

VBJG-400 系列四偏心硬密封蝶阀

VBJG-400 Series Four-offset Hard Seal Butterfly Valve

VBJG-400^[1]四偏心硬密封蝶阀，密封面是采用圆锥面在水平中心上有一个角度偏心，阀杆相对于流道中心在其轴向和径向上有两个距离偏心，椭圆密封截面短轴方向形状偏心为正圆，实现了阀板密封圈与阀座密封面之间在关闭之前无摩擦的运动，密封面上压力角大于摩擦角，使阀板开启阻力极低，快速实现关闭自动吻合密封动作。具有结构先进、流通能力大、密封可靠、寿命长、成本低等优点。是兼备调节、切断两种功能的经济实用自控阀。广泛应用于控制大流量、中低压差、要求泄漏严密的流体。

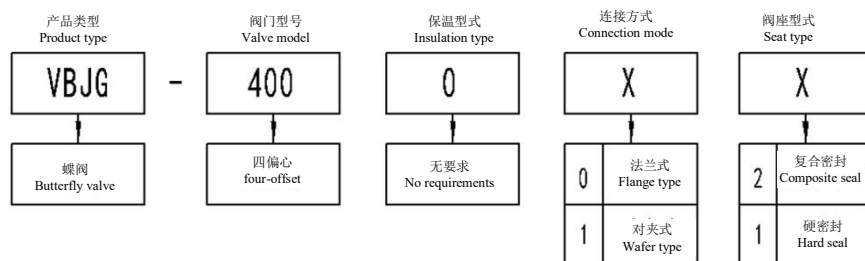
For the VBJG-400^[1] four-offset hard seal butterfly valve, the sealing face features a conical shape with angular offset along the horizontal centerline. The stem exhibits two degrees of offset in both the axial and radial directions relative to the center of the flow channel. The shape offset in the minor axis direction of the elliptical sealing section forms a perfect circle, enabling frictionless movement between the sealing ring of the disc and the sealing face of the valve seat before closure. The pressure angle on the sealing face exceeds the friction angle, resulting in minimal resistance to the opening of the disc. This design facilitates a swift closing action with automatic sealing engagement. The product has the advantages of advanced structure, large circulation capacity, reliable sealing, long life and low cost. It is an economical and practical automatic control valve that combines both regulating and cut-off functions. It is widely used for controlling fluid with large flow rates, medium to low-pressure differentials, and stringent leak requirements.

本产品符合 GB/T4213-2008 标准。

The product conforms to GB/T 4213-2008 standard.

型号编码规则：

Model coding rules:



产品特点：

Product features:

- 1、四偏心密封蝶阀与执行器的连接尺寸按 ISO5211 标准进行设计，通用性强，安装简单方便。
1. ISO 5211-compliant connection for four-offset butterfly valve and actuator, versatile, easy to install.

注[1]：VBJG-400 对应旧型号 VB400;

Note [1]: VBJG-400 corresponds to the old model VB400;

- 2、四偏心密封蝶阀采用四偏心结构,适用于高温高压等复杂工况并要求严密切断的场合,阀门开闭过程无死区,开启力矩小。
2. Have a four-offset structure, designed for complex working conditions like high temp/high pressure, no zero dead zone during operation, low torque.
- 3、四偏心密封蝶阀采用四偏心结构,密封副截面由原三偏心椭圆结构变为了正圆结构,所以在相同的流道面积下,正圆的流通能力较椭圆的流通能力更大。
3. Have a four-offset structure, enhanced from triple-offset ellipse to circular sealing (sealing pair cross-section), maximizing flow efficiency.
- 4、采用变角度密封副,进而减小四偏心结构的密封副摩擦力,实现执行机构的配置轻量化配置。
4. Variable-angle sealing pair for reduced friction and lightweight actuator design.
- 5、四偏心结构的主轴的径向偏距减小,从而降低了介质作用在阀板上的不平衡力,提高双向密封性能,该系列产品金属密封圈结构泄漏等级可达 Class V 级,多层次组合密封圈结构泄漏可达双向零泄漏。
5. Minimized radial offset in four-offset design for reduced balanced forces of the medium acting on the disc and superior sealing; achieving Class V leakage grade for metal seals, ensuring zero bi-directional leakage for multi-level seals.
- 6、阀体与阀板有多种材料组合,以满足不同压力、温度、介质的需要,该产品使用温度从-100 到 550 摄氏度,公称压力从 Class150/PN10,16,20 至 Class300/PN40。
6. Custom material options for pressure, temperature and medium. Operates -100° C to 550° C, nominal pressures ranging from Class 150/PN10, 16, 20 up to Class 300/PN40.
- 7、阀座和阀体采用整体式结构,阀座密封面采用堆焊高强度耐腐蚀合金材料,保证了阀体密封面的可靠性,产品使用寿命长,基本上做到零维护。
7. Integral seat and body with high-strength, corrosion-resistant alloy sealing face for reliable sealing, extended life, and virtually no maintenance.
- 8、密封圈采用双相不锈钢全金属和多层次组合密封材料两种,阀座和密封圈结构相对独立,易更换,维修方便。
8. Duplex stainless steel sealing ring with multi-level materials; independent seat design for easy replacement and maintenance.
- 9、整体式的阀杆,并采用高强度的不锈钢材料,阀门承受的允用压差大;台阶式结构设计能有效防止阀杆飞出,大大保证阀门安全性。
9. Stainless steel stem for high-pressure resistance; stepped design secures stem, enhancing valve safety.
- 10、用轴封结构有效防止不洁净的介质等杂质进入阀体和阀杆之间的间隙,避免阀门出现卡死现象;
10. Effectively preventing impurities with shaft seal structure from entering the body-stem gap, avoiding valve jamming;
- 11、填料系统采用碟簧动态加载补偿结构,可以确保填料密封性,可以达到 TA-Luft 标准要求。
11. With disc spring dynamic loading compensation structure for the packing system for TA-Luft compliance and tightness.
- 12、产品设计选材符合与环保相关标准和法律、法规、节能降耗的要求。

12. Eco-friendly design and materials comply with environmental, energy-saving standards and regulations.

四偏心原理：offset 1（第一偏心）：轴向距离偏心；

four-offset principle: Offset 1: Axial distance offset;

offset 2（第二偏心）：径向距离偏心；

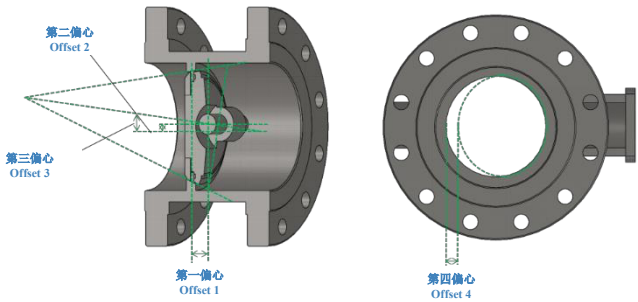
Offset 2: Radial distance offset;

offset 3（第三偏心）：圆锥的角度偏心；

Offset 3: Conical angle offset;

offset 4（第四偏心）：椭圆变为正圆的形状偏心。

Offset 4: Offset of the shape changes from an ellipse to a perfect circle.



结构原理图

Structural schematic diagram

标准规格

Standard specifications

阀体

Body

形 式 Type	四偏心型 four-offset type
公称通径 Nominal diameter	100～600mm（4"～24"）
公称压力 Nominal pressure	PN10、16、20、25、40 Class150、300
连接型式 Connection type	对夹式 RF、法兰式 Wafer type RF, flanged 密封面型式：RF、MFM、RJ Sealing face types: RF, MFM and RJ
法兰标准 Flange standard	JB/T79.1-94(PN16);JB/T79.2-94(PN40); ASME B16.5-2013;HG20592-2009、HG20615-2009
材 料 Material	见表 2 See Table 2 See Table 2
使用温度 Service temperature	－100℃～＋550℃
压盖型式 Type of packing gland	螺栓压紧式 Bolt compression type

填 料 Packing	见表 2 See Table 2
----------------	---------------------

阀内组件 TRIM

Trim

阀板结构 Disc structure	圆锥面型 Conical shape
流量特性 Flow characteristics	近似等百分比、ON-OFF Approximate equal percentage, ON-OFF
阀板转角 Disc rotation angle	全开 90° Fully-open 90°
阀座材料 Seat material	见表 2 See Table 2
阀板材料 Disc material	见表 2 See Table 2
旋转轴材料 Rotating shaft material	见表 2 See Table 2

执行机构

Actuator

气动执行机构

Pneumatic actuator

规格 Specification	型号 Model		气动执行机构 Pneumatic actuator	
			AT	AW
供气压力 Air supply pressure			400~700kPa	
气源接口 Air supply connection			NPT1/8"、NPT1/4"、NPT3/8"、NPT1/2"、NPT3/4"	
行程角度 Travel angle			60°或 90° 60° or 90°	
回 差 Hysteresis error			小于全行程的 2% Less than 2% of the full travel	
基本误差 Intrinsic error			小于全行程的±2% Less than ±2% of the full travel	
环境温度 Ambient temperature			标准型-20~+80℃;高温型-15~+120℃;低温型-40~+80℃ Standard model: -20~+80℃; high temperature model: -15~+120℃; low temperature model: -40~+80℃	
附 件 Accessories			电磁阀、空气过滤减压器、限位阀、行程开关、阀位传送器、手轮机构等 Solenoid valve, air filter pressure reducer, lock-up valve, travel switch, valve position transmitter, handwheel mechanism, etc.	

电动执行机构 Electric actuator

Electric actuator

规格 Specification	型号 Model	电动执行机构 Electric actuator	
		EI	M8000
输入信号 Input signal		4~20mA·DC	4~20mA·DC
电源电压 Power supply voltage		220V/ AC 60Hz	380V/AC 50/60Hz
行程角度 Travel angle		90°±5°	—
回 差 Hysteresis error		≤2 %	
基本误差 Intrinsic error		±2 %	
环境温度 Ambient temperature		-20~+70°C	-25°C~+80°C

性能 PERFORMANCE

Performance

执行机构 Actuator 性能参数 Performance parameters	AT、AW 系列气动执行机构 AT and AW series pneumatic actuators	EI、M8000 系列电动执行机构 EI and M8000 series electric actuators
阀作用型式 Valve action type	根据执行机构与旋转轴之间键连接位置不同，可实现阀的气—关式或气—开式 According to the different key connection positions between the actuator and the rotating shaft, the valve can be configured to function as either air-to-close or air-to-open.	电关式或电开式 Electric closing or opening type
泄漏量 Leakage	见表 2 See Table 2	见表 2 See Table 2
回差 Hysteresis error	小于全行程的 2 % Less than 2% of the full travel	≤2 %
基本误差 Intrinsic error	小于全行程的±2 % Less than ±2% of the full travel	±2 %
可调范围 Adjustable range	50 : 1	50 : 1
死 区 Dead band	—	1 %

Cv 值

Cv value

Cv 值的定义：阀处于全开状态，两端压差为 1 磅/英寸²（0.07kgf/cm²）的条件下，60°F(15.6°C)的清水，每分

钟通过阀的美加仑数。

Definition of Cv value: The number of gallons per minute of water passing through the valve at 60°F (15.6°C) when the valve is fully open and the differential pressure between the two ends is 1 lb/inch² (0.07 kgf/cm²).

表 1 额定 Cv 值

Table 1 Rated Cv Value

	公称通径 Nominal diameter	100	125	150	200	250	300	350	400	450	500	600
		4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"
Class150/ PN10,16,20	90°额定 Cv 值 Rated Cv value at 90°	232	464	588	1674	3090	5458	9344	9770	12247	17000	22900
	60°额定 Cv 值 Rated Cv value at 60°	209	310	496	1136	1775	2656	4130	4626	5313	6537	9674
	公称通径 Nominal diameter	100	125	150	200	250	300	350	400	450	500	600
		4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"
Class300/ PN25,40,50	90°额定 Cv 值 Rated Cv value at 90°	232	464	588	1050	2120	5094	6997	8668	10990	13840	22900
	60°额定 Cv 值 Rated Cv value at 60°	209	310	496	820	1440	2770	3610	4520	5337	6200	9674

流量特性

Flow characteristics

典型的流量特性曲线

Typical flow characteristic curve

各开度 Cv 与全开 Cv 的比值：

The ratio of each opening Cv to the fully-open Cv:

阀门开度：

Valve opening:

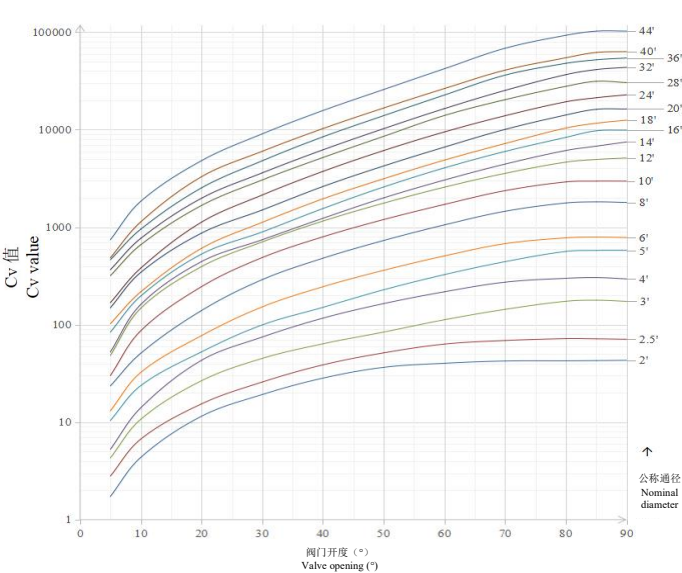


图 1.1 Class150/PN10/16 流量特性曲线图

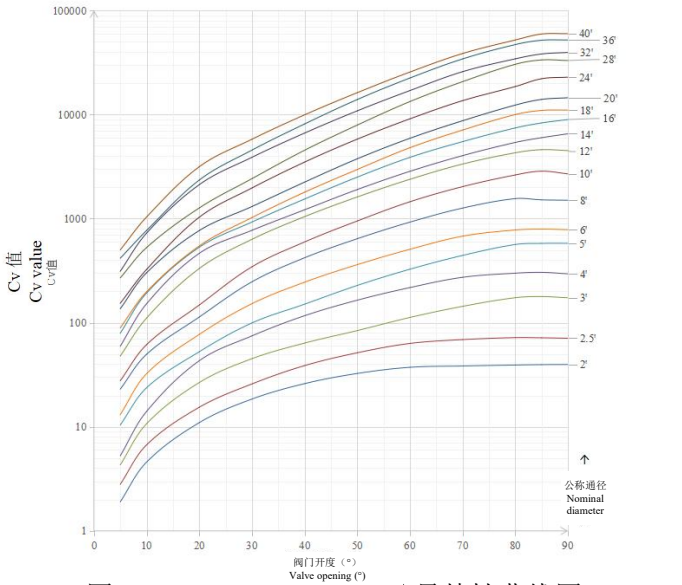


图 1.2 Class300/PN25/40 流量特性曲线图

Fig. 1.1 Class 150/PN10/16 flow characteristic curve

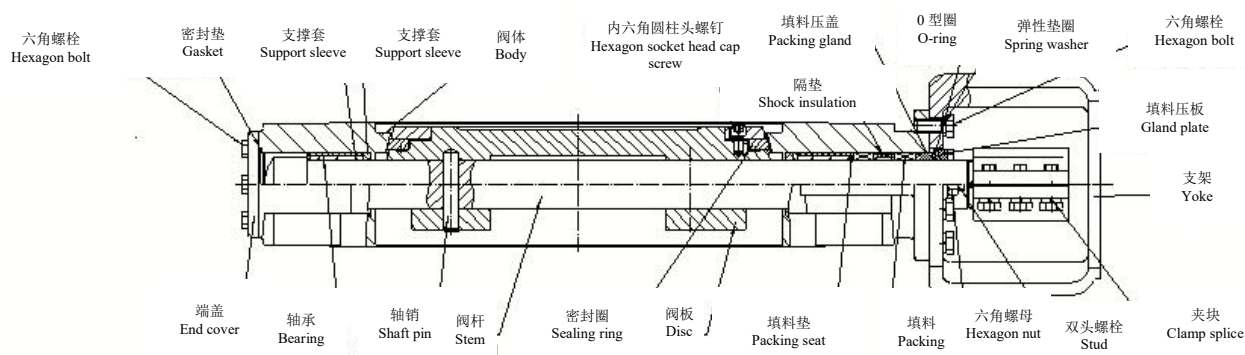
Fig. 1.2 Class 300/PN25/40 flow characteristic curve

阀体结构

Body structure

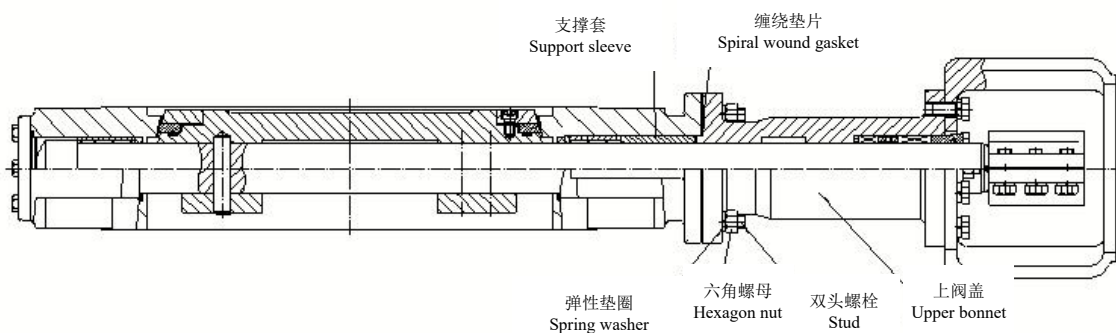
基本型:

Basic model:



高温型:

High-temperature model:



保温夹套型:

Insulation jacket type:

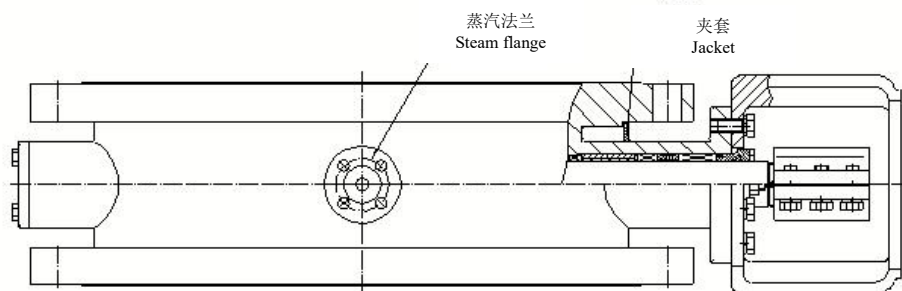


图 2 VB400 阀体结构图

Fig. 2 Structural diagram of VB400 body

阀体、阀内件材质、泄漏量及使用温度范围

Body, trim materials, leakage and service temperature range

表 2 主要部件材质及技术参数

Table 2 Material and technical parameters of main components

零件 Parts		材质/参数 Material/parameter							
阀体 ^[1] Body ^[1]		WCB、WCC、WC6、WC9				CF8、CF8M、CF3、CF3M			
阀板 ^[2] Disc ^[2]		WCB、WCC、WC6、WC9、CF8、CF8M、CF3、CF3M				CF8、CF8M、CF3、CF3M			
阀体阀座 Valve seat of the body		基体材质 +HF ^[3] Base material +HF ^[3]				基体材质 +HF ^[3] Base material +HF ^[3]			
密封圈 Sealing ring		多层次密封圈 Multi-level sealing ring		PEEK	全金属密封圈 All-metal sealing ring	多层次密封圈 Multi-level sealing ring		PEEK	全金属密封圈 All-metal sealing ring
阀杆 Stem		630	630	Inconel718	630	630	630	Inconel718	630
填料 Packing		四氟 PTFE	石墨 Graphite		四氟 PTFE	石墨 Graphite	四氟 PTFE	石墨 Graphite	石墨 Graphite
轴承 Bearing		PTFE+碳纤 PTFE + Carbon fiber	石墨 Graphite		PEEK	石墨 Graphite	PTFE+碳纤 PTFE + Carbon fiber	石墨 Graphite	PEEK
使用温度 Service temperature	碳钢阀体 Carbon steel body	-17℃~+200℃	-17℃~+350℃	—	-17℃~+200℃	-17℃~+350℃	—	—	—
	铬钼钢阀体 Cr-Mo steel body	-17℃~+200℃	-17℃~+350℃	-17℃~+500℃	-17℃~+200℃	-17℃~+425℃	—	—	—
	不锈钢阀体 Stainless steel body	—	—	—	—	—	-45℃~+200℃	-45℃~+550℃ ^[4]	-45℃~+200℃
阀座允许泄漏量 Permissible seat leakage		双向零泄漏 Two-way zero leakage				Class V	双向零泄漏 Two-way zero leakage		Class V

1.表中列出材质为常用基本材质,也可为:TC4/310S/S2205/哈氏合金/20 合金/蒙乃尔等特殊材质。
1. The materials listed in the table are commonly used basic materials, and which can also be: TC4/310S/S2205/Hastelloy/20 alloy/Monel and other special materials.

2.阀板材质的选择应优于或等于阀体材质。
2. The choice of disc material should be superior or equal to the body material.

3.HF 处理方式为表面硬化处理(阀体 Class300 以下 WCB/铬钼钢堆焊 304; CF8/CF8M/CF3/CF3M 不堆焊; Class600 及以上堆焊 ST 合金)。
3. The HF treatment is a surface hardening process (WCB/Cr-Mo steel overlaid with 304 for valve bodies below Class 300; CF8/CF8M/CF3/CF3M are not overlaid; Class 600 and above are overlaid with ST alloy).

4.温度超过 500℃, 主体结构采用外部轴承结构, 阀门所需力矩需要重新核算, 详询技术部。
4. When the temperature exceeds 500℃, the main structure adopts an external bearing structure, and the required torque for the valve needs to be re-evaluated. Please consult the Technical Department for details.

5. 双向密封能力及执行机构配置请另外详询技术部。
5. For two-way sealing capacity and actuator configuration, please contact the Technical Department for details.

6.介质有腐蚀性或高温工况但不能使用 Inconel718 时阀杆采用 S20910, 详询技术部。
6. When the medium is corrosive or the product operates under high-temperature working conditions but Inconel718 cannot be used, the stem shall be S20910, please contact the Technical Department for details.

执行机构配置及最大允许压差 （表 3）

Actuator configuration and maximum allowable differential pressure (Table 3)

表 3—1 配双作用气开（FC）气缸执行机构（气源压力：500kPa）

100 kPa

Table 3-1 Actuator with double-acting air-to-open (FC) cylinder (air supply pressure: 500 kPa)

100 kPa

执行机构 Actuator	阀门状态 Valve status	公称压力 Nominal pressure	公 称 通 径 Nominal diameter										
			100 4"	125 5"	150 6"	200 8"	250 10"	300 12"	350 14"	400 16"	450 18"	500 20"	600 24"
AT105DR0	切断 Cut-off	Class150/ PN10,16,20	4.9										
		Class300/ PN25,40											
AT125DR0	切断 Cut-off	Class150/ PN10,16,20	18	7.8									
		Class300/ PN25,40											
AT140DR0	切断 Cut-off	Class150/ PN10,16,20	29.5		9.9	4.1	1.3						
		Class300/ PN25,40											
AT160DR0	切断 Cut-off	Class150/ PN10,16,20				9.8	1.5						
		Class300/ PN25,40											
AT210DR0	切断 Cut-off	Class150/ PN10,16,20					17.6	5.6					
		Class300/ PN25,40											
AW18D00 1	切断 Cut-off	Class150/ PN10,16,20				23.6	4.3	1.5					
		Class300/ PN25,40											
AW22D00 2	切断 Cut-off	Class150/ PN10,16,20					30.6	18	7.2				
		Class300/ PN25,40											
AW27D00 3	切断 Cut-off	Class150/ PN10,16,20							26	16	8.5	2.7	
		Class300/ PN25,40											
AW35D00 3	切断 Cut-off	Class150/ PN10,16,20									28.5	19	7
		Class300/ PN25,40											
AW40D00 4	切断 Cut-off	Class150/ PN10,16,20									32	27	18.8
		Class300/ PN25,40											

注：1. 灰框内的数字表示配用标准执行机构

Notes: 1. Numbers within the gray box indicate the standard actuator used.

2. 若管道直径与阀门口径变径 3 档及以上，且介质为高温蒸汽，执行机构配置请另外详询技术部。

2. If the pipeline diameter and valve port diameter are reduced by 3 or more stages, and the medium is high-temperature steam, please consult the Technical Department for the actuator configuration.

表 3-2 配双作用气关（FO）气缸执行机构（气源压力：500kPa）

100 kPa

Table 3-2 Actuator with double-acting air-to-close (FO) cylinder (air supply pressure: 500 kPa)

100 kPa

执行机构 Actuator	阀门状态 Valve status	公称压力 Nominal pressure	公 称 通 径 Nominal diameter										
			100	125	150	200	250	300	350	400	450	500	600
			4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"
AT105DD0	切断 Cut-off	Class150/ PN10,16,20	4.9										
		Class300/ PN25,40											
AT125DD0	切断 Cut-off	Class150/ PN10,16,20	18	7.8									
		Class300/ PN25,40											
AT140DD0	切断 Cut-off	Class150/ PN10,16,20		29.5	9.9	4.1	1.3						
		Class300/ PN25,40											
AT160DD0	切断 Cut-off	Class150/ PN10,16,20				9.8	1.5						
		Class300/ PN25,40											
AT210DD0	切断 Cut-off	Class150/ PN10,16,20					17.6	5.6					
		Class300/ PN25,40											
AW18D00 1	切断 Cut-off	Class150/ PN10,16,20				23.6	4.3	1.5					
		Class300/ PN25,40											
AW22D00 2	切断 Cut-off	Class150/ PN10,16,20					30.6	18	7.2				
		Class300/ PN25,40											
AW27D00 3	切断 Cut-off	Class150/ PN10,16,20						26	16	8.5	2.7		
		Class300/ PN25,40											
AW35D00 3	切断 Cut-off	Class150/ PN10,16,20								28.5	19	7	
		Class300/ PN25,40											
AW40D00 4	切断 Cut-off	Class150/ PN10,16,20								32	27	18.8	
		Class300/ PN25,40											

注：1. 灰框内的数字表示配用标准执行机构

Notes: 1. Numbers within the gray box indicate the standard actuator used.

2. 若管道直径与阀门口径变径 3 档及以上，且介质为高温蒸汽，执行机构配置请另外详询技术部。

2. If the pipeline diameter and valve port diameter are reduced by 3 or more stages, and the medium is high-temperature steam, please consult the Technical Department for the actuator configuration.

表 3-3 配单作用气开（FC）气缸执行机构（气源压力：500kPa） 100kPa

Table 3-1 Actuator with single-acting air-to-open (FC) cylinder (air supply pressure: 500 kPa) 100 kPa

执行机构 Actuator	阀门状态 Valve status	公称压力 Nominal pressure	公 称 通 径 Nominal diameter										
			100	125	150	200	250	300	350	400	450	500	600
			4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"
AT160SR5	切断 Cut-off	Class150// PN10,16,20	16.7	4.7									
		Class300// PN25,40,50											
AT210SR5	切断 Cut-off	Class150// PN10,16,20		32	25	8.3							
		Class300// PN25,40,50											
AT240SR5	切断 Cut-off	Class150// PN10,16,20				18.0	2						
		Class300// PN25,40,50											
AT270SR5	切断 Cut-off	Class150// PN10,16,20					13	5					
		Class300// PN25,40,50											
AW18SR41	切断 Cut-off	Class150// PN10,16,20		31.2	24.4								
		Class300// PN25,40,50											
AW22SR51	切断 Cut-off	Class150// PN10,16,20				32	8.5						
		Class300// PN25,40,50											
AW27SR52	切断 Cut-off	Class150// PN10,16,20					32	20	7.9	4.5			
		Class300// PN25,40,50											
AW32SR53	切断 Cut-off	Class150// PN10,16,20							20.5	10.4	2.5		
		Class300// PN25,40,50											
AW40SR53	切断 Cut-off	Class150// PN10,16,20								17.5	12	5.3	0.5
		Class300// PN25,40,50											

注：1.灰框内的数字表示配用标准执行机构

Notes: 1. Numbers within the gray box indicate the standard actuator used.

2.若管道直径与阀门口径变径 3 档及以上，且介质为高温蒸汽，执行机构配置请另外详询技术部。

2. If the pipeline diameter and valve port diameter are reduced by 3 or more stages, and the medium is high-temperature steam, please consult the Technical Department for the actuator configuration.

表 3-4 配单作用气关（FO）气缸执行机构（气源压力：500kPa） 100kPa

Table 3-4 Actuator with single-acting air-to-close (FO) cylinder (air supply pressure: 500 kPa) 100 kPa

执行机构 Actuator	阀门状态 Valve status	公称压力 Nominal pressure	公 称 通 径 Nominal diameter										
			100	125	150	200	250	300	350	400	450	500	600
			4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"
AT160SD5	切断 Cut-off	Class150// PN10,16,20	16.7	4.7									
		Class300// PN25,40,50											
AT210SD5	切断 Cut-off	Class150// PN10,16,20		32	25	8.3							
		Class300// PN25,40,50											
AT240SD5	切断 Cut-off	Class150// PN10,16,20				18.0	2						
		Class300// PN25,40,50											
AT270SD5	切断 Cut-off	Class150// PN10,16,20					13	5					
		Class300// PN25,40,50											
AW18SD41	切断 Cut-off	Class150// PN10,16,20		31.2	24.4								
		Class300// PN25,40,50											
AW22SD51	切断 Cut-off	Class150// PN10,16,20				32	8.5						
		Class300// PN25,40,50											
AW27SD52	切断 Cut-off	Class150// PN10,16,20					32	20	7.9	4.5			
		Class300// PN25,40,50											
AW32SD53	切断 Cut-off	Class150// PN10,16,20							20.5	10.4	2.5		
		Class300// PN25,40,50											
AW40SD53	切断 Cut-off	Class150// PN10,16,20								17.5	12	5.3	0.5
		Class300// PN25,40,50											

注：1.灰框内的数字表示配用标准执行机构

Notes: 1. Numbers within the gray box indicate the standard actuator used.

2.若管道直径与阀门口径变径 3 档及以上，且介质为高温蒸汽，执行机构配置请另外详询技术部。

2. If the pipeline diameter and valve port diameter are reduced by 3 or more stages, and the medium is high-temperature steam, please consult the Technical Department for the actuator configuration.

表 3—5 配电动执行机构

100kPa

Table 3-5 With electric actuator

100 kPa

执行机构 Actuator	阀门状 态 Valve status	公称压力 Nominal pressure	公 称 通 径 Nominal diameter										
			100	125	150	200	250	300	350	400	450	500	600
			4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"
EI025/ M0□30	切断 Cut-off	Class150/ PN10,16,20	19	10									
		Class300/ PN25,40											
EI035/ M0□60	切断 Cut-off	Class150/ PN10,16,20		29.4	9.8								
		Class300/ PN25,40											
EI050/ M0□60	切断 Cut-off	Class150/ PN10,16,20				9.7							
		Class300/ PN25,40											
EI080/ M8□10+ A8010	切断 Cut-off	Class150/ PN10,16,20				26.5	8						
		Class300/ PN25,40											
EI150/ M8□20+ A8020	切断 Cut-off	Class150/ PN10,16,20						18.2	7.3				
		Class300/ PN25,40											
EI200/ M8□20+ A8040	切断 Cut-off	Class150/ PN10,16,20								5			
		Class300/ PN25,40											
EI300/ M8□30+ A8040	切断 Cut-off	Class150/ PN10,16,20								14	5.8		
		Class300/ PN25,40											
M8630+A 8090	切断 Cut-off	Class150/ PN10,16,20								32	29	20	8
		Class300/ PN25,40											
M8640+A 8090	切断 Cut-off	Class150/ PN10,16,20								35	26	16.5	
		Class300/ PN25,40											

注：1.灰框内的数字表示配用标准执行机构

Notes: 1. Numbers within the gray box indicate the standard actuator used.

2.若管道直径与阀门口径变径 3 档及以上，且介质为高温蒸汽，执行机构配置请另外详询技术部。

2. If the pipeline diameter and valve port diameter are reduced by 3 or more stages, and the medium is high-temperature steam, please consult the Technical Department for the actuator configuration.

3.表格中“□”表示 3，4，5，6 其中之一。

3. "□" in the table represents one of 3, 4, 5 and 6.

外形尺寸

Overall dimensions

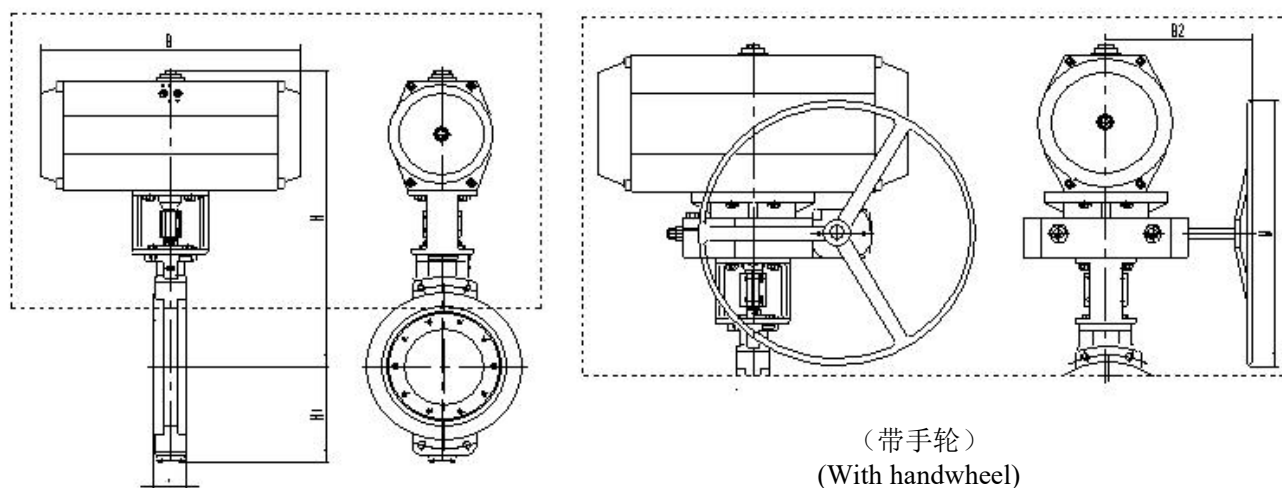


图 1 配 AT 外形尺寸图

Fig. 1 Overall dimensions of valve with AT

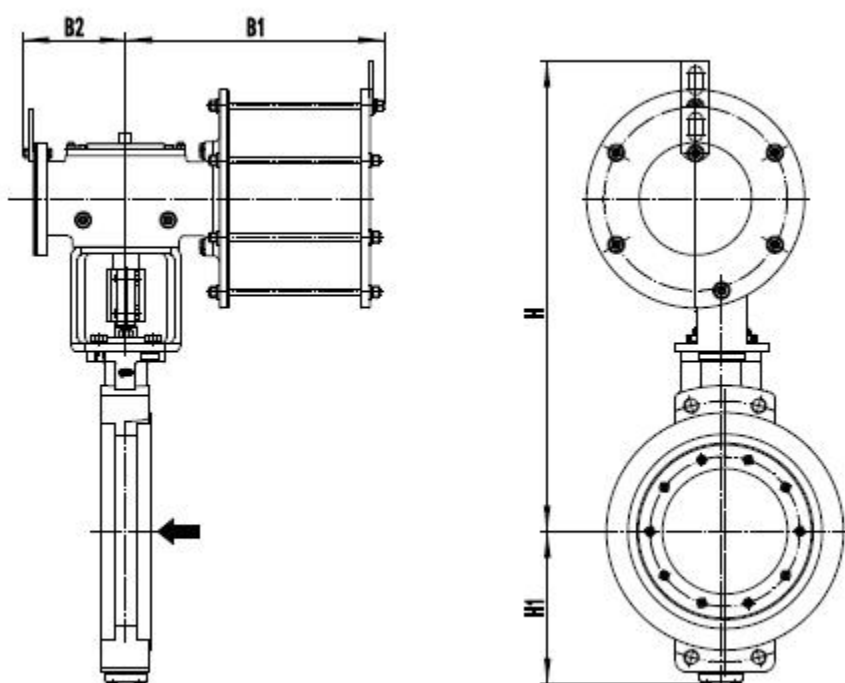


图 2.1 配 AW18D001~AW40D004 外形尺寸图

Fig.2.1 Overall dimensions of valve with AW18D001~AW40D004

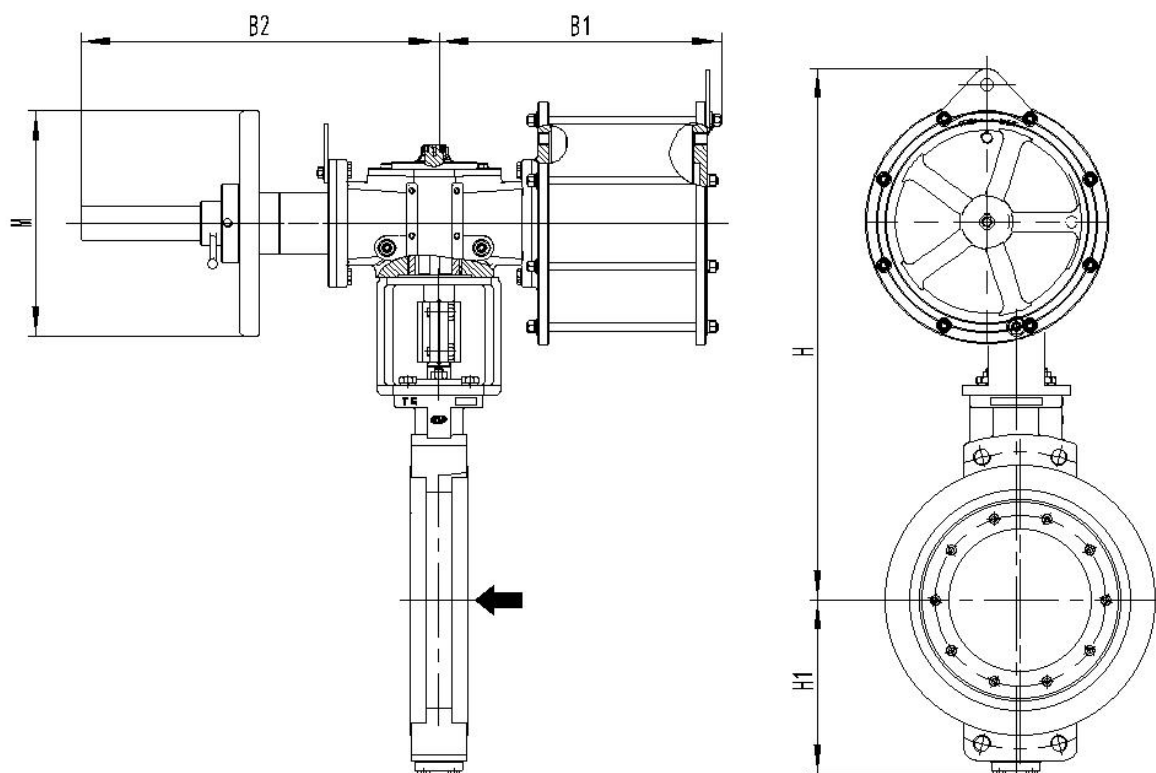


图 2.2 配 AW18D001~AW27D002 带丝杆手轮外形尺寸图

Fig. 2.2 Overall dimensions of valve with AW18D001~AW27D002 (with lead screw handwheel)

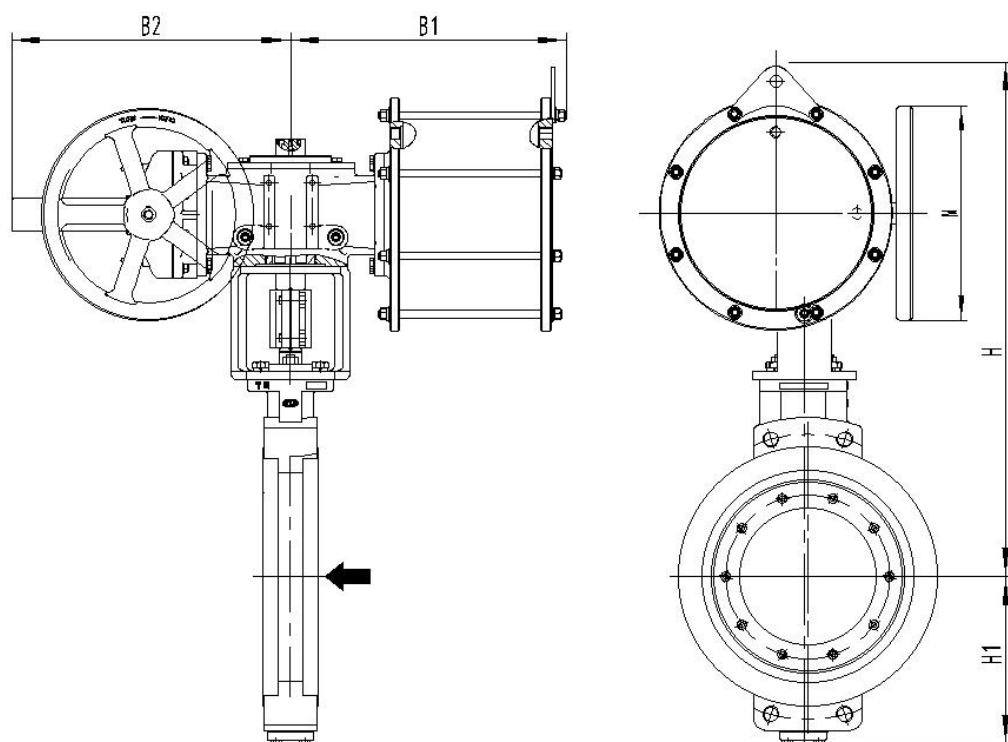


图 2.3 配 AW27D003~AW35D004 带伞齿手轮外形尺寸图

Fig. 2.3 Overall dimensions of valve with AW27D003~AW35D004 (with bevel gear handwheel)

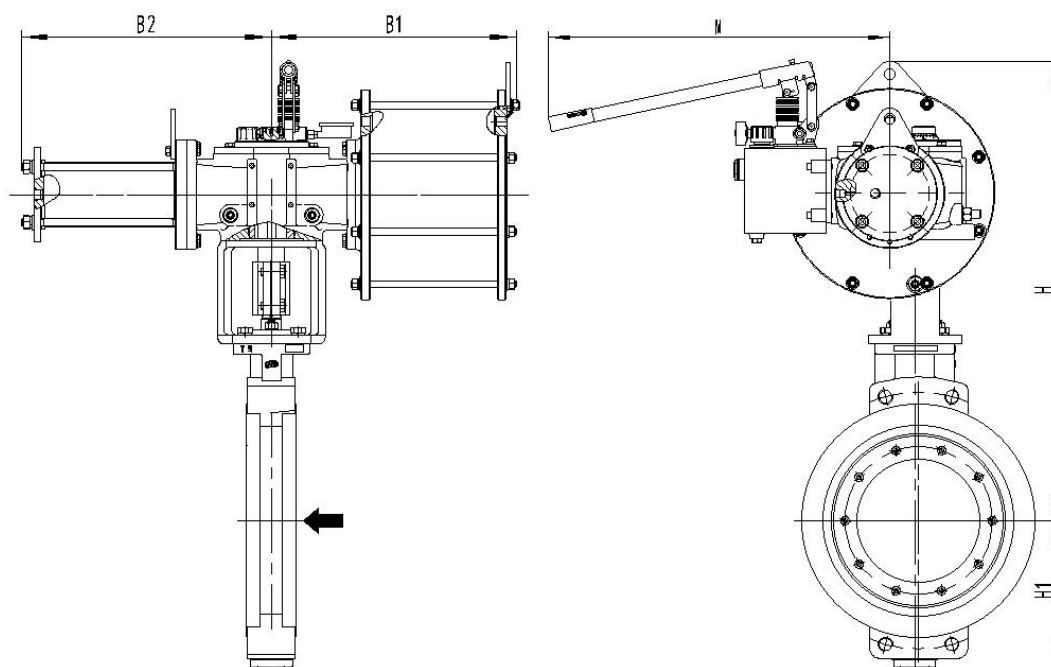


图 2.4 AW40D004~AW90D007 带液压手轮外形尺寸图

Fig. 2.4 Overall dimensions of valve with AW40D004~AW90D007 (with hydraulic handwheel)

图 2 配 AW 双作用执行机构带手轮外形尺寸图

Fig. 2 Overall dimensions of valve with AW double-acting actuator (with handwheel)

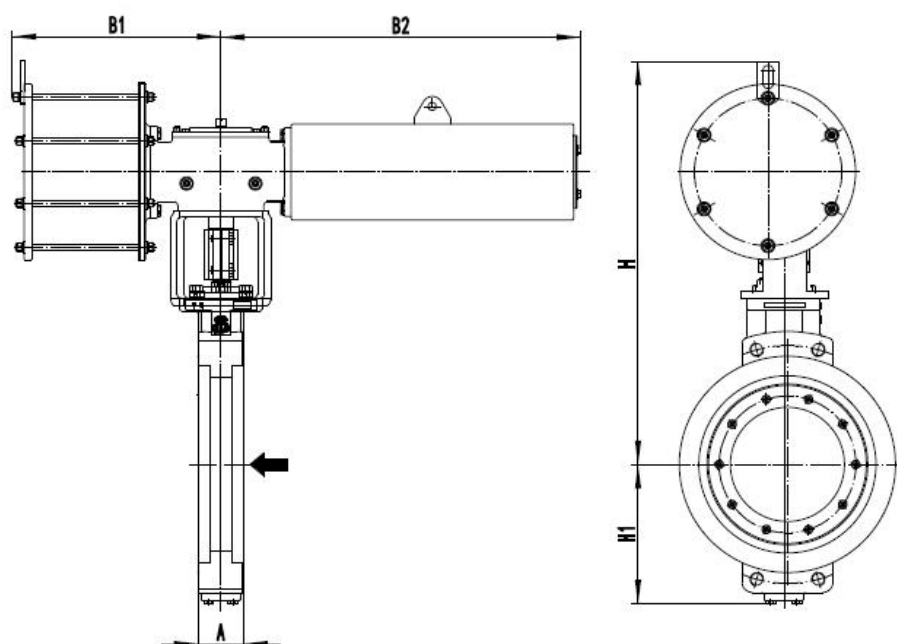


图 3.1 配 AW18SR41~AW85SR56 外形尺寸图 (FC)

Fig. 3.1 Overall dimensions of valve with AW18SR41~AW85SR56 (FC)

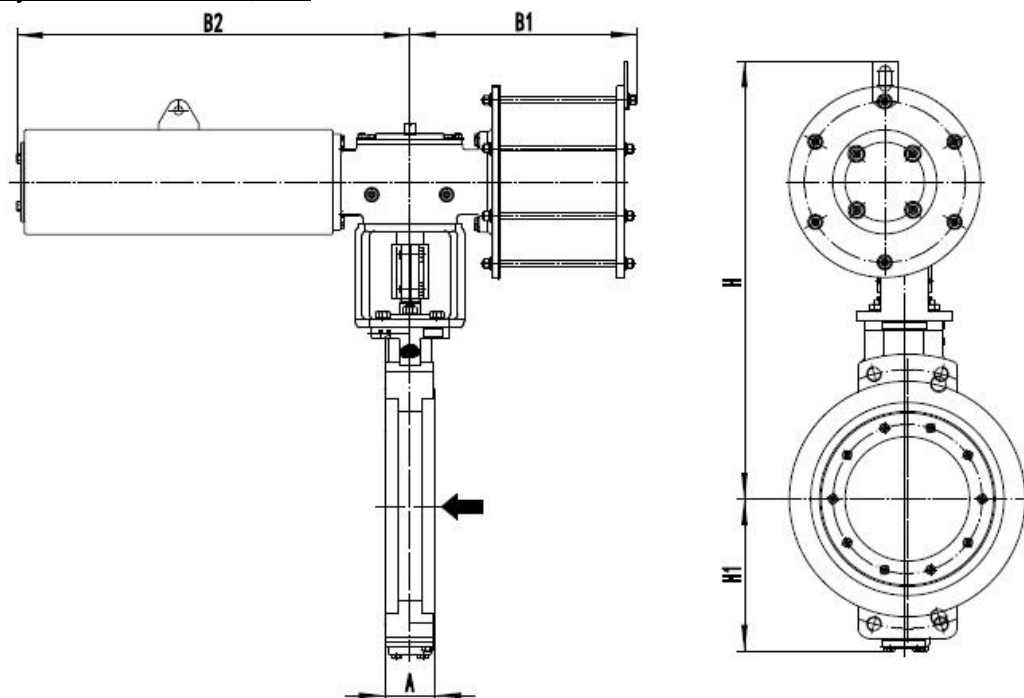


图 3.2 配 AW18SD41~AW85SD56 外形尺寸图 (FO 此状态为执行机构通气状态)

Fig. 3.2 Overall dimensions of valve with AW18SD41~AW85SD56 (FO, indicating that the actuator is in the ventilation state.)

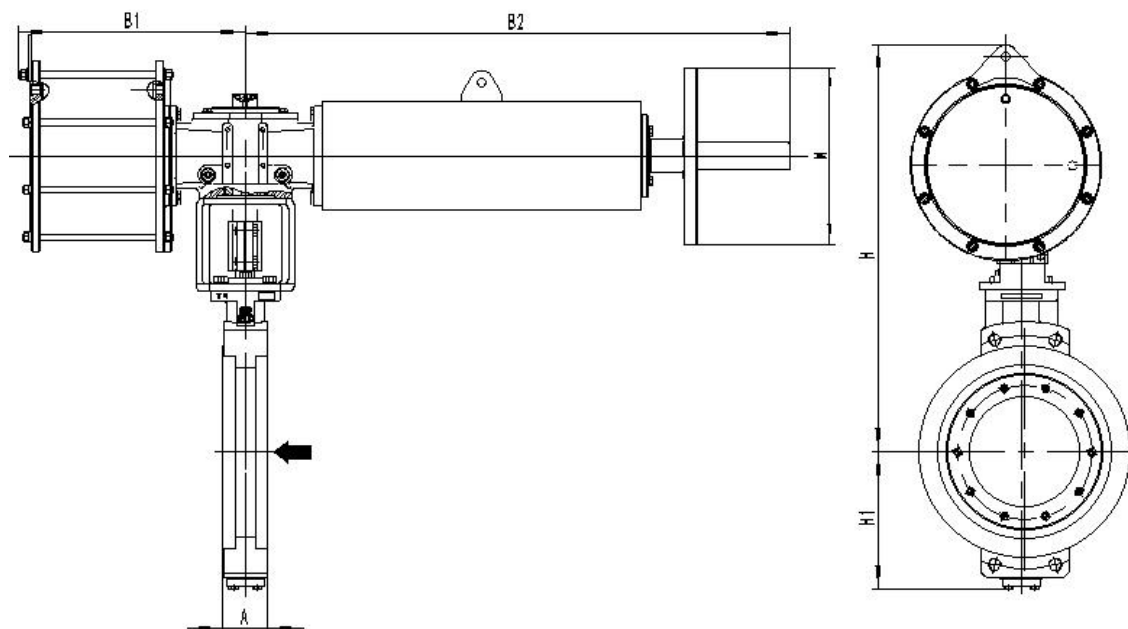


图 3.3 配 AW18SR41~AW27SR52 带丝杆手轮外形尺寸图 (FC)

Fig. 3.3 Overall dimensions of valve with AW18SR41~AW27SR52 (with lead screw handwheel) (FC)

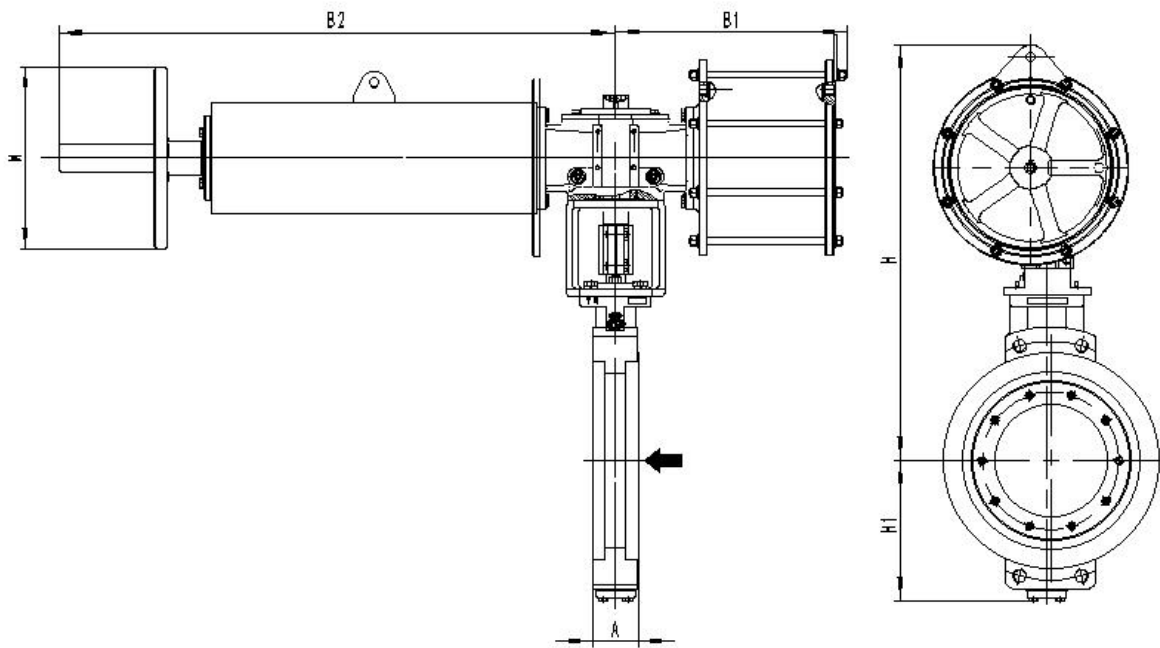


图 3.4 配 AW18SD41~AW27SD52 带丝杆手轮外形尺寸图(FO 此状态为执行机构通气状态)

Fig. 3.4 Overall dimensions of valve with AW18SD41-AW27SD52 (with lead screw handwheel) (FO, indicating that the actuator is in the ventilation state.)

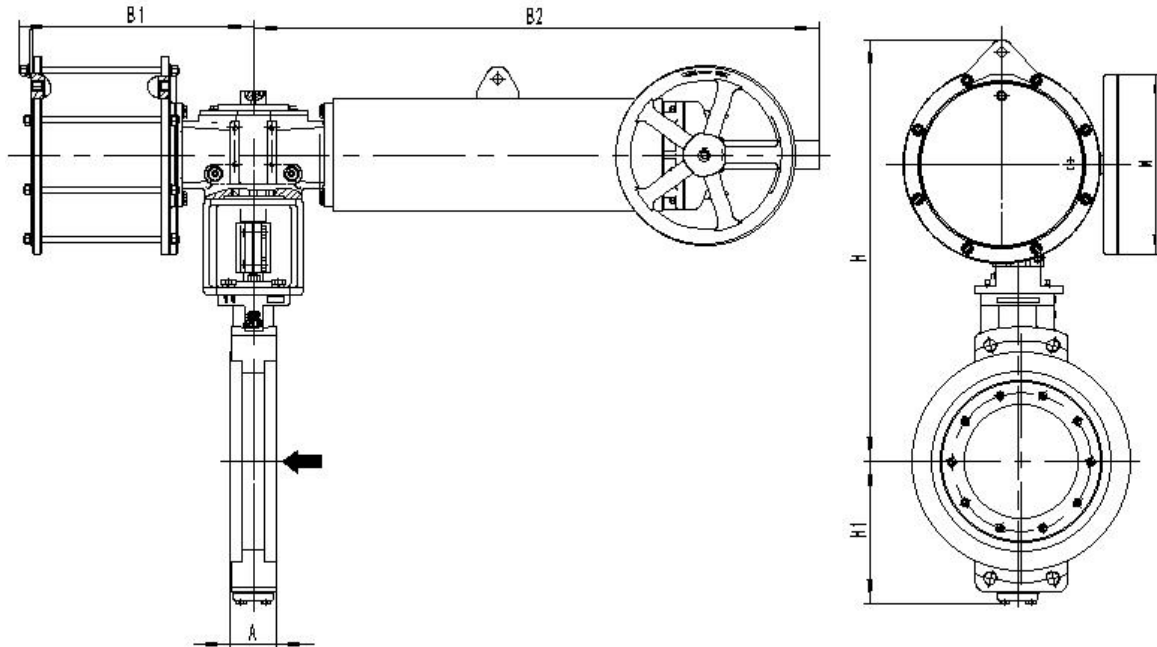


图 3.5 配 AW30SR42~AW40SR53 带伞齿手轮外形尺寸图 (FC)

Fig. 3.5 Overall dimensions of valve with AW30SR42~AW40SR53 (with bevel gear handwheel) (FC)

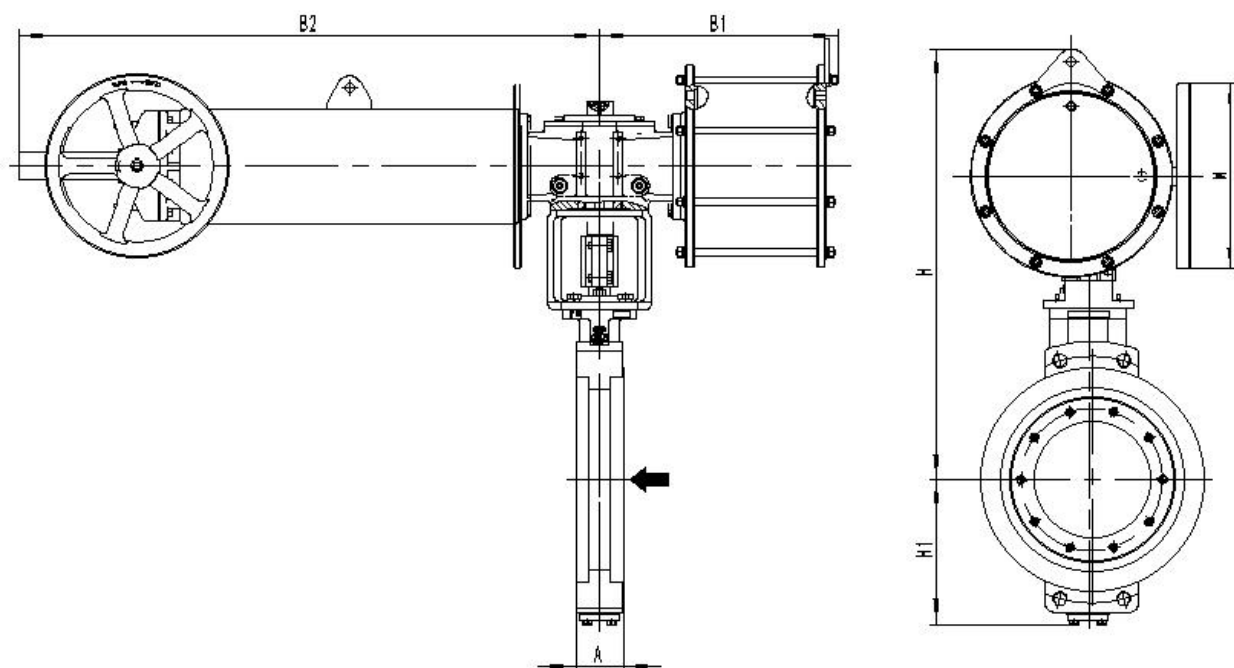


图 3.6 配 AW30SD42~AW40SD53 带伞齿手轮外形尺寸图(FO 此状态为执行机构通气状态)

Fig. 3.6 Overall dimensions of valve with AW30SD42-AW40SD53 (with bevel gear handwheel) (FO, indicating that the actuator is in the ventilation state.)

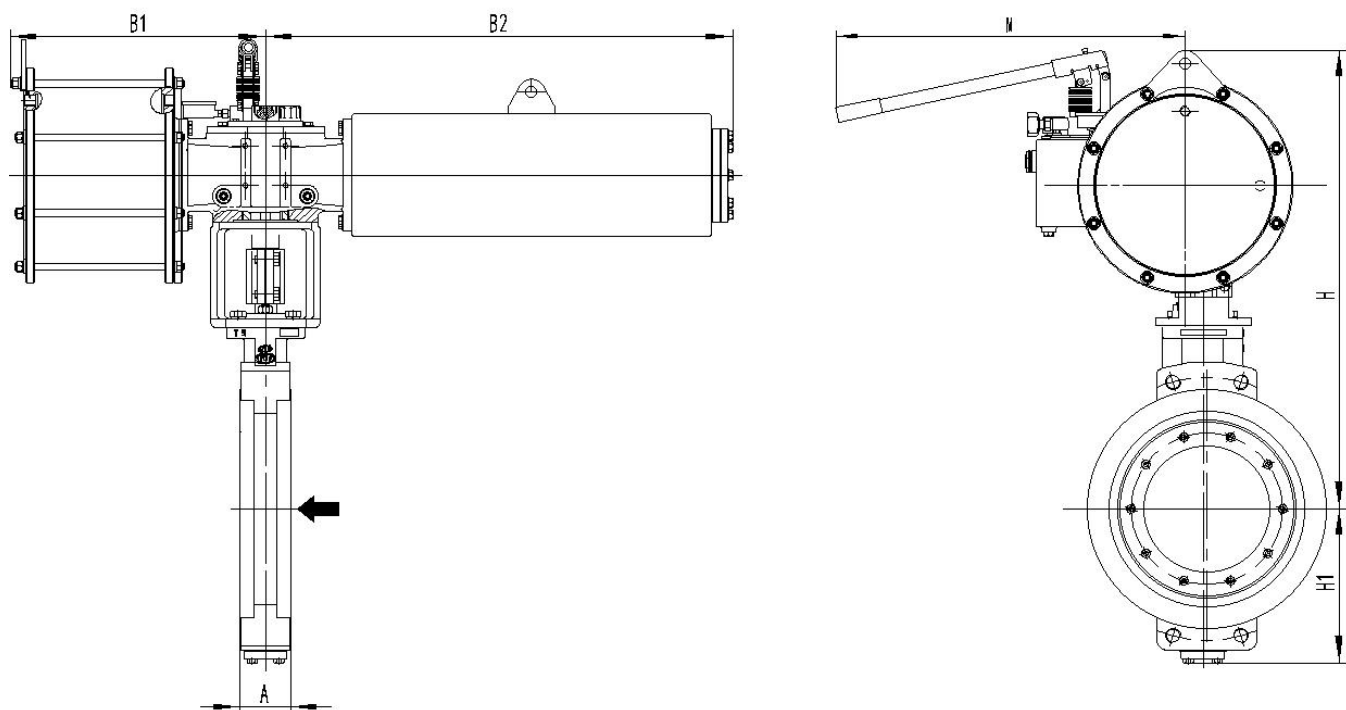


图 3.7 配 AW45SR43~AW85SR56 带液压手轮外形尺寸图 (FC)

Fig. 3.7 Overall dimensions of valve with AW45SR43~AW85SR56 (with hydraulic handwheel) (FC)

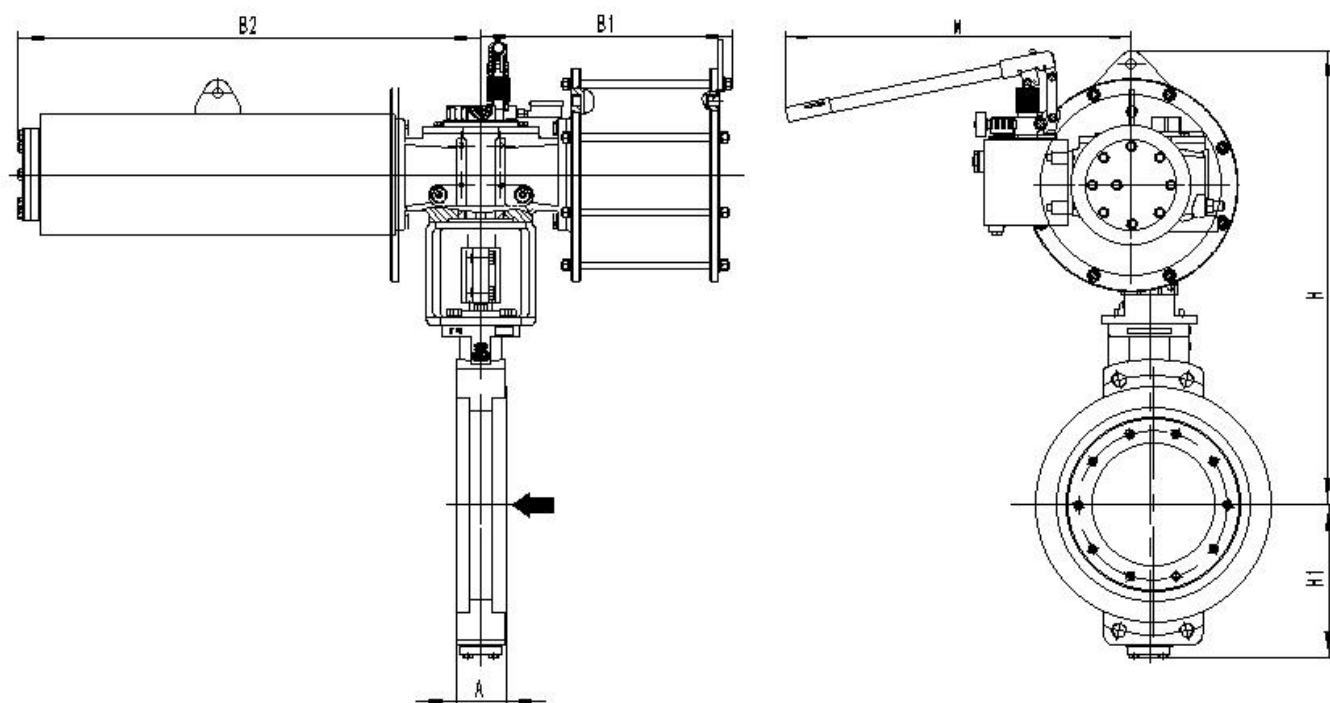


图 3.8 配 AW45SD43~AW85SD56 带液压手轮外形尺寸图(FO 此状态为执行机构通气状态)

Fig. 3.8 Overall dimensions of valve with AW45SD43~AW85SD56 (with hydraulic handwheel) (FO, indicating that the actuator is in the ventilation state.)

图 3 配 AWS 单作用执行机构带手轮外形尺寸图

Fig. 3 Overall dimensions of valve with AWS single-acting actuator (with handwheel)

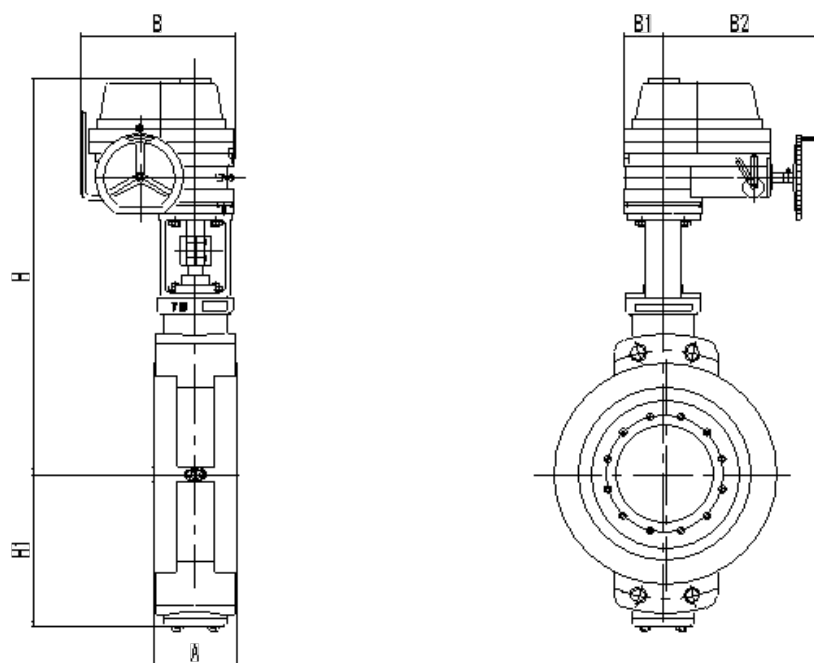


图 4 配 EI 执行机构外形尺寸图

Fig. 4 Overall dimensions of valve with EI actuator

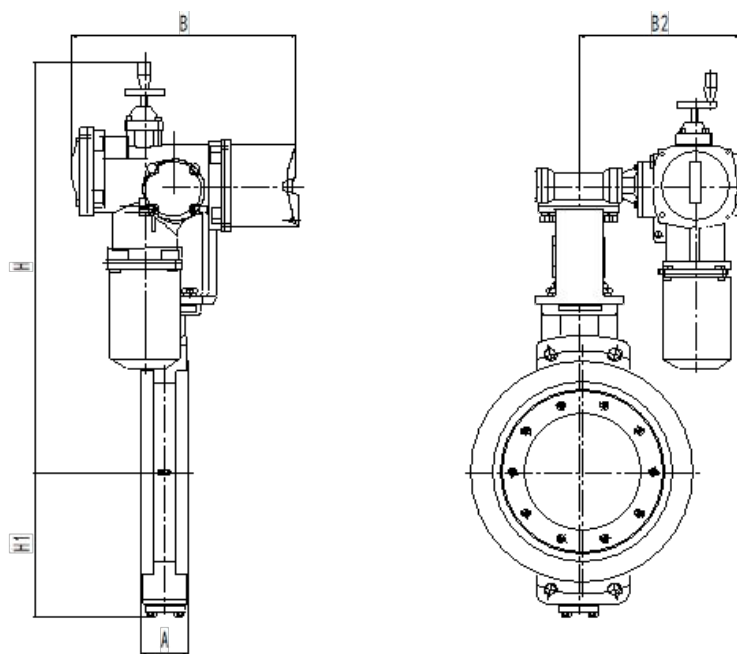


图 5 配 M8000 系列执行机构外形尺寸图

Fig. 5 Overall dimensions of valve with an 8000 series actuator

法兰距、外形尺寸及重量

Face to face dimension, overall dimensions and weight

表 4—1 Class150/PN10,16,20 配气动执行机构外形尺寸

mm

Table 4-1 Overall dimensions of Class 150/PN10, 16, 20 with pneumatic actuator, mm

公称通径(mm) Nominal diameter (mm)	Class150/PN10,16,20 法兰距 A Class150/PN10,16,20 Face to face dimension A		外 形 尺 寸 Overall dimensions								执行机构 Actuator	重量 kg Weight kg			
	对夹式 Wafer type	法兰式 Flange type	B1	B2	带手轮 With handwheel			--	H1	B		对夹式 Wafer type		法兰式 Flange type	
					B2	H	M	H				--	带手轮 With handwheel	--	带手轮 With handwheel
2"(50)	49	70	—	—	175	520	Φ200	420	115	235	AT83DR0, AT83DD0	8	17	14	23
			—	—	175	540	Φ280	450		350	AT125SR5,AT125SD5	15	24	21	30
2½"(65)	49	114	—	—	175	530	Φ200	430	120	235	AT83DR0, AT83DD0	9	18	16	25
			—	—	175	550	Φ280	455		350	AT125SR5,AT125SD5	16	25	23	32
3"(80)	49	114	—	—	175	570	Φ280	450	130	285	AT105DR0,AT105DD0	13	22	21	30
			—	—	175	660	Φ320	520		470	AT160SR5,AT160SD5	30	48	38	56
4"(100)	56	127	—	—	175	600	Φ280	470	145	285	AT105DR0,AT105DD0	16	25	26	35
			—	—	175	650	Φ320	550		470	AT160SR5,AT160SD5	33	51	43	61
5"(125)	64	140	—	—	175	610	Φ280	510	165	350	AT125DR0,AT125DD0	22	31	33	42
			520	850	950	770	Φ400	670		—	AW18SR41, AW18SD41	181	216	202	237
6"(150)	70	140	—	—	175	715	Φ320	580	165	405	AT140DR0,AT140DD0	31	40	45	54
			520	850	950	790	Φ400	690		—	AW18SR41, AW18SD41	186	221	210	245
8"(200)	71	152	520	200	700	850	Φ400	750	200	—	AW18D001	134	169	154	189
			520	910	1000	900	Φ400	800		—	AW22SR51, AW22SD51	223	248	243	268
10"(250)	76	165	520	200	700	870	Φ400	770	230	—	AW18D001	146	181	181	216
			520	910	1000	960	Φ400	860		—	AW22SR51, AW22SD51	235	260	270	295
12"(300)	83	178	650	250	800	970	Φ600	870	265	—	AW22D002	188	238	241	291
			650	1050	1300	1140	Φ600	940		—	AW27SR52, AW27SD52	382	437	334	389
14"(350)	92	190	650	250	800	1000	Φ600	900	290	—	AW22D002	206	256	269	319
			650	1050	1300	1180	Φ600	980		—	AW27SR52, AW27SD52	399	454	462	517
16"(400)	102	216	650	250	800	1140	Φ600	860	325	—	AW22D002	223	273	305	355
			650	1050	1300	1200	Φ600	1000		—	AW27SR52, AW27SD52	416	465	498	553
18"(450)	114	222	700	270	1500	1250	Φ700	1050	355	—	AW27D003	348	398	432	482
			700	1160	1600	1330	Φ700	1130		—	AW40SR53, AW40SD53	664	714	748	798
20"(500)	127	229	700	270	1500	1290	Φ700	1090	435	—	AW27D003	378	428	550	600
			700	1160	1600	1380	Φ700	1180		—	AW40SR53, AW40SD53	684	734	866	916
24"(600)	154	267	800	320	900	1500	800	1300	475	—	AW40D004	702	802	860	960
			700	1160	1600	1460	Φ700	1260		—	AW40SR53, AW40SD53	792	842	950	1000

表 4—2 Class300/PN25,40 配气动执行机构外形尺寸

mm

Table 4-2 Overall dimensions of Class 300/PN25, 40 with pneumatic actuator, mm

公称通径(mm) Nominal diameter (mm)	Class300/PN25,40,50 法 兰距 A Class 300/PN25,40,50, face to face dimension A		外 形 尺 寸 Overall dimensions								执行机构 Actuator	重量 kg Weight kg			
	对夹式 Wafer type	法兰式 Flange type	B1	B2	带手轮 With handwheel			--	H1	B		对夹式 Wafer type		法兰式 Flange type	
					B2	H	M	H				--	带手轮 With handwheel	--	带手轮 With handwheel
2"(50)	49	70	—	—	175	520	Φ200	420	130	235	AT83DR0,AT 83DD0	8	17	16	25
			—	—	175	580	Φ280	450		350	AT125SR5,AT 125SD5	16	25	23	32
2½"(65)	49	114	—	—	175	530	Φ200	430	130	235	AT83DR0,AT 83DD0	11	20	21	30
			—	—	175	590	Φ280	460		350	AT125SR5,AT 125SD5	18	27	28	37
3"(80)	64	180	—	—	175	570	Φ280	440	130	285	AT105DR0,A T105DD0	14	23	31	40
			—	—	175	660	Φ320	520		470	AT160SR5,AT 160SD5	31	49	48	66
4"(100)	64	190	—	—	175	600	Φ280	470	150	285	AT105DR0,A T105DD0	17	26	39	48
			—	—	175	690	Φ320	550		470	AT160SR5,AT 160SD5	34	52	56	74
5"(125)	70	200	—	—	175	640	Φ280	510	170	350	AT125DR0,A T125DD0	24	33	50	59
			520	850	950	765	Φ400	665		—	AW18SR41, AW18SD41	183	218	209	244
6"(150)	76	210	—	—	175	705	Φ280	575	200	350	AT125DR0,A T125DD0	37	46	66	75
			520	850	950	880	Φ400	780		—	AW18SR41, AW18SD41	192	227	221	256
8"(200)	89	230	520	200	700	835	Φ400	735	230	—	AW18D001	144	179	192	227
			520	910	1000	895	Φ400	795		—	AW22SR51, AW22SD51	233	258	281	306
10"(250)	114	250	520	200	700	835	Φ400	735	265	—	AW18D001	161	196	277	312
			520	910	1000	925	Φ400	825		—	AW22SR51, AW22SD51	250	275	366	391
12"(300)	114	270	650	250	800	955	Φ600	855	300	—	AW22D002	211	261	325	375
			650	1050	1300	1140	Φ600	930		—	AW27SR52, AW27SD52	404	459	418	463
14"(350)	127	290	650	250	800	985	Φ600	885	330	—	AW22D002	241	291	373	423
			650	1050	1300	1160	Φ600	960		—	AW27SR52, AW27SD52	437	492	566	621
16"(400)	140	310	650	250	800	1030	Φ600	930	370	—	AW22D002	287	337	437	487
			650	1050	1200	1140	Φ600	1000		—	AW27SR52, AW27SD52	480	535	630	685
18"(450)	152	330	700	270	1500	1260	Φ700	1060	405	—	AW27D003	414	464	612	662
			700	1160	1600	1345	Φ700	1145		—	AW40SR53, AW40SD53	730	780	928	978
20"(500)	152	350	700	270	1500	1290	Φ700	1090	435	—	AW27D003	449	499	707	757
			700	1160	1600	1380	Φ700	1180		—	AW40SR53, AW40SD53	765	815	1023	1073
24"(600)	178	390	800	320	900	1500	800	1300	510	—	AW40D004	793	893	1162	1262
			700	1160	1600	1460	Φ700	1260		—	AW40SR53, AW40SD53	883	933	1252	1302

表 4—3 Class150/PN10,16,20 配电动执行机构外形尺寸

mm

Table 4-3 Overall dimensions of Class 150/PN10, 16, 20 with electric actuator, mm

公称通径(mm) Nominal diameter (mm)	Class150/PN10,16,20 法兰距 A Class150/PN10,16,20 Face to face dimension A		外 形 尺 寸 Overall dimensions					执行机构 Actuator	重量 kg Weight kg	
	对夹式 Wafer type	法兰式 Flange type	H	H1	B1	B2	B		对夹式 Wafer type	法兰式 Flange type
4"(100)	56	127	720	145	—	338	229	EI025	24	25
5"(125)	64	140	790	165	—	357	244	EI050	33	35
6"(150)	70	140	820	165	—	357	244	EI050	37	43
8"(200)	71	152	920	200	—	380	287	EI080	54	64
10"(250)	76	165	950	230	—	380	287	EI080	66	81
12"(300)	83	178	1000	265	—	368	293	EI120	122	145
14"(350)	92	190	1060	290	—	368	293	EI120	170	207
16"(400)	102	216	1310	325	—	380	312	EI200	167	231
18"(450)	114	222	1220	355	—	800	312	EI300	283	349
20"(500)	127	229	1250	435	—	800	669	M8640+A8090	221	342
24"(600)	154	267	1450	475	—	900	669	M8640+A8090	423	516

表 4—4 Class300/PN25,40 配电动执行机构外形尺寸

mm

Table 4-4 Overall dimensions of Class 300/PN25, 40 with electric actuator, mm

公称通径(mm) Nominal diameter (mm)	Class300/PN25,40 法兰距 A Class300/PN25,40 Face to face dimension A		外 形 尺 寸 Overall dimensions					执行机构 Actuator	重量 kg Weight kg	
	对夹式 Wafer type	法兰式 Flange type	H	H1	B1	B2	B		对夹式 Wafer type	法兰式 Flange type
4"(100)	64	190	720	150	—	338	229	EI025	35	47
5"(125)	70	200	790	170	—	357	244	EI050	44	61
6"(150)	76	210	820	200	—	357	244	EI050	51	72
8"(200)	89	230	920	230	—	380	287	EI080	74	108
10"(250)	114	250	950	265	—	380	287	EI080	100	156
12"(300)	114	270	1000	300	—	368	293	EI120	175	263
14"(350)	127	290	1060	330	—	368	293	EI120	203	307
16"(400)	140	310	1310	370	—	380	312	EI200	249	381
18"(450)	152	330	1390	405	—	800	312	EI300	287	467
20"(500)	152	350	1250	435	—	800	669	M8640+A8090	480	623
24"(600)	178	390	1450	575	—	900	669	M8640+A8090	582	900

伸长高温上盖
Extended high-temperature upper cover

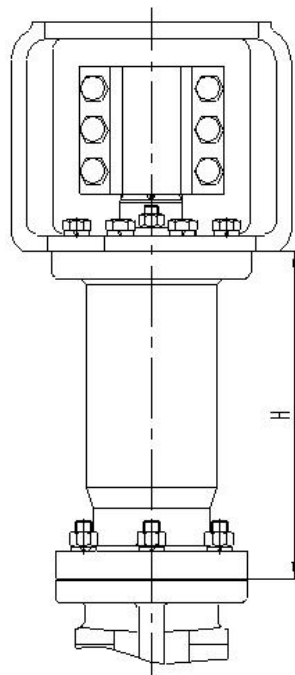


图 6 伸长高温上盖

Fig.6 Extended high-temperature upper cover

表 5-1 伸长高温上盖外形尺寸

Table 5-1 Overall dimensions of extended high-temperature upper cover

Class150/PN10,16,20		Class300/PN25,40	
公称通径 (mm) Nominal diameter (mm)	高度 H(mm) Height H (mm)	公称通径 (mm) Nominal diameter (mm)	高度 H(mm) Height H (mm)
4"(100)	150	4"(100)	150
5"(125)	150	5"(125)	150
6"(150)	150	6"(150)	150
8"(200)	200	8"(200)	200
10"(250)	200	10"(250)	200
12"(300)	300	12"(300)	300
14"(350)	300	14"(350)	300
16"(400)	300	16"(400)	300
18"(450)	300	18"(450)	300
20"(500)	300	20"(500)	300
24"(600)	300	24"(600)	300

注：1.计算带伸长高温上盖外形尺寸时，在基本结构外形尺寸基础上加上上盖高度尺寸 H

Notes: 1. When calculating the extended high-temperature upper cover overall dimensions, add the upper cover height dimension H to the overall dimensions of the basic structure.

- 2.上述表 4-1 至 4-4 中重量一栏中的数值不包含伸长高温上盖的重量。
2. The values in the weight column of Tables 4-1 to 4-4 do not include the weight of the extended high-temperature cover.

法兰螺栓

Flange bolt

表 6-1 Class150/PN10,16,20 对夹式法兰螺栓统计:

Table 6-1 Statistics of Class 150/PN10, 16, and 20 wafer type flange bolts:

口径 Diameter	压力 Pressure	每台螺栓规格及数量 Bolt specifications and quantities for each unit	压力 Pressure	每台螺栓规格及数量 Bolt specifications and quantities for each unit	压力 Pressure	每台螺栓规格及数量 Bolt specifications and quantities for each unit
DN100	PN10	8-M16x150	PN16	8-M16x150	Class150/PN20	8-M16x160
DN125	PN10	8-M16x160	PN16	8-M16x160	Class150/PN20	8-M20x170
DN150	PN10	8-M20x180	PN16	8-M20x180	Class150/PN20	8-M20x180
DN200	PN10	8-M20x180	PN16	12-M20x180	Class150/PN20	8-M20x190
DN250	PN10	12-M20x190	PN16	12-M24x200	Class150/PN20	12-M24x210
DN300	PN10	12-M20x200	PN16	12-M24x210	Class150/PN20	12-M24x220
DN350	PN10	8-M20x85	PN16	8-M24x95	Class150/PN20	8-M27x110
		12-M20x210		12-M24x230		8-M27x240
DN400	PN10	8-M24x95	PN16	8-M27x110	Class150/PN20	8-M27x120
		12-M24x230		12-M27x250		12-M27x250
DN450	PN10	8-M24x95	PN16	8-M27x100	Class150/PN20	8-M30x115
		16-M24x250		16-M27x280		12-M30x275
DN500	PN10	8-M24x95	PN16	8-M30x110	Class150/PN20	8-M30x110
		16-M24x270		16-M30x300		16-M30x290
DN600	PN10	8-M27x110	PN16	8-M33x120	Class150/PN20	8-M33x120
		16-M27x310		16-M33x340		16-M33x340

注: 1.PN 系列配对法兰螺栓须按照 GB/T20592-2009 标准中表 3.0.3-1 规定选择; Class 系列配对法兰螺栓须按照 GB/T20615-2009 标准中表 3.3.1 规定选择螺栓和螺母;

Notes: 1. For PN series companion flange bolts, selection must comply with Table 3.0.3-1 in GB/T20592-2009; for Class series companion flange bolts, selection of bolts and nuts must comply with Table 3.3.1 in GB/T20615-2009.

2. 若法兰螺栓中同时存在长螺栓和短螺栓两种, 短螺栓必须使用第一条标准规定的全螺纹螺栓。
2. If both long bolts and short bolts coexist in the flange bolts, the short bolts must use stud bolts as specified in the first standard.

表 6-2 Class150/PN10,16,20 法兰式法兰螺栓统计:

Table 6-2 Statistics of flange bolts of Class 150/PN10,16,20 flange butterfly valve :

口径 Diameter	压力 Pressure	每台螺栓规格及数量 Bolt specifications and quantities for each unit	压力 Pressure	每台螺栓规格及数量 Bolt specifications and quantities for each unit	压力 Pressure	每台螺栓规格及数量 Bolt specifications and quantities for each unit
DN100	PN10	8-M16x80	PN16	8-M16x80	Class150/PN20	8-M16x80
		8-M16x90		8-M16x90		8-M16x95
DN125	PN10	8-M16x80	PN16	8-M16x80	Class150/PN20	12-M20x110
		8-M16x90		8-M16x90		8-M20x85
DN150	PN10	8-M20x80	PN16	8-M20x80	Class150/PN20	8-M20x90
		8-M20x100		8-M20x110		8-M20x110
DN200	PN10	16-M20x100	PN16	24-M20x110	Class150/PN20	16-M20x110
DN250	PN10	8-M20x90	PN16	8-M24x90	Class150/PN20	8-M24x100
		16-M20x110		16-M24x120		16-M24x120
DN300	PN10	24-M20x110	PN16	8-M24x100	Class150/PN20	8-M24x110
				16-M24x120		16-M24x130
DN350	PN10	32-M20x110	PN16	8-M24x110	Class150/PN20	8-M27x110
				24-M24x130		16-M27x140
DN400	PN10	32-M24x120	PN16	32-M27x140	Class150/PN20	8-M27x120

						24-M27x140
DN450	PN10	40-M24x120	PN16	8-M27x120	Class150/PN20	8-M30x130
				32-M27x140		24-M30x160
DN500	PN10	40-M24x130	PN16	8-M30x130	Class150/PN20	8-M30x130
				32-M30x150		32-M30x160
DN600	PN10	40-M27x140	PN16	40-M33x170	Class150/PN20	8-M33x150
						32-M33x180

注：1.PN 系列配对法兰螺栓须按照 GB/T20592-2009 标准中表 3.0.3-1 规定选择；Class 系列配对法兰螺栓须按照 GB/T20615-2009 标准中表 3.3.1 规定选择螺栓和螺母；

Notes: 1. For PN series companion flange bolts, selection must comply with Table 3.0.3-1 in GB/T20592-2009; for Class series companion flange bolts, selection of bolts and nuts must comply with Table 3.3.1 in GB/T20615-2009.

2.若法兰螺栓中同时存在长螺栓和短螺栓两种，短螺栓必须使用第一条标准规定的全螺纹螺柱。

2. If both long bolts and short bolts coexist in the flange bolts, the short bolts must use stud bolts as specified in the first standard.

表 6-3 Class300/PN25,40 对夹式法兰螺栓统计：

Table 6-3 Statistics of flange bolts of Class 300/PN25,40 wafer butterfly valve:

口径 Diameter	压力 Pressure	每台螺栓规格及数量 Bolt specifications and quantities for each unit	压力 Pressure	每台螺栓规格及数量 Bolt specifications and quantities for each unit	压力 Pressure	每台螺栓规格及数量 Bolt specifications and quantities for each unit
DN100	PN25	8-M20x170	PN40	8-M20x170	Class300/PN50	8-M20x190
DN125	PN25	8-M24x190	PN40	8-M24x190	Class300/PN50	8-M20x200
DN150	PN25	8-M24x90	PN40	8-M24x90	Class300/PN50	8-M20x90
		4-M24x200		4-M24x200		8-M20x210
DN200	PN25	8-M24x90	PN40	8-M27x100	Class300/PN50	8-M24x100
		8-M24x220		8-M27x230		8-M24x240
DN250	PN25	8-M27x100	PN40	8-M30x120	Class300/PN50	8-M27x110
		8-M27x260		8-M30x270		12-M27x280
DN300	PN25	8-M27x100	PN40	8-M30x110	Class300/PN50	8-M30x120
		12-M27x260		12-M30x280		12-M30x300
DN350	PN25	8-M30x110	PN40	8-M33x120	Class300/PN50	8-M30x120
		12-M30x290		12-M33x300		16-M30x310
DN400	PN25	8-M33x130	PN40	8-M36x3x140	Class300/PN50	8-M33x130
		12-M33x320		12-M36x3x330		16-M33x340
DN450	PN25	8-M33x130	PN40	8-M36x3x140	Class300/PN50	8-M33x130
		16-M33x320		16-M36x3x360		20-M33x360
DN500	PN25	8-M33x140	PN40	8-M39x3x140	Class300/PN50	8-M33x130
		16-M33x325		16-M39x3x360		20-M33x360
DN600	PN25	8-M36x3x150	PN40	8-M45 x3x170	Class300/PN50	8-M39x150
		16-M36x3x380		16-M45x3x430		20-M39x410

注：1.PN 系列配对法兰螺栓须按照 GB/T20592-2009 标准中表 3.0.3-1 规定选择；Class 系列配对法兰螺栓须按照 GB/T20615-2009 标准中表 3.3.1 规定选择螺栓和螺母；

Notes: 1. For PN series companion flange bolts, selection must comply with Table 3.0.3-1 in GB/T20592-2009; for Class series companion flange bolts, selection of bolts and nuts must comply with Table 3.3.1 in GB/T20615-2009.

2. 若法兰螺栓中同时存在长螺栓和短螺栓两种，短螺栓必须使用第一条标准规定的全螺纹螺柱。

2. If both long bolts and short bolts coexist in the flange bolts, the short bolts must use stud bolts as specified in the first standard.

表 6-4 Class300/PN25,40 法兰式法兰螺栓统计:

Table 6-4 Statistics of flange bolts of Class 300/PN25,40 flange butterfly valve:

口径 Diameter	压力 Pressure	每台螺栓规格及数量 Bolt specifications and quantities for each unit	压力 Pressure	每台螺栓规格及数量 Bolt specifications and quantities for each unit	压力 Pressure	每台螺栓规格及数量 Bolt specifications and quantities for each unit
DN100	PN25	8-M20x100	PN40	8-M20x100	Class300/PN50	8-M20x100
		8-M20x130		8-M20x130		8-M20x130
DN125	PN25	8-M24x105	PN40	8-M24x105	Class300/PN50	16-M20x140
		8-M24x 135		8-M24x 135		
DN150	PN25	16-M24x140	PN40	16-M24x140	Class300/PN50	8-M20x115
						16-M20x145
DN200	PN25	24-M24x130	PN40	24-M27x145	Class300/PN50	24-M24x160
DN250	PN25	24-M27x140	PN40	24-M30x160	Class300/PN50	32-M27x175
DN300	PN25	32-M27x145	PN40	32-M30x170	Class300/PN50	32-M30x185
DN350	PN25	32-M30x160	PN40	32-M33x185	Class300/PN50	40-M30x195
DN400	PN25	32-M33x170	PN40	32-M36x3x195	Class300/PN50	40-M33x205
DN450	PN25	40-M33x190	PN40	40-M36x3x210	Class300/PN50	48-M33x210
DN500	PN25	40-M33x175	PN40	40-M39x3x215	Class300/PN50	4-M33x180
						44-M33x220
DN600	PN25	40-M36x3x210	PN40	40-M45x3x260	Class300/PN50	48-M39x3x250

注：1.PN 系列配对法兰螺栓须按照 GB/T20592-2009 标准中表 3.0.3-1 规定选择；Class 系列配对法兰螺栓须按照 GB/T20615-2009 标准中表 3.3.1 规定选择螺栓和螺母；

Notes: 1. For PN series companion flange bolts, selection must comply with Table 3.0.3-1 in GB/T20592-2009; for Class series companion flange bolts, selection of bolts and nuts must comply with Table 3.3.1 in GB/T20615-2009.

2.若法兰螺栓中同时存在长螺栓和短螺栓两种，短螺栓必须使用第一条标准规定的全螺纹螺栓。

2. If both long bolts and short bolts coexist in the flange bolts, the short bolts must use stud bolts as specified in the first standard.

手轮机构

Handwheel mechanism

表 7-1 执行机构手轮标准配用：

Table 7-1 Standard mating of actuator handwheels:

执行机构（双作用） Actuator (double acting)	执行机构（单作用） Actuator (single acting)	标准配用手轮 Standard Handwheel	执行机构（单作用） Actuator (single acting)	标准配用手轮 Standard Handwheel	执行机构（单作用） Actuator (single acting)	标准配用手轮 Standard Handwheel
AT63D、AT75D	AT63S、AT75S	SD-1	AW18D001	丝杆 HG18D1 Lead screw HG18D1	AW18SR41, AW18SD41	丝杆 HG18S41 Lead screw HG18S41
AT83D、AT92D	AT63S、AT75S	SD-2	AW22D002	丝杆 HG22D2 Lead screw HG22D2	AW22SR51, AW22SD51	丝杆 HG22S51 Lead screw HG22S51
AT105D、 AT125D	AT105S、 AT125S	SD-3	AW27D003	伞齿 HG27D3 Bevel gear HG27D3	AW27SR52, AW27SD52	丝杆 HG27S52 Lead screw HG27S52
AT140D、 AT160D	AT140S、160S	SD-4	AW35D003	伞齿 HG32D3 Bevel gear HG32D3	AW32SR53, AW32SD53	伞齿 HG32S53 Bevel gear HG32S53
AT190D、 AT210D	AT190S、 AT210S	SD-5	AW40D004	液压 HG40D4 Hydraulic HG40D4	AW40SR53, AW40SD53	伞齿 HG40S53 Bevel gear HG40S53
AT240D、 AT270D	AT240S	SD-6	AW55D005	液压 HG55D5 Hydraulic HG55D5	AW55SR55, AW55SD55	液压 HG55S55 Hydraulic HG55S55
AT300D	AT270S、 AT300S	SD-7	AW70D006	液压 HG70D6 Hydraulic HG70D6	AW60SR55, AW60SD55	液压 HG60S55 Hydraulic HG60S55
AT350D	AT350S	SD-8	AW85D007	液压 HG85D7 Hydraulic HG85D7	AW70SR55, AW70SD55	液压 HG70S55 Hydraulic HG70S55
AT400D	AT400S	SD-9				