全焊接球阀 压力试验

Pressure test
for Full Welded Ball Valve



Maximum test diameter: 2M
Maximum pressure: 42Mpa
Maximum top pressure: 4000T



Valve Quality Control Process

阀门 质量 控制 流程

1、原材料质量控制

1.1 外观检查

表面气孔、砂眼、裂纹等缺陷不予验收。锻件表面的裂纹、褶皱等缺陷不予验收。外观质量应符合 JB/T7927、MSS SP-55 等标准的要求。

1.2 化学成分和机械性能

测试 采用手持直读光谱仪、拉伸测试仪、冲击测试仪、硬度测试仪等, 检测设备, 检测材料的化学成分和机械性能。一旦测试显示通过, 就进入尺寸测试过程。

1.3 尺寸检验

测试厚度和加工余量是否正确, 如果验证正确, 则进入待加工区域。



1、Quality Control of Raw Material

1.1 Visual inspection

Defects such as pores, sand holes and cracks on the surface shall not be accepted. Defects such as cracks and folds on the surface of forgings shall not be accepted. The appearance quality shall meet the requirements of JB/T7927, MSS SP-55 and other standards.

1.2 Chemical composition and mechanical properties

For test we use hand held direct reading spectrometer, tensile tester, impact tester and hardness tester. Testing equipment is used to detect the chemical composition and mechanical properties of materials. Once passed, it will enter the dimension test process.

1.3 Dimension test

Test whether the thickness and machining allowance are correct. If they are verified to be correct, enter the area to be machined.

2、加工工艺控制

针对每个阀门的使用环境和介质以及客户的要求, 优化加工工艺, 让每个阀门在各种环境中高效使用, 大大减少了阀门的使用次数。阀门发生故障并进行维修, 从而延长其使用寿命。

2.Processing control

According to the use environment, medium and customer requirements we will optimize processing technology to make each valve be used efficiently in various environments, which can greatly reduce the number of times the valve being used and can repair so as to extend its service life.

3、加工工序及品管

每一道工序都采用1+1+1方式检验: 加工工人自检+品管员抽查+品管经理终检。每个阀门都设置了独特的工序工艺卡, 每道工序的制造和检验都会在上面显示并永久保存。

3.Processing procedure and quality control

Each process shall be inspected by 1+1+1 method: self inspection by processing workers+spot check by quality control personnel+final inspection by quality control manager. Each valve is provided with a unique process card, on which the manufacturing and inspection of each process will be displayed and permanently saved.



4.组装、试压控制

组装应在每个零件、技术图纸、材料、尺寸和公差都由质检员检查无误后, 方可开始试压。阀门检验和试验将严格按照GB/T13927、API598、ISO5208等标准的要求进行。

4.Assembly and pressure test control

Pressure test can be started only after each part, technical drawing, material, dimension and tolerance are checked by the quality inspector. Valve inspection and test should be carried out in strict accordance with GB/T13927, API598, ISO5208 and relevant standards.

5.表面处理和包装控制

喷漆前, 阀门应清洗干净, 干燥后进行表面处理。对于非染色材料的加工表面, 应涂上抑制剂。除订单中明确规定和特殊材料外, 均采用底漆+涂料。

5.Surface treatment and packaging control

Before painting, valves shall be cleaned and drying. The machined surfaces of non staining materials shall be coated with inhibitors. Unless otherwise specified in the order and special materials, the primer and paint shall be used.

6.阀门包装控制

涂装表面无脱落、无起皱、无气孔发现后, 检验员开始装订铭牌和合格证, 然后对各种零件进行包装清点, 检查是否有安装、使用、维修文件, 将通道口和整个阀门用防尘塑料薄膜包好, 以防止运输过程中灰尘和湿气进入, 然后对木箱内部进行包装和固定, 以防止货物在运输过程中损坏。

6.Valve packing control

After the coating surface is free of peeling, wrinkling and air holes, the inspector starts to bind the nameplate and certificate of conformity, and then carries out packaging and inventory of various parts to check installation, use and maintenance documents are available. The channel and the entire valve are wrapped with dust-proof plastic film to prevent dust and moisture from entering during transportation. Then, the interior of the wooden box is packaged and fixed to prevent damage to the goods during transportation.

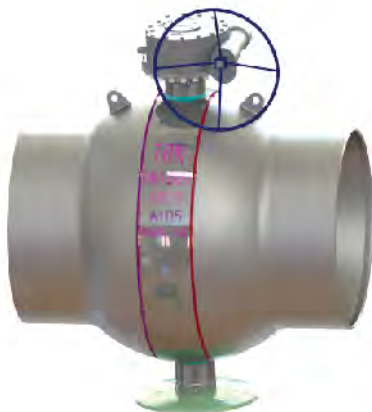


不允许有缺陷的产品被接受、制造和流出。
No defective products are allowed to be accepted, manufactured or exported.

市政、热力管线 Heating Pipeline

全焊接球阀 Fully Welded Ball Valve

球形 筒形 手柄传动型
Butt Weld Type Type Cylinder Shaped Type Lever Operated Type



TRK热力全焊接球阀优越的品质和高性能的稳定性是普通铸钢球阀所无法达到的，其力学性能优良，承压能力强；能够最优实现了最低的重量和最大的稳定性；能够安全的承受最大应力而不破坏球阀的连接和密封；能够在承受更高的内、外压力下，高温水或水汽两相状态下安全工作；达到国际先进水平。

TRK thermal fully welded ball valve has superior quality and high-performance stability that ordinary cast steel ball valves cannot achieve. Its mechanical properties are excellent and its pressure bearing capacity is strong; Such valves chieve the lowest weight and maximum stability optimally; they are able to withstand maximum stress without damaging the connection and sealing of the ball valve; They are able to work safely under higher internal and external pressures, under high-temperature water or water vapor conditions, it achieves international advanced level.

标准 Standard	国标 National standard	美标 American Standard
公称通径 Size	DN10 — DN1600	3/8" — 64"
压力等级 Pressure	PN16 — PN25	Class 150 — Class300
温度压力等级 Temperature & Pressure	GB/T 12224	ASME B16.34
结构长度 Face-to-face	GB/T 37827 JB/T 12006	API 6D ASME B16.10
检验与试验 Inspection	GB/T 13927 GB/T 26480	API 598 BS 6755 EN 12266
壁厚 Bodu thickness	GB/T 12224 GB/T 26640	ASME B16.34 ISO 17292



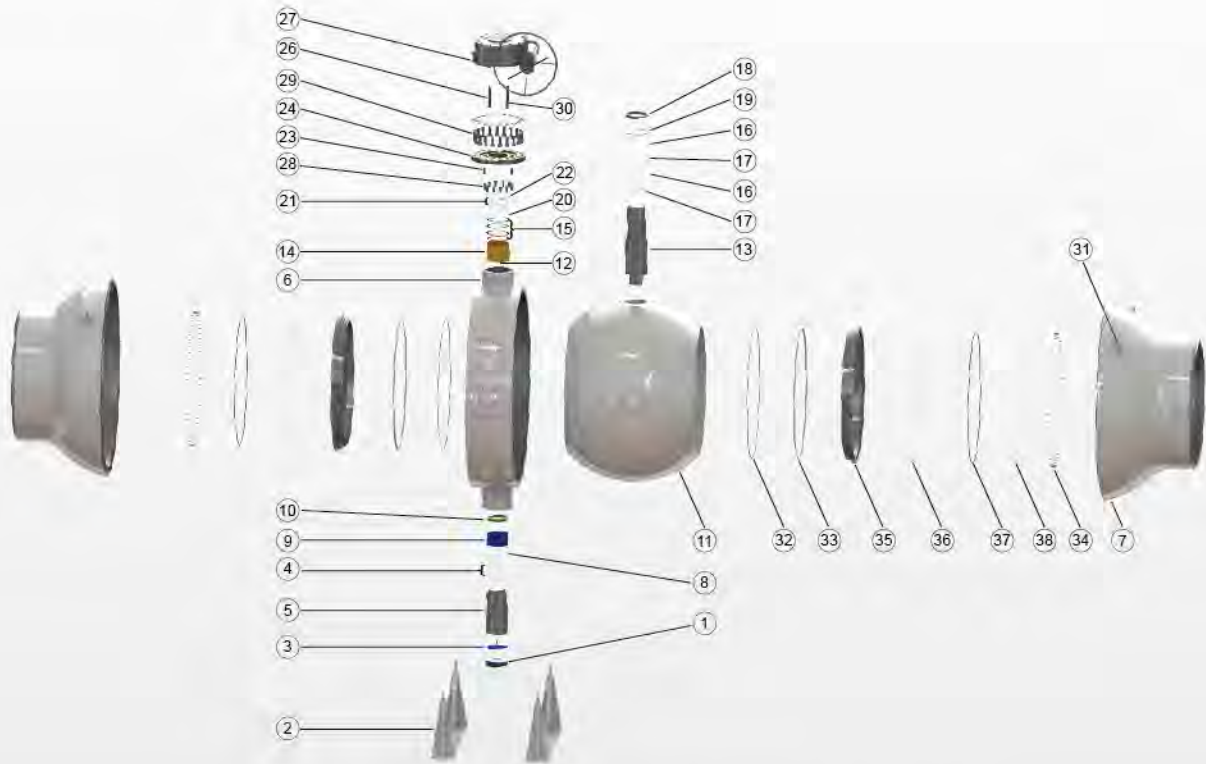
设计标准 Design standard	GB/T 37827	连接方式 End connection	焊接、法兰 welding, flange	操作方式 Operation	手动、蜗轮、电动 Manual, worm gear, electric
产品标识 Label	MSS SP-25	表面质量 Finishing	MSS SP-55	执行器连接标准 Actuator standard	ISO 5211、API 6DX
端部连接 End connection	法兰 Flange	GB/T 9113、JB/T 79、GB/T 9124、ASME B16.5	承插焊 Socket weld	ASME B16.11	
	对焊 Burr weld	ASME B16.25、ASME B31.4、ASME B31.8	螺纹 Thread	ASME B1.20.1	



TRK
替科斯

整体锻造热力全焊接球阀-球形
Integral forged thermal fully welded ball valve - spherical

- 体积小、质量轻
- 高强度球体、阀体整体锻造
- 组合式多重密封双活塞阀座
- 30年有效使用寿命，免维护，实现与管道同寿命
- 出厂预制保温
- 便携式电动启闭工具



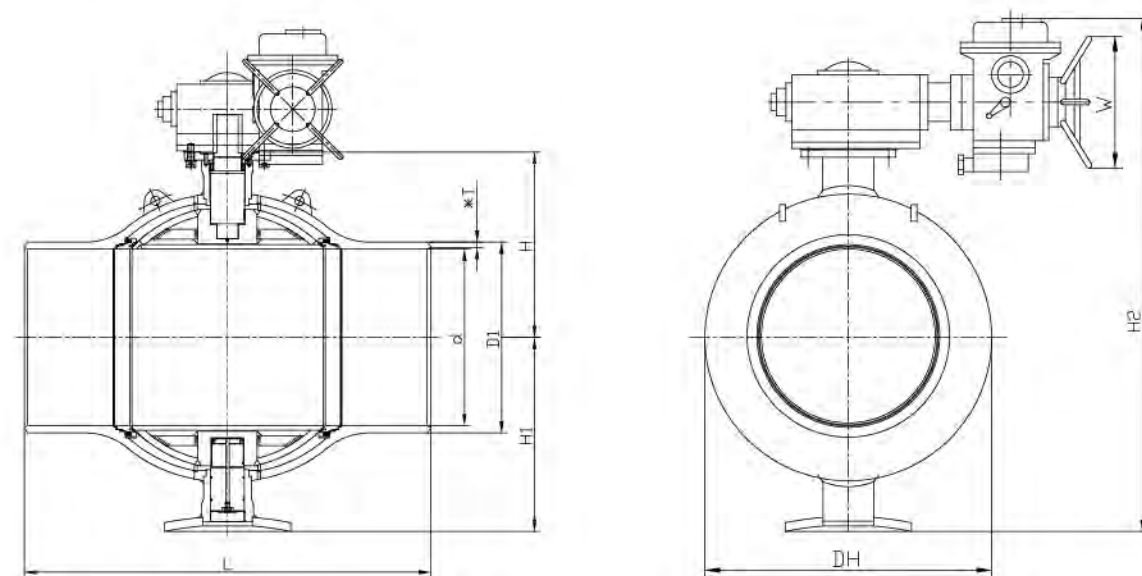
- Small size and light weight
- High strength ball and valve body forged as a whole
- Combined multiple seal double piston valve seat
- 30 years of effective service life, maintenance free, achieving the same lifespan as the pipeline
- Factory prefabricated insulation
- Portable electric opening and closing tools

部件表 Parts Sheet

序号 No.	零件名称 Name	材料 Material	序号 No.	零件名称 Name	材料 Material
1	底盖 Bottom cover	ASTM A105	20	四开环 Four piece ring	SS304
2	支撑脚 Support foot	CS	21	填料 Packing	Flexible graphite/PTFE
3	轴承 Bearing	SS+PTFE	22	缠绕垫片 Spiral wound gasket	Flexible graphite+304
4	O形圈 O-ring	VITON B	23	圆柱销 Round pin	AISI 1045
5	下阀杆 Lower stem	SS304/20Cr13/AISI 4140+ Surface hardening	24	顶法兰 Top flange	ASTM A105
6	阀体 Body	ASTM A105	25	圆柱销 Round pin	AISI 1045
7	副阀体 Closure	ASTM A105	26	键 Key	AISI 1045
8	O形圈 O-ring	VITON B	27	执行机构 Actuator	Assembly
9	轴承 Bearing	SS+PTFE	28	内六角螺钉 Soket head cap screw	ASTM A193 B7
10	推力球轴承 Thrust ball bearing	Assembly	29	内六角螺钉 Soket head cap screw	ASTM A193 B7
11	球体 Ball	SS 304/ASTM A105+ Surface hardening	30	弹簧垫圈 Spring washer	AISI 1566
12	防静电弹簧 Anti-static spring	SS304	31	吊耳 Lug	CS
13	阀杆 Stem	SS304/20Cr13/AISI 4140+ Surface hardening	32	密封圈A Sealing ring A	VITON AED
14	轴承 Bearing	SS+PTFE	33	密封圈B Sealing ring B	Non-metal material
15	调整垫片 Adjusted gasket	PTFE	34	弹簧 Spring	INCONEL X-750
16	O形圈 O-ring	VITON B	35	阀座 Seat	SS304/ASTM A105+ Surface hardening
17	O形圈 O-ring	VITON B	36	防火圈 Fire ring	Flexible graphite+304
18	阀杆密封套 Stem sealing sleeve	SS304	37	O形圈 O-ring	VITON AED
19	填料垫 Packing gasket	SS304	38	防尘圈 Dust ring	Flexible graphite+304



整体锻造热力全焊接球阀-球形 电动全通径 尺寸
Integral forged thermal fully welded ball valve - Spherical Electric Full Bore Dimension

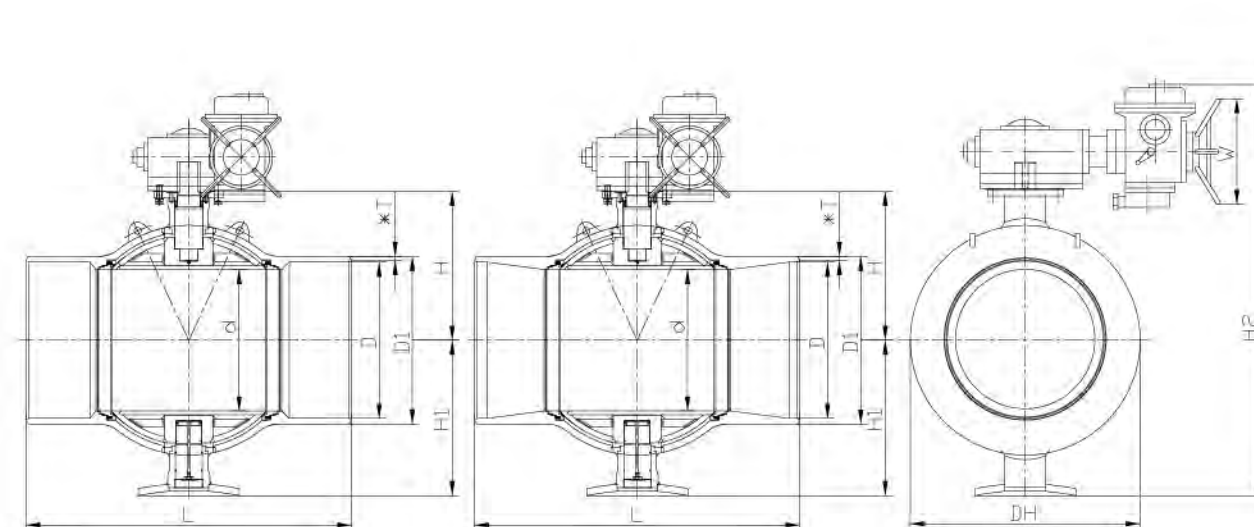


单位Unit : mm

DN	d	L	D1 GB/EN	ASME	DE	H	H1	H2	W
150	150	520	159	168.3	290	240	200	630	350
200	201	635	219	219.1	385	310	272	785	400
250	252	689	273	273	440	335	300	850	400
300	303	762	325	323.9	535	405	360	1020	500
350	334	838	377	355.6	585	460	385	1210	500
400	387	991	426	406.4	680	500	438	1430	600
450	436	991	478	457	750	530	467	1550	600
500	489	1143	530	508	830	595	540	1640	600
600	589	1380	630	610	990	678	647	1860	600
700	684	1524	720	711	1130	753	713	1970	600
800	779	1727	820	813	1290	823	843	2230	600
900	874	1900	920	914	1460	915	914	2400	700
1000	978	2000	1020	1016	1590	1025	1074	2750	700
1200	1168	2430	1220	1220	1900	1170	1220	3050	700
1400	1360	2680	1420	1420	2200	1365	1435	3450	700
1600	1556	2950	1620	1620	2600	1520	1560	3750	700

壁厚“*T”可根据用户要求
Wall thickness “*T” according to user requirements

整体锻造热力全焊接球阀-球形 电动标准径 尺寸
Integral forged thermal fully welded ball valve - Spherical Electric Standard Diameter Dimension



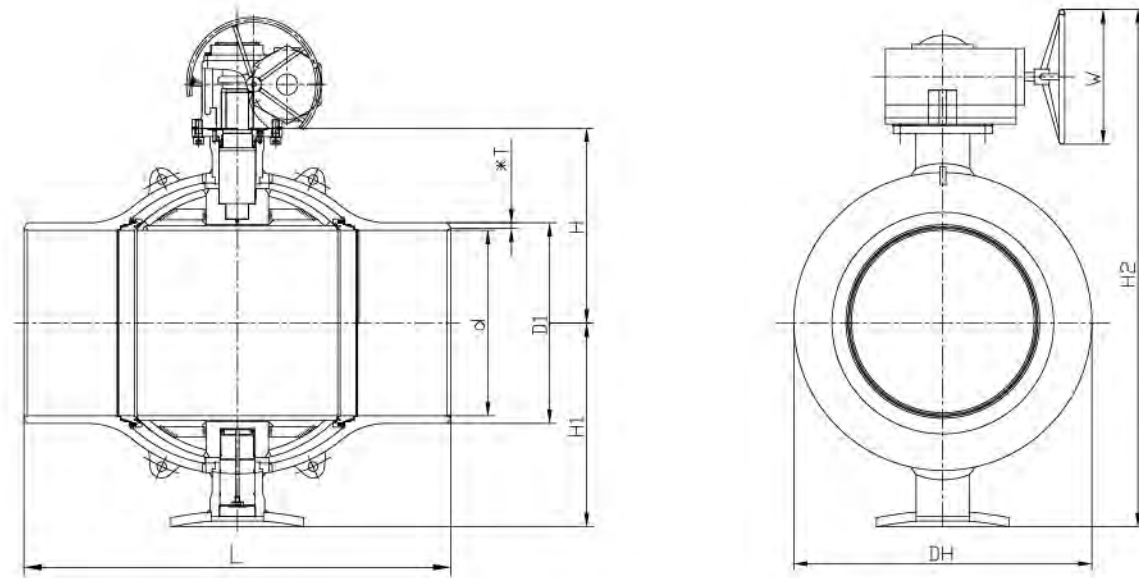
单位Unit : mm

DN	d	D	E	D1 GB/EN	ASME	D1	H	H1	H2	W
200x150	150	201	520	219	219.1	290	240	200	630	350
250x200	201	252	635	273	273	385	310	272	785	400
300x250	252	303	689	325	323.9	440	335	300	850	400
350x300	303	334	762	377	355.6	535	405	360	1020	500
450x350	334	436	915	478	457	585	460	385	1210	500
500x400	387	489	991	530	508	680	500	438	1430	600
600x500	489	591	1143	630	610	830	595	540	1640	600
700x600	589	686	1380	720	711	990	678	647	1860	600
800x700	684	779	1524	820	813	1130	753	713	1970	600
900x800	779	876	1727	920	914	1290	823	843	2230	600
1000x900	874	980	1900	1020	1016	1460	915	914	2400	700
1200x1000	978	1168	2100	1220	1220	1590	1025	1074	2750	700
1400x1200	1168	1360	2430	1420	1420	1900	1170	1220	3050	700
1600x1400	1360	1556	2680	1620	1620	2200	1365	1435	3450	700
1800x1600	1556	1750	2950	1820	1820	2600	1520	1560	3750	700

壁厚“*T”可根据用户要求
Wall thickness “*T” according to user requirements



整体锻造热力全焊接球阀-球形 蜗轮全通径 尺寸
 Integral forged thermal fully welded ball valves - Spherical Worm Gears Full Bore Dimension

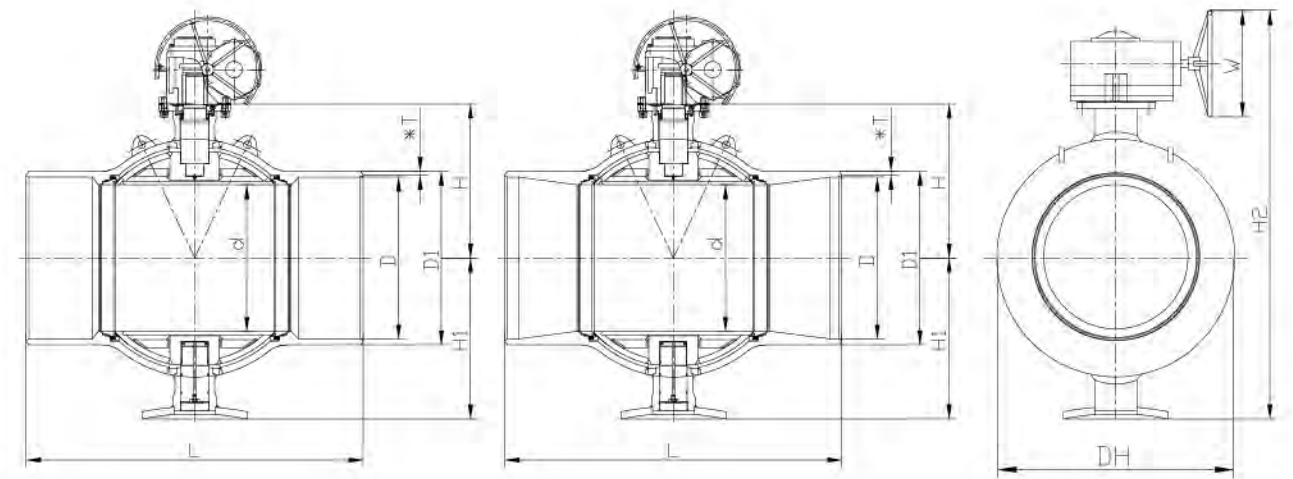


单位Unit : mm

DN	D	E	D1		DE	H	H1	H2	W
			GB/EN	ASME					
150	150	520	159	168.3	290	240	200	630	350
200	201	635	219	219.1	385	310	272	785	400
250	252	689	273	273	440	335	300	850	400
300	303	762	325	323.9	535	405	360	1020	500
350	334	838	377	355.6	585	460	385	1210	500
400	387	915	426	406.4	680	500	438	1430	600
450	436	991	478	457	750	530	467	1550	600
500	489	1143	530	508	830	595	540	1640	600
600	589	1380	630	610	990	678	647	1860	600
700	684	1524	720	711	1130	753	713	1970	600
800	779	1727	820	813	1290	823	843	2230	600
900	874	1900	920	914	1460	915	914	2400	700
1000	978	2000	1020	1016	1590	1025	1074	2750	700
1200	1168	2430	1220	1220	1900	1170	1220	3050	700
1400	1360	2680	1420	1420	2200	1365	1435	3450	700
1600	1556	2950	1620	1620	2600	1520	1560	3750	700

焊接管壁厚“T”按用户要求
 Welding pipe wall thickness “T” according to user requirements

整体锻造热力全焊接球阀-球形 蜗轮标准径 尺寸
 Integral forged thermal fully welded ball valves- Spherical Worm Gears Standard Diameter Dimension



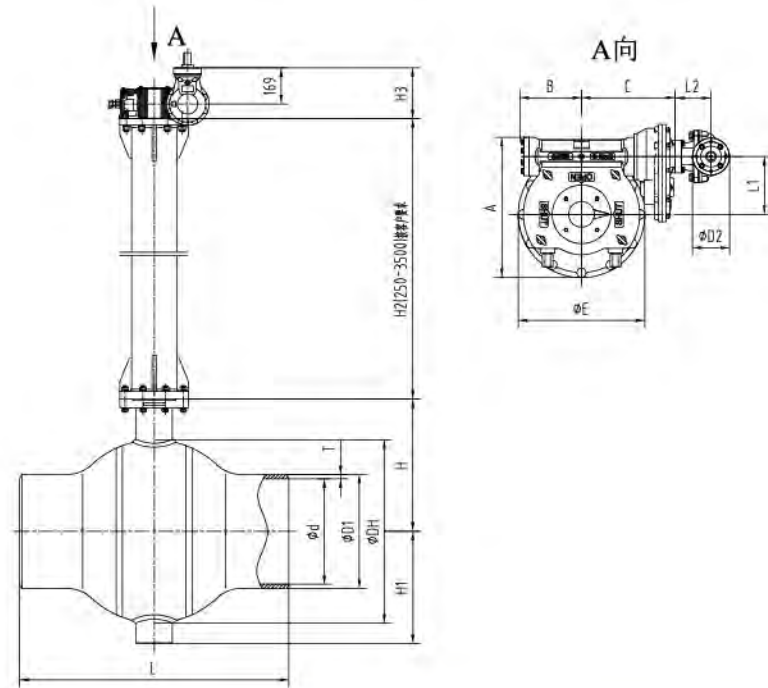
单位Unit : mm

DN	D	E	L	D1		DE	H	H1	H2	W
				GB/EN	ASME					
200x150	150	201	520	219	219.1	290	240	200	630	350
250x200	201	252	635	273	273	385	310	272	785	400
300x250	252	303	689	325	323.9	440	335	300	850	400
350x300	303	334	762	377	355.6	535	405	360	1020	500
450x350	334	436	915	478	457	585	460	385	1210	500
500x400	387	489	991	530	508	680	500	438	1430	600
600x500	489	591	1143	630	610	830	595	540	1640	600
700x600	589	686	1380	720	711	990	678	647	1860	600
800x700	684	779	1524	820	813	1130	753	713	1970	600
900x800	779	876	1727	920	914	1290	823	843	2230	600
1000x900	874	980	1900	1020	1016	1460	915	914	2400	700
1200x1000	978	1168	2100	1220	1220	1590	1025	1074	2750	700
1400x1200	1168	1360	2430	1420	1420	1900	1170	1220	3050	700
1600x1400	1360	1556	2680	1620	1620	2200	1365	1435	3450	700
1800x1600	1556	1750	2950	1820	1820	2600	1520	1560	3750	700

焊接管壁厚“T”按用户要求
 Welding pipe wall thickness “T” according to user requirements



整体锻造热力全焊接球阀-球形 全通径 (埋地加长杆) 尺寸
Integral forged thermal fully welded ball valve - Spherical Full Bore (Buried Extension Rod) Dimension

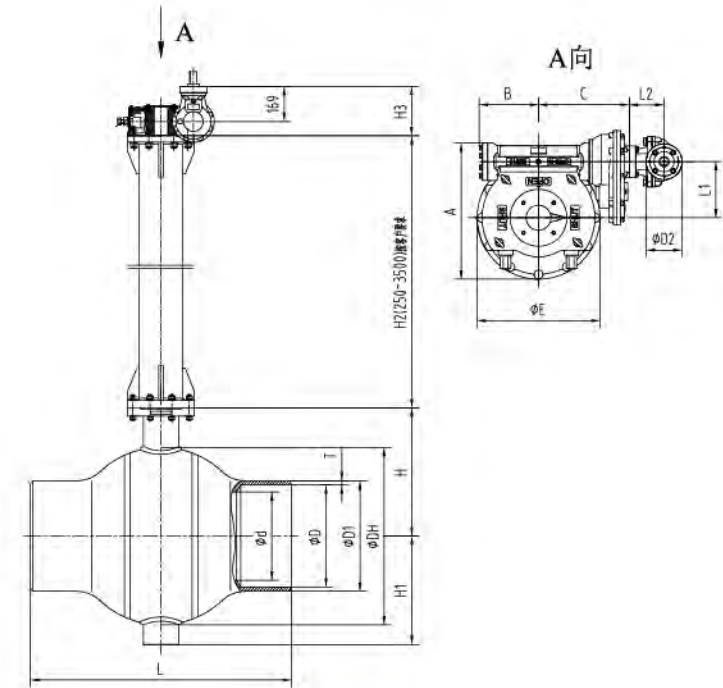


单位Unit : mm

DN	d	L	*D1		D11	H	H1	W	外型尺寸 (Outline dimensions of worm gear box)								
			GB/EN	ASME					A	B	C	D	E	L1	L2	H3	
150	150	520	159	168	270	285	193	350	270	125	195	125	210	116	51	232	
200	201	635	219	219.1	370	310	271	400	275	130	212	125	210	116	51	232	
250	252	689	273	273	426	335	300	400	309	145	254	125	250	130	51	232	
300	303	762	325	324	510	405	375	500	314	155	291	125	250	130	51	232	
350	334	838	377	356	566	460	385	500	346	155	291	125	300	130	51	232	
400	387	915	426	406	680	500	438	600	368	165	244	125	340	140	51	257	
450	436	991	478	457	725	530	467	600	368	165	244	125	340	140	51	257	
500	489	1143	530	508	830	595	540	600	368	165	244	125	340	140	51	257	
600	589	1380	630	610	990	678	647	600	460	185	382	125	370	160	107	269	
700	684	1524	720	711	1130	753	713	600	551	218	409	125	445	200	107	297	
800	779	1727	820	813	1290	823	843	600	599	233	424	125	490	225	107	297	
900	874	1900	920	914	1460	915	914	700	729	280	481	125	600	280	107	313	
1000	978	2000	1020	1016	1590	1025	1074	700	835	315	556	125	690	315	107	336	
1200	1168	2430	1220	1220	1900	1170	1220	800	910	340	575	125	760	355	107	340	
1400	1360	2680	1420	1420	2200	1365	1435	800	1002	387	753	125	850	400	107	355	
1600	1556	2950	1620	1620	2600	1520	1560	800	1002	387	753	125	850	400	107	355	

焊接管壁厚 “*T” 和高度 “*H2” 按用户要求
Welding pipe wall thickness “*T” and height “*H2” according to user requirements

整体锻造热力全焊接球阀-球形 标准径 (埋地加长杆) 尺寸
Integral forged thermal fully welded ball valve - Spherical Standard diameter (buried extension rod) Dimension



单位Unit : mm

DN	d	D	L	*D1		D11	H	H1	W	外型尺寸 (Outline dimensions of worm gear box)								
				GB/EN	ASME					A	B	C	D	E	L1	L2	H3	
200x150	150	201	520	219	219.1	270	285	193	300	270	125	195	125	210	116	51	232	
250x200	201	252	635	273	273	370	310	271	350	275	130	212	125	210	116	51	232	
300x250	252	303	689	325	323.9	426	335	300	400	309	145	254	125	250	130	51	232	
350x300	303	334	762	377	355.6	510	405	375	500	314	155	291	125	250	130	51	232	
450x350	334	436	915	478	457	566	460	385	500	346	155	291	125	300	130	51	232	
500x400	387	489	991	530	508	680	500	438	600	368	165	244	125	340	140	51	257	
600x500	489	589	1143	630	610	830	595	540	600	368	165	244	125	340	140	51	257	
700x600	589	684	1380	720	711	990	678	647	600	460	185	382	125	370	160	107	269	
800x700	684	779	1524	820	813	1130	753	713	600	551	218	409	125	445	200	107	297	
900x800	779	874	1727	920	914	1290	823	843	600	599	233	424	125	490	225	107	297	
1000x900	874	978	1900	1020	1016	1460	915	914	700	729	280	481	125	600	280	107	313	
1200x1000	978	1168	2000	1220	1220	1590	1025	1074	700	835	315	556	125	690	315	107	336	
1400x1200	1168	1360	2430	1420	1420	1900	1170	1220	800	910	340	575	125	760	355	107	340	
1600x1400	1360	1556	2680	1620	1620	2200	1365	1435	800	1002	387	752.5	125	850	400	107	355	
1800x1600	1556		2950	1820	1820	2600	1520	1560	800	1002	387	752.5	125	850	400	107	355	

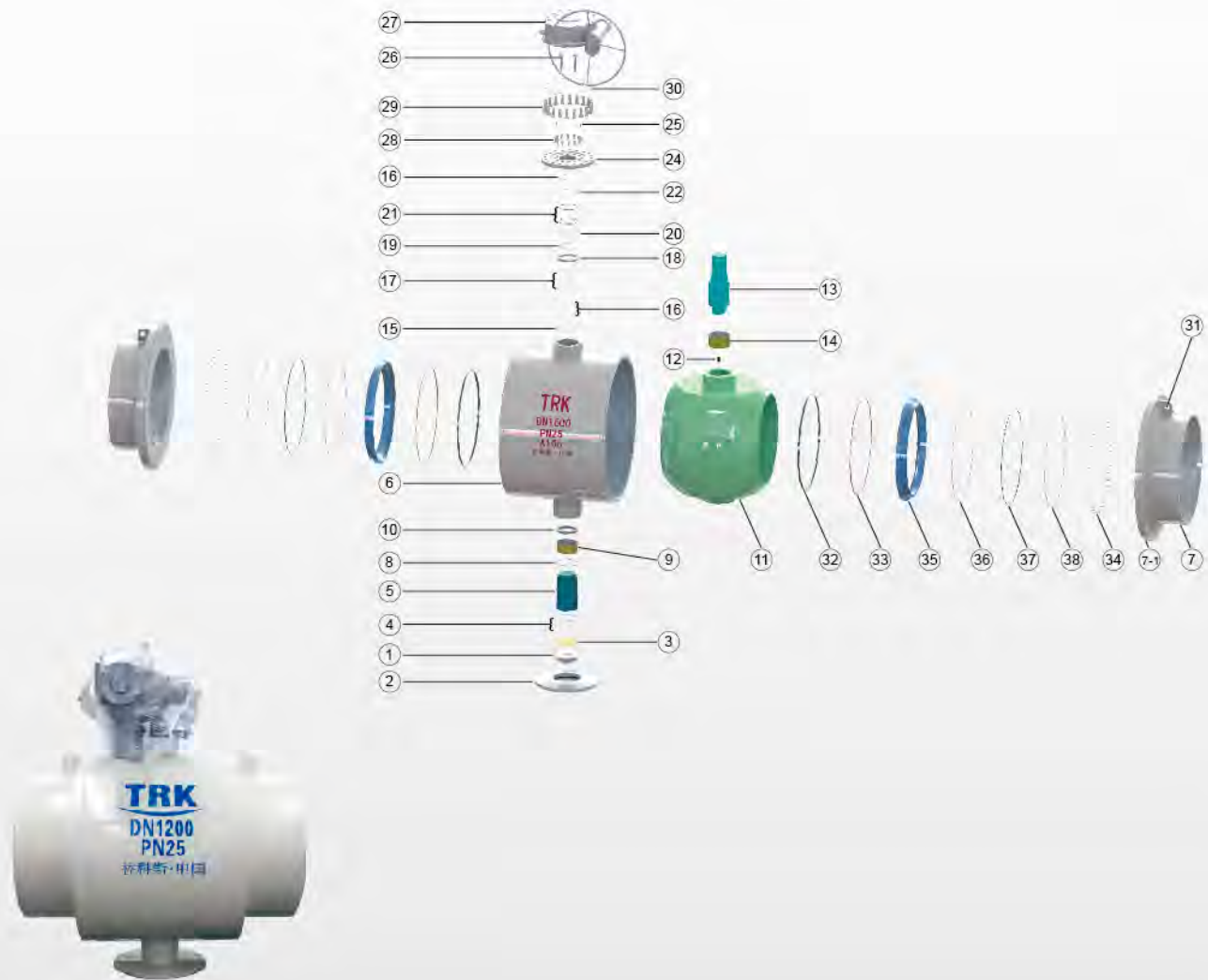
焊接管壁厚 “*T” 和高度 “*H2” 按用户要求
Welding pipe wall thickness “*T” and height “*H2” according to user requirements

TRK

替科斯

热力全焊接球阀-筒形

Thermal fully welded ball valve-Cylinder type



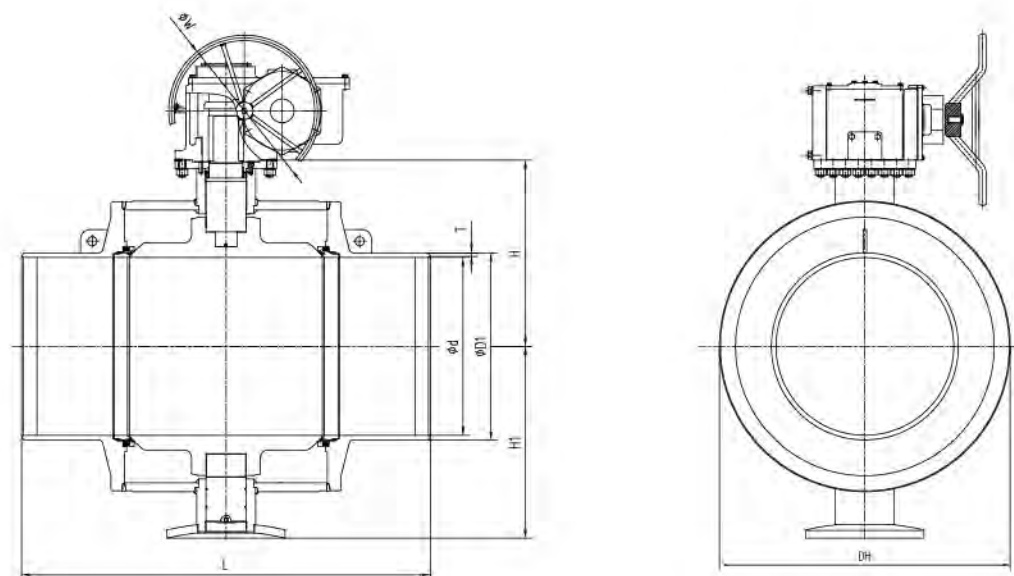
筒形部件表 Parts Sheet

序号 No.	零件名称 Name	材料 Material	序号 No.	零件名称 Name	材料 Material
1	底盖 Bottom cover	ASTM A105	20	四开环 Four piece ring	SS304
2	支撑脚 Support foot	CS	21	填料 Packing	Flexible graphite/PTFE
3	轴承 Bearing	SS+PTFE	22	缠绕垫片 Spiral wound gasket	Flexible graphite+304
4	O形圈 O-ring	VITON B	23	圆柱销 Round pin	AISI 1045
5	下阀杆 Lower stem	SS304/20Cr13/AISI 4140+ Surface hardening	24	顶法兰 Top flange	ASTM A105
6	阀体 Body	ASTM A105	25	圆柱销 Round pin	AISI 1045
7	副阀体 Closure	ASTM A105	26	键 Key	AISI 1045
8	O形圈 O-ring	VITON B	27	执行机构 Actuator	Assembly
9	轴承 Bearing	SS+PTFE	28	内六角螺钉 Soket head cap screw	ASTM A193 B7
10	推力球轴承 Thrust ball bearing	组合件	29	内六角螺钉 Soket head cap screw	ASTM A193 B7
11	球体 Ball	SS 304/ASTM A105+ Surface hardening	30	弹簧垫圈 Spring washer	AISI 1566
12	防静电弹簧 Anti-static spring	SS304	31	吊耳 Lug	CS
13	阀杆 Stem	SS304/20Cr13/AISI 4140+ Surface hardening	32	密封圈A Sealing ring A	VITON AED
14	轴承 Bearing	SS+PTFE	33	密封圈B Sealing ring B	Non-metal material
15	调整垫片 Adjusted gasket	PTFE	34	弹簧 Spring	INCONEL X-750
16	O形圈 O-ring	VITON B	35	阀座 Seat	SS304/ASTM A105+ Surface hardening
17	O形圈 O-ring	VITON B	36	防火圈 Fire ring	Flexible graphite+304
18	阀杆密封套 Stem sealing sleeve	SS304	37	O形圈 O-ring	VITON AED
19	填料垫 Packing gasket	SS304	38	防尘圈 Dust ring	Flexible graphite+304



热力全焊接球阀-筒形 蜗轮全通径 尺寸

Thermal fully welded ball valve-Cylinder type Warm gear Full Bore Dimension



单位Unit : mm

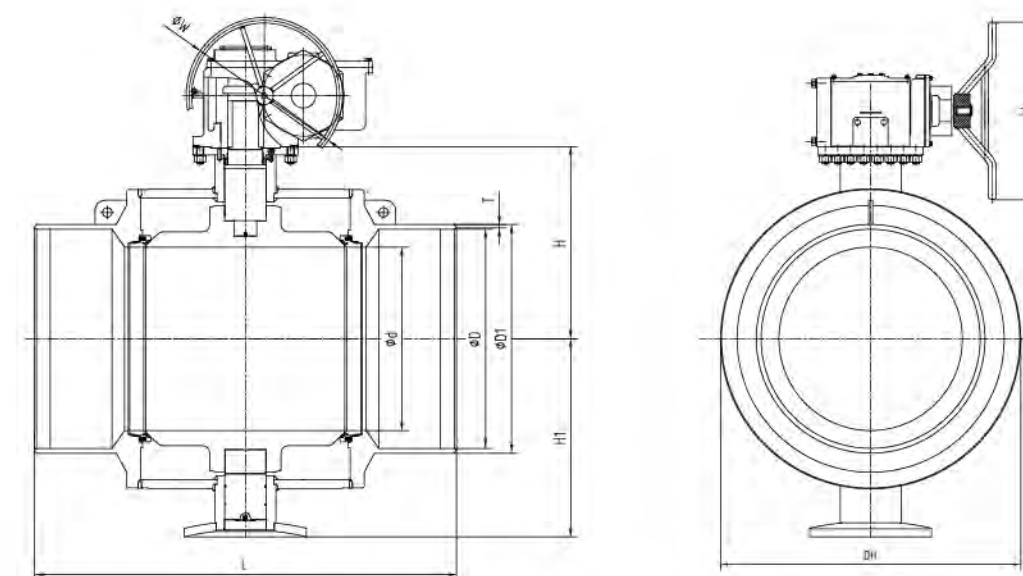
DN	公称口径	L	GB/EN	ASME	DH	H	H1	W
150	150	520	159	168.3	270	285	193	350
200	201	635	219	219.1	370	310	271	400
250	252	689	273	273	426	335	300	400
300	303	762	325	323.9	510	405	375	500
350	334	838	377	355.6	566	460	385	500
400	387	915	426	406.4	680	500	438	600
450	436	991	478	457	725	530	467	600
500	489	1143	530	508	830	595	540	600
600	589	1380	630	610	990	678	647	600
700	684	1524	720	711	1130	753	713	600
800	779	1727	820	813	1290	823	843	600
900	874	1900	920	914	1460	915	914	700
1000	978	2000	1020	1016	1590	1025	1074	700
1200	1168	2430	1220	1220	1900	1170	1220	700
1400	1360	2680	1420	1420	2200	1365	1435	700
1600	1556	2950	1620	1620	2600	1520	1560	700

焊接管壁厚“T”按用户要求

Welding pipe wall thickness "T" according to user requirements

热力全焊接球阀-筒形 蜗轮标准径 尺寸

Thermal fully welded ball valve-Cylinder type Warm gear Standard Bore Dimension



单位Unit : mm

DN	公称口径	L	GB/EN	ASME	DH	H	H1	W
200x150	150	201	520	219.1	270	285	193	350
250x200	201	252	635	273	370	310	271	400
300x250	252	303	689	323.9	426	335	300	400
350x300	303	334	762	377	510	405	375	500
450x350	334	387	915	426	566	460	385	500
500x400	387	489	991	530	680	500	438	600
600x500	489	591	1143	630	830	595	540	600
700x600	589	686	1380	720	990	678	647	600
800x700	684	779	1524	820	1130	753	713	600
900x800	779	876	1727	920	1290	823	843	600
1000x900	874	980	1900	1020	1460	915	914	700
1200x1000	978	1168	2100	1220	1590	1025	1074	700
1400x1200	1168	1360	2430	1420	1900	1170	1220	700
1600x1400	1360	1556	2680	1620	2200	1365	1435	700
1800x1600	1556	1750	2950	1820	2600	1520	1560	700

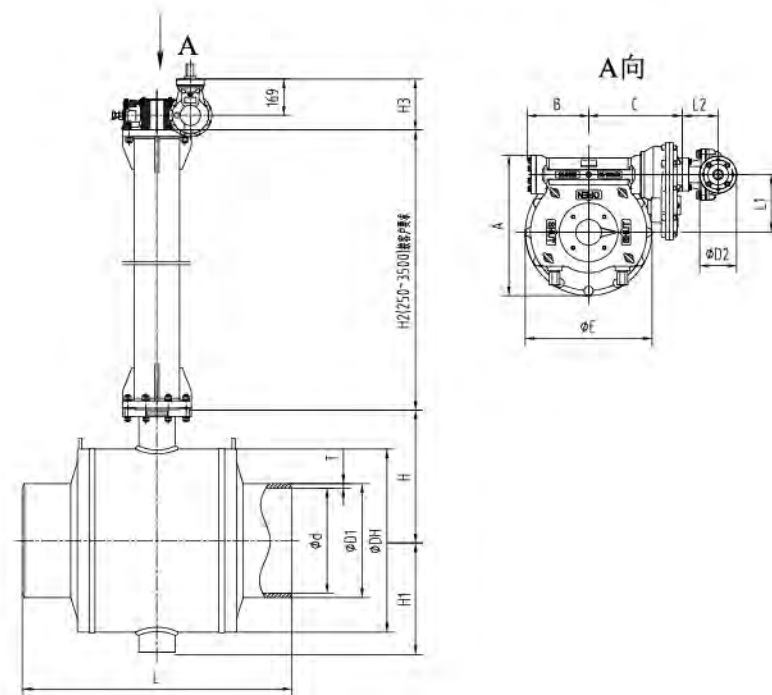
焊接管壁厚“T”按用户要求

Welding pipe wall thickness "T" according to user requirements



热力全焊接球阀-筒形 全通径 (埋地加长杆) 尺寸

Thermal fully welded ball valve-Cylinder type Full Bore (buried extension stem) Dimension



单位Unit: mm

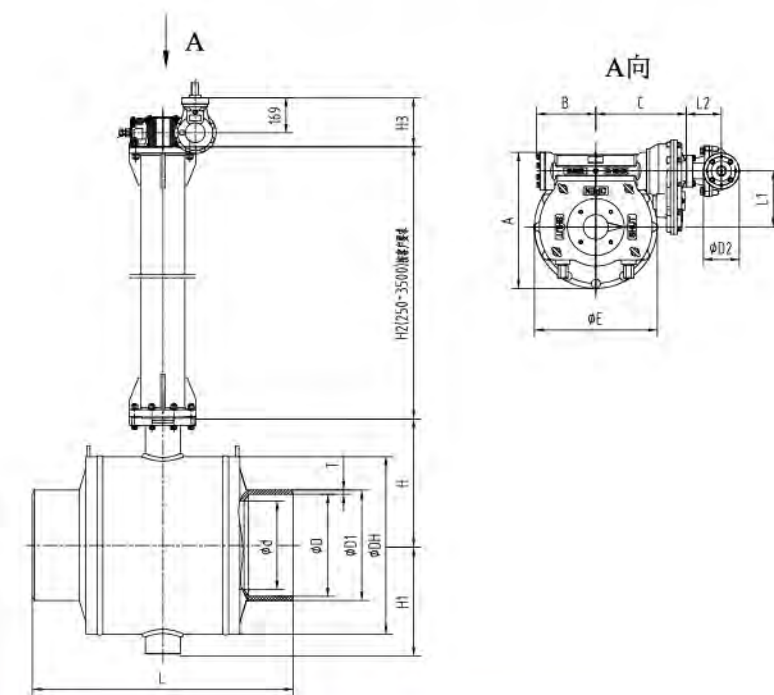
DN	D	L	H1		DH	H	H2	W	Outline dimensions of worm gear box							
			GB/EN	ASME					A	B	C	D	E	L1	L2	H3
150	150	520	159	168	270	285	193	350	270	125	195	125	210	116	51	232
200	201	635	219	219.1	370	310	271	400	275	130	212	125	210	116	51	232
250	252	689	273	273	426	335	300	400	309	145	254	125	250	130	51	232
300	303	762	325	324	510	405	375	500	314	155	291	125	250	130	51	232
350	334	838	377	356	566	460	385	500	346	155	291	125	300	130	51	232
400	387	915	426	406	680	500	438	600	368	165	244	125	340	140	51	257
450	436	991	478	457	725	530	467	600	368	165	244	125	340	140	51	257
500	489	1143	530	508	830	595	540	600	368	165	244	125	340	140	51	257
600	589	1380	630	610	990	678	647	600	460	185	382	125	370	160	107	269
700	684	1524	720	711	1130	753	713	600	551	218	409	125	445	200	107	297
800	779	1727	820	813	1290	823	843	600	599	233	424	125	490	225	107	297
900	874	1900	920	914	1460	915	914	700	729	280	481	125	600	280	107	313
1000	978	2000	1020	1016	1590	1025	1074	700	835	315	556	125	690	315	107	336
1200	1168	2430	1220	1220	1900	1170	1220	800	910	340	575	125	760	355	107	340
1400	1360	2680	1420	1420	2200	1365	1435	800	1002	387	753	125	850	400	107	355
1600	1556	2950	1620	1620	2600	1520	1560	800	1002	387	753	125	850	400	107	355

焊接管壁厚“T”和高度“H2”按用户要求

Welding pipe wall thickness “T” and height “H2” according to user requirements

热力全焊接球阀-筒形 标准径 (埋地加长杆) 尺寸

Thermal fully welded ball valve-Cylinder type Standard Bore (buried extension stem) Dimension



单位Unit: mm

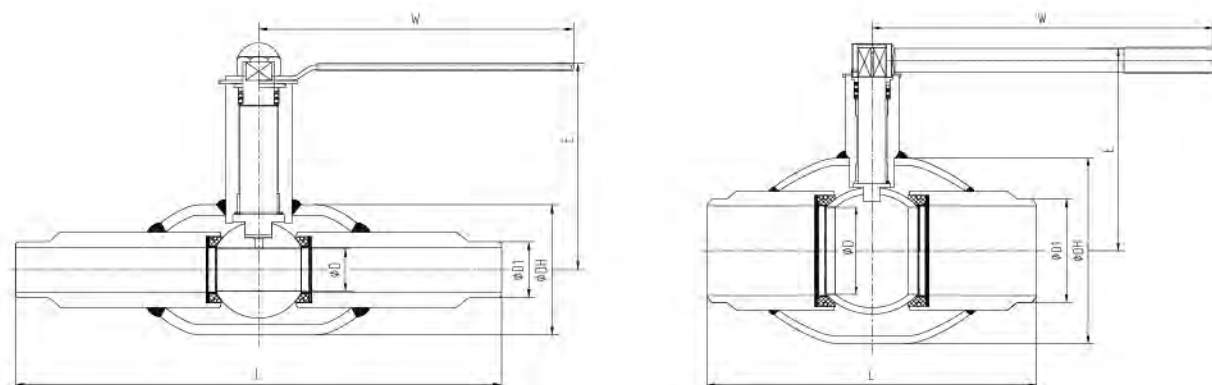
DN	D	L	E	H1		DH	H	H2	W	Outline dimensions of worm gear box							
				GB/EN	ASME					A	B	C	D	E	L1	L2	H3
200x150	150	201	520	219	219.1	270	285	193	300	270	125	195	125	210	116	51	232
250x200	201	252	635	273	273	370	310	271	350	275	130	212	125	210	116	51	232
300x250	252	303	689	325	323.9	426	335	300	400	309	145	254	125	250	130	51	232
350x300	303	334	762	377	355.6	510	405	375	500	314	155	291	125	250	130	51	232
450x350	334	436	915	478	457	566	460	385	500	346	155	291	125	300	130	51	232
500x400	387	489	991	530	508	680	500	438	600	368	165	244	125	340	140	51	257
600x500	489	589	1143	630	610	830	595	540	600	368	165	244	125	340	140	51	257
700x600	589	684	1380	720	711	990	678	647	600	460	185	382	125	370	160	107	269
800x700	684	779	1524	820	813	1130	753	713	600	551	218	409	125	445	200	107	297
900x800	779	874	1727	920	914	1290	823	843	600	599	233	424	125	490	225	107	297
1000x900	874	978	1900	1020	1016	1460	915	914	700	729	280	481	125	600	280	107	313
1200x1000	978	1168	2000	1220	1220	1590	1025	1074	700	835	315	556	125	690	315	107	336
1400x1200	1168	1360	2430	1420	1420	1900	1170	1220	800	910	340	575	125	760	355	107	340
1600x1400	1360	1556	2680	1620	1620	2200	1365	1435	800	1002	387	752.5	125	850	400	107	355
1800x1600	1556		2950	1820	1820	2600	1520	1560	800	1002	387	752.5	125	850	400	107	355

焊接管壁厚“T”和高度“H2”按用户要求

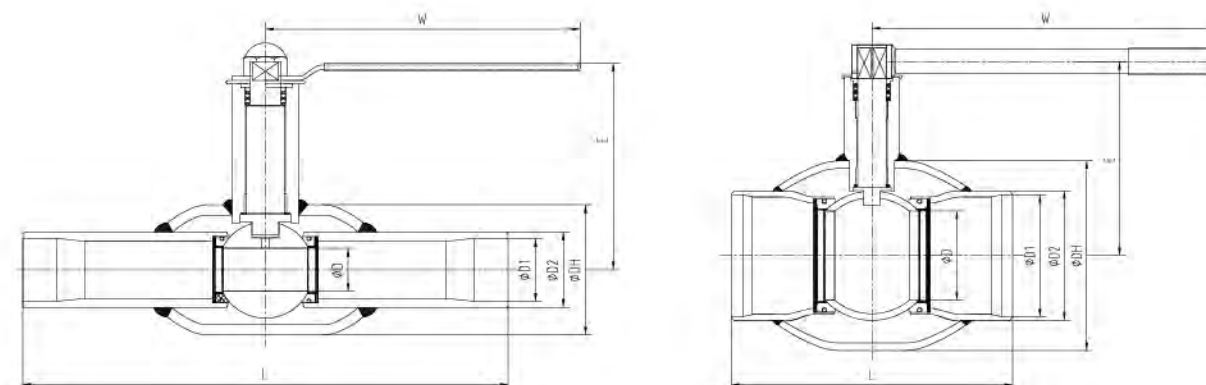
Welding pipe wall thickness “T” and height “H2” according to user requirements



全焊接球阀-手柄传动 全通径 尺寸
Thermal fully welded ball valve-Lever Full Bore Dimension



热力全焊接球阀-手柄传动 标准径 尺寸
Thermal fully welded ball valve-Lever Standard bore Dimension



单位Unit : mm

DN	PN	D	GB	EN	DH	E	W	L
10	25/40	10		17.2	34	100	120	230
15	25/40	13	18	21.3	42.7	100	120	230
20	25/40	20	25	26.9	48	100	120	230
25	25/40	25	32	33.7	60	110	150	230
32	25/40	32	38	42.4	76	120	150	260
40	25/40	38	45	48.3	89	125	190	260
50	25/40	49	57	60.3	114	130	190	300
65	25/40	63	76	76.1	140	180	280	300
80	25/40	75	89	88.9	165	190	280	300
100	25/40	100	108	114.3	180	220	280	325
125	25/40	125	133	139.7	219	250	420	325
150	25/40	150	159	168.3	267.4	265	600	350

单位Unit : mm

DN	PN	L	D	DI	D2	E	W
65	25	300	50	76	114	159	300
80	25	300	65	89	140	170	300
100	25	325	80	108	185	192	450
125	25	325	100	133	216	208	450
150	25	350	125	159	219	241	450

石油、天然气管线 Oil and Natural Gas Pipelines

全焊接球阀 Fully Welded Ball Valve

筒形 Cylinder Shaped Type 锥形 Cone Type G型 TRK-GWB Type



为了避免潜在的阀体泄漏，TRK石油天然气全焊接球阀阀体采用锻件材料以代替螺栓螺母，能够保障壁厚，避免铸件疏松、砂眼和其他铸件问题。全焊接球阀分为单焊缝全焊接球阀和双焊缝全焊接球阀两种焊缝结构。

单焊缝全焊接球阀一般为球形结构，双焊缝全焊接球阀一般为筒形结构。单焊缝全焊接球阀阀体为锻造成型，阀体为两段式，由一道环形焊缝将两个侧体焊接成型。

双焊缝全焊接球阀阀体为三段式组成，由两道平行对称的环形焊缝将阀体焊接成型，无焊缝交叉。焊接坡口采用低应力埋弧焊工艺、窄间隙埋弧焊，减少焊接截面积，使焊缝的熔敷金属量少。在焊接材料上严格控制碳当量；焊接时，严格控制焊前预热温度、焊接中层间温度，以保证焊后阀体仍然满足冲击韧性和强度要求。

In order to avoid potential valve body leakage, TRK Petroleum and Natural Gas fully welded ball valve bodies use forged materials instead of bolts and nuts, which can ensure wall thickness and avoid casting porosity, sand holes, and other casting problems. The fully welded ball valve is divided into two weld structures: single weld fully welded ball valve and double weld fully welded ball valve.

Single weld fully welded ball valves generally have a spherical structure, while double weld fully welded ball valves generally have a cylindrical structure. The single weld fully welded ball valve body is forged, and the valve body is a two-stage type. The two side bodies are welded and formed by a circular weld.

The double weld fully welded ball valve body is composed of three sections, and the body is welded into shape by two parallel and symmetrical circular welds, without any overlapping welds. The welding groove adopts low stress submerged arc welding process and narrow gap submerged arc welding to reduce the welding sectional area and make the weld deposit less metallicity. Strictly control carbon equivalent in welding materials; During welding, strictly control the preheating temperature before welding and the interlayer temperature during welding to ensure that the valve body still meets the requirements for impact toughness and strength after welding.



标准 Standard	国标 National standard	美标 American Standard
设计标准 Design standard	GB/T 12237 GB/T 12224 GB/T 19672	ASME B 16.34 API 608 API 6D
公称通径 Size	DN50 — DN1400	2" — 56"
压力等级 Pressure	PN16 — PN420	Class 150 — Class2500
结构长度 Face-to-face	GB/T 12221 EN 558	API 6D ASME B16.10
检验与试验 Inspection	JB/T 9092	API 598
壁厚 Bodu thickness	GB/T 12224	ASME B16.34 ISO 17292

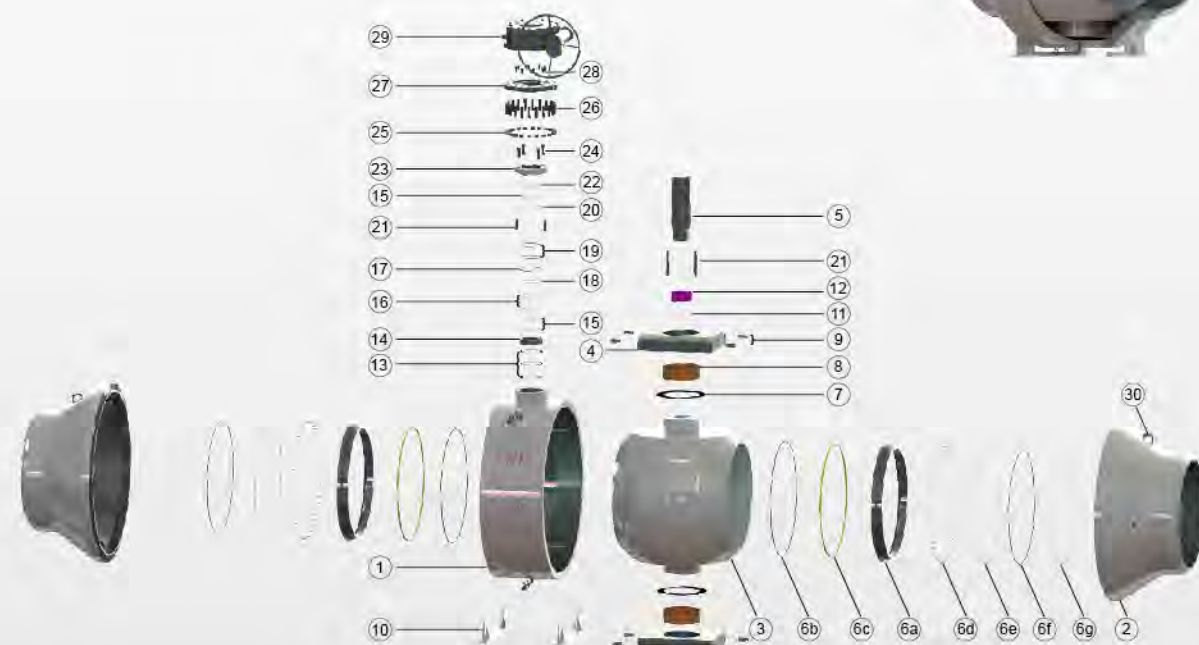
连接方式 End connection	焊接、法兰 welding, flange	产品标识 Label	MSS SP-25	表面质量 Finishing	MSS SP-55
操作方式 Operation	手动、涡轮、电动、气动、液动、电液联动、气液联动 Hand wheel, Worm gear, Electric, Pneumatic, Hydraulic, Lectro over Hydraulic, Gas over Hydraulic				
执行器连接标准 Actuator standard	ISO 5211、API 6DX	适用介质 Applicable medium	水、石油、天然气等 Water, Oil, Gas, and so on		

TRK 替科斯

石油天然气管线全焊接球阀-筒形&锥形
Fully welded ball valves for oil and gas pipelines - cylinder&taper Full bore

- Simple structure, good sealing performance, and low torque
- Double piston effect structure valve seat, multi-stage sealing valve seat
- Fireproof, anti-static, and valve stem anti blow out design
- Automatic pressure relief design in the middle chamber, emergency grease injection structure
- It can be used underground and will not corrode internally

- 结构简单,密封性能好,扭矩小
- 双活塞效应结构阀座,多级密封阀座
- 防火,防静电,防阀杆吹出设计
- 中腔自动泄压设计,紧急注脂结构
- 可使用于地下,内部不会产生腐蚀

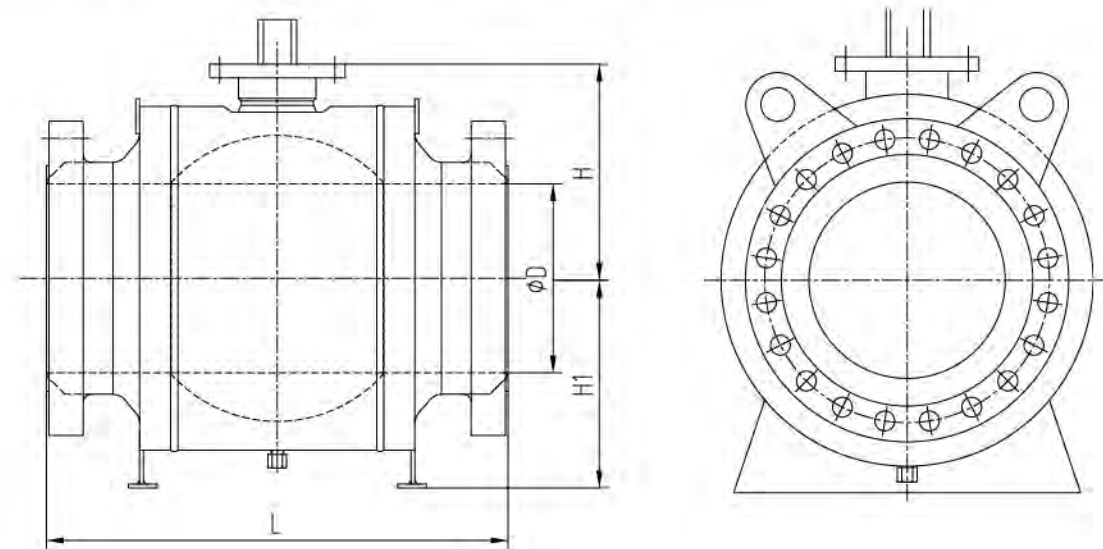


材料明细表 Materials List

序号 No.	零件名称 Parts Name	常温型 Normal Type		低温型 Low Temperature	
		常温材料 Normal Material	低温材料 Low Temperature	常温材料 Normal Material	低温材料 Low Temperature
1	阀体 Body	A105	A350 LF3	A105N	A350 LF3
2	副阀体 Closure	A105	A350 LF3	A105N	A350 LF3
3	固定板 Retainer plate	A105+ENP	A350 LF3+ENP	A105N+ENP	A350 LF3+ENP
4	球体 Ball	A105+ENP	A350 LF3+ENP	A105N+ENP	A350 LF3+ENP
5	阀杆 Stem	AISI 4140+ENP	ASTM A182 F6a	AISI 4140+ENP	ASTM A182 F6a
6a	阀座支承圈 Seat retainer	A105+ENP	A350 LF3+ENP	A105N+ENP	A350 LF3+ENP
6b	N型密封圈 N-type sealing ring	R-PTFE	R-PTFE	R-PTFE	R-PTFE
6c	V型密封圈 V-type sealing ring	VITON AED	VITON AED	VITON AED	VITON AED
6d	弹簧 Spring	Inconel X-750	Inconel X-751	Inconel X-752	Inconel X-753
6e	防火圈 Fire-proof gasket	柔性石墨+SS304 Flexible graphite+SS304	柔性石墨+SS316 Flexible graphite+SS316	柔性石墨+SS316 Flexible graphite+SS316	柔性石墨+SS316 Flexible graphite+SS316
6f	O型密封圈 O-ring	VITON AED	VITON AED	VITON AED	VITON AED
6g	防尘圈 Dust ring	柔性石墨+SS304 Flexible graphite+SS304	柔性石墨+SS316 Flexible graphite+SS316	柔性石墨+SS316 Flexible graphite+SS316	柔性石墨+SS316 Flexible graphite+SS316
6h	密封圈挡圈 Sealing retaining ring	F304	F304	F304	F304
7	调整垫片 Adjusting washer	304+PTFE	316+PTFE	316+PTFE	316+PTFE
8	复合轴承 Composite bearing	304+PTFE	316+PTFE	316+PTFE	316+PTFE
9	圆柱销 Round pin	AISI 1045	A182 FX M-19	20Cr13	A182 FX M-19
10	支承脚 Support foot	CS	CS	CS	CS
11	调整垫片 Adjusting washer	RPTFE	RPTFE	RPTFE	RPTFE
12	复合轴承 Composite bearing	304+PTFE	316+PTFE	316+PTFE	316+PTFE
13	调整垫片 Adjusting washer	RPTFE	RPTFE	RPTFE	RPTFE
14	阀杆密封套 Stem sealing sleeve	A105+ENP	A350 LF3+ENP	A105N+ENP	A350 LF3+ENP
15	O形圈 O-ring	Viton B	Viton B	Viton B	Viton B
16	O形圈 O-ring	Viton B	Viton B	Viton B	Viton B
17	开口环 Split ring	SS304	SS304	SS304	SS304
18	填料垫 Packing gasket	SS304	SS304	SS304	SS304
19	填料 Packing	柔性石墨 Flexible graphite	柔性石墨 Flexible graphite	柔性石墨 Flexible graphite	柔性石墨 Flexible graphite
20	缠绕垫片 Spiral wound gasket	柔性石墨+SS304 Flexible graphite+SS304	柔性石墨+SS304 Flexible graphite+SS304	柔性石墨+SS304 Flexible graphite+SS304	柔性石墨+SS304 Flexible graphite+SS304
21	圆柱销 Round pin	AISI 1045	A182 FX M-19	20Cr13	A182 FX M-19
22	缠绕垫片 Spiral wound gasket	柔性石墨+SS304 Flexible graphite+SS304	柔性石墨+SS304 Flexible graphite+SS304	柔性石墨+SS304 Flexible graphite+SS304	柔性石墨+SS304 Flexible graphite+SS304
23	填料箱 Stuffing box	A105+ENP	A350 LF3+ENP	A105N+ENP	A105N+ENP
24	内六角螺钉 Socket head cap screw	A193 B7	A320 L7	A193 B7M	A320 L7M
25	螺母 Nut	A194-2H	A194-7L	A194-2H	A194-2H
26	螺栓 Stud	A193 B7	A320 L7	A193 B7M	A320 L7M
27	顶法兰 Top flange	A105	A350 LF3	A105N	A350 LF3
28	内六角螺钉 Socket head cap screw	A193 B7	A320 L7	A193 B7M	A320 L7M
29	蜗轮箱 Worm gear box	组件 Assembly	组件 Assembly	组件 Assembly	组件 Assembly
30	吊耳 Lifting eye	CS	CS	CS	CS



石油、天然气管线全焊接球阀-筒形&锥形 全通径 尺寸
 Fully welded ball valves for oil and gas pipelines cylinder&taper Full Bore Dimension

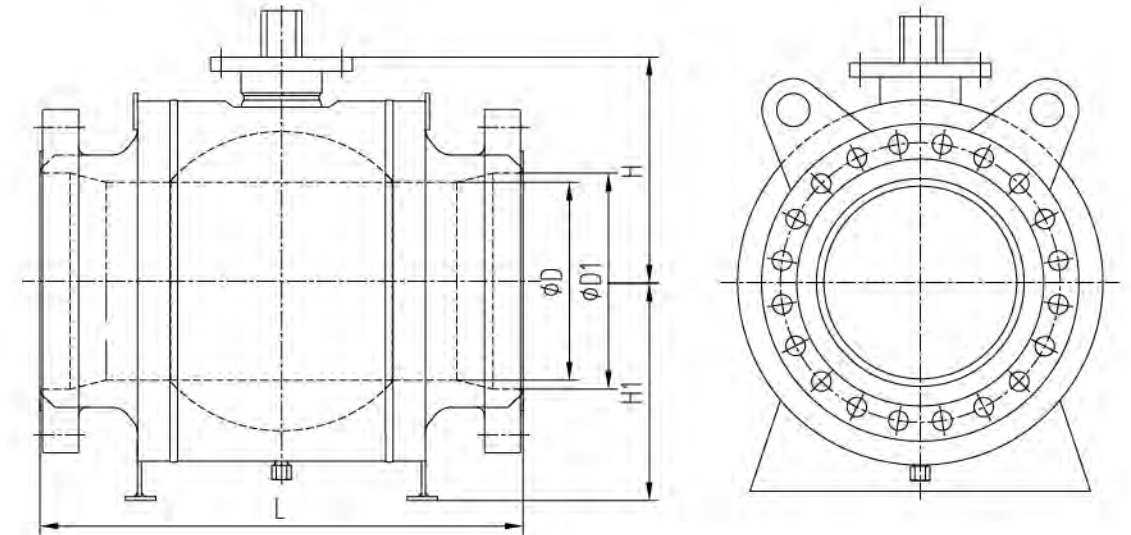


150LB

单位Unit: mm

公称通径 Nominal Diameter NPS	ØD	Ø1	L-FF	L-RF	L-RW	H	H1	重量 Kg
2"	50	50	178	191	216	106	102	15
2 1/2"	65	63	191	203	241	155	105	18
3"	80	74	203	216	283	157	111	36
4"	100	101	229	241	305	198	163	50
6"	150	152	394	405	457	242	235	169
8"	200	203	457	470	521	285	275	238
10"	250	254	533	546	559	330	325	430
12"	300	305	610	622	635	375	360	575
14"	350	336	686	699	762	430	410	793
16"	400	387	762	775	838	440	420	1115
18"	450	438	864	876	914	485	455	1465
20"	500	489	914	927	991	520	505	1785
22"	550	540	991	1003	1092	563	545	2150
24"	600	591	1067	1080	1143	620	605	3050
26"	650	635	1143		1245	660	645	3685
28"	700	686	1245		1346	720	705	4535
30"	750	737	1295		1397	780	750	5225
32"	800	781	1372		1524	805	785	6800
34"	850	832	1473		1626	850	845	7550
36"	900	876	1524		1727	905	895	9450
40"	1000	978	1753		1780	955	948	11750
42"	1050	1022	1790		1840	1015	985	13600
48"	1200	1168	1995		2100	1095	1065	20900
56"	1400	1362	2300		2250	1285	1253	33500

石油、天然气管线全焊接球阀-筒形&锥形 标准径 尺寸
 Fully welded ball valves for oil and gas pipelines cylinder&taper Standard Bore Dimension



150LB

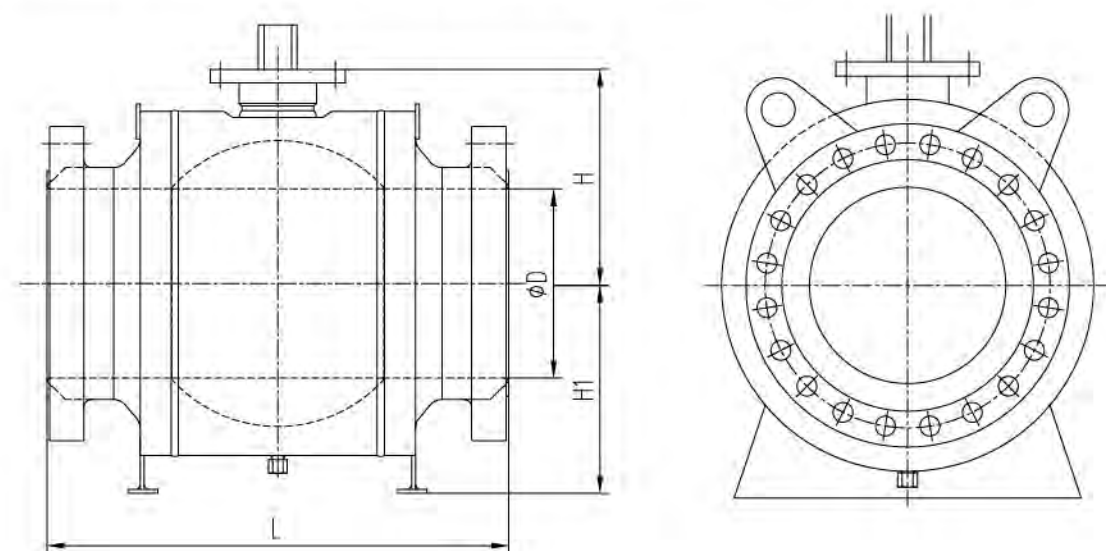
单位Unit: mm

公称通径 Nominal Diameter NPS	ØD	Ø1	Ø2	L-FF	L-RF	L-RW	H	H1	重量 Kg
2"x1 1/2"	50x40	50	40	178	191	216	98	94	13
2 1/2"x2"	65x50	63	50	191	203	241	106	102	17
3"x2"	80x50	74	50	203	216	283	106	102	20
3"x2 1/2"	80x65	74	63	203	216	283	157	111	29
4"x3"	100x80	101	74	229	241	305	157	111	44
6"x4"	150x100	152	101	394	405	457	198	163	67
8"x6"	200x150	203	152	457	470	521	242	235	152
10"x8"	250x200	254	203	533	546	559	285	275	290
12"x10"	300x250	305	254	533	546	559	330	325	466
14"x10"	350x250	336	254	686	699	762	330	325	513
14"x12"	350x300	336	305	686	699	762	375	360	588
16"x12"	400x300	387	305	762	775	838	375	360	643
16"x14"	400x350	387	336	762	775	838	430	410	838
18"x16"	450x400	438	387	864	876	914	440	420	1162
20"x16"	500x400	489	387	914	927	914	440	420	1235
20"x18"	500x450	591	438	914	927	914	485	455	1520
24"x20"	600x500	635	489	1067	1080	1143	520	505	1975
26"x22"	650x500	686	540	1143		1245	563	545	2376
28"x24"	700x600	737	591	1245		1346	620	605	3175
30"x24"	750x600	781	591	1295		1397	620	605	3305
32"x26"	800x650	781	635	1372		1524	660	645	3924
32"x28"	800x700	781	686	1372		1524	720	705	4755
36"x30"	900x750	876	737	1524		1727	780	750	5685
40"x36"	1000x900	978	876	1753		1780	905	895	9685



石油、天然气管线全焊接球阀-筒形&锥形 全通径 尺寸

Fully welded ball valves for oil and gas pipelines cylinder&taper Full Bore Dimension



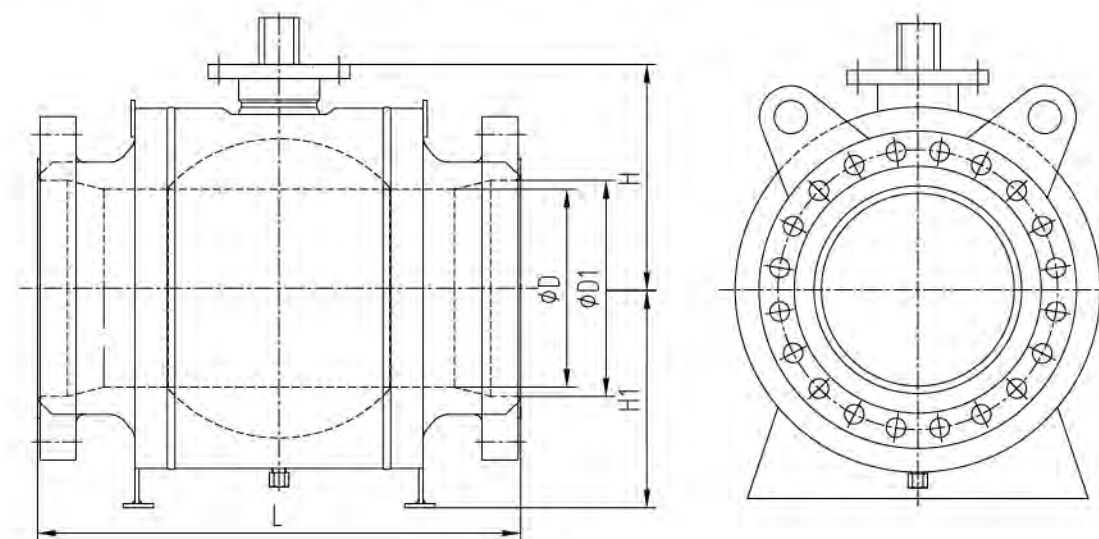
300LB

单位Unit: mm

公称通径 Nominal Diameter	DN	FL	FR	FW	H	H1	重量 Wt
INCH	MM						kg
2"	50	50	216	232	216	106	19
2 1/2"	65	63	241	257	241	155	23
3"	80	74	283	298	283	157	45
4"	100	101	305	321	305	198	79
6"	150	152	403	419	403	242	145
8"	200	203	502	518	521	285	308
10"	250	254	568	584	559	330	469
12"	300	305	648	664	635	375	575
14"	350	336	762	778	762	430	840
16"	400	387	838	854	838	440	1180
18"	450	438	914	930	914	485	1600
20"	500	489	991	927	991	520	2085
22"	550	540	1092	1114	1092	563	2485
24"	600	591	1143	1165	1143	620	3215
26"	650	635	1245	1270	1245	660	4288
28"	700	686	1346	1372	1346	720	4920
30"	750	737	1397	1422	1397	780	5940
32"	800	781	1524	1553	1524	805	7050
34"	850	832	1626	1654	1626	850	8355
36"	900	876	1727	1756	1727	905	10260
40"	1000	978	1780		1780	955	13600
42"	1050	1022	1840		1840	1015	14580
48"	1200	1168	2180		2100	1095	22540
56"	1400	1362	2300		2250	1285	34380

石油、天然气管线全焊接球阀-筒形&锥形 标准径 尺寸

Fully welded ball valves for oil and gas pipelines cylinder&taper Standard Bore Dimension



300LB

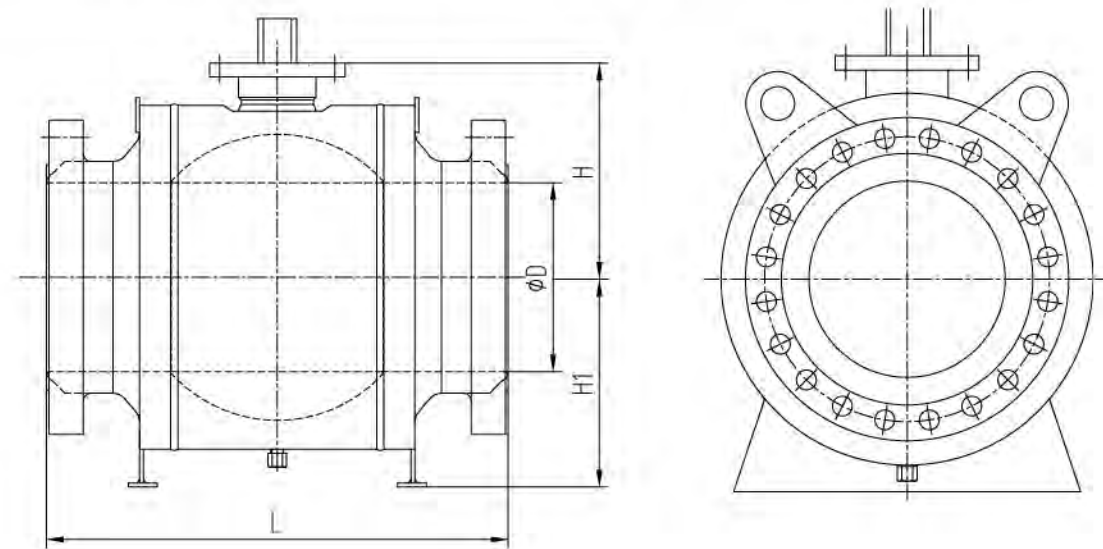
单位Unit: mm

公称通径 Nominal Diameter	DN	FL	FR	FW	H	H1	重量 Wt
INCH	MM						kg
2"x1 1/2"	50x40	50	40	216	232	216	98
2 1/2"x2"	65x50	63	50	241	257	241	106
3"x2"	80x50	74	50	283	297	283	106
3"x2 1/2"	80x65	74	63	283	297	283	155
4"x3"	100x80	101	74	305	321	305	157
6"x4"	150x100	152	101	403	419	403	198
8"x6"	200x150	203	152	502	518	521	242
10"x8"	250x200	254	203	568	584	559	285
12"x10"	300x250	305	254	648	664	635	330
14"x10"	350x250	336	254	762	778	762	330
14"x12"	350x300	336	305	762	778	762	375
16"x12"	400x300	387	305	838	854	838	375
16"x14"	400x350	387	336	838	854	838	430
18"x16"	450x400	438	387	914	930	914	440
20"x16"	500x400	489	387	991	1010	991	440
20"x18"	500x450	489	438	991	1010	991	485
24"x20"	600x500	591	489	1143	1165	1143	520
26"x22"	650x500	635	540	1245	1270	1245	563
28"x24"	700x600	686	591	1346	1370	1346	620
30"x24"	750x600	737	591	1397	1422	1397	620
32"x26"	800x650	781	635	1524	1553	1524	660
32"x28"	800x700	781	686	1524	1553	1524	720
36"x30"	900x750	876	737	1727	1756	1727	780
40"x36"	1000x900	978	876	1850		1780	905



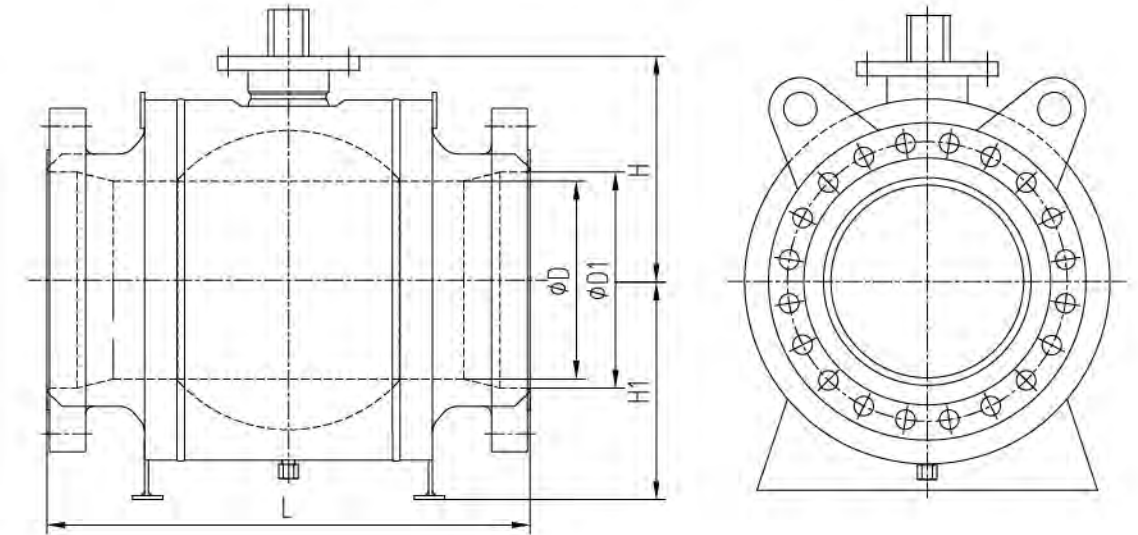
石油、天然气管线全焊接球阀-筒形&锥形 全通径 尺寸

Fully welded ball valves for oil and gas pipelines cylinder&taper Full Bore Dimension



石油、天然气管线全焊接球阀-筒形&锥形 标准径 尺寸

Fully welded ball valves for oil and gas pipelines cylinder&taper Standard Bore Dimension



400LB

单位Unit: mm

公称通径 Nominal Diameter	DN	公称压力 PN	球体高度 H	球体长度 L	球体重量 W	阀体长度 L1	阀体重量 W1	总重量 G
2"	50	50	292	295	292	106	102	33
2 1/2"	65	63	330	333	330	155	105	46
3"	80	74	356	359	356	157	111	65
4"	100	101	406	410	406	198	163	92
6"	150	152	495	498	498	242	235	202
8"	200	203	597	600	597	285	275	345
10"	250	254	673	676	673	330	325	525
12"	300	305	762	765	762	375	360	710
14"	350	336	825	829	825	430	410	920
16"	400	387	902	905	902	440	420	1345
18"	450	438	978	981	978	485	455	1675
20"	500	489	1054	1060	1054	520	505	2285
22"	550	540	1143	1153	1143	563	545	3355
24"	600	591	1232	1241	1232	620	605	3792
26"	650	635	1308	1321	1308	660	645	4650
28"	700	686	1397	1410	1397	720	705	5470
30"	750	737	1524	1537	1524	780	750	6670
32"	800	781	1651	1667	1657	805	785	8350
34"	850	832	1778	1794	1778	850	845	10320
36"	900	876	1880	1895	1880	905	895	11580
40"	1000	978	2000		1900	955	948	13880
42"	1050	1022	2100		1950	1015	985	18890
48"	1200	1168	2400		2180	1095	1065	23550
56"	1400	1362	2710		2385	1285	1253	41725

400LB

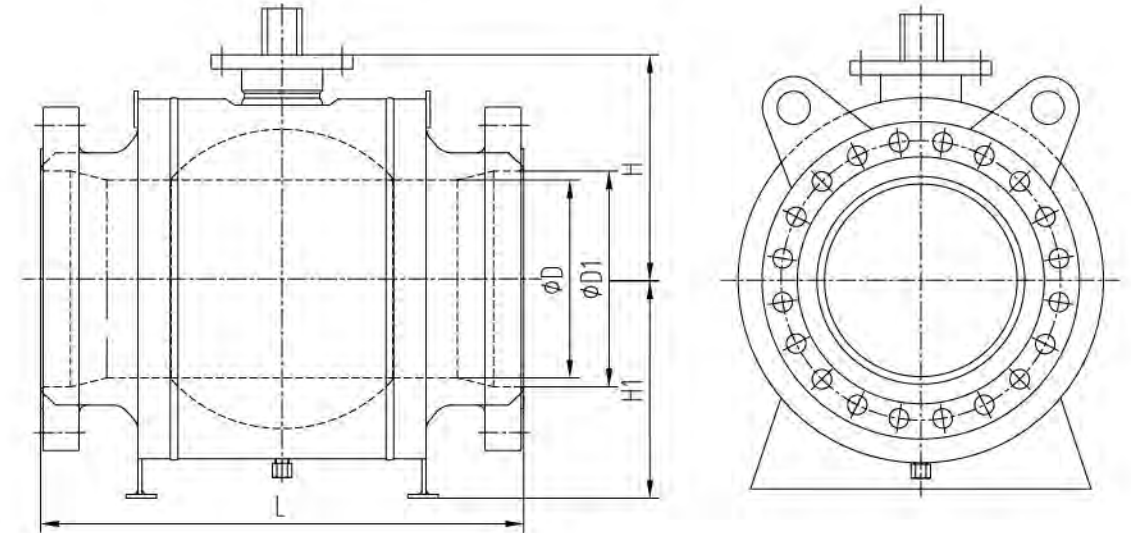
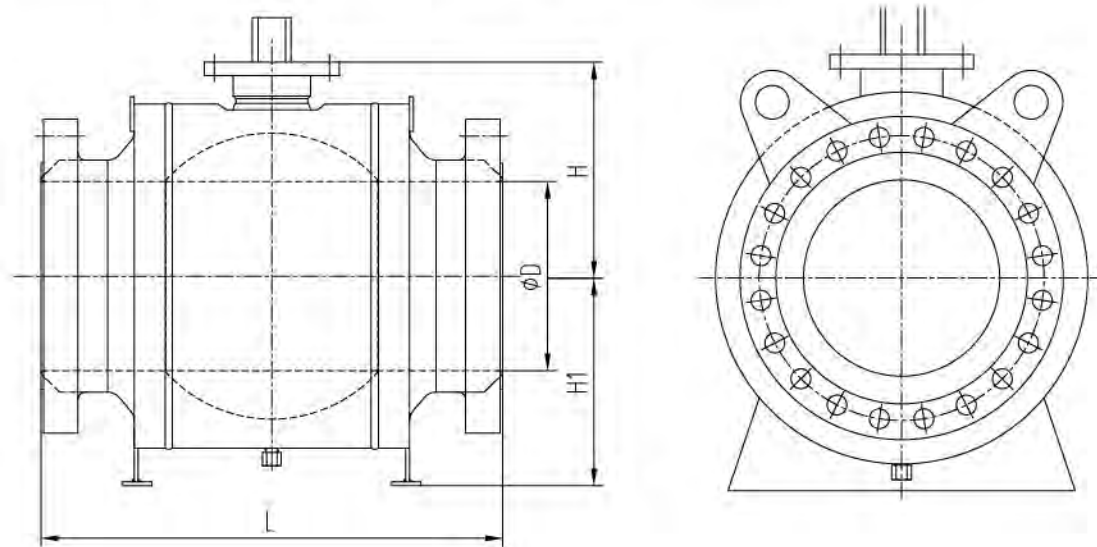
单位Unit: mm

公称通径 Nominal Diameter	DN	公称压力 PN	球体高度 H	球体长度 L	球体重量 W	阀体长度 L1	阀体重量 W1	总重量 G
2"x1 1/2"	50x40	50	292	295	292	98	94	32
2 1/2"x2"	65x50	63	330	333	330	106	102	36
3"x2"	80x50	74	356	359	356	106	102	45
3"x2 1/2"	80x65	74	356	359	356	155	105	50
4"x3"	100x80	101	406	410	406	157	111	81
6"x4"	150x100	152	495	498	498	198	163	118
8"x6"	200x150	203	597	600	597	242	235	205
10"x8"	250x200	254	673	676	673	285	275	375
12"x10"	300x250	305	762	765	762	330	325	535
14"x10"	350x250	336	825	829	825	330	325	610
14"x12"	350x300	336	825	829	825	375	360	785
16"x12"	400x300	387	902	905	902	375	360	795
16"x14"	400x350	387	902	905	902	430	410	955
18"x16"	450x400	438	978	981	978	440	420	1425
20"x16"	500x400	489	1054	1060	1054	440	420	1515
20"x18"	500x450	489	1054	1060	1054	485	455	1740
24"x20"	600x500	591	1232	1241	1232	520	505	2556
26"x22"	650x500	635	1308	1321	1308	563	545	3610
28"x24"	700x600	686	1397	1410	1397	620	605	4325
30"x24"	750x600	737	1524	1537	1524	620	605	4480
32"x26"	800x650	781	1651	1667	1657	660	645	5215
32"x28"	800x700	781	1651	1667	1657	720	705	6010
36"x30"	900x750	876	1880	1895	1880	780	750	7910
40"x36"	1000x900	978	2000		1900	905	895	11985



石油、天然气管线全焊接球阀-筒形&锥形 全通径 尺寸
Fully welded ball valves for oil and gas pipelines cylinder&taper Full Bore Dimension

石油、天然气管线全焊接球阀-筒形&锥形 标准径 尺寸
Fully welded ball valves for oil and gas pipelines cylinder&taper Standard Bore Dimension



600LB

单位Unit: mm

公称通径 Nominal Diameter	DN	FL	LSF	LRH	FW	H	H1	重量 Wt
2"	50	50	292	295	292	106	102	33
2 1/2"	65	63	330	333	330	155	105	46
3"	80	74	356	359	356	157	111	65
4"	100	101	432	435	432	198	163	97
6"	150	152	559	562	559	242	235	235
8"	200	203	660	664	660	285	275	360
10"	250	254	787	791	787	330	325	565
12"	300	305	838	841	838	375	360	780
14"	350	336	889	892	889	430	410	965
16"	400	387	991	994	991	440	420	1405
18"	450	438	1092	1095	1092	485	455	1780
20"	500	489	1194	1200	1194	520	505	2465
22"	550	540	1295	1305	1295	563	545	3415
24"	600	591	1397	1407	1397	620	605	4250
26"	650	635	1448	1461	1448	660	645	4850
28"	700	686	1549	1562	1549	720	705	5560
30"	750	737	1651	1664	1651	780	750	7545
32"	800	781	1778	1794	1778	805	785	8480
34"	850	832	1930	1946	1930	850	845	10305
36"	900	876	2083	2099	2083	905	895	12910
40"	1000	978	2000		2000	955	948	14550
42"	1050	1022	2100		2100	1015	985	19350
48"	1200	1168	2400		2400	1095	1065	26570
56"	1400	1362	2710		2710	1285	1253	42735

600LB

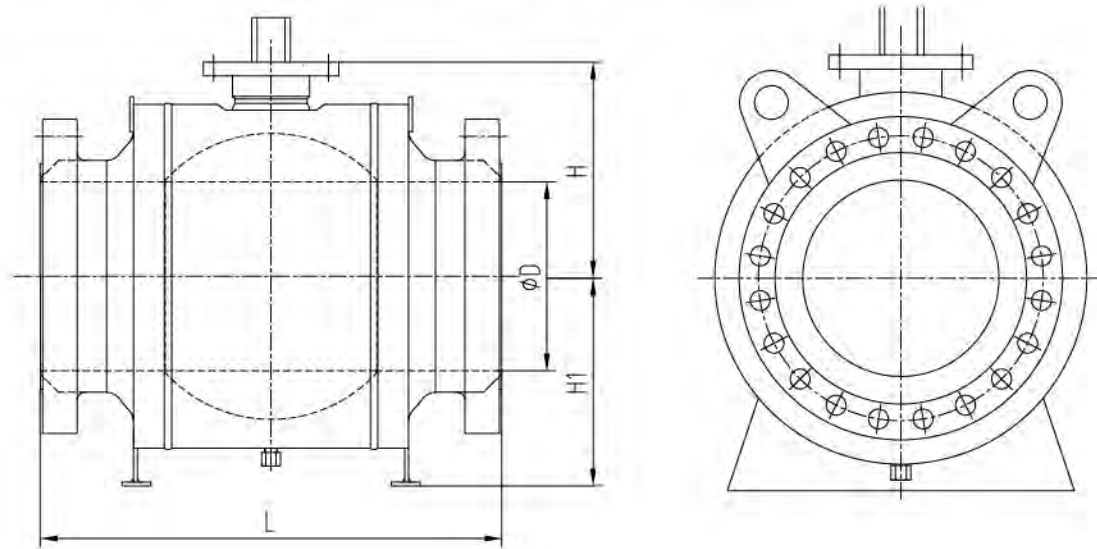
单位Unit: mm

公称通径 Nominal Diameter		DN	FL	LSF	LRH	FW	H	H1	重量 Wt
IPS	DN								
2"x1 1/2"	50x40	50	40	292	295	292	98	94	32
2 1/2"x2"	65x50	63	50	330	333	330	106	102	36
3"x2"	80x50	74	50	356	359	356	106	102	45
3"x2 1/2"	80x65	74	63	356	359	356	155	105	50
4"x3"	100x80	101	74	432	435	432	157	111	83
6"x4"	150x100	152	101	559	562	559	198	163	145
8"x6"	200x150	203	152	660	664	660	242	235	235
10"x8"	250x200	254	203	787	791	787	285	275	405
12"x10"	300x250	305	254	838	841	838	330	325	585
14"x10"	350x250	336	254	889	892	889	330	325	645
14"x12"	350x300	336	305	889	892	889	375	360	825
16"x12"	400x300	387	305	991	994	994	375	360	885
16"x14"	400x350	387	336	991	994	994	430	410	1018
18"x16"	450x400	438	387	1092	1095	1092	440	420	1557
20"x16"	500x400	489	387	1194	1200	1194	440	420	1686
20"x18"	500x450	489	438	1194	1200	1194	485	455	1885
24"x20"	600x500	591	489	1397	1407	1397	520	505	2796
26"x22"	650x500	635	540	1448	1461	1448	620	545	3780
28"x24"	700x600	686	591	1549	1562	1549	620	605	4425
30"x24"	750x600	737	591	1651	1664	1651	660	605	4872
32"x26"	800x650	781	635	1778	1794	1778	720	645	5385
32"x28"	800x700	781	686	1778	1794	1778	780	705	6565
36"x30"	900x750	876	737	2083	2099	2083	805	750	8275
40"x36"	1000x900	978	876	2000		1900	905	895	12320



石油、天然气管线全焊接球阀-筒形&锥形 全通径 尺寸

Fully welded ball valves for oil and gas pipelines cylinder&taper Full Bore Dimension



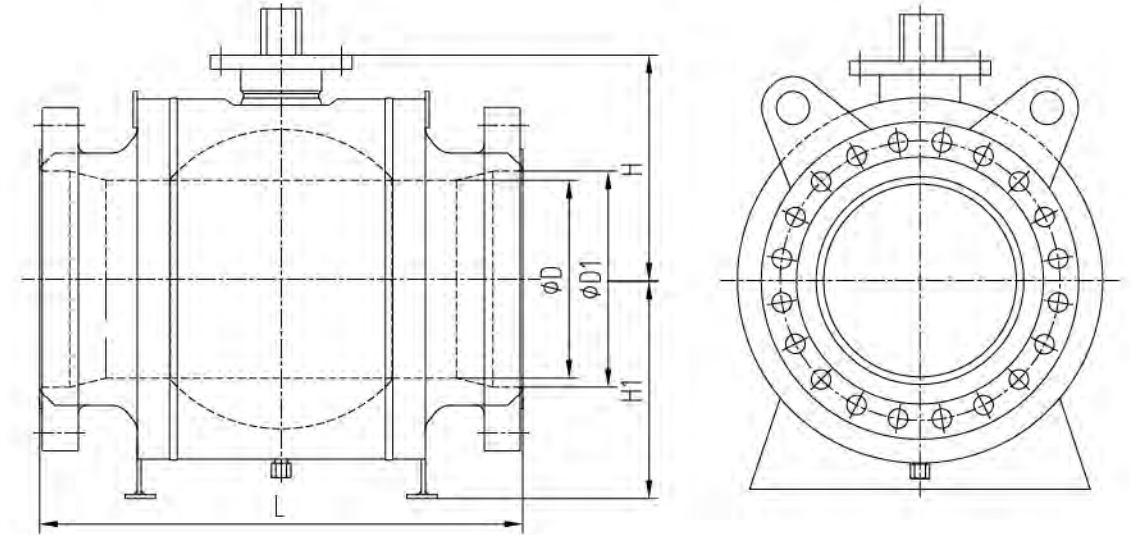
900LB

单位Unit: mm

公称通径 Nominal diameter NPS	公称压力 Class GPA	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	重量 Weight kg
2"	50	50	368	371	368	135	102	44
2 1/2"	65	63	419	422	419	155	105	56
3"	80	74	381	384	381	165	113	78
4"	100	101	457	460	457	225	169	135
6"	150	152	610	613	610	265	240	255
8"	200	203	737	740	737	297	280	480
10"	250	254	838	841	838	345	335	705
12"	300	305	965	968	965	419	385	1055
14"	350	324	1029	1038	1029	453	420	1303
16"	400	375	1130	1140	1130	487	471	1795
18"	450	425	1219	1232	1219	524	509	2460
20"	500	473	1321	1333	1321	565	547	3480
22"	550	524	1435	1448	1435	625	594	4760
24"	600	572	1549	1568	1549	670	644	5680
26"	650	619	1651	1674	1651	709	685	6125
28"	700	667	1753	1775	1753	746	757	7116
30"	750	714	1880	1902	1880	786	798	10955
32"	800	762	2032	2054	2032	825	830	11470
34"	850	810	2159	2188	2159	870	880	13545
36"	900	857	2286	2315	2286	924	918	16150
40"	1000	957	2180	2210	2180	1013	1007	18920
42"	1050	1008	2250	2280	2250	1180	1085	21258
48"	1200	1151	2380	2450	2380	1250	1145	28700
56"	1400	1362	2949		2400	1325	1225	42735

石油、天然气管线全焊接球阀-筒形&锥形 标准径 尺寸

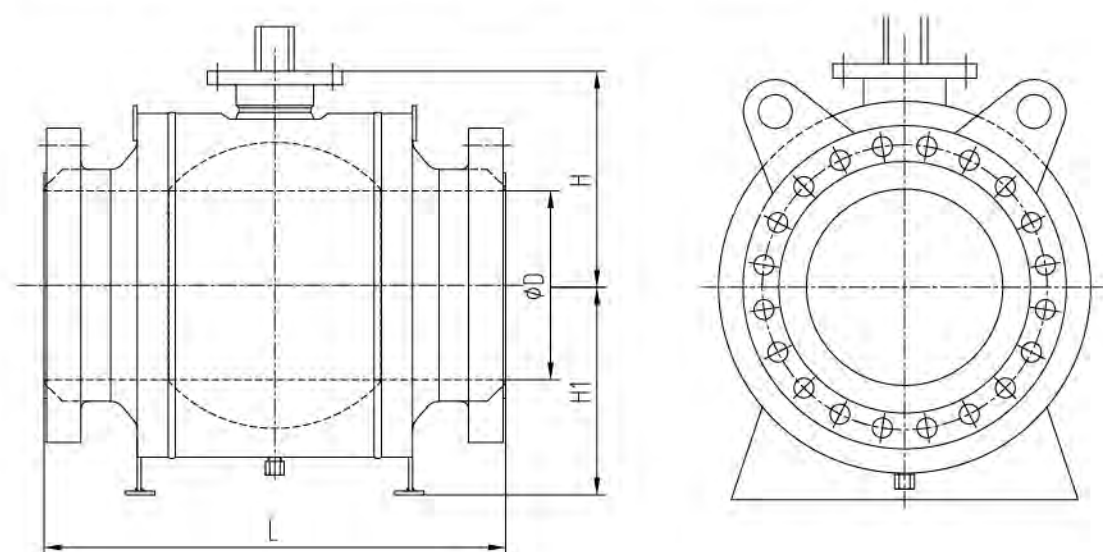
Fully welded ball valves for oil and gas pipelines cylinder&taper Standard Bore Dimension



900LB

单位Unit: mm

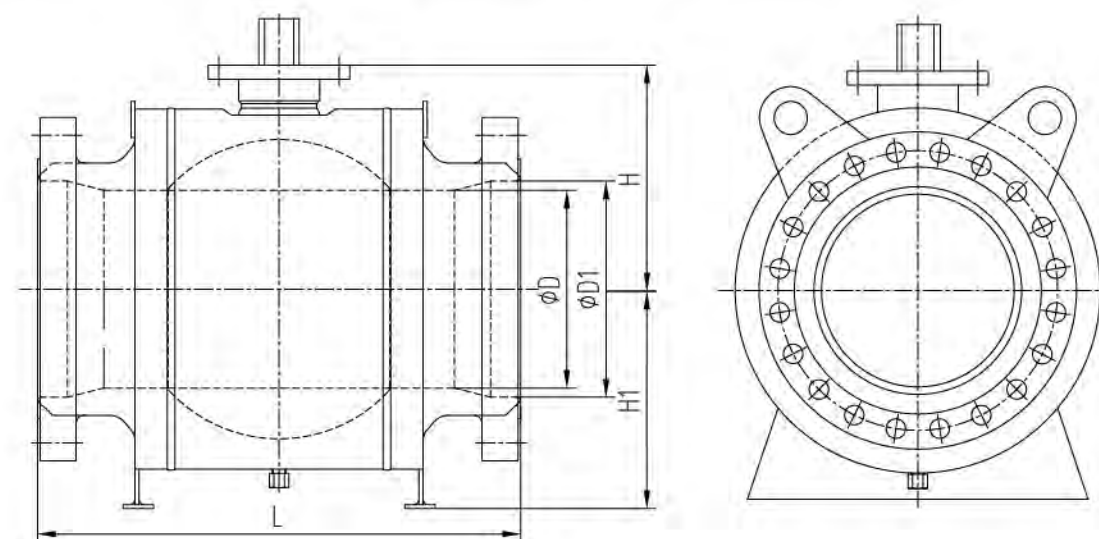
公称通径 (Nominal Diameter)		DN1	DN2	DN3	DN4	DN5	DN6	DN7	重量 (kg)
NPS	口径								
2"x1 1/2"	50x40	50	40	368	371	368	135	102	39
2 1/2"x2"	65x50	63	50	419	422	419	135	102	53
3"x2"	80x50	74	50	381	384	381	135	102	56
3"x2 1/2"	80x65	74	63	381	384	381	155	105	62
4"x3"	100x80	101	74	457	460	457	165	113	81
6"x4"	150x100	152	101	610	613	610	225	169	175
8"x6"	200x150	203	152	737	740	737	265	240	320
10"x8"	250x200	254	203	838	841	838	297	280	530
12"x10"	300x250	305	254	965	968	965	345	335	805
14"x10"	350x250	336	254	1029	1038	1029	419	335	955
14"x12"	350x300	336	305	1029	1038	1029	419	385	1165
16"x12"	400x300	387	305	1130	1140	1130	453	385	1340
16"x14"	400x350	387	336	1130	1140	1130	453	420	1525
18"x16"	450x400	438	387	1219	1232	1219	487	471	1890
20"x16"	500x400	489	387	1321	1333	1321	487	471	2310
20"x18"	500x450	489	438	1321	1333	1321	524	509	2670
24"x20"	600x500	591	489	1549	1568	1549	565	547	4255
26"x22"	650x500	635	540	1651	1674	1651	625	594	5450
28"x24"	700x600	686	591	1753	1775	1753	670	644	6885
30"x24"	750x600	737	591	1880	1902	1880	670	644	7470
32"x26"	800x650	781	635	2032	2054	2032	709	685	7885
32"x28"	800x700	781	686	2032	2054	2032	746	757	8875
36"x30"	900x750	876	737	2286	2315	2286	786	798	11885
40"x36"	1000x900	978	876	2180	2210	2180	924	918	18110


 石油、天然气管线全焊接球阀-筒形&锥形 全通径 尺寸
 Fully welded ball valves for oil and gas pipelines cylinder&taper Full Bore Dimension


1500LB

单位Unit: mm

公称通径 Nominal Diameter								
NPS	DN	(D)	LSF	LSR(H)	BW	H	H1	重量 kg
2"	50	50	368	371	368	135	102	44
2 1/2"	65	63	419	422	419	155	105	56
3"	80	74	470	473	470	168	130	88
4"	100	101	457	460	457	225	169	170
6"	150	152	705	711	705	275	255	437
8"	200	203	832	841	832	315	305	735
10"	250	254	991	1000	991	365	350	1320
12"	300	305	1130	1146	1130	430	415	1995
14"	350	324	1257	1276	1257	480	465	2550
16"	400	375	1384	1407	1384	575	570	3565
18"	450	425	1537	1599	1537	645	635	4734
20"	500	473	1664	1686	1664	675	660	6230
22"	550	524	1692	1721	1692	765	740	6875
24"	600	572	1943	1972	1943	810	785	7650
28"	700	667	2032	2061	2032	925	905	9155
30"	750	714	2286	2300	2286	1015	980	11770
32"	800	762	2415	2444	2415	1075	1025	13175
36"	900	857	2743	2755	2743	1165	1170	17550

 石油、天然气管线全焊接球阀-筒形&锥形 标准径 尺寸
 Fully welded ball valves for oil and gas pipelines cylinder&taper Standard Bore Dimension


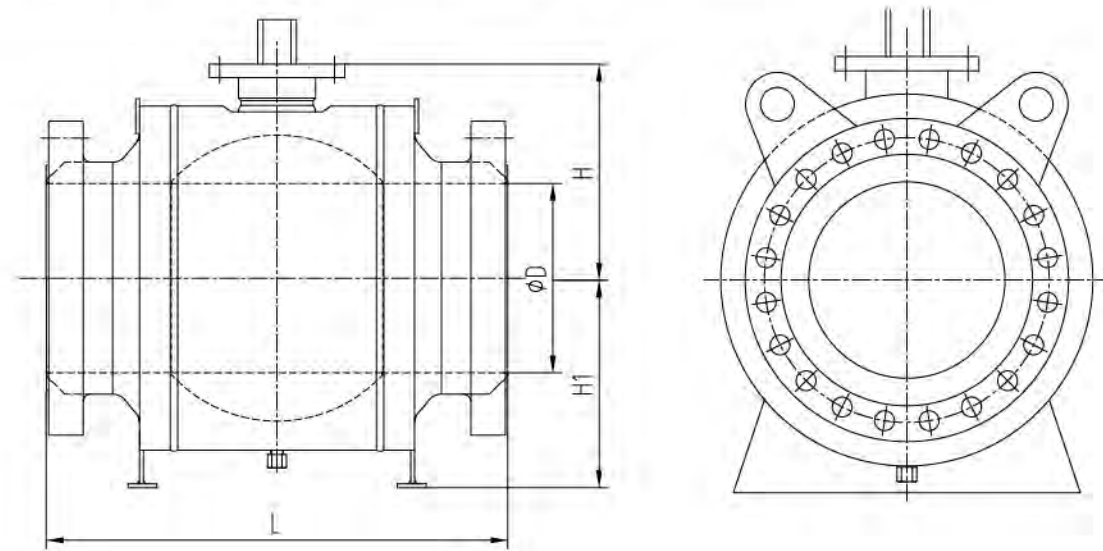
1500LB

单位Unit: mm

公称通径 Nominal Diameter									
NPS	DN	(D)	D	LSF	LSR(H)	BW	H	H1	重量 kg
2"x1 1/2"	50x40	50	40	368	371	368	135	102	39
2 1/2"x2"	65x50	63	50	419	422	419	135	102	53
3"x2"	80x50	74	50	470	473	470	135	102	65
3"x2 1/2"	80x65	74	63	470	473	470	155	105	73
4"x3"	100x80	101	74	546	549	546	168	130	88
6"x4"	150x100	152	101	705	711	705	225	169	245
8"x6"	200x150	203	152	832	841	832	275	255	440
10"x8"	250x200	254	203	991	1000	991	315	305	920
12"x10"	300x250	305	254	1130	1146	1130	365	350	1566
14"x10"	350x250	336	254	1257	1276	1257	365	350	1870
14"x12"	350x300	336	305	1257	1276	1257	430	415	2010
16"x12"	400x300	387	305	1384	1407	1384	430	415	2455
16"x14"	400x350	387	336	1384	1407	1384	480	465	2930
18"x16"	450x400	438	387	1537	1599	1537	575	570	3885
20"x16"	500x400	489	387	1664	1686	1664	575	570	4100
20"x18"	500x450	489	438	1664	1686	1664	645	635	4615
24"x20"	600x500	591	489	1943	1972	1943	695	670	7265



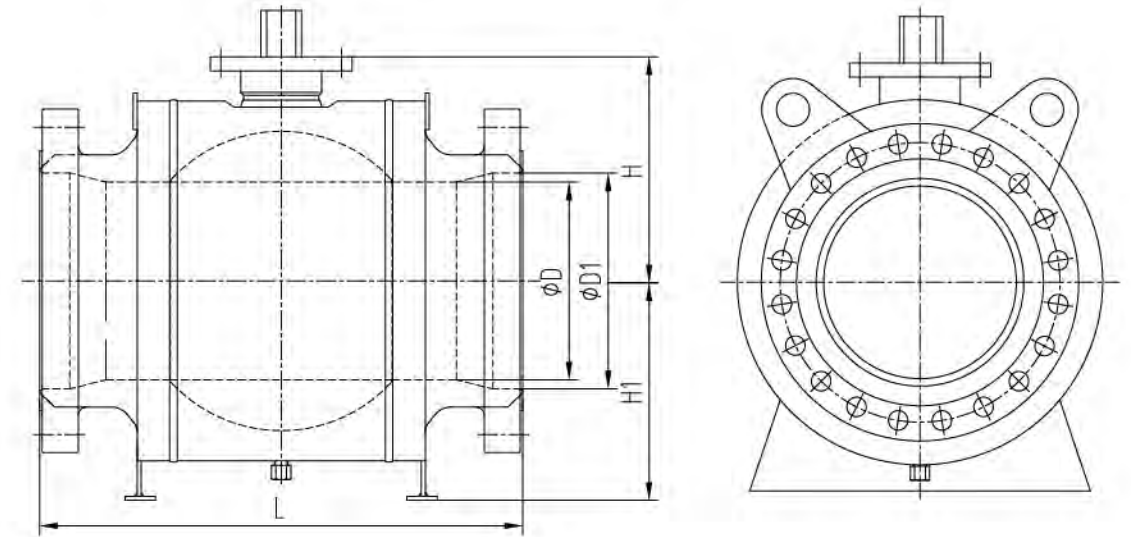
石油、天然气管线全焊接球阀-筒形&锥形 全通径 尺寸
Fully welded ball valves for oil and gas pipelines cylinder&taper Full Bore Dimension



2500LB 单位Unit: mm

公称通径 Nominal Diameter NPS	DN	Ø	L-FF	L-FH	L-FW	H	H1	重量 Wt
2"	50	50	451	454	451	160	155	65
2 1/2"	65	63	508	540	508	198	185	125
3"	80	74	578	584	578	210	203	188
4"	100	101	673	683	673	245	240	310
6"	150	152	914	927	914	310	300	680
8"	200	203	1022	1038	1022	385	365	1100
10"	250	254	1270	1292	1270	453	435	1850
12"	300	305	1422	1445	1422	520	495	2775
14"	350	324						
16"	400	375						
18"	450	425						
20"	500	473						

石油、天然气管线全焊接球阀-筒形&锥形 标准径 尺寸
Fully welded ball valves for oil and gas pipelines cylinder&taper Standard Bore Dimension



2500LB 单位Unit: mm

公称通径 Nominal Diameter NPS	DN	Ø1	Ø	L-FF	L-FH	L-FW	H	H1	重量 Wt
2"x1 1/2"	50x40	50	40	451	454	451	120	90	77
2 1/2"x2"	65x50	63	50	508	540	508	160	155	95
3"x2"	80x50	74	50	578	584	578	160	155	130
3"x2 1/2"	80x65	74	63	578	584	578	195	185	175
4"x3"	100x80	101	74	673	683	673	210	203	235
6"x4"	150x100	152	101	914	927	914	245	240	445
8"x6"	200x150	203	152	1022	1038	1022	310	300	905
10"x8"	250x200	254	203	1270	1292	1270	385	365	1340
12"x10"	300x250	305	254	1422	1445	1422	453	435	2275
16"x12"	400x300	387	305						
16"x14"	400x350	387	336						
20"x16"	500x400	489	387						

市政、热力管线 Heating Pipeline

全焊接蝶阀 Fully Welded Butterfly Valve

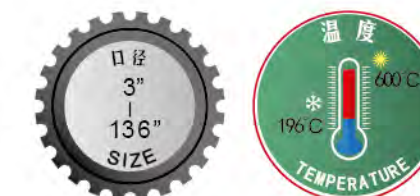
三偏心双向硬密封
Triple Offset Bi-directional Metal-seated



TRK三偏心蝶阀采用金属对金属扭矩密封，无摩擦角行程旋转。其广泛应用于各种要求主动关断的应用中。四分之一回转设计及超低的操作扭矩便于精确的流量和压力控制。我们阀门真正的关断及调节能力可将通常需要两个不同阀门的地方用单一产品实现。此外，低扭矩也意味着低的执行机构成本。

TRK Triple offset valve using metal to metal torque seal, no friction angle travel rotation. It's widely used in various applications requiring active shutoff. Quarter turn design and ultra-low operating torque facilitate accurate flow and pressure control. The real shutoff and regulating capability of our valves can be realized by using a single product where two different valves are usually required. In addition, low torque also means low actuator cost.

标准 Standard	国标 National standard	美标 American Standard
设计标准 Design standard	GB/T 12238 GB/T 8527 GB/T 37828	API 609 EN 593 MSS SP-68
公称通径 Size	DN80 — DN3400	3" — 136"
压力等级 Pressure	PN6 — PN420	Class 150 — Class2500
结构长度 Face-to-face	GB/T 19672 GB/T 12221	API 609 ASME B16.10
检验与试验 Inspection	GB/T 26480 GB/T 13972 GB/T 19672	API 6D API 598 ANSI B16.104
连接端尺寸标准 End standard	GB/T 9124 GB/T 9113 HG/T 20592 HG/T 20615	ASME B16.5 ASME B16.47 ASME B16.25



连接方式 End connection	对夹、法兰、焊接、凸耳 Wafer, flange, welding, lug	执行器连接标准 Actuator standard	ISO 5211、API 6DX
壳体材料 Body material	碳钢、铬镍系不锈钢、铬镍钼系不锈钢，双相钢、合金钢 Carbon steel, chrome nickel stainless steel, chrome nickel molybdenum stainless steel, dual phase steel, alloy steel		
密封面材料 Sealing material	13Cr系不锈钢、铬镍钼系不锈钢，双相钢、硬质合金、镍基合金 13Cr SS, chromium nickel molybdenum series stainless steel, dual phase steel, hard alloy, nickel base alloy		
操作方式 Operation	手动、蜗轮、气动、电动、气液联动、电液联动 Manual, worm gear, pneumatic, electric, pneumatic hydraulic linkage, electrohydraulic linkage		



TRK

替科斯

三偏心双向硬密封蝶阀-对焊式

Triple Offset Bi-directional Metal-seated Butterfly Valve-Butt Weld Type

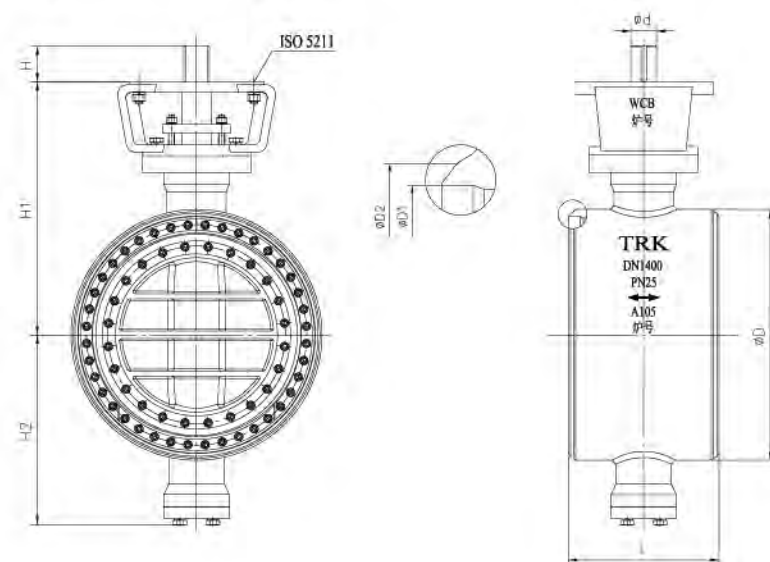


序号 No.	零件名称 Parts	碳钢材料 Carbon steel		不锈钢材料 Stainless steel	
		国标 Chinese standard	美标 American standard	国标 Chinese standard	美标 American standard
1	紧定螺钉 Set screw	8.8级 8.8 Grade	ASTMA193 B7	A2-70/A2-50	ASTMA193 B8
2	内六角螺钉 Inner hexagon screw	8.8级 8.8 Grade	ASTMA193 B7	A2-70/A2-50	ASTMA193 B8
3	阀座压环 Seat pressure ring	20Cr13	ASTMA420	06Cr19Ni10	ASTMA182 F304
4	阀座 Seat	20Cr13	ASTMA420+HF	06Cr19Ni10	ASTMA182 F304+HF
5	阀座密封圈 Seat sealing ring	304+Graphite/PTFE	304+Graphite/PTFE	304+Graphite/PTFE	304+Graphite/PTFE
6	轴承 Bearing	06Cr19Ni10+HF	304+HF	06Cr19Ni10+HF	304+HF
7	下阀杆 Lower stem	20Cr13	ASTMA276 420	05Cr17Ni4Cu4Nb	ASTMA564 630
8	阀体 Body	WCB	ASTMA216 WCB	CF8	ASTMA351 CF8
9	对开环 Split collar	25	ASTMA105	06Cr19Ni10	ASTMA182 F304
10	调整垫 Adjustable washing	25	ASTMA105	06Cr19Ni10	ASTMA182 F304
11	密封垫圈 Sealing gasket	304+Graphite/PTFE	304+Graphite/PTFE	304+Graphite/PTFE	304+Graphite/PTFE
12	底盖 Gland	25	ASTMA105	06Cr19Ni10	ASTMA182 F304
13	弹簧垫片 Spring gasket	65Mn	ASTMA29 1566	06Cr19Ni10	ASTMA29 1566
14	外六角螺栓 Hex head bolts	8.8级 8.8 Grade	ASTMA193 B7	A2-70/A2-50	ASTMA193 B8
15	内六角螺钉 Inner hexagon screw	8.8级 8.8 Grade	ASTMA193 B7	A2-70/A2-50	ASTMA193 B8
16	压环 Junk ring	25	ASTMA105	06Cr19Ni10	ASTMA182 F304
17	密封环 Sealing ring	20Cr13+HF	ASTMA420+HF	06Cr19Ni10+HF	ASTMA182 F304+HF
18	蝶板密封圈 Disc sealing ring	304+Graphite/PTFE	304+Graphite/PTFE	304+Graphite/PTFE	304+Graphite/PTFE
19	蝶板 Disc	WCB	ASTMA216 WCB	CF8	ASTMA351 CF8
20	圆柱销 Straight pin	20Cr13	ASTMA276 304	06Cr19Ni10	ASTMA564 630
21	填料垫 Packing gasket	06Cr19Ni10	ASTMA182 F304	06Cr19Ni10	ASTMA182 F304
22	填料 Packing	Graphite/PTFE	Graphite/PTFE	Graphite/PTFE	Graphite/PTFE
23	轴承 Bearing	06Cr19Ni10+HF	304+HF	06Cr19Ni10+HF	304+HF
24	阀杆 Stem	20Cr13	ASTMA276 420	05Cr17Ni4Cu4Nb	ASTMA564 630
25	填料压套 Packing bushing	06Cr19Ni10	ASTMA276 304	06Cr19Ni10	ASTMA276 304
26	蝶形弹簧 Belleville spring	60Si2Mn	ASTMA276 410	06Cr19Ni10	ASTMA182 F304
27	填料压板 Packing gland	WCB/25	ASTMA216 WCB	WCB/25	ASTMA351 CF8
28	压板螺栓 Gland stud	8.8级 8.8 Grade	ASTMA193 B7	A2-70/A2-50	ASTMA193 B8
29	压板螺母 Gland nut	8级 8 Grade	ASTMA194 2H	A2-70/A2-50	ASTMA194 8
30	支架 Yoke	WCB	ASTMA216 WCB	WCB	ASTMA216 WCB
31	弹簧垫片 Spring gasket	65Mn	ASTMA29 1566	06Cr19Ni10	ASTMA29 1566
32	外六角螺栓 Outer hexagon bolt	8.8级 8.8 Grade	ASTMA193 B7	A2-70/A2-50	ASTMA193 B8
33	螺母 Nut	8级 8 Grade	ASTMA194 2H	A2-70/A2-50	ASTMA194 8
34	弹簧垫片 Spring gasket	65Mn	ASTMA29 1566	06Cr19Ni10	ASTMA29 1566
35	全牙螺栓 Full thread bolt	8.8级 8.8 Grade	ASTMA193 B7	A2-70/A2-50	ASTMA193 B8
36	蜗轮箱 Gear box	组件 Parts	组件 Parts	组件 Parts	组件 Parts



三偏心供热蝶阀

Triple eccentric butterfly valve for heating system

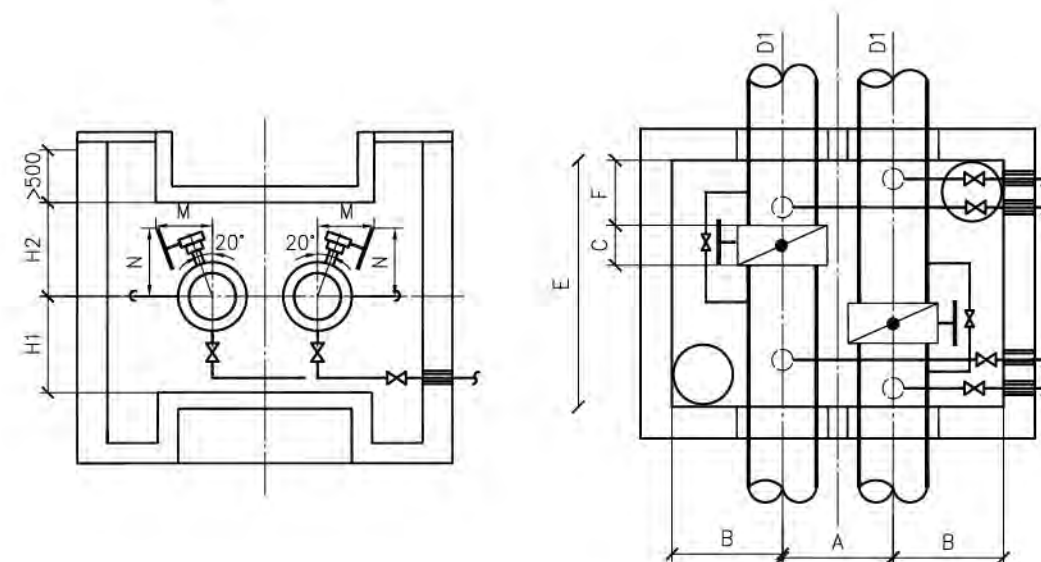


2.5Mpa

DN Size	L	D	ISO 5211 D1	ISO 5211 D2	ISO 5211 D3	ISO 5211 D4	ISO 5211 D5	ISO 5211 D6	ISO 5211 D7	ISO 5211 D8	ISO 5211 D9	ISO 5211 D10	ISO 5211 D11	Weight kg
DN150	210	180	150	159	159.3	168.3	159.3	168.3	260	166	50	26	F12	45
DN200	230	230	207	219	210.1	219.1	210.1	219.1	305	195	55	32	F14	60
DN250	250	280	259	273	263	273	263	273	330	223	60	36	F14	80
DN300	270	330	311	325	312.7	323.9	312.7	323.9	378	267	67	43	F16	105
DN350	290	385	363	377	365	377	344.4	355.6	430	300	75	46	F20	155
DN400	310	445	412	426	414	426	393.8	406.4	490	335	80	52	F25	185
DN450	330	495	464	478	464	478	444.4	457	520	370	90	58	F25	265
DN500	350	550	513	529	514	530	495.4	508	564	414	105	68	F25	305
DN600	390	650	612	630	616	630	593.6	609.6	635	489	120	76	F25	415
DN700	430	750	700	720	704	720	693.6	711.2	745	560	135	82	F30	537
DN800	470	850	796	820	796	820	795.2	812.8	826	627	150	96	F35	650
DN900	510	960	892	920	892	920	892	914.4	871	691	165	106	F35	965
DN1000	550	1060	992	1020	992	1020	992	1016	1025	775	180	125	F40	1305
DN1200	630	1260	1192	1220	1192	1220	1192	1220	1200	880	200	144	F48	2235
DN1400	710	1475	1388	1420	1392	1420	1392	1420	1300	1015	240	152	F48	3415
DN1600	790	1690	1588	1620	1588	1620	1588	1620	1485	1155	275	162	F60	4780
DN1800	870	1890	1788	1820	1788	1820	1788	1820	1650	1270	290	178	F60	5360
DN2000	950	2090	1988	2020	1988	2020	1988	2020	1765	1365	310	188	F60	6120

供热阀门井尺寸

Size of heating valve



DN Size	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
DN100	500	850	190	750	1000	800	2000	323	280																	
DN150	520	870	210	750	1000	800	2300	403	328																	
DN200	565	915	230	750	1000	800	2600	444	415																	
DN250	615	990	250	750	1000	800	2960	505	422																	
DN300	670	965	270	750	1000	800	3000	580	510																	
DN350	750	1075	290	750	1000	900	3200	650	575																	
DN400	800	1050	310	750	1000	900	3400	670	582																	
DN450	850	1125	330	750	1000	900	3600	726	605																	
DN500	930	1145	350	750	1000	1100	3800	863	924																	
DN600	1060	1145	390	750	1000	1400	4200	914	938																	
DN700	1200	1200	430	750	1100	1400	4600	953	953																	
DN800	1305	1395	470	750	1100	1500	5000	1153	1072																	
DN900	1404	1495	510	750	1200	1700	5400	1210	1094																	
DN1000	1500	1545	550	750	1200	1800	6000	1356	1267																	
DN1200	1780	1640	630	750	1300	1800	6200	1640	1615																	
DN1400	2100	1850	750	750	1400	2000	6400	1724	1790																	



Welded Valve Pioneer 焊接阀门领航者

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CASE PRESENTATION

自2011年成立至今，一直专注于城市集中供热领域的高新技术阀门产品研发、制造与维护。在供热行业提倡水力平衡技术，城市级多热源联动技术、智能供热管控节能系统技术、清洁能源供热技术等课题的基础上结合我国国情和各地区各项目的水质、气候、工况，安装环境及后续运营维护难点痛点在产品结构、产品材质、产品性能（密封性能）和产品维护方面进行深度研发，并在智慧管网、自动化运行、互联网+供热等多个领域系统布局，保证管网安全、稳定、高效、清洁供热的同时，有效降低资源及能源消耗和运营成本，成绩斐然。替科斯旗下的全焊接供热专用球阀，双向金属硬密封蝶阀等标志性产品，安全、可靠零责任事故，精密、耐用与管道同寿命，同时具有业内领先的核心产品业绩和口碑。

Since its establishment in 2011, TIX has been focusing on the research, manufacturing, and maintenance of high-tech valve products in the field of urban central heating. On the basis of promoting hydraulic balance technology, urban level multi heat source linkage technology, intelligent heating control and energy-saving system technology, clean energy heating technology, and other topics in the heating industry, combined with China's national conditions and the water quality, climate, working conditions, installation environment, and subsequent operation and maintenance difficulties of various projects in various regions, the pain points in product structure, product materials, product performance (sealing performance), and product maintenance are deeply researched and developed, and in smart pipeline networks the system layout in many fields, such as automatic operation, Internet plus heating, ensures the safe, stable, efficient and clean heating of the pipe network, and effectively reduces the resource and energy consumption and operating costs. The iconic products such as fully welded heating special ball valves and bidirectional metal hard sealing butterfly valves are safe, reliable, and have zero liability accidents. They are precise and durable with the same lifespan as pipelines, and have industry-leading core product performance and reputation.



世界上首个投运规模最大、地形最复杂的大温差长输供热管网

The world's first large temperature difference long-distance heating pipeline network with the largest scale and most complex terrain put into operation

供货时间：2016—2017年

Supply time: 2016-2017

供货范围：DN1000—DN1400 全焊接球阀

Scope of supply: DN1000-DN1400 fully welded ball valve



古交兴能电厂至太原 供热项目

Gujiao Xingneng power plant to Taiyuan heat supply project

本项目被评为北方城镇供热节能最佳实践案例和智慧供热优秀实践案例，荣获“第十九届中国土木工程詹天佑奖”、“中国建设工程鲁班奖”和“国家优质工程金奖”。

This project has been rated as the best practice case of heating energy conservation in northern cities and excellent practice case of smart heating, and has won the "19th China Civil Engineering Zhan Tianyou Award", "China Construction Engineering Luban Award", and "National High Quality Engineering Gold Award".

6个“之最” Created 6 'Most'

供热规模世界最大
The world's largest heating scale

输送距离国内最长
The conveying distance is the longest in China

供热隧道世界最长
The longest heating tunnel in the world

管网高差国内最大
The height difference of the pipeline network is the largest in China

供热管道规格国内最大
The heating pipeline specification is the largest in China

能源站换热能力国内最强
The heat exchange capacity of energy stations is the strongest in China

6个“首次（创）” Implemented 6 'firsts'

首创大温差长输供热技术体系
Pioneering a large temperature difference long-distance heating technology system

首次提出阵列式无应力配管技术
First proposed array type stress free piping technology

首次构建六级泵循环加压输送系统
The first construction of a six stage pump circulating pressurized conveying system

首次研发出大位移直管压力平衡膨胀节
It is the first time to develop a large displacement straight pipe pressure balance expansion joint

首次提出锚杆、内衬相结合的传力结构
Propose for the first time a force transmission structure that combines anchor rods and lining

首次研制出隧道供热管道专用双头轨道车
Developed for the first time a dedicated double headed rail car for tunnel heating pipelines

TRK 61

打造高端阀门制造 引领智能科技创新
Creating high-end valve manufacturing, leading intelligent technology innovation

One-stop integrated solution
严苛工况一站式集成解决方案



国内落差最大的（在运营）长输供热管网

The long-distance heating pipeline network with the largest drop in China (in operation)



华能国际电力股份有限公司上安电厂至鹿泉长输供热管网工程

Huaneng Power International Inc. Shang'an Power Plant to Luquan Long Distance Heating Pipeline Network Project

石家庄市政府的重大民生保障工程之一，全长46公里。工程主热源上安电厂在高处，东围墙绝对标高约为273米，规划供热区域在低处，最低处（铜冶镇石铜路穿越铁路线处）标高仅为76米，地形高最大落差达197米，居全国之首。

One of the major livelihood guarantee projects of the Shijiazhuang Municipal Government, with a total length of 46 kilometers. The main heat source of the project, Shang'an Power Plant, is located at a high altitude, with an absolute elevation of approximately 273 meters on the east wall. The planned heating area is located at a low altitude, with the lowest point (where Shitong Road crosses the railway line in Tongye Town) having an elevation of only 76 meters and a maximum drop of 197 meters in terrain height, ranking first in the country.

供货时间：2018年
Supply time: 2018

供货范围：DN1000—DN1400 全焊接球阀
Scope of supply: DN1000-DN1400 fully welded ball valve

国内首个“多热源+环网+大温差+煤电气协同发展”长输供热管网

The first "multi heat source+ring network+large temperature difference+coordinated development of coal and electricity" long-distance heating pipeline network in China

山东全省率先实现“一城一网”工程，全长45公里，供热面积达3500万平方米以上。创新形成了全国县域首个“多热源+环网+大温差+煤电气协同发展”供热格局。陆续荣获潍坊市勘察设计一等奖、2020年度潍坊市重大节能成果等奖项，更被住房和城乡建设部评为建筑领域碳达峰和碳中和典型案例并向全国推广学习。

Shandong Province is the first to implement the "One City, One Network" project, with a total length of 45 kilometers and a heating area of over 35 million square meters. The innovation has formed the first nationwide county-level heating pattern of "multiple heat sources+ring network+large temperature difference+coordinated development of coal and electricity". It has successively won the first prize of Weifang City Survey and Design Award, major energy saving achievements of Weifang City in 2020 and other awards. It has also been rated as a typical case of carbon peak and carbon neutrality in the construction field by the Ministry of Housing and Urban Rural Development, and has been promoted and studied nationwide.

寿光市高温水供热管网互联互通工程

Shouguang City High Temperature Water Heating Pipeline Network Interconnection Project



供货时间：2020—2022年
Supply time: 2020—2022

供货范围：DN1000—DN1200 全焊接球阀
Scope of supply: DN1000-DN1200 fully welded ball valve



**国内供热距离最长
(全焊接球阀DN1200)
长输管线工程**

The long-distance pipeline project
with the longest heating distance in China
(fully welded ball valve DN1200)



华能伊敏电厂至呼伦贝尔中心城区长距离供热改造工程项目

Huaneng Yimin Power Plant to Hulunbuir Central City Long Distance Heating Renovation Project

全长70.46公里，是国内供热距离最长的（全焊接球阀DN1200）长输管线工程。2021年12月15日正式投入运营，标志着目前世界上在高寒地区距离最长、冷安装无补偿的热网项目正式投入运营。其将解决呼伦贝尔市中心城区1528万平方米供热需求，极大提升供热质量。

With a total length of 70.46 kilometers, it is the longest heating (fully welded ball valve DN1200) long-distance pipeline project in China. On December 15, 2021 it was officially put into operation, marking the official launch of the longest distance and uncompensated cold installation heating network project in the world. It will solve the heat supply demand of 15.28 million square meters in the central urban area of Hulunbeier and greatly improve the heat supply quality.

供货时间: 2021年 Supply time: 2021
供货范围: DN1000—DN1200 全焊接球阀
Scope of supply: DN1000-DN1200 fully welded ball valve



“引热入安”长输供热管网项目
Long Distance Heating Pipeline Network Project of "Heat Transfer into Anyang"

国内最大口径（双向金属硬密封蝶阀DN1600）长输供热管网

Long-distance heating pipeline network with the largest diameter in China (bidirectional metal hard sealing butterfly valve DN1600)

项目总投资10.6亿元，设计供热能力为1360兆瓦、供热面积3238万平方米。是目前国内最大口径（双向金属硬密封蝶阀DN1600）的长输供热管网。“引热入安”项目，是河南省一项重要的民生工程，对于调整豫北地区能源结构、提升整体供热水平、改善生态环境质量具有重大意义。

The total investment of the project is 1.06 billion Yuan, with a designed heating capacity of 1360 megawatts and a heating area of 32.38 million square meters. It is currently the largest long-distance heating pipeline network in China (with a bidirectional metal hard sealing butterfly valve DN1600). The "Heat Transfer into Anyang" project is an important livelihood project in Henan Province, which is of great significance for adjusting the energy structure, improving the overall heating level, and improving the quality of the ecological environment in the northern region of Henan.

供货时间: 2021—2022年 Supply time: 2021-2022
供货范围: DN800—DN1600 三偏心双向硬密封蝶阀
Scope of supply: DN800-DN1600 triple eccentric bidirectional hard sealing butterfly valve



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DN1600

国内首条超大口径（全口径焊接球阀DN1600）长输供热管线

The first ultra large diameter (full bore welded ball valve DN1600) long-distance heating pipeline in China

金山热电厂2×660MW机组配套供热管网工程

Jinshan Thermal Power Plant 2 × 660MW Unit Supporting Heating Pipe Network Project

项目总投资24亿元

供热面积为4050万平方米

内蒙古自治区“十一五”、“十二五”规划重点节能减排项目

国内首次应用国产化大口径（DN1600）整体锻造球形全通径焊接球阀

The total investment of the project is 2.4 billion Yuan

With a heating area of 40.5 million square meters

This project is a key energy-saving and emission reduction project in the "11th Five Year Plan" and "12th Five Year Plan" of Inner Mongolia Autonomous Region

It is the first domestic application of domestically produced large diameter (DN1600) forged spherical full bore welded ball valves.

供货时间：2022年
Supply time: 2022

供货范围：DN1000—DN1600 全焊接球阀
Scope of supply: DN1000-DN1600 fully welded ball valve



吕梁集中供热项目

Luliang central heating project

项目建成后，可根据用热需求分批次投运大温差机组，有效缓解吕梁市区热源不足问题。同时有效减少空气中污染物排放，提升市区空气质量。

总投资：34.99亿元
管网长度：52公里
供热面积：3400万平方米

Total investment: 34.99 billion yuan
Pipe network length: 52 km
Heating area: 34 million square meters

After the completion of the project, large temperature difference units can be put into operation in batches according to the heat demand, effectively alleviating the problem of insufficient heat source in Luliang urban area. At the same time, it can effectively reduce the emission of pollutants in the air and improve the urban air quality.

供货时间：2022—2023年
Supply time: 2022-2023

供货范围：DN25—DN1400 全焊接球阀
Scope of supply: DN25-DN1400 fully welded ball valve



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部份客户 PARTIAL CUSTOMER

中国水利水电建设集团（北京）CHINA SINOHYDRO GROUP CO.,LTD.

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哈尔滨市热力公司（黑龙江）HARBIN THERMAL POWER CO.,LTD.

长春市热力（集团）有限责任公司（吉林）CHANGCHUN THERMAL POWER (GROUP) CO.,LTD.

沈阳第三热力供暖有限公司（辽宁）SHENYANG THIRD THERMAL HEATING CO.,LTD.

内蒙古晟泰热力股份有限公司（内蒙）SHENGTAI THERMAL POWER CO.,LTD.

鄂尔多斯市通惠供热燃气集团有限公司（内蒙古）ORDOS TONGHUI HEATING GAS GROUP CO.,LTD.

呼和浩特市城发供热有限责任公司（内蒙古）HOHHOT CITY HEATING LIMITED LIABILITY COMPANY

承德热力集团有限责任公司（河北）CHENGDE HEATING GROUP CO.,LTD.

唐山港能投智慧能源有限公司（河北）TANGSHAN PORT CAN INVEST INTELLIGENT ENERGY CO.,LTD.



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中国华能



大唐集团公司



中国华电



中国国电
CHINA GUODIAN



中电投集团公司

郑州热力集团有限公司（河南）ZHENGZHOU HEATING GROUP CO.,LTD.

济南热力集团有限公司（山东）JINAN HEAT GROUP CO.,LTD.

山东莱芜方兴热力有限公司（山东）SHANDONG LAIWU FANGXING HEAT CO.,LTD.

长治市城镇热力有限公司（山西）CHANGZHI CITY URBAN HEAT CO.,LTD.

山西山安蓝天节能科技有限公司（山西）SHANXI SHANAN BLUE SKY ENERGY SAVING TECHNOLOGY CO.,LTD.

西安市长安新区热力有限公司（陕西）XIAN CHANGAN NEW DISTRICT HEAT POWER CO.,LTD.

兰州热力集团有限公司（甘肃）ANZHOU THERMAL POWER GROUP CO.,LTD.

中宁县水暖公司（宁夏）ZHONGNING COUNTY WATER HEATING CO.,LTD.

青海西宁热电厂（青海）QINGHAI XINING THERMAL POWER PLAN CO.,LTD.

西藏蕴能环境技术有限公司（西藏）XIZANG YUNENG ENVIRONMENTAL TECHNOLOGY CO.,LTD.



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