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耐森阀业 只造高品质蝶阀

NSEN VALVES

*Only Producing High Quality
Butterfly Valves*

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Butterfly Valves

耐森

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BRIEF INTRODUCTION

关于耐森

耐森阀业有限公司创建于1983年，总部位于浙江温州东瓯工业区，是一家具有独立法人资格，专业生产金属硬密封蝶阀为主，集阀门研发，生产，销售与服务为一体的科技型企业。

经过近三十多年的实践与拼搏，公司铸就了一支稳定的高素质人才队伍，其中有20余名高，中级职称的技术人员常年从事阀门的科研工作，保证了产品的技术不断创新和质量领先。公司拥有先进的生产与检测设备，拥有加工中心，大型立式车床，数控机床，数控镗铣床等精良机械加工设备，建立了材料化学成分分析，力学性能实验以及UT、MT、PT无损探伤等各种齐备的检测设备仪器。

“耐森”品牌阀门在同行业中久负盛名，具有很高的科技含量，共荣获几十项国家专利，其中“双向压（椭圆）硬密封蝶阀”，“球阀”获得国家发明专利。尤其是“双向压（椭圆）硬密封蝶阀”，具有在160kgf/cm²高压下实现双向密封“零”泄漏，以及600℃的高温下不降低工作效能的技术特性，填补国内空白，创阀门之最而饮誉市场，2002年该产品被国家经贸委列入国家级重点新产品名录。公司的产品执行BS、ISO、ANSI、API、GB等标准，产品具有优良的控制和密封性能，多年来一直被核电、石油、化工、电力、冶金、造船、供暖、给排水等领域广泛选用，并保持多年良好的运行业绩。

公司可根据产品的实际使用工况要求，对阀体阀板材料选型选材及密封结构的多种优化配置以满足客户对产品性能的不同的需求。为确保产品质量和服务质量，公司建立了完善的质量管理保证体系，先后通过了特种TS认证（A级）、DNV船级社、ISO9001质量管理体系认证等。

展位未来，耐森阀业将一如既往地坚持以“品质、速度、创新”的企业核心文化理念，确保产品技术领先，推动企业创新，构筑企业核心竞争力，不断开创新业绩，为用户提供放心可靠的产品和服务。

NSEN VALVE CO.,LTD.established in 1983,is a scientific and technological enterprise of an independent legal person qualification, specially manufacturing metal hard seal butterfly valves and integrating valve development,production, sales and service.

Experienced over 30 years practice and hard struggling,this Co.has gathered a stable team of high quality talents,of them more than 20 technicians of senior and semi-senior titles have been engaging in the valve scientific research all the year round so as to ensure the product technology to be continually innovated and the quality to be one-up, and holds advanced production and detection equipments,a machining center,large vertical lathes,numerical control machine tools,boring machines,milling machines etc.excellent mechanical processing equipments,a material chemical composition analyzing and mechanical property experimental rooms as well as UT,MT,PT non-destructive flaw detection etc.Complete detection equipments and instruments.

Valves of"NAISEN"brand hace long enjoyed a good reputation in the industry,hold a high scientific content and have been awarded with tens of national patents,of which the"Bi-directional pressing (elliptic)hard seal butterfly valve "and"ball valve"awarded with the national invention patent.Particularly the"Bi-directional pressing(elliptic)hard seal butterfly valve",it makes bi-way sealing"zero"leaking realized under 160kgf/cm² high pressure,and features such a technical performance as not lowering the working efficient under 600℃ High temperature,filling up the national gap and creating the best valve on the market, so it was listed in the directory of national-class key new products in 2002.BS,ANSI,API,GB etc.standards are executed for the products,thus making them available with excellent controlling and sealing performance,broadly used for nuclear power,petroleum,chemical industry,electric power metallurgy,ship-making,heating,water supply and drainage etc.fields and have kept a good working achievement for years.

This Co. can provide several kinds of optimized allocation for the body plate material and the sealing structure in accordance with the working condition requirement in the actual use of the product so as to meet with the different needs of the clients on the product performance and,in order to make sure of both product and service quality,has set up a perfect quality control system and been accredited,early or late,to TS(grade A),DNV classification society,ISO9001 QC system etc.approvals.

Looking forward to the future,NSEN Valve Industry will uphold to take as heretofore"quality, velocity,innovation"as the core cultural concept of enterprise,make sure the product technnology be in front,promote the enterprise innovation,constitute the enterprise core competitive force and continually create new achievement so as to provide the users with relaxed and reliable products and services.

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Butterfly Valves

耐森阀业 只造高品质蝶阀

不接受不良品 不制造不良品 不流出不良品

我公司拥有TS特种设备A级生产许可资质并通过了ISO9001：2008国际质量管理体系认证，严格按照质量管理体系模式运行，对产品的每一个制造流程都严格控制。

本公司保证提供的货物是全新的，未使用过的，采用一流的工艺和最佳材料制造而成，并完全符合国家，行业，企业标准或合同规定的技术条件，并使出厂产品合格率达到100%。

No defective product are allowed to be accepted,made and outflow.

This Co.is available with class A production permit of TS special equipment and the approval od ISO9001:2008 international quality control system and is operated strictly following the said system mode,leaving strict control on every product making process.This Co.provides such a guatanty that all the goods it has provided are brand-new and unused,made up with first-rate workmanship and best materials and completely conform to the national,industrial,enterprise technical conditions and/or those set in the contract as well as the percent of pass with the ex-works products reaches 100%

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1.原材料质量的控制

1.1外观检测

不接受铸件表面存在气孔，沙眼，裂纹等缺陷

不接受锻件表面存在裂纹，褶皱等缺陷

外观质量应符合JB/T7927，MSS SP-55等标准规范的要求

1.2化学成分及机械性能检测

通过手持，直读式光谱仪，拉伸试验机，冲击试验机，硬度计等检测设备检测材料的化学成分及机械性能，检测合格后，进入尺寸检测流程

1.3尺寸检测

测量厚度和加工余量是否正确，确认无误后进入待加工区。

2.加工工艺的控制

针对每一台阀门使用的环境，介质以及客户的要求，我们会对加工工艺进行优化，让每一台阀门能够在每一个环境里使用的更高效，大大减少了阀门的故障和维修次数，从而增长了阀门的使用寿命。

3.加工工序及质量的控制

每一个工序都会采用1+1+1的方式进行检验；加工员自检+质检员抽检+品质控制经理终检。每一台阀门都有配有一张特有的工序流程卡，每一道工序的制造，检验都会出现在这张工序流程卡上，并且永久保存。

4.装配，压力试验控制

在装配之前，质检员在确保每个零件和技术图纸材料，尺寸，公差无误的情况下才可以进行装配，装配后进行压力试验。阀门的检验与试验严格遵守GB/T13927，API598,ISO5208等规范的要求。

5.表面处理及包装控制

阀门喷漆前需要对阀门进行清洗，干燥后进行表面处理。对非不锈钢材料的机加工表面涂防锈剂，除订单中有明确规定及特殊材料外，应喷底漆+涂层

6.阀门包装控制

检验员检验过喷漆表面没有任何脱落，起皱，气泡等问题后进行装订铭牌和合格证。在包装时对配套零件进行清点，检查是否有安装，使用，维护说明书等文件。对流道口，阀门整体进行防尘塑料膜包装，防止在运输过程中有灰尘和水分进入，再进行木箱内部包装及固定，防止运输过程中损坏。

1.Control the raw material quality

1.1 Outlook checkup

No acceptance of such defects as surface pores,sand holes,cracks etc.No acceptance of the cracks,wrinkles etc.defects on the surface of forged parts.The outlook quality shall conform to the requirements in JB/T7927，MSS SP-55 etc.Standards

1.2 Test of chemical composition and mechanical performance

By means of the hand-held,direct-readout spectrograph,stretching tester,shockingtester,hardness tester etc.testing facilities to detect the material's chemical composition and mechanical performance and,once the test is shown passed,to enter the size test process.

1.3 Size test

Test both thickness and machining allowance to see if they are correct and,if verified,enter the to-be-processed area.

2.Control of machining workmanship

Aimed at the environment and medium in which every valve will be used and theclient requirement,the machining workmanship will be optimized so as to let every valve highly effectively used in every kind of environment and greatly reduce the times for the valve to get failed and repaired,thus extending its life of use.

3.Machining procedure and quality control

Inspection of 1+1+1 mode will be used for every procedure:self-inspection of the machining worker+random inspection of the quality controller +final inspection of the quality control manager.Every valve is set with an unique procedure process card and manufacture and inspection in every procedure will be shown on it and kept forever.

4.Assembly,pressure test control

Assembly shall not be started until every part,technical drawing,material,size and rolerance are checked without mistake by the quality inspector and will be followed with pressure test.Requirements in GB/T13927,API598,ISO5208 etc. Standards will be strictly followed for valve inspection and test.

5.Surface treatment and packing control

Prior to painting,the valve shall be cleaned and then,when dried,surface treated.

For the machining surface of non-staining material,an inhibitor shall be coated.Primer+coating shall be made,except those clearly regulated in the order and special materials.

6.Valve packing control

After no falloff,wrinkle,pore are found out on the painted surface,the inspector will start binding both nameplate and certificate and then in packing count the as sorted parts,check if there are files for Installation,use and maintenance,pack

the channel mouth and the entire valve with dustproof plastic film so as to prevent dust and moisture from getting in during transpotration and then do the packing and fixing for the inside of the wood box to prevent the goods against being damaged during transportation.



QUALITY ASSURANCE

质量保证



公司拥有高精度的数控机床和加工中心等先进的设备，精良的工艺以及严格完善的质量管理体系，并聚集具有专业技术精英和领先水平的科技队伍，充分利用新技术，新工艺，新材料保证产品的稳定性和可靠性。

This Co.holds highly accurate digital-control machine tools,machining center etc.advanced equipments,excellent workmanship,strict and perfect quality control systems and a scientific & technique team full of specialty and leading level and completely utilizes new technology, new workmanship and new materials to guarantee both stability with all the products.

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企业装备

**ENTERPRISE
EQUIPMENT**

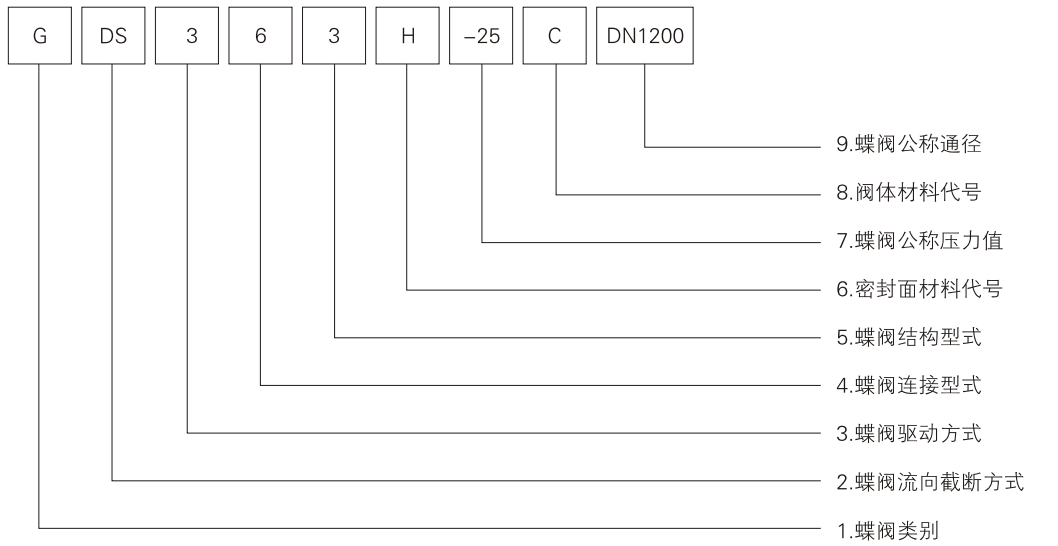
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**ENTERPRISE
HONOR**

企业荣誉



蝶阀型号编制方法 Method to word out the model of butterfly valve



1.蝶阀类别 Type of butterfly valve

D	B	S	G	Z
低温 (≤-40℃) Low temperature	保温 Heat preservation	伸缩蝶阀 Telescopic butterfly valve	高性能蝶阀 High performance butterfly valve	真空蝶阀 Vacuum butterfly valve

2.蝶阀流向截断方式 Butterfly valve flowing direction cutoff mode

Ds	D
可任意流向截断介质的蝶阀（双向压） Butterfly valve which can cut off the medium at any flowing direction(bi-way pressure)	只能按指示流向截断介质的蝶阀（单向压） Butterfly valve which can cut off the medium only upon the indicated flowing direction(single-way pressure)

3.蝶阀驱动方式Butterfly valve actuation mode

3	6	9	7
蜗轮装置驱动 Worm gear actuator drive	气动装置驱动 Pneumatic actuator drive	电动装置驱动 Electric actuator drive	液体装置驱动 Hydraulic actuator drive

4.蝶阀连接型式Butterfly valve connection type

4	6	7	LT7
法兰式 Flanged type	对焊式 Butt weld type	对夹式 Wafer type	凸耳式 Lug type

5.蝶阀结构型式 Butterfly valve structure type

2	3	4
双偏心 Double eccentric	三偏心 Triple eccentric	四偏心 Four eccentric

6.密封面材料代号 Code of sealing surface material

H	Y	X	F	W
Cr13系不锈钢 Stainless steel	硬质合金 Cemented carbide	橡胶 Rubber	氟塑料 Fluorine plastic	本体材料 Body material

7.蝶阀公称压力值PN Valve of butterfly valve

用Mpa的10倍值表示 Expressed with 10 times of Mpa value
用磅级表示 Expressed with grade of pound

8.阀体材料代号Code of body material

C	P	R	I	Ti	H	V
碳钢 Carbon steel	铬镍系不锈钢 CrNi stainless steel	铬镍钼不锈钢 CrNiMo stainless steel	铬钼系钢 CrMo steel	钛及钛合金 Titanium and titanium alloy	合金钢 Alloy steel	铬钼钒钢 CrMoV steel

9.蝶阀公称通径DN of butterfly valve

DN(mm)	Inch	DN(mm)	Inch	DN(mm)	Inch	DN(mm)	Inch
80	3	350	14	900	36	2200	88
100	4	400	16	1000	40	2400	96
125	5	450	18	1200	48	2600	104
150	6	500	20	1400	56	2800	112
200	8	600	24	1600	64	3000	120
250	10	700	28	1800	72	3200	128
300	12	800	32	2000	80	3400	136

执行标准 Execution standard

设计与制造：
JB/T8527、GB/T12224、API609、ASME B16.34等标准
连接法兰：
GB/T9113.1~9113.4、ASME B16.5、ASME B16.47等标准
结构长度：
GB/T12221、API609、ISO5752等标准
检验与试验：
JB/T9092、GB/T26480、API598、ISO5208等标准

Design and manufacturing:
JB/T8527、GB/T12224、API609、ASME B16.34 and standard
Connecting flange:
GB/T9113.1~9113.4、ASME B16.5、ASME B16.47,and standard
Structure length:
GB/T12221、API609、ISO5752 and standard
Inspection and test:
JB/T9092、GB/T26480、API598、ISO5208 and standard

适用范围 Scope of application

公称通径：
DN50~DN3600 2"~144"
(不同阀门类型尺寸范围有所不同，详情请电询)
公称压力：
PN2.5~PN260 Class150~Class 1500
(不同阀门类型尺寸范围有所不同，详情请电询)
温度范围：
-196℃~600℃
连接方式：
法兰式、对焊式、对夹式、凸耳式等
主体材料：
碳钢、铬钼钢、奥氏体不锈钢、双相不锈钢、钛合金、哈氏合金、蒙乃尔合金等。

Nominal size:
DN50~DN3600 2"~144"
(Different valve type size range is different,the details please call ask)
Nominal pressure:
PN2.5~PN260 Class150~Class 1500
(Different valve type size range is different,the details please call ask)
Temperature range:
-196℃~600℃
Connection:
flange,butt welding type,wafer,lug type,etc
Main material:
carbon steel,chrome molybdenum steel,austenitic stainless steel, duplex stainless steel,Titanium alloy,hartz alloy,monel alloy,etc.

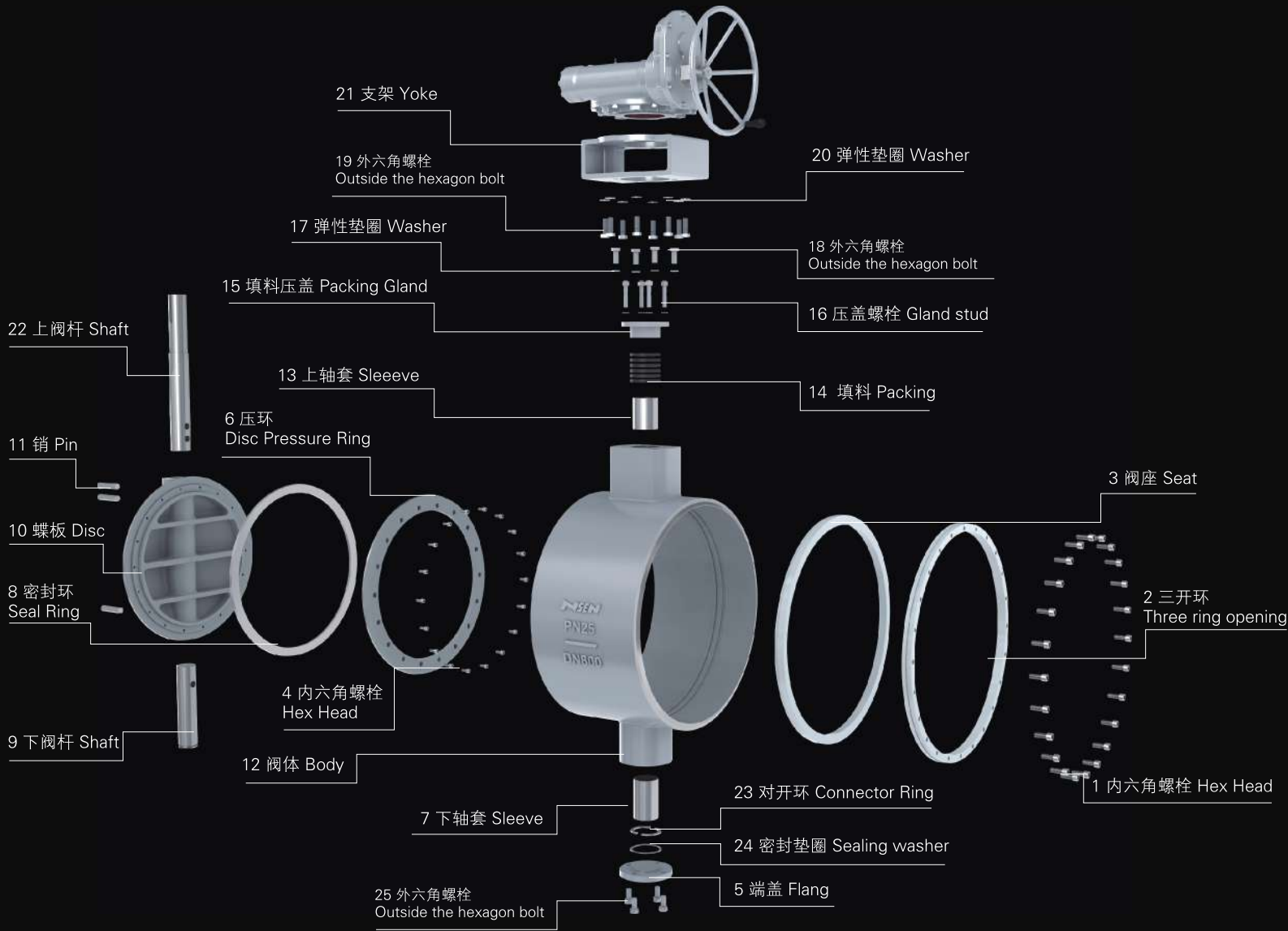
主要零件材质表 Main parts material table

序号 ITEM	零件名称 Component	碳素钢阀门零件材料 Carbon Steel		不锈钢阀门零件材料 Stainless Steel	
		国标GB	美标API	国标GB	美标API
1	内六角螺栓 Hex Head	8.8级	ASTM A193 B7	06Cr19Ni10	ASTM A320 B8
2	三开环 Three ring opening	25	ASTM A105	06Cr19Ni10	ASTM A182 F304
3	阀座 Seat	2Cr13	ASTM A276 420	06Cr19Ni10+STL	ASTM A182 F304+STL
4	内六角螺栓Hex Head	8.8级	ASTM A193 B7	06Cr19Ni10	ASTM A193 B8
5	端盖 Flang	25	ASTM A105	06Cr19Ni10	ASTM A182 F304
6	压环 Disc Pressure Ring	25	ASTM A105	06Cr19Ni10	ASTM A182 F304
7	下轴套 Sleeve	06Cr19Ni10	ASTM A276 304	06Cr19Ni10	ASTM A276 304
8	密封环 Seal Ring	06Cr19Ni10+ Graphite/PTFE/Carbon fibre	ASTM A182 F304+ Graphite/PTFE/Carbon fibre	06Cr17Ni12Mo2+ Graphite/PTFE/Carbon fibre	ASTM A276 304 Graphite/PTFE/Carbon fibre
9	下阀杆 Shaft	20Cr13	ASTM A276 420	05Cr17Ni4Cu4Nb	ASTM A564 630
10	蝶板 Disc	WCB	ASTM A216 WCB	Cf8	ASTM A351 CF8
11	销 Pin	20Cr13	ASTM A276 304	06Cr19Ni10	ASTM A564 630
12	阀体 Body	WCB	ASTM A216 WCB	Cf8	ASTM A351CF8
13	上轴套 Sleeve	06Cr19nl10	ASTM A276 304	06Cr19Ni10	ASTM A276 304
14	填料 Packing	Graphite/PTFE	Graphite/PTFE	Graphite/PTFE	Graphite/PTFE
15	填料压盖 Packing Gland	WCB	ASTM A216 WCB	Cf8	ASTM A351 Cf8
16	压盖螺栓 Gland stud	8.8级	ASTM A193 B7	06Cr19Ni19	ASTM A193B8
17	弹性垫圈 Washer	65Mn	ASTM A29 1566	06Cr19Ni10	ASTM A29 1566
18	外六角螺栓 Outside the hexagon bolt	8级	ASTM A194 2H	06Cr19Ni10	ASTM A194 8
19	外六角螺栓 Outside the hexagon bolt	8级	ASTM A194 2H	06Cr19Ni10	ASTM A194 8
20	弹性垫圈 Washer	65Mn	ASTM A29 1566	06Cr19Ni10	ASTM A29 1566
21	支架 Yoke	WCB	ASTM A216 WCB	WCB	ASTM A216 WCB
22	上阀杆 Shaft	20Cr13	ASTM A276 420	05Cr17Ni4Cu4Nb	ASTM A564 630
23	对开环 Connector Ring	06Cr19nl10	ASTM A276 304	06Cr19Ni10	ASTM A276 304
24	密封垫圈 Sealing washer	06Cr19Ni10+Graphite/	ASTM A182 F304+Graphite	06Cr17Ni12Mo2+Graphite	ASTM A276 304+Graphite
25	外六角螺栓 Outside the hexagon bolt	8.8级	ASTM A193 B7	06Cr19Ni10	ASTM A193 B8

不同材质阀门各零件材质不同，详情请电询
Different material valve parts material is different,the details please call ask

主要零件分解图

Main Parts Diagram



耐森阀业 只造高品质蝶阀

三偏心硬密封蝶阀

Three-Eccentric Metal Hard Seal Butterfly Valve

阀门采用三偏心结构，即在普通金属硬密封双偏心蝶阀的基础上增加了个角度偏心。这个角度偏心的主要作用是：使阀门在开启或关闭动作的过程中，密封环与阀座之间的任意一点都会迅速脱离或接触，做到密封副之间真正的“无摩擦”，极大地延长了阀门的使用寿命；金属硬密封蝶阀采用了含有国家专利技术的“径向动平衡密封系统”，通过优化设计，蝶板的进出口两侧受力近似平衡，阀门达到进出口双向可靠的密封性能的同时，有效降低了阀门的开启力矩（约为普通蝶阀的2/3）；蝶板密封环由片状不锈钢的石墨、碳纤维、PTFE等材料复合而成，不锈钢片为主密封，非金属夹层为辅助密封，这种双重密封结构，使阀门密封更可靠，密封泄漏登记可达ANSI B16.104 VI级或ISO5208 A级。蝶板密封环选用石墨/碳纤维/PTFE等夹层材料，与普通蝶阀的橡胶石棉板材质相比，具有更环保、更耐磨、更耐冲刷、更可靠等特点，可达10万次无故障启闭。

The valve uses a three-eccentric structure, that means an angular eccentric is added to a common metal hard-seal double-eccentric butterfly valve and this said eccentric acts at making any point between the seal ring and the seat ring quickly released or contacted during valve opening or closing so as to get true "non-friction" between the seal pairs, greatly extending the valve life; The Hard seal Metal-seated butterfly valve uses the "radial dynamically balanced sealing system" containing the national patented know-how and, by means of optimized design, the forces undertaken on both sides of the butterfly plate inlet and outlet become approximately balanced so as to effectively lower the valve opening moment (about to be 2/3 that of the common butterfly valve) at the same time to make the valve inlet and outlet a two-way reliable sealing performance; The seal ring of the butterfly plate is made by way of compounding with sheet stainless steel, graphite, carbon fiber, PTFE etc. materials with the sheet stainless steel as the main seal and the non-metal interlayer as the assistant one. This dual-sealing structure makes the valve more reliably sealed and the seal's leaking level up to ANSI B16.104 VI or ISO5208 A. Compared to the rubber asbestos plate material used with the common butterfly valve, the graphite/carbon fiber/PTFE etc. interlayer materials used with the seal ring of the butterfly plate holds more environmental protection, more wearable, more anti-flush, more reliable etc. characteristics, able to get 100,000 times of fault-free opening-closing;

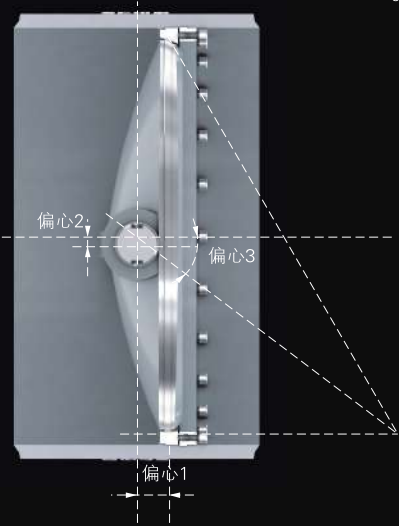
可更换式阀座/密封圈设计，便于阀门现场维护保养；
可根据产品的实际使用工况要求，对阀体阀板材料选型选材及密封结构的多种优化配置，以满足客户对产品性能的不同需求。
与驱动装置相连接的支架符合ISO5211标准要求
支架执行ISO5211标准，可与各种电动、气动、液动、手动等驱动装置相连接。
填料密封的高性能
采用组合式填料密封系统，确保阀门最大泄露率≤20ppm。可选用动载密封结构，使填料持久密封，延长填料免维护周期。
阀杆可设计成符合API1609之规定的“防吹出”结构。

The replaceable seat ring/seal ring design is used for the sake of valve on-site maintenance; Various optimized allocations in the selections of the body and valve plate materials and the sealing structure are available upon the product's real used working conditions so as to meet with the different requirements on the product performances. The yoke Connected to the actuator meet the requirement of the ISO5211 standard. Yoke is designed in accordance with ISO5211 standard and connected with electrical actuator, pneumatic actuator, and hydraulic actuator and manually operated. High performance of packing sealing Adopt packing-combined sealing system to ensure the leakage rate ≤20 PPM at maximum. the dynamic sealing structure is available if necessary, which make the packing sealing under good condition and prolong the free maintenance period of packing. The valve stem shall be designed with the "Blow-out Structure" in accordance with API1609 standard.



偏心1
阀杆旋转中心线与阀座中心线偏离一定距离，保证密封面的完整性；
偏心2
阀杆旋转中心线与阀体中心线偏离一定距离，降低阀门启闭时密封副之间的摩擦力；
偏心3
阀体中心线与阀座圆锥密封面中心线偏离一定角度，使阀门开启或关闭时，蝶板密封环与阀座之间迅速脱离或接触，密封副之间无摩擦、无卡挤。

Eccentric 1:
The centerline of rotation axis/stem and seat deviate from each other for a certain distance to ensure the integrity of the sealing surface;
Eccentric 2:
The centerline of rotation axis/stem and body deviate from each other for a certain distance to reduce the friction between the sealing components when open and close the valve.
Eccentric 3:
The centerline of valve body and conical seat sealing face deviate from each other for a certain angle to ensure the sealing ring of the disc can be separated or touched with seat rapidly so that friction and squeeze will not exist between the sealing components.



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全金属双向压蝶阀

Full Metal-Seated
Bi-Directional Butterfly Valve

全金属密封副

全金属双向压蝶阀密封副采用金属对金属硬碰硬密封，阀座/密封圈完全由金属材料制成，且做表面硬化处理，即使启闭频繁，阀门仍能保持高的密封性能，极大提高了阀门的使用寿命；

双向密封设计

实现双向密封，能正、反双向承压，正或反向承压时均不发生内漏，且满足标准零泄露要求；

双重安全构造

为防止因受流体压力、温度的影响而引起的蝶板变形、阀杆错位、密封面咬合，在蝶板上下侧分别装有两个各自独立的止推环，从而保证了阀门在任何工况下的正常工作；为防止未知原因所引起的阀杆破损飞出而造成的突发事故，在阀门下端内外两处设计了各自独立的阀杆防吹出结构；

无死区设计

在设计过程中，特别考虑了在调控领域中的应用问题，充分利用三偏心蝶阀的密封原理，做到了开启无死区的角度设计，从而杜绝了打开普通阀门时所常见的开度跳跃现象，更排除了阀门的低开度范围内因磨擦等各种不安定因素所造成的不能调控现象，即排除了死区（不感带），这意味着几乎可以从 0 开度开始即进入可调控区域，直至 90 开度。

阀座构造

采用了全金属合金钢锻造阀座构造。其优点是抗冲刷、耐磨损、耐高温高压，使用寿命长。

可更换式密封副

密封副均可更换，由于蝶板密封面与蝶板是独立的，阀座与阀体也是独立的，所以蝶板密封面及阀座可以同时更换；当蝶板密封面或阀座受损时，只需调换蝶板密封面及阀座即可，大大降低了保养成本，减少了维修工时和检修强度与难度。

均衡固定结构

密封副固定方式采用了均衡分布固定，紧固件定位精确且每个螺栓都均衡受力，杜绝了因应力分布不均而产生的密封副松动，泄漏。

本质耐火结构与设计

金属对金属硬碰硬密封副结构，使阀门本身具有防火特性，且测试结果符合API607的规定；

依靠扭矩密封

阀门至始至终都能保持有的双向密封性能，阀门密封不依靠介质力，完全由驱动装置提供的扭矩实现密封，阀门在高、低压下均能可靠密封，密封性能检测结果符合API609、ISO5208等标准之规定；

动负载填料系统

在阀门的泄漏问题上，传统上往往都集中于阀座的泄漏，即内漏，而忽略了填料部位的泄漏，即外漏。在填料密封等防止外部泄漏构造上，采取了动负载标准设计，采用了组合式填料密封系统，确保阀门最大泄露率≤20ppm，使填料持久密封，延长填料免维护周期。

Metal To Metal Seat ring

Nsen Metal seated Bi-directional butterfly valve adopts the structure of "Metal To Metal Seat ring", i.e. valve's sealing ring of disc/seat are all metal with hardfaced treatment. This ensures reliable sealing performance and longer life span under frequent opening/closing working condition. Bi-directional sealing design. This series could reach bi-directional Zero-leakage requirement in related standard.

Double safety structure

In order to prevent phenomena of disc deformation, stem misalignment, sealing face biting each other caused by fluid pressure and temperature, Nsen butterfly valve uses two separate thrust rings on the upper and down side of disc which ensures valve's working under any conditions.

To avoid potential accident caused by blowing out stem, anti-blow out stem structure is designed for Nsen butterfly valve. No Dead Zone Design

The application in controlling/regulating situation has been taken into consideration during design. Using the sealing principal of triple eccentric butterfly valve, Nsen valves realize "No dead zone design" which not only avoids the problems of "Opening jump area" of common butterfly valves but also eliminates valve's problem of couldn't be regulated or controlled when in its small opening angle which may be caused by friction or other unsafe factors. This means Nsen butterfly could regulate or control the medium from almost 0 degree up to 90 degrees.

Seat ring material

Seat ring of Nsen butterfly valve is made of forged alloy steel which has the advantages of anti-scour, wear-resistance, high pressure and temperature resistance and long life span. Replaceable sealing ring

The sealing rings of disc and seat are all separate for Nsen series butterfly valve, and they could be replaced when needed. Either the seating ring of disc or seat could be changed individually when it's broken which not only lowers your maintenance cost but also makes maintenance easier. Evenly Fixed Structure

Butterfly valve's sealing ring is fixed with evenly distributed bolts/nuts. Every bolt is precisely located and endure force evenly. This structure eliminates the problems of leakage or loose sealing ring due to uneven force of bolts and nuts.

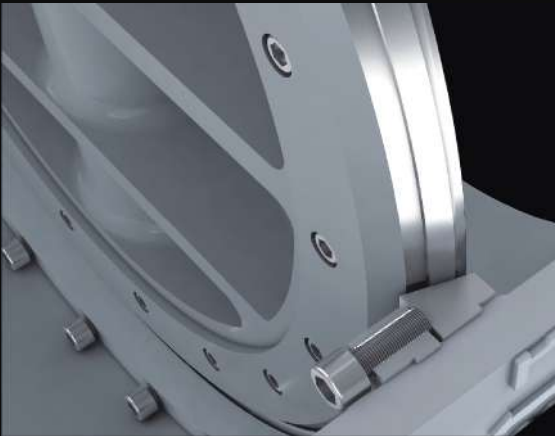
Fire safe design and structure

Metal seated structure makes valve fire-safe and meet the requirement in API607. Torque seated

Valves could always be double-directional sealed. Sealing is achieved by the torque provided by actuator but not medium force which ensures reliable sealing performance under both high and low working pressure. And valves could pass the test of API609 and ISO5208

Live loaded packing system

Generally, people only focus on the internal leakage which occurs on the seat part but ignore the external leakage problem, i.e the leakage of packing part. Live loaded packing design with combined structure ensure Nsen Butterfly valve could meet max. leaking ≤ 20ppm. It makes packing sealing reliable and prolongs the maintenance-free period of packing.



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耐海水蝶阀

Resistant
Seawater Butterfly Valve

耐海水蝶阀采用浮动阀座橡胶密封的形式，可设计成双向密封结构。双偏心浮动阀座式在固定式阀座的基础上改进设计而成，其结构示意图如下：

蝶板经过优化设计，能有效增加蝶阀过流面积，降低流体阻力，提高阀门流通能力；

可以根据不同的工况，选用合适的蝶板密封圈，确保阀门在一个检修周期内不会产生内漏；

阀体、蝶板、压环等零部件为碳钢或者铸铁材料制成，有效降低制造成本，使阀门具有高的性价比。所有与介质接触部位喷涂陶瓷等耐磨耐腐蚀涂层，能增加阀门抗海水腐蚀和冲刷的能力；

阀门轴套为双相不锈钢材料制成，且与阀体上的轴孔采用过盈配合，有效防止海水对阀体轴孔部位的腐蚀；

Seawater-proof butterfly valve uses the style of floating seat ring and rubber seal and can be designed in a bi-way sealing structure. The double-eccentric seal and can be designed in a bi-way sealing structure. The double-eccentric floating seat ring is made by improving the design of the fixed seat ring and the schematic diagram of its structure comes as below: By means of optimized design, the butterfly plate can make the over-current area of the butterfly valve effectively increased and the fluid resistance reduced, thus enhancing the valve flowing capacity; It can be done to use a proper butterfly plate seal upon different working conditions so as to make sure of no internal leak of the valve within one overhaul period; Valve body, butterfly plate, chunk ring etc. parts are made of carbon steel or cast iron, for the purpose to lower the manufacturing cost and to have the valve available with a high performance-price ratio. All the portions contacting with the medium are coated with ceramic etc. wearable and corrosion-proof coatings so as to enhance the valve capacity to resist seawater corrosion and erosion; The valve shaft sleeve is made of bi-phase stainless steel and uses an interference fit with the shaft hole on the body so as to effectively prevent the shaft hole against seawater corrosion;

阀门设有挡圈，能防止海水渗入阀杆与轴套之间，消除海水对阀杆及轴套的腐蚀，同时防止海水中的泥砂，沉积物，海生物等渗入阀杆与轴套的间隙内，造成阀杆与轴套咬合，有效提高了阀门的使用可靠性；

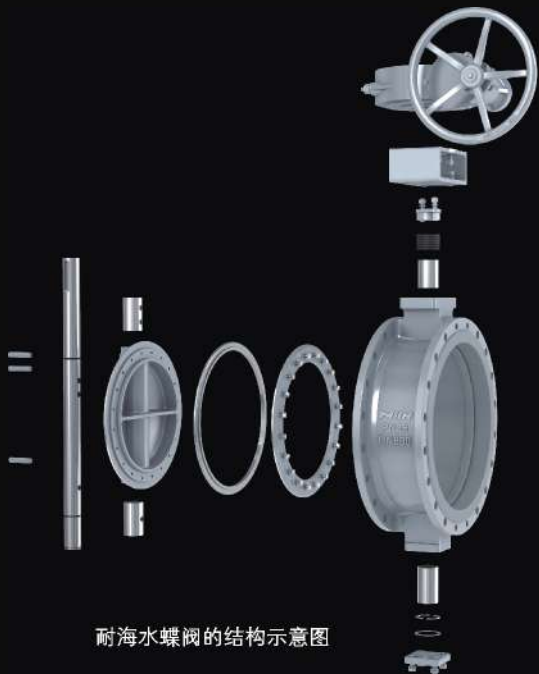
阀座密封面堆焊双相不锈钢，提高阀门密封面的耐腐蚀能力和耐磨性；

采用活载组合式填料，即V型PTFE+V型EPDM填料，保证阀门在一个检修周期内不产生外漏。

The valve is set with a retainer ring, which can prevent seawater from penetrating in between both stem and shaft sleeve, eliminate the seawater corrosion to both and, meanwhile, prevent the muddy sand, deposit, sea creatures from penetrating into the interval between both, which will cause both to be occluded, to effectively enhance the reliability of the valve in its use;

Bi-phase stainless steel is used for the surfacing welding on the sealing face of the seat ring, in order to enhance both anti-corrosion capacity and wearability of the said face;

A live-load combined packing is used, e.g. type V PTFE + type V EPDM packing, in order to make sure of no external leak of the valve within one overhaul period;



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MAIN PRODUCT DISPLAY

主要产品展示

双法兰式
Double flanged type



对焊式
Butt weld type

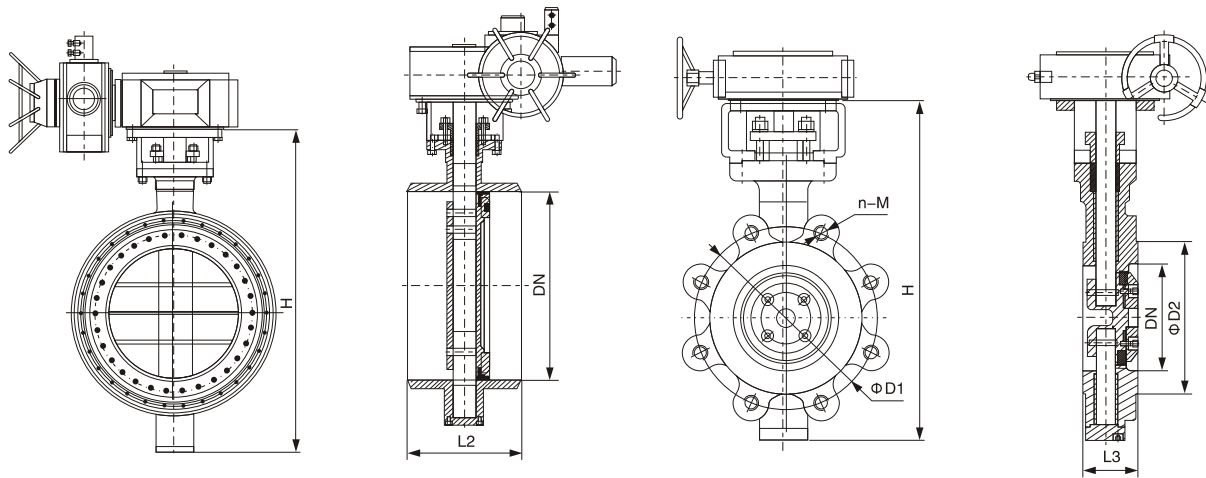
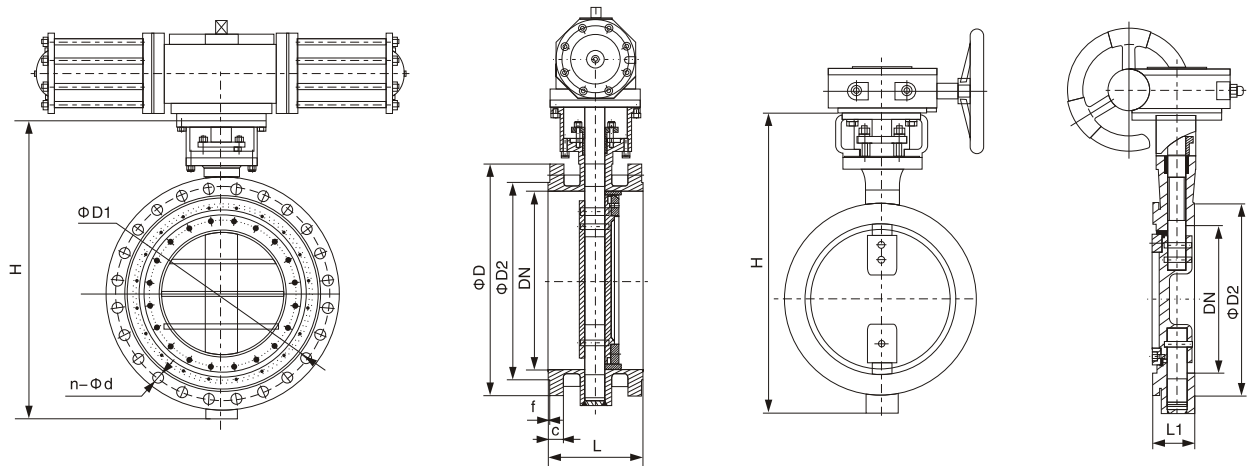


对夹式
Wafer type



凸耳式
Lug type



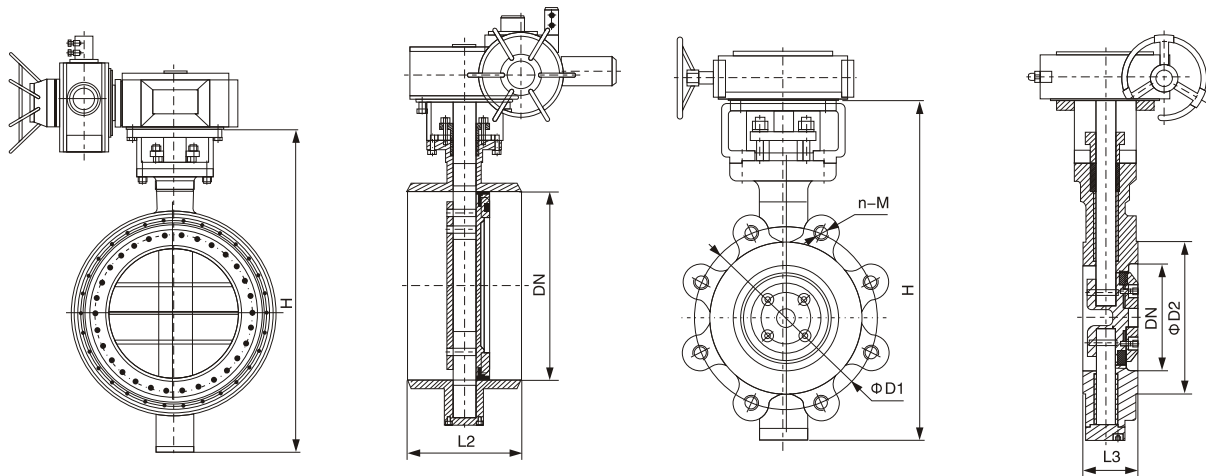
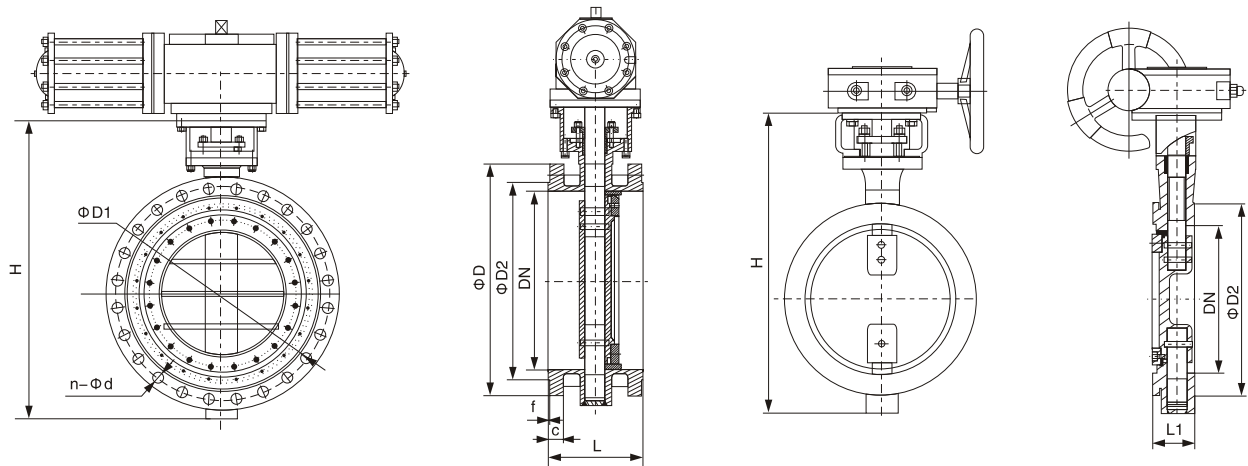


主要连接尺寸 Main connecting dimensions

公称通径 DN(mm)	PN 6										近似重量			
	L	L1	L2	L3	D	D1	D2	C	H	N-d	Kg(L)	Kg(L1)	Kg(L2)	Kg(L3)
80	114	49	180	49	190	150	124	18	310	4-18	20	11	17	13
100	127	56	190	56	210	170	144	18	325	4-18	23	13	19	16
125	140	64	200	64	240	200	174	18	360	8-18	28	16	25	20
150	140	70	210	70	265	225	199	20	395	8-18	33	21	28	24
200	152	71	230	71	320	280	254	22	480	8-18	48	28	49	36
250	165	76	250	76	375	335	309	24	550	12-18	54	45	95	52
300	178	83	270	83	440	395	363	24	610	12-22	80	61	130	79
350	190	92	290	92	490	445	413	24	710	12-22	103	82	160	107
400	216	102	310	102	540	495	463	24	755	16-22	145	122	216	150
450	222	114	330	114	595	550	518	24	835	16-22	193	150	248	183
500	229	127	350	127	645	600	568	26	900	20-22	258	205	380	254
600	267	154	390	154	755	705	667	30	1060	20-26	302	300	495	398
700	292	165	430	165	860	810	772	26	1170	24-26	385	465	595	576
800	318	190	470	190	975	920	878	26	1320	24-30	525	570	740	690
900	330	203	510	203	1075	1020	978	26	1440	24-30	723	760	1230	870
1000	410	216	550	216	1175	1120	1078	26	1640	28-30	990	975	1450	1180
1200	470	254	630	254	1405	1340	1295	28	1720	32-33	1455	1250	2180	1490
1400	530	390	710	390	1630	1560	1510	32	2055	36-36	1860	1780	2980	2050
1600	600	440	790	440	1830	1760	1710	34	2185	40-36	2180	1990		
1800	670	490	870	490	2045	1970	1918	36	2390	44-39	3950			
2000	760	540	950	540	2265	2180	2125	38	2620	48-42				
2200	800	590	1000	590	2475	2390	2335	42	2980	52-42				
2400	850	650	1100	650	2685	2600	2545	44	3150	56-42				
2600	900	700	1200	700	2905	2810	2750	46	3320	60-48				
2800	950	760	1300	760	3115	3020	2960	48	3550	64-48				
3000	1000	810	1400	810	3315	3220	3160	50	3770	68-48				

主要连接尺寸 Main connecting dimensions

公称通径 DN(mm)	PN 10										近似重量			
	L	L1	L2	L3	D	D1	D2	C	H	N-d	Kg(L)	Kg(L1)	Kg(L2)	Kg(L3)
80	114	49	180	49	200	160	132	20	310	8-18	22	11	17	13
100	127	56	190	56	220	180	156	22	325	8-18	24	13	19	19
125	140	64	200	64	250	210	184	22	360	8-18	30	16	25	23
150	140	70	210	70	285	240	211	24	395	8-22	38	21	28	29
200	152	71	230	71	340	295	266	24	480	8-22	56	28	49	51
250	165	76	250	76	395	350	319	26	550	12-22	70	45	95	69
300	178	83	270	83	445	400	370	26	610	12-22	92	61	130	109
350	190	92	290	92	505	460	429	26	710	16-22	115	82	178	143
400	216	102	310	102	565	515	480	26	755	16-26	169	122	238	195
450	222	114	330	114	615	565	530	28	835	20-26	220	150	275	265
500	229	127	350	127	670	620	582	28	900	20-26	265	205	423	335
600	267	154	390	154	780	725	682	34	1060	20-30	399	300	550	460
700	292	165	430	165	895	840	794	34	1170	24-30	489	465	665	740
800	318	190	470	190	1015	950	901	36	1320	24-33	652	570	815	920
900	330	203	510	203	1115	1050	1001	38	1440	28-33	880	760	1360	1180
1000	410	216	550	216	1230	1160	1112	38	1640	28-36	1215	975	1610	1320
1200	470	254	630	254	1455	1380	1328	44	1720	32-39	1790	1250	2415	1680
1400	530	390	710	390	1675	1590	1530	48	2010	36-42	2480	1780	3320	2160
1600	600	440	790	440	1915	1820	1750	52	2255	40-48	3220	2640		
1800	670	490	870	490	2115	2020	1950	56	2480	44-48	4350			
2000	760	540	950	540	2325	2230	2150	60	2660	48-48	5600			

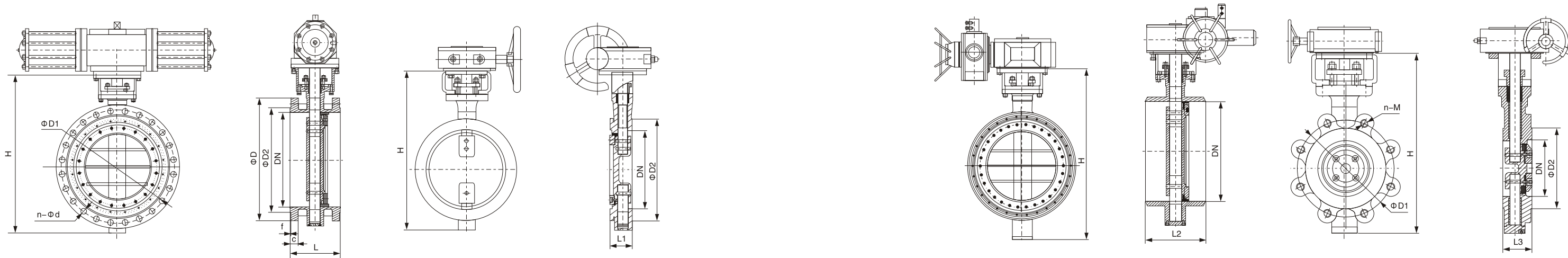


主要连接尺寸 Main connecting dimensions

公称通径 DN(mm)	PN 16										近似重量			
	L	L1	L2	L3	D	D1	D2	C	H	N-d	Kg(L)	Kg(L1)	Kg(L2)	Kg(L3)
80	114	49	180	49	200	160	132	20	310	8-18	22	11	17	13
100	127	56	190	56	220	180	156	22	325	8-18	24	13	19	19
125	140	64	200	64	250	210	184	22	360	8-18	30	16	25	23
150	140	70	210	70	285	240	211	24	395	8-22	38	21	28	29
200	152	71	230	71	340	295	266	24	480	12-22	56	40	49	51
250	165	76	250	76	405	355	319	26	550	12-26	80	50	95	69
300	178	83	270	83	460	410	370	28	610	12-26	108	75	130	109
350	190	92	290	92	520	470	429	30	710	16-26	140	102	178	143
400	216	102	310	102	580	525	480	32	755	16-30	206	145	238	195
450	222	114	330	114	640	585	548	40	835	20-30	262	190	275	265
500	229	127	350	127	715	650	609	44	900	20-33	318	255	423	335
600	267	154	390	154	840	770	720	54	1060	20-36	470	360	550	460
700	292	165	430	165	910	840	794	40	1170	24-36	553	470	665	740
800	318	190	470	190	1025	950	901	42	1320	24-39	688	655	815	920
900	330	203	510	203	1125	1050	1001	44	1440	28-39	999	897	1360	1180
1000	410	216	550	216	1255	1170	1112	46	1640	28-42	1435	1132	1610	1320
1200	470	254	630	254	1485	1390	1328	52	1850	32-48	2200	1400	2415	1680
1400	530	390	710	390	1685	1590	1530	58	2040	36-48	3200	1900	3320	2160
1600	600	440	790	440	1930	1820	1750	64	2280	40-55	6000	2900		
1800	670	490	870	490	2130	2020	1950	68	2495	44-55	6900	4000		
2000	760	540	950	540	2345	2230	2150	70	2685	48-60	9100	5300		

主要连接尺寸 Main connecting dimensions

公称通径 DN(mm)	PN 25										近似重量			
	L	L1	L2	L3	D	D1	D2	C	H	N-d	Kg(L)	Kg(L1)	Kg(L2)	Kg(L3)
80	114	49	180	49	200	160	132	24	310	8-18	23	11	17	13
100	127	56	190	56	235	190	156	24	325	8-22	25	13	19	19
125	140	64	200	64	270	220	184	26	360	8-26	34	16	25	23
150	140	70	210	70	300	250	211	28	395	8-26	42	21	28	29
200	152	71	230	71	360	310	274	30	480	12-26	58	40	49	51
250	165	76	250	76	425	370	330	32	550	12-30	90	50	95	69
300	178	83	270	83	485	430	389	34	610	16-30	120	75	130	109
350	190	92	290	92	555	490	448	38	710	16-33	170	102	178	143
400	216	102	310	102	620	550	503	40	755	16-36	235	145	238	195
450	222	114	330	114	670	600	548	46	835	20-36	285	190	275	265
500	229	127	350	127	730	660	609	48	900	20-36	385	255	423	335
600	267	154	390	154	845	770	720	58	1060	20-39	580	360	550	460
700	292	165	430	165	960	875	820	50	1170	24-42	705	470	665	740
800	318	190	470	190	1085	990	928	54	1320	24-48	970	655	815	920
900	330	203	510	203	1185	1090	1028	58	1440	28-48	1225	897	1360	1180
1000	410	216	550	216	1320	1210	1140	62	1640	28-55	1680	1132	1610	1320
1200	470	254	630	254	1530	1420	1350	70	1850	32-55	2450	1580	2415	1680
1400	530	390	710	390	1755	1640	1560	76	2040	36-60	3600	2100	3320	2160

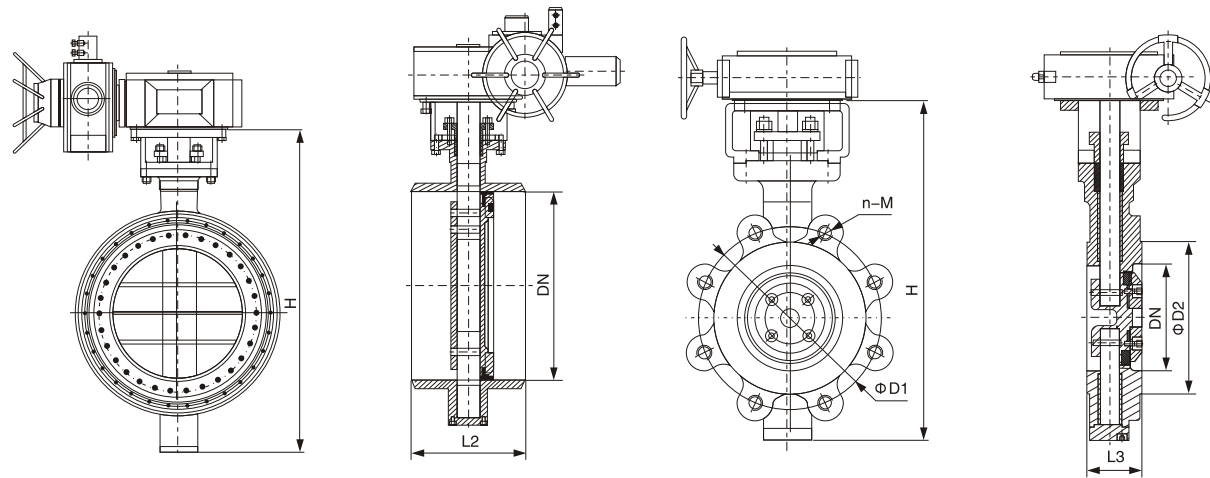
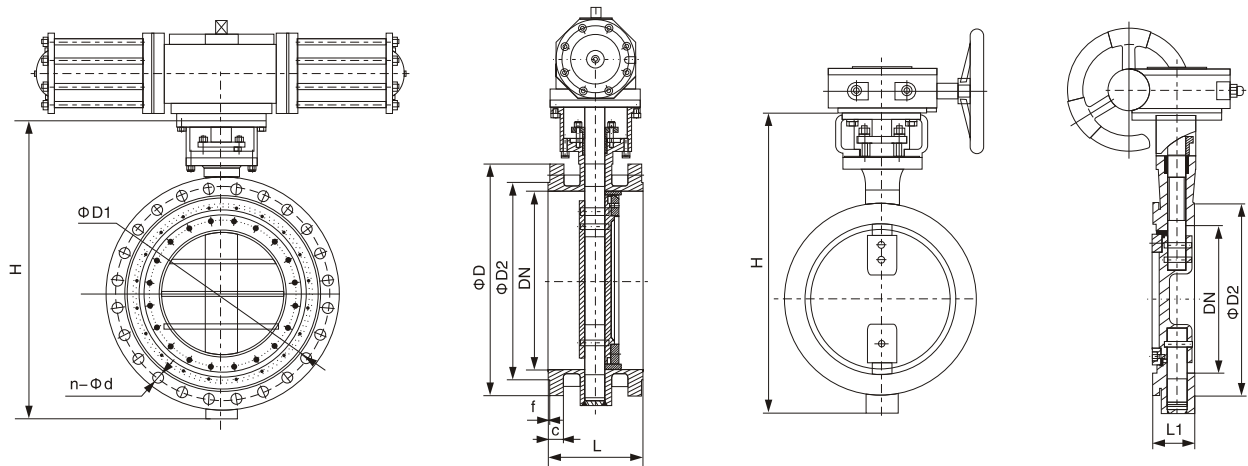


主要连接尺寸 Main connecting dimensions

公称通径 DN(mm)	PN40									
	L	L1	L2	L3	D	D1	D2	C	H	N-d
80	114	49	180	49	200	160	132	24	310	8-18
100	127	56	190	56	235	190	156	24	325	8-22
125	140	64	200	64	270	220	184	26	360	8-26
150	140	70	210	70	300	250	211	28	395	8-26
200	230	71	230	71	375	320	284	34	515	12-30
250	250	76	250	76	450	385	345	38	675	12-33
300	270	83	270	83	515	450	409	42	805	16-33
350	290	92	290	92	580	510	465	46	850	16-36
400	310	102	310	102	660	585	535	50	895	16-39
450	330	152	330	152	685	610	560	57	960	20-39
500	350	159	350	159	755	670	615	57	1030	20-42
600	390	181	390	181	890	795	735	72	1180	20-48

主要连接尺寸 Main connecting dimensions

公称通径 DN(mm)	PN63									
	L	L1	L2	L3	D	D1	D2	C	H	N-d
80	180	64	180	64	215	170	132	28	310	8-22
100	190	64	190	64	250	200	156	30	325	8-26
125	200	70	200	70	295	240	184	34	360	8-30
150	210	76	210	76	345	280	211	36	430	8-33
200	230	89	230	89	415	345	284	42	535	12-36
250	250	114	250	114	470	400	345	46	695	12-36
300	270	114	270	114	530	460	409	52	805	16-36
350	290	127	290	127	600	525	465	56	880	16-39
400	310	140	310	140	670	585	535	60	930	16-42
450	330	160	330	160	715	630	560	64	990	20-42
500	350	170	350	170	800	705	615	68	1050	20-48
600	390	200	390	200	930	820	735	76	1230	20-56

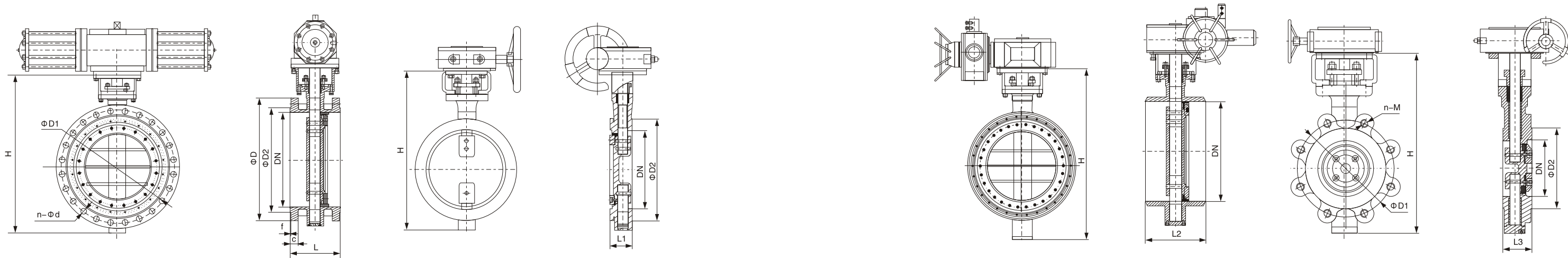


主要连接尺寸 Main connecting dimensions

公称通径 DN(mm)	PN100									
	L	L1	L2	L3	D	D1	D2	C	H	N-d
150	210	76	210	76	355	290	211	44	425	12-33
200	230	89	230	89	430	360	284	52	640	12-36
250	250	114	250	114	505	430	345	60	745	12-39
300	270	114	270	114	585	500	409	68	820	16-42
350	290	127	290	127	655	560	465	74	935	16-48
400	310	140	310	140	715	620	535	82	975	16-48
450	330	160	330	160	770	675	560	89	1110	20-48
500	350	170	350	170	870	760	615	94	1215	20-56
600	390	200	390	200	990	875	735	102	1300	20-62

主要连接尺寸 Main connecting dimensions

公称通径DN		150Lb									
In	Mm	L	L1	L2	L3	D	D1	D2	C	H	N-d
3	80	114	48	180	48	190	152.4	127	24.3	310	4-19
4	100	127	54	190	54	230	190.5	157	24.3	325	8-19
5	125	140	56	200	56	255	215.9	186	24.3	360	8-22
6	150	140	57	210	57	280	241.3	216	26.9	395	8-22
8	200	152	64	230	64	345	298.5	270	29	480	8-22
10	250	165	71	250	71	405	362.0	324	30.6	550	12-26
12	300	178	81	270	81	485	431.8	381	32.2	610	12-26
14	350	190	92	290	92	535	476.3	413	35.4	710	12-29
16	400	216	102	310	102	595	539.8	470	37	755	16-29
18	450	222	114	330	114	635	577.9	533	40.1	835	16-32
20	500	229	127	350	127	700	635.0	584	43.3	900	20-32
24	600	267	154	390	154	815	749.3	692	48.1	1060	20-35
28	700	292	165	430	165	925	863.6	800	71.9	1170	28-35
32	800	318	190	470	190	1060	977.9	914	81.4	1320	28-41
36	900	330	203	510	203	1170	1085.8	1022	90.9	1440	32-41
40	1000	410	216	550	216	1290	1200.2	1124	90.9	1640	36-41
48	1200	470	254	630	254	1510	1422.4	1359	108.4	1850	44-41
56	1400	530	390	710	390	1745	1651.0	1575	124.3	2040	48-48

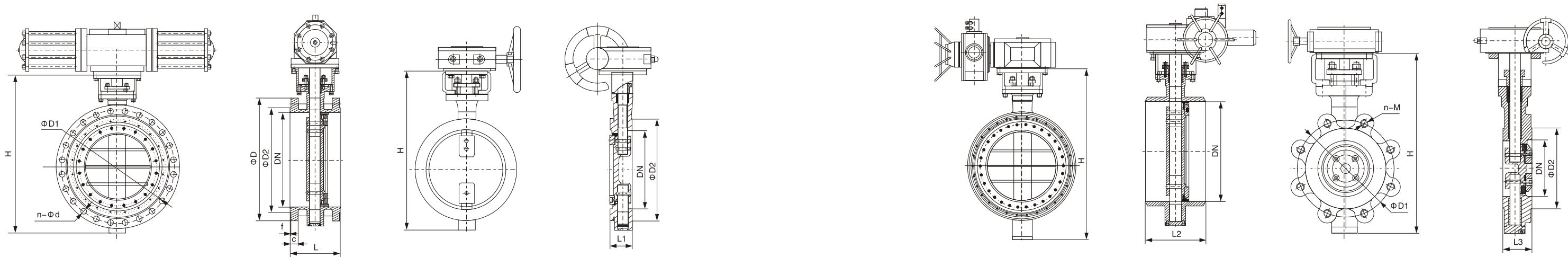


主要连接尺寸 Main connecting dimensions

公称通径DN		300Lb									
In	Mm	LL	L1	L2	L3	D	D1	D2	C	H	N-d
3	80	180	48	180	48	210	168.3	127	29	310	8-22
4	100	190	54	190	54	255	200.0	157	32.2	325	8-22
5	125	200	56	200	56	280	235.0	186	35.4	360	8-22
6	150	210	59	210	59	320	269.9	216	37	430	12-22
8	200	230	73	230	73	380	330.2	270	41.7	535	12-26
10	250	250	83	250	83	445	387.4	324	48.1	695	16-29
12	300	270	92	270	92	520	450.8	381	51.3	805	16-32
14	350	290	117	290	117	585	514.4	413	54.4	880	20-32
16	400	310	133	310	133	650	571.5	470	57.6	930	20-35
18	450	330	149	330	149	710	628.6	533	60.8	990	24-35
20	500	350	159	350	159	775	685.8	584	64	1050	24-35
24	600	390	181	390	181	915	812.8	692	70.3	1230	24-41

主要连接尺寸 Main connecting dimensions

公称通径DN		600Lb									
In	Mm	LL	L1	L2	L3	D	D1	D2	C	H	N-d
6	150	210	78	210	78	355	292.1	216	54.7	425	12-29
8	200	230	102	230	102	420	349.2	270	62.6	640	12-32
10	250	250	117	250	117	510	431.8	324	70.5	745	16-35
12	300	270	140	270	140	560	489.0	381	73.7	820	20-35
14	350	290	155	290	155	605	527.0	413	76.9	935	20-38
16	400	310	178	310	178	685	603.2	470	83.2	975	20-41
18	450	330	200	330	200	745	654.0	533	89.6	1110	20-45
20	500	350	216	350	216	815	723.9	584	95.9	1215	24-45
24	600	390	232	390	232	940	838.2	692	108.6	1300	24-51



主要连接尺寸 Main connecting dimensions

公称通径DN		900Lb									
In	Mm	L	L1	L2	L3	D	D1	D2	C	H	N-d
6	150	225	104	225	104	380	317.5	216	62.6	525	12-32
8	200	275	112	275	112	470	393.7	270	70.5	660	12-38
10	250	325	135	325	135	545	469.9	324	76.9	735	16-39
12	300	375	170	375	170	610	533.4	381	86.4	820	20-39
14	350	425	173	425	173	640	558.8	413	92.8	870	20-41
16	400	475	210	475	210	705	616	470	95.9	965	20-45
18	450	500	228	500	228	785	685.8	533	108.6	1050	20-51
20	500	575	250	575	250	855	749.3	584	115	1175	20-54
24	600	675	275	675	275	1040	901.7	692	146.7	1330	20-67

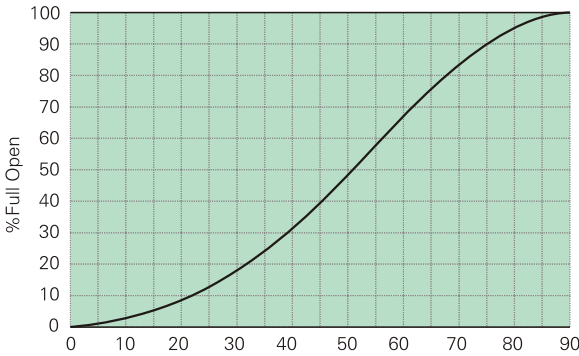
主要连接尺寸 Main connecting dimensions

公称通径DN		1500Lb									
In	Mm	L	L1	L2	L3	D	D1	D2	C	H	N-d
6	150	350	160	350	160	395	317.5	216	89.6	550	12-38
8	200	400	180	400	180	485	393.7	270	99.1	690	12-45
10	250	450	200	450	200	585	482.6	324	115	780	12-51
12	300	500	230	500	230	675	571.5	381	130.9	905	16-54
14	350	550	250	550	250	750	635	413	140.4	990	16-60
16	400	600	265	600	265	825	704.8	470	153.1	1085	16-67
18	450	650	300	650	300	915	774.7	533	169	1180	16-73
20	500	700	340	700	340	985	831.8	584	184.8	1290	16-80
24	600	800	400	800	400	1170	990.6	692	210.2	1450	16-92

Cv值

Size		5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°
Mm	In																		
80	3	1	6	14	23	31	39	47	54	62	71	82	96	112	128	143	156	163	163
100	4	2	12	26	42	57	72	85	98	113	130	150	176	205	234	262	285	299	302
150	6	16	31	45	59	76	101	134	178	233	297	369	448	531	616	698	758	796	796
200	8	30	57	82	108	140	185	246	327	427	544	676	821	974	1130	1280	1390	1460	1460
250	10	52	99	142	187	242	320	426	566	739	942	1170	1420	1690	1960	2220	2410	2530	2530
300	12	78	147	212	279	362	478	636	846	1100	1410	1750	2120	2520	2920	3310	3600	3780	3780
350	14	106	201	289	380	493	651	866	1150	1500	1920	2380	2890	3430	3980	4510	4890	5140	5140
400	16	165	313	451	594	769	1020	1350	1800	2350	2990	3720	4510	5350	6210	7040	7640	8020	8020
450	18	217	413	594	782	1010	1340	1780	2370	3090	3940	4890	5940	7050	8180	9270	10100	10600	10600
500	20	268	509	733	965	1250	1650	2200	2920	3820	4860	6040	7340	8710	10100	11400	12400	13000	13000
600	24	386	734	1060	1390	1800	2380	3170	4210	5500	7000	8700	10600	12500	14500	16500	17900	18800	18800
700	28	559	1060	1530	2010	2610	3450	4590	6100	7960	10100	12600	15300	18200	2100	23900	25900	27200	27200
750	30	630	1200	1720	2270	2940	3880	5160	6870	8960	11400	14200	17200	20400	23700	28900	29200	30700	30700
800	32	719	1370	1970	2590	3360	4440	5900	7840	10200	13000	16200	19700	23300	27100	30700	33300	35000	35000
900	36	884	1680	2420	3180	4210	5450	7250	9630	12600	16000	19900	24200	28700	33300	39800	40900	43000	43000
1000	40	1170	2220	3190	4210	5450	7210	9580	12700	16600	21200	26300	31900	37900	44000	52600	54100	56900	56900
1050	42	1230	2340	3370	4440	5760	7610	10100	13400	17600	22400	27800	33700	40000	46500	57100	57100	60000	60000
1200	48	1640	3120	4490	5920	7670	10100	13500	17900	23400	29800	37000	45000	53400	61900	70100	76100	80000	80000

Size		5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°
Mm	In																		
80	3	1	6	14	23	31	39	47	54	62	71	82	96	112	128	143	156	163	165
100	4	2	12	26	42	57	72	85	98	113	130	150	176	205	234	262	285	299	302
150	6	6	25	41	54	69	91	121	162	212	268	334	407	482	559	634	689	725	725
200	8	11	45	74	98	126	166	222	298	389	492	613	746	884	1030	1160	1260	1330	1330
250	10	19	82	135	178	229	301	402	540	705	891	1110	1350	1600	1860	2110	2290	2410	2410
300	12	29	122	202	266	342	450	601	807	1050	1330	1660	2020	2400	2780	3150	3420	3600	3600
350	14	39	167	274	363	466	613	818	1100	1430	1810	2260	2750	3260	3780	4290	4660	4900	4900
400	16	58	248	408	539	692	910	1220	1630	2130	2690	3360	4090	4840	5610	6370	6920	7280	7280
450	18	77	326	537	710	911	1200	1600	2150	2810	3550	4420	5380	6380	7400	8390	9110	9590	9590
500	20	95	403	663	876	1130	1480	1980	2650	3460	4380	5460	6640	7880	9130	10400	11300	11800	11800
600	24	136	580	955	1260	1620	2130	2850	3820	4990	6310	7860	9570	11300	13100	14900	16200	17100	17100
700	28	199	844	1390	1840	2360	3100	4150	5560	7260	9190	11400	13900	16500	19100	21700	23600	24800	24800
750	30	232	986	1620	2150	2750	3620	4840	6490	8480	10700	13400	16300	19300	22400	25400	27500	29000	29000
800	32	261	1110	1830	2420	3100	4080	5450	7310	9550	12100	15000	18300	21700	25200	28600	31000	32600	32600
900	36	332	1410	2320	3070	3940	5190	6930	9300	12100	15400	19100	23300	27600	32000	36300	39400	41500	41500
1000	40	399	1700	2790	3690	4740	6230	8330	11200	14600	18400	23000	28000	33200	38400	43600	47400	49900	49900
1050	42	457	1940	3200	4230	5430	7140	9540	12800	16700	21100	26300	32000	38000	44000	50000	54200	57100	57100
1200	48	480	2040	3360	4440	5700	7500	10000	13400	17500	22200	27700	33700	39900	46300	52500	57000	60000	60000



Typocal Flow Characteristics

For control applications wide variety of actuators and accessories can be provided.

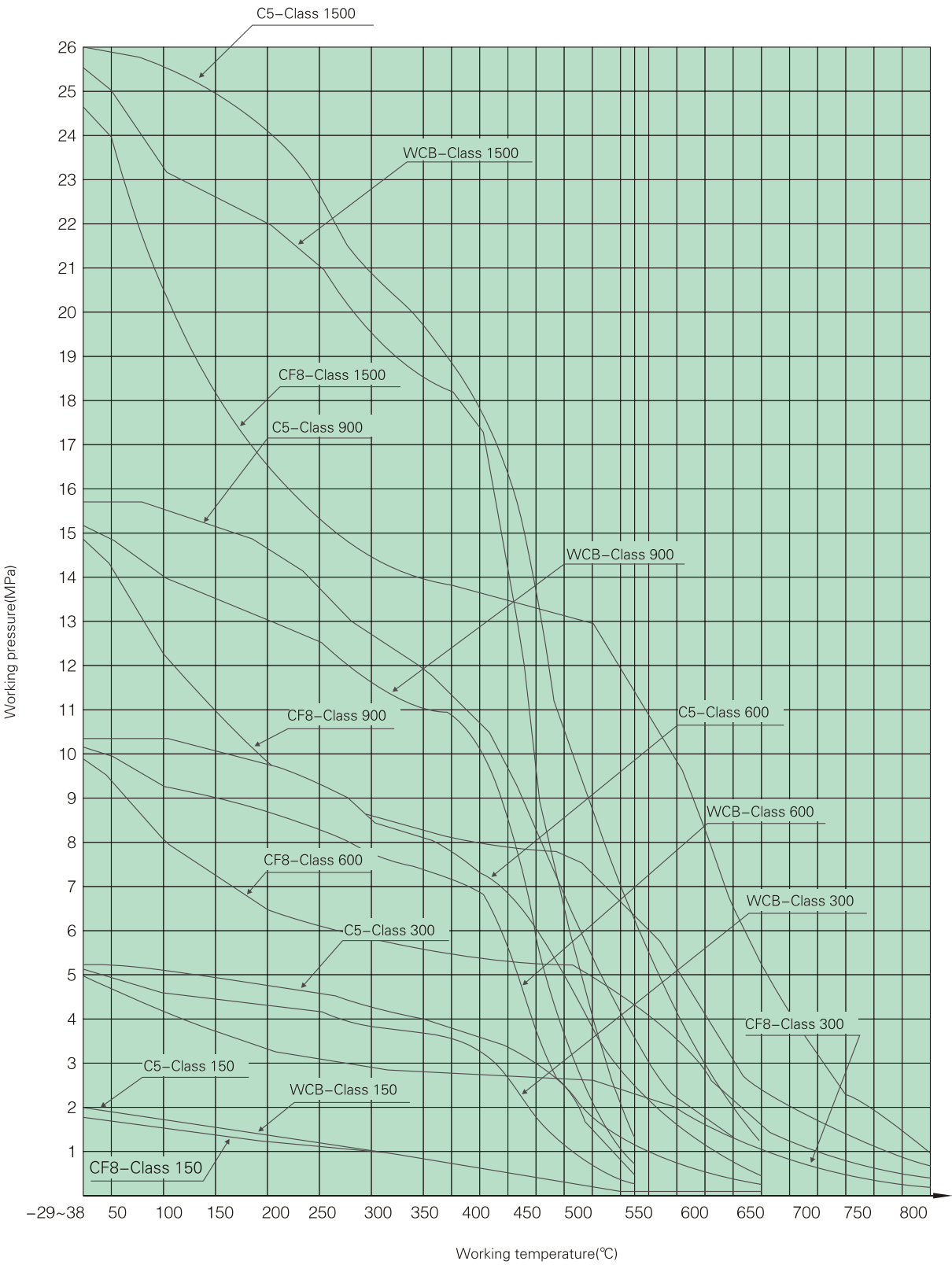
At moderate pressure drop conditions,turndown approaching 100 to 1 can be achieved because of the camming action of the disc opening.

The disc lifts off the seat very quickly and an equal precentage control curve if produced between 15° to 75°

150Lb

Materials ASTM A216–WCB.A217–C5 A351–CF8

Pressure–temperature
Ratings to ASEM B16.34



材质表 Materials list

Astm standard	Chemical composios[%]										Mechanicak proper ties				Hardness Brinell max
	C max	Mn max	P max	S max	Si max	Cr	Mo	Ni	Cu max	V	Tensile [MPa]min	Yield [MPa]min	Elongation [MPa]min	Reduction [MPa]min	
A216 WCB	0.30	1.00	0.040	0.045	0.60	≤0.50	≤0.25	≤0.50	0.30	0.03	485	250	22	35	
A216 WCC	0.25	1.20	0.040	0.045	0.60	≤0.50	≤0.25	≤0.50	0.30	0.03	485	275	22	35	
A352 LC3	0.15	0.50-0.80	0.040	0.045	0.60			3.00-4.00			485-665	275	24	35	
A217 WC6	0.05-0.20	0.50-0.80	0.040	0.045	0.60	1.00-1.50	0.45-0.65	0.50	0.50		485-655	275	20	35	
A217 WC9	0.05-0.18	0.40-0.70	0.040	0.045	0.60	2.00-2.75	0.90-1.20	0.50	0.50		485-665	275	20	35	
A217 C5	0.20	0.40-0.70	0.040	0.045	0.75	4.00-6.50	0.45-0.65	0.50	0.50		620-795	415	18	35	
A351 CF3	0.03	1.50	0.040	0.040	2.00	17.0-21.0	≤0.50	8.0-12.0			485	205	35		
A351 CF3M	0.03	1.50	0.040	0.040	1.50	17.0-21.0	2.0-30	9.0-13.0			485	205	30		
A351 CF8	0.08	1.50	0.040	0.040	2.00	18.0-21.0	≤0.50	8.0-11.0			485	205	35		
A351 CF8M	0.08	1.50	0.040	0.040	1.50	18.0-21.0	2.0-30	9.0-12.0			485	205	30		
A351 CF8C	0.08	1.50	0.040	0.040	2.00	18.0-21.0	≤0.50	9.0-12.0			485	205	30		
A351 CN7M	0.07	1.50	0.040	0.040	1.50	19.0-22.0	2.0-30	27.5-30.5			450	170	35		
A105	0.35	0.60-1.05	0.035	0.040	0.10-0.35	≤0.30	≤0.12	≤0.40	0.40	0.08	485	250	22	30	187
A182 F6A	0.15	1.00	0.040	0.030	1.00	11.5-13.5		≤0.50			485	275	18	35	143-207
A182 F304	0.08	2.00	0.045	0.030	1.00	18.0-20.0		8.0-11.0			515	205	30	50	
A182 F304L	0.03	2.00	0.045	0.030	1.00	18.0-20.0		8.0-13.0			485	170	30	50	
A182 F316	0.08	2.00	0.045	0.030	1.00	16.0-18.0	2.0-3.0	10.0-14.0			515	205	30	50	
A182 F316L	0.03	2.00	0.045	0.030	1.00	16.0-18.0	2.0-3.0	10.0-15.0			485	170	30	50	
A182 F321	0.08	2.00	0.045	0.030	1.00	17.0-19.0		9.0-12.0			515	205	30	50	
A182 F11	0.10-0.20	0.30-0.80	0.040	0.040	0.50-1.00	1.0-1.5	0.44-0.65				515	310	20	30	156-207
A182 F22	0.05-0.15	0.30-0.60	0.040	0.040	0.50	2.0-2.5	0.87-1.13				515	310	20	30	156-207
A182 F5	0.15	0.30-0.60	0.030	0.030	0.50	4.0-6.0	0.44-0.65	≤0.50			485	275	20	35	143-217
A350 LF2	0.30	0.60-1.35	0.035	0.040	0.15-0.30	≤0.30	≤0.12	≤0.40	0.40	0.08	485-665	250	22	30	
A276 410	0.08-0.15	1.00	0.040	0.030	1.00	11.5-13.5					480	275	16	45	
A276 420	0.15	1.00	0.040	0.030	1.00	12.0-14.0									255
A276 321	0.08	2.00	0.045	0.030	1.00	17.0-19.0		9.0-12.0			515	205	30	40	
A320 L7	0.38-0.48	0.75-1.00	0.035	0.040	0.15-0.35	0.80-1.10	0.15-0.25				860	725	16	50	321
A320 L7M	0.38-0.48	0.75-1.00	0.035	0.040	0.15-0.35	0.80-1.10	0.15-0.25				690	550	18	50	235
A193 B7	0.37-0.49	0.65-1.10	0.035	0.040	0.15-0.35	0.75-1.20	0.15-0.25				860	720	16	50	321
A193 B7M	0.37-0.49	0.65-1.10	0.035	0.040	0.15-0.35	0.75-1.20	0.15-0.25				690	550	18	50	235
A193 B16	0.36-0.47	0.45-0.70	0.035	0.040	0.15-0.35	0.80-1.15	0.50-0.65			0.25-0.35	860	725	18	50	321
A193 B8	0.08	2.00	0.045	0.030	1.00	18.0-20.0		8.0-11.0			515	205	30	50	223
A193 B8M	0.08	2.00	0.045	0.030	1.00	16.0-18.0	2.00-3.00	10.0-14.0			515	205	30	50	223
A194 2H	≥0.40	1.00	0.040	0.050	0.40										
A194 7	0.37-0.49	0.65-1.10	0.035	0.040	0.15-0.35	0.75-1.20	0.15-0.25								248-327
A194 8	0.08	2.00	0.045	0.030	1.00	18.0-20.0		8.0-11.0							126-300
A194 8M	0.08	2.00	0.045	0.030	1.00	16.0-18.0	2.00-3.00	10.0-14.0							126-300

阀门故障分析 Analysis on valve failure

对于用户来说，实际使用工况与阀门规定的适用范围一致，以及操作正确与认真维护保养时，直接关系到阀门故障的避免与使用寿命的延长。
It is directly related to avoidance of any valve failure and extension of the valve life for the users to let the working conditions identical to those set in the applicable range of the valve,the operations correctly done and the maintenance carefully carried out.

常见的事故详见下表

See the table below for the common failures:

故障 Failure	分析产生原因 Cause analysis	消除故障方法 Method of settlement
填料处的外漏 leaking outward at the packing	1.填料超期使用、已老化。 The packing is in exceeded use and gets aged. 2.操作时用力过大。 Excessive force is used in operation. 3.活节螺栓没有拧紧 The eyelet bolt is not tightened.	1.应及时更换老化、损坏的填料并逐圈安放接头呈30° -50° Replace the aged and injured packing in time,place the connectors turn by turn and let them30° -50° 2.应以正常力均匀操作、不许加套管或用其他办法。 Use normal even operation and do not use bushing or any other ways. 3.均匀拧紧压住填料用螺栓。 Evenly tighten the bolts used to tightly press the packing.
密封面泄漏 leaking at the sealing surface	1.阀门安装方向和介质流向不符。 The valve installation direction does not conform to the medium flowing direction. 2.关闭不到位。 Closing is not in place. 3.久闭的阀门在密封面上积垢。 The sealing surface of a long time closed valve gets scaled. 4.密封面上损伤严重。 Thesealing surface gets seriously injured.	1.注意安装检查。 Pay attention to the installation checkup. 2.关严到位。 Make closing in place. 3.将阀门开一条缝，让告诉流体冲掉密封上脏物。 Let the valve in crack to have the dirty on the seal flushed out by the high speed fluid. 4.重新研磨，加厚调节垫片补偿。
法兰连接处泄漏 leaking at the flange connection	1.螺栓拧紧力不均。 The bolts are unevenly tightened. 2.垫片老化损伤。 The gasket gets aged and injured. 3.垫片选用材质与工况介质要求不符。 The gasket material does not conform to the required working condition medium	1.重新均匀拧紧螺栓。 Evenly tighten the bolts again. 2.及时更换。Replace it in time. 3.按工况要求正确选用垫片材料和形式，必须请与厂家联系 请求帮助选材选型，订货时要详细说明要求。 Use correct gasket material and type in accordance with the working condition requirement and,when necessary, ask the manufacturer for help and note the detailed requirement at order.
手柄、手轮的损坏 damage of handle and handwheel	1.使用不正确。 Incorrect use. 2.紧固件松脱。 The fastener gets loosened. 3.手柄、手轮与阀杆连接损伤。 Damaged connection between the handle,handwheel and stem.	1.禁止使用管子钳、长杠杆、撞击工具等。 Never use girp wrench,long lever,impacting tools. 2.随时修配。 Repair and fit it in time. 3.随时修复 Repair it in time
蜗轮、蜗杆传动卡咬 seizure between worm and gear	1.不清洁嵌入脏物，影响润滑。 Dirt gets inlaid to affect the lubrication. 2.操作不善。 Improper operation.	1.请保持清洁，定期加油。 Keep it clean and oil it in a fixed period of time 2.若操作是发现卡咬，阻力很大时，不能继续操作，否则损坏加剧。 In case of seizure and a heavy resistance during operation,do not go on operation,or damage would get increased.
电动安装故障 Electric installation failure	1.润滑不良Bad lubrication。 阀门内有异物卡住造成转矩过大损坏。 Foreign matters are available inside of the valve to make the torque exceeded and injured. 2.电动故障。Electric failure.	1.应加油，操持清洁，使油管良好，填料压紧应适度，应及时排除阀内异物 Do oiling and keep clean to make the oil tube in good condition,let the packing properly pressed and the foreign matters inside of the valve out in time. 2.电机工作时间不超过15分钟，电源应正常，应避免电机受潮。 Do not let the motor working for over 15min and getting wetted,the power supply shall be kept normal.

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Butterfly Valves

APPLICABLE
FIELDS

适用领域

- 石化厂
盐水、二氧化碳蒸汽
丙烯厂
蒸汽系统
丙烯气
火焰入口和隔离
乙烯厂
PSA和分析筛
乙烯裂化装置
焦化厂

PETROCHEMICAL PLANTS
Brine, CO2 vapor
Propylene Plants
Steam service
Propane Gas
Manifold Flare Inlet and Manifold Isolation
Ethylene Plants
PSA&Molecular Sieves
Ethylene Cracker
Coker Plants

- 石油炼制
储油库隔离
供气阀
脱硫系统和废气处理器
火炬气，酸气隔离
热裂气
催化裂化器装置

PETROLEUM REFINING
Oil Storage Isolation
Steam Suooly Valves
Desulphurization Systems and Tail Gas Treaters
Flare Gas, Sour Gas Isolation
Hot Cracking Gas
Catalytic Cracker Units

- 核电厂
容器隔离
盐水系统
堆心喷淋系统
泵隔离
海水淡化系统

NUCLEAR POWER PLANTS
Containment Isolation
Saltwater Service
Core Spray Systems
Pump Isolation
Seawater Desalination System

- 火力发电
泵隔离
冷凝器冷却
泵和蒸汽抽取隔离
热交换器，冷凝器冷却隔离

FOSSIL POWER PLANTS
Pump Isolation
Condenser COOLing
Pump and Steam Extraction Isolation
Heat Exchanger, Condenser Cooling Isolation

- 纸浆和造纸
蒸汽隔离，锅炉水
绿，红和黑液
石灰和泥浆

PULP AND PAPER
Steam Isolation, Boiler Water
Green, Red and Black Liquors
Lime and Slurries

- 集中供热
热电站
换热站
区域锅炉房
热水管网
蒸汽管网

CENTRAL HEATING
Thermal Power Plant
SoThe Heat Exchange Station
Regional Boiler Rooms
The Hot Water Pipe Network
The Steam Pipe Network

- 低温
所有液态气体
液化和天然气系统
油田回收系统
气化厂和储存设备
液化天然气运输系统

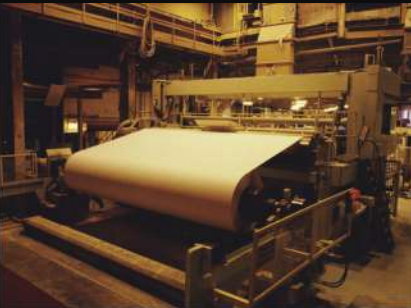
CRYOGENICS
All Liquid Gases
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石化厂
PETROCHEMICAL PLANTS



集中供热
CENTRAL HEATING



纸浆和造纸
PULP AND PAPER



火力发电
FOSSIL POWER PLANTS



石油炼制
PETROLEUM REFINING



低温
CRYOGENICS



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AFTER-SALES SERVICE

售后服务

质保期条款

阀门在出厂后的24个月或在出厂后安装在管道上使用的18个月内（以先到为准）本公司严格遵守三包服务（包修、包换、包退）

质保服务

在质保期内阀门在管道使用过程中，因本公司阀门质量问题发生故障，我们将会派技术人员24小时内到达现场并提供无偿质保服务，确保阀门故障排除正常运行后客户签署确认书才能结束本次服务（国际客户响应时间根据实际情况而定）。质保期满后，若产品需要维修和保养服务，我公司保证向用户提供及时的优质技术服务。

技术支持

凡在耐森阀门公司购买过任何一台产品，每位客户都终身享有7*24小时的技术支持服务。阀门在安装、使用、维护过程中遇到技术问题，可以通过技术支持热线、公司网站在线技术支持等和我们联系，我们将会收到反馈的1个小时之内做出答复，3小时之内拿出解决方案。从收到您的问题开始，我们会安排专业的技术人员进行一对一服务。如需进行安装调试、技术培训等，本公司将会派技术人员到达现场进行安装调试及技术培训。

提供第三方检测

无论您身在何处，在您需要产品检验、测试以及鉴定的时候，我公司可以提供专业的第三方检测服务，让产品得到全方位的检测和验证。通过检测，我们能够向您证明我们的产品是否符合国内和国际标准以及规范或客户定义的标准，来帮助您降低风险、简化流程。

Clause for the quality warranty period

This Co.will strictly follow the free repair,free replacement and free return services within 24 months after the valve is ex-works or 18 months after being installed and used on the pipenling after ex-works(upon which comes first).

Quality warranty service

In the case the valve gets failed due to the quality problem during the use in the pipeline within the quality warranty period,this Co.will send technicians to the site within 24h to provide free quality warranty service. The service shall not be ended until the failure is surely made settled and the valve normally workable as well as the client signs the letter of confirmation(for the foreign client,the to reapinse shall be depended on the real condition).

After expiracion of the said period,this Co.guarantees to provide the users with on-time quality technical services whenever the product needs to be repaired and maintained.

Technical support

Every client who has purchased any one product from NAISEN Valve Co.can enjoy a life long 7-24h technical support service.

In case of any technical problems during installation,use and maintenance,please contact this Co.by means of the technical hot-line,the on-line technical support on the website etc.ways,reply will be given within one hour after getting the feedback and a plan of settlement within 3h.One-to-one service with the technicians of this Co.will be arranged from getting the problem.

When installation debugging,technical training etc.are required,this Co.will arrange technicians to the site to take over related works.

The third-party detection can be provided

Wherever the client stays at,once the product inspection,test and/or appraisal are required,this Co.can provide professional third-party detection service to let the product all-around detected and verified and, through detection,let us to verify if the product conforms or not to the international and national standards as well those defined by the client so as to help the client lower the risk and simplify the process.

DESCRIPTION OF INSTALLATION USE AND MAINTENANCE

NSEN

安装使用维护说明

安装前必须仔细核对阀门的标志、合格证是否符合使用要求，核实后应进行清洁处理。

蝶阀可安装在设备管道上的任意位置，但有传动装置的，应直立装，即传动装置必须垂直水平管路的位置。安装位置有利于操作和检查。蝶阀安装时应尽量让介质从阀门的旋转轴往密封面方向流过，因为正向密封性能优于反向密封。

蝶阀与管道的连接螺栓，安装时应按对角线方向多次拧紧，连接螺栓不得单件一次拧紧，以防受力不均而造成法兰连接处泄漏。

开启阀门时要逆时针转动手轮，关闭时要顺时针转动手轮，要按开启、关闭指示标记旋转到位。

电动蝶阀出厂时，已将控制机械的行程调好，为防止电源接通方向搞错，用户在第一次接通电源前要先手动开至半开位置，检查指示盘方向与阀门开启方向是否一致。阀门在使用时，如发现故障，应立即停止使用，查明原因及清除故障。

阀门的保管：未安装使用的阀门应存放在干燥的室内，堆放整齐，不允许露天存放，防止损坏和锈蚀。保管时间较长的阀门，要定期清洗、吹干、涂防锈油。阀门两端应用盲板保护法兰密封面，防止杂质进入内腔。

阀门的运输：阀门发运应包装好，应按合同规定进行包装，包装符合JB2759《机电产品包装通用技术条件》的有关规定。保证在运输过程中不损坏和丢失零件。

阀门的保修：阀门投入使用一年内，但不超过发货后18个月，如确因材料缺陷，制造质量、设计不合理以及正常使用中的损坏，经本厂质检部门确认后，在保修期内负责包修。

Prior to installatio,please carefully check if the valve mark and the certificate conform to the requirements of use and clean the valve after confirming. The butterfly valve may be set on any position of the equipment pipeline,but shall be vertically set,if it is equipped with an actuator.E.g.Theactuator shall be set on a position vertical to an horizontal pipeline and beneficial to both operation and checkup.

In the butterfly valve installation,let the medium flowing from the rotating axis of the valve to the sealing surface as can as possible,this is because the forward sealing performance is better than the reversed one.

The connecting bolts between the butterfly valve and the pipeline shall be tightened diagonally several times,instead of once tightening on one bolt,so as to prevent leaking at the flange connection due to uneven stress.

Turn the handwheel CCW when to open the valve and clockwise when to close it.Turn it in place according to the open-close marks.

At ex-works,the control mechanic travel of the electric butterfly valve has been well adjusted and,to prevent the mistake on the making direction of the power supply,users need to set the valve to the mid-open position by hand before the first time to put through the power supply and check up if the direction of the indicating dial is identical to that in which the valve is opened.

In case of a failure during use at once,check out the cause and settle it.

Valve storage:keep the uninstalled and unused valves in a dry room and fitly piled up,instead of outdoors,in order to prevent damage and

corrosion,For those to be stored for a long time,measures to clean,dry and coat with anti-rusting oil shall be taken in a fixed period of time and blinds shall be used on both ends of the valve to protect the flange sealing surfaces and to prevent impurities from entering the interna locavity.

Valve shipment:before shipment,first pack the valve upon the requirement in the contract and make sure it conforms to JB2759<<General technical conditions for packing electromechanical products>> so as to guarantee it not to get damaged and any parts to be lost during the shipment

Valve shipment:for any damage caused due to material defect,manufacturing quality,unreasonable design as well as happened during normal use within one year after the valve is put into use but not over 18 months after delivery,warranty is available after such damage is confirmed by our quality inspection sector.

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耐森阀业 只造高品质蝶阀



SELLING NETWORK

销售网络



为了更好地服务客服，耐森建立了从销售到维护的专业团队，服务网络覆盖全国各省市，并已经向全球主要市场国延伸，为客服提供全面优质的服务保驾护航。这也体现了耐森阀业将客户的需求融入企业长远发展的经营理念。

To provide better services,NSEN has established professional teams from sales to maintenance, Makes the service networks covering every province and city inside of the country and extended to the main marketing nations in the world to provide all-respect quality services for the clients therein.This also shows such operation ideas of NSEN Valve to let the client requirement dissolved into the long-term development of the enterprise.

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耐森阀业 只造高品质蝶阀

成立于1983年 国家标准起草单位

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.[illegible]