



## HTA 快换式笼式单座调节阀 Quick Change Cage Guided Single Seated Control Valve

HTA 快换式笼式单座调节阀阀芯采用上导结构，阀体结构紧凑，流体通道呈 S 型，具有压降损失小，流量大，可调范围广，流量特性精度高，符合 IEC60534-2-1-2011 标准。同时结构上采用模块化设计，阀座可双面使用，不用专用工具即可拆卸。利用套筒使介质的流动性得到了优化。调节阀泄漏量符合 ANSI FCI 70-2-2006 标准。调节阀配用多弹簧薄膜或气缸执行机构，其结构紧凑，输出力大。

产品符合 GB/T4213-2008 标准

HTA Quick change Cage guided Single seated Control Valve with a top-guided valve plug, a compact valve body and an S-shape flow passage which features low pressure loss, allows a large flow capacity, rangeability and high accuracy flow characteristics, it complies with the IEC60534-2-1-2011 standards. Meanwhile, The modular design is provided to the structure, the seat can be used on both sides and disassembled without any tools. The cage can improve the fluid liquidity. The leakage complies with the ANSI FCI 70-2-2006 standards. The compact size and large output force are available when the control valve is combined with multi-spring diaphragm actuator or cylinder actuator. This product complies with the GB/T4213-2008 standards.

### 标准规格 STANDARD SPECIFICATION

#### 阀体 BODY

形式 Type	直通单座铸造球型阀 Straight-through, single seated, cast globe valve
公称通径 Normal size	40、50、65、80、100、125、150、200mm
公称压力 Pressure rating	ANSI Class 125, 150, 300, 600; JIS 10K, 20K, 30K, 40K; PN 1.6, 4.0, 6.4 MPa *
连接型式 End connections	法兰型 Flanged: FF、RF、RJ、TG、MFM 焊接型 Welded end: SW (40~50mm); BW (65~200mm)
尺寸 Dimensions	请参见表 5 See Table 5
阀体及上阀盖材质 Body & Bonnet Material	SCPH2/WCB, SCPH21/WC6, SCS13A/CF8, SCS14A/CF8M, SCS16A/CF3M, Ti and other alloy steels. 各种材质的使用温度·压力范围，请参见表 1 和表 2 As to the operating pressure-temperature limitation for each material, see Table 1& 2
上阀盖型式 Bonnet type	常温型 (P) Plain type : -17~+230°C 伸长 I 型 (EI) Extension Type I: -45~-17°C and +230~+566°C 伸长 II 型 (EII) Extension Type II: -100~-45°C
压盖型式 Gland type	螺栓压紧式 Bolted gland
填料 Packing	V 型聚四氟乙烯填料、石墨填料请参见图 2 Teflon V-ring, Graphite, etc. See Fig.2.
垫片	锯齿型 (SUS316、SUS316L)

Gasket	Saw-tooth type (Stainless steel)
表面涂层 Surface coating	银灰色（环氧树脂）。但是阀体材质为不锈钢时，本体部不加涂层。 SLV (Epoxy resin group) is standard. In the case of stainless steel body, no painting is standard.

\* 法兰标准 Standard: JIS B2201-1984、JB/T79.1-94(PN1.6MPa);JB/T79.2-94(PN4.0、6.4MPa);  
ANSI B16.5-2009;HG20592-2009、HG20615-2009。

### 阀内组件 TRIM

阀芯型式 Valve plug type	单座柱塞型 Single seated, Contoured type
阀内件材质 Trim materials	标准材质组合及使用温度·压力范围，请参见表 1 及图 1
阀内件处理 Trim materials	See Table 1&Fig.1 for hardening treatment and operating pressure-temperature
流量特性 Flow characteristics	<p>大容量流量特性，参见图 4</p> <ul style="list-style-type: none"> <li>● 金属阀座 等百分比特性 (%C) 和线性特性 (LC)</li> <li>● 软阀座 等百分比特性 (%T) 和线性特性 (LT)</li> </ul> <p>High-capacity flow characteristics, see Fig.4</p> <ul style="list-style-type: none"> <li>● Metal seat: Equal percentage (%C) and Linear (LC)</li> <li>● Soft seat: Equal percentage (%T) and Linear (LT)</li> </ul> <p>高精度流量特性，参见图 4</p> <ul style="list-style-type: none"> <li>● 金属阀座 等百分比特性 (%CF) 和线性特性 (LCF)</li> <li>● 软阀座 等百分比特性 (%TF) 和线性特性 (LTF)</li> </ul> <p>High-precision flow characteristics, see Fig.4</p> <ul style="list-style-type: none"> <li>● Metal seat: Equal percentage (%CF) and Linear (LCF)</li> <li>● Soft seat: Equal percentage (%TF) and Linear (LTF)</li> </ul> <p>注：关于聚四氟乙烯阀座的工作温度和压差，请参见图 1-2</p> <p>Note: For the operating temperature and pressure drops for soft seat, see Fig.1-2</p>

### 执行机构 ACTUATOR

型号 Type 规格 Specification	气动薄膜式 Pneumatic Diaphragm type	气缸活塞式 Cylinder piston type		电子式 Electronic type	智能式 Intelligent type
	HA	VA6	VP	EIL	M8 系列
	多弹簧型 Multi-Spring type	单作用 Single acting	双作用 Double acting		
用途 Purpose	调节 Modulation	调节 Modulation		调节 Modulation	
供气压力或 供给电压 Air supply or	供气压力(弹簧范围) Air supply (Spring range) 140 (20~100) kPa 160 (20~100) kPa	供气压力 Air supply 400~700kPa		电压: 220 /380V 50HZ Power supply:220 /380V 50Hz 输入信号 Input signal:	电压: 220 /380V 50HZ Power supply:220 /380V 50Hz 输入信号 Input signal:

<b>Power supply</b>	280 (80~240) kPa 400 (80~240) kPa		4~20mA DC	4~20mA DC
<b>接口 Connection</b>	空气配管: Rc1/4 Air piping: Rc1/4	空气配管 Air piping: G3/8 (VA6、 VP5、VP6) ; G1/2 (VP7)	配线: 2-PF3/4 Wiring: 2-PF3/4	配线: PG13.5 Wiring: PG13.5
<b>正作用 Direct action</b>	气压增加阀闭 Air to valve close	气压增加阀闭 Air to valve close	输入信号阀闭 Signal increase to valve shut	输入信号阀闭 Signal increase to valve shut
<b>反作用 Reverse action</b>	气压增加阀开 Air to valve open	气压增加阀开 Air to valve open	输入信号阀开 Signal increase to valve open	输入信号阀开 Signal increase to valve open
<b>回差 Hysteresis error</b>	≤1%FS (带定位器) ≤3%FS (不带定位器) ≤5%FS (配 HA1 型) ≤ 1%FS ( With positioner) ≤ 3%FS ( Without positioner) ≤ 5%FS ( With type HA1)	≤1%FS (带定位器) ≤3%FS (不带定位器) ≤ 1%FS ( With positioner) ≤ 3%FS ( Without positioner)	≤1%FS	≤1%FS
<b>基本误差 Limit of intrinsic error</b>	≤±1%FS (带定位器) ≤±5%FS (不带定位器) ≤±2%FS(配 HA1 型) ≤ ±1%FS ( With positioner) ≤ ±5%FS ( Without positioner) ≤±2%FS (With type HA1)	≤±1%FS (带定位器) ≤±5%FS (不带定位器) ≤ ±1%FS ( With positioner) ≤±5%FS ( Without positioner)	≤±1%FS	≤±1%FS
<b>环境温度 Ambient temperature</b>	标准型 Standard type-30~+70℃ 高温型 High Temp.service 0~ +100℃ 低温型 Low Temp.service -40~ +40℃	标准型 Standard type-20~+60℃ 高温型 High Temp.service 0~ +100℃ 低温型 Low Temp.service -50~ +60℃	-20~+70℃	-25~+70℃
<b>油漆颜色 Painting</b>	蓝色 Munsell 色标 10B5/10 Blue (Munsell color 10B5/10)	蓝色 Munsell 色标 10B5/10 Blue (Munsell color 10B5/10)		
<b>附件 Accessories</b>	定位器、空气过滤减压阀、保位阀、阀传送器、手轮机构等 Positioner, Air-set, Lock-up valve, Position transmitter, Handwheel and others	定位器、空气过滤减压阀、保位阀、阀传送器、手轮机构等 Positioner, Air-set, Lock-up valve, Position transmitter, Hand wheel and others	EIL 执行机构手轮 Handwheel	M8 执行机构手轮 Handwheel

## 性能 PERFORMANCE

CV 值及行程 Rated CV value and Travel	请参见表 3 See Table 3
阀座泄漏量 Seat Leakage	请参见表 1 See Table 1
可调范围 Rangeability	50 : 1
允许压差 Allowable pressure drops	请参见表 4 See Table 4
产品重量 Weight	请参见表 5 See Table 5
配管安装示意图 Actuator orientation	请参见图 3 See Fig.3

表 1 阀体、阀内件材质组合及使用温度范围·阀座允许泄漏量

**Table 1 BODY/TRIM STANDARD MATERIAL COMBINATION, OPERATING TEMPERATURE AND SEAT LEAKAGE**

- R.TFE: 强化聚四氟乙烯 Reinforced Teflon
- HT : 热处理 Heat treatment
- ST : 堆焊司太莱合金 Partial stellite
- SS : 部分堆焊司太莱合金 Stellite seat surface
- SF : 全部堆焊司太莱合金 Stellite full surface

表 1-1 阀体材质: 碳钢

**Table 1-1 BODY MATERIAL: CARBON STEEL**

阀体材质 Body material		SCPH2/A216-WCB,SCPH21/A217-WC6,SCPL1/A352-LCB		
阀芯 Plug	材质 material	SUS304/316	SUS304/316	SUS304/316
	处理 treatment	—	R.TFE	SS/SF
阀座 Seat ring	材质 material	SUS304/316	SUS304/316	SUS304/316
	处理 treatment	—	—	SS/SF
导向套 Guide	材质 material	SUS420	SUS420	SUS420
	处理 treatment	HT	HT	HT
垫圈 Gasket	材质 material	SUS316L	SUS316L	SUS316L
阀座允许泄漏量 Seat Leakage	ANSI	Class IV	Class VI	Class IV
	Rated Cv×	0.01%	Bubble-tight	0.01%
使用温度 Operating Tep. °C	SCPH2/WCB Body	-17~+425	-17~+230	-17~+425
	SCPH21/WC6 Body	-17~+566	-17~+230	-17~+566
	SCPL1/LCB Body	-45~+350	-45~+230	-45~+350

表 1-2 阀体材质：不锈钢

Table 1-2 BODY MATERIAL: STAINLESS STEEL

阀体材质 Body material		SCS13A/CF8,SCS14A/CF8M,SCS16A/CF3M		
阀芯 Plug	材质 material	SUS304/316/316L	SUS304/316	SUS304/316/316L
	处理 treatment	—	R.TFE	SS/SF
阀座 Seat ring	材质 material	SUS304/316/316L	SUS304/316/316L	SUS304/316/316L
	处理 treatment	—	—	SS/SF
导向套 Guide	材质 material	SUS304/316/316L	SUS304/316/316L	SUS304/316/316L
	处理 treatment	—	R.TFE	ST
垫圈 Gasket	材质 material	SUS316L	SUS316L	SUS316L
阀座允许泄漏量 Seat Leakage	ANSI	Class IV	Class VI	Class IV
	Rated Cv×	0.01%	Bubble-tight	0.01%
使用温度 Operating Temp.℃		-196~+566	-45~+230	-196~+566

Table 2 BODY MATERIAL/OPERATING PRESSURE-TEMPERATURE RATIO

表 2-1 Table 2-1 ANSI

UNIT:MPa

温度 Temp.℃	ANSI150					ANSI300					ANSI600				
	LCB	WCB	WC6	SCS13A	SCS14A	LCB	WCB	WC6	SCS13A	SCS14A	LCB	WCB	WC6	SCS13A	SCS14A
				CF8	CF8M				CF8	CF8M				CF8	CF8M
-196~38	—	—	—	1.90	1.90	—	—	—	4.95	4.95	—	—	—	9.91	9.92
-45~38	1.84	—	—	1.90	1.90	4.78	—	—	4.95	4.95	9.57	—	—	9.91	9.92
-5~38	1.84	1.96	1.99	1.90	1.90	4.78	5.10	5.16	4.95	4.95	9.57	10.2	10.32	9.91	9.92
50	1.81	1.92	1.92	1.84	1.84	4.72	5.00	5.16	4.77	4.80	9.46	10.1	10.32	9.56	9.62
100	1.72	1.76	1.76	1.56	1.61	4.51	4.63	5.14	4.08	4.21	9.02	9.27	10.29	8.17	8.43
150	1.57	1.57	1.57	1.39	1.47	4.40	4.51	5.01	3.62	3.85	8.78	9.04	10.03	7.26	7.69
200	1.40	1.40	1.40	1.25	1.37	4.26	4.38	4.88	3.27	3.56	8.54	8.75	9.75	6.54	7.12
250	1.20	1.20	1.20	1.16	1.20	4.05	4.16	4.62	3.04	3.34	8.11	8.33	9.26	6.10	6.67
300	1.01	1.01	1.01	1.01	1.01	3.76	3.87	4.23	2.91	3.15	7.54	7.74	8.48	5.80	6.32
350	0.84	0.84	0.84	0.84	0.84	3.59	3.69	4.01	2.81	3.03	7.18	7.38	8.04	5.60	6.07
375		0.73	0.73	0.73	0.73		3.64	3.88	2.77	2.96		7.28	7.75	5.54	5.93
400		0.64	0.64	0.64	0.64		3.44	3.65	2.74	2.91		6.89	7.31	5.48	5.81
425		0.55	0.55	0.55	0.55		2.88	3.44	2.71	2.87		5.74	6.91	5.42	5.72
450		0.47	0.47	0.47	0.47		1.99	3.08	2.68	2.81		4.00	6.17	5.37	5.61
475		0.37	0.37	0.37	0.37		1.35	2.58	2.65	2.73		2.70	5.17	5.30	5.46
500		0.28	0.28	0.28	0.28		0.88	2.02	2.60	2.67		1.75	4.04	5.20	5.37
525		0.18	0.18	0.18	0.18		0.51	1.53	2.19	2.57		1.03	3.07	4.77	5.15
550		—						1.20	2.00	2.40			2.40	4.00	4.60
566								1.00	1.90	2.20			2.00	3.80	4.50

表 2-2 Table 2-2 JB/T79-94 或 HG20592-2009

UNIT:MPa

温度 Temp. °C	PN16	PN40	PN63	PN100	温度 Temp. °C	PN16	PN40	PN63	PN100
	ZG230-450					ZG0Cr18Ni9			
-5~200	1.60	4.00	6.30	10.0	-45~200	1.60	4.00	6.30	10.0
~250	1.40	3.50	5.40	9.00	~300	1.40	3.50	5.40	9.00
~300	1.20	3.00	4.80	7.50	~400	1.20	3.00	4.80	7.50
~350	1.10	2.60	4.00	6.60	~480	1.10	2.60	4.00	6.60
~400	0.90	2.30	3.70	5.80	~520	0.90	2.30	3.70	5.80
~425	0.80	2.00	3.20	5.00	~560	0.80	2.00	3.20	5.00
~435	0.70	1.80	2.80	4.50					
~445	0.62	1.60	2.50	4.20					
~455	0.57	1.40	2.30	3.60					

图 1 阀内件材质·处理

Fig.1 TRIM MATERIAL/TREATMENT

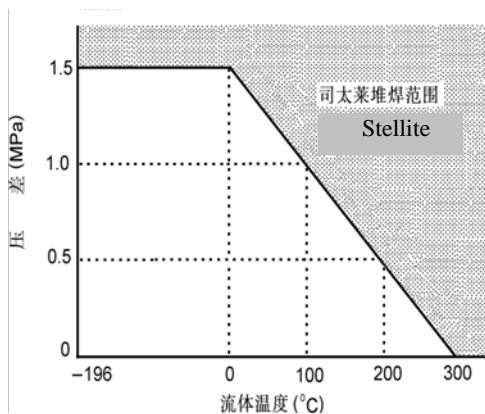


图 1-1 司太莱的工作范围  
Fig.1-1 Temperature/normal pressure drops ranges requiring Stellite

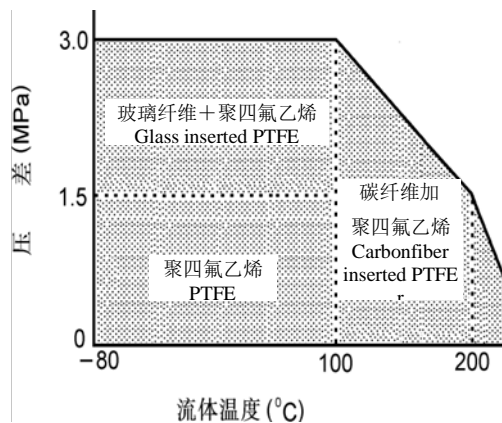


图 1-2 软阀座的工作温度和压差的范围  
Fig.1-2 Temperature and maximum pressure drops range for soft seat

- 注: 1. 空化和闪蒸或者水的温度超过 100 °C 热场合, 建议用 9Cr18 硬化不锈钢。  
2. 空化、闪蒸、禁油及常处于关闭状态  
3. 如  $C_v \leq 0.16$ , 阀芯全部堆焊司太莱合金或用 9Cr18 硬化不锈钢。

**Note:** 1. 9Cr18 hardened stainless steel is recommended for valves in cavitation/flashing situation or superheated service of water higher than 100°C.

2. Stellite is recommended for the cavitation/flashing, oil prohibitive and valve-close situation.

3. When  $C_v$  value is 0.16 or lower, Stellite faced valve plug or 9Cr18 hardened stainless steel valve plug are standard.

图 2 软阀座材质及填料使用温度·压力范围

Fig.2 SOFT SEAT MATERIAL & PACKING PRESSURE · TEMPERATURE RATINGS

图 2-1 软密封(增强聚四氟乙烯)  
Fig. 2-1 Soft seal(R. TFE V-RING)

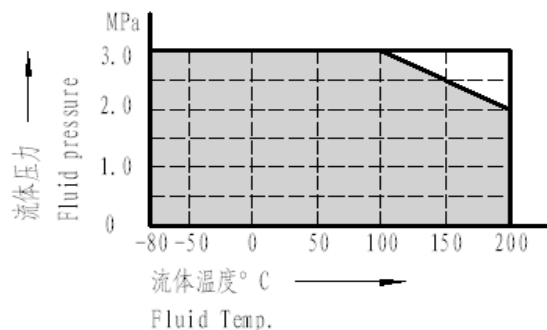


图 2-2 聚四氟乙烯碳纤维/聚四氟乙烯石棉  
Fig. 2-1 TFE FIBER/TFE-ASBESTOS

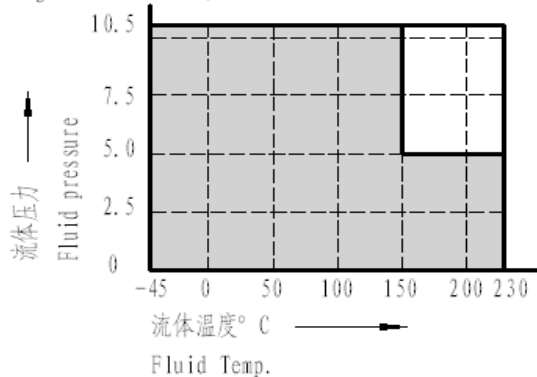


图 2-3 柔性石墨  
Fig. 2-3 GRAFOIL

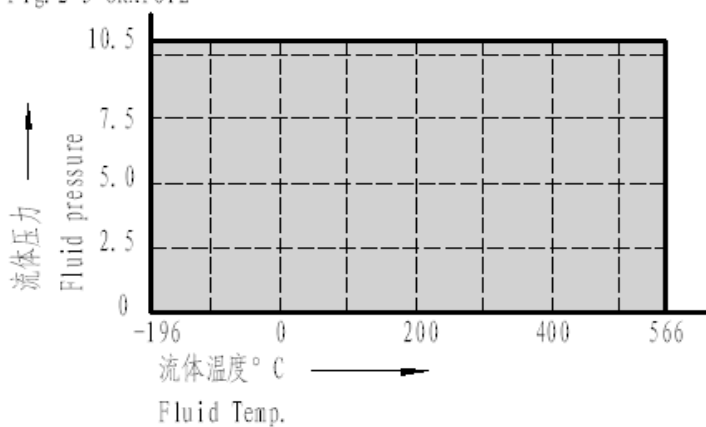


图 2-4 V型聚四氟乙烯填料  
Fig. 2-4 PTFE V-RING

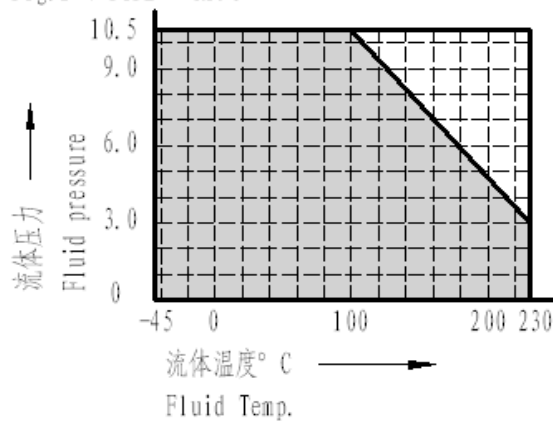
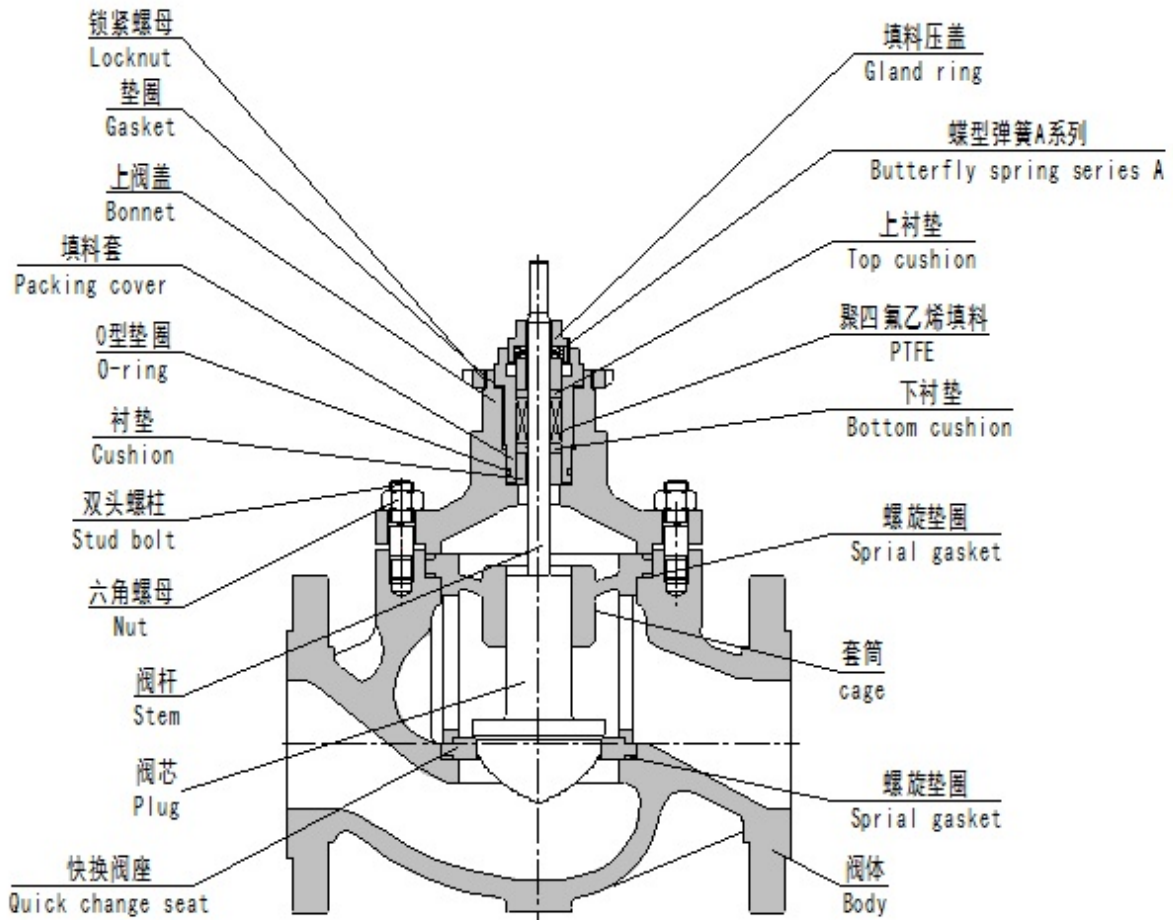


图 3 阀体部件结构 Fig.3 BODY SECTION



CV 值和行程

Table 3 Rated Cv value and Travel

表 3-1 高容量阀芯 (%C,LC,%T,LT)

Table 3-1 High-capacity flow characteristics valve plug (%C,LC,%T,LT)

公称通径 Nominal size	32	40	50	65	80	100	125	150	200
阀座直径 Seat size	32	40	50	65	80	100	125	150	200
额定 Cv 值 Rated Cv value	20	30	50	85	125	200	320	420	700
额定行程 Rated Travel	25			38			50		75

表 3-1 高精度阀芯 (%C,LC,%T,LT)

Table 3-1 High-precision flow characteristics valve plug (%C,LC,%T,LT)

公称通径 Nominal size	32		40		50			65			80			100			125			150			200			
阀座直径 Seat size	25	32	25	32	40	32	40	50	40	50	65	50	65	80	65	80	100	80	100	125	100	125	150	125	150	200
额定 Cv 值 Rated Cv value	10	17	10	17	24	17	24	44	24	44	68	44	68	90	68	99	175	99	175	275	175	275	360	275	360	640
额定行程 Rated Travel	25					38					50					75										



图 4 典型流量特性曲线

Fig.4 TYPICAL FLOW CHARACTERISTICS

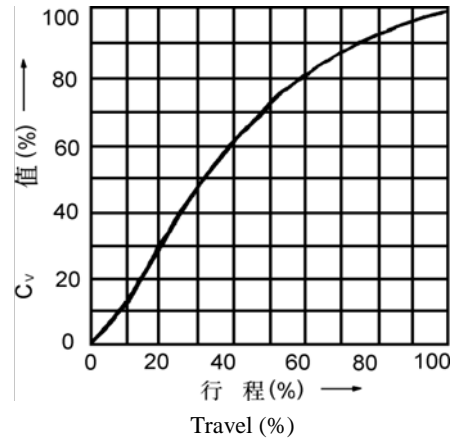
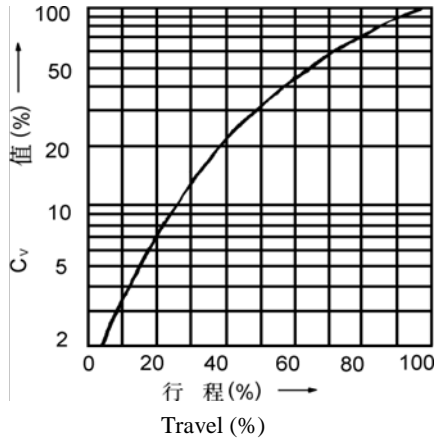


图 4-1 高容量流量特性曲线  
Fig.4-1 High-capacity flow characteristics

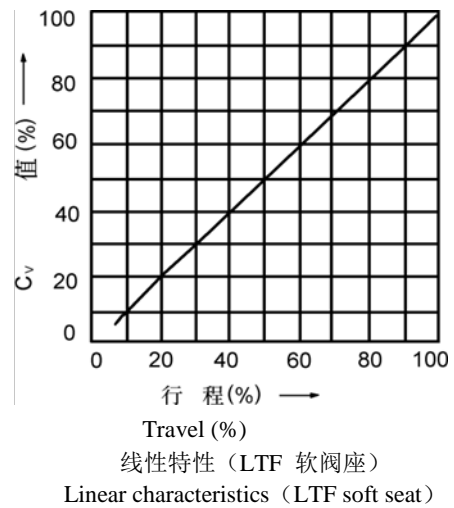
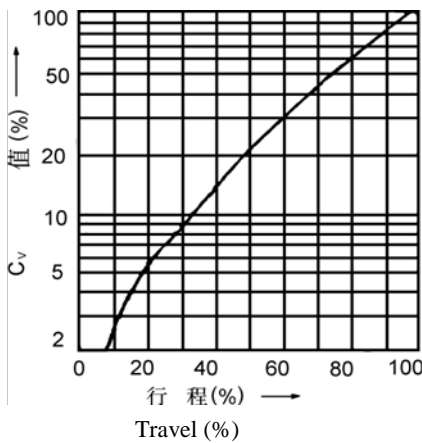
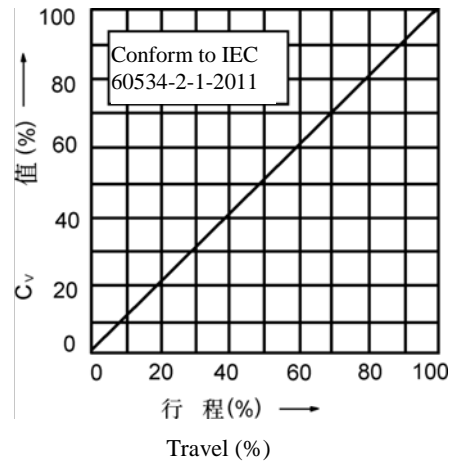
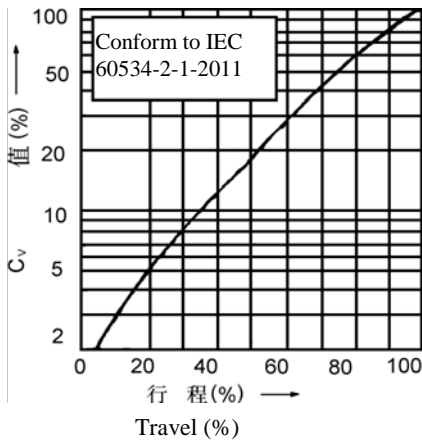


图 4-3 高精度流量特性曲线  
Fig.4-3 High-precision flow characteristics

表 4 允许压差

**Table 4 ALLOWABLE PRESSURE DROPS**

表 4-1 薄膜式执行机构 (HA)

**Table 4-1 DIAPURAGM ACTUATOR (HA)**

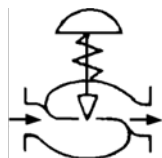
I. 柱塞阀芯、金属阀座 (%CF,LCF)

I. Contoured-type plug and metal seat

表 4-1-1 气—关式阀

**Table 4-1-1 Air-to-close**

**100kPa**

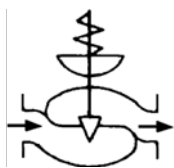


执行机构 Actuator	供气压力 Air supply	弹簧范围 Spring range	定位器 Positioner	允许压差 Allowable pressure drops							
				阀座直径 Valve seat size							
				40	50	65	80	100	125	150	200
HA2D	1.4	0.2~1.0	有或无 With or not	2.7	1.6	1.0	0.7	0.5	—	—	—
	1.6	0.2~1.0	有 With	13.7	7.8	5.1	3.5	2.0	—	—	—
	4.0	0.8~2.4	有 With	40 41	21.7	14.9	10.5	5.9	—	—	—
HA3D	1.4	0.2~1.0	有或无 With or not	4.8	2.8	1.7	1.2	0.7	0.4	0.3	—
	1.6	0.2~1.0	有 With	24.2	14	8.8	6.2	3.5	2.2	1.4	—
	4.0	0.8~2.4	有 With	40 72	40 42	26.5	18.7	10.5	6.7	4.1	—
HA4D	1.4	0.2~1.0	有或无 With or not	8.3	4.8	3.0	2.2	1.2	0.7	0.5	0.3
	1.6	0.2~1.0	有 With	40	24.2	15.2	10.7	6.1	3.9	2.4	1.5
	4.0	0.8~2.4	有 With	40 100	40 72	40 45	32.2	18.2	11.6	7.1	4.5
HA4D×2	1.4	0.2~1.0	有或无 With or not	—	—	6.0	4.4	2.4	1.4	1.0	0.6
	4.0	0.8~2.4	有 With	—	—	31	31.4	26.4	23.2	14.2	9.0
HA5YD	4.0	1.06~2.06	有 With	—	—	—	—	—	—	—	9.5

表 4-1-2 气—开式阀

Table 4-1-2 Air-to-open

100kPa



执行机构 Actuator	供气压力 Air supply	弹簧范围 Spring range	定位器 Positioner	允许压差 Allowable pressure drops							
				阀座直径 Valve seat size							
				40	50	65	80	100	125	150	200
HA2R	1.4	0.2~1.0	有或无 With or not	2.7	1.6	1.0	0.7	0.5	—	—	—
	2.8	0.8~2.4	有 With	14.1	11.1	6.9	4.9	2.8	—	—	—
HA3R	1.4	0.2~1.0	有或无 With or not	4.8	2.8	1.7	1.2	0.7	0.4	0.3	—
	2.8	0.8~2.4	有 With	34	19.6	12.3	8.7	4.9	3.1	1.9	—
HA4R	1.4	0.2~1.0	有或无 With or not	8.4	4.8	3.0	2.2	1.2	0.7	0.5	0.3
	2.8	0.8~2.4	有 With	40 58	31.5	21.3	15	8.5	5.4	3.3	2.1
HA4R×2	1.4	0.2~1.0	有或无 With or not	—	—	6.0	4.4	2.4	1.4	1.0	0.6
	2.8	0.8~2.4	有 With	—	—	42.6	30	17.6	10.8	6.6	4.2
HA5YR	5.0	2.12~4.12	有或无 With or not	—	—	—	—	—	—	—	9.0
VA6R	4(1*)	1.9~3.5	有 With	—	—	40 61	40 43	24.2	—	—	—
	5(2*)	1.9~4.0	有 With	—	—	—	—	24.2	15.5	9.5	—

- 注: 1. 最大允许压差不准超过 ANSI B16.34—1981 或 JIS B2201—1984 标准规定的最大工作压力。  
2. 同一格内的上方数字表示阀常开允许压差, 下方数字表示阀全关时的允许压差。  
3. 1\*适用于 65、80、100mm 的阀, 2\*适用于 150mm 的阀。  
4. 黑线框内数字表示阀配用标准规格执行机构。

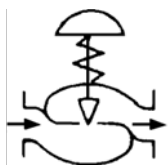
- Note: 1. Take care not to cause the allowable maximum pressure drops to exceed the maximum operating pressure designated by ANSI B16.34—1981 or JIS B2201—1984.  
2. The upper figures denote the operating allowable pressure drops; the lower denote the allowable pressure drops at full closure.  
3. 1\* is applicable to the valves (DN65,80,100), and 2\* is applicable to the valve size 150mm.  
4. The figures in gray denote the standard actuator specifications.

II. 柱塞阀芯、软阀座 (%TF、LTF)

II. Contoured-type plug and metal seat (%TF、LTF)

表 4-1-3 气—关式阀

100kPa

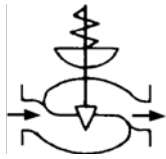


执行机构 Actuator	供气压力 Air supply	弹簧范围 Spring range	定位器 Positioner	允许压差 Allowable pressure drops							
				阀座直径 Valve seat size							
				40	50	65	80	100	125	150	200
HA2D	1.4	0.2~1.0	有或无 With or not	1.9	1.1	0.7	0.5	0.3	—	—	—
	1.6	0.2~1.0	有 With	9.6	5.5	3.6	2.5	1.4	—	—	—
	4.0	0.8~2.4	有 With	28	15	10.4	7.4	4.1	—	—	—
HA3D	1.4	0.2~1.0	有或无 With or not	3.4	2.0	1.2	0.8	0.5	0.3	0.2	—
	1.6	0.2~1.0	有 With	17	9.8	6.2	4.3	2.5	1.5	0.9	—
	4.0	0.8~2.4	有 With	30	28	18	13	7.4	4.7	2.9	—
HA4D	1.4	0.2~1.0	有或无 With or not	5.8	3.4	2.1	1.5	0.8	0.5	0.3	0.2
	1.6	0.2~1.0	有 With	28	17	10.6	7.5	4.3	2.7	1.7	1.0
	4.0	0.8~2.4	有 With	30	30	30	22	12.7	8.1	5.0	3.1
HA4D×2	1.4	0.2~1.0	有或无 With or not	—	—	4.2	3.0	1.6	1.0	0.6	0.4
	4.0	0.8~2.4	有 With	—	—	30	30	25.4	16.2	10.0	6.2
HA5YD	4.0	1.06~2.06	有 With	—	—	—	—	—	—	—	6.5

表 4-1-4 气—开式阀

Table 4-1-4 Air-to-open

100kPa



执行机构 Actuator	供气压力 Air supply	弹簧范围 Spring range	定位器 Positioner	允许压差 Allowable pressure drops							
				阀座直径 Valve seat size							
				40	50	65	80	100	125	150	200
HA2R	1.4	0.2~1.0	有或无 With or not	1.9	1.1	0.7	0.5	0.3	—	—	—
	2.8	0.8~2.4	有 With	9.9	7.8	4.8	3.4	2.0	—	—	—
HA3R	1.4	0.2~1.0	有或无 With or not	3.4	2.0	1.2	0.8	0.5	0.3	0.2	—
	2.8	0.8~2.4	有 With	23.8	13.7	8.6	6.1	3.4	2.1	1.3	—
HA4R	1.4	0.2~1.0	有或无 With or not	5.8	3.4	2.1	1.5	0.8	0.5	0.3	0.2
	2.8	0.8~2.4	有 With	30	22	14.9	10.5	5.9	3.7	2.3	1.4
HA4R×2	1.4	0.2~1.0	有或无 With or not	—	—	4.2	3.0	1.6	1.0	0.6	0.4
	2.8	0.8~2.4	有 With	—	—	29.8	21.0	11.6	7.4	4.6	2.8
HA5YR	5.0	2.12~4.8	有或无 With or not	—	—	—	—	—	—	—	2.8
VA6R	4(1*)	1.9~3.5	有 With	—	—	30	30	16.9	—	—	—
	5(2*)	1.9~4.0	有 With	—	—	—	—	16.9	10.8	6.7	—

- 注： 1. 最大允许压差不准超过 ANSI B16.34—1981 或 JIS B2201—1984 标准规定的最大工作压力。  
2. 1\*适用于 65、80、100mm 的阀，2\*适用于 150mm 的阀。  
3. 黑线框内数字表示阀配用标准规格执行机构。

- Note: 1. Take care not to cause the allowable maximum pressure drops to exceed the maximum operating pressure designated by ANSI B16.34—1981 或 JIS B2201—1984.  
2. 1\* is applicable to the valves (DN65,80,100), and 2\* is applicable to the valve size 150mm  
3. The figures in gray denote the standard actuator specifications.

表 4-2 气缸式执行机构 (VP)

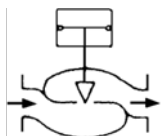
Table 4-1 CYLINDER ACTUATOR (VP)

I. 柱塞阀芯、金属阀座 (%CF,LCF)

I. Contoured-type plug and metal seat

表 4-2-1 Table 4-2-1

100kPa



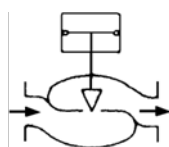
执行机构 Actuator	供气压力 Air supply	定位器 Positioner	允许压差 Allowable pressure drops					
			阀座直径 Valve seat size					
			65	80	100	125	150	200
VP5	3	有 With	40	36.8	20.7	13.2	8	—
			52					
	4	有 With	40	40	27.8	17.8	10.8	—
			70	49				
	5	有 With	40	40	34.9	22.4	13.6	—
			88	62				
VP6	3	有 With	40	40	36.9	23.6	14.4	9.2
			93	65				
	4	有 With	40	40	40	31.8	19.3	12.4
			100	88	49			
	5	有 With	40	40	40	40	24.3	15.6
			100	100	62			
VP7	3	有 With	—	—	—	35.5	21.6	13.8
	4	有 With	—	—	—	40	29	18.6
						47		
	5	有 With	—	—	—	40	36.4	23.4
						60		

II. 柱塞阀芯、软阀座 (%TF、LTF)

II. Contoured-type plug and metal seat (%TF、LTF)

表 4-2-2 Table 4-2-2

100kPa



执行机构 Actuator	供气压力 Air supply	定位器 Positioner	允许压差 Allowable pressure drops					
			阀座直径 Valve seat size					
			65	80	100	125	150	200
VP5	3	有 With	30	25.8	14.5	9.2	5.6	—
	4	有 With	30	30	19.5	12.5	7.6	—
	5	有 With	30	30	24.4	15.7	9.5	—
VP6	3	有 With	30	30	25.8	16.5	10.1	6.4
	4	有 With	30	30	30	22.3	13.5	8.7
	5	有 With	30	30	30	28	17	10.9
VP7	3	有 With	—	—	—	24.9	15.1	9.7
	4	有 With	—	—	—	30	20.3	13
	5	有 With	—	—	—	30	25.5	16.4

注：1. 如果执行机构带有辅助气源，应选二者中较小一个供气压力作为计算允许压差的基础。

2. 最大允许压差不准超过 ANSI B16.34-1981 或 JIS B2201-1984 标准规定的最大工作压力。

3. 同一格内上方数字为阀常开允许压差，下方数字为阀关闭时的允许压差。

**Note:** 1. In case a back-up system is used for the actuator, select the pressure drops whichever is lower—the operating supply air pressure or the back-up system set pressure.

2. Take care not to cause the allowable maximum pressure drops to exceed the maximum operating pressure designated by ANSI B16.34—1981 或 JIS B2201—1984.

3. The upper figures denote the operating allowable pressure drops; the lower denote the allowable pressure drops at full closure.

表 4-3 电子式执行机构 (EIL) 及智能式执行机构 (M8)

Table 4-3 ELECTRONIC ACTUATOR (EIL) & INTELLIGENT ACTUATOR (M8)

100kPa

执行机构 Actuator	阀座形式 Valve seat	阀座直径 (mm) Valve seat size									
		25	32	40	50	65	80	100	125	150	200
EIL04	金属阀座 Metal seat	64	42	27	17.3	12.3	8.1	5.2	—	—	—
	软阀座 Soft seat	30	30	23.8	13.7	8.6	6.1	3.4	—	—	—
EIL08 M8610+L8210	金属阀座 Metal seat	100	100	72	43	29.9	21.1	11.8	7.5	4.8	2.8
	软阀座 Soft seat	—	—	30	30	19.8	14.3	8.1	5.2	3.2	1.8
M8620+L8220	金属阀座 Metal seat	—	—	—	—	45	32.2	18.2	11.6	7.1	3.1
	软阀座 Soft seat	—	—	—	—	30	22	12.7	8.1	5.0	3.1

表 5 尺寸

Table 5 DIMENSIONS

表 5-1 法兰距尺寸

Table 5-1 Fact-to-Face dimensions

mm

公称 口径 Nominal size	A							
	ANSI 125 FF ANSI 150 RF JIS 10K FF RF PN1.6 RF	JIS 16K RF	ANSI 300 RF JIS 20、30K RF JIS 30K RF PN4.0 MFM	ANSI 600 RF JIS 40K RF PN6.4 MFM	JIS 16K TG	JIS 20K TG	JIS 30K TG	JIS 40K TG
32	222	—	235	251	—	—	—	—
40	222	231	235	251	235	236	248	251
50	254	263	267	286	265	267	276	286
65	276	288	292	311	290	292	303	311
80	298	313	317	337	310	317	326	337
100	352	364	368	394	360	368	379	394
125	403	—	425	457	—	425	—	457
150	451	465	473	508	475	473	486	508
200	543	560	568	610	570	568	580	610

公称 口径 Nominal size	A						
	ANSI 150 RJ	ANSI 300 RJ	ANSI 600 RJ	ANSI 300 LG	ANSI 600 LG	ANSI 150 SW、BW	ANSI 300、600 SW、BW
40	235	248	251	244	248	251	251
50	267	283	289	276	283	286	286
65	289	308	314	302	308	311	311
80	311	333	340	327	333	337	337
100	365	384	397	378	391	394	394
150	464	489	511	483	505	473	508
200	556	584	613	578	606	568	610

注：法兰距符合 IEC 534-3-1976 标准。

Note: Face-to-face dimensions conform to IEC 534-3-1976 Standard.



表 5-2-1 外形尺寸

Table 5-2-1 Other dimensions

mm

公称 通径 Nominal size	执行机构 Actuator	H			B	B1	B2	B3	B4	H1
		常温型(P) Plain bonnet	伸长 I 型(E I) Extension bonnet Type I	伸长 II 型(E II) Extension bonnet Type II						
32	HA2D、R	575	745	850	281	—	—	—	—	70
	HA3D、R	700	870	1015	363	—	—	—	—	
	EIL04	790	960	1065	267	—	258	—	—	
40	HA2D、R	575	745	850	281	—	—	—	—	70
	HA3D、R	700	870	1015	363	—	—	—	—	
	EIL04	790	960	1065	267	—	258	—	—	
50	HA2D、R	575	745	855	281	—	—	—	—	80
	HA3D、R	700	870	980	363	—	—	—	—	
	EIL04	790	960	1070	267	—	258	—	—	
65	HA3D、R	735	915	1035	363	—	—	—	—	88
	HA4D、R	920	1100	1215	520	—	—	—	—	
	EIL08	925	1105	1225	229	—	338	—	—	
	M8610+L8210	975	1155	1275	—	285	346	253	350	
80	HA3D、R	745	925	1065	363	—	—	—	—	98
	HA4D、R	925	1115	1240	520	—	—	—	—	
	EIL08	930	1110	1230	229	—	338	—	—	
	M8610+L8210	985	1170	1305	—	285	346	253	350	
100	HA3D、R	770	980	1105	363	—	—	—	—	113
	HA4D、R	945	1165	1305	520	—	—	—	—	
	VA6R	1485	1705	1850	475	—	—	—	—	
	VP5	1190	1410	1555	382	—	—	—	—	
	EIL08	960	1170	1295	229	—	338	—	—	
	M8610+L8210	1010	1220	1245	—	285	346	253	350	
125	HA3D、R	840	1100	1300	363	—	—	—	—	146
	HA4D、R	1010	1270	1485	520	—	—	—	—	
	VA6R	1550	1810	2025	480	—	—	—	—	
	VP5	1255	1515	1730	382	—	—	—	—	
	VP6	1370	1630	1745	480	—	—	—	—	
	VP7	1370	1630	1745	580	—	—	—	—	
	EIL08	1050	1310	1515	229	—	338	—	—	
	M8610+L8210	1170	1430	1643	—	285	346	253	350	
150	HA3D、R	840	1100	1300	363	—	—	—	—	170
	HA4D、R	1010	1270	1485	520	—	—	—	—	
	VA6R	1550	1810	2025	480	—	—	—	—	
	VP5	1255	1515	1730	382	—	—	—	—	
	VP6	1370	1630	1845	480	—	—	—	—	
	VP7	1370	1630	1845	580	—	—	—	—	
	EIL08	1050	1310	1515	229	—	338	—	—	
	M8610+L8210	1170	1430	1645	—	285	346	253	350	
200	HA4D、R	1150	1410	1655	520	—	—	—	—	220
	VP5	1420	1685	2050	382	—	—	—	—	
	VP6	1530	1795	2165	480	—	—	—	—	
	VP7	1530	1795	2165	580	—	—	—	—	
	M8620+L8220	1570	1835	2205	—	313	350	253	350	

表 5-2-2 外形尺寸

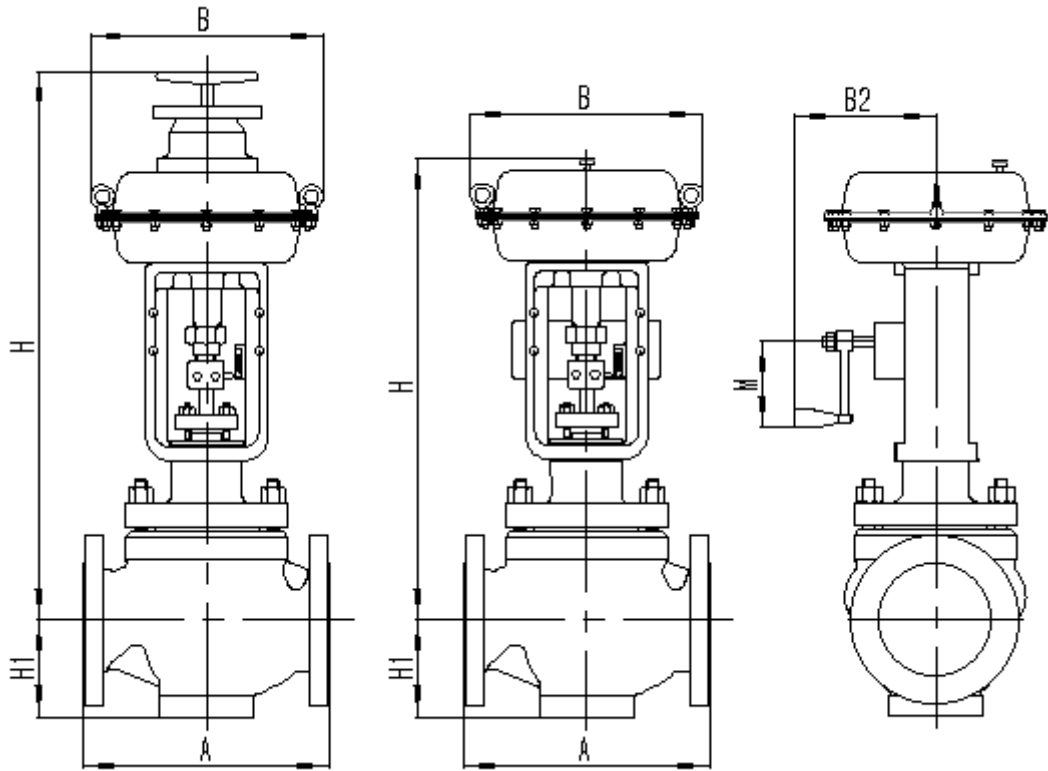
Table 5-2-2 Other dimensions

mm

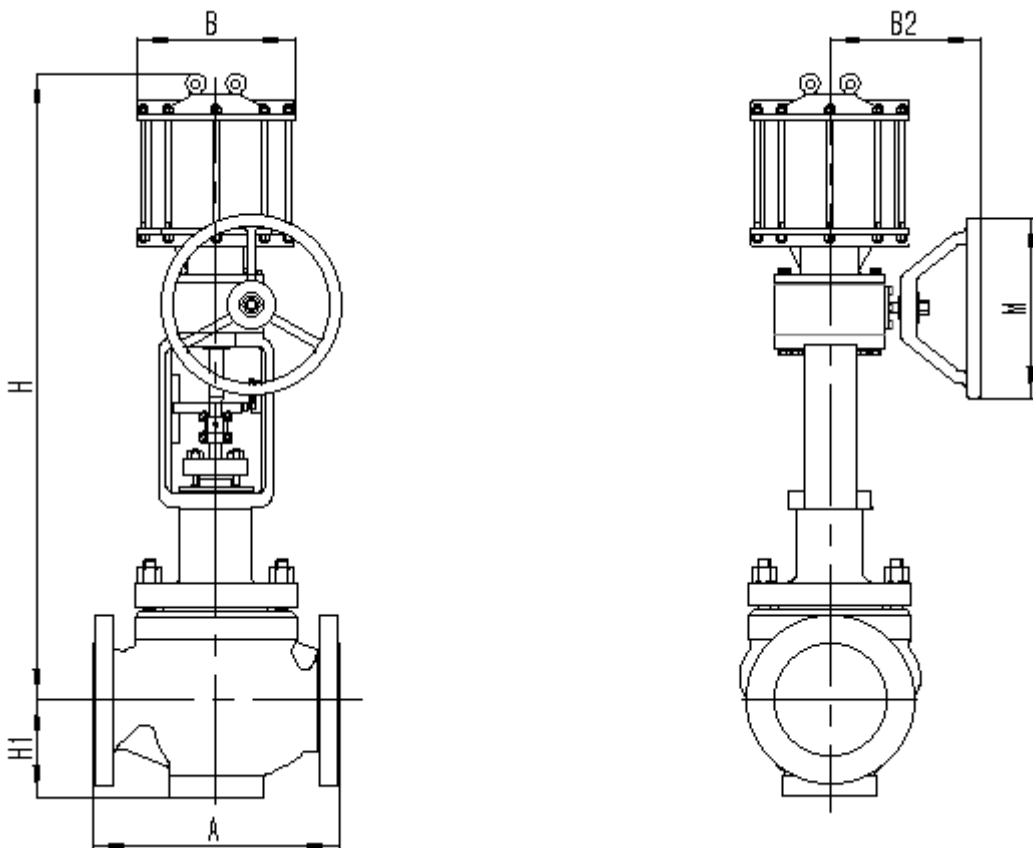
注：表 5-2-2 上 H 栏尺寸是气动执行机构（带手轮）调节阀高度。

Note: The size of H in Table 5-2-2 shows the height of the valve and pneumatic actuator (with handwheel) combined

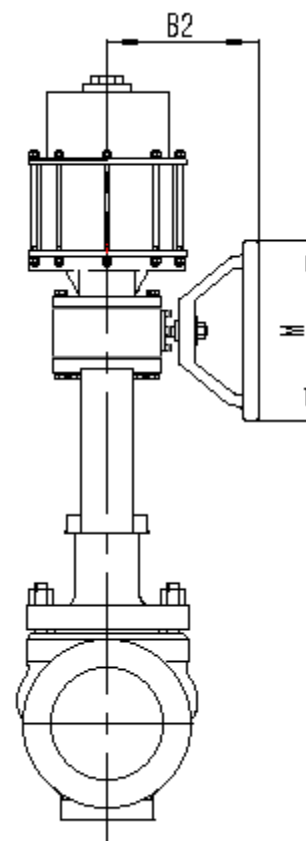
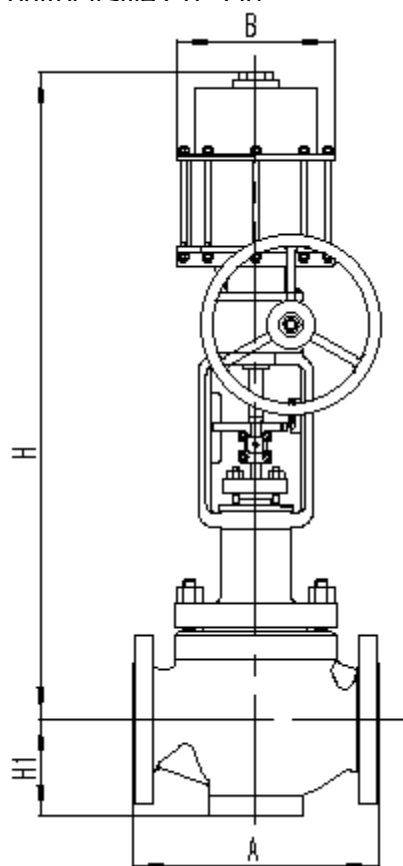
公称 通径 Nominal size	执行机构 Actuator	H						B2	M
		侧装手轮			顶装手轮				
		常温型(P) Plain bonnet	伸长 I 型(E I) Extension bonnet Type I	伸长 II 型(E II) Extension bonnet Type II	常温型(P) Plain bonnet	伸长 I 型(E I) Extension bonnet Type I	伸长 II 型(E II) Extension bonnet Type II		
40	HA2D、R	575	745	850	840	1005	1110	273.5	175
	HA3D、R	700	870	1015	990	1160	1305	278.5	175
50	HA2D、R	575	745	855	840	1005	1110	273.5	175
	HA3D、R	700	870	980	990	1160	1305	278.5	175
65	HA3D、R	735	915	1035	1025	1205	1325	278.5	175
	HA4D、R	920	1100	1215	1320	1500	1615	303	φ320
80	HA3D、R	745	925	1065	1035	1215	1355	278.5	175
	HA4D、R	925	1115	1240	1325	1515	1640	303	φ320
100	HA3D、R	770	980	1105	1160	1270	1395	278.5	175
	HA4D、R	945	1165	1305	1345	1565	1705	303	φ320
	VA6R	1610	1830	1975	—	—	—	384	φ380
	VP5	1300	1520	1665	—	—	—	324	φ380
125	HA3D、R	840	1100	1300	1130	1390	1590	278.5	175
	HA4D、R	1010	1270	1485	1410	1670	1885	303	φ320
	VA6R	1675	1935	2150	—	—	—	384	φ380
	VP5	1365	1625	1840	—	—	—	324	φ380
	VP6	1495	1755	1970	—	—	—	384	φ380
	VP7	1495	1755	1970	—	—	—	384	φ380
150	HA3D、R	840	1100	1300	1130	1390	1590	278.5	175
	HA4D、R	1010	1270	1485	1410	1670	1885	303	φ320
	VA6R	1675	1935	2150	—	—	—	384	φ380
	VP5	1365	1625	1840	—	—	—	324	φ380
	VP6	1495	1755	1970	—	—	—	384	φ380
	VP7	1495	1755	1970	—	—	—	384	φ380
200	HA4D、R	1150	1410	1655	1550	1810	2055	303	φ320
	VP5	1530	1795	2160	—	—	—	324	φ380
	VP6	1655	1920	2290	—	—	—	384	φ380
	VP7	1655	1920	2290	—	—	—	384	φ380



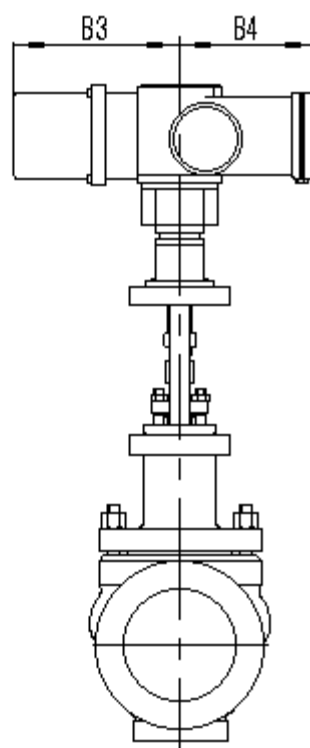
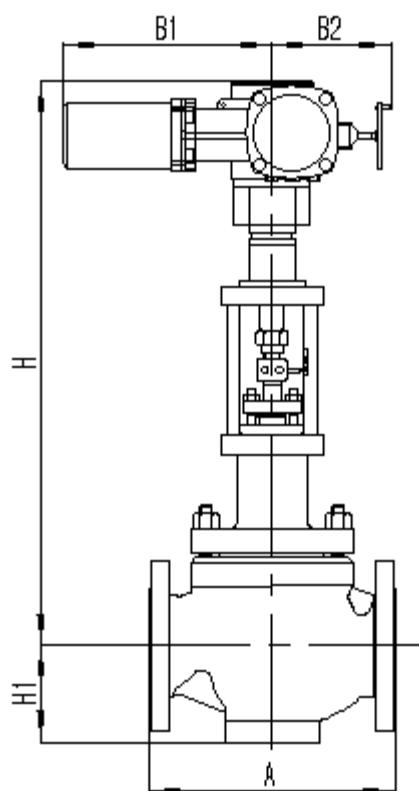
配 HA 执行机构  
With type HA



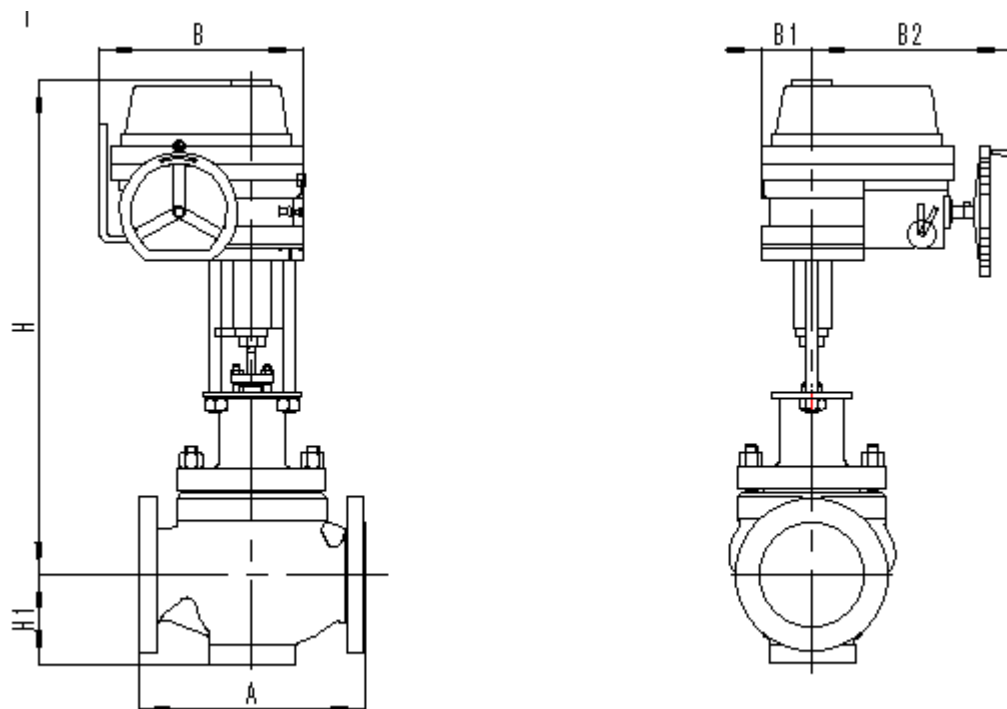
配 VP 执行机构  
With type VP



配 VA 执行机构



配 M8 执行机构  
With type M8



配 EIL 执行机构  
With type EIL

图 5 法兰距及外形尺寸

Fig.5 Face-to-Face dimension and Other dimensions

表 6 重量

Table 4 WEIGHT

kg

公称通径 Nominal size	执行机构 Actuator	法兰连接 Flanged type									焊接连接 Welded type		
		ANSI 125、150 JIS 10K			ANSI 300 JIS 16、20、30K			ANSI 600 JIS 40K			ANSI 150、300、600 JIS 10、16、20、30K		
		P	E I	E II	P	E I	E II	P	E I	E II	P	E I	E II
32	HA2D、R	31	34	37	36	39	42	44	47	50	36	39	42
	HA3D、R	43	46	49	48	51	54	56	59	62	48	51	54
	EIL04	23	26	29	27	31	34	36	39	42	28	31	33
40	HA2D、R	31	34	37	36	39	42	44	47	50	36	39	42
	HA3D、R	43	46	49	48	51	54	56	59	62	48	51	54
	EIL04	23	26	29	27	31	34	36	39	42	28	31	33
50	HA2D、R	37	40	43	42	45	48	47	50	43	42	45	48
	HA3D、R	49	52	55	54	57	60	59	62	65	54	57	60
	EIL04	29	32	35	33	37	40	42	45	48	34	51	54
65	HA2D、R	43	47	51	48	52	56	65	69	73	48	52	56
	HA3D、R	55	59	63	60	64	68	77	81	85	60	64	68
	HA4D、R	86	90	94	91	95	99	108	112	116	91	95	99
	EIL08	39	43	47	44	48	52	61	65	69	44	48	52
	M8610+L8210	61	65	69	66	70	74	83	87	91	66	70	73
80	HA2D、R	53	59	65	63	69	75	85	91	97	63	69	75
	HA3D、R	65	71	77	75	81	87	97	103	109	75	81	87
	HA4D、R	96	102	108	106	112	118	128	134	140	106	112	118
	EIL08	49	55	51	59	65	61	81	87	93	59	65	61
	M8610+L8210	71	77	83	81	75	81	103	109	115	81	87	93
100	HA2D、R	63	73	78	78	88	93	113	123	128	75	85	90

	HA3D、R	75	85	90	90	100	105	125	135	140	87	97	102
	HA4D、R	106	116	121	121	131	136	156	166	171	118	128	133
	VA6R	248	258	263	263	273	278	298	308	313	260	270	275
	VP5	123	133	138	138	148	153	173	183	188	135	145	150
	EIL08	59	69	74	74	84	89	109	119	124	71	81	86
	M8610+L8210	81	91	96	96	106	111	131	141	146	93	103	108
125	HA3D、R	143	172	179	187	202	209	145	252	259	177	192	199
	HA4D、R	175	203	210	218	233	240	181	283	290	208	223	230
	VA6R	295	345	352	360	375	382	313	425	432	350	365	372
	VP5	205	220	227	235	250	257	188	300	307	225	240	247
	VP6	280	295	302	310	325	332	263	375	382	300	315	322
	VP7	390	405	412	420	435	442	373	485	492	410	425	432
	EIL08	127	156	163	171	186	193	129	236	243	161	176	183
M8610+L8210	149	178	185	193	208	215	151	258	265	183	198	205	
150	HA3D、R	157	172	179	187	202	209	237	252	259	177	192	199
	HA4D、R	188	203	210	218	233	240	268	283	290	208	223	230
	VA6R	330	345	352	360	375	382	410	425	432	350	365	372
	VP5	205	220	227	235	250	257	285	300	307	225	240	247
	VP6	280	295	302	310	325	332	360	375	382	300	315	322
	VP7	390	405	412	420	435	442	470	485	492	410	425	432
	EIL08	141	156	163	171	186	193	221	236	243	161	176	183
	M8610+L8210	163	178	185	193	208	215	243	258	265	183	198	205
200	HA4D、R	268	288	298	318	338	348	438	458	468	308	328	338
	VP5	285	305	315	335	355	365	455	475	485	325	345	355
	VP6	360	380	390	410	430	440	530	550	560	400	420	430
	VP7	470	490	500	520	540	550	640	660	670	510	530	540
	M8620+L8220	248	268	279	298	318	328	418	438	448	288	308	318