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**THROTTLE STOP VALVE, SEWAGE VALVE SERIES,  
FLAT GATE VALVE SERIES**

节流截止放空阀、排污阀系列  
平板闸阀系列



**中国·超特阀门有限公司  
CHINA·CHAOTE VALVE CO., LTD**

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## 企业简介

超特阀门是一家专业研制、生产、销售各种阀门的厂家，专业生产不锈钢、合金钢、碳钢等各种材料的各种工业阀门。公司已通过了国际质量认证体系的ISO9001认证、环境管理体系ISO 14001和职业健康安全管理体系ISO 18001、特种设备制造许可TS认证、美国石油学会API 6D认证、欧盟CE认证，获得“中国名牌产品”、“质量信誉AAA级企业”荣誉。公司主要生产ANSI/API、JIS、DIN、GB/JB标准的节流截止放空阀、排污阀系列、平板闸阀系列等阀门系列。主要生产大口径阀门，口径从DN15到DN1000不等。阀门产品种类繁多、规格齐全，特别是可根据用户的特定要求而定制各种标准的阀门。产品出口到美国、加拿大、澳大利亚、意大利、中东、日本、韩国、东南亚、埃及等国家和地区。凭借可靠的质量与合理的价格，是我们不断发展的根本。

自公司创建以来，超特公司就一直致力于截流截止放空阀、排污阀系列、平板闸阀系列等阀门的专业研制、开发、生产和销售。公司不断推出新产品、对产品进行不断地改进创新，并获得多项国家专利。“不断追求”是超特公司的精神。我们愿以更多的产品、更好的质量、更优惠的价格来满足客户不同的需要，热忱欢迎广大新老客户到公司考察、洽谈。



## Brief introduction

Chaote Valve Co., Ltd (Chaote), established in 1998, is headquartered in Wenzhou with beautiful environment and easy access to transportation facilities. As a large valve-manufacturer in China, it integrates Research & Development, production, sales and services through its headquarter in Wenzhou and one branch in Lishui city.

Chaote has developed two bases for manufacture in Wenzhou and Lishui, which totally covers 26,667.00 square meters. There are over 265 staff (including 20 technical staff), over 100 sets of large and medium sized equipments(including numerical control machines) and over 60 sets of inspection and testing equipments. The products has unique designs, exquisite workmanship and inspection by sophisticated methods.

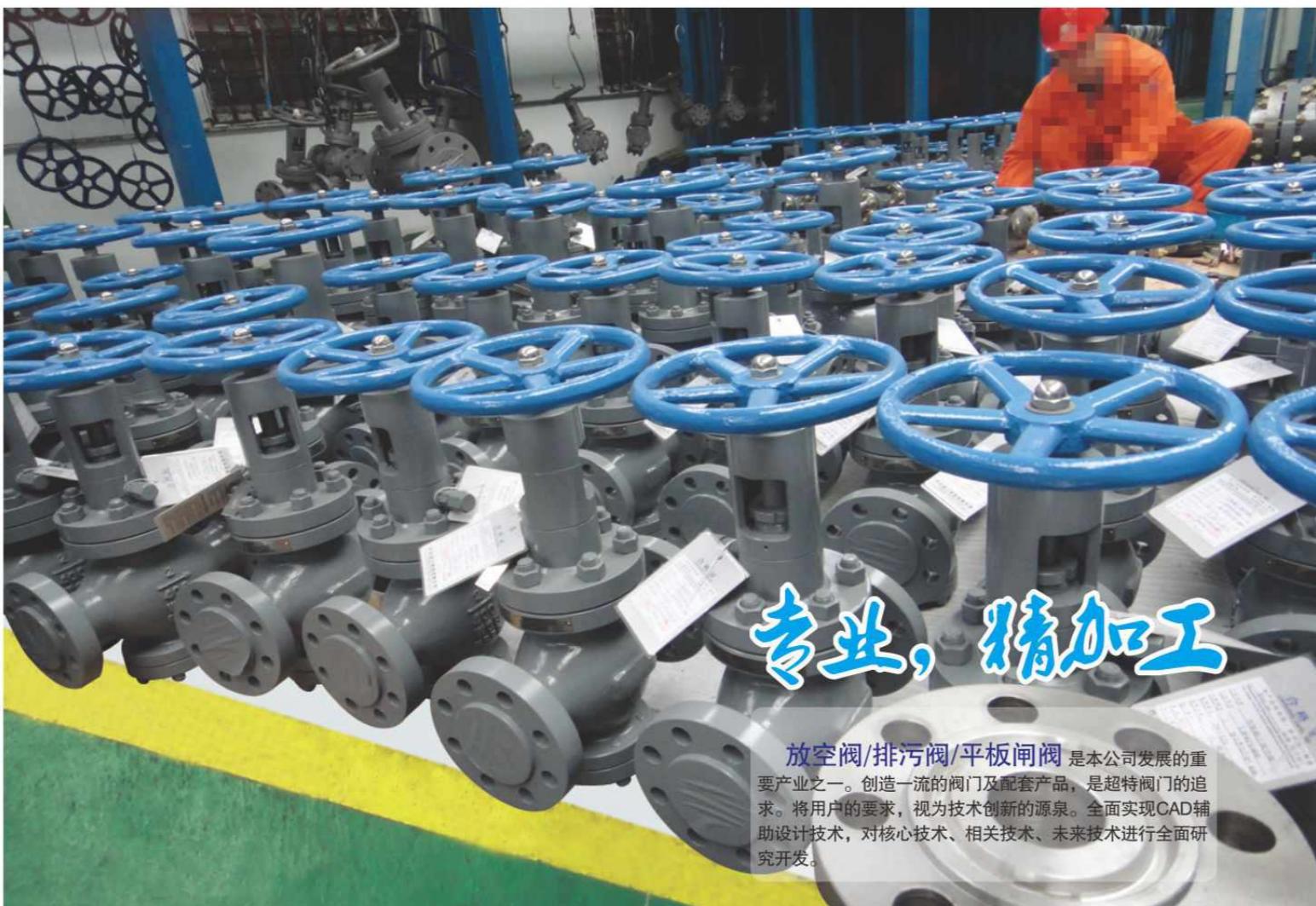
Most of our products are sold all over the country, and widely used in various industries such as petrochemical, oil, metallurgy, electricity, and water supply and drainage industries. Chaote is also a supplier of SINOPEC, and other petrochemical companies.

The main products are industrial valves conforming to American Standard, including Throttle stop valve, Sewage valve series, Flat gate valve series totally of over 50 series and more than 1500 kinds of products. The annual production capacity is over 15 thousand tons.

Chaote has been recognized as qualified manufacturer certificated by ISO 9001:2000, Environmental management system certification ISO 14001、Certificate of conformity of OHSMS certification ISO 18001、Manufacture License of Special Equipment People's republic of China TS, permitted for manufacturing of pressured pipeline components issued by State Administration for Quality Supervision Bureau, EU 97/23/EC/EG, American APT 6D certification.

Chaote follows the operation principle that "all for the users, and all from the innovation" as well as the PDCA management principle. We believe in the humanities principle that "people oriented, mutual dependence", so as to build the unique foundation of the corporate culture and to further strengthen the marketing competitiveness and enterprise development potential.

Welcome to Chaote valve co., ltd!



放空阀/排污阀/平板闸阀 是本公司发展的重  
要产业之一。创造一流的阀门及配套产品，是超特阀门的追  
求。将用户的要求，视为技术创新的源泉。全面实现CAD辅  
助设计技术，对核心技术、相关技术、未来技术进行全面研  
究开发。



# 设备

## 每一部件都精雕细琢

21世纪全部车间都已经实施看板管理和6S管理，  
良好的生产环境，一流的生产设备和技术支持，  
高效的流水线，有多年工作经验的生产团队和技术团队，  
成就了21世纪最高的生产效率。



超特阀门  
CHAOTE VALVE

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### ■ 产品结构特点 Products Design Features

1、本阀是一种新型的节流、截止、放空产品，该阀门采用笼形迷宫节流，具有多级节流效果，节流效果明显、密封可靠、操作维护方便等特点。

This valve is a brand-new throttle, stop and emptying product, uses a cage-like puzzle palace throttle and features a multiple stage throttle effect, a notable throttle effect, a reliable seal and easy operation and maintenance.

2、阀门采用双重密封（硬、软质密封）使密封可靠、硬质合金密封面可以更耐气流冲刷、耐磨损，双重密封能做到在高压气体介质条件下的零泄漏。阀门使用寿命长。

The valve uses hard and soft two seals to get it reliably sealed, the carbide alloy sealing face becomes more resisting to the gas-flow erosion and more wearable and the dual-seal can realize null leak under the high pressure gas medium, leaving a long duration of the valve.

3、阀座的密封面采用锥度密封，有利于阀门自身清洗附在密封面上的脏物。

The sealing face of the seat ring uses a taper seal, benefit to the self-clean of the dirt absorbed onto the face.

4、阀门的阀瓣上设置了平衡孔，活塞式密封，保证了启/闭全压差条件下稳定操作，开启轻便灵活、启闭扭矩小。

A balancing hole and a piston type seal are set on the valve's disc, making sure of a stable operation, light and flexible open-close and a small open-close torque.

5、节流截止放空阀和双作用式节流阀同时具有节流与截止（密封为零泄漏）作用，节流部位与密封面分开，以减小气流对密封的冲刷。

The throttle, stop and emptying valve and the dual-action type throttle valve have both throttle and stop (null leak with the seal) actions, with the throttle portion separated from the sealing face so as to reduce the erosion of the gas flow to the seal.

6、双作用式节流截止阀还具有多级节流功能，节流压差大，能适用于高压下的节流与截止。

The dual-action type throttle valve also feature a multiple-stage throttle function and a big throttle pressure differential and is suitable for throttle and stop under a high pressure.

7、填料采用带自密封能力的V形填料结构，无需调节，开、关极为轻便。填料函处设有辅助密封油脂注入结构，使阀门填料密封性能可靠。

The packing uses a V-type packing structure with self-seal ability, without need to adjust and with both open and close extremely light. An assisting sealing grease injector is set in the packing place to have its sealing performance reliable.

8、本阀门可以进行在线维修，管线可以带压状态下更换填料等一系列易损件。

The valve can be on-line repaired and replacement of the packing etc. series easily-worn-out parts can be done with a pressure with the pipeline.

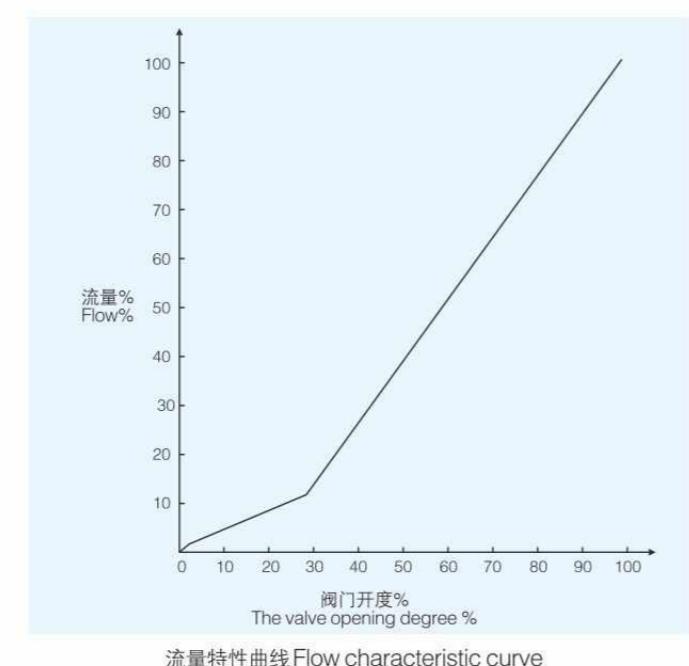
9、本阀在阀门的底部设置了较大的排污孔，必要时可以打开，清理阀内污物。

A bigger sewage removing hole is set on the bottom of the valve, it can be opened when necessary to clean up the dirt inside of the valve.

### ■ 流量特性 Flow Characteristic

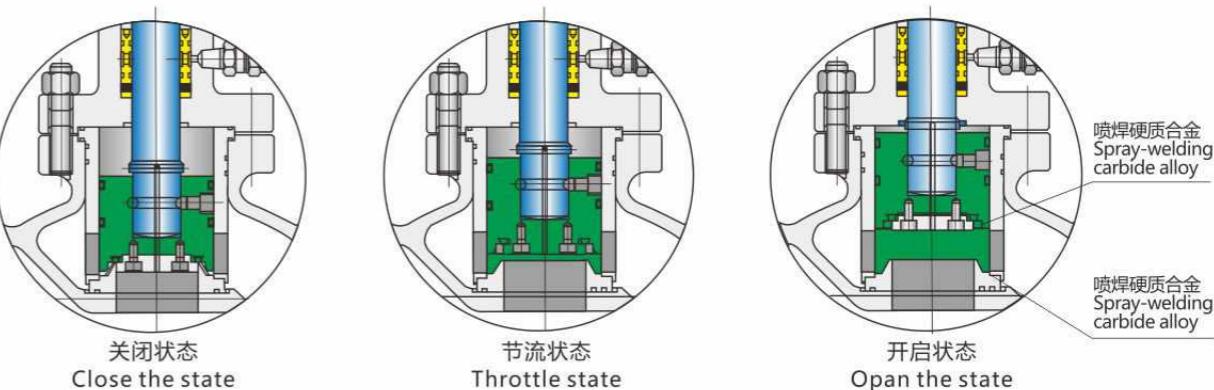
本阀作节流阀使用时，对流量调节作用明显。在小流量调节时流量特性曲线平缓（也可设计为大流量调节时流量特性曲线平缓），对流量易于控制。

When used as a throttle valve, it presents a notable action of flow adjustment. The flow performance curve at a small flow adjustment is gentle (a gentle curve can also be designed for a big flow adjustment) so as to make the flow control easily.



### 节流截止系列 Throttle Stop Valve

### ■ 工作原理 Operation principle



### ■ 节流截止阀 Throttle stop valve

1、常闭状态：阀瓣硬密封付压在阀座凸台上，形成一道硬质密封，同时嵌在阀瓣上的软质密封与阀座端面紧压，形成第二道密封，双质密封结构保证了阀门的零泄漏，再由于阀瓣开设了平衡孔，使阀门在关闭、开启时，阀瓣受到较小的作用力，也使阀门开启、关闭时具有较小的力矩。

Constant close state: the hard seal pair of the disc presses on the convex desk of the seat ring to form the first hard seal and, in the meantime, the soft seal inlaid onto the disc is tightly against on the end-face of the seat ring to form the second seal, this dual-seal structure ensures null leak of the valve and, plus the balancing hole on the disc, the disc is subjected to a smaller effort during open and close of the valve and a smaller moment is made available for the valve to open and close.

2、缓压状态：阀瓣底端离开阀座密封面时，由于阀瓣底端面接近笼形套开槽处底边缘，此时阀瓣与笼形套内径形成一道密封。而没有直接放空泄压，从而达到缓和作用。

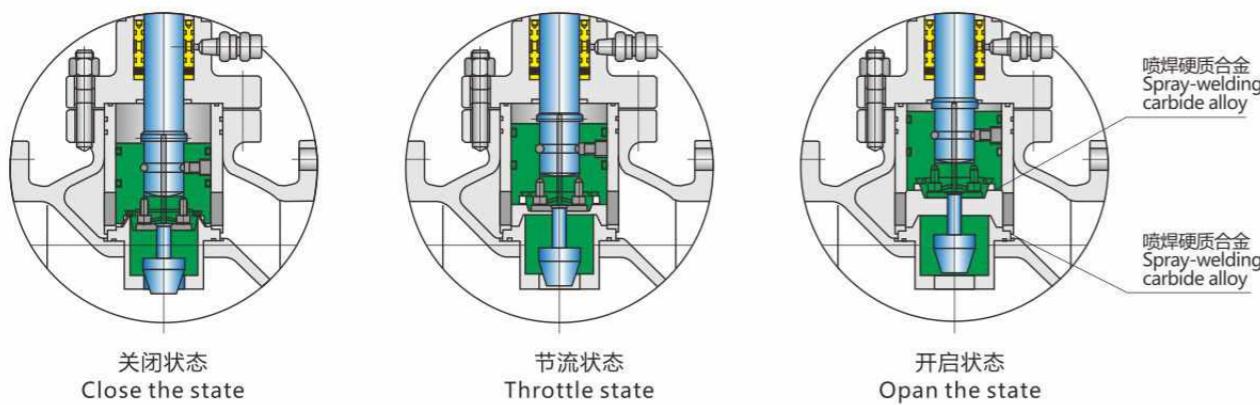
Moderated pressure state: when the disc bottom goes away from the sealing face of the Seat ring, because the end face of the disc bottom is close to the edge of the slot bottom of the cage-like sleeve, both disc and internal bore of the cage-like sleeve form a seal, without directly emptying and pressure discharging, thus getting the moderating action.

3、节流状态：阀瓣密封付离开阀座，进一步开启，小阀瓣形成一级节流，高速流体轻缓压节流后直接流向阀瓣底端与阀套开槽处形成窗口流道，达到二级节流，由于阀套窗口边缘是节流面，高压介质直接冲刷节流通道时，阀瓣底端由于介质流向改变产生涡流，缓减了介质对阀瓣的直接冲刷，从而阀座密封付也避开了介质的直接冲刷，同时由于阀瓣密封面是锥形的，可以吹扫阀座密封面上的污物及杂质，保护密封面，从而延长阀门的使用寿命

Throttle state: when the disc seal pair goes away from the seat ring to further open, the small disc forms one stage throttle, the high speed fluid, through pressure moderated throttle, directly flows into the disc bottom and the slot of the seat ring to form a window seat, getting to the second throttle. Because the window edge of the valve sleeve is a throttle face, eddy is formed on the disc bottom due to the change of the medium flowing direction When the high pressure medium directly erodes the throttle channel, this reduces the direct erosion of the medium to the disc and the seat ring's seal pair also gets away from such erosion. Mean while, because of the conical sealing face of the disc, the dirt and foreign matters on the sealing face of the seat ring can be blown out to protect the sealing face, thus extending the valve duration.

4、全开状态：阀瓣处于全开启状态时，整个阀门处于全放空状态，流体在阀门中的阻力较小，缩短了放空时间，提高了阀门的放空效果。

Full-open state: when the disc is fully opened, the whole valve is in the fully-empty State, so the fluid has a small resistance inside of it to reduce the emptying time and raise the emptying effect of the valve.

**■ 工作原理 Operation principle**

**■ 双作用节流截止阀 Dual-action throttle stop valve**

1、常闭状态：阀瓣硬密封付压在阀座凸台上，形成一道硬质密封，同时嵌在阀瓣上的软质密封与阀座端面紧压，形成第二道密封，双质密封结构保证了阀门的零泄漏，再由于阀瓣开设了平衡孔，使阀门在关闭、开启时，阀瓣受到较小的作用力，也使阀门开启、关闭时具有较小的力矩。

Constant close state: the hard seal pair of the disc presses on the convex desk of the seat ring to form the first hard seal and, in the meantime, the soft seal inlaid onto the disc is tightly against on the end-face of the seat ring to form the second seal, this dual-seal structure ensures null leak of the valve and, plus the balancing hole on the disc, the disc is subjected to a smaller effort during open and close of the valve and a smaller moment is made available for the valve to open and close.

2、缓压状态：阀瓣底端离开阀座密封面时，由于阀瓣底端面接近笼形套开槽处底边缘，此时阀瓣与笼形套内径形成一道密封。而没有直接放空泄压，从而达到缓和作用。

Moderated pressure state: when the disc bottom goes away from the sealing face of the Seat ring, because the end face of the disc bottom is close to the edge of the slot bottom of the cage-like sleeve, both disc and internal bore of the cage-like sleeve form a seal, without directly emptying and pressure discharging, thus getting the moderating action.

3、节流状态：阀瓣密封付离开阀座，进一步开启，小节流头处形成一级节流，高速流体经缓压节流后直接流向小阀瓣，由于阀套窗口边缘是最终节流面，高压介质直接冲刷节流通道时，阀瓣底端由于介质流向改变产生涡流，缓减了介质对阀瓣的直接冲刷，从而阀座密封付也避开了介质的直接冲刷，同时由于阀瓣密封面是锥形的，可以吹扫阀座密封面上的污物及杂质，保护密封面，从而延长阀门的使用寿命。

Throttle state: when the disc seal pair goes away from the seat ring to further open, the small disc forms one stage throttle, the high speed fluid, through pressure moderated throttle, directly flows into the small disc. Because the window edge of the valve sleeve is the final throttle face, eddy is formed on the disc bottom due to the change of the medium flowing direction When the high pressure medium directly erodes the throttle channel, this reduces the direct erosion of the medium to the disc and the seat ring's seal pair also gets away from such erosion. Mean while, because of the conical sealing face of the disc, the dirt and foreign matters on the sealing face of the seat ring can be blown out to protect the sealingface, thus extending the valve duration.

4、全开状态：阀瓣处于全开启状态时，整个阀门处于全放空状态，流体在阀门中的阻力较小，缩短了放空时间，提高了阀门的放空效果。

Full-open state: when the disc is fully opened, the whole valve is in the fully-empty State, so the fluid has a small resistance inside of it to reduce the emptying time and raise the emptying effect of the valve.

**■ 产品性能规范 Products performance specification**

压力等级 Pressure	常温试验压力 ( MPa ) Cold test pressure				适用温度 ( °C ) Suitable temperature			适用介质 Applicable medium	
	壳体 Shell	密封 Seal	上密封 Upper seal	气体低压密封 Gas low pressure seal	G型 G type	D型 D type	普通 Ordinary	抗硫型 Sulphur resisting type	普通 Ordinary
公称压力 ( MPa ) Nominal rating pressure ( PN )	1.6	2.4	1.76	1.76	0.6	-29~250	-45~121	-29~121	含H <sub>2</sub> S和CO <sub>2</sub> >500mg/m <sup>3</sup> 的介质
	2.5	3.8	2.75	2.75	0.6				
	4.0	6.0	4.4	4.4	0.6				
	6.4	9.6	7.04	7.04	0.6				
	10.0	15.0	11.0	11.0	0.6				
	16.0	24.0	17.6	17.6	0.6				

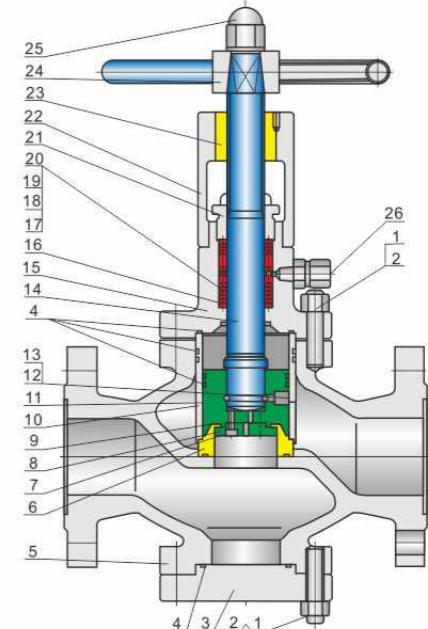
**■ 产品采用标准 Technical specification**

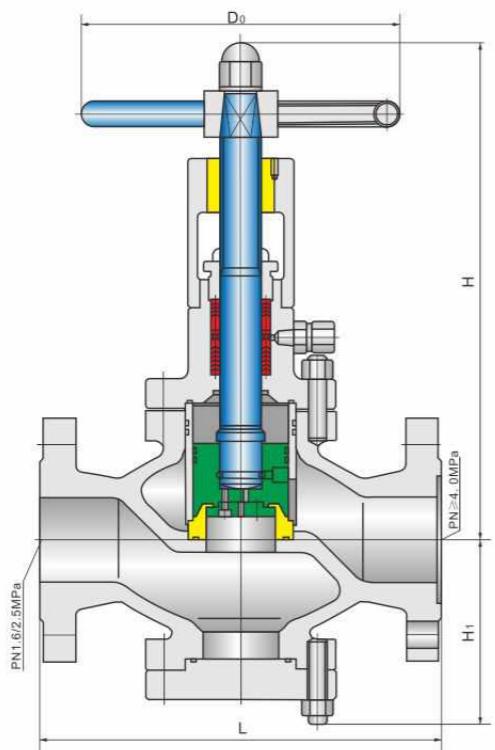
设计标准Design standard		GB/T12235
结构长度 Face to face	法兰连接Flange ends	GB/T12221
	对焊连接Welded connection	GB/T15188.1
连接法兰Flanged ends		JB/T97, GB/T9113
对焊端Butt-welding end		GB/T12224
试验和检验Test and inspection		JB/T9092

注：阀门连接法半及焊端尺寸可根据用户要求设计制造。  
Notes: The sizes of valve connecting flange and butt-welding terminas can be designed according to customer' s requirement.

**■ 主要零件材料 Major parts material form**

序号 No.	零件名称 Part name	材质 Material	序号 No.	零件名称 Part name	材质 Material
1	双头螺柱Studs	35CrMo	14	阀杆Stem	2Cr13
2	螺母Nut	35	15	阀盖Bonnet	25
3	底盖 Bottom covering		20	下填料垫 Put the packing cushion	1Cr13
4	O形圈o-ring	NBR	17	中填料 Middle packing	PTFE
5	阀体Body	WCB	18	中填料 Middle packing	NBR
6	阀座Seat	20+Ni45	19	上填料垫 Have the packing cushion	1Cr13
7	内六角圆柱头螺钉 Socket head cap round-stud screw	35	20	隔环 Spacing ring	PTFE
8	压板Pressing plate	20	21	填料压盖 Packing gland	45
9	密封圈Seal ring	NBR	22	支架Yoke	WCB
10	芯套Core set	20+ENP	23	阀杆螺母 Valve stem nut	ZQAL9-4
11	阀瓣Disc	2Cr13+Ni60	24	手轮Handwheel	20
12	钢球Ball	Gcr15	25	螺母Nut	35
13	O型圈o-ring	NBR	26	注脂阀 Fat valve of the note	25+镀锌 25+Zinc-plated (组件) (component)




**■ 主要外形尺寸及重量 Main size of outside and weight**

型号Model:(K)FLJ41Y、(K)FLJ41Y

PN (MPa)	DN (mm)	尺寸Dimensions(mm)				重量 (kg) Weight
		L	H	H1	D0	
1.6	25	216	243	86	180	17
	40	230	265	108	250	24
	50	230	346	115	250	27
	80	310	409	146	300	52
	100	350	433	163	300	60
	150	480	521	202	350	125
	200	600	594	292	350	165
	250	730	621	355	400	285
2.5	25	216	243	86	180	17
	40	230	265	108	250	24
	50	230	346	115	250	27
	80	310	409	146	300	55
	100	350	433	163	300	66
	150	480	521	202	350	140
	200	600	594	292	350	180
	250	730	621	355	400	310
4.0	25	216	243	86	180	20
	40	230	265	108	250	29
	50	230	346	135	250	32
	80	310	409	146	300	67
	100	350	433	163	300	80
	150	480	521	202	350	168
	200	600	594	292	350	215
	250	730	621	355	400	372

PN (MPa)	DN (mm)	尺寸Dimensions(mm)				重量 (kg) Weight
		L	H	H1	D0	
6.4	25	216	243	86	180	20
	40	230	265	108	250	29
	50	230	346	115	250	32
	80	310	409	146	300	67
	100	350	433	163	300	80
	150	480	521	202	350	168
	200	600	594	292	350	215
	250	730	621	355	400	372
10.0	25	230	245	78	200	29
	40	260	265	106	250	42
	50	300	387	110	300	55
	80	380	409	152	350	95
	100	430	433	169	350	120
	150	550	531	225	400	240
	200	660	709	321	500	310
	250	787	817	399	500	530
16.0	25	230	215	78	200	35
	40	260	265	105	250	50
	50	300	237	110	300	65
	80	390	414	155	350	116
	100	450	440	175	350	145

**阀套式排污阀 Valve Sleeve Type Sewage Valve**
**■ 产品结构特点 Products Design Features**

1、本阀是一种新型的节流、截止、放空产品，该阀门采用笼形迷宫节流，具有多级节流效果，节流效果明显、密封可靠、操作维护方便等特点。

This valve is a brand-new throttle, stop and emptying product, uses a cage-like puzzle palace throttle and features a multiple stage throttle effect, a notable throttle effect, a reliable seal and easy operation and maintenance.

2、阀门采用双重密封（硬、软质密封）使密封可靠、硬质合金密封面可以更耐气流冲刷、耐磨损，双重密封能做到在高压气体介质条件下的零泄漏。阀门使用寿命长。

The valve uses hard and soft two seals to get it reliably sealed, the carbide alloy sealing face becomes more resisting to the gas-flow erosion and more wearable and the dual-seal can realize null leak under the high pressure gas medium, leaving a long duration of the valve.

3、阀座的密封面采用锥度密封，有利于阀门自身清洗附在密封面上的脏物。

The sealing face of the seat ring uses a taper seal, benefit to the self-clean of the dirt absorbed onto the face.

4、阀门的阀瓣上设置了平衡孔，活塞式密封，保证了启/闭全压差条件下稳定操作，开启轻便灵活、启闭扭矩小。

A balancing hole and a piston type seal are set on the valve's disc, making sure of a stable operation, light and flexible open-close and a small open-close torque.

5、填料采用带自密封能力的V形填料结构，无需调节，开、关极为轻便。填料函处设有辅助密封油脂注入结构，使阀门填料密封性能可靠。

The packing uses a V-type packing structure with self-seal ability, without need to adjust and with both open and close extremely light. An assisting sealing grease injector is set in the packing place to have its sealing performance reliable.

6、本阀门可以进行在线维修，管线可以带压状态下更换填料等一系列易损件。

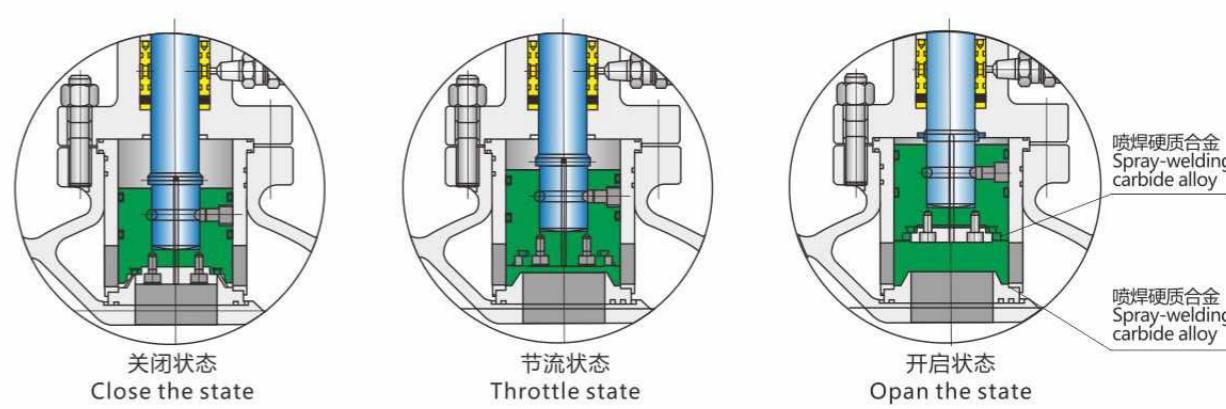
The valve can be on-line repaired and replacement of the packing etc. series easily-worn-out parts can be done with a pressure with the pipeline.

7、本阀在阀门的底部设置了较大的排污孔，必要时可以打开，清理阀内污物。

A bigger sewage removing hole is set on the bottom of the valve, it can be opened when necessary to clean up the dirt inside of the valve.

8、排污阀阀瓣的外圆处设有O形密封圈，在启/闭时具有自清扫功能和密封，排污时具有节流降压功能。

There is O-seal ring on the outer circle of the sewage valve's disc, it features self-clean and self-seal function at open-close and throttle and pressure reduction function at sewage removal.

**■ 工作原理 Operation principle**


1、常闭状态：阀瓣硬密封付压在浮动阀座凸台上，形成一道硬质密封，同时嵌在阀瓣上的软质密封与阀座端面紧压，形成第二道密封，双质密封结构保证了阀门的零泄漏，再由于阀瓣开设了平衡孔，使阀门在关闭、开启时，阀瓣受到较小的作用力，也使阀门开启、关闭时具有较小的力矩。

Constant close state: the hard seal pair of the floating disc presses on the convex desk of the seat ring to form the first hard seal and, in the meantime, the soft seal inlaid onto the disc is tightly against on the end-face of the seat ring to form the second seal, this dual-seal structure ensures null leak of the valve and, plus the balancing hole on the disc, the disc is subjected to a smaller effort during open and close of the valve and a smaller moment is made available for the valve to open and close.

2、节流排污状态：阀瓣密封付离开阀座，由于在阀瓣处设有了平衡孔，使阀门开启极为轻便。阀门开启后，管道中的介质、杂质一同流过阀套、阀座，同时实现节流与排污。阀瓣、阀座密封面利用套垫斜角改变介质流向，具有自清扫功能，使密封付不夹带杂质。

Throttle and sewage removal state: when the disc seal pair goes away from the seat ring, the balancing hole set on the disc makes the valve extremely easily opened and closed. After the valve is opened, the medium and the foreign matters go through the valve sleeve and the seat ring together and both throttle and sewage removal are realized. The sealing faces of both disc and seat ring use the inclination of the sleeve pad to change the medium's flowing direction and feature self-clean function so as to have the seal pair without foreign matters.

3、关闭状态：管道中介质排放后关闭阀门，介质从套垫斜角处进入阀座通道，流阻系数增加，流速加快，斜角改变介质流向方向，产生涡流，阀座端面介质径向力增加，实现阀座密封的吹扫。阀瓣密封付接近阀座时，套垫与阀座通道的配合间隙阻止较大颗粒介质流向密封付，加之流速的进一步增大和介质横向力的吹扫，阀门关闭时密封付杂质已完全清扫干净，保证了阀门排污后的密封性能，从而进一步保证排污后密封性也能达到无泄漏。因此大大提高了能力并延长了使用寿命。

Closed state: when the valve is closed after the medium in the pipeline is drained out, the medium goes into the seat ring's channel through the inclination of the sleeve pad, the fluid resistance coefficient increases, the flow rate becomes quicker, the inclination changes the medium's flowing direction to produce eddy. The radial force of the medium on the end-face of the seat ring increases to carry out the blowing on the seal of the seat ring. When the disc seal pair is close to the seat ring, the fit interval between the sleeve pad and the seat ring's channel resists the bigger grain medium to flow into the seal pair, plus the further increased flow rate and the lateral blowing by the medium, the foreign matters with the seal pair has been completely cleaned when the valve is closed so as to ensure the sealing performance of the valve after sewage removal, further ensure null leak from the seal after sewage removal, thus greatly enhancing the capacity and extending the duration.

#### ■ 产品性能规范 Products performance specification

压力等级 Pressure		常温试验压力 ( MPa ) Cold test pressure				适用温度 ( °C ) Suitable temperature		适用介质 Applicable medium		
		壳体 Shell	密封 Seal	上密封 Upper seal	气体低压密封 Gas low pressure seal	G型 G type	D型 D type	普通 Ordinary	搞硫型 Sulphur resisting type	普通 Ordinary
公称压力 ( MPa ) Nominal rating pressure ( PN )	1.6	2.4	1.76	1.76	0.6	-29~250	-45~121	-29~121	含H <sub>2</sub> S和 CO <sub>2</sub> > 500mg/m <sup>3</sup> 的介质 Medium containing H <sub>2</sub> S and CO <sub>2</sub> > 500mg/m <sup>3</sup>	石油，天然气 水等 Petroleum, natural gas water,etc
	2.5	3.8	2.75	2.75	0.6					
	4.0	6.0	4.4	4.4	0.6					
	6.4	9.6	7.04	7.04	0.6					
	10.0	15.0	11.0	11.0	0.6					
	16.0	24.0	17.6	17.6	0.6					

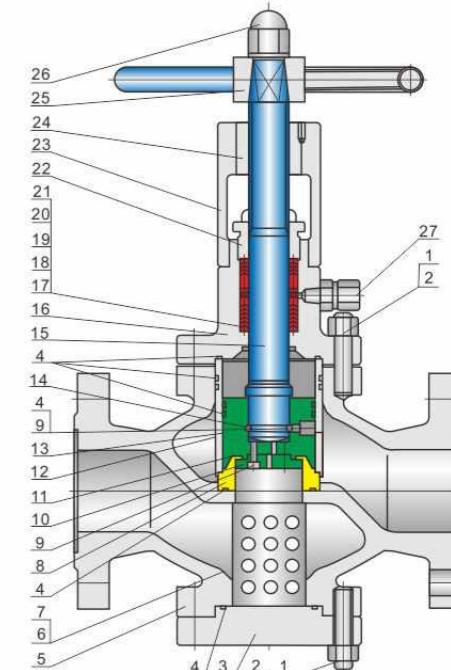
#### ■ 产品采用标准 Technical specification

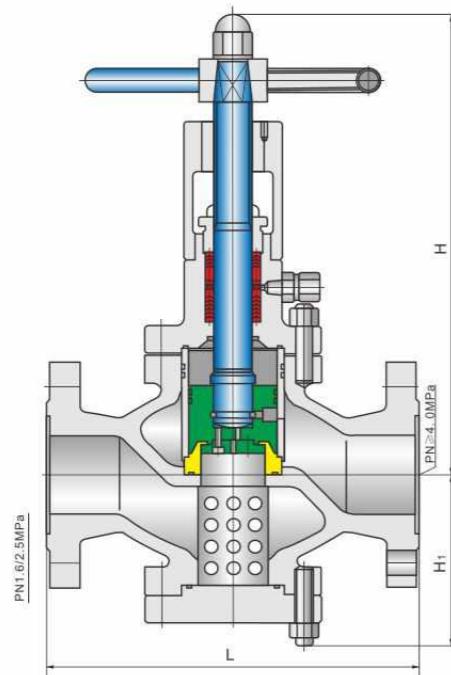
设计标准 Design standard		GB/T12235
结构长度	法兰连接 Flange ends	GB/T12221
Face to face	对焊连接 Welded connection	GB/T15188.1
	连接法兰 Flanged ends	JB/T97, GB/T9113
	对焊端 Butt-welding end	GB/T12224
	试验和检验 Test and inspection	JB/T9092

注：阀门连接法半及焊端尺寸可根据用户要求设计制造。  
Notes: The sizes of valve connecting flange and butt-welding terminas can be designed according to customer's requirement.

#### ■ 主要零件材料 Major parts material form

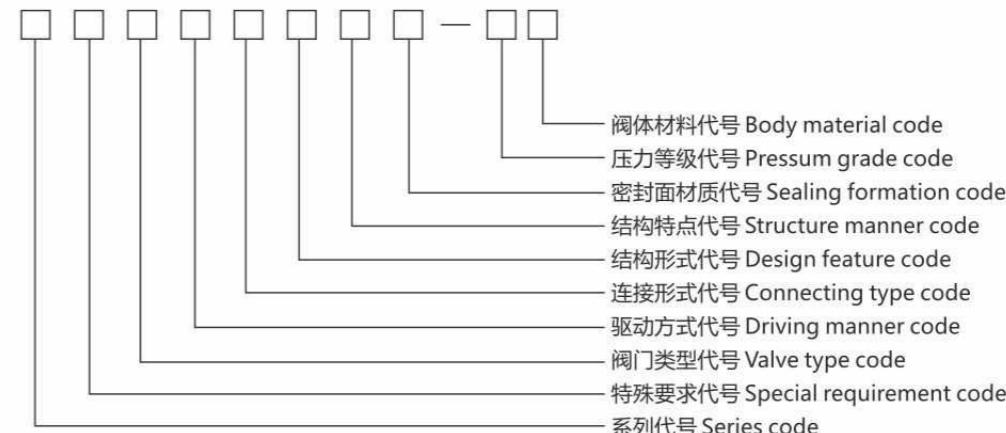
序号No.	零件名称 Part name	材质 Material
1	双头螺柱 Studs	35CrMo
2	螺母 Nut	35
3	底盖 Bottom covering	20
4	O形圈 O-ring	NBR
5	阀体 Body	WCB
6	排污套 Blowdown set	1Cr18Ni9
7	滤网 Filter screen	1Cr18Ni9
8	阀座 Seat	20+Ni45
9	内六角圆柱头螺柱 Socket head cap round-stud screw	35
10	压板 Pressing plate	20
11	密封圈 Seal ring	NBR
12	芯套 Core set	20+ENP
13	阀瓣 Disc	2Cr13+Ni60
14	钢球 Steel ball	Gcr15
15	阀杆 Stem	2Cr13
16	阀盖 Bonnet	25
17	下填料垫 Put the packing cushion	1Cr13
18	中填料 Middle packing	PTFE
19	中填料 Middle packing	NBR
20	上填料垫 Have the packing cushion	1Cr13
21	隔环 Spacing ring	PTFE
22	填料压盖 Packing gland	45
23	支架 Yoke	WCB
24	阀杆螺母 Valve stem nut	ZQAK9-4
25	手轮 Handwheel	20
26	螺母 Nut	35
27	注脂阀 Fat valve of the note	25+镀锌 ( 组件 ) 25+Zinc-plated ( package )




**■ 主要外形尺寸及重量 Main size of outside and weight**

型号Model:(K)TP41Y

PN (MPa)	DN (mm)	尺寸Dimensions(mm)				重量 (kg) Weight
		L	H	H1	D0	
1.6	25	216	243	86	180	18
	40	230	265	108	250	25
	50	230	346	115	250	28
	80	310	409	146	300	53
	100	350	433	163	300	62
	150	480	521	202	350	128
	200	600	594	292	350	168
	250	730	621	355	400	289
2.5	25	216	243	86	180	18
	40	230	265	108	250	25
	50	230	346	115	250	28
	80	310	409	146	300	57
	100	350	433	163	300	69
	150	480	521	202	350	145
	200	600	594	292	350	188
	250	730	621	355	400	315
4.0	25	216	243	86	180	21
	40	230	265	108	250	31
	50	230	346	135	250	35
	80	310	409	146	300	70
	100	350	433	163	300	85
	150	480	521	202	350	172
	200	600	594	292	350	219
	250	730	621	355	400	378

**平板闸阀 Flat Gate Valve**
**■ 型号编制说明 Modal schedule illustration**

**■ 系列代号 :本公司系列代号为JRD**

Series code: The series code name of our company is JRD

**■ 特殊要求代号 : K—抗硫型 L—调节型 ZB—自动补偿**

Special requirement code: K—Antisulphur model L—Adjustment type ZB—Auto compensation

**■ 阀门类型代号:Z—闸阀**

Valve type code: Z—Gate valve

**■ 驱动方式代号 : 4—正齿轮传动 5—伞齿轮传动 6—气动 6s—气动带手动 7—液动 9—电动(手轮传动略) 9B—防爆电动**

Driving manner code: 4—Spur gear transmission 5—Bevel gear transmission 6—Air driving 6s—Take pneumatically manually

7—Hydrodynamic driving 9—Electric driving (Hand wheel driving omitted) 9B—Explosion electric driving

**■ 连接形式代号 : 4—法兰连接 6—对焊连接**

Connecting type code: 4—Flange-connecting 6—Butt welding connecting

**■ 结构形式代号 : 3—明杆平行式单闸板 4—明杆平行式双闸板**

Design feature code: 3—Rising-stem parallel single-disc 4—Rising-stem parallel double-disc

**■ 结构特点代号 : W—无导流孔 (有导流孔省略) P—轻型**

Structure manner code: W—Non-diversion hole type (Diversion hole type omitted) P—Light-duty

**■ 密封面材质代号 : Y—硬质合金 H—合金钢 D—渗氮钢 F—增强聚四氟乙烯**

Sealing formation code: Y—Hard alloy H—Alloy steel D—Nitriding steel F—Intensified polytetrafluoroethylene(PTFE)

**■ 压力等级代号 : 公称压力为MPa的10倍、磅级为实际数**

Pressure grade code: The 10 times of the nominal pressure MPa, pound grade is practical number

**■ 阀门材料代号 : C—WCB I—WC6、ZG1Cr5Mo V—WC9、ZG20CrMoV P—CF8、ZG1Cr18Ni9Ti**

R—CF8M、ZG1Cr18Ni12Mo2Ti S—CF3 L—CF3M F—LCB N—LC3

Body material code: C—WCB I—WC6, ZG1Cr5Mo V—WC9, ZG20CrMoV P—CF8, ZG1Cr18Ni9Ti

R—CF8M, ZG1Cr18Ni12Mo2Ti S—CF3 L—CF3M F—LCB N—LC3

例1: Z543WF-16C

注释: 公称压力为16MPa、伞齿轮传动、法兰连接、无导流孔、明杆平行式单闸板闸阀, 阀体材质为WCB, 密封面材质为增强聚四氟乙烯。

**Example 1 : Z543WF-16C**

Denoting 1.6MPa nominal rating pressure, bevel gear transmission, flange-connecting, nondiversion hole, Rising-stem parallel single-disc, WCB valve body material and the Intensified polytetrafluoroethylene(PTFE) as sealing material.

**例2: KZ9B44Y-150Lb**

注释: 压力等级为Class150、防爆电动、法兰连接、有导流孔、抗硫明杆平行式双闸板闸阀, 阀体材质为WCB, 密封面材质为硬质合金。

**Example 2: KZ9B44Y-150Lb**

Denoting Class 150 pressure grade, explosion electric driving, flange-connecting, diversion hole type, antisulphur rising-stem parallel double-disc gate valve, WCB valve body material and the hard alloy sealing material.

### ■ 产品结构特点 Products Design Features

- 阀体有铸造和焊接两种结构。  
Cast and weld two structures with the body
- 阀座采用O形密封圈密封和施加预紧力的浮动阀座结构，使阀门进出口双向密封；并且该结构的启闭力矩仅为普通阀门的1/2，能达到轻松开、关阀门。  
The seat ring uses the floating seat ring structure with O-seal ring sealed and pre-tightening force applied to have inlet and outlet dual-way sealed; and the open-close moment with this structure is 1/2 that of the common valves only, able to lightly open and close valves.

- 阀座采用密封面上镶嵌PTFE，具有PTFE对金属和金属对金属的双重密封，PTFE密封面同时清除闸板脏物的作用。  
The seat ring uses the sealing face inlaid with PTFE, so has dual seals of PTFE to metal and metal to metal, the PTFE sealing face also acts as removing the dirt on the wedge disc.
- 金属对金属密封的阀门。阀体外部设有注油脂结构，油脂通过注脂器、旧座进入阀门密封面，使阀门达到零泄漏。  
For the valve with the metal to metal seal, there is grease injector outside of it, grease gets into the sealing face through the injector and the seat ring to have the valve up to no leak.
- 带导流孔阀门的闸板，无论是全开或是全关始终与密封面吻合，密封面得到保护不受介质直接冲刷，从而延长使用寿命。  
The wedge disc of the valve with flow guide hole is always fitted with the sealing face whether in full open or full close status to have the sealing face protected without being directly eroded by the medium so as to extend the duration.
- 阀门在全开时，通道平滑为直线，流阻系数极小。无压力损失。可通毛球清扫管道。  
When fully opened, the valve's channel is smooth and linear, with an extremely small flow resisting coefficient and no pressure loss, and the pipeline can be cleaned with hair-ball through it.

- 本阀门采用带自密封能力的填料结构，无需经常调节，开、关极为轻便，且密封性可靠，填料函处设有辅助密封油脂注入结构，密封性能绝对可靠，真正达到零泄漏；解决了通用阀门填料处最易外漏的弊病。

This valve uses the packing structure with the ability of self-seal, needs no constant adjustment, features very light open and close and a reliable seal. An assisting sealing grease injection structure is set in the packing to have the sealing performance absolutely reliable and get a true null leak, settling the problem for the packing place of universal valves to be easiest leak outward.

- 阀门关闭时能自动卸掉内腔高压（详见工作原理图）。保证使用安全。  
Automatic removal of the high pressure in the internal cavity when the valve is about to close (see the working principle diagram for the details) so as to ensure safety.
- 全封闭结构，防护性能好，可适应全天候要求。  
Fully sealed structure leaves a good protective property, suitable for the requirement of 24-hour duty.
- 阀门设有指示杆或观察窗以表示阀门的启闭情况。  
An indication rod or viewing window is set with the valve to show the open-close condition.

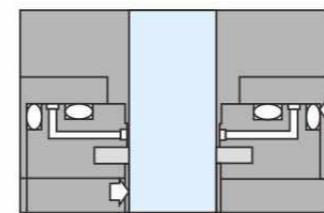
### ■ 产品性能规范 Products Performance Specification

压力等级 Pressure	常温试验压力 ( MPa ) Testing pressure at constant temperature(MPa)				适用温度 Applicable temperature	适用介质 Applicable medium	
	壳体试验 The shell testing	左密封 The left sealing	右密封 Right sealing	低低压气密封 Low pressure air tightness		普通型 Ordinary type	抗硫型 Antisulphur type
公称压力 ( MPa ) Nominal rating pressure (PN)	1.6	2.4	1.76	1.76	0.6	-29~121°C 或按用户要求 -29~121°C or upon the user requirement	石油。天然气。水 等非腐蚀性介质 Petroleum,naturalgas, water etc.non- corrosive media
	2.5	3.75	2.75	2.75	0.6		
	4.0	6.0	4.4	4.4	0.6		
	6.4	9.6	7.04	7.04	0.6		
	10.0	15.0	11.0	11.0	0.6		
	16.0	24.0	17.6	17.6	0.6		
	25.0	37.8	27.5	27.5	0.6		
磅级 ( Lb ) Pound grade (Class)	42.0	63.0	46.2	46.2	0.6	含H <sub>2</sub> S、CO <sub>2</sub> 的石油、天 然气、水等腐蚀性介质 Petroleum,naturalgas, water etc.containing H <sub>2</sub> S,CO <sub>2</sub> corrosive media	
	150	3.0	2.2	2.2	0.6		
	300	7.5	5.5	5.5	0.6		
	400	9.6	7.04		0.6		
	600	15.0	11.0	11.0	0.6		
	900	22.5	17.5	17.5	0.6		
	1500	37.5	27.5	27.5	0.6		
	2500	63.0	46.2	46.2	0.6		

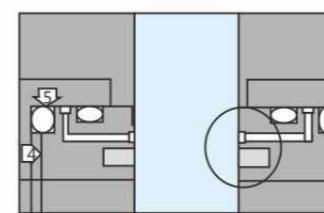
### ■ 工作原理 Working Principle



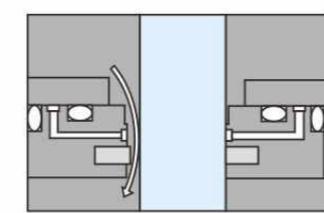
图(1)



图(2)



图(3)



图(4)

1、阀门内部压力相当(1)，闸板处于闭合状态，阀座表面PTFE密封环形成初始密封，每次阀门开或关时，阀座圈能清洁闸板两侧。（如图1）

With equal pressure throughout the valve (and the gate in closed position), and initial seal (1) is formed with the raised PTFE ring on the faces of the seats. (The seat-inserts clean both sides of the gate each time the valve is opened or closed)

2、对阀门施加管道压力(2)，压力作用于闸板，迫使它贴近出口阀座上的PTFE环，压缩它直到闸板停在钢制阀座上，这样，就形成了双重密封，首先是PTFE对金属密封，然后是金属对金属密封，阀座也被牢固地推到凹槽，在这一点(3)，O形圈阻止任何后部介质流。（如图2）

As line pressure (2) is applied to the valve, it acts on the gate, forcing it against the PTFE ring on the downstream seat, compressing it until the seat against the steel seat. Thus, a double seal is formed...first, a PTFE-to-metal seal then, metal-to-metal. The seat is also forced firmly into its recess. The O-ring (3) prevents any downstream flow at this point.

3、阀腔压力泄放后，形成进口密封，管道压力作用于进口阀座(4)，使其移向闸板，这时形成PTFE对金属的密封，同时，O形圈(5)与阀座凹槽形成紧密的密封。（如图3）

Upstream seal is provided when valve cavity pressure is bled off. This is caused by the force of line pressure acting against the upstream seat (4) moving the seat against the gate and providing a tight PTFE-to-metal seal at this point. At the same time, the O-ring (5) forms a tight seal with the seat recess.

4、阀门自动泄放多余的压力，当阀腔压力大于管道压力时，由于热膨胀，进口阀座推向凹槽，阀腔内多余的压力在阀座与闸板之间泄放到管道中。（如图4）

Valve automatically relieves itself of excessive valve cavity pressure. When valve cavity pressure exceeds line pressure...from such causes as thermal expansion...the upstream seat is forced back into its recess and the excess pressure in the valve cavity is bled between the seat and the gate into the line.

### ■ 产品主要参数 Main Parameter of the Products

基本型号 Serial models	(K)Z43WF、(K)Z43WY、(K)Z43WD、(K)Z44WF、(K)Z44WY、(K)Z44WD (K)Z543WF、(K)Z543WY、(K)Z543WD、(K)Z544WF、(K)Z544WY、(K)Z544WD (K)Z643WF、(K)Z643WY、(K)Z643WD、(K)Z644WF、(K)Z644WY、(K)Z644WD (K)Z943WF、(K)Z943WY、(K)Z943WD、(K)Z944WF、(K)Z944WY、(K)Z944WD		
压力等级范围 Pressure grade range	PN1.6~15.0MPa		Class150~900
通径范围 Drift diameter range	DN25~1200mm		1"~48"
驱动方式 Driving manner	手轮驱动 Hand wheel driving		齿轮动、气动、液动、电动 Gear driving, air-operating, hydrodynamic driving and electric driving
适用范围 Scope of application	Class150~300 (PN1.6~4.0)	Class400 (PN6.4)	Class600~900 (PN10.0~15.0)
	1"~40" (DN25~1200mm)	1"~28" (DN25~1100mm)	1"~12" (DN25~300mm)
			1"~48" (DN25~1200mm)

注：本公司可根据用户要求提供产品。

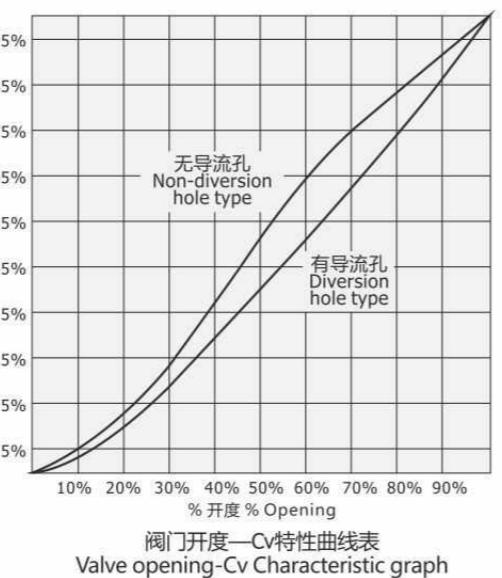
Note: Our company can provide products at customers' request.

### ■ 流量特性分析

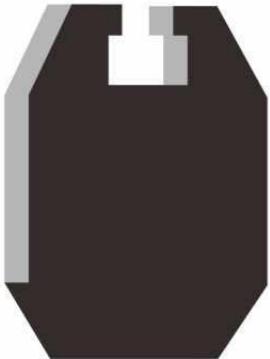
带导流孔的平板闸阀，其流量特性等同于同规格的管道，呈等百分比特性，不带导流孔的平板闸阀，其中腔跨度较楔式闸阀小，其属于规则的圆柱体，所以，基本上除压力损失较带导流孔的大外，其余特性基本接近。不带导流孔调节型的平板闸阀其对流量的调节特性优于普通不带导流孔的平板闸阀。

### ■ Flow Charalteristic

The flow characteristic of flat gate valves with a diversion hole is equal to that of pipelines of the same specification. The characteristic is shown in per centum form. As for valves without a diversion hole, its cavity fly span is smaller than that of wedge gate valves and it is a regular cylindrical object, therefore, characteristics of the valve are similar except that they have a larger pressure loss. Beside, their flux adjustment behavior is better than that of the ones with a diversion hole.



### ■ 各类型闸板外形图 Outside Drawing of Different Types of Shutter



普通型闸板  
Ordinary type

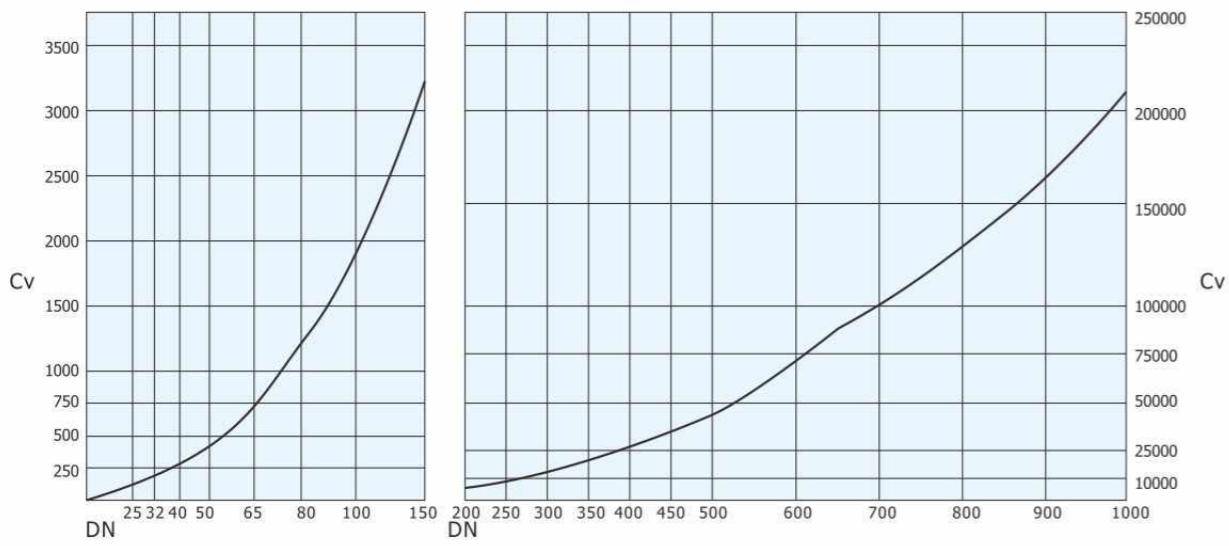


调节型闸板  
Adjustment type



带导流孔型闸板  
Type ad diversion hole

### ■ 带导流孔型平板闸阀的DN-Cv曲线图 DN-Cv Graph of Flat Valves with a Diversion Hole



### 无导流孔平板闸阀 Through Conduit Gate Valve Without Diversion Holes



### ■ 产品采用标准 Technical Specification

设计依据 Design reference	GB	API
设计标准 Design standard	JB/T5298 GB/T19672	API6D ASMEB16.34
结构长度 Structural length	法兰 Flanged GB/T12221 GB/T19672、JB/T5298	API6D ASMEB16.10
	焊接 Welded connection GB/T12221 GB/T19672	
	连接法兰 Flanged ends GB/T9113 GB/T79	ASMEB16.5 MSS SP44
	对焊端 Butt-welding ends GB/T12224	ASMEB16.25
试验和检验 Test & Inspection	JB/T9092	API 6D API 598

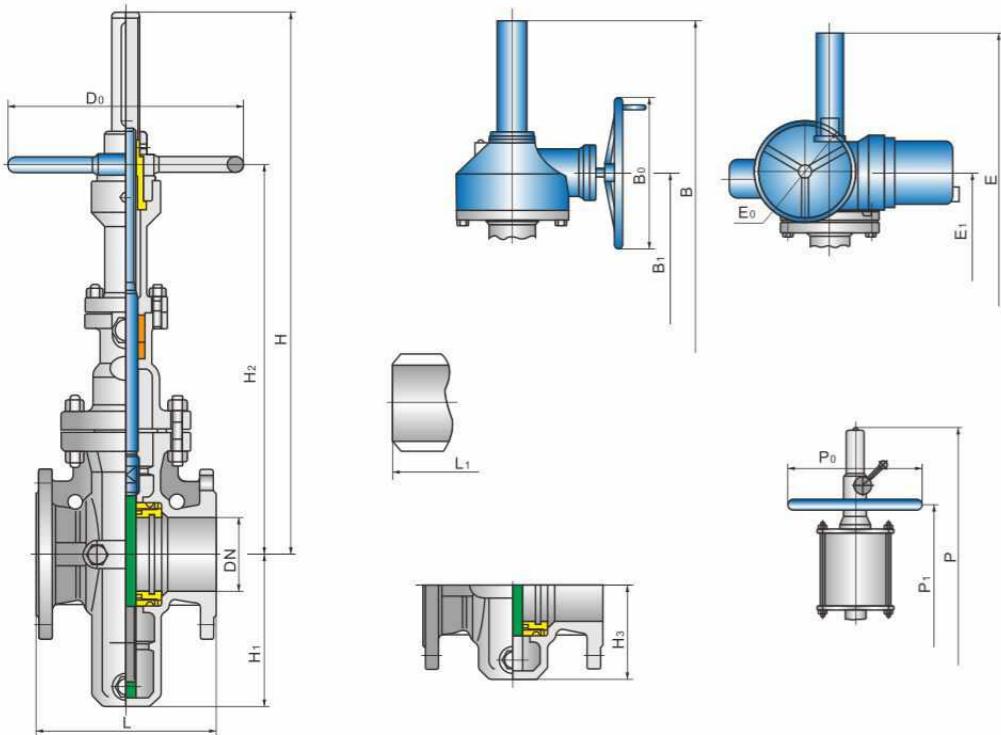
注：阀门连接法兰尺寸可根据用户要求设计制造。

Note: The sizes of valve connecting flange can be designed according to customers'requirement.

### ■ 主要零件材料 Major Parts Material Form

序号 No.	零件名称 Accessory name	材料 Material			
		普通型 Ordinary type		抗硫型 Antisulphur type	
1	排污堵头 Blowdown stops	25+Zn	A105+Zn	1Cr18Ni9	A276-304
2	阀体 Body	WCB	A216-WCB	WCB	A216-WCB
3	闸板 Disc	16Mn+STL-6	A105+STL-6	1Cr18Ni9+STL-6	A276-304+STL-6
4	阀座 Seat	16Mn+STL-6	A105+STL-6	1Cr18Ni9+STL-6	A276-304+STL-6
5	O型圈 "O"ring	NBR	NBR	FPM	FPM
6	阀杆 Stem	2Cr13	A276-420	1Cr18Ni9	A276-304
7	填料座 Packing seat	2Cr13	A276-420	2Cr13	A276-420
8	填料 Packing	柔性石墨 Graphite	柔性石墨 Graphite	柔性石墨 Graphite	柔性石墨 Graphite
9	Y型圈 "Y"ring	NBR	NBR	FPM	FPM
10	密封套 Sealing shroud	2Cr13	A276-420	2Cr13	A276-420
11	指示杆 Indicating stem	1Cr18Ni9	A276-304	1Cr18Ni9	A276-304
12	垫片 Gasket	柔性石墨+1Cr18Ni9 Graphite+1Cr18Ni9	柔性石墨+1Cr18Ni9 Graphite+1Cr18Ni9	柔性石墨+1Cr18Ni9 Graphite+1Cr18Ni9	柔性石墨+1Cr18Ni9 Graphite+1Cr18Ni9
13	阀盖 Bonnet	WCB	A216-WCB	WCB	A216-WCB
14	螺柱 Stud	35CrMoA	A193-B7	35CrMoA	A193-B7
15	螺母 Nut	45	A194-2H	45	A194-2H
16	支架 Yoke	WCB	A216-WCB	WCB	A216-WCB
17	阀杆螺母 Stem nut	ZQA19-4	C95500	ZQA19-4	C95500
18	压盖 Gland	25	A105	25	A105
19	手轮 Hand wheel	25	A536-60-40-18	25	A536-60-40-18
20	指示罩 Indicating cover	1Cr18Ni9	A276-304	1Cr18Ni9	A276-304

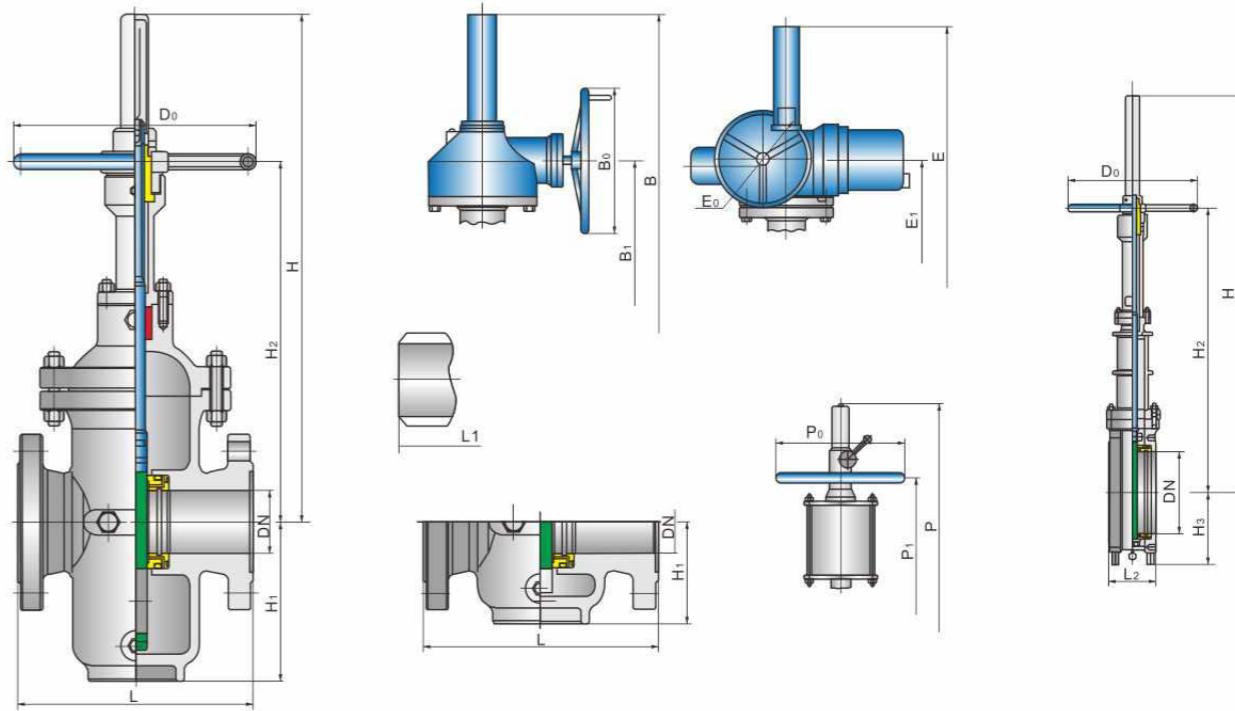
注：阀门主要零部件材质可根据实际工况条件或用户特殊要求设计选用  
Notes: The major parts of the valves can be designed and selected according to actual work condition or customers' specific requirement.



■ 主要外形尺寸 Main Size of Outside

型号 Model:(K)Z5(6/9)4(6)3(4)W(P)(F/Y/D) PN1.6/2.5MPa PN2.0MPa API 6D Class150

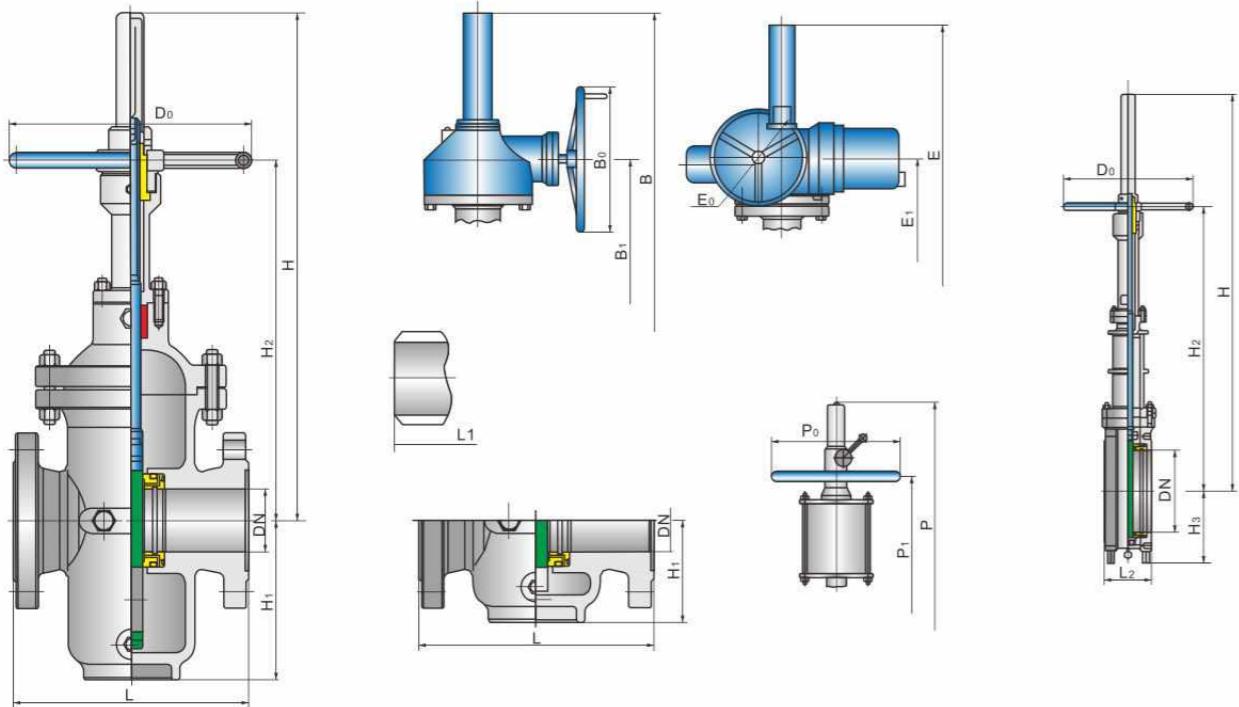
DN (mm)	NPS (in)	法兰 Flange		对焊 Butt welding	轻型 Light- duty	手动 Hand-operated			齿动 Geared driving			齿动 装置 Gated driving			气动 液动 Air-operating and Fluid driving			电动 Electric driving device			电动 装置 Electric driving device		无导流孔 Non-diversion hole type		有导流孔 Diversion hole type	
		L	L1			H	H2	D0	B	B1	B0	P	P1	P0	E	E1	E0	H3	H1							
25	1	127	127	-	-	360	250	180	-	-	-	-	-	-	-	-	-	60	85							
32	1 1/4	140	140	-	-	375	260	180	-	-	-	-	-	-	-	-	-	76	103							
40	1 1/2	165	165	-	-	410	290	250	-	-	-	-	-	-	-	-	-	85	115							
50	2	178	216	108	450	315	250	-	-	-	-	525	430	250	-	-	-	-	90	122						
65	2 1/2	190	241	112	550	42	300	-	-	-	-	648	560	300	-	-	-	-	100	154						
80	3	203	283	114	610	428	300	-	-	-	-	730	630	300	-	-	-	-	115	169						
100	4	229	305	127	700	494	300	770	650	310	BA-00	850	720	300	912	790	200	SMC-04	121	215						
150	6	267	403	140	895	625	350	965	800	310	BA-00	1120	920	350	1107	920	500	SMC-03	165	283						
200	8	292	419	152	1130	784	350	1200	960	310	BA-0	1430	1160	350	1390	1120	500	SMC-3	195	375						
250	10	330	457	165	1290	937	400	1360	1080	310	BA-0	1665	1380	400	1550	1250	500	SMC-3	225	468						
300	12	356	502	178	1480	1080	450	1560	1200	310	BA-0	1930	1550	450	1740	1400	305	SMC-00	255	540						
350	14	381	572	190	1660	1283	500	1740	1350	460	BA-0	2185	1750	450	1913	1550	305	SMC-00	265	585						
400	16	406	610	216	1850	1417	600	1930	1500	460	BA-1	2450	2000	500	2103	1620	305	SMC-00	325	692						
450	18	432	660	222	2080	1489	600	2160	1680	460	BA-1	2755	2250	500	2365	1830	305	SMC-0	346	790						
500	20	457	711	229	2300	1672	700	2420	1850	460	BA-1	3050	2450	600	2585	1980	305	SMC-0	375	855						
600	24	508	813	267	2680	2012	800	2800	2120	460	BA-2	3580	2900	800	2990	2300	305	SMC-1	445	1045						
700	28	610	914	292	3080	2250	800	3200	2450	460	BA-2	4130	3350	800	3390	2600	305	SMC-1	515	1190						
800	32	660	965	318	3491	2550	1000	3640	2800	460	BA-2	-	-	-	3850	2980	305	SMC-1	560	1350						
900	36	711	1016	330	3897	2850	1000	4050	3080	600	BA-3	-	-	-	4260	3200	458	SMC-2	630	1510						
1000	40	811	-	410	4317	3250	1200	4467	3400	600	BA-3	-	-	-	4677	3600	458	SMC-2	685	1715						
1200	48	811	-	-	-	-	-	5350	4100	620	BAA-3	-	-	-	5500	4250	610	SMC-3	850	2150						



■ 主要外形尺寸 Main Size of Outside

型号 Model:(K)Z5(6/9)4(6)3(4)W(P)(F/Y/D) PN4.0MPa PN5.0MPa API 6D Class300

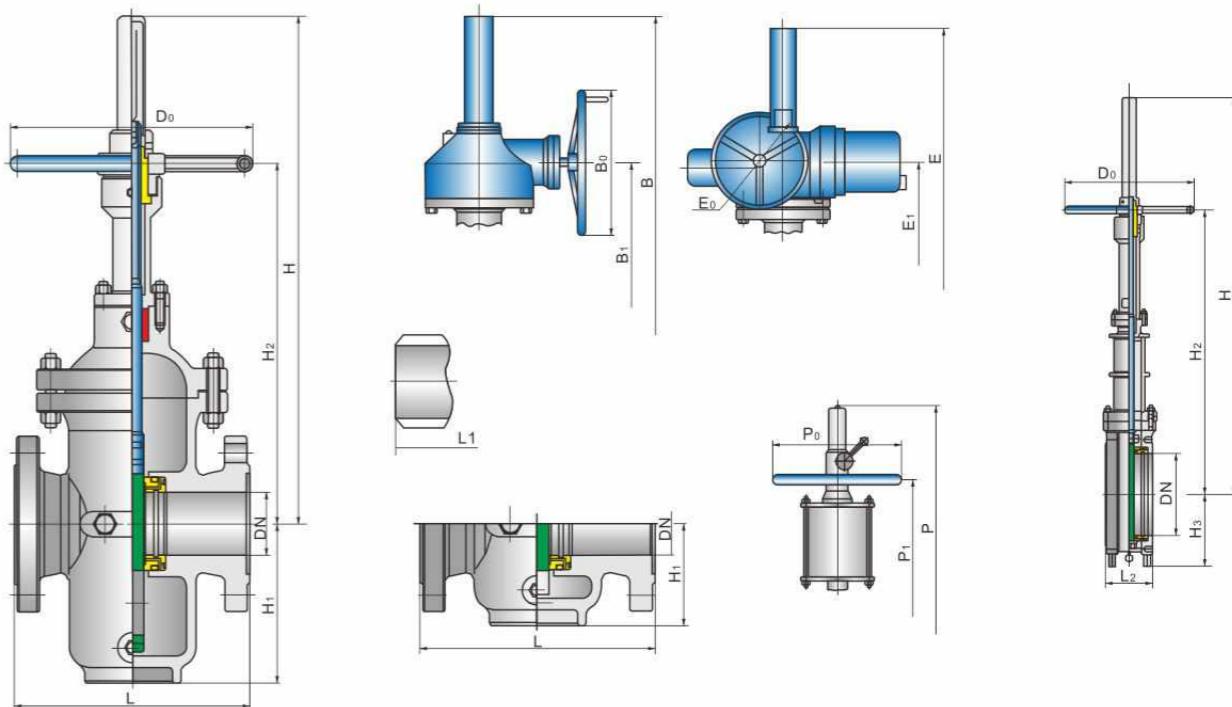
DN (mm)	NPS (in)	法兰 Flange		对焊 Butt welding	手动 Hand-operated			齿动 Geared driving			齿动 装置 Gated driving	气动 液动 Air-operating and Fluid driving			电动 Electric driving device			电动 装置 Electric driving device	无导流孔 Non-diversion hole type		有导流孔 Diversion hole type	
		DN	NPS		GB	API	L1	H	H2	D0	B	B1	B0	P	P1	P0	E	E1	E0	H3	H1	
25	1	165	165	165	370	260	180	-	-	-	-	-										



■ 主要外形尺寸 Main Size of Outside

型号 Model:(K)Z5(6/9)4(6)3(4)W(F/Y/D) PN6.4MPa API 6D Class400

DN (mm)	NPS (in)	法兰 Flange		对焊 Butt welding	手动 Hand-operated		齿动 Geared driving			齿动 装置 Geared driving	气动 液动 Air-operating and Fluid driving			电动 Electric driving device		电动 装置 Electric driving device	无导流孔 Non-diversion hole type	有导流孔 Diversion hole type		
		L			B		B1		B0			P	P1	P0	E	E1				
		GB	API		L1	H	H2	D0	B	B1	B0	P	P1	P0	E	E1				
50	2	250	292	292	458	325	300	505	430	310	BA-00	533	435	200	647	560	200	SMC-04	100	137
65	2½	280	330	330	555	420	300	560	470	310	BA-00	653	565	200	702	610	200	SMC-04	106	160
80	3	310	356	356	615	430	350	610	510	310	BA-00	735	635	250	752	650	500	SMC-03	120	185
100	4	350	406	406	710	500	350	770	650	310	BA-00	860	730	250	912	790	500	SMC-03	135	225
150	6	450	495	495	900	625	400	965	800	310	BA-00	1125	925	350	1138	950	305	SMC-00	170	330
200	8	550	597	597	1135	790	500	1200	960	310	BA-0	1435	1165	350	1373	1100	305	SMC-00	220	400
250	10	650	673	673	1401	1040	500	1370	1090	460	BA-1	1776	1450	400	1575	1280	305	SMC-0	275	505
300	12	750	762	762	1580	1150	600	1560	1200	460	BA-1	2030	1620	450	1725	1390	305	SMC-0	285	520
350	14	850	826	826	-	-	-	1740	1350	460	BA-1	2305	1900	500	1930	1570	305	SMC-1	405	650
400	16	950	902	902	-	-	-	1970	1540	460	BA-2	2558	2100	600	2210	1700	305	SMC-1	450	735
450	18	1050	978	978	-	-	-	2260	1700	460	BA-2	2835	2320	700	2500	1940	305	SMC-1	490	810
500	20	1150	1054	1054	-	-	-	2420	1850	460	BA-2	3120	2510	800	2630	2020	458	SMC-2	520	935
600	24	1350	1232	1232	-	-	-	2800	2120	600	BA-3	-	-	-	3050	2350	458	SMC-2	600	1170
700	28	1450	1397	1397	-	-	-	3230	2460	600	BA-3	-	-	-	3480	2680	458	SMC-2	665	1330
800	32	1650	1651	1651	-	-	-	3640	2800	600	BA-3	-	-	-	3890	3020	458	SMC-2	720	1420
900	36	1727	1880	1880	-	-	-	4050	3080	600	BA-3	-	-	-	4260	3200	458	SMC-2	820	1580
1050	40	-	1880	1880	-	-	-	4467	3400	600	BA-3	-	-	-	4677	3600	610	SMC-3	950	1720
1100	42	-	1981	1981	-	-	-	4650	3550	600	BAA-3	-	-	-	4870	3790	610	SMC-3	1070	1800

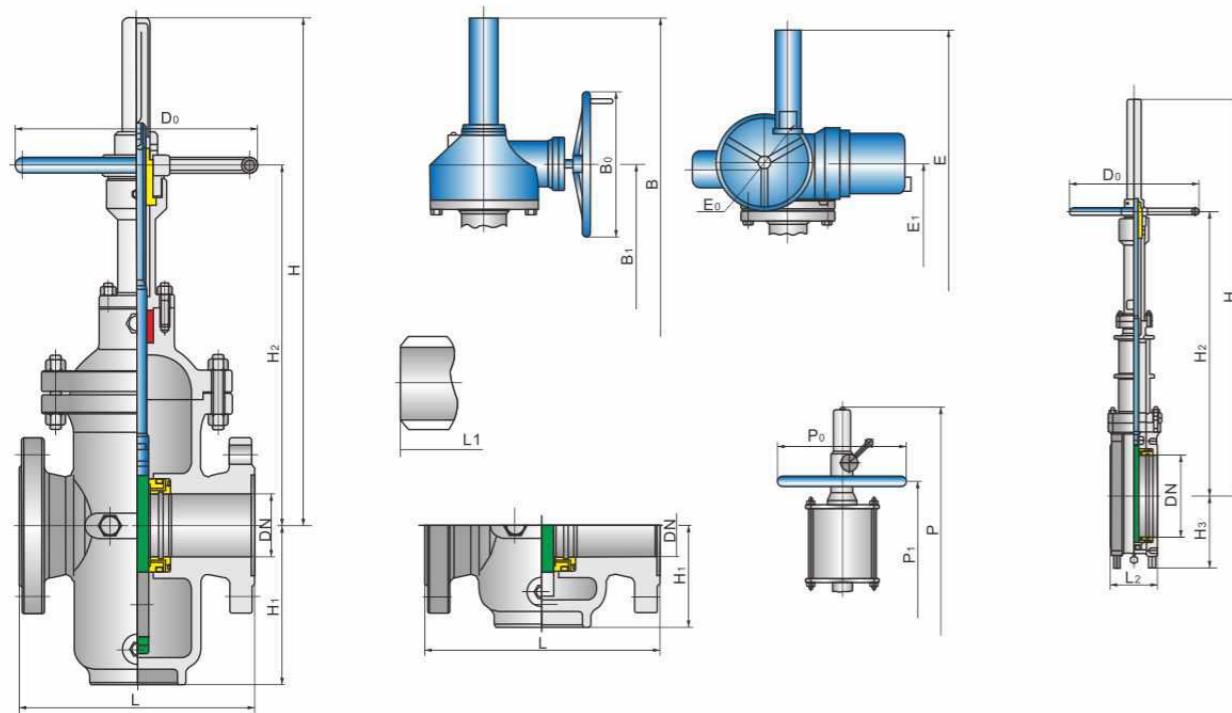


■ 主要外形尺寸 Main Size of Outside

型号 Model:(K)Z5(6/9)4(6)3(4)W(F/Y/D) PN10.0MPa API 6D Class600

DN (mm)	NPS (in)	法兰 Flange		对焊 Butt welding	手动 Hand-operated		齿动 Geared driving			齿动 装置 Geared driving	气动 液动 Air-operating and Fluid driving			电动 Electric driving device		电动 装置 Electric driving device	无导流孔 Non-diversion hole type	有导流孔 Diversion hole type		
		L			B		B1		B0			P	P1	P0	E	E1				
		GB	API		L1	H	H2	D0	B	B1	B0	P	P1	P0	E	E1				
50	2	250	292	292	468	335	300	505	430	310	BA-00	543	445	200	647	560	200	SMC-04	108	158
65	2½	280	330	330	565	430	300	560	470	310	BA-00	663	570	200	702	610	200	SMC-04	125	190
80	3	310	356	356	625	440	350	610	510	310	BA-00	745	640	250	752	650	500	SMC-03	145	225
100	4	350	432	432	720	510	350	770	650	310	BA-01	870	740	250	950	820	500	SMC-03	165	255
150	6	450	559	559	910	630	400	965	800	310	BA-01	1135	930	350	1138	950	305	SMC-0	220	330
200	8	550	660	660	1145	800	500	1200	960	310	BA-1	1445	1170	350	1403	1130	305	SMC-0	280	410
250	10	650	787	787	1411	1050	500	1370	1090	460	BA-1	1786	1460	400	1575	1280	305	SMC-0	330	490
300	12	750	838	838	1590	1160	600	1560	1200	460	BA-1	2040	1630	450	1750	1410	305	SMC-1	380	570
350	14	850	889	889	-	-	-	1740	1350	460	BA-2	-	-	-	1930	1570	305	SMC-1	430	

## 平板闸阀 Flat Gate Valve



### ■ 主要外形尺寸 Main Size of Outside

型号 Model:(K)Z5(6/9)4(6)3(4)W(F/Y/D) PN16.0MPa API 6D Class900

DN (mm)	NPS (in)	法兰 Flange		对焊 Butt welding	手动 Hand-operated		齿动 Geared driving		齿动 装置 Geared driving	气动 液动 Air-operating and Fluid driving			电动 Electric driving device		电动 装置 Electric driving device	无导流孔 Non-diversion hole type	有导流孔 Diversion hole type			
		GB	API		L	H	H <sub>2</sub>	D <sub>0</sub>		B	B <sub>1</sub>	B <sub>0</sub>	E	E <sub>1</sub>	E <sub>0</sub>					
50	2	368	368	368	473	335	300	525	450	310	BA-00	548	450	250	647	560	500	SMC-03	108	158
65	2 <sup>1</sup> / <sub>2</sub>	419	419	419	570	435	300	585	490	310	BA-00	668	580	300	702	610	500	SMC-03	125	190
80	3	381	381	381	630	445	350	635	530	310	BA-0	750	650	350	752	650	305	SMC-00	145	225
100	4	457	457	457	725	515	350	800	680	310	BA-0	875	745	400	950	820	305	SMC-00	165	255
150	6	610	610	610	915	640	400	995	830	310	BA-01	1140	940	500	1138	950	305	SMC-0	220	330
200	8	737	737	737	1150	800	500	1250	1000	460	BA-1	1450	1180	550	1403	1130	305	SMC-0	280	410
250	10	838	838	838	1415	1055	500	1420	1140	460	BA-1	1791	1465	600	1575	1280	305	SMC-1	330	490
300	12	965	965	965	1595	1165	600	1600	1230	460	BA-2	2045	1635	700	1750	1410	305	SMC-	380	570
350	14	1029	1029	1029	-	-	-	1890	1450	460	BA-2	-	-	-	1930	1570	305	SMC-1	-	690
400	16	1130	1130	1300	-	-	-	2175	1660	600	BA-3	-	-	-	2210	1700	458	SMC-2	-	800
450	18	1219	1219	1219	-	-	-	2355	1800	600	BA-3	-	-	-	2500	1940	458	SMC-2	-	890
500	20	1321	1321	1321	-	-	-	2520	1920	600	BA-3	-	-	-	2630	2020	610	SMC-3	-	985
600	24	1549	1549	1549	-	-	-	3050	2240	620	BA-4	-	-	-	3100	2450	610	SMC-3	-	1150

## 高压平板闸阀 High Pressure Flat Gate Valve

### ■ 产品结构特点 Products Design Features

本公司ZF系列注水阀均为高压平板闸阀。结构合理，密封可靠，操作轻便。密封面均喷焊硬质合金，具有防腐、耐磨、耐冲蚀等优点，且可用于节流。尤其适用于工作压力≤42MPa，工作温度≤120°C的水、油、泥浆、天然气管线作控制介质流动的启闭及调节装置。

The ZF series water injecting valves are high pressure flat-plate gate valves. with a reasonable structure, a reliable seal and an easy operation and the sealing face is built-up welded with carbide alloy. features anti-corrosion, anti-wear and anti-erosion and can be used for throttle, especially suitable for the water, oil, mud pulpy, natural gas pipeline as the open-close and adjusting device to control the medium flowing.

### ■ 产品采用标准 Technical Specification

设计标准 Design standard	GB/T19672、JB/T5298、API 6D
结构长度 Structure length	法兰 Flanged GB/T 12221、GB/T 19672、JB/T 5298
	焊接 Welded Connection GB/T 12221、GB/T 19672
	连接法兰 Flange Ends GB/T 9113、JB/T 79、ASME B16.5
	对焊端 Butt-welding ends GB/T 12224
	试验和检验 Test and inspection GB/T 13927、JB/T 9092



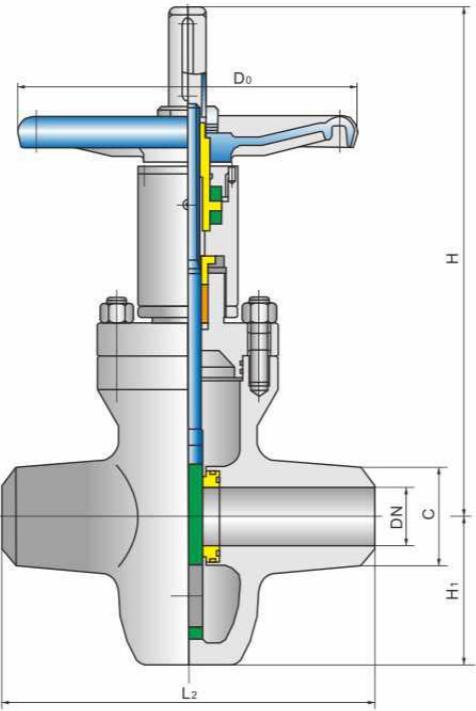
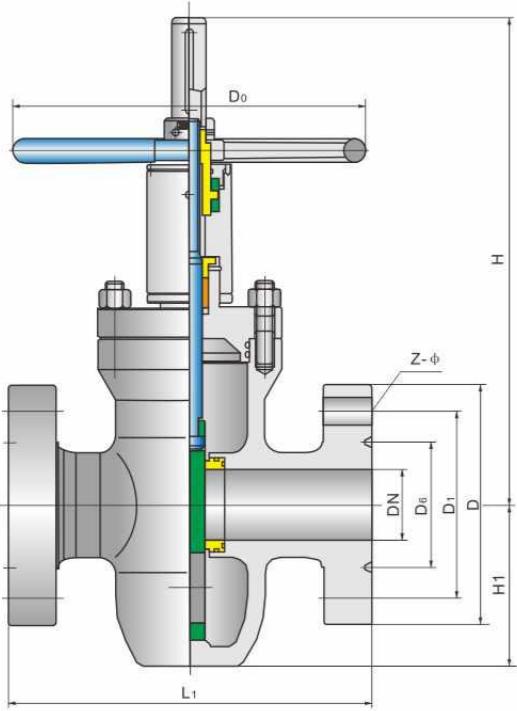
### ■ 产品性能规范 Products Performance Specification

适用范围 Scope of application	PN10.0~42.0MPa	DN25~200mm
适用温度 Applicable temperature	-29~121°C	
适用介质 Applicable medium	普通型 Ordinary Type	石油、天然气、成品油、水等 Petroleum, natural gas, readymade oil, water, etc
	抗硫型 Antisulphur type	含H2S、CO2的石油、天然气等 Petroleum H2S, CO2 oil, natural gas, etc
连接形式 Connecting type	法兰端、焊接端、卡箍端 Flange end, welding end, keeper end	
驱动方式 Driving manner	手动、电动、气动等 Manual, electric, pneumatic, etc.actuations	



### ■ 主要零件材料 Major Parts Material Form

零件名称 Accessory name	阀体、阀盖 Valve body, valve covering	闸板 Floodgate board	阀杆 Valve stem	阀座 Valve seat	阀杆螺母 Valve stem nut	填料 Packing
"Z"型 "Z" Type	WCB、铬钼钢 WCB,Cr Mo steel	合金钢 ( 焊硬质合金 ) Alloy steel (weld the hard alloy)	不锈钢 Stainless steel	合金钢 ( 焊硬质合金 ) Alloy steel (weld the hard alloy)	铝青铜 Aluminium bronze	聚四氟乙烯、氟橡胶 PTFE fluorine rubber
"KZ"型 "KZ" Type			抗硫不锈钢 Sulfur resisting stainless steel			


**■ 主要外形尺寸 Main Size of Outside**

型号 Model: ZF43Y, ZF63Y, Z83Y

公称压力 Nominal pressure PN(MPa)	DN (mm)	尺寸 Dimensions(mm)				
		L1	L2	D0	H1	H
10.0 16.0	25	210	254	180	85	350
	32	230	260	220	98	380
	40	260	260	260	110	400
	50	300	300	310	120	450
	65	340	340	350	133	510
	80	380	380	400	158	580
	100	430	430	460	195	650
	125	500	500	460	240	750
	150	550	550	470	260	846
	200	650	650	600	358	1045
	25	210	230	180	87	350
	32	230	260	220	100	380
	40	260	260	260	112	400
	50	300	300	310	122	450
20.0 25.0	65	340	340	350	135	510
	80	380	380	400	160	580
	100	430	430	460	198	650
	125	500	500	460	240	750
	150	550	550	470	260	846
	200	650	650	600	385	1045

公称压力 Nominal pressure PN(MPa)	DN (mm)	尺寸 Dimensions(mm)				
		L1	L2	D0	H1	H
32.0 35.0	25	210	254	180	90	350
	32	230	279	220	103	380
	40	260	305	260	115	400
	50	300	368	310	125	450
	65	340	419	350	137	510
	80	380	470	400	164	580
	100	430	546	460	198	650
	125	500	673	460	240	750
	150	550	705	470	260	846
	200	650	832	600	358	1045
	25	210	254	180	92	350
	32	230	279	220	105	380
	40	260	305	260	117	400
	50	300	368	310	127	450
40.0 42.0	65	340	419	350	139	510
	80	380	470	400	166	580
	100	430	546	460	198	650
	125	500	673	460	240	750
	150	550	705	470	260	846
	200	650	832	600	358	1045


**■ 产品采用标准 Technical Specification**

设计依据 Design reference	GB	API
设计标准 Design standard	JB/T5298 GB/T19672	API 6D ASME B16.34
结构长度 Structural length	法兰 Flanged	GB/T12221 GB/T19672/JB/T5298
	焊接 Welded connection	GB/T15188.1 GB/T19672
连接法兰 Flanged ends	连接法兰 Flanged ends	GB/T9113 JB/T 79
	对焊端 Butt-welding ends	GB/T 12224
试验和检验 Test and inspection	试验和检验 Test and inspection	JB/T9092
		API 6D API 598

注：阀门连接法兰尺寸可根据用户要求设计制造。

Note: The sizes of valve connecting flange can be designed according to customers' requirement.

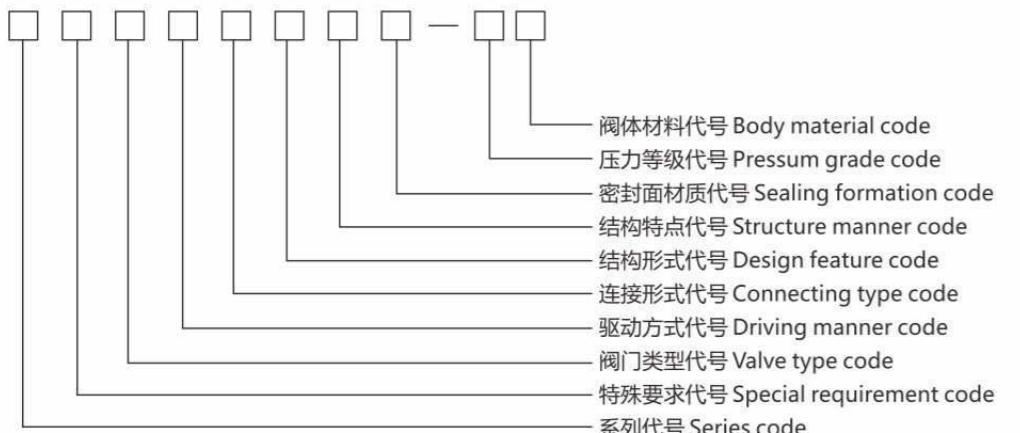
**■ 主要零件材料 Major Parts Material Form**

序号 No.	零件名称 Accessory name	材料 Material			
		普通型 Ordinary type	抗硫型 Antisulphur type	GB	ASTM
1	阀体 Body	WCB	Inconel X-750	A216-WCB	A216-WCB
2	闸板 Disc	25+STL	WCB	A105+STL	1Cr18Ni9+STL
3	弹簧 Spring	25+STL	WCB	A276-304+STL	A216-WCB
4	闸板架 Disc frame	25+STL	WCB	A216+WCB	A216+WCB
5	阀座 Seat	25+STL	WCB	A105+STL	1Cr18Ni9+STL
6	阀杆 Stem	2Cr13	WCB	A276-410	1Cr18Ni9
7	垫片 Gasket	柔性石墨+1Cr18Ni9 Graphite+1Cr18Ni9	柔性石墨+304 Graphite+304	柔性石墨+1Cr18Ni9 Graphite+1Cr18Ni9	柔性石墨+304 Graphite+304
8	螺柱 Stud	35CrMoA	WCB	A193-B7	35CrMoA
9	螺母 Nut	35	WCB	A194-2H	35
10	阀盖 Bonnet	WCB	WCB	A216-WCB	A216-WCB
11	上密封座 Back seat	1Cr13	WCB	A276-410	1Cr18Ni9
12	填料 Packing	柔性石墨 Graphite	WCB	A276-420	A216-WCB
13	填料压套 Packing press-sleeve	2Cr13	WCB	A276-420	2Cr13
14	填料压盖 Packing gland	WCB	WCB	A276-WCB	A216-WCB
15	支架 Yoke	WCB	WCB	A216-WCB	A216-WCB
16	阀杆螺母 Stem nut	ZQA19-4	WCB	C95500	ZQA19-4
17	压盖 Gland	25	WCB	A105	25
18	手轮 Handwheel	QT400-17	WCB	A536-60-40-18	QT400-17
19	指示罩 Indicating cover	25	WCB	A105	25

注：阀门主要零部件材质可根据实际工况条件或用户特殊要求设计选用。

Notes: The major parts of the valves can be designed and selected according to actual work condition or customers' specific requirement.

■ 型号编制说明 Modal schedule illustration



■ 系列代号 : 本公司系列代号为JRD

Series code: The series code name of our company is JRD

■ 特殊要求代号 : K—抗硫型

Special requirement code: K—Antisulphur model

■ 阀门类型代号:Z—闸阀

Valve type code: Z-Gate valve

■ 驱动方式代号 : 4—正齿轮传动 5—伞齿轮传动 9—电动 9B—防爆电动(手轮传动略)  
Driving manner code: 4—Spur gear transmission 5—Bevel gear transmission 9—Electric driving  
9B—Explosion electric driving (Hand wheel driving omitted)

■ 连接形式代号 : 4—法兰连接 6—对焊连接  
Connecting type code: 4—Flange-connecting 6—Butt welding connecting

■ 结构形式代号 : 7—暗杆平行式单闸板  
Design feature code: 7—Dark pole parallel single-disc

■ 结构特点代号 : W—无导流孔 (有导流孔省略)  
Structure manner code: W—Non-diversion hole type (Diversion hole type omitted)

■ 密封面材质代号 : F—增强聚四氟乙烯  
Sealing formation code: F—Intensified polytetrafluoroethylene(PTFE)

■ 压力等级代号 : 公称压力为MPa的10倍、磅级为实际数  
Pressure grade code: The 10 times of the nominal pressure MPa, pound grade is practical number

■ 阀门材料代号 : C—WCB P—CF8、ZG1Cr18Ni9Ti、R—CF8M、ZG1Cr18Ni12Mo2Ti  
Body material code: C—WCB, P—CF8, ZG1Cr18Ni9Ti, R—CF8M, ZG1Cr18Ni12Mo2Ti

**例1: Z47F-10C**

注释: 公称压力为1.0MPa、正齿轮传动、法兰连接、有导流孔、暗杆平行式单闸板闸阀，阀体材质为WCB，密封面材质为增强聚四氟乙烯。

Example: Z47F-10C

Note: PN=1.0Mpa, spur gear actuated, flange connected inside stem parallel type single-disc gate valve with flow guide hole, the body material is WCB and the sealing face material is reinforced PTFE.

**例2 : (K)Z67F-16C**

注释: 公称压力为1.6MPa、手动、对焊连接、有导流孔、抗硫暗杆平行式单闸板闸阀，阀体材质为WCB，密封面材质为增强聚四氟乙烯。

Example: (K)Z67F-16C

Note: PN=1.6Mpa, manually actuated, butt-weld connected, sulphur resisting inside stem parallel type single-disc gate valve with flow guide hole, the body material is WCB and the sealing face material is reinforced PTFE.



■ 产品采用标准 Technical Specification

设计依据 Design reference	GB	API
设计标准 Design standard	JB/T5298 GB/T19672	API 6D ASME B16.34
结构长度 Structural length	法兰连接 Flanged ends	GB/T12221 GB/T19672 JB/T5298
	焊接 Welded connection	GB/T15188.1 GB/T19672
连接法兰 Flanged ends	GB/T9113 JB/T 79	ASME B16.5 MSS SP44
对焊端 Butt-welding ends	GB/T 12224	ASME B16.25
试验和检验 Test and inspection	JB/T9092	API 6D API 598

注: 阀门可根据用户要求设计制造。  
Note: valve can be designed according to customers' requirement

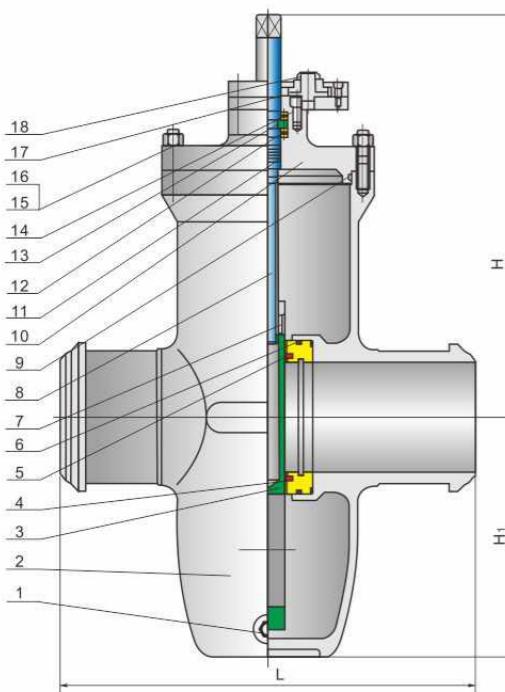
■ 主要零件材料 Major Parts Material Form

序号 No.	零件名称 Accessory name	材料Material
1	排污堵头 Blow down stopple	25
2	阀体 Body	WCB
3	闸板 Disc	16Mn+ENP
4	阀座 Seat	16Mn
5	O形圈 O-Ring	FPM
6	密封圈 Sealing ring	PTFE
7	阀杆螺母 Valve stem nut	ZQAL9-4
8	阀杆 Stem	1Cr13
9	垫片 Gasket	柔性石墨+1Cr18Ni9 Graphite+1Cr18Ni9
10	阀盖 Bonnet	WCB
11	双头螺柱 Stud	35CrMo
12	螺母 Nut	45
13	O形圈 O-Ring	FPM
14	轴承 Bearing	组件 Package
15	对开环 To the ring of holding	45
16	内六角螺钉 Six angle screws inside	35
17	键 Key	45
18	开关指示器 Switch indicator	PTFE+1Cr18Ni9
19	手轮 Handwheel	Q235A
20	螺母 Nut	35

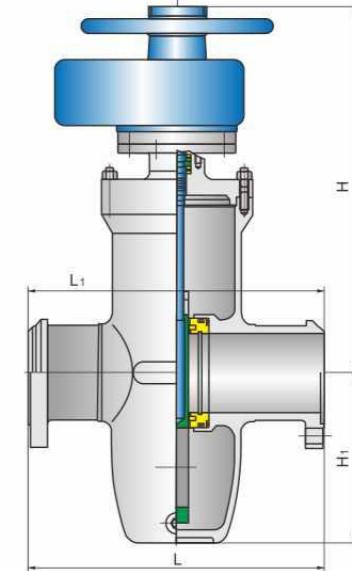
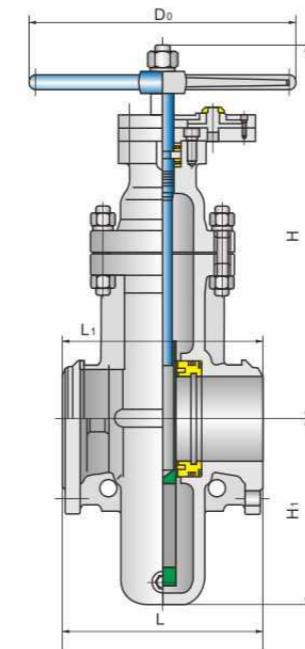

**■ 产品采用标准 Technical Specification**

设计依据 Design reference	GB	API
设计标准 Design standard	JB/T5298 GB/T19672	API 6D ASME B16.34
结构长度 Structural length	法兰连接 Flanged ends	GB/T12221 GB/T19672 JB/T5298
	焊接 Welded connection	GB/T15188.1 GB/T19672
连接法兰 Flanged ends	GB/T9113 JB/T 79	ASME B16.5 MSS SP44
对焊端 Butt-welding ends	GB/T 12224	ASME B16.25
试验和检验 Test and inspection	JB/T9092	API 6D API 598

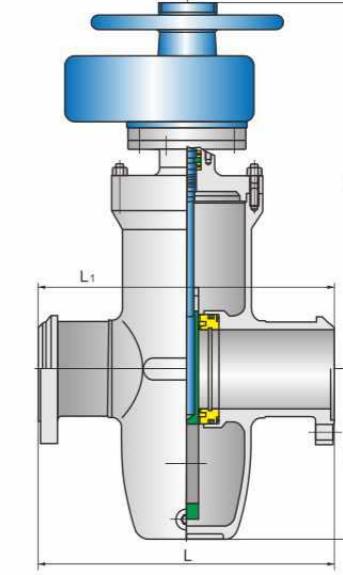
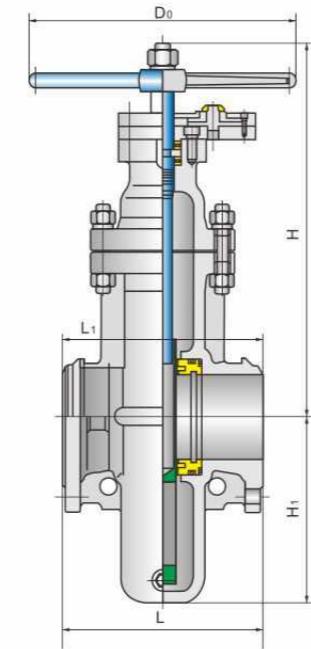
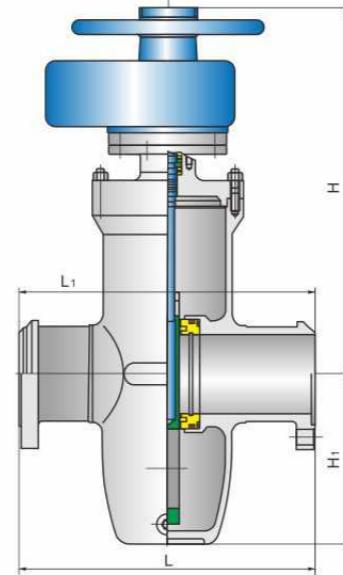
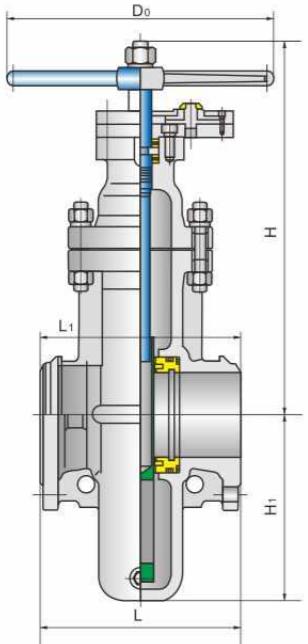
注：阀门可根据用户要求设计制造。  
Note: valve can be designed according to customers' requirement

**■ 主要零件材料 Major Parts Material Form**


序号 No.	零件名称 Accessory name	材料 Material	
		GB	
1	排污堵头 Blow down stopple	25	
2	阀体 Body	WCB	
3	闸板 Disc	16Mn+ENP	
4	密封圈 Sealing ring	PTFE	
5	阀座 Seat	16Mn	
6	O形圈 O-Ring	FPM	
7	阀杆螺母 Valve stem nut	ZQAL9-4	
8	阀杆 Stem	1Cr13	
9	O形圈 O-Ring	FPM	
10	阀盖 Bonnet	WCB	
11	O形圈 O-Ring	FPM	
12	轴承 Bearing	组件 Package	
13	对开环 To the ring of holding	45	
14	内六角螺钉 Six angle screws inside	45	
15	双头螺柱 Stud	35CrMo	
16	螺母 Nut	45	
17	键 Key	45	
18	开关指示器 Switch indicator	组件 Package	


**■ 主要外形尺寸 Main Size Of Outside**

型号 Model: (K) Z4(5,9B)4(6)7F			PN0.4,0.6,1.0,1.6,2.5MPa			PN2.0MPa			API 6D Class 150						
DN (mm)	NPS (in)	法兰 Flange	对焊 Butt welding	手动 Hand-operated			齿动 Geared driving			齿动 装置 Geared driving	电动 Electric driving device			电动 装置 Electric driving device	
				L	L1	H1	H	D0	H1	H	D0	H1	H	D0	
25	1	165	-	8	228	180	-	-	-	-	-	-	-	-	-
32	1 1/4	165	-	103	231	180	-	-	-	-	-	-	-	-	-
40	1 1/2	178	-	115	240	250	-	-	-	-	-	-	-	-	-
50	2	178	216	130	255	250	-	-	-	-	-	-	-	-	-
65	2 1/2	190	241	160	355	300	-	-	-	-	-	-	-	-	-
80	3	203	283	180	360	300	-	-	-	-	-	-	-	-	-
100	4	229	305	214	400	300	-	-	-	-	-	-	-	-	-
125	5	254	381	257	460	350	-	-	-	-	-	-	-	-	-
150	6	267	403	300	500	350	-	-	-	-	-	-	-	-	-
200	8	292	419	388	570	350	-	-	-	-	-	-	-	-	-
250	10	330	457	475	680	400	475	700	350	0型	475	710	500	SMC-03	
300	12	356	502	547	750	450	547	870	350	0型	547	880	305	SMC-00	
350	14	381	572	625	875	450	625	995	450	1型	625	1015	305	SMC-00	
400	16	406	610	712	1000	500	712	1120	450	1型	712	1130	305	SMC-00	
450	18	432	660	785	1130	500	785	1280	450	1型	785	1360	305	SMC-0	
500	20	457	711	880	1200	600	880	1350	450	1型	880	1430	305	SMC-0	
600	24	508	813	1045	1420	800	1045	1570	500	2型	1045	1650	305	SMC-1	
700	28	660	914	1190	1650	800	1190	1800	500	2型	1190	1910	305	SMC-1	
800	32	711	965	1360	1880	1000	1360	2040	500	2型	1360	2140	305	SMC-1	
900	36	711	1016	1510	2100	1000	1510	2280	600	3型	1510	2390	458	SMC-2	
1000	40	811	-	1715	2300	1200	1715	2480	600	3型	1715	2590	458	SMC-2	


**■ 主要外形尺寸 Main Size Of Outside**

型号 Model: (K) Z4(5,9B)4(6)7F PN0.4MPa PN5.0MPa API 6D Class 300

DN (mm)	NPS (in)	法兰 Flange		对焊 Butt welding	手动 Hand-operated			齿动 Geared driving			齿动 装置 Geared driving	电动 Electric driving device			电动 装置 Electric driving device	
		L	H1		H	D0	H1	H	D0	H1	H	H1	H			
		GB	API	L1	H1	H	D0	H1	H	D0	H1	H	D0	H1	H	
25	1	165	165	165	85	238	180	-	-	-	-	-	-	-	-	-
32	1 1/4	178	178	178	103	238	180	-	-	-	-	-	-	-	-	-
40	1 1/2	190	190	190	115	245	250	-	-	-	-	-	-	-	-	-
50	2	216	216	216	130	265	250	-	-	-	-	-	-	-	-	-
65	2 1/2	241	241	241	160	365	300	-	-	-	-	-	-	-	-	-
80	3	283	283	283	180	375	300	-	-	-	-	-	-	-	-	-
100	4	305	305	305	214	420	300	-	-	-	-	-	-	-	-	-
125	5	381	381	381	257	480	350	-	-	-	-	-	-	-	-	-
150	6	403	403	403	300	540	350	-	-	-	-	-	-	-	-	-
200	8	419	419	419	388	610	350	388	710	350	0型	388	720	305	SMC-00	
250	10	457	457	457	475	710	400	475	820	350	0型	475	830	305	SMC-00	
300	12	502	502	502	547	810	450	547	900	450	1型	547	910	305	SMC-0	
350	14	762	762	762	625	920	450	625	1015	450	1型	625	1095	305	SMC-0	
400	16	838	838	838	712	1120	550	712	1150	450	1型	712	1230	305	SMC-0	
450	18	914	914	914	785	1230	700	785	1300	500	2型	785	1400	305	SMC-1	
500	20	991	991	991	880	1310	800	880	1370	500	2型	880	1470	305	SMC-1	
600	24	1143	1143	1143	1045	1520	1000	1045	1620	600	3型	1045	1730	305	SMC-1	

**■ 主要外形尺寸 Main Size Of Outside**

型号 Model: (K) Z4(5,9B)4(6)7F PN6.4MPa API 6D Class 400

DN (mm)	NPS (in)	法兰 Flange		对焊 Butt welding	手动 Hand-operated			齿动 Geared driving			齿动 装置 Geared driving	电动 Electric driving device			电动 装置 Electric driving device
		L	H1		H	D0	H1	H	D0	H1	H	H1	H		
GB	API	L1	H1	H	D0	H1	H	D0	H1	H	D0	H1	H	D0	
50	2	250	250	158	265	300	-	-	-	-	-	-	-	-	-
65	2 1/2	280	280	190	365	300	-	-	-	-	-	-	-	-	-
80	3	310	310	225	375	350	-	-	-	-	-	-	-	-	-
100	4	350	350	255	420	350	-	-	-	-	-	-	-	-	-
125	5	400	400	275	480	400	-	-	-	-	-	-	-	-	-
150	6	450	450	330	540	400	-	-	-	-	-	-	-	-	-
200	8	550	550	410	610	500	388	710	350	0型	388	720	305	SMC-0	
250	10	650	650	490	710	500	475	820	350	0型	475	830	305	SMC-0	
300	12	750	750	570	810	600	547	900	450	1型	547	910	305	SMC-0	
350	14	850	850	625	920	600	625	1015	450	1型	625	1095	305	SMC-1	
400	16	950	950	735	1120	700	712	1150	450	1型	712	1230	305	SMC-1	