



## HTS 顶部导向单座调节阀

HTS 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，可调节范围广，流量特性精度高，符合 IEC60534-2-1-2011 标准。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。

HTS 型调节阀更适用于要求可靠性及关闭性能高的高温、低温及低压差场合。

产品符合 GB/T4213-2008 标准

## Top-guided Single Seated Control Valve

plug, a compact valve body and an S-shape flow passage which features low pressure loss, large flow capacity, wide rangeability and high accuracy flow characteristics. The design complies with the IEC60534-2-1-2011 standards and 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.

HTS control valve is more suitable for high temperature, low temperature and low pressure drop applications that require reliability and high on-off performance.

This product complies with the GB/T4213-2008 standards.

HTS Single seated Control Valve with a top-guided valve

### 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	32、40、50、65、80、100、125、150、200、250mm
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 (65~250mm)
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℃ 伸长 I 型 (EI) Extension Type I: -45~-17℃ and +230~+566℃ 伸长 II 型 (EII) Extension Type II: -100~-45℃
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>高容量流量特性，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	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
规格 Specification	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	供气压力(弹簧范围) Air supply (Spring)	供气压力 Air supply		电压: 220 /380V 50HZ	电压: 220 /380V 50HZ

供给电压 Air supply or Power supply	range) 140 (20~100) kPa 160 (20~100) kPa 280 (80~240) kPa 400 (80~240) kPa	400~700kPa	Power supply:220 /380V 50Hz 输入信号 Input signal: 4~20mA DC	Power supply:220 /380V 50Hz 输入信号 Input signal: 4~20mA DC
接口 Connection	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
正作用 Direct action	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
反作用 Reverse action	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
回差 Hysteresis error	≤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
基本误差 Limit of intrinsic error	≤±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
环境温度 Ambient temperature	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℃
油漆颜色 Painting	蓝色 Munsell 色标 10B5/10 Blue ( Munsell color 10B5/10)	蓝色 Munsell 色标 10B5/10 Blue (Munsell color 10B5/10)		
附件 Accessories	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

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

表 2 阀体材质使用温度· 压力范围

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 CF8	SCS14A CF8M	LCB	WCB	WC6	SCS13A CF8	SCS14A CF8M	LCB	WCB	WC6	SCS13A CF8	SCS14A 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
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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

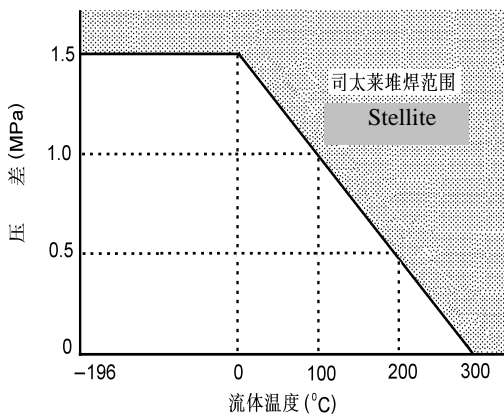


图 1-1 司太莱的工作范围  
Fig.1-1 Temperature/normal pressure drops ranges requiring Stellite

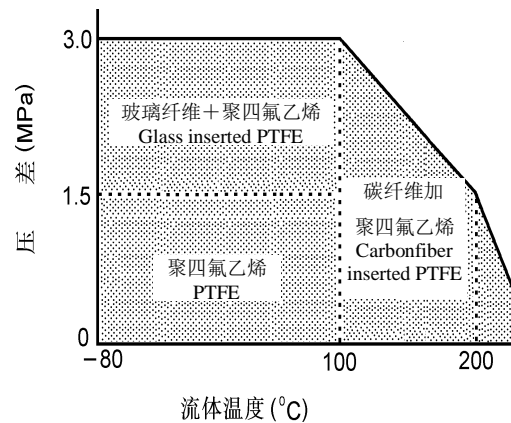


图 1-2 软阀座的工作温度和压差的范围  
Fig.1-2 Temperature and maximum pressure drops range for soft seat

- 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)

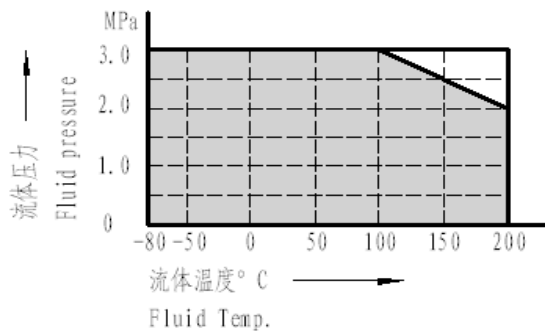


图 2-2 聚四氟乙烯碳纤维/聚四氟乙烯石棉  
Fig. 2-1 TFE FIBER/TFE-ASBESTOS

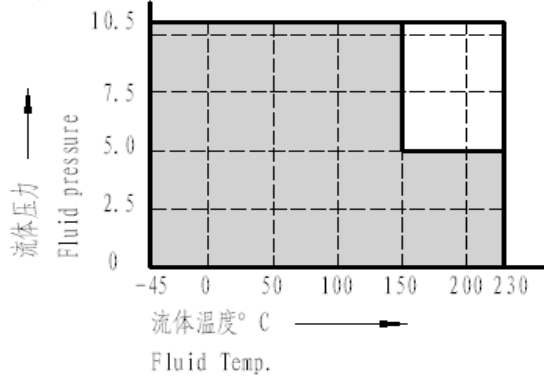


图 2-3 柔性石墨  
Fig. 2-3 GRAFOIL

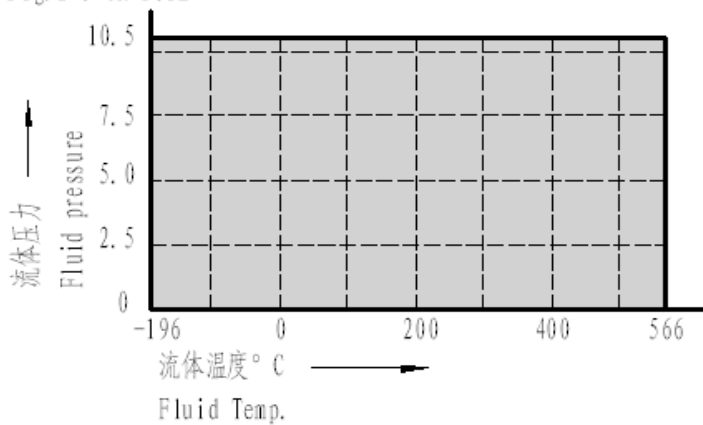


图 2-4 V型聚四氟乙烯填料  
Fig. 2-4 PTFE V-RING

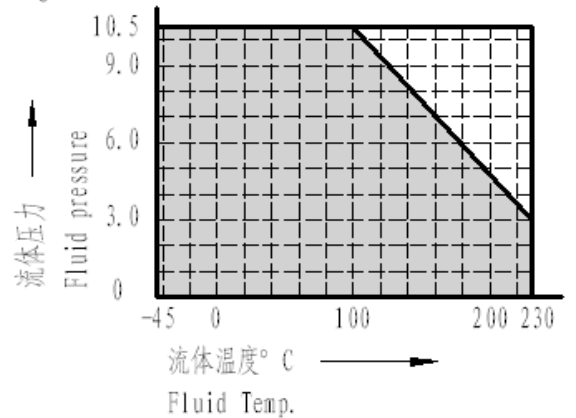


图 3 阀体部件结构 Fig.3 BODY SECTION

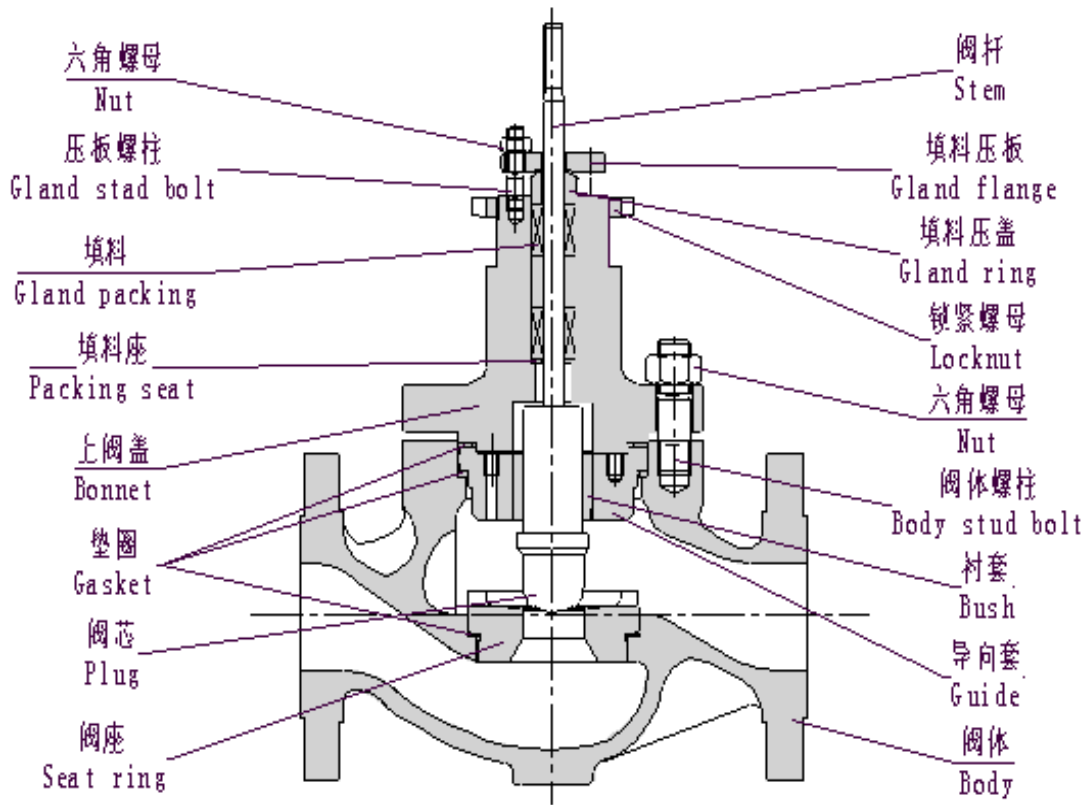


表 3 CV 值和行程

Table 3 Rated Cv value and Travle

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	250
阀座直径 Seat size	32	40	50	65	80	100	125	150	200	250
额定 Cv 值 Rated Cv value	20	30	50	85	125	200	320	420	700	820
额定行程 Rated Travel	25			38			50		75	100

表 3-1 高精度阀芯 (%C,LC,%T,LT)

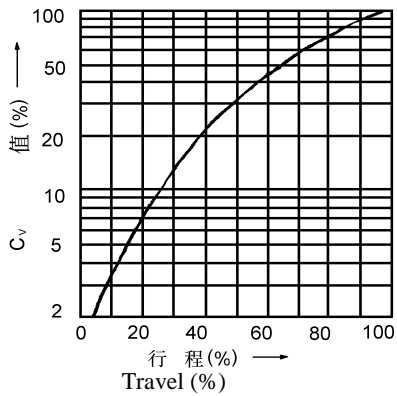
Table 3-1 High-precision flow characteristics valve plug (%C,LC,%T,LT)

公称通径 Nominal size	32		40		50			65			80			100			125			150			200			250			
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	150	200	250
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	360	640	820
额定行程 Rated Travel	25					38							50						75			100							



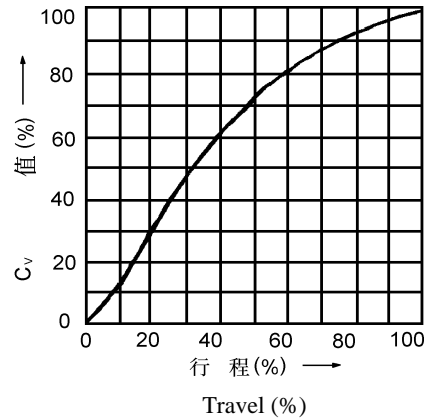
图 4 典型流量特性曲线

Fig.4 TYPICAL FLOW CHARACTERISTICS



等百分比特性 (%C 金属阀座、%T 软阀座)

Equal percentage characteristics (%C metal seat, %T soft seat)

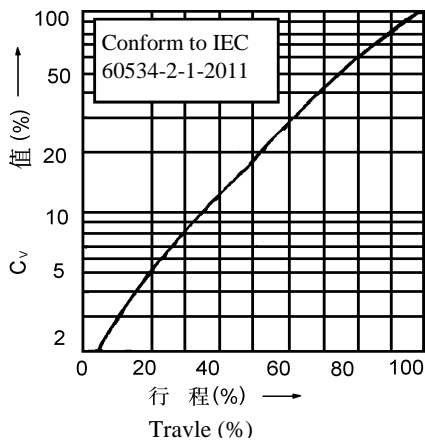


线性特性 (LC 金属阀座、LT 软阀座)

Linear characteristics (LC metal seat, LT soft seat)

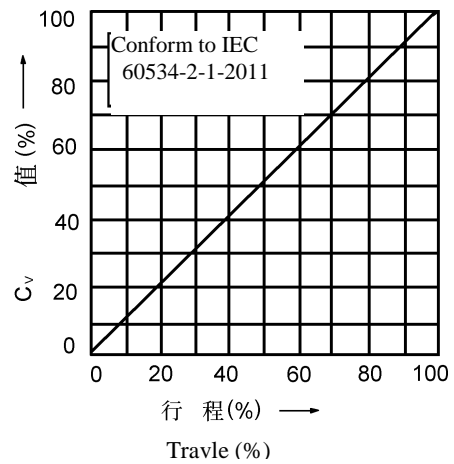
图 4-1 高容量流量特性曲线

Fig.4-1 High-capacity flow characteristics



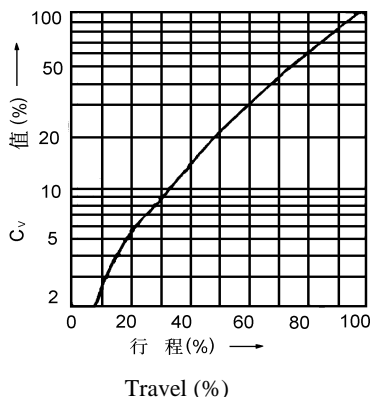
等百分比特性 (%CF 金属阀座)

Equal characteristics (%CF metal seat)



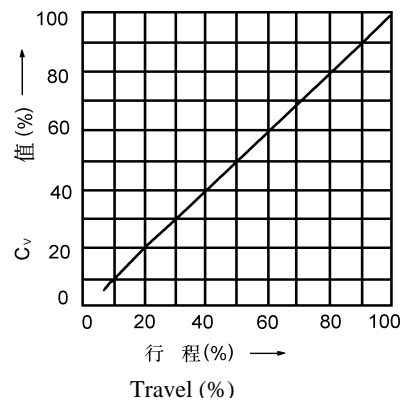
线性特性 (LCF 金属阀座)

Linear characteristics (LCF metal seat)



等百分比特性 (%TF 软阀座)

Equal percentage characteristics (%TF soft seat)



线性特性 (LTF 金属阀座)

Linear characteristics (LTF soft seat)

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 DIAPHRAGM ACTUATOR (HA)

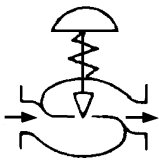
I. 柱塞阀芯、金属阀座 (%CF,LCF)

I. Contoured-type plug and metal seat

表 4-1-1 气—关式阀

Table 4-1-1 Air-to-close

100kPa

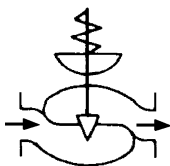


执行机构 Actuator	供气压力 Air supply	弹簧范围 Spring range	定位器 Positioner	允许压差 Allowable pressure drops										
				阀座直径 Valve seat size										
				25	32	40	50	65	80	100	125	150	200	250
HA2D	1.4	0.2~1.0	有或无 With or not	6.3	3.8	2.7	1.6	1.0	0.7	0.5	—	—	—	—
	1.6	0.2~1.0	有 With	31.6	19.3	13.7	7.8	5.1	3.5	2.0	—	—	—	—
	4.0	0.8~2.4	有 With	40 94	40 57	40 41	21.7	14.9	10.5	5.9	—	—	—	—
HA3D	1.4	0.2~1.0	有或无 With or not	11.2	6.8	4.8	2.8	1.7	1.2	0.7	0.4	0.3	—	—
	1.6	0.2~1.0	有 With	40 56	34.2	24.2	14	8.8	6.2	3.5	2.2	1.4	—	—
	4.0	0.8~2.4	有 With	40 100	40 100	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	1.06~2.4	有 With	—	—	—	—	—	—	—	—	—	9.0	4.2

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										
				25	32	40	50	65	80	100	125	150	200	250
HA2R	1.4	0.2~1.0	有或无 With or not	6.3	3.8	2.7	1.6	1.0	0.7	0.5	—	—	—	—
	2.8	0.8~2.4	有 With	40 44	27	14.1	11.1	6.9	4.9	2.8	—	—	—	—
HA3R	1.4	0.2~1.0	有或无 With or not	11.2	6.8	4.8	2.8	1.7	1.2	0.7	0.4	0.3	—	—
	2.8	0.8~2.4	有 With	40 78	40 47	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	2.12~4.8	有或无 With or not	—	—	—	—	—	—	—	—	—	4.2	2.1
VA6R	4(1*)	1.9~3.5	有 With	—	—	—	—	40 61	40 43	24.2	—	—	—	—
	5(2*)	1.9~3.5	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 valve size DN65,80,100, and 2\* is applicable to the valve size DN150.

4. The figures in gray denote the standard actuator specifications.

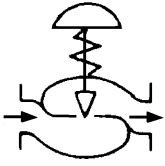
II. 柱塞阀芯、软阀座 (%TF、LTF)

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

表 4-1-3 气—关式阀

Table 4-1-3 Air-to-close

100kPa

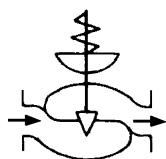


执行机构 Actuator	供气压力 Air supply	弹簧范围 Spring range	定位器 Positioner	允许压差 Allowable pressure drops										
				阀座直径 Valve seat size										
				25	32	40	50	65	80	100	125	150	200	250
HA2D	1.4	0.2~1.0	有或无 With or not	4.4	2.7	1.9	1.1	0.7	0.5	0.3	—	—	—	—
	1.6	0.2~1.0	有 With	22	13.5	9.6	5.5	3.6	2.5	1.4	—	—	—	—
	4.0	0.8~2.4	有 With	30	30	28	15	10.4	7.4	4.1	—	—	—	—
HA3D	1.4	0.2~1.0	有或无 With or not	7.8	4.8	3.4	2.0	1.2	0.8	0.5	0.3	0.2	—	—
	1.6	0.2~1.0	有 With	30	24	17	9.8	6.2	4.3	2.5	1.5	0.9	—	—
	4.0	0.8~2.4	有 With	30	30	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	1.06~2.4	有 With	—	—	—	—	—	—	—	—	—	6.2	—

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										
				25	32	40	50	65	80	100	125	150	200	250
HA2R	1.4	0.2~1.0	有或无 With or not	4.4	2.7	1.9	1.1	0.7	0.5	0.3	—	—	—	—
	2.8	0.8~2.4	有 With	30	19	9.9	7.8	4.8	3.4	2.0	—	—	—	—
HA3R	1.4	0.2~1.0	有或无 With or not	7.8	4.8	3.4	2.0	1.2	0.8	0.5	0.3	0.2	—	—
	2.8	0.8~2.4	有 With	30	30	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	1.4
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 150m  
3. The figures in gray denote the standard actuator specifications.

表 4-2 气缸式执行机构 (VP)

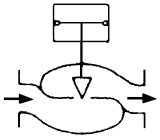
Table 4-1 CYLINDER ACTUATOR (VP)

I. 柱塞阀芯、金属阀座 (%CF,LCF)

I. Contoured-type plug and metal seat (%CF,LCF)

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	250
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	5
			93	65					
	4	有 With	40	40	40	31.8	19.3	12.4	6.5
			100	88	49				
	5	有 With	40	40	40	40	24.3	15.6	8.3
			100	100	62				
VP7	3	有 With	—	—	—	35.5	21.6	13.8	7.6
			—	—	—				
	4	有 With	—	—	—	40	29	18.6	10
			—	—	—	47			
	5	有 With	—	—	—	40	36.4	23.4	12.6
			—	—	—	60			

- 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.

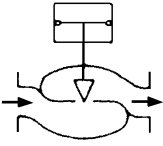
3. The upper figures denote the operating allowable pressure drops; the lower denote the allowable pressure drops at full closure.

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	250
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	3.75
	4	有 With	30	30	30	22.3	13.5	8.7	4.9
	5	有 With	30	30	30	28	17	10.9	6.2
VP7	3	有 With	—	—	—	24.9	15.1	9.7	5.7
	4	有 With	—	—	—	30	20.3	13	7.5
	5	有 With	—	—	—	30	25.5	16.4	9.4

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。

Note: 1. When the actuator with the added air supply, the lower one should be the base of calculating the allowable pressure drops.  
2. Take care not to cause the allowable maximum pressure drops to exceed the maximum operating pressure designated by ANSI B16 4—1981 或 JIS B2201—1984.

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	250
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	—
EIL25 M8620+L8230	金属阀座 Metal seat	—	—	—	—	—	—	—	14.6	9.4	5.7	3.7
	软阀座 Soft seat	—	—	—	—	—	—	—	10.1	6.3	3.8	3.7

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 通径 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	231	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
250	673	—	708	752	—	—	—	—

公称 通径 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 comfort 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	伸长 III 型(E III) Extension bonnet Type III						
32	HA2D、R	575	745	850	1095	281	—	—	—	—	70
	HA3D、R	700	870	1015	1245	363	—	—	—	—	
	EIL04	790	960	1065	1310	172	—	258	—	—	
40	HA2D、R	575	745	850	1095	281	—	—	—	—	70
	HA3D、R	700	870	1015	1245	363	—	—	—	—	
	EIL04	790	960	1065	1310	172	—	258	—	—	
50	HA2D、R	575	745	855	1100	281	—	—	—	—	80
	HA3D、R	700	870	980	1250	363	—	—	—	—	
	EIL04	790	960	1070	1315	172	—	258	—	—	
65	HA3D、R	735	915	1035	1290	363	—	—	—	—	88
	HA4D、R	920	1100	1215	1550	520	—	—	—	—	
	EIL08	925	1105	1225	1475	229	—	338	—	—	
	M8610+L8210	975	1155	1275	1530	—	285	346	253	350	
80	HA3D、R	745	925	1065	1295	363	—	—	—	—	98
	HA4D、R	925	1115	1240	1560	520	—	—	—	—	
	EIL08	930	1110	1230	1485	229	—	338	—	—	
	M8610+L8210	985	1170	1305	1535	—	285	346	253	350	
100	HA3D、R	770	980	1105	1315	363	—	—	—	—	113
	HA4D、R	945	1165	1305	1575	520	—	—	—	—	
	VA6R	1485	1705	1850	2115	475	—	—	—	—	
	VP5	1190	1410	1555	1825	382	—	—	—	—	
	EIL08	960	1170	1295	1515	229	—	338	—	—	
	M8610+L8210	1010	1220	1245	1555	—	285	346	253	350	
125	HA3D、R	840	1100	1300	1450	363	—	—	—	—	146
	HA4D、R	1010	1270	1485	1630	520	—	—	—	—	
	VA6R	1550	1810	2025	2175	480	—	—	—	—	
	VP5	1255	1515	1730	1880	382	—	—	—	—	
	VP6	1370	1630	1745	1995	480	—	—	—	—	
	VP7	1370	1630	1745	1995	580	—	—	—	—	
	EIL08	1050	1310	1515	1670	229	—	338	—	—	
	M8610+L8210	1170	1430	1643	1795	—	313	350	253	350	
150	HA3D、R	840	1100	1300	1450	363	—	—	—	—	170
	HA4D、R	1010	1270	1485	1630	520	—	—	—	—	
	VA6R	1550	1810	2025	2175	480	—	—	—	—	
	VP5	1255	1515	1730	1880	382	—	—	—	—	
	VP6	1370	1630	1845	1995	480	—	—	—	—	
	VP7	1370	1630	1845	1995	580	—	—	—	—	
	EIL08	1050	1310	1515	1660	229	—	338	—	—	
	M8610+L8210	1170	1430	1645	1795	—	313	350	253	350	
200	HA4D、R	1150	1410	1655	1780	520	—	—	—	—	220
	VP5	1420	1685	2050	2050	382	—	—	—	—	
	VP6	1530	1795	2165	2165	480	—	—	—	—	
	VP7	1530	1795	2165	2165	580	—	—	—	—	
	M8620+L8220	1570	1835	2205	2205	—	313	350	253	350	
250	HA5YD、R	1455	1725	—	—	605	—	—	—	—	305
	VP6	1470	1735	—	—	480	—	—	—	—	
	VP7	1470	1735	—	—	580	—	—	—	—	
	EIL25	1540	1805	—	—	258	—	356	—	—	
	M8620+L8230	1865	2470	—	—	—	313	350	253	350	

表 5-2-2 外形尺寸

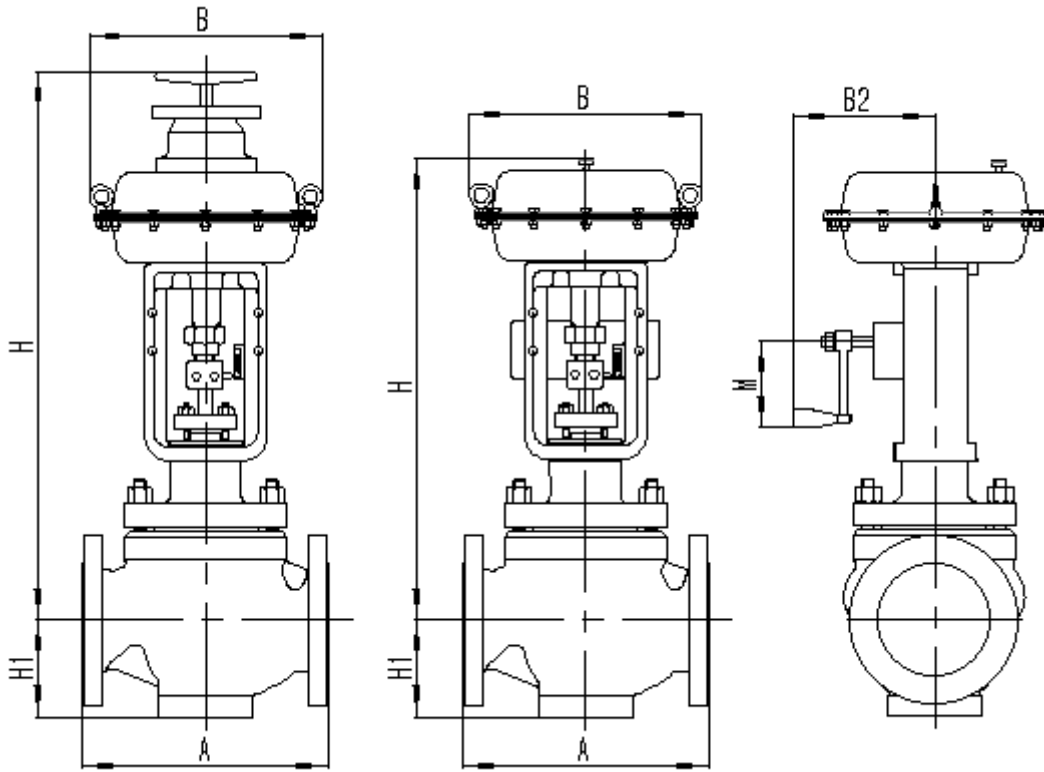
Table 5-2-2 Other dimensions

mm

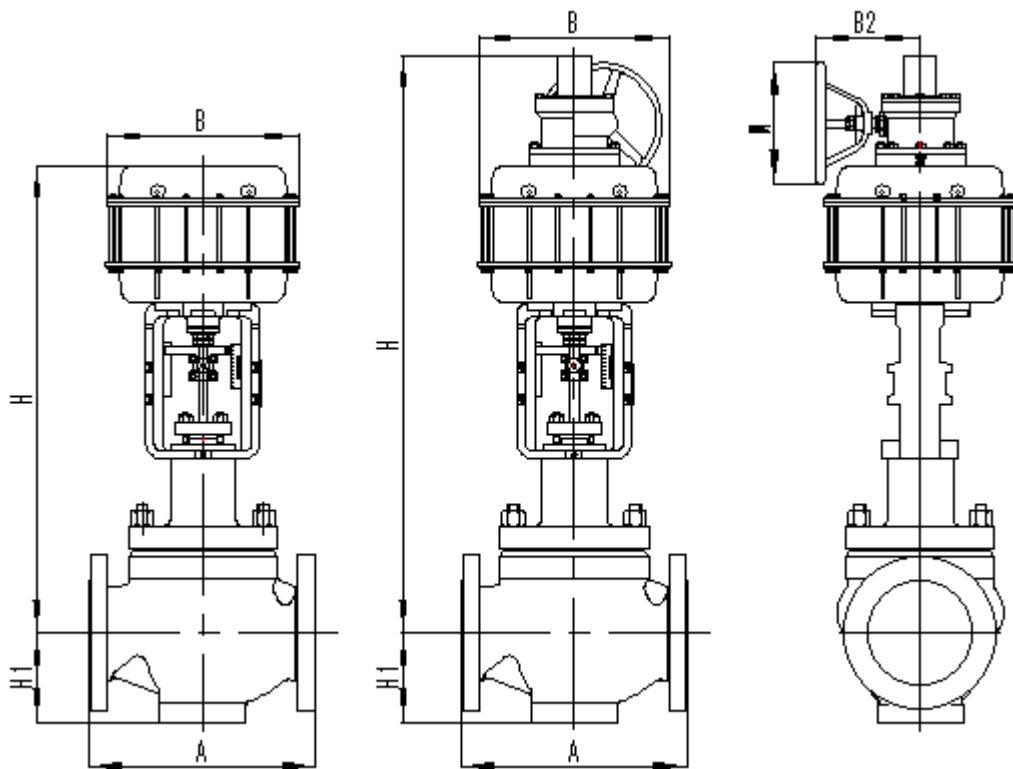
公称 口径 Nominal size	执行机构 Actuator	H						B2	M
		侧装手轮			顶装手轮				
		常温型(P) Plain bonnet	伸长 I 型(E) Extension bonnet Type I	伸长 II 型(E II) Extension bonnet Type II	常温型(P) Plain bonnet	伸长 I 型(E) Extension bonnet Type I	伸长 II 型(E II) Extension bonnet Type II		
32	HA2D、R	575	745	850	840	1005	1110	273.5	175
	HA3D、R	700	870	1015	990	1160	1305	278.5	175
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	1870	—	—	—	384	φ380
	VP7	1495	1755	1870	—	—	—	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	1870	—	—	—	384	φ380
	VP7	1495	1755	1870	—	—	—	384	φ380
200	HA4D、R	1150	1410	1655	1550	1810	2055	303	φ320
	VP5	1530	1790	2160	—	—	—	324	φ380
	VP6	1655	1920	2290	—	—	—	384	φ380
	VP7	1655	1920	2290	—	—	—	384	φ380
250	HA5YD、R	1805	2075	—	—	—	—	380	φ325
	VP6	1595	1860	—	—	—	—	384	φ380
	VP7	1595	1860	—	—	—	—	384	φ380

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。

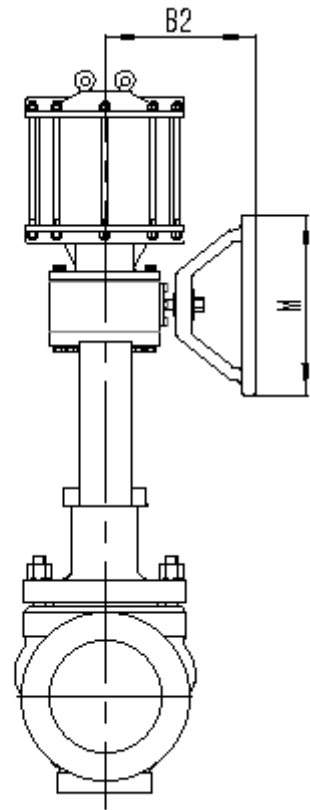
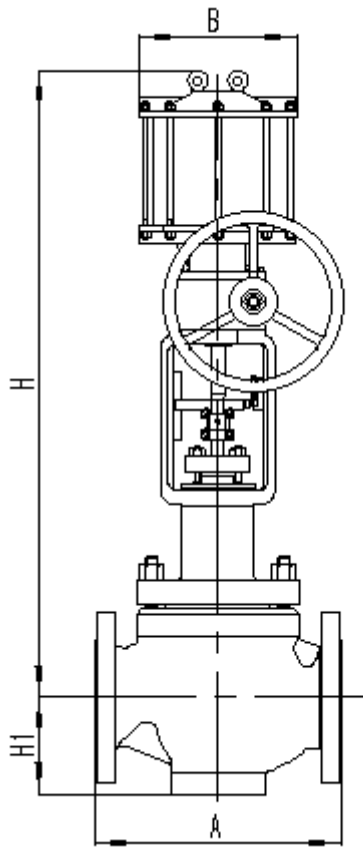
Note: The size of H in Table 5-2-2 shows the height of the valve and pneumatic actuator (with handwheel) combined



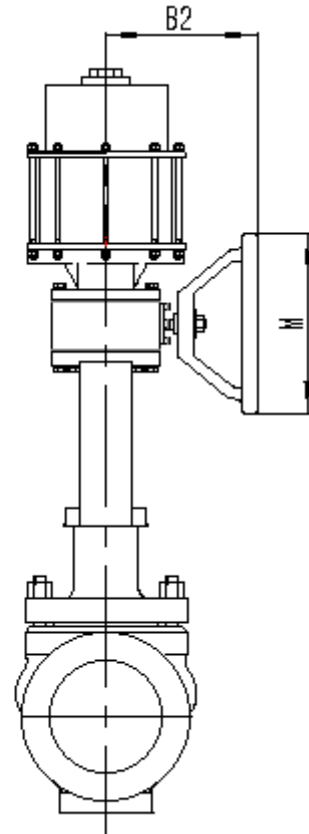
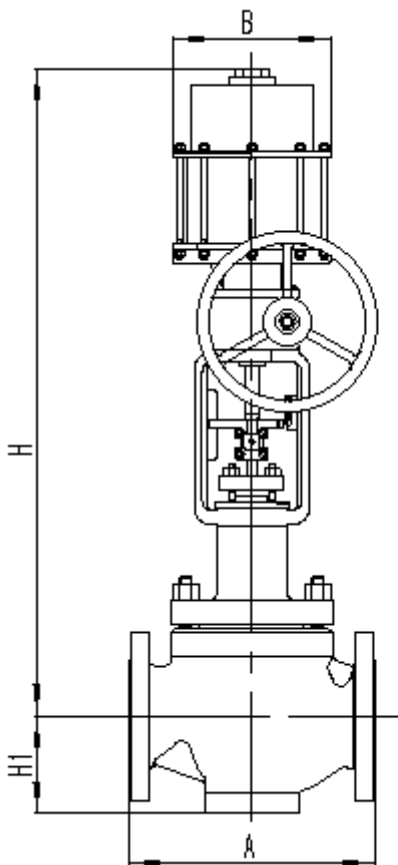
配 HA 执行机构  
With type HA



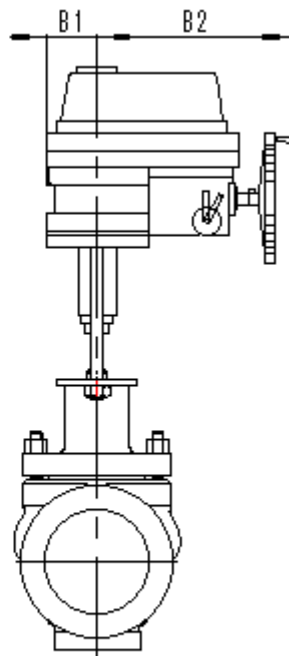
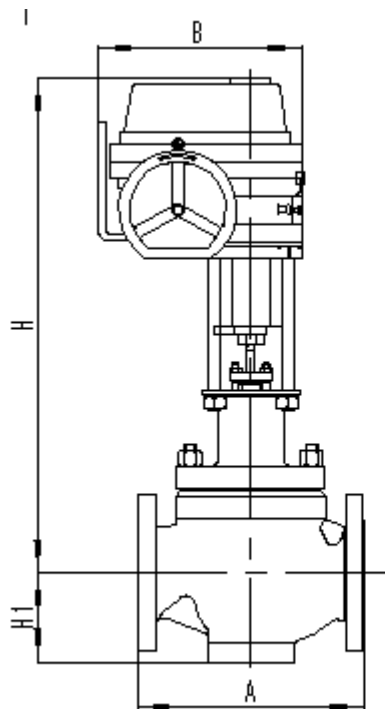
配 HA5YD、R 执行机构  
With type HA5YD、R



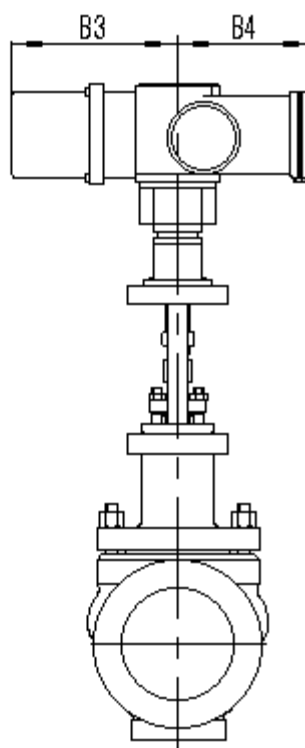
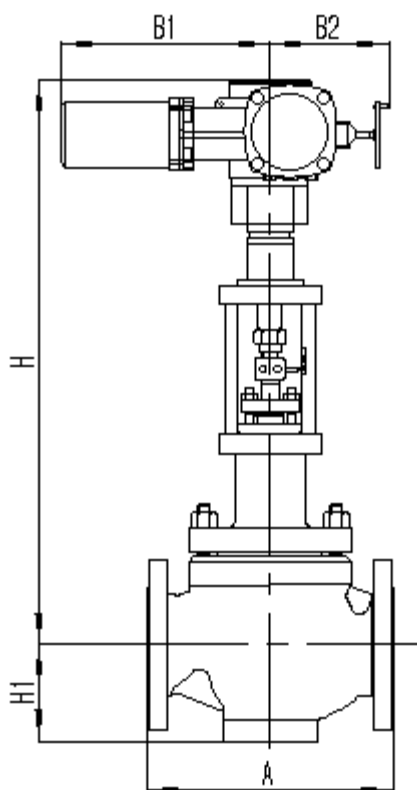
配 VP 执行机构  
With type VP



配 VA 执行机构  
With type VA



配 EIL 执行机构  
With type EIL



配 M8 执行机构  
With type M8

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
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	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	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	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	220	235	242	250	265	272	300	315	323	241	255	262			
	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	220	235	242	250	265	272	300	315	323	241	255	262
	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	300	320	330	350	370	380	470	490	500	340	360	370
	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
250	HA5YD、R	635	700	—	735	900	—	924	1195	—	—	—	—
	VP6	572	637	—	672	837	—	861	1132	—	—	—	—
	VP7	722	787	—	822	987	—	1011	1282	—	—	—	—
	EIL20	460	525	—	560	725	—	749	1020	—	—	—	—
	M8620+L8230	480	545	—	580	745	—	770	1040	—	—	—	—