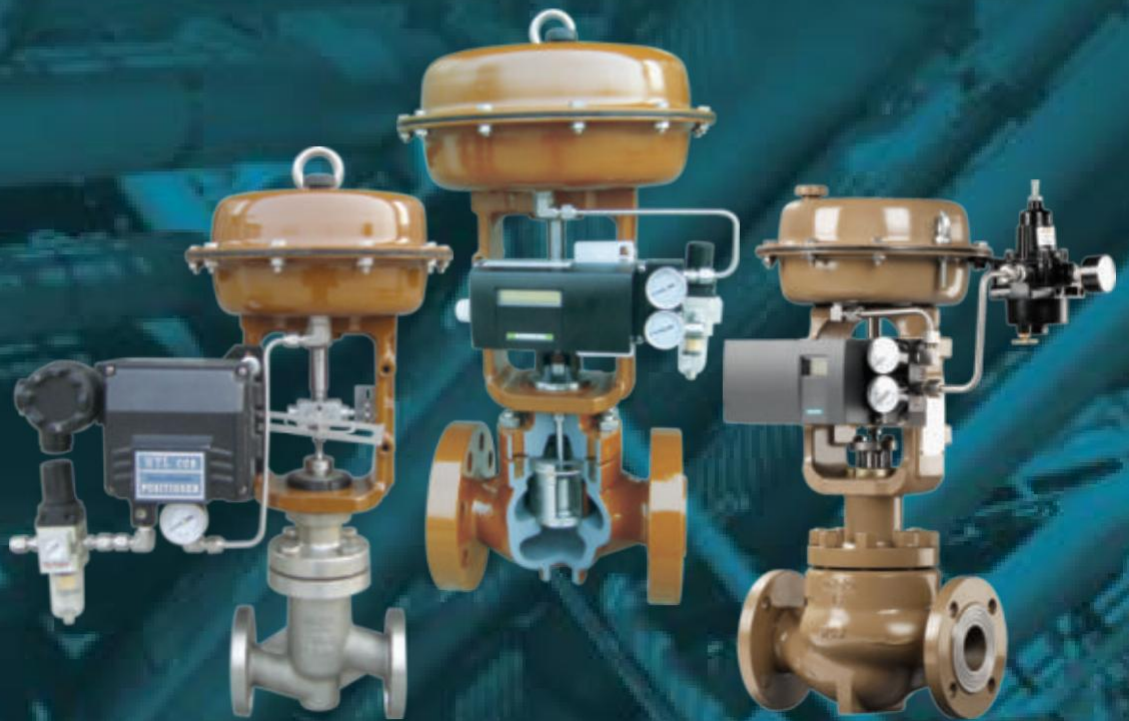


专业制造控制阀系列

Specialized in manufacturing control valve series





CV3000系列调节阀，是引进国外先进调节阀技术，取其精华，经过技术提高，优化组合的系列产品。根据不同工况条件要求，可选择不同形式的阀体，达到流体控制的最佳效果，与传统的调节阀相对，它实现了，更大的CV值与更广的可调比，体积小形化，重量轻型化，高精度的流量特性曲线，可以实现柔性控制，有效的避免了空化与闪蒸现象，使阀的噪音降至最低，可根据不同的自动化系统，选配电动和气动薄膜执行机构，通用范围广泛。

- ★ 小口径单座调节阀
- ★ 小口径套简单座调节阀
- ★ 单座调节阀
- ★ 笼式单座调节阀
- ★ 高压单座调节阀
- ★ 笼式双座调节阀
- ★ 笼式调节阀
- ★ 高压笼式调节阀
- ★ 不平衡笼调节阀
- ★ 低噪音笼式调节阀
- ★ 高压低噪音笼式调节阀
- ★ 高压单座角型调节阀
- ★ 气动保温套套单座调节阀



电动阀门系列

主要产品概述

电动调节阀是以电源为动力接受统一的标准信号0~10mA或4~20mA.DC，将此转为与输入信号相对的上下位移，自动地操纵阀门，改变阀门的开度，从而达到对工业介质流量、压力、温度和液位等参数的自动调节。因而广泛应用于化工、石油、冶金、电站和轻纺等工业生产过程的自动调节和远程控制。

产品有标准型、波纹管密封型、夹套保温型等多种品种。

产品公称压力等级有PN1.6、4.0、6.4MPa；

公称通径范围DN20~400。



ZAZM电动
精小型套筒调节阀



ZAZP
电动单座调节阀



ZDLN
电动智能型双座调节阀



ZDLPF46
电子式衬氟调节阀



ZDLP
电子式单座调节阀



EHPC
电动高压笼式调节阀



EHTSW
电动波纹管调节阀



ZDLQ/X
电动三通调节阀



T961Y
电动笼式焊接式调节阀



ZRLM
智能型电动调节阀



DTAS
电动Y型疏水阀



ZDRS
电子式卫生级调节阀

主要产品概述

本公司气动系列有顶部导向调节阀、套筒导向调节阀、双座调节、三通调节阀等高性能调节，具有结构新颖、流阻小、流量系数大、调节精度高等特点。被广泛用于电力、石化、冶金、制药、造纸、水处理、城市供暖等自控场合。

口径：DN20~DN300

压力：1.6~32MPa ANSI 150~2500

材质：铸钢、不锈钢、双相钢、高温钢、合金钢、哈氏合金、蒙乃尔合金、镍合金、钛合金等。



ZMAS/ZMBS
气动薄膜角形单座调节阀



ZMAS 气动
薄膜角形高压调节阀



ZMAP/N 气动
薄膜单/双座调节阀



ZMAQ/X
气动薄膜三通调节阀



HCB 型
气动笼式调节阀



ZJHPF46
气动衬氟波纹管调节阀



ZMQSY
气动 Y 型疏水阀



HTS
气动单座调节阀



ZTRS
气动卫生级调节阀



ZMAT/ZMBT
气动薄膜隔膜调节阀



HTSW
波纹管密封调节阀



ZJHP-D
气动薄膜低温调节阀

自力式系列/衬氟阀门系列

○ 自力式系列



ZZVP自力式氮封阀



ZZYP自力式压力调节阀



ZZYP自力式压力调节阀(阀后)



ZZYN自力式压力调节阀(阀前)



V230 01-V231 01
自力式差压调节阀(阀后)



ZZWP自力式温度调节阀



V230 02-V231 02
自力式压力调节阀



ZZWEP电动温控调节阀

○ 衬氟阀门系列



ZJHPF气动衬氟单座调节阀



ZMAT气动衬氟隔膜阀



ZZWEPF温控衬氟调节阀



ZDLPF电动衬氟调节阀



ZDLPF电动衬氟调节阀
(波纹管倒装式)



D971F
衬氟电动对夹式蝶阀



Q641F气动衬氟蝶阀



Q641F气动衬氟球阀



ZHB气动薄膜执行器



ZHA气动薄膜执行器



ZSA气动活塞执行器



费希尔气动执行器



Y10电动执行器



381L电动执行器
381R电动角形执行器



DKZ电动执行器
DKJ系列角形执行器



PSL电动执行器
PSQ角形执行器



费希尔DVC2000定位器



MVP102H山武定位器



工装定位器



HEP15系列定位器



西门子定位器



YT-2400 隔爆定位器



韩国YT2300定位器



韩国YT1000角行程定位器



TZID-C智能阀门定位器



APL 限位开关



气锁阀 增速阀



ASCO551防爆电磁阀

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110-119	软密封球阀 Soft Sealing Ball Valve
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182-193	高性能密封蝶阀 High Performance Butterfly Valve
194-215	金属密封蝶阀 Metal Sealing Butterfly Valve
216-224	衬胶蝶阀 Lined Rubber Butterfly Valve
225-230	电动高温蝶阀 High Temperature Electric Butterfly Valve
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单座调节阀 Single Seated Control Valve

Z_D^JHP单座调节阀 Single seated control valve

Z_D^JHP 单座调节阀是一种高性能的顶部导向调节阀，阀体通道呈S流线型，压降损失小、流量大、可调范围广。适用于含有细微颗粒的料浆、聚合物、结晶体及高温流体控制。

该阀芯导向面积大，抗振性好，可以制成波纹管密封型、蒸汽夹套型、加长型上阀盖等特殊结构。

Z_D^JHP single seat control valve is a type of top guided control valve with high performance, the valve channel appears S-shape streamline, the pressure drop is small, large flow, adjust range large. It can be widely used in the pipeline distribution network of the slurry, polymer, crystal and high temperature fluid control.

The valve plug oriented area large, has good vibration resistance, can be made of bellows seal type, steam jacketed type, extended type valve cover and other special structure.

技术参数和性能 Technical parameters and performance >>

标准本体部 Standard specification

形式Type	不平衡阀芯型 Unbalance plug type
公称口径DN	20-200mm
公称压力PN	PN1.6、4.0、6.3、10.0MPa; JIS 10K、16K、20K、40K; Class 150、300、600Lb
阀体材料 Body material	WCB、WC6、WC9、LCB、CF8、CF8M、CF3M 各种材质温度压力·范围, 请参见表1、附录 Each material's operating pressure-temperature limitation, see table 1 and the appendix
连接形式 Body connection	法兰式Flanged type; RF、FM、RJ、和TG; 焊接式Welding type; 承插焊SW (20-50mm); 对接焊BW (65-200mm); 法兰距 请参见图4 Face to face dimension see Fig.4 法兰标准按Flanged Standard: JB/T 79.1-94 /GB/T9113/ASME B16.5/ HG/T20592/HG/T20615/JIS B2220
阀内件型式Trim type	上导向单座柱塞式阀芯; 分离式套筒 阀本体结构 请参见图1 Top guided single seat plunger type plug, Separate cage Valve structure see Fig.1
上阀盖Bonnet	标准型Standard type: -29/-46~+230℃; 散热片型Fin-extension type: +230~+538℃; 加长型Long-extension type: -196~-46℃ 波纹管密封型(成形式或焊接式)Bellow seal type(pressed or welded); 蒸汽夹套型Steam jacket type(蒸汽压力Steam pressure≤1.0MPa、温度Temperature≤350℃) 接口尺寸Joint connection: Rc3/4 或NPT3/4
压盖型式Gland type	螺栓压紧式Bolt pressing type
填料Packing	V型聚四氟乙烯填料, 柔性石墨填料 各种材质的使用温度·范围 请参见附录 V-shape PTFE packing, graphite packing each material's operating pressure-temperature limitation, see the appendix

执行机构 Actuator

名称Name	气动薄膜多弹簧式 Diaphragm multi-spring type	双作用气缸式 Double acting pneumatic type	电子式电动 Solid state electronic type
型号Type	HA	ZSA	ATML
用途Purpose	调节Modulation	调节Modulation	调节Modulation
正作用direct action	气压增加阀闭Air to valve close	输入信号增加阀闭Positioner signal increase to valve close	
反作用reverse action	气压增加阀开Air to valve open	输入信号增加阀开Positioner signal increase to valve open	
供气压力或 供给电压信号 Air supply or voltage supply	供气压力(弹簧范围) Air supply(spring range) 140(20-100)KPaG 300(40-200)KPaG 300(80-240)KPaG	供气压力Air supply 500KPaG 输入信号Input signal 4-20mADC	供给电压Vote 220V AC 50Hz 输入信号Input signal 4-20mADC
性能指标 (带定位器) Performance index(with positioner)	滞后 Hysteresis	≤0.8%FS	≤0.5%FS
	直线性 Linearity	≤±2.0%FS	≤±1.0%FS
气源接口Connection	M16*1.5 (HA56 Rc1/2)	Rc3/8 (ZSA40 Rc1/2)	配线Connection2-G1/2
允许环境温度 Ambient temperature	-30~70℃	-30~70℃	-10~60℃
表面涂层处理 Painting color	灰色 Gray		
附件配置 Accessory allocation	定位器, 空气过滤减压阀, 电磁阀, 保位阀, 阀位变送器, 限位开关, 手操机构等 Positioner, air-set, solenoid valve, limit switch, lock up valve, manual handle		加热器Heater

单座调节阀 Single Seated Control Valve

性能 Performance

额定Cv值 Rated	请参见表2 See table 2
流量特性 Flow characteristic	等百分比和线性, 等百分比请参见图3 Equal Percentage and linear, Equal Percentage see Fig 3
泄漏量 Leakage	金属阀座符合标准ANSI B16.104 IV级, $\leq 10^{-4}$ 额定Cv; 软阀座 VI级 Metal seat conform ANSI B16.104-class IV ($\leq 10^{-4}$ Rated capacity of valve) Soft seat: class VI
可调比 Range ability	50: 1; DN < 10mm (30: 1)
允许压差 Allowable pressure different	请参见表3 See table 3

表1 阀本体部材质 Table 1 valve body material >>

1-1 本体部材质: 碳钢 1-1 body material: carbon steel

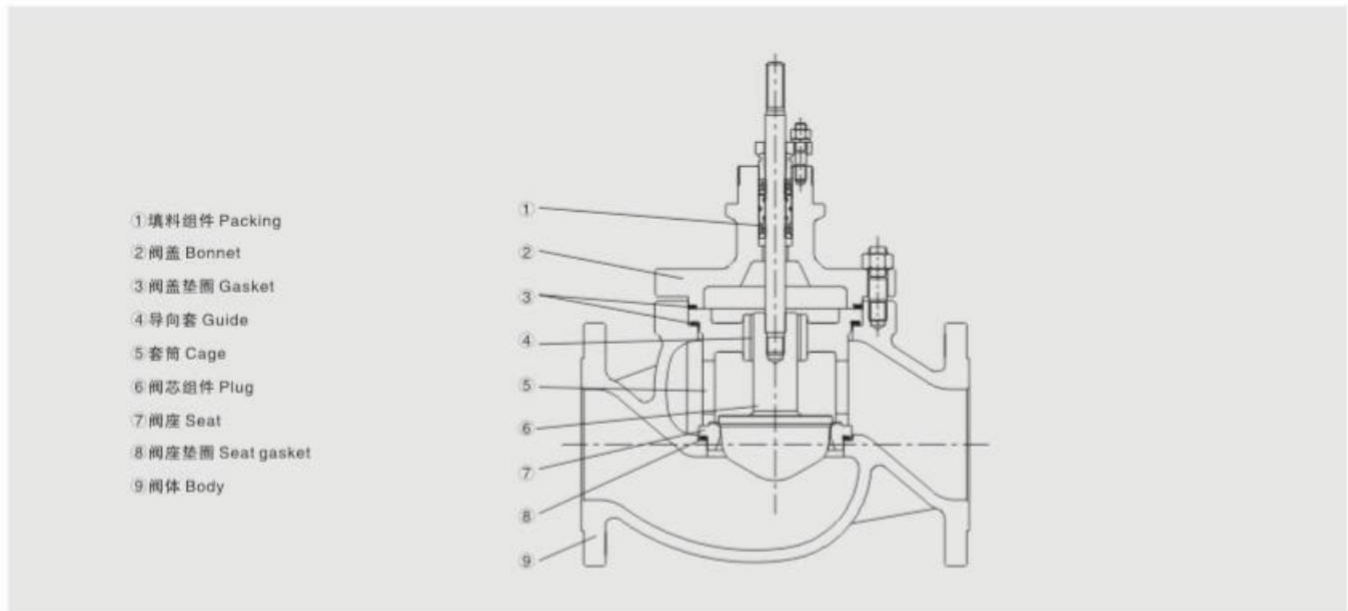
阀体材质 Body material	WCB, WC6, WC9, LCB				
阀芯 Plug	材质 Material	304/316	304/316	304/316	304/316
	处理 Treatment	-	-	司太立合金 Overlaying stellite alloy	全部司太立合金 Fully stellite alloy
阀座 Seat	材质 Material	304/316	304/316	304/316	304/316
	处理 Treatment	RTFE	-	司太立合金 Overlaying stellite alloy	全部司太立合金 Fully stellite alloy
导向套 Guide	材质 Material	316	440B	440B	304
	处理 Treatment	RTFE	热处理 Heat treatment	热处理 Heat treatment	司太立合金 Stellite alloy
泄露等级 Leakage	ANSI	Class VI	Class IV	Class IV	Class IV
	阀额定容量 × Valve rated capacity	微气泡级 Micro bubbles	0.01%	0.01%	0.01%
使用温度 (°C) Operating temperature	WCB	-29 ~ +230	-29 ~ +250	-29 ~ +425	-
	WC6/WC9	-	-	-	-29 ~ +538
	LCB	-46 ~ +230	-46 ~ +250	-46 ~ +350	-

1-2 本体部材质: 不锈钢 1-2 Body material: stainless steel

阀体材质 Body material	ZG1Cr18Ni9/CF8, ZG0Cr17Ni12Mo2/CF8M				
阀芯 Plug	材质 Material	316	316	316	316
	处理 Treatment	-	-	司太立合金 Overlaing stellite alloy	全部堆焊司太立合金 Fully overlaing stellite alloy
阀座 Seat	材质 Material	316 + RTFE	316	316	316
	处理 Treatment	-	-	司太立合金 Overlaing stellite alloy	全部堆焊司太立合金 Fully overlaing stellite alloy
导向套 Guide	材质 Material	316	316	316	316
	处理 Treatment	RTFE	RTFE	司太立合金 Overlaing stellite alloy	司太立合金 Overlaing stellite alloy
泄露等级 Leakage	ANSI	Class VI	Class IV	Class IV	Class IV
	阀额定容量 × Valve rated capacity	微气泡级 Micro bubbles	0.01%	0.01%	0.01%
使用温度 (°C) Operating temperature		-75 ~ +230	-196 ~ +230	-196 ~ +538	-196 ~ +538

单座调节阀 Single Seated Control Valve

图1 本体部结构 Fig.1 Valve section view



- ① 填料组件 Packing
- ② 阀盖 Bonnet
- ③ 阀盖垫圈 Gasket
- ④ 导向套 Guide
- ⑤ 套筒 Cage
- ⑥ 阀芯组件 Plug
- ⑦ 阀座 Seat
- ⑧ 阀座垫圈 Seat gasket
- ⑨ 阀体 Body

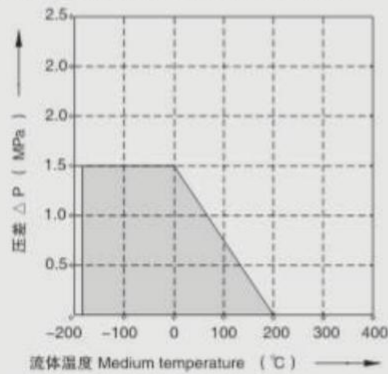
图2 阀内件材质 处理选定基准 Fig.2 trim material treatment and choice



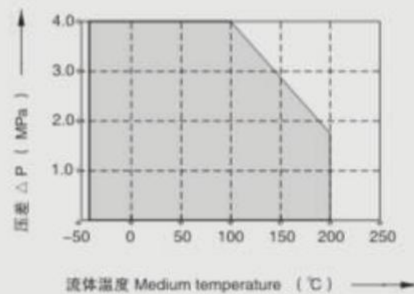
2-1 阀芯、阀座的使用温度 压力范围 Plug/seat operating pressure-temperature rating

2.1-1 金属阀座 Metal seat

硬化处理: (阀芯, 阀座: SUS316+堆焊司太立合金)
Hardening: (plug, seat: sus316+Stellite alloy)

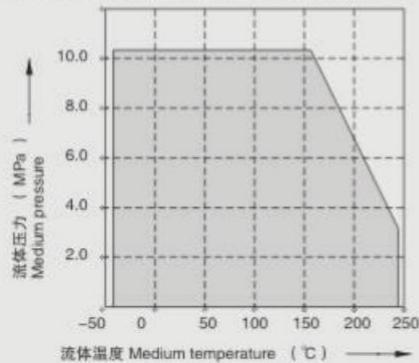


2.1-2 软阀座 Soft seat

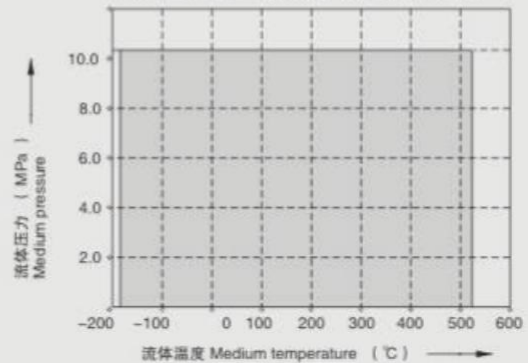


2-2 密封填料的使用温度 压力范围 Packing operating pressure-temperature rating

2.2-1 强化聚四氟乙烯材料V型填料 V-shape RTFE packing



2.2-2 柔性石墨填料 Graphite packing



备注: 空化、闪蒸, 禁油及常处于关闭下的调节阀, 不管工作温度和压差多大, 建议司太合金堆焊。

Remarks: The valve working in the condition of cavitation, flash, no oil and the valve always shut, no matter how much work temperature and pressure drops, our proposal surfacing Stellite alloys.

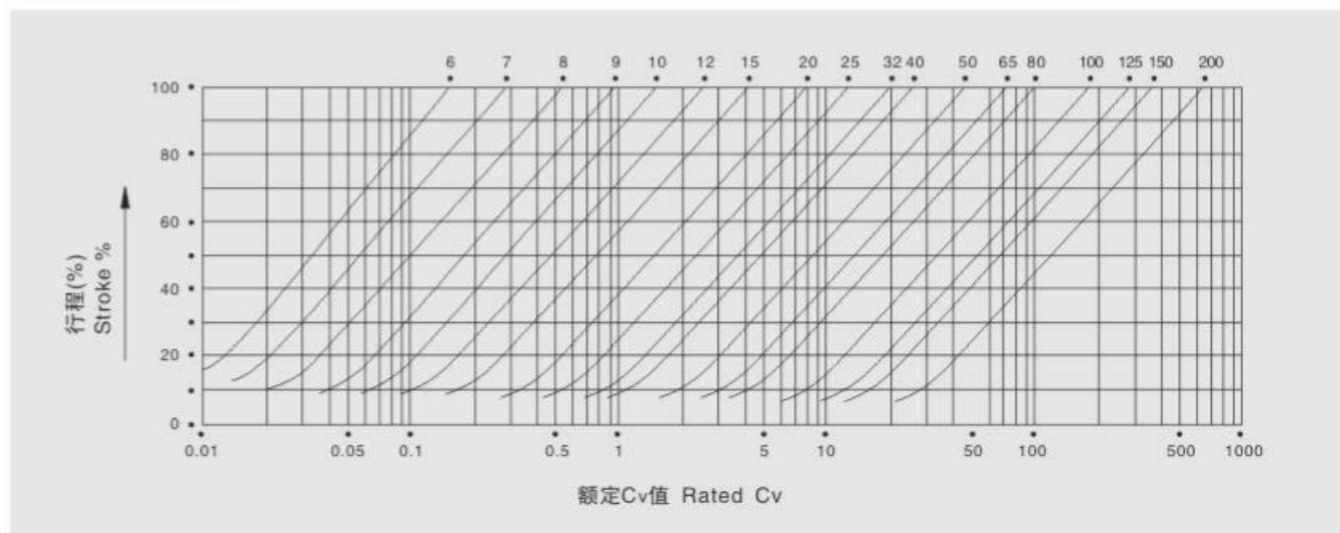
单座调节阀 Single Seated Control Valve

表2 额定Cv值和行程 Table 2 rated CV and stroke

公称通径 DN mm	阀芯尺寸 Plug size mm	额定Cv值 Rated		行程 Stroke mm	公称通径 DN mm	阀芯尺寸 Plug size mm	额定Cv值 Rated		行程 Stroke mm
		等百分比 EQ%	直线 Linearity				等百分比 EQ%	直线 Linearity	
20	3	0.02	-	10	65	40	25	-	25
	4	0.04	-	10		50	45	-	25
	5	0.1	-	10		65	72	85	40
	6	0.16	-	10	80	50	45	-	25
	7	0.28	-	10		65	72	-	40
	8	0.52	-	10		80	100	125	40
	9	0.96	-	10	100	65	72	-	40
	10	1.6	-	16		80	100	-	40
	12	2.5	-	16		100	175	200	40
	15	4	-	16	125	80	100	-	40
20	8	10	16	100		175	-	40	
20	8	10	16	125		280	-	60	
25	15	4	-	16	150	100	175	310	40
	20	8.3	-	16		125	280	-	60
	25	13	15	16		150	365	425	60
40	25	13	-	16	200	125	280	-	60
	32	20	-	25		150	365	-	60
	40	25	30	25		200	640	700	60
50	32	20	-	25	-	-	-	-	-
	40	25	-	25	-	-	-	-	-
	50	45	40	25	-	-	-	-	-

图3 流量特性 Fig. 3 flow characteristic

等百分比特性 EQ%



单座调节阀 Single Seated Control Valve

表3 控制阀最大允许压差(单位: MPa) Table 3 control valve allowable pressure drops(unit: MPa) >>

3-1 HA 系列薄膜式执行机构 Table 3-1 HA series diaphragm actuator

执行机构规格 Actuator type	气源压力 KPaG Air supply	弹簧范围 KPaG Spring range	阀座形式 Seat type	阀芯尺寸 Plug size (mm)												
				15	20	25	32	40	50	65	80	100	125	150	200	
HA22 HA23	140	20-100	金属座Metal seat	0.68	0.46	0.33	0.22	0.15	0.09							
			软座Soft seat	0.4	0.28	0.18	0.10	0.04	0.01							
	300	40-200D 80-240R	金属座Metal seat	9.8	5.96	3.87	2.22	1.32	0.77							
			软座Soft seat		3.00	2.50	1.60	0.95	0.55							
HA34	140	20-100	金属座Metal seat				0.48	0.32	0.21	0.15	0.09	0.04				
			软座Soft seat				0.32	0.19	0.09	0.06	0.03	0.01				
	300	40-200D 80-240R	金属座Metal seat				4.60	2.84	1.73	0.95	0.58	0.33				
			软座Soft seat				3.00	2.30	1.40	0.75	0.43	0.28				
HA45	140	20-100	金属座Metal seat							0.45	0.28	0.16	0.10	0.06	0.02	
			软座Soft seat							0.30	0.18	0.08	0.05	0.02	0.01	
	300	40-200D 80-240R	金属座Metal seat							1.85	1.18	0.71	0.42	0.27	0.12	
			软座Soft seat							1.50	0.95	0.58	0.32	0.20	0.10	
HA56	300	40-200D 80-240R	金属座Metal seat										0.66	0.44	0.22	
			软座Soft seat										0.55	0.35	0.18	

3-2 ZSA 系列气缸式执行机构 Table 3-2 ZSA series cylinder actuator

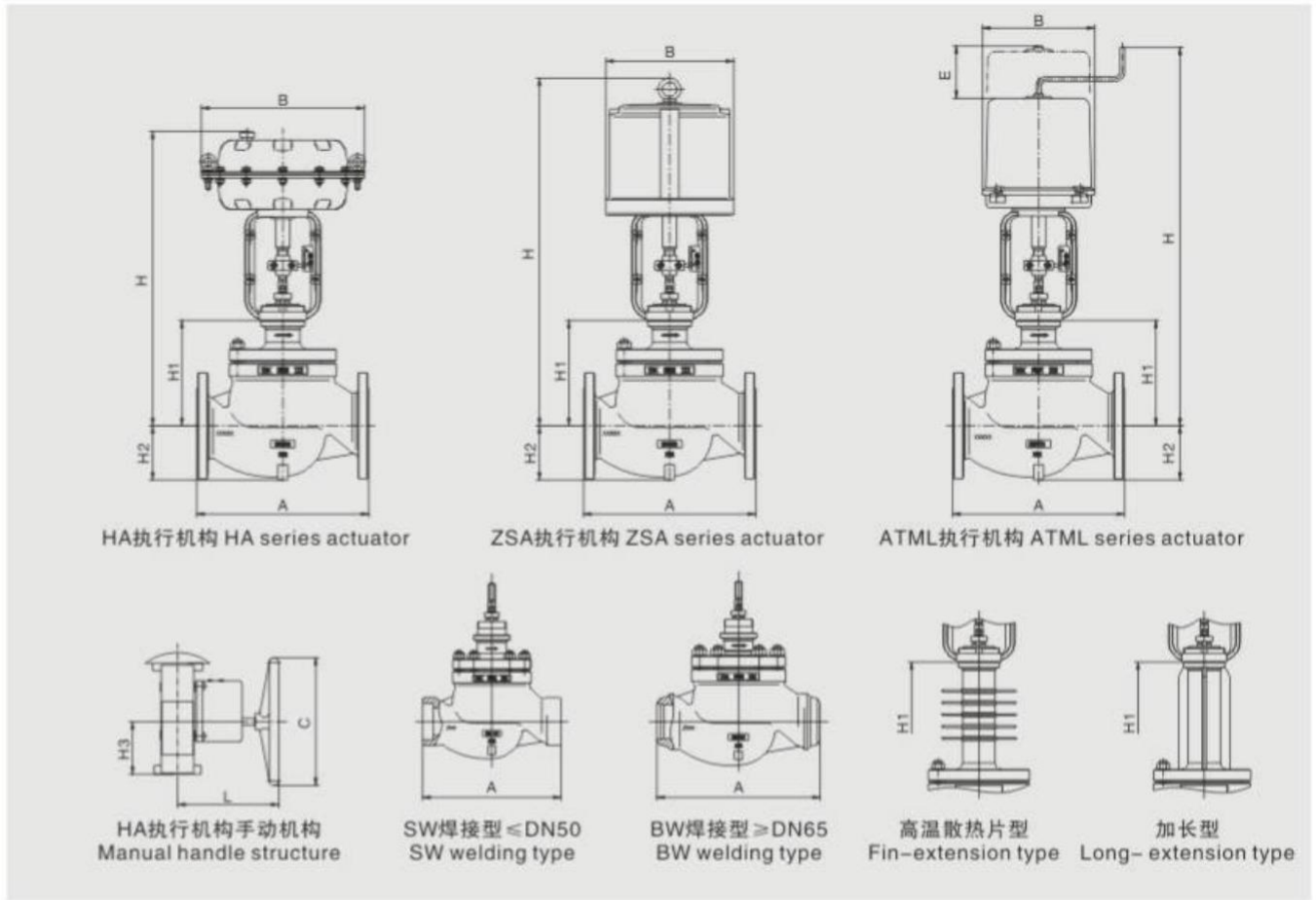
执行机构规格 Actuator type	气源压力 KPaG Air supply	阀座形式 Seat type	阀芯尺寸 Plug size (mm)						
			65	80	100	125	150	200	
ZSA17D	500	金属座Metal seat	2.52	1.65	1.00				
		软座Soft seat	2.00	1.35	0.80				
ZSA25D	500	金属座Metal seat	5.20	3.80	2.42	1.50	1.02	0.55	
		软座Soft seat	3.00	3.00	1.95	1.28	0.85	0.45	
ZSA32D	500	金属座Metal seat				4.00	2.60	1.70	0.95
		软座Soft seat				3.00	2.18	1.48	0.80
ZSA40D	500	金属座Metal seat					4.00	2.80	1.60
		软座Soft seat					3.00	2.40	1.30

3-3 ATML 系列电子式电动执行机构 Table 3-3 ATML series solid state electronic actuator

执行机构规格 Actuator type	阀座形式 Seat type	阀芯尺寸 Plug size (mm)												
		15	20	25	32	40	50	65	80	100	125	150	200	
ATMLSA-10	金属座Metal seat	2.20	1.62	1.00	0.56	0.28	0.18							
	软座Soft seat	1.40	0.95	0.68	0.40	0.20	0.10							
ATMLSA-20	金属座Metal seat	5.20	4.00	2.80	1.80	1.00	0.60							
	软座Soft seat	3.00	3.00	2.20	1.40	0.80	0.48							
ATMLSB-30	金属座Metal seat			4.60	2.84	1.80	1.10	0.58	0.34	0.18				
	软座Soft seat			3.00	2.20	1.46	0.80	0.40	0.20	0.10				
ATMLSB-50	金属座Metal seat			8.60	5.20	3.20	2.12	1.14	0.74	0.42	0.24	0.14		
	软座Soft seat			3.00	3.00	2.45	1.48	0.86	0.50	0.30	0.18	0.10		
ATMLSC-65	金属座Metal seat							1.64	1.02	0.62	0.36	0.23	0.10	
	软座Soft seat							1.10	0.78	0.44	0.25	0.16	0.07	
ATMLSC-100	金属座Metal seat							2.56	1.69	1.06	0.65	0.42	0.21	
	软座Soft seat							1.80	1.26	0.74	0.46	0.30	0.15	
ATMLSC-160	金属座Metal seat										1.10	0.74	0.40	
	软座Soft seat										0.80	0.52	0.28	

单座调节阀 Single Seated Control Valve

图4 配执行机构及阀外形尺寸 Fig.4 actuator and valve outline dimension



配 HA 系列薄膜式执行机构(外形尺寸) HA series diaphragm actuator(dimensions)

单位Unit : mm

阀门尺寸 mm Size	A			H2	标准型 Standard		散热型 Fin- extension type		加长型 Long- extension type		手轮机构 Handle wheel structure			B(φ)	执行 机构 Actuator
	ANSI 150 PN1.6 JIS10K	ANSI 300 PN4.0 JIS30K	ANSI 600 PN6.3 PN10.0 JIS40K		H1	H	H1	H	H1	H	H3	C	L		
20	184	194	206	55	128	453	278	603	648	973	135	250	240	285	HA22
25	184	197	210	60	140	465	290	615	660	985	135	250	240	285	HA22
40	222	235	251	75	156	511	306	661	676	1031	135	250	240	285	HA23
						591		741							
50	254	267	286	85	162	517	312	667	682	1037	135	250	240	285	HA23
						597		747							
65	276	292	311	95	220	655	400	835	770	1205	138	250	300	360	HA34
						758		938							
80	298	317	337	105	232	667	412	847	782	1217	138	250	300	360	HA34
						770		950							
100	352	368	394	125	240	675	420	855	790	1225	138	250	300	360	HA34
						778		958							
125	400	400	420	145	284	822	504	1042	884	1422	138	300	320	470	HA45
						1034		1254							
150	451	473	508	165	312	850	532	1070	912	1450	138	300	320	470	HA45
						1062		1282							
200	543	568	610	190	344	882	564	1102	944	1482	138	300	320	470	HA45
						1094		1314							

单座调节阀 Single Seated Control Valve

配ZSA系列气缸式执行机构(外形尺寸) ZSA cylinder actuator(dimensions)

单位Unit : mm

阀门尺寸 mm Size	A			H2	标准型 Standard		散热型 Fin- extension type		加长型 Long- extension type		B(φ)	执行机构 Actuator
	ANSI150 PN1.6 JIS10K	ANSI300 PN4.0 JIS30K	ANSI600 PN6.3 PN10.0 JIS40K		H1	H	H1	H	H1	H		
65	276	292	311	95	220	660	400	840	770	1210	208	ZSA17
						790		970		1340	290	ZSA25
						900		1080		1450	380	ZSA32
80	298	317	337	105	232	672	412	852	782	1222	208	ZSA17
						802		982		1352	290	ZSA25
						912		1092		1462	380	ZSA32
100	352	368	394	125	240	680	420	860	790	1230	208	ZSA17
						810		990		1360	290	ZSA25
						920		1100		1470	380	ZSA32
125	400	400	420	145	284	854	504	1074	884	1454	290	ZSA25
						964		1184		1564	380	ZSA32
						1114		1334		1714	470	ZSA40
150	451	473	508	165	312	882	532	1102	912	1482	290	ZSA25
						992		1212		1592	380	ZSA32
						1142		1362		1742	470	ZSA40
200	543	568	610	190	344	914	564	1134	944	1514	290	ZSA25
						1024		1244		1624	380	ZSA32
						1174		1394		1774	470	ZSA40

配ATML系列电子式电动执行机构(外形尺寸) ATML series solid state electronic actuator(dimensions)

单位Unit : mm

阀门尺寸 mm Size	A			H2	标准型 Standard		散热型 Fin- extension type		加长型 Long- extension type		E	B(φ)	执行机构 Actuator
	ANSI 150 PN1.6 JIS10K	ANSI 300 PN4.0 JIS30K	ANSI 600 PN6.3 PN10.0 JIS40K		H1	H	H1	H	H1	H			
20	184	194	206	55	128	578	278	728	648	1098	130	280	ATML-A
25	184	197	210	60	140	590	290	740	660	1110	130	280	ATML-A
40	222	235	251	75	156	606	306	756	676	1126	130	280	ATML-A
						746		896		1266	130	310	ATML-B
50	254	267	286	85	162	612	312	762	682	1132	130	280	ATML-A
						752		902		1272	130	310	ATML-B
65	276	292	311	95	220	840	400	1020	770	1390	130	310	ATML-B
						1010		1190		1560	165	360	ATML-C
80	298	317	337	105	232	852	412	1032	782	1402	130	310	ATML-B
						1022		1202		1572	165	360	ATML-C
100	352	368	394	125	240	860	420	1040	790	1410	130	310	ATML-B
						1030		1210		1580	165	360	ATML-C
125	400	400	420	145	284	904	504	1124	884	1504	130	310	ATML-B
						1074		1294		1674	165	360	ATML-C
150	451	473	508	165	312	932	532	1152	912	1532	130	310	ATML-B
						1102		1322		1702	165	360	ATML-C
200	543	568	610	190	344	1134	564	1354	944	1734	165	360	ATML-C

单座调节阀 Single Seated Control Valve

表4 控制阀重量(单位: kg) Control valve weight (unit: kg)

>>

公称通径 DN mm	压力等级 PN			薄膜式执行机构 Diaphragm multi-spring type					双动作气缸式执行机构 Double acting pneumatic type				电子式电动执行机构 Solid state electronic type		
	ANSI	JIS	PN	HA22	HA23	HA34	HA45	HA56	ZSA17	ZSA25	ZSA32	ZSA40	ATMLSA	ATMLSB	ATMLSC
20	150	10K	1.6	23									27		
	300	20K、30K	4.0	25									29		
	600	40K	6.3	28									32		
25	150	10K	1.6	24									28		
	300	20K、30K	4.0	26									30		
	600	40K	6.3	30									34		
40	150	10K	1.6		30	42							36	46	
	300	20K、30K	4.0		33	45							39	49	
	600	40K	6.3		39	51							45	55	
50	150	10K	1.6		32	44							38	48	
	300	20K、30K	4.0		36	48							42	52	
	600	40K	6.3		42	54							48	58	
65	150	10K	1.6			56	76		43	55	82			60	100
	300	20K、30K	4.0			60	80		47	59	86			64	104
	600	40K	6.3			70	90		57	69	96			74	114
80	150	10K	1.6			70	90		57	69	96			74	114
	300	20K、30K	4.0			84	104		71	83	110			88	128
	600	40K	6.3			98	118		85	97	124			102	142
100	150	10K	1.6			92	112		79	91	118			96	136
	300	20K、30K	4.0			106	126		93	105	132			110	150
	600	40K	6.3			136	156		123	135	162			140	180
125	150	10K	1.6				136	192		115	142	210		120	160
	300	20K、30K	4.0				156	212		135	162	230		140	180
	600	40K	6.3				186	242		165	192	260		170	210
150	150	10K	1.6				156	212		135	162	230		140	180
	300	20K、30K	4.0				186	242		165	192	260		170	210
	600	40K	6.3				246	302		225	252	320		230	230
200	150	10K	1.6				216	272		195	222	290			240
	300	20K、30K	4.0				256	312		235	262	330			280
	600	40K	6.3				356	412		335	362	430			380

笼式双座调节阀 Cage Guided Double Seated Control Valve

Z_D^JHMn笼式双座调节阀 Cage guided double seated control valve

Z_D^JHMn 笼式双座调节阀是一种压力平衡的调节阀，采用流体压力平衡型阀芯，能承受较高的工作压差，具有压降损失小、流量大、可调范围广等特点。由于没有平衡密封环，动态稳定性较差，同时，泄漏量也较大。

Z_D^JHMn cage guided double seated control valve is a kind of pressure balance control valve, adopting the fluid pressure balance type valve plug, can bear high working pressure difference, and has the characteristics of small pressure drop loss, large flow rate, wide adjustable range, etc.. Because there is no balance seal ring, it has poor dynamic stability, at the same time, has a large amount of leakage.

技术参数和性能 Technical parameters and performance >>

标准本体部 Standard specification

型式Type	流体压力平衡型 Pressure balanced plug type
公称通径DN	40-300mm
公称压力PN	PN1.6、4.0、6.3、10.0MPa; JIS 10K、16K、20K、40K; Class 150、300、600Lb
阀体材料 Body material	WCB、WC6、WC9、LCB、CF8、CF8M、CF3M 各种材质温度压力·范围，请参见表1、附录 Each material operating pressure-temperature limitation, see table 1 and the appendix.
连接形式 Body connections	法兰式Flanged type: RF、FM、RJ、和TG; 焊接式Welding type: 承插焊SW(40-50mm); 对接焊BW(65-200mm); 法兰距 请参见图4 Face to face dimension see Fig.4 法兰标准按Flanged Standard: JB/T 79.1-94 /GB/T9113/ASME B16.5/HG/T20592/HG/T20615/JIS B2220
阀内件型式Trim type	双座平衡式阀芯; 整体式阀笼; 阀本体结构 请参见图1 Double seated balanced plug; integral cage; Valve structure see Fig. 1
上阀盖Bonnet	标准型Standards type for: -29/-46- +230℃; 散热片型Fin-extension type: +230- +538℃; 加长型Long-extension type: -196 - -46℃
压盖型式Gland type	螺栓压紧式Bolt pressing type
填料Packing	V型聚四氟乙烯填料, 柔性石墨填料。各种材质的使用温度·范围 请参见图2 V-shape PTFE packing, graphite packing each material as to the operating pressure-temperature limitation, see Fig.2

执行机构 Actuator

名称Name	气动薄膜多弹簧式Diaphragm multi-spring type	电子式电动 Solid state electronic type
型号Type	HA	ATML
用途Purpose	调节Modulation	调节Modulation
正作用Direct action	气压增加 阀关闭 Air to valve close	输入信号增加 阀关闭 Input signal increase to valve close
反作用Reverse action	气压增加 阀打开 Air to valve open	输入信号增加 阀打开 Input signal increase to valve open
供气压力或 供给电压 Air supply or Vote supply	供气压力 (弹簧范围) Air supply (spring range) 140(20-100)KPaG 300(40-200)KPaG 300(80-240)KPaG	供给电压Power 220V AC 50Hz 输入信号Input signal 4-20mADC
性能指标 (带定位器) Performance index (with positioner)	滞后 Hysteresis	≤0.8%FS
	直线性 Linearity	≤±2.0%FS
气源接口Connection	M16*1.5 (HA56 Rc1/2)	配线Connection 2-G1/2
允许环境温度 Ambient temperature	-30 ~ 70℃	-10 ~ 60℃
表面涂层处理 Painting color	灰色Gray	
附件配置 Accessory allocation	定位器, 空气过滤减压阀, 电磁阀, 保位阀, 阀位传送器, 限位开关, 手操机构等 Positioned, air-set, solenoid valve, limit switch, lock up valve, manual handle, etc.	加热器Heater

笼式双座调节阀 Cage Guided Double Seated Control Valve

性能 Performance

额定Cv值 Rated Cv value	请参见表2 Lsee table 2
流量特性 Flow characteristics	等百分比和线性, 等百分比请参见图3 Equal Percentage and linear, Equal Percentage see Fig 3
泄漏量 Leakage	金属阀座符合标准ANSI B16.104 III级, $\leq 10^{-3}$ 额定Cv Metal seat conform the standard ANSI B16.104 class III $\leq 10^{-3}$ Rated capacity of valve
可调比 Range ability	50: 1
允许压差 Allowable pressure drops	请参见表3 See table 3

图1 本体部结构 Fig.1 Valve section view >>

图1.1 整体式阀笼 Fig.1.1 Integral cage

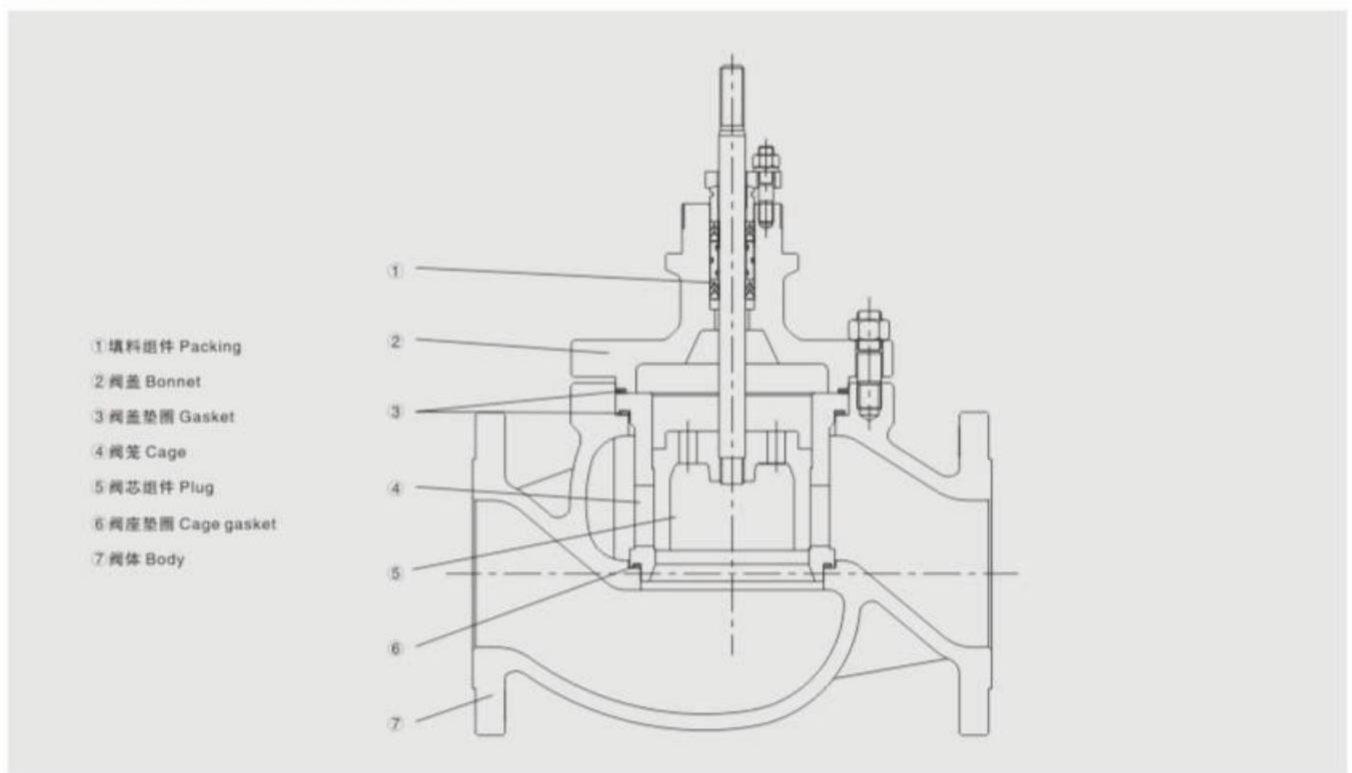


表1 阀本体部材质 Table 1 valve body material >>

1-1 本体部材质: 碳钢 1-1 Body material: carbon steel

阀体材质 Body material	WCB、WC6、WC9、LCB		
阀笼+阀座 Cage+seat	材质Material	304/316	17-4PH
	处理Treatment	-	析出硬化处理-Age hardening
阀芯Plug	材质Material	304/316	410
	处理Treatment	-	热处理-Heat treatment
泄露等级 Leakage	ANSI	Class III	Class III
	阀额定容量 × Valve rated capacity ×	0.1%	0.1%
使用温度 (°C) Operating temperature	WCB/WC6/WC9	-29 ~ +230	-29 ~ +425
	LCB	-46 ~ +230	-46 ~ +350

笼式双座调节阀 Cage Guided Double Seated Control Valve

1-2 本体部材质: 不锈钢 1-2 Body material: stainless steel

阀体材质 Body material	ZG0Cr18Ni9/CF8、ZG0Cr17Ni12Mo2/CF8M		
阀笼 Cage	材质Material	316	316
	处理Treatment	-	堆焊司太立合金Overlaying stellite alloy
阀芯Plug	材质Material	316	316
	处理Treatment	-	堆焊司太立合金Overlaying stellite alloy
泄露等级 Leakage	ANSI	Class III	Class III
	阀额定容量 × Valve rated capacity ×	0.1%	0.1%
使用温度 (°C) Operating temperature		-46 ~ +230	-46 ~ +538

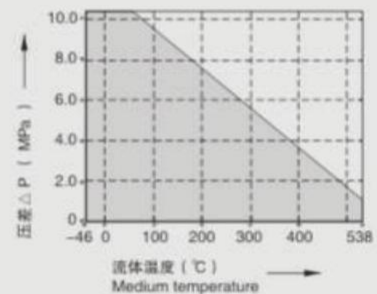
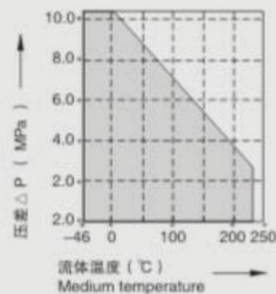
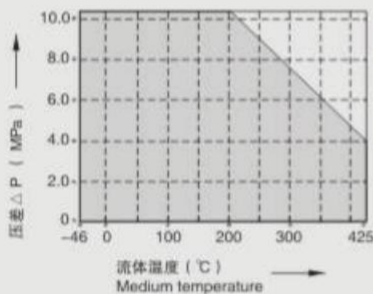
图2 阀内件材质 处理选定基准 Fig.2 trim material and treatment >>

2-1 阀笼、阀座的使用温度 压力范围 2-1.plug/seat operating pressure-temperature rating

2.1-1 阀笼 Cage : 17-4H 硬化处理 Hardening
阀芯 Plug : 410 热处理 heat treatment

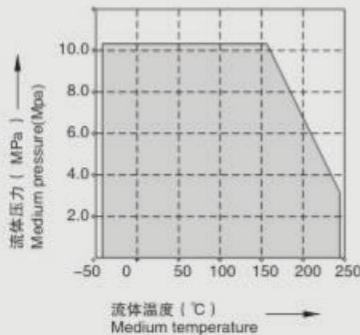
2.1-2 阀笼 Cage : 316/304
阀芯 Plug : 316/304

2.1-3 阀笼 Cage :
316 堆焊司太立合金 Bead welding stellite
阀芯 Plug :
316 堆焊司太立合金 Bead welding stellite

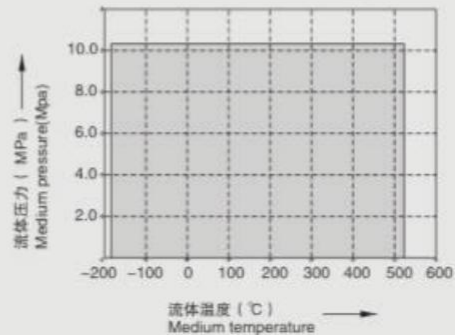


2-2 密封填料的使用温度 压力范围 2-2 packing operating pressure-temperature rating

2.2-1 强化聚四氟乙烯材料 V 型填料 V type RTFE



2.2-2 柔性石墨填料 Graphite



备注: 空化、闪蒸, 禁油及常处于关闭下的调节阀, 不管工作温度和压差多大, 建议硬化处理。

Remarks: The valve working in the condition of cavitation, flash, no oil and the valve always shut, no matter how much work temperature and pressure drops, Our proposal hardening treatment.

笼式双座调节阀 Cage Guided Double Seated Control Valve

表2 额定Cv值和行程 Table 2 CV and stroke >>

公称口径 DN mm	阀芯尺寸 Plug size mm	额定Cv值 Rated Cv		行程Stroke mm	公称口径 DN mm	阀芯尺寸 Plug size mm	额定Cv值 Rated Cv		行程Stroke mm
		等百分比EQ%	直线Linearity				等百分比EQ%	直线Linearity	
40	25	17	20	25	100	65	100	115	40
	32	25	30	25		80	135	150	40
	40	36	40	25		100	190	215	40
50	32	25	30	25	125	100	190	215	40
	40	36	40	25		125	280	315	60
	50	60	70	25	150	125	280	315	60
65	40	36	40	25		150	410	435	60
	50	60	70	25	200	150	410	435	60
	65	100	115	40		200	650	735	60
80	50	60	70	25	250	200	650	735	60
	65	100	115	40		250	950	1050	100
	80	135	150	40	300	250	950	1050	100
				300		1440	1400	100	

图3 流量特性 Fig 3 flow characteristic >>

等百分比特性 EQ%

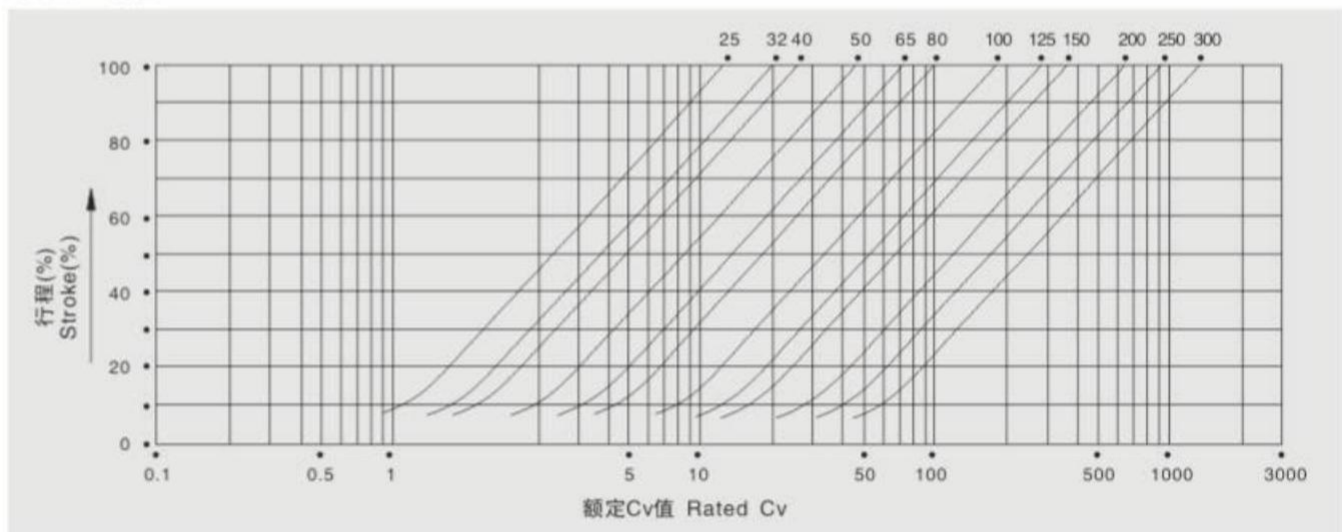


表3 控制阀最大允许压差(单位: MPa) Table 3 control valve allow able pressure drops(unit:MPa) >>

3-1 HA 系列薄膜式执行机构 Table 3-1 HA series diaphragm actuator

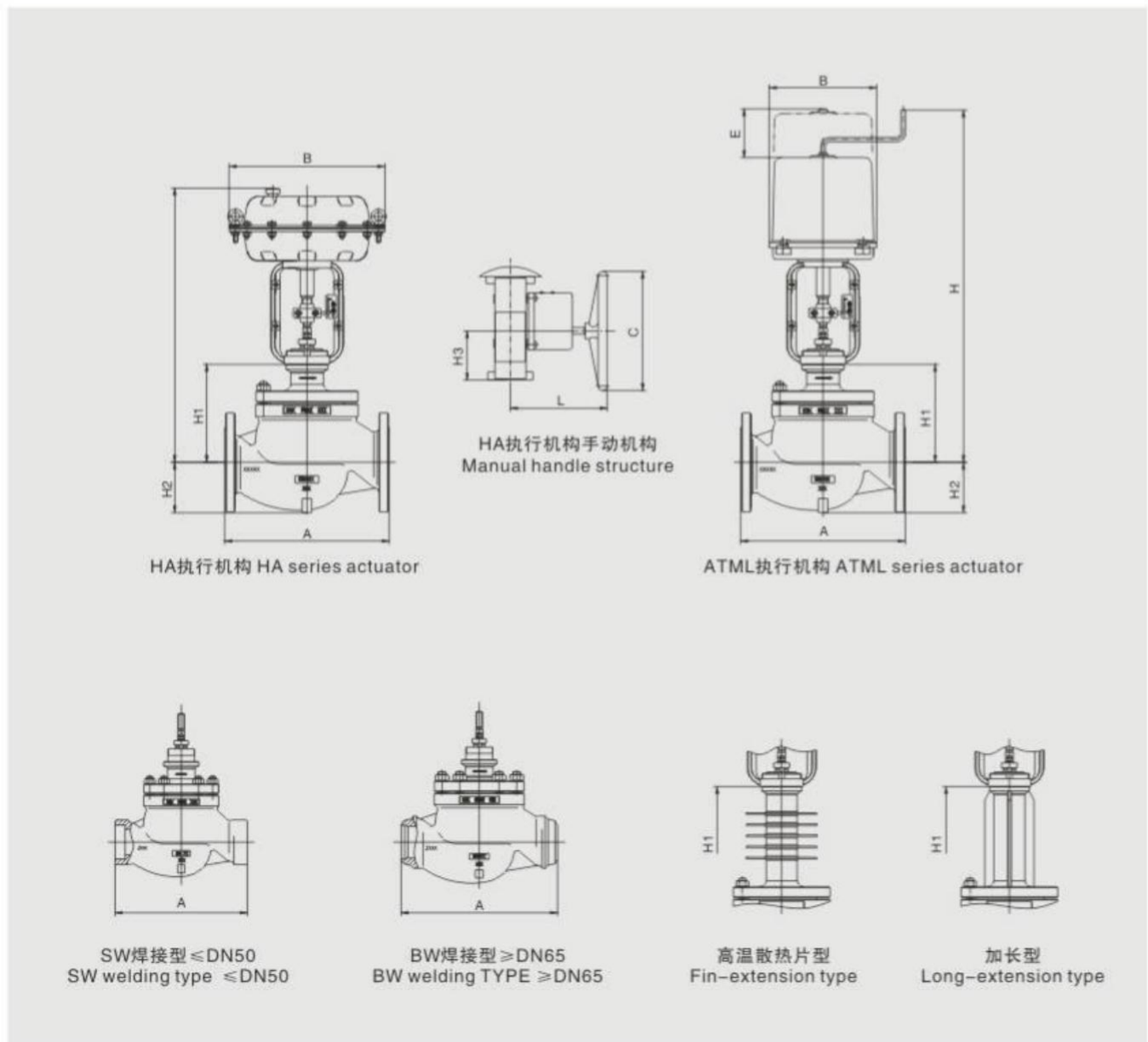
执行机构规格 Actuator type	气源压力 Air supply KPaG	弹簧范围 Spring range KPaG	阀座形式 Seat type	阀芯尺寸Plug size mm											
				40	50	65	80	100	125	150	200	250	300		
HA22 HA23	140	20-100	金属座 Metal seat	0.99	0.77										
	300	40-200D 80-240R	软座 Soft seat	6.90	5.70										
HA34	140	20-100	金属座 Metal seat			1.17	0.97	0.63							
	300	40-200D 80-240R	软座 Soft seat			7.88	6.92	5.78							
HA45	140	20-100	金属座 Metal seat						1.11	0.90	0.74				
	300	40-200D 80-240R	软座 Soft seat						7.90	6.92	5.10				
HA56	300	40-200D 80-240R	金属座 Metal seat										6.85	3.96	

笼式双座调节阀 Cage Guided Double Seated Control Valve

3-2 ATML 系列电子式电动执行机构 Table 3-2 ATML series solid state electronic actuator

执行机构规格 Actuator type	阀座形式 Seat type	阀芯尺寸 Plug size mm									
		40	50	65	80	100	125	150	200	250	300
ATMLSA-20	金属座 Metal seat	5.50	3.43								
ATMLSB-30	金属座 Metal seat	9.80	8.53								
ATMLSB-50	金属座 Metal seat	9.80	9.80	9.80	9.80	7.38					
ATMLSC-65	金属座 Metal seat					9.80	7.15	6.60			
ATMLSC-100	金属座 Metal seat							8.11	6.53	5.86	4.70
ATMLSC-160	金属座 Metal seat							9.8	8.43	7.20	6.28

图4 配执行机构及阀外形尺寸 Fig.4 Actuator and valve outline dimension



笼式双座调节阀 Cage Guided Double Seated Control Valve

配HA系列薄膜式执行机构(外形尺寸) HA series diaphragm actuator(dimensions)

单位: mm

阀门尺寸 DN mm	A			H2	标准型 Standard		散热型 Fin- extension type		加长型 Long- extension type		手轮机构 Handle wheel structure			B(φ)	执行机构 Actuator
	ANSI 150 PN1.6 JIS10K	ANSI 300 PN4.0 JIS30K	ANSI 600 PN6.3 PN10.0 JIS40K		H1	H	H1	H	H1	H	H3	C	L		
40	222	235	251	75	156	511	306	661	676	1031	135	250	240	285	HA23
						591		741							
50	254	267	286	85	162	517	312	667	682	1037	135	250	240	285	HA23
						597		747							
65	276	292	311	95	220	655	400	835	770	1205	138	250	300	360	HA34
						758		938							
80	298	317	337	105	232	667	412	847	782	1217	138	250	300	360	HA34
						770		950							
100	352	368	394	125	240	675	420	855	790	1225	138	250	300	360	HA34
						778		958							
125	400	400	420	145	284	822	504	1042	884	1422	138	300	320	470	HA45
						1034		1254							
150	451	473	508	165	312	850	532	1070	912	1450	138	300	320	470	HA45
						1062		1282							
200	543	568	610	190	344	882	564	1102	944	1482	138	300	320	470	HA45
						1094		1314							
250	673	708	752	235	462	1212	682	1432	1062	1812	158	400	380	590	HA56
300	737	775	819	265	520	1270	740	1490	1120	1870	158	400	380	590	HA56

配ATML系列电子式电动执行机构(外形尺寸) ATML series solid state electronic actuator(dimensions)

单位Unit: mm

阀门尺寸 DN mm	A			H2	标准型 Standard		散热型 Fin- extension type		加长型 Long- extension type		E	B(φ)	执行机构 Actuator
	ANSI 150 PN1.6 JIS10K	ANSI 300 PN4.0 JIS30K	ANSI 600 PN6.3 PN10.0 JIS40K		H1	H	H1	H	H1	H			
40	222	235	251	75	156	606	306	756	676	1126	130	280	ATML-A
						746		896					
50	254	267	286	85	162	612	312	762	682	1132	130	280	ATML-A
						752		902					
65	276	292	311	95	220	840	400	1020	770	1390	130	310	ATML-B
						1010		1190					
80	298	317	337	105	232	852	412	1032	782	1402	130	310	ATML-B
						1022		1202					
100	352	368	394	125	240	860	420	1040	790	1410	130	310	ATML-B
						1030		1210					
125	400	400	420	145	284	904	504	1124	884	1504	130	310	ATML-B
						1074		1294					
150	451	473	508	165	332	932	552	1152	932	1532	130	310	ATML-B
						1102		1322					
200	543	568	610	190	344	1134	564	1354	944	1734	165	360	ATML-C
250	673	708	752		462	1302	682	1522	1062	1902	165	360	ATML-D
300	737	775	819	235	520	1360	740	1580	1120	1960	165	360	ATML-D

笼式双座调节阀 Cage Guided Double Seated Control Valve

表4 控制阀重量(单位: kg) Table 4 control valve weight(unit: kg)

>>

公称口径 DN mm	压力等级 Body ratings			薄膜式执行机构 Diaphragm multi-spring type				电子式电动执行机构 Solid state electronic type			
	ANSI	JIS	PN	HA23	HA34	HA45	HA56	ATMLSA	ATMLSB	ATMLSC	ATMLSD
40	150	10K	1.6	30	42			36	46		
	300	20K、30K	4.0	33	45			39	49		
	600	40K	6.3	39	51			45	55		
50	150	10K	1.6	32	44			38	48		
	300	20K、30K	4.0	36	48			42	52		
	600	40K	6.3	42	54			48	58		
65	150	10K	1.6		56	76			60	100	
	300	20K、30K	4.0		60	80			64	104	
	600	40K	6.3		70	90			74	114	
80	150	10K	1.6		70	90			74	114	
	300	20K、30K	4.0		84	104			88	128	
	600	40K	6.3		98	118			102	142	
100	150	10K	1.6		92	112			96	136	
	300	20K、30K	4.0		106	126			110	150	
	600	40K	6.3		136	150			140	180	
125	150	10K	1.6			136	192		120	160	
	300	20K、30K	4.0			156	212		140	180	
	600	40K	6.3			196	252		180	220	
150	150	10K	1.6			156	212		140	180	
	300	20K、30K	4.0			186	242		170	210	
	600	40K	6.3			246	302		230	270	
200	150	10K	1.6			216	272			240	
	300	20K、30K	4.0			256	312			280	
	600	40K	6.3			356	412			380	
250	150	10K	1.6				392				370
	300	20K、30K	4.0				462				460
	600	40K	6.3				642				620
300	150	10K	1.6				542				530
	300	20K、30K	4.0				652				630
	600	40K	6.3				902				880

笼式平衡单座调节阀 Single Seat Cage Guided Control Valve

Z_DHMb 笼式平衡单座调节阀 Single seat cage guided control valve

Z_DHMb 笼式平衡单座调节阀是一种改进型压力平衡的单座调节阀，该阀笼上设有高性能的平衡密封环，具有流通能力大、泄漏量小、许用压差高、动作稳定、调节能性优越等优点。广泛用于工况条件苛刻等性能要求较高的场合。

Z_DHMb single seat cage guided balanced type control valve is a modified type of pressure balanced single seat control valve, the valve cage is provided with a high performance of balanced sealing ring, with the advantage of big flow capacity, leakage quantity is small, stable operation, adjust performance excellent and so on. It can be widely used in the occasion needs high performance.

技术参数和性能 Technical parameters and performance >>

标准本体部 Standard specification

型式Type	流体压力平衡型 Pressure balanced plug type
公称口径DN	40-400mm
公称压力PN	PN1.6、4.0、6.4、10.0MPa; JIS 10K、16K、20K、40K; Class 150、300、600Lb
阀体材料 Body material	WCB、WC6、WC9、LCB、CF8、CF8M、CF3M 各种材质温度压力·范围，请参见表1、附录 Each material's operating pressure-temperature limitation, see table 1 and the appendix
连接形式 Body connections	法兰式Flanged type: RF、FM、RJ、和TG; 焊接式Welding type: 承插焊SW(40-50mm); 对接焊BW(65-200mm); 法兰距 请参见图4 Face to face dimension see Fig.4 法兰标准按Flanged Standard: JB/T 79.1-94 /GB/T9113/ASME B16.5/HG/T20592/HG/T20615/JIS B2220
阀内件型式Trim type	单座平衡式阀芯; 整体式阀笼/分离式阀笼; 阀本体结构 请参见图1 Single seat balanced plug; integral cage/ Separate cage; Valve structure see Fig.1
上阀盖Bonnet	标准型Standards type: -29/-46- +230℃; 散热片型Fin-extension type: +230- +538℃; 加长型Long-extension type: -196 - -46℃
压盖型式Gland type	螺栓压紧式 Bolt pressing type
填料Packing	V型聚四氟乙烯填料, 柔性石墨填料。各种材质的使用温度·范围 请参见图2 V-shape PTFE packing, graphite packing, each material's operating pressure-temperature limitation, see Fig.2

执行机构 Actuator

名称Name	气动薄膜多弹簧式 Diaphragm multi-spring type	双作用气缸式 Double acting pneumatic type	电子式电动 Solid state electronic type
型号Type	HA	ZSA	ATML
用途Purpose	调节Modulation	调节Modulation	调节Modulation
正作用Direct action	气压增加阀闭Air to valve close	输入信号增加阀闭 Input signal increase to valve close	输入信号增加阀闭 Input signal increase to valve close
反作用Reverse action	气压增加阀开Air to valve open	输入信号增加阀开 Input signal increase to valve open	输入信号增加阀开 Input signal increase to valve open
供气压力或 供给电压 Air supply or Vote supply	供气压力(弹簧范围) Air supply(spring range) 140(20-100)KPaG 300(40-200)KPaG 300(80-240)KPaG	供气压力Air supply500KPaG 输入信号Input signal 4-20mADC	供给电压Power 220V AC 50Hz 输入信号Input signal 4-20mADC
性能指标 (带定位器) Performance index (with positioner)	滞后 Hysteresis	≤0.8%FS	≤0.5%FS
	直线性 Linearity	≤±2.0%FS	≤±1.0%FS
气源接口Connection	M16*1.5 (HA56 Rc1/2)	Rc3/8 (ZSA40 Rc1/2)	配线Connection 2-G1/2
允许环境温度 Ambient temperature	-30-70℃	-30-70℃	-10-60℃
表面涂层处理 Painting color	灰色Gray		
附件配置 Accessory allocation	定位器, 空气过滤减压阀, 电磁阀, 保位阀, 限位开关, 手操机构等 Positioned, air-set, solenoid valve, limit switch, lock up valve, manual handle, etc.		加热器Heater

笼式平衡单座调节阀 Single Seat Cage Guided Control Valve

性能 Performance

额定Cv值 Rated Cv value	请参见表2 See table 2
流量特性 Flow characteristics	等百分比和线性, 等百分比请参见图3 Equal Percentage and linear, Equal Percentage see Fig 3
泄漏量 Leakage	金属阀座符合标准ANSI B16.104 IV级, $\leq 10^{-4}$ 额定Cv; 软阀座 VI级 Metal seat conform ANSI B16.104-class IV ($\leq 10^{-4}$ Rated capacity of valve) Soft seat: class VI
可调比 Range ability	50: 1
允许压差 Allowable pressure drops	请参见表3 See table 3

表1 阀本体部材质 Table 1 valve body material >>

1-1 本体部材质: 碳钢 1-1 body material: carbon steel

阀体材质 Body material	WCB, WC6, WC9, LCB				
阀笼Cage	材质Material	17-4PH			304/316
	处理Treatment	析出硬化处理- Age hardening			镀硬铬HCr
阀芯Plug	材质Material	304/316	410	410	304/316
	处理Treatment	-	热处理- Heat treatment	热处理- Heat treatment	司太立合金 Overlaying Stellite alloy
阀座Seat	材质Material	304/316	316+RTFE	410	304/316
	处理Treatment	-	-	热处理- Heat treatment	司太立合金 Overlaying Stellite alloy
密封环Seal ring	材质Material	RTFE+316	RTFE+316	柔性石墨Grafoil	柔性石墨Grafoil
泄露等级Leakage	ANSI	ClassIV	ClassVI	ClassIV	ClassIV
	阀额定容量 × Valve rated capacity ×	0.01%	微气泡级 Micro bubbles	0.01%	0.01%
使用温度 (°C) Operating temperature	WCB	-29 ~ +230	-29 ~ +230	-29 ~ +425	-
	WC6/WC9	-	-	-	-29 ~ +538
	LCB	-46 ~ +230	-46 ~ +230	-46 ~ +350	-

1-2 本体部材质: 不锈钢 1-2 Body material: stainless steel

阀体材质 Body material	ZG0Cr18Ni9/CF8, ZG0Cr17Ni12Mo2/CF8M					
阀笼Cage	材质Material	316			316	
	处理Treatment	镀硬铬Hard chrome plated			全部司太立合金 Fully overlaying Stellite alloy	
阀芯Plug	材质Material	316	316	316	316	
	处理Treatment	-	-	司太立合金 Overlaying Stellite alloy	司太立合金 Overlaying Stellite alloy	全部司太立合金 Fully overlaying Stellite alloy
阀座Seat	材质Material	316	316+RTFE	316	316	
	处理Treatment	-	-	司太立合金 Overlaying Stellite alloy	司太立合金 Overlaying Stellite alloy	司太立合金 Overlaying Stellite alloy
密封环Seal ring	材质Material	RTFE+316	RTFE+316	RTFE+316	柔性石墨Grafoil	柔性石墨Grafoil
泄露等级Leakage	ANSI	ClassIV	ClassVI	ClassIV	ClassIV	
	阀额定容量 × Valve rated capacity ×	0.01%	微气泡级 Micro bubbles	0.01%	0.01%	0.01%
使用温度 (°C) Operating temperature		-196 ~ +230①	-196 ~ +230①	-196 ~ +230①	-196 ~ +538	-196 ~ +538

注: ①使用PCTFE 可用于-196°C, 常规RTFE 应在 $\geq -75^\circ\text{C}$ 介质中使用。

Notes: ① PCTFE can be used for -196°C , The conventional RTFE should be used in $\geq -75^\circ\text{C}$

笼式平衡单座调节阀 Single Seat Cage Guided Control Valve

图1 本体部结构 Fig.1 Valve section view

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图1.1 整体式阀笼 Integral cage

图1.2 分离式阀笼 Separate cage

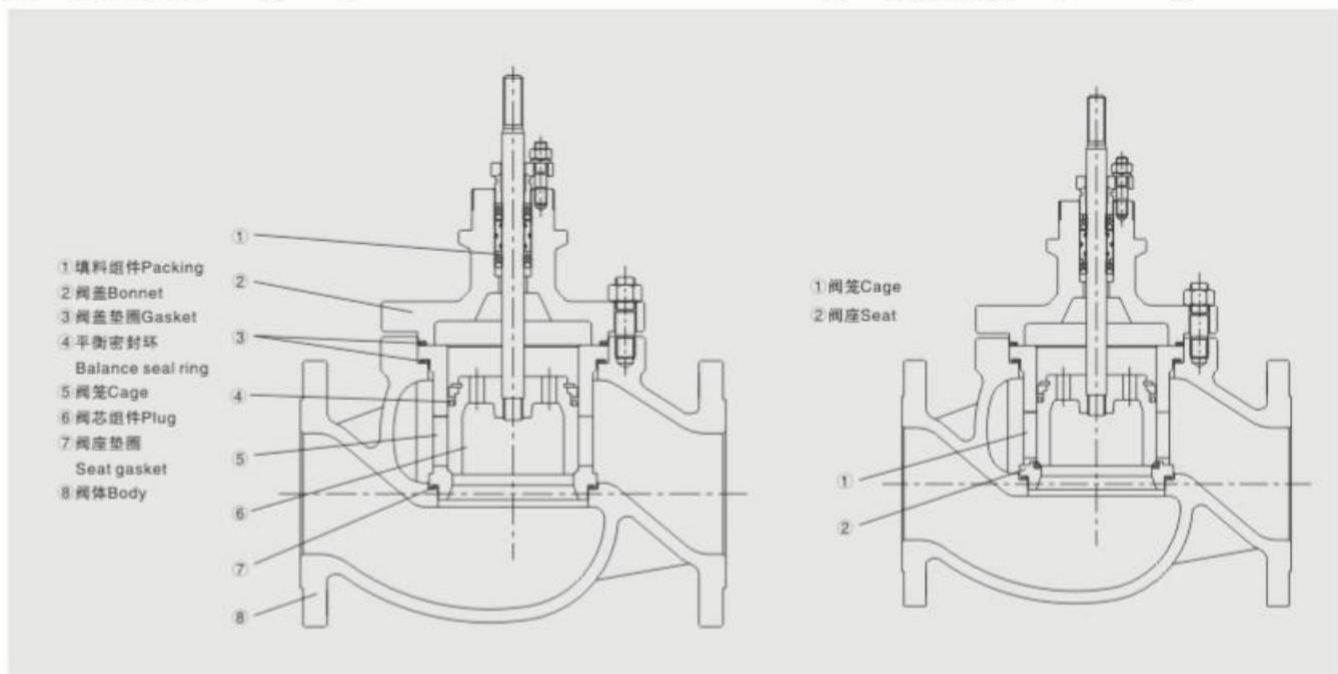
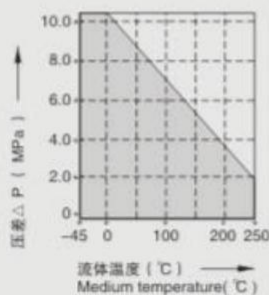


图2 阀内件材质 处理选定基准 Fig.2 trim material and treatment

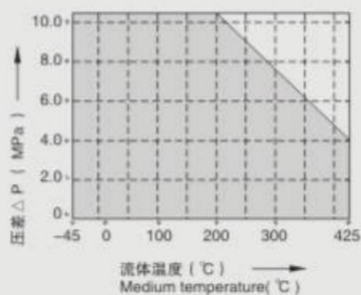
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2-1 阀芯、阀座的使用温度 压力范围 2-1. Plug/seat operating pressure-temperature rating

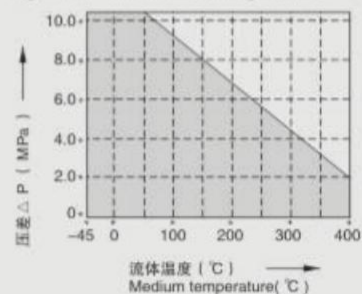
2.1-1 阀笼: 17-4PH 硬化处理
Cage: 17-4PH Hardening
阀芯 Plug: 304/316



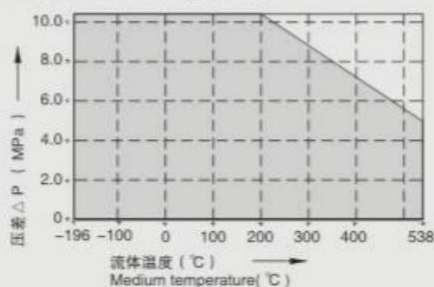
2.1-2 阀笼: 17-4PH 硬化处理
Cage: 17-4PH Hardening
阀芯、阀座: 410 热处理
Plug, Seat: 410 heat treatment



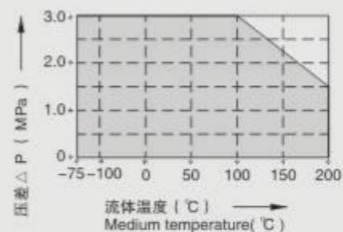
2.1-3 阀笼: 304/316 镀硬铬或堆焊合金
Cage: 304/316 bead welding Satellite or hard chrome plated
阀芯: 304/316 堆焊合金
Plug: 304/316 bead welding Stellite



2.1-4 阀笼: 304/316 镀硬铬或堆焊合金
Cage: 304/316 bead welding Satellite or hard chrome plated
阀芯: 304/316 堆焊合金
Plug: 304/316 bead welding Stellite

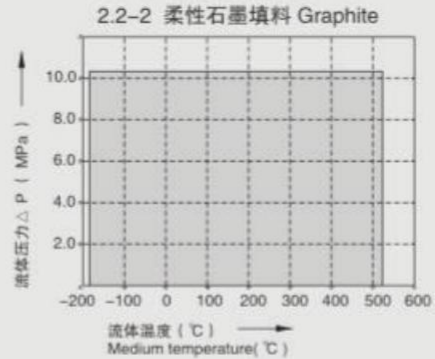
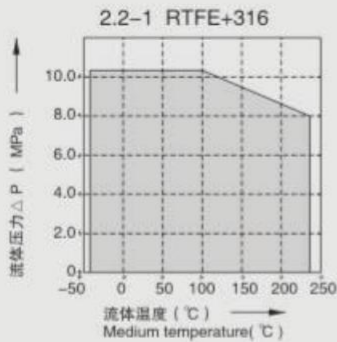


2.1-5 阀笼: 17-4PH 硬化处理或 316 镀硬铬
Cage: 17-4PH Hardening or 316 hard chrome plated
阀芯: 410 热处理或 316
Plug: 410 Heat treatment or 316
阀座 Seat: 316+RTFE



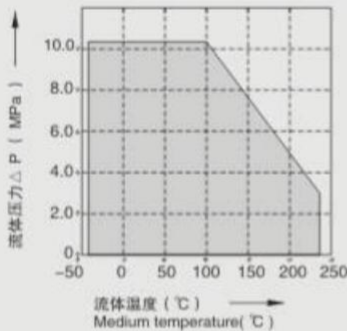
笼式平衡单座调节阀 Single Seat Cage Guided Control Valve

2-2 平衡密封环的使用温度 压力范围 2-2 Balance seal operating pressure-temperature rating

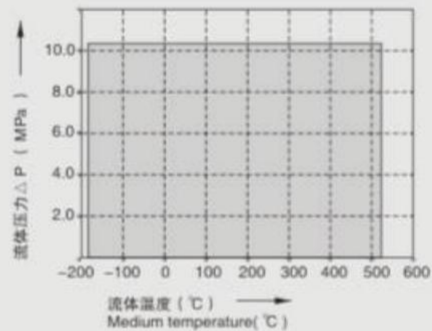


2-3 密封填料的使用温度 压力范围 2-3 packing operating pressure-temperature rating

2.3-1 强化聚四氟乙烯材料 V 型填料 V type RTFE



2.3-2 柔性石墨填料 Graphite



备注：空化、闪蒸、禁油及常处于关闭下的调节阀，不管工作温度和压差多大，建议硬化处理。

Remarks: The valve working in the condition of cavitation, flash, no oil and the valve always shut, no matter how much work temperature and pressure drops, Our proposal hardening treatment.

表2 额定Cv值和行程 Table 2 CV and stroke

公称口径 DN mm	阀芯尺寸 Plug size mm	额定Cv值 Rated Cv		行程 Stroke mm
		等百分比 EQ%	直线 Linearity	
40	25	17	20	25
	32	25	30	25
	40	36	40	25
50	32	25	30	25
	40	36	40	25
	50	60	70	25
65	40	36	40	40
	50	60	70	40
	65	100	115	40
80	50	60	70	40
	65	100	115	40
	80	135	150	40

>>>

公称口径 DN mm	阀芯尺寸 Plug size mm	额定Cv值 Rated Cv		行程 Stroke mm
		等百分比 EQ%	直线 Linearity	
100	65	100	115	40
	80	135	150	40
	100	190	215	40
125	100	190	215	40
	125	280	315	60
150	125	280	315	60
	150	410	435	60
200	150	410	435	60
	200	650	735	100
250	200	650	735	100
	250	950	1050	100
300	250	950	1050	100
	300	1440	1400	100
350	350	1750	1900	130
400	400	2200	2340	130

笼式平衡单座调节阀 Single Seat Cage Guided Control Valve

图3 流量特性 Fig 3 flow characteristic

等百分比特性 EQ%

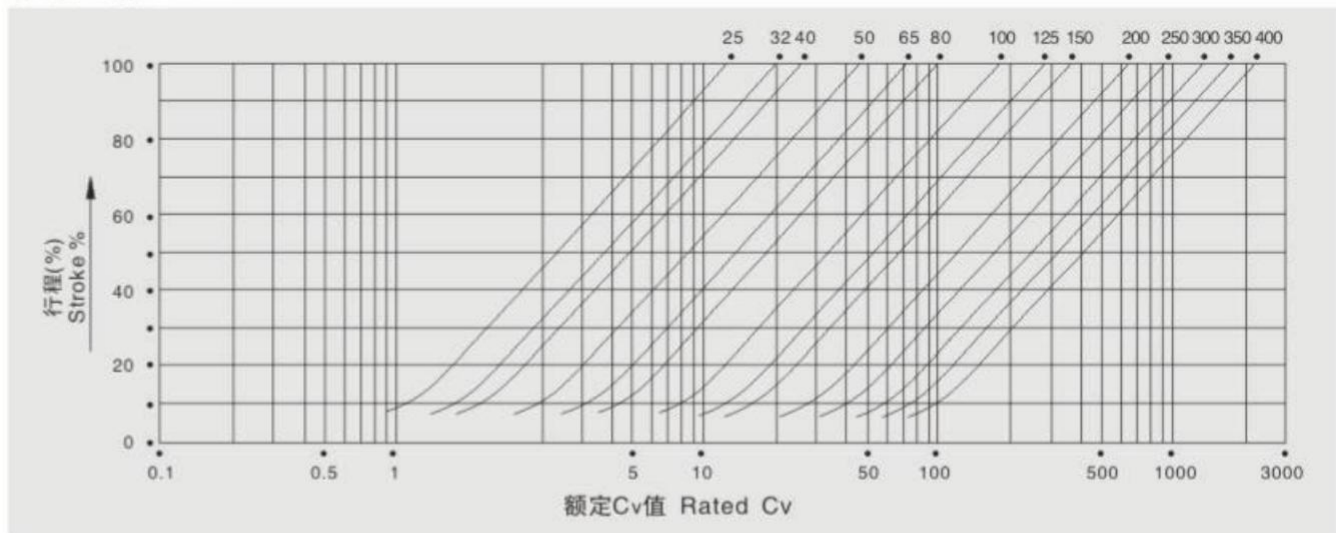


表3 控制阀最大允许压差(单位: MPa) Table 3 control valve allow able pressure drops(unit:MPa)

3-1 HA 系列薄膜式执行机构 Table 3-1 HA series diaphragm actuator

执行机构规格 Actuator type	气源压力 KPaG Air supply	弹簧范围 KPaG Spring range	阀座形式 Seat type	阀芯尺寸Plug size (mm)												
				25	40	50	65	80	100	125	150	200	250	300		
HA22 HA23	140	20-100	金属座Metal seat													
		40-200D 80-240R	软座Soft seat													
	300	20-100	金属座Metal seat	9.80	6.80	5.62										
		40-200D 80-240R	软座Soft seat	3.00	3.00	3.00										
HA34	140	20-100	金属座Metal seat													
		40-200D 80-240R	软座Soft seat													
	300	20-100	金属座Metal seat		9.80	9.80	7.62	6.82	5.65							
		40-200D 80-240R	软座Soft seat		3.00	3.00	3.00	3.00	3.00							
HA45	140	20-100	金属座Metal seat													
		40-200D 80-240R	软座Soft seat													
	300	20-100	金属座Metal seat				9.80	9.80	9.80	7.72	6.80	5.00				
		40-200D 80-240R	软座Soft seat				3.00	3.00	3.00	3.00	3.00	3.00				
HA56	300	40-200D 80-240R	金属座Metal seat							9.80	9.80	9.80	6.60	3.80		
			软座Soft seat							3.00	3.00	3.00	3.00	3.00	2.60	

3-2 ZSA 系列气缸式执行机构 Table 3-2 ZSA series cylinder actuator

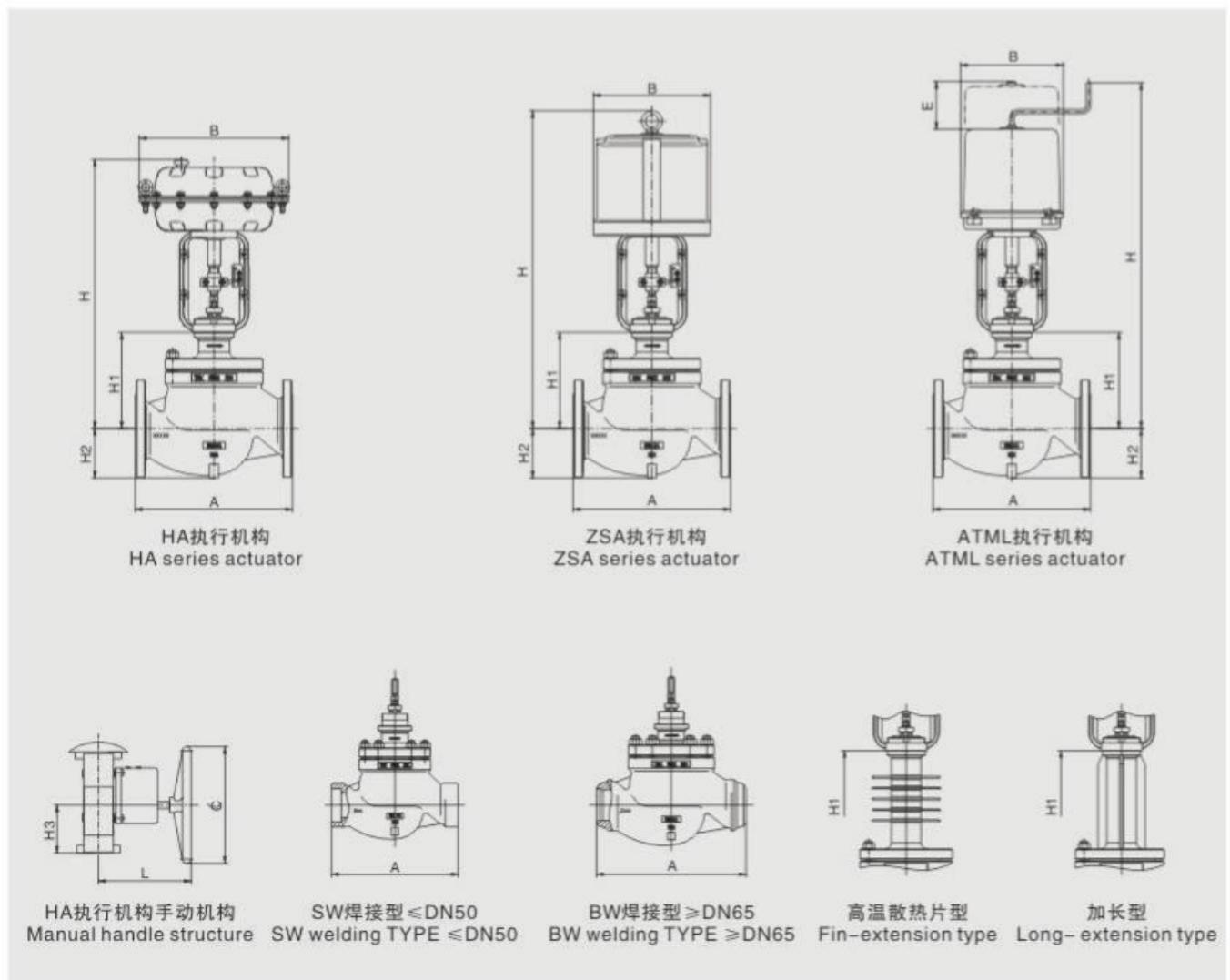
执行机构规格 Actuator type	气源压力 KPaG Air supply	阀座形式 Seat type	阀芯尺寸Plug size (mm)							
			125	150	200	250	300	350	400	
ZSA25D	400	金属座Metal seat	9.80	9.80	9.80					
		软座Soft seat	3.00	3.00	3.00					
ZSA32D	400	金属座Metal seat				9.80	9.80	9.80		
		软座Soft seat				3.00	3.00	3.00		
ZSA40D	400	金属座Metal seat							9.80	9.80
		软座Soft seat							3.00	3.00

笼式平衡单座调节阀 Single Seat Cage Guided Control Valve

3-3 ATML 系列电子式电动执行机构 Table 3-3 ATML series solid state electronic actuator

执行机构规格 Actuator type	阀座形式 Seat type	阀芯尺寸 Plug size (mm)													
		25	40	50	65	80	100	125	150	200	250	300	350	400	
ATMLSA-20	金属座 Metal seat	8.80	5.39	3.23											
	软座 Soft seat	3.00	3.00	3.00											
ATMLSB-30	金属座 Metal seat	9.80	9.80	8.33											
	软座 Soft seat	3.00	3.00	3.00											
ATMLSB-50	金属座 Metal seat		9.80	9.80	9.80	9.80	7.25	5.00	4.83						
	软座 Soft seat		3.00	3.00	3.00	3.00	3.00	3.00	3.00						
ATMLSC-65	金属座 Metal seat			9.80	9.80	9.80	9.80	7.25	6.40						
	软座 Soft seat			3.00	3.00	3.00	3.00	3.00	3.00						
ATMLSC-100	金属座 Metal seat							9.80	8.90	8.90	7.75	5.02			
	软座 Soft seat							3.00	3.00	3.00	3.00	3.00			
ATMLSC-160	金属座 Metal seat							9.80	9.80	9.80	9.80	6.90	4.35	2.72	
	软座 Soft seat							3.00	3.00	3.00	3.00	3.00	3.00	2.00	

图4 配执行机构及阀外形尺寸 Fig.4 Actuator and valve outline dimension



笼式平衡单座调节阀 Single Seat Cage Guided Control Valve

配HA系列薄膜式执行机构(外形尺寸) HA series diaphragm actuator (dimensions)

单位Unit : mm

阀门尺寸 DN	直通式阀体结构 A Straight type valve structure			H2	标准型 Standard		散热型 Fin-extension type		加长型 Long-extension type		手轮机构 Handle wheel structure			B(φ)	执行机构 Actuator
	ANSI 150 PN1.6 JIS10K	ANSI 300 PN4.0 JIS30K	ANSI 600 PN6.3 PN10.0 JIS40K		H1	H	H1	H	H1	H	H3	C	L		
40	222	235	251	75	156	511	306	661	676	1031	135	250	240	285	HA23
						591		741		1111		138	250		300
50	254	267	286	85	162	517	312	667	682	1037	135	250	240	285	HA23
						597		747		1117		138	250		300
65	276	292	311	95	220	655	400	835	770	1205	138	250	300	360	HA34
						758		938		1308		138	300		320
80	298	317	337	105	232	667	412	847	782	1217	138	250	300	360	HA34
						770		950		1320		138	300		320
100	352	368	394	125	240	675	420	855	790	1225	138	250	300	360	HA34
						778		958		1328		138	300		320
125	400	400	420	145	284	822	504	1042	884	1422	138	300	320	470	HA45
						1034		1254		1634		158	400		380
150	451	473	508	165	312	850	532	1070	912	1450	138	300	320	470	HA45
						1062		1282		1662		158	400		380
200	543	568	610	190	344	882	564	1102	944	1482	138	300	320	470	HA45
						1094		1314		1694		158	400		380
250	673	708	752	235	462	1212	682	1432	1062	1812	158	400	380	590	HA56
300	737	775	819	265	520	1270	740	1490	1120	1870	158	400	380	590	HA56

配ZSA系列双作用气缸式执行机构(外形尺寸) ZSA double acting cylinder actuator(dimensions)

单位Unit : mm

阀门尺寸 DN	A			H2	标准型 Standard		散热型 Fin-extension type		加长型 Long-extension type		B(φ)	执行机构 Actuator	
	ANSI 150 PN1.6 JIS10K	ANSI 300 PN4.0 JIS30K	ANSI 600 PN6.3 PN10.0 JIS40K		H1	H	H1	H	H1	H			
125	400	400	420	145	284	854	390	1074	770	1454	290	ZSA25	
						964		1184		1564		380	ZSA32
						1114		1334		1714		470	ZSA40
150	451	473	508	165	312	882	400	1102	780	1482	290	ZSA25	
						992		1212		1592		380	ZSA32
						1142		1362		1742		470	ZSA40
200	543	568	610	190	344	914	435	1134	815	1514	290	ZSA25	
						1024		1244		1624		380	ZSA32
						1174		1394		1774		470	ZSA40
250	673	708	752	235	462	1292	682	1512	1062	1892	470	ZSA40	
300	737	775	819	265	520	1350	740	1570	1120	1950	470	ZSA40	
350	889	927	972	300	620	1630	840	1850	1220	2230	590	ZSA50	
400	1016	1057	1108	345	710	1720	930	1940	1310	2320	590	ZSA50	

笼式平衡单座调节阀 Single Seat Cage Guided Control Valve

配ATML 系列电子式电动执行机构(外形尺寸) ATML series solid state electronic actuator(dimensions) 单位Unit : mm

阀门尺寸 DN mm	A			H2	标准型 Standard		散热型 Fin- extension type		加长型 Long- extension type		E	B(φ)	执行 机构 Actuator
	ANSI 150 PN1.6 JIS10K	ANSI 300 PN4.0 JIS30K	ANSI 600 PN6.3 PN10.0 JIS40K		H1	H	H1	H	H1	H			
40	222	235	251	75	156	606	306	756	676	1126	130	280	ATML-A
						746		896		1266			130
50	254	267	286	85	162	612	312	762	682	1132	130	280	ATML-A
						752		902		1272			130
65	276	292	311	95	220	840	400	1020	770	1390	130	310	ATML-B
						1010		1190		1560			165
80	298	317	337	105	232	852	412	1032	782	1402	130	310	ATML-B
						1022		1202		1572			165
100	352	368	394	125	240	860	420	1040	790	1410	130	310	ATML-B
						1030		1210		1580			165
125	400	400	420	145	284	904	504	1124	884	1504	130	310	ATML-B
						1074		1294		1674			165
150	451	473	508	165	332	932	552	1152	932	1532	130	310	ATML-B
						1102		1322		1702			165
200	543	568	610	190	344	1134	564	1354	944	1734	165	360	ATML-C
250	673	708	752	235	462	1302	682	1522	1062	1902	165	360	ATML-D
300	737	775	819	265	520	1360	740	1580	1120	1960	165	360	ATML-D

笼式平衡单座调节阀 Single Seat Cage Guided Control Valve

控制阀重量(单位: kg) Control valve weight(unit: kg)

公称通径 DN mm	压力等级 PN			薄膜式执行机构 Diaphragm multi-spring type				双动作气缸式执行机构 Double acting pneumatic type				电子式电动执行机构 Solid state electronic type			
	ANSI	JIS	PN	HA23	HA34	HA45	HA56	ZSA25	ZSA32	ZSA40	ZSA50	ATMLSA	ATMLSB	ATMLSC	ATMLSD
40	150	10K	1.6	30	42							36	46		
	300	20K、30K	4.0	33	45							39	49		
	600	40K	6.3	39	51							45	55		
50	150	10K	1.6	32	44							38	48		
	300	20K、30K	4.0	36	48							42	52		
	600	40K	6.3	42	54							48	58		
65	150	10K	1.6		56	76							60	100	
	300	20K、30K	4.0		60	80							64	104	
	600	40K	6.3		70	90							74	114	
80	150	10K	1.6		70	90							76	114	
	300	20K、30K	4.0		84	104							88	128	
	600	40K	6.3		98	118							102	142	
100	150	10K	1.6		92	112							96	136	
	300	20K、30K	4.0		106	126							110	150	
	600	40K	6.3		136	156							140	180	
125	150	10K	1.6			136	192	115	142	210			130	160	
	300	20K、30K	4.0			156	212	135	162	230			140	180	
	600	40K	6.3			196	252	175	202	270			180	220	
150	150	10K	1.6			156	212	135	162	230			140	180	
	300	20K、30K	4.0			186	242	165	192	260			170	220	
	600	40K	6.3			246	302	225	252	320			230	270	
200	150	10K	1.6			216	272	195	222	290				240	
	300	20K、30K	4.0			256	312	235	262	330				280	
	600	40K	6.3			356	412	335	362	430				380	
250	150	10K	1.6				392			410					370
	300	20K、30K	4.0				462			480					440
	600	40K	6.3				642			660					620
300	150	10K	1.6				542			570					520
	300	20K、30K	4.0				652			680					630
	600	40K	6.3				902			930					880
350	150	10K	1.6								810				
	300	20K、30K	4.0								950				
	600	40K	6.3								1430				
400	150	10K	1.6								1030				
	300	20K、30K	4.0								1330				
	600	40K	6.3								2090				

笼式多孔降压调节阀 Multi-hole Cage Guided Control Valve

Z_DHMd 笼式多孔降压调节阀 Multi-hole cage guided control valve

Z_DHMd 多孔降压笼式调节阀主要为降低可压缩气体的噪音而设计，为适应气体节流扩散与膨胀，阀笼上设有许多对称的小孔来降低压力降。具有降噪音、防空化、使用寿命长等综合性能稳定优良优点。广泛用于噪音高以及闪蒸和空化等工况条件苛刻的场合。

Z_DHMd multi-hole cage guided control valve is mainly designed for reduced compressible gas noise, and in order to adapt the gas throttling, expand and inflate, Cage is provided with many symmetric holes to reduce the pressure drops. It has the advantages of reducing noise, prevent cavitation, long service life and so on. It can be widely used in the demanding applications such as high noise, flashing and cavitation condition.

技术参数和性能 Technical parameters and performance >>

标准本体部 Standard specification

型式Type	流体压力平衡型 Pressure balanced plug type
公称口径DN	40-400mm
公称压力PN	PN1.6、4.0、6.4、10.0MPa; JIS 10K、16K、20K、40K; Class 150、300、600Lb
阀体材料 Body material	WCB、WC6、WC9、LCB、CF8、CF8M、CF3M 各种材质温度压力·范围, 请参见表1、附录 Each material's operating pressure-temperature limitation, see table 1 and the appendix
连接形式 Body connections	法兰式Flanged type: RF、FM、RJ、和TG; 焊接式Welding type: 承插焊SW(40-50mm); 对接焊BW(65-200mm); 法兰距 请参见图4 Face to face dimension see Fig.4 法兰标准按Flanged Standard: JB/T 79.1 -94 /GB/T9113/ASME B16.5/HG/T20592/HG/T20615/JIS B2220
阀内件型式Trim type	单座平衡式阀芯; 整体式阀笼/分离式阀笼; 阀本体结构 请参见图1 Single seat balanced plug; integral cage/ Separate cage; Valve structure see Fig.2
上阀盖Bonnet	标准型Standards type for: -29/-46- +230℃; 散热片型Fin-extension type: +230- +538℃; 加长型Long-extension type: -196 - -46℃
压盖型式Gland type	螺栓压紧式 Bolt pressing type
填料Packing	V型聚四氟乙烯填料, 柔性石墨填料。各种材质的使用温度·范围 请参见图2 V-shape PTFE packing, graphite packing each material as to the operating pressure-temperature limitation, see Fig.2

执行机构 Actuator

名称Name	气动薄膜多弹簧式 Diaphragm multi-spring type	双作用气缸式 Double acting pneumatic type	电子式电动 Solid state electronic type
型号Type	HA	ZSA	ATML
用途Purpose	调节Modulation	调节Modulation	调节Modulation
正作用Direct action	气压增加阀闭Air to valve close	输入信号增加阀闭 Input signal increase to valve close	输入信号增加阀闭 Input signal increase to valve close
反作用 Reverse action	气压增加阀开Air to valve open	输入信号增加阀开 Input signal increase to valve open	输入信号增加阀开 Input signal increase to valve open
供气压力或供给电压 Air supply or Vote supply	供气压力(弹簧范围) Air supply(spring range) 140(20-100)KPaG 300(40-200)KPaG 300(80-240)KPaG	供气压力Air supply500KPaG 输入信号Input signal 4-20mADC	供给电压Power220V AC 50Hz 输入信号Input signal 4-20mADC
性能指标 (带定位器) Performance index (with positioner)	滞后 Hysteresis	≤0.8%FS	≤0.5%FS
	直线性 Linearity	≤±2.0%FS	≤±1.0%FS
气源接口 Connection	M16*1.5 (HA56 Rc1/2)	Rc3/8 (ZSA40 Rc1/2)	配线Connection 2-G1/2
允许环境温度 Ambient temperature	-30-70℃	-30-70℃	-10-60℃
表面涂层处理 Painting color	灰色 Gray		
附件配置 Accessory allocation	定位器, 空气过滤减压阀, 电磁阀, 限位阀, 阀位变送器, 限位开关, 手操机构等 Positioned, air-set, solenoid valve, limit switch, lock up valve, manual handle		加热器 Heater

笼式多孔降压调节阀 Multi-hole Cage Guided Control Valve

性能 Performance

额定Cv值 Rated Cv value	请参见表2 See table 2
流量特性 Flow characteristics	线性和改良等百分比 Equal Percentage and linear
泄漏量 Leakage	金属阀座符合标准ANSI B16.104 IV级, $\leq 10^{-4}$ 额定Cv; 软阀座 VI级 Metal seat conform ANSI B16.104-class IV ($\leq 10^{-4}$ Rated capacity of valve); Soft seat: class VI
可调比 Range ability	50: 1
允许压差 Allowable pressure drops	请参见表3 See table 3

表1 阀本体部材质 Table 1 valve body material >>

1-1 本体部材质: 碳钢 1-1 body material: carbon steel

阀体材质 Body material	WCB、WC6、WC9、LCB				
阀笼Cage	材质Material	17-4PH			304/316
	处理Treatment	析出硬化处理- Age hardening			-
阀芯Plug	材质Material	304/316	410	410	304/316
	处理Treatment	-	热处理- Heat treatment		司太立合金 Overlaying Stellite alloy
阀座Seat	材质Material	304/316	316+RTFE	410	304/316
	处理Treatment	-	-	热处理-Heat treatment	司太立合金 Overlaying Stellite alloy
密封环Seal ring	材质Material	RTFE+316	RTFE+316	柔性石墨Grafoil	柔性石墨Grafoil
泄露等级Leakage	ANSI	ClassIV	ClassVI	ClassIV	ClassIV
	阀额定容量 × Valve rated capacity ×	0.01%	微气泡级 Micro bubbles	0.01%	0.01%
使用温度 (°C) Operating temperature	WCB	-29 ~ +230	-29 ~ +200	-29 ~ +425	-
	WC6/WC9	-	-	-	-29 ~ +538
	LCB	-46 ~ +230	-46 ~ +200	-46 ~ +350	-

1-2 本体部材质: 不锈钢 1-2 Body material: stainless steel

阀体材质 Body material	ZG0Cr18Ni9/CF8、ZG0Cr17Ni12Mo2/CF8M				
阀笼Cage	材质Material	316			
	处理Treatment	-			
阀芯Plug	材质Material	316	316	316	316
	处理Treatment	镀硬铬Hard chrome plated		司太立合金 Overlaying Stellite alloy	
阀座Seat	材质Material	316	316+RTFE	316	316
	处理Treatment	-	-	司太立合金 Overlaying Stellite alloy	
密封环Seal ring	材质Material	RTFE+316	RTFE+316	RTFE+316	柔性石墨Grafoil
泄露等级Leakage	ANSI	ClassIV	ClassVI	ClassIV	ClassIV
	阀额定容量 × Valve rated capacity ×	0.01%	微气泡级 Micro bubbles	0.01%	0.01%
使用温度 (°C) Operating temperature	-196 ~ +230①	-196 ~ +200①	-196 ~ +230①	-196 ~ +538	-196 ~ +538

注: ① 使用PCTFE 可用于-196°C, 常规RTFE 应在 $\geq -75^\circ\text{C}$ 介质中使用。

Notes: ① PCTFE can be used for -196°C, The conventional RTFE should be used in $\geq -75^\circ\text{C}$

笼式多孔降压调节阀 Multi-hole Cage Guided Control Valve

图1 本体部结构 Fig.1 Valve section view >>

图1.1 整体式阀笼 Fig.1.1 Integral cage

图1.2 分离式阀笼 Fig.1.2 Separate cage

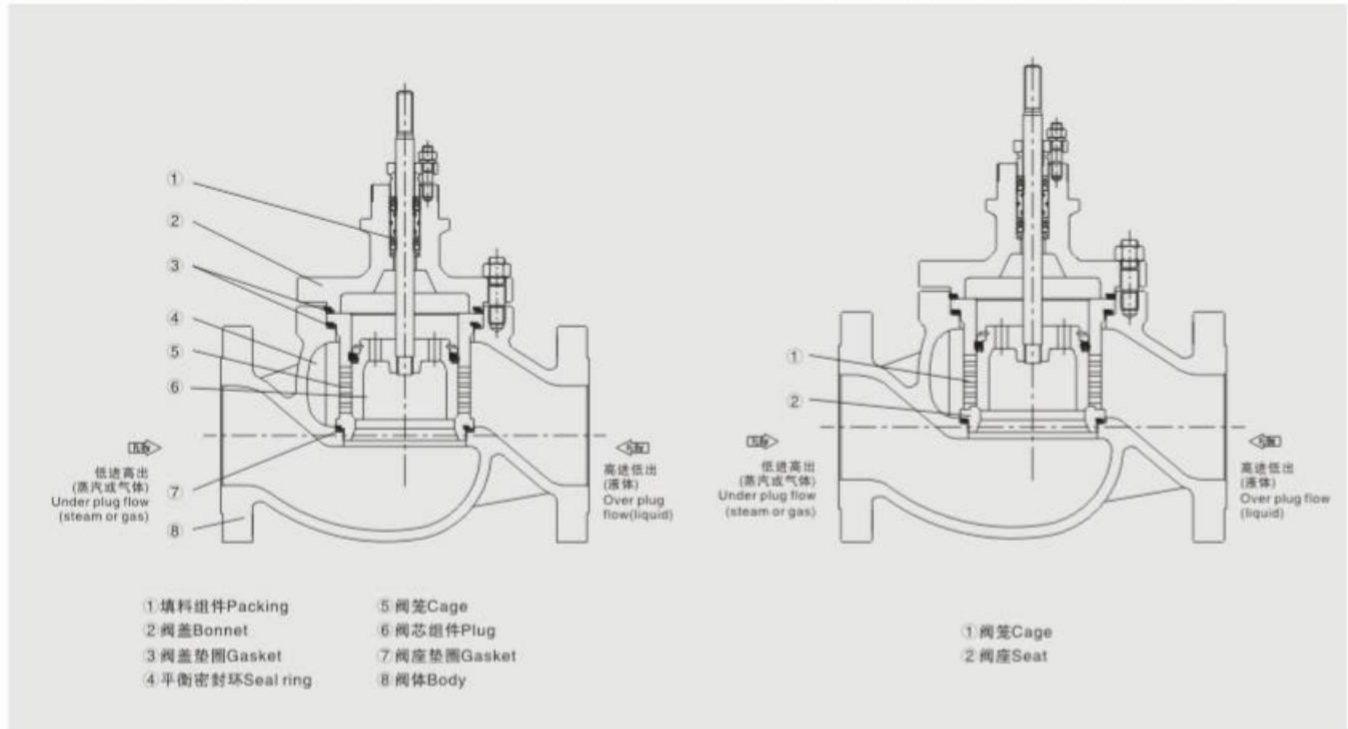
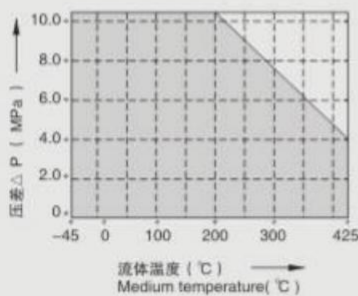


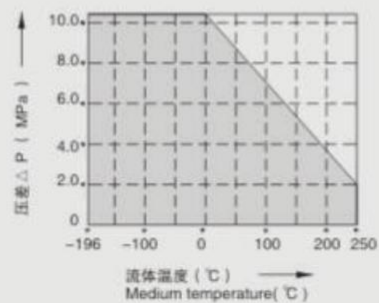
图2 阀内件材质 处理选定基准 Fig.2 trim material treatment and choice >>

2-1 阀芯、阀座的使用温度 压力范围 2-1. plug/seat operating pressure-temperature rating

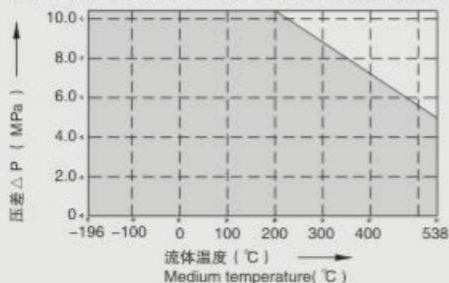
2.1-1 阀笼 Cage : 17-4PH 硬化处理 Hardening
 阀芯 Plug : 410C 热处理 Heat treatment



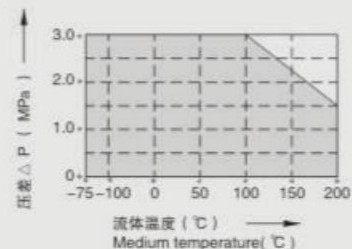
2.1-2 阀笼 Cage : 304/316
 阀芯 Plug : 410C/316 镀硬铬 Bead welding satellite



2.1-4 阀笼 Cage : 316/INCONEL
 阀芯 Plug : 316 镀硬铬或堆焊合金 316 Bead welding satellite or bead welding stellite

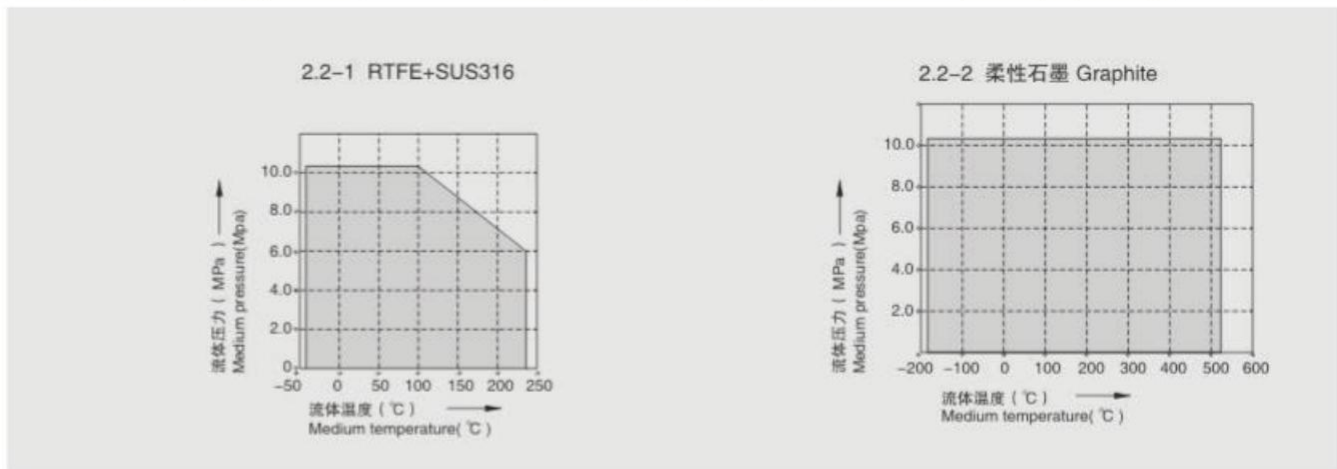


2.1-5 阀笼 Cage : 17-4PH 硬化或 Hardening or 316
 阀芯 Plug : 410/316 镀硬铬 Bead welding satellite
 阀座 Seat : 416B+RTFE

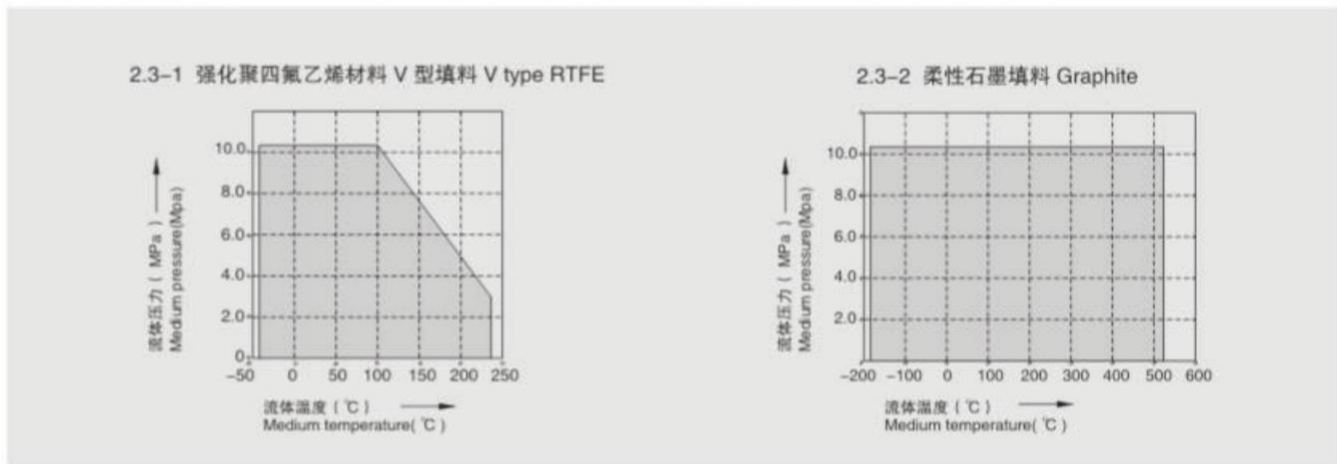


笼式多孔降压调节阀 Multi-hole Cage Guided Control Valve

2-2 平衡密封环的使用温度 压力范围 2-2 Balance seal ring operating pressure-temperature rating



2-3 密封填料的使用温度 压力范围 2-3 packing operating pressure-temperature rating



备注：空化、闪蒸、禁油及常处于关闭下的调节阀，不管工作温度和压差多大，建议硬化处理。
Remarks: The valve working in the condition of cavitation, flash, no oil and the valve always shut, no matter how much work temperature and pressure drops, Our proposal hardening treatment.

表2 额定Cv值和行程 Table 2 CV and stroke

公称通径 DN mm	阀芯尺寸 Plug size mm	额定Cv值 Rated Cv		行程 Stroke mm
		等百分比 EQ%	直线 Linearity	
40	25	13	17	25
	32	20	25	25
	40	31	34	25
50	32	20	25	25
	40	31	43	25
	50	54	69	25
65	40	31	43	40
	50	54	69	40
	65	83	95	40
80	50	54	69	40
	65	83	95	40
	80	100	120	40

公称通径 DN mm	阀芯尺寸 Plug size mm	额定Cv值 Rated Cv		行程 Stroke mm
		等百分比 EQ%	直线 Linearity	
100	65	83	95	40
	80	100	120	40
	100	166	200	40
125	100	166	200	60
	125	250	310	60
150	125	250	310	60
	150	320	390	60
200	150	320	390	60
	200	580	690	60
250	200	580	690	100
	250	750	910	100
300	250	750	910	100
	300	1000	1230	100
350	350	1335	1560	130
400	400	1550	1890	130

笼式多孔降压调节阀 Multi-hole Cage Guided Control Valve

表3 控制阀最大允许压差(单位: MPa) Table 3 control valve allow able pressure drops(unit: MPa) >>

3-1 HA 系列薄膜式执行机构 Table 3-1 HA series diaphragm actuator

执行机构规格 Actuator type	气源压力 KPaG Air supply	弹簧范围 KPaG Spring range	阀座形式 Seat type	阀芯尺寸Plug size mm											
				25	40	50	65	80	100	125	150	200	250	300	
HA22 HA23	140	20-100	金属座Metal seat												
			软座Soft seat												
	300	40-200D 80-240R	金属座Metal seat	9.80	6.80	5.62									
			软座Soft seat	3.00	3.00	3.00									
HA34	140	20-100	金属座Metal seat												
			软座Soft seat												
	300	40-200D 80-240R	金属座Metal seat		9.80	9.80	7.62	6.82	5.65						
			软座Soft seat		3.00	3.00	3.00	3.00	3.00						
HA45	140	20-100	金属座Metal seat												
			软座Soft seat												
	300	40-200D 80-240R	金属座Metal seat				9.80	9.80	9.80	7.72	6.80	5.00			
			软座Soft seat				3.00	3.00	3.00	3.00	3.00	3.00			
HA56	300	40-200D 80-240R	金属座Metal seat							9.80	9.80	9.80	6.60	3.80	
			软座Soft seat							3.00	3.00	3.00	3.00	2.60	

3-2 ZSA 系列气缸式执行机构 Table 3-2 ZSA series cylinder actuator

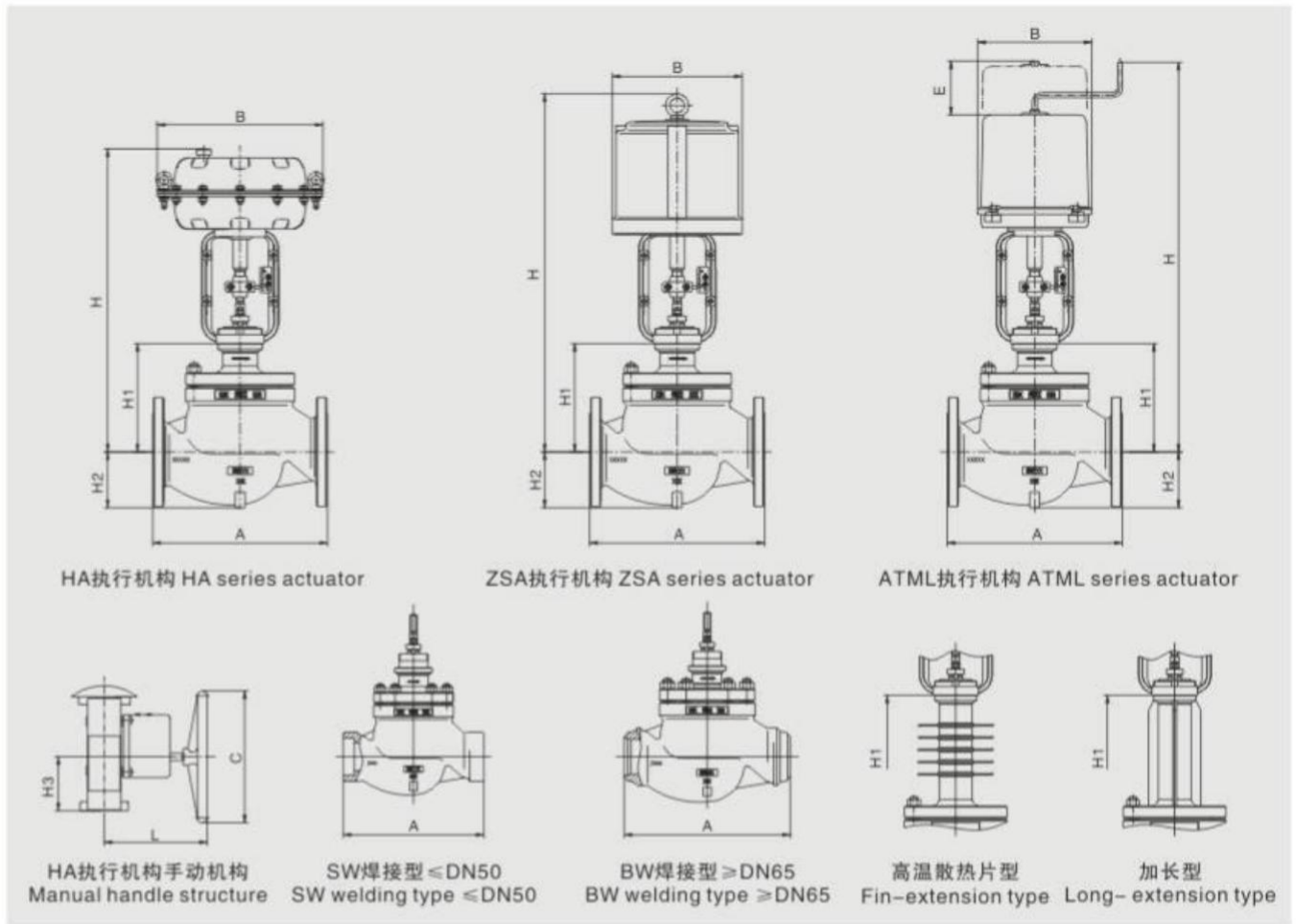
执行机构规格 Actuator type	气源压力 KPaG Air supply	阀座形式 Seat type	阀芯尺寸Plug size mm							
			125	150	200	250	300	350	400	
ZSA25D	400	金属座Metal seat	9.80	9.80	9.80					
		软座Soft seat	3.00	3.00	3.00					
ZSA32D	400	金属座Metal seat				9.80	9.80	9.80		
		软座Soft seat				3.00	3.00	3.00		
ZSA40D	400	金属座Metal seat							9.80	9.80
		软座Soft seat							3.00	3.00

3-3 ATML 系列全电子式执行机构 Table 3-3 ATML series solid state electronic actuator

执行机构规格 Actuator type	阀座形式 Seat type	阀芯尺寸Plug size mm												
		25	40	50	65	80	100	125	150	200	250	300	350	400
ATMLSA-20	金属座Metal seat	8.80	5.39	3.23										
	软座Soft seat	3.00	3.00	3.00										
ATMLSB-30	金属座Metal seat	9.80	9.80	8.33										
	软座Soft seat	3.00	3.00	3.00										
ATMLSB-50	金属座Metal seat		9.80	9.80	9.80	9.80	7.25	5.00	4.83					
	软座Soft seat		3.00	3.00	3.00	3.00	3.00	3.00	3.00					
ATMLSC-65	金属座Metal seat			9.80	9.80	9.80	9.80	7.25	6.40					
	软座Soft seat			3.00	3.00	3.00	3.00	3.00	3.00					
ATMLSC-100	金属座Metal seat							9.80	8.90	8.90	7.75	5.02		
	软座Soft seat							3.00	3.00	3.00	3.00	3.00		
ATMLSC-160	金属座Metal seat							9.80	9.80	9.80	9.80	6.90	4.35	2.72
	软座Soft seat							3.00	3.00	3.00	3.00	3.00	3.00	2.00

笼式多孔降压调节阀 Multi-hole Cage Guided Control Valve

图3 配执行机构及阀外形尺寸 Actuator and valve outline dimension



配HA系列薄膜式执行机构(外形尺寸) HA series diaphragm actuator (dimensions)

单位Unit: mm

阀门尺寸 DN	直通式阀体结构 A Straight type valve structure			H2	标准型 Standard		散热型 Fin-extension type		加长型 Long-extension type		手轮机构 Handle wheel structure			B(φ)	执行机构 Actuator
	ANSI 150 PN1.6 JIS10K	ANSI 300 PN4.0 JIS30K	ANSI 600 PN6.3 PN10.0 JIS40K		H1	H	H1	H	H1	H	H3	C	L		
	40	222	235		251	75	156	511 591	306	661 741	676	1031 1111	135 138		
50	254	267	286	85	162	517 597	312	667 747	682	1037 1117	135 138	250 250	240 300	285 360	HA23 HA34
65	276	292	311	95	220	655 758	400	835 938	770	1205 1308	138 138	250 300	300 320	360 470	HA34 HA45
80	298	317	337	105	232	667 770	412	847 950	782	1217 1320	138 138	250 300	300 320	360 470	HA34 HA45
100	352	368	394	125	240	675 778	420	855 958	790	1225 1328	138 138	250 300	300 320	360 470	HA34 HA45
125	400	400	420	145	284	822 1034	504	1042 1254	884	1422 1634	138 158	300 400	320 380	470 590	HA45 HA56
150	451	473	508	165	312	850 1062	532	1070 1282	912	1450 1662	138 158	300 400	320 380	470 590	HA45 HA56
200	543	568	610	190	344	882 1094	564	1102 1314	944	1482 1694	138 158	300 400	320 380	470 590	HA45 HA56
250	673	708	752	235	462	1212	682	1432	1062	1812	158	400	380	590	HA56
300	737	775	819	265	520	1270	740	1490	1120	1870	158	400	380	590	HA56

笼式多孔降压调节阀 Multi-hole Cage Guided Control Valve

配ZSA系列双作用气缸式执行机构(外形尺寸) ZSA double action cylinder actuator(dimensions)

单位Unit : mm

阀门尺寸 DN	A			H2	标准型 Standard		散热型 Fin- extension type		加长型 Long- extension type		B(φ)	执行机构 Actuator
	ANSI 150 PN1.6 JIS10K	ANSI 300 PN4.0 JIS30K	ANSI 600 PN6.3 PN10.0 JIS40K		H1	H	H1	H	H1	H		
125	400	400	420	145	284	854	390	1074	770	1454	290	ZSA25
						964		1184		1564	380	ZSA32
						1114		1334		1714	470	ZSA40
150	451	473	508	165	312	882	400	1102	780	1482	290	ZSA25
						992		1212		1592	380	ZSA32
						1142		1362		1742	470	ZSA40
200	543	568	610	190	344	914	435	1134	815	1514	290	ZSA25
						1024		1244		1624	380	ZSA32
						1174		1394		1774	470	ZSA40
250	673	708	752	235	462	1292	682	1512	1062	1892	470	ZSA40
300	737	775	819	265	520	1350	740	1570	1120	1950	470	ZSA40
350	889	927	972	300	620	1630	840	1850	1220	2230	590	ZSA50
400	1016	1057	1108	345	710	1720	930	1940	1310	2320	590	ZSA50

配ATML 系列电子式执行机构(外形尺寸) ATML series solid state electronic actuator(dimensions)

单位Unit : mm

阀门尺寸 DN	A			H2	标准型 Standard		散热型 Fin- extension type		加长型 Long- extension type		E	B(φ)	执行机构 Actuator
	ANSI 150 PN1.6 JIS10K	ANSI 300 PN4.0 JIS30K	ANSI 600 PN6.3 PN10.0 JIS40K		H1	H	H1	H	H1	H			
40	222	235	251	75	156	606	306	756	676	1126	130	280	ATML-A
						746		896		1266	130	310	ATML-B
50	254	267	286	85	162	612	312	762	682	1132	130	280	ATML-A
						752		902		1272	130	310	ATML-B
65	276	292	311	95	220	840	400	1020	770	1390	130	310	ATML-B
						1010		1190		1560	165	360	ATML-C
80	298	317	337	105	232	852	412	1032	782	1402	130	310	ATML-B
						1022		1202		1572	165	360	ATML-C
100	352	368	394	125	240	860	420	1040	790	1410	130	310	ATML-B
						1030		1210		1580	165	360	ATML-C
125	400	400	420	145	284	904	504	1124	884	1504	130	310	ATML-B
						1074		1294		1674	165	360	ATML-C
150	451	473	508	165	332	932	552	1152	932	1532	130	310	ATML-B
						1102		1322		1702	165	360	ATML-C
200	543	568	610	190	344	1134	564	1354	944	1734	165	360	ATML-C
250	673	708	752	235	462	1302	682	1522	1062	1902	165	360	ATML-D
300	737	775	819	265	520	1360	740	1580	1120	1960	165	360	ATML-D

笼式多孔降压调节阀 Multi-hole Cage Guided Control Valve

表4 控制阀重量(单位: kg) Table 4 control valve weight(unit: kg) >>

公称口径 DN mm	压力等级 PN			薄膜式执行机构 Diaphragm multi-spring type				双动作气缸式执行机构 Double acting pneumatic type				电子式电动执行机构 Solid state electronic type			
	ANSI	JIS	PN	HA23	HA34	HA45	HA56	ZSA25	ZSA32	ZSA40	ZSA50	ATMLSA	ATMLSB	ATMLSC	ATMLSD
40	150	10K	1.6	30	42							36	46		
	300	20K、30K	4.0	33	45							39	49		
	600	40K	6.3	39	51							45	55		
50	150	10K	1.6	32	44							38	48		
	300	20K、30K	4.0	36	48							42	52		
	600	40K	6.3	42	54							48	58		
65	150	10K	1.6		56	76							60	100	
	300	20K、30K	4.0		60	80							64	104	
	600	40K	6.3		70	90							74	114	
80	150	10K	1.6		70	90							76	114	
	300	20K、30K	4.0		84	104							88	128	
	600	40K	6.3		98	118							102	142	
100	150	10K	1.6		92	112							96	136	
	300	20K、30K	4.0		106	126							110	150	
	600	40K	6.3		136	156							140	180	
125	150	10K	1.6			136	192	115	142	210			130	160	
	300	20K、30K	4.0			156	212	135	162	230			140	180	
	600	40K	6.3			196	252	175	202	270			180	220	
150	150	10K	1.6			156	212	135	162	230			140	180	
	300	20K、30K	4.0			186	242	165	192	260			170	220	
	600	40K	6.3			246	302	225	252	320			230	270	
200	150	10K	1.6			216	272	195	222	290				240	
	300	20K、30K	4.0			256	312	235	262	330				280	
	600	40K	6.3			356	412	335	362	430				380	
250	150	10K	1.6				392			410					370
	300	20K、30K	4.0				462			480					440
	600	40K	6.3				642			660					620
300	150	10K	1.6				542			570					520
	300	20K、30K	4.0				652			680					630
	600	40K	6.3				902			930					880
350	150	10K	1.6								810				
	300	20K、30K	4.0								950				
	600	40K	6.3								1430				
400	150	10K	1.6								1030				
	300	20K、30K	4.0								1330				
	600	40K	6.3								2090				

笼式多级调节阀 Cage Guided Multi-stage Control Valve

Z_D^JHMj 笼式多级调节阀 Cage guided multi-stage control valve

Z_D^JHMj 系列笼式多级调节阀采用多级式阀笼，完全控制流经阀内件的流体流速，大幅度降低了高压差气体产生噪音，有效防止液体产生的气蚀现象。具有无气蚀损伤、低噪音、防空化、综合性能稳定等优点。广泛用于噪音高及气蚀严重等工况条件苛刻的场合。

Z_D^JHMj series cage guided type multi-stage control valve uses multi-stage valve cage. It can full control of fluid flow rate through the valve channel, greatly reducing the noise created by the high pressure difference of gas, effectively prevent the phenomenon of liquid cavitation. It has the advantages of no cavitation damage, low noise, comprehensive performance stability and so on. It can be widely used in the occasions of high noise and has severe cavitation condition.

技术参数和性能 Technical parameters and performance >>

标准本体部 Standard specification

型式Type	流体压力平衡型 Pressure balanced plug type
公称口径DN	40-400mm
公称压力PN	PN1.6、4.0、6.4、10.0MPa; JIS 10K、16K、20K、40K; Class 150、300、600Lb
阀体材料 Body material	WCB、WC6、WC9、LCB、CF8、CF8M、CF3M 各种材质温度压力·范围，请参见表1、附录 Each material's operating pressure-temperature limitation, see table 1 and the appendix
连接形式 Body connections	法兰式Flanged type: RF、FM、RJ、TG; 焊接式Welding type: 承插焊SW(40-50mm); 对接焊BW(65-400mm); 法兰距 请参见图3 Face to face dimension see table 3 法兰标准按Flanged Standard: JB/T 79.1-94 /GB/T9113/ASME B16.5/HG/T20592/HG/T20615/JIS B2220
阀内件型式Trim type	单座平衡式阀芯; 分离式阀笼; 阀本体结构 请参见图1 Single seat balanced plug; integral cage/ Separated cage; Valve structure see Fig.2
上阀盖Bonnet	标准型Standards type: -29/-46- +230℃; 散热片型Fin-extension type: +230- +538℃; 加长型Long-extension type: -196 - -46℃
压盖型式Gland type	螺栓压紧式 Bolt pressing type
填料Packing	V型聚四氟乙烯填料, 柔性石墨填料。各种材质的使用温度·范围 请参见图2 V-shape PTFE packing, graphite packing each material operating pressure-temperature limitation, see Fig.2

执行机构 Actuator

名称Name	气动薄膜多弹簧式 Diaphragm multi-spring type	双作用气缸式 Double acting pneumatic type	电子式电动 Solid state electronic type
型号Type	HA	ZSA	ATML
用途Purpose	调节Modulation	调节Modulation	调节Modulation
正作用Direct action	气压增加阀闭Air to valve close	输入信号增加阀闭 Input signal increase to valve close	输入信号增加阀闭 Input signal increase to valve close
反作用 Reverse action	气压增加阀开Air to valve open	输入信号增加阀开 Input signal increase to valve open	输入信号增加阀开 Input signal increase to valve open
供气压力或供给电压 Air supply or Vote supply	供气压力(弹簧范围) Air supply(spring range) 140(20-100)KPaG 300(40-200)KPaG 300(80-240)KPaG	供气压力Air supply 500KPaG 输入信号Input signal 4-20mADC	供给电压Power 220V AC 50Hz 输入信号Input signal 4-20mADC
性能指标 (带定位器) Performance index (with positioner)	滞后 Hysteresis	≤0.8%FS	≤0.5%FS
	直线性 Linearity	≤±2.0%FS	≤±1.0%FS
气源接口 Connection	M16*1.5 (HA56 Rc1/2)	Rc3/8 (ZSA40 Rc1/2)	配线Connection 2-G1/2
允许环境温度 Ambient temperature	-30-70℃	-30-70℃	-10-60℃
表面涂层处理 Painting color	灰色 Gray		
附件配置 Accessory allocation	定位器, 空气过滤减压阀, 电磁阀, 限位阀, 限位变送器, 限位开关, 手操机构等 Positioned, air-set, solenoid valve, limit switch, lock up valve, manual handle		加热器 Heater

笼式多级调节阀 Cage Guided Multi-stage Control Valve

性能 Performance

额定Cv值 Rated Cv value	请参见表2 See table 2
流量特性 Flow characteristics	线性和改良等百分比 Equal Percentage and linear
泄漏量 Leakage	金属阀座符合标准ANSI B16.104 IV级, $\leq 10^{-4}$ 额定Cv; 软阀座 VI级 Metal seat conform ANSI B16.104-class IV ($\leq 10^{-4}$ Rated capacity of valve); Soft seat: class VI
可调比 Range ability	50: 1
允许压差 Allowable pressure drops	请参见表3 See table 3

表1 阀本体部材质 Table 1 valve body material >>

1-1 本体部材质: 碳钢 1-1 body material: carbon steel

阀体材质 Body material	WCB、WC6、WC9、LCB				
阀笼Cage	材质Material	17-4PH			INCONEL
	处理Treatment	析出硬化处理- Age hardening			-
阀芯Plug	材质Material	410	410	410	304/316
	处理Treatment	热处理- Heat treatment			司太立合金 Overlaying Stellite alloy
阀座Seat	材质Material	410	316	410	304/316
	处理Treatment	热处理- Heat treatment	RTFE	热处理- Heat treatment	司太立合金 Overlaying Stellite alloy
密封环Seal ring	材质Material	RTFE+316	RTFE+316	柔性石墨Grafoil	柔性石墨Grafoil
泄露等级Leakage	ANSI	ClassIV	ClassVI	ClassIV	ClassIV
	阀额定容量 × Valve rated capacity ×	0.01%	微气泡级 Micro bubbles	0.01%	0.01%
使用温度 (°C) Operating temperature	WCB	-29 ~ +230	-29 ~ +230	-29 ~ +425	-
	WC6/WC9	-	-	-	-29 ~ +538
	LCB	-46 ~ +230	-46 ~ +230	-46 ~ +350	-

1-2 本体部材质: 不锈钢 1-2 Body material: stainless steel

阀体材质 Body material	ZG0Cr18Ni9/CF8、ZG0Cr17Ni12Mo2/CF8M				
阀笼Cage	材质Material	316			
	处理Treatment	-			
阀芯Plug	材质Material	316	316	316	316
	处理Treatment	镀铬Hard chrome plated	司太立合金 Overlaying Stellite alloy		全部司太立合金 Fully overlaying Stellite alloy
阀座Seat	材质Material	316	316+RTFE	316	316
	处理Treatment	-	司太立合金 Overlaying Stellite alloy		全部司太立合金 Fully overlaying Stellite alloy
密封环Seal ring	材质Material	RTFE+316	RTFE+316	RTFE+316	柔性石墨Grafoil
泄露等级Leakage	ANSI	ClassIV	ClassVI	ClassIV	ClassIV
	阀额定容量 × Valve rated capacity ×	0.01%	微气泡级 Micro bubbles	0.01%	0.01%
使用温度 (°C) Operating temperature	-196 ~ +230①	-196 ~ +230①	-196 ~ +230①	-196 ~ +538	-196 ~ +538

注: ① 使用PTFE 可用于-196℃, 常规RTFE 应在 $\geq -75^\circ\text{C}$ 介质中使用。

Notes: ① PTFE can be used for -196°C. The conventional RTFE should be used in $\geq -75^\circ\text{C}$

笼式多级调节阀 Cage Guided Multi-stage Control Valve

图1 本体部结构 Table 1 valve body material >>

多级分离式阀笼 Integral cage

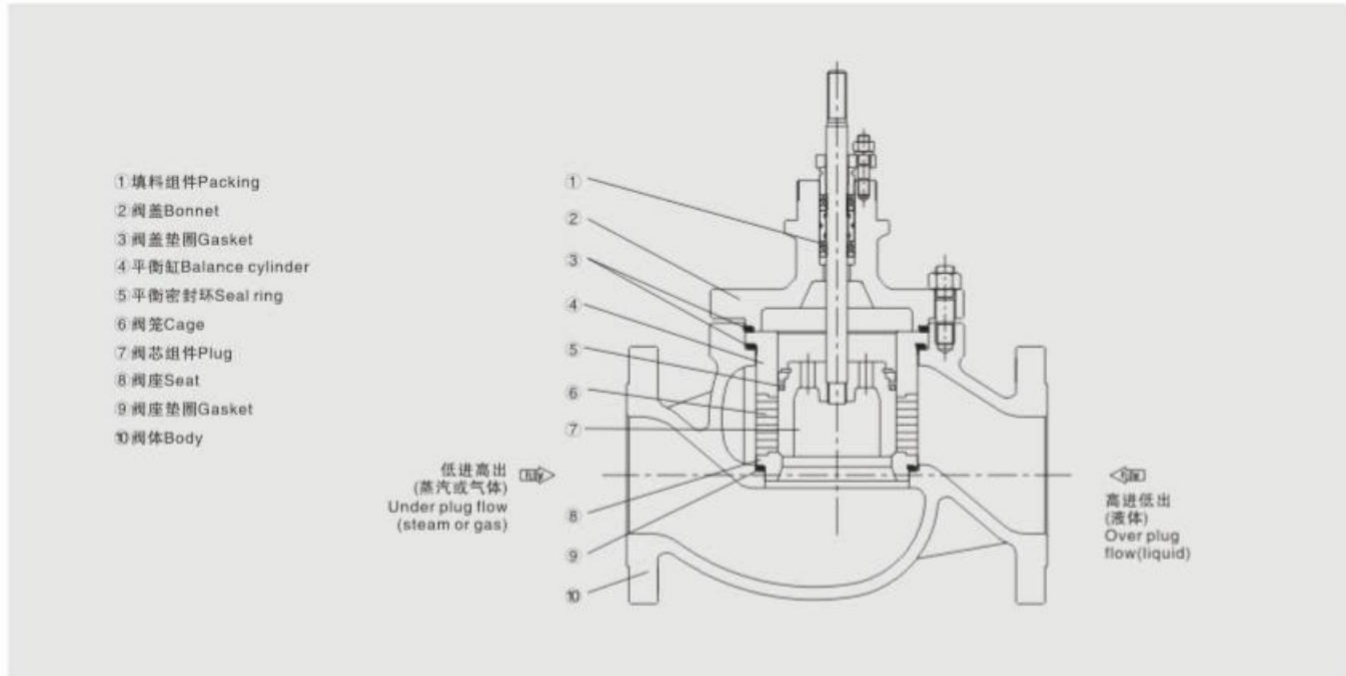
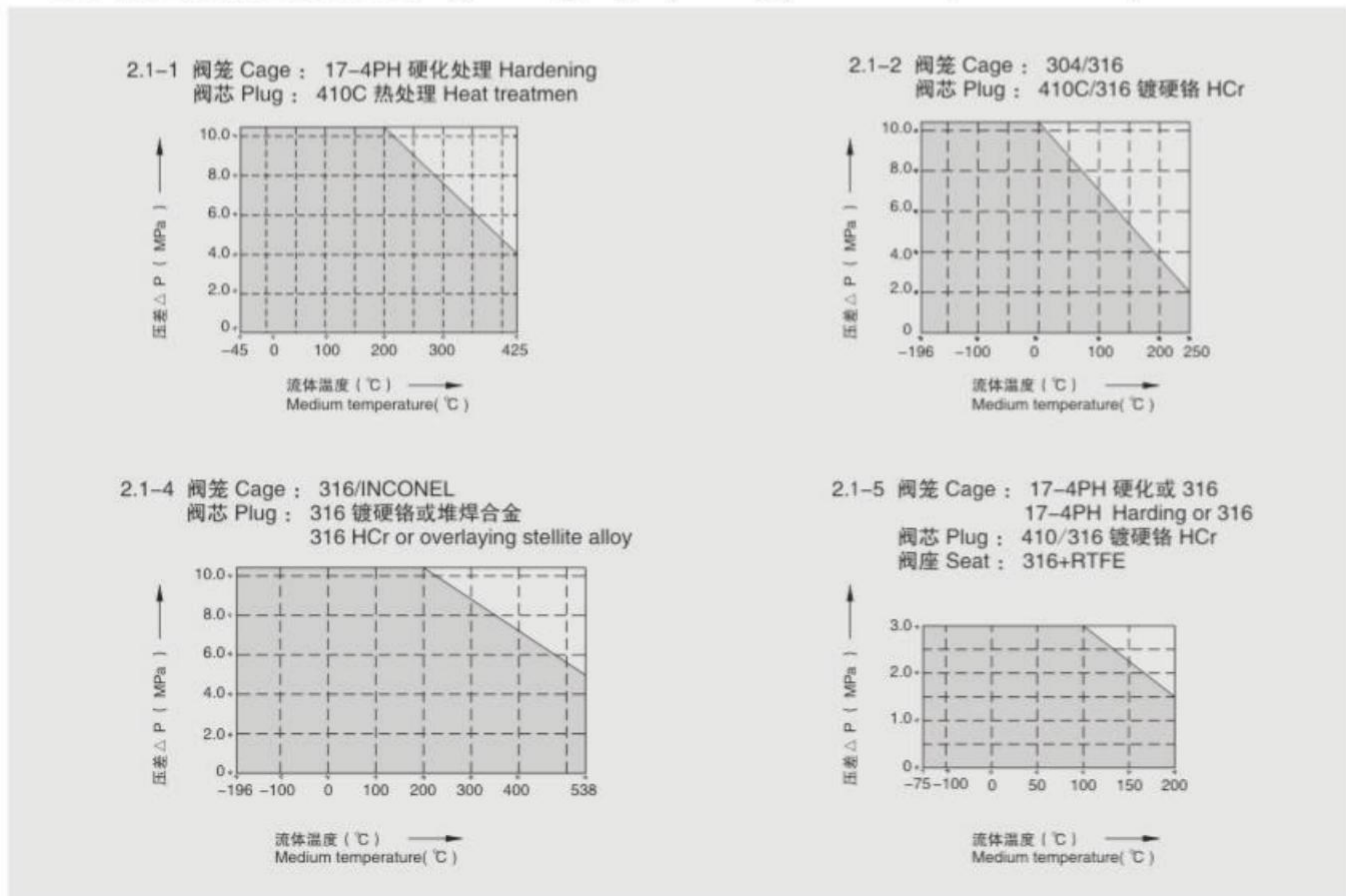


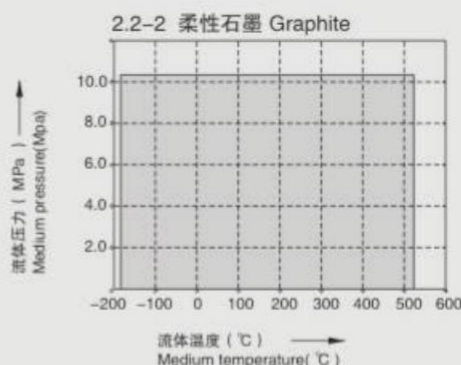
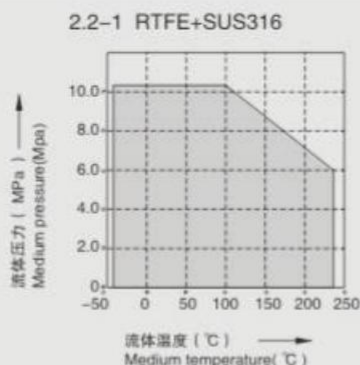
图2 阀内件材质 处理选定基准 Fig.2 trim material treatment and choice >>

2-1 阀芯、阀座的使用温度 压力范围 Fig.2.1 Plug/cage operating pressure-temperature rating



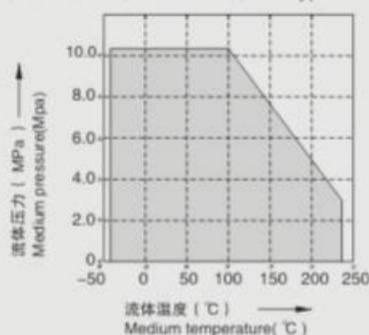
笼式多级调节阀 Cage Guided Multi-stage Control Valve

2-2 平衡密封环的使用温度 压力范围 2-2 Balance seal ring operating pressure-temperature rating

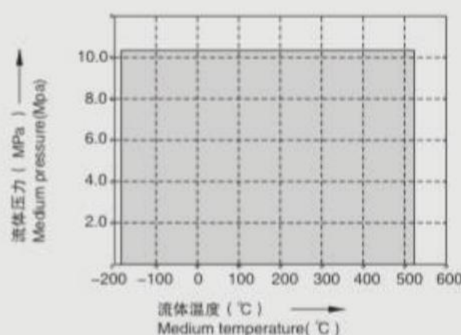


2-3 填料的使用温度 压力范围 2-3 packing operating pressure-temperature rating

2.3-1 强化聚四氟乙烯材料 V 型填料 V type RTFE



2.3-2 柔性石墨填料 Graphite



备注: 1、410、17-4PH 不锈钢不需要堆焊。

2、空化、闪蒸、禁油及常处于关闭下的调节阀, 不管工作温度和压差多大, 建议司太莱合金堆焊。

Remarks: 1. 410、17-4PH Stainless steel does not need overlaying

2. The valve working in the condition of cavitation, flash, no oil and the valve always shut, no matter how much work temperature and pressure drops, our proposal surfacing Stellite alloys.

表2 额定Cv值和行程 Table 2 rated CV and stroke

套筒材质 Cage material	公称通径 DN	阀芯尺寸 Plug size mm	行程 Stroke mm	最小可控 Minimum controllable Cv	额定 Rated Cv			
					2级降压 2 levels pressure drop	4级降压 4 levels pressure drop	6级降压 6 levels pressure drop	8级降压 8 levels pressure drop
17-4PH	25	16	20	0.22	5.0	4.2	3.5	2.6
			25		5.7	5.0	4.4	3.4
	40	25	20	0.48	11.8	9.2	7.4	5.2
			25		14.0	11.4	9.6	6.8
	50	40	25	0.86	19.5	16.2	12.9	9.8
			30		23.2	19.9	16.2	12.8
	80	50	30	1.3	49.0	40.5	33.0	23.9
			40		60.4	52.4	44.5	33.5
	100	80	40	2.2	85.0	69.0	58.0	43.0
			50		104.0	86.2	74.9	57.0
	150	100	50	3.3	145.0	115.0	97.0	77.0
			60		170.0	140.0	120.0	98.0
	200	150	60	6.1	231.0	185.0	147.0	113.0
			80		300.0	248.0	204.0	161.0
250	200	90	10.2	429.0	341.0	287.0	225.0	
300	250	100	12.2	502.0	374.0	297.0	243.0	
350	300	130	15.4	842.0	682.0	543.0	447.0	
400	350	150	18.5	1010.0	805.0	610.0	510.0	

笼式多级调节阀 Cage Guided Multi-stage Control Valve

续上表 Continued table

316	25	16	20	0.22	4.7	3.8	3.2	2.4
			25		5.6	4.8	4.2	3.3
	40	25	20	0.48	10.8	8.3	6.7	4.6
			25		13.4	10.8	9.1	6.5
	50	40	25	0.86	18.3	15.2	12.2	9.2
			30		21.7	18.5	15.2	11.7
	80	50	30	1.3	49.0	40.5	33.0	23.9
			40		60.2	52.2	44.3	33.2
	100	80	40	2.2	85.0	68.0	58.0	43.0
			50		102.0	84.7	73.5	55.9
	150	100	50	3.3	143.0	114.0	94.0	75.0
			60		167.0	136.0	117.0	95.0
	200	150	60	6.1	224.0	180.0	142.0	109.0
			80		297.0	247.0	203.0	160.0
	250	200	90	10.2	410.0	326.0	273.0	214.0
	300	250	100	12.2	492.0	367.0	290.0	238.0
350	300	130	15.4	815.0	659.0	525.0	432.0	
400	350	150	18.5	975.0	778.0	590.0	492.0	

备注：也可选用上表以外的降压级数及额定Cv值，请和我们联系。

Note: You can choose other pressure drop levels and rated CV value besides of this table, please contact with us.

表3 控制阀最大允许压差(单位: MPa) Table 3 control valve allow able pressure drops(unit: MPa) >>

3-1 HA 系列薄膜式执行机构 Table 3-1 HA series diaphragm actuator

执行机构规格 Actuator type	气源压力 KPaG Air supply	弹簧范围 KPaG Spring range	阀座形式 Seat type	阀芯尺寸Plug size (mm)											
				25	40	50	65	80	100	125	150	200	250	300	
HA22 HA23	140	20-100	金属座Metal seat												
			软座Soft seat												
	300	40-200D 80-240R	金属座Metal seat	9.80	6.80	5.62									
			软座Soft seat	3.00	3.00	3.00									
HA34	140	20-100	金属座Metal seat												
			软座Soft seat												
	300	40-200D 80-240R	金属座Metal seat		9.80	9.80	7.62	6.82	5.65						
			软座Soft seat		3.00	3.00	3.00	3.00	3.00						
HA45	140	20-100	金属座Metal seat												
			软座Soft seat												
	300	40-200D 80-240R	金属座Metal seat				9.80	9.80	9.80	7.72	6.80	5.00			
			软座Soft seat				3.00	3.00	3.00	3.00	3.00	3.00			
HA56	300	40-200D 80-240R	金属座Metal seat								9.80	9.80	9.80	6.60	3.80
			软座Soft seat								3.00	3.00	3.00	3.00	2.60

3-2 ZSA 系列气缸式执行机构 Table 3-2 ZSA series cylinder actuator

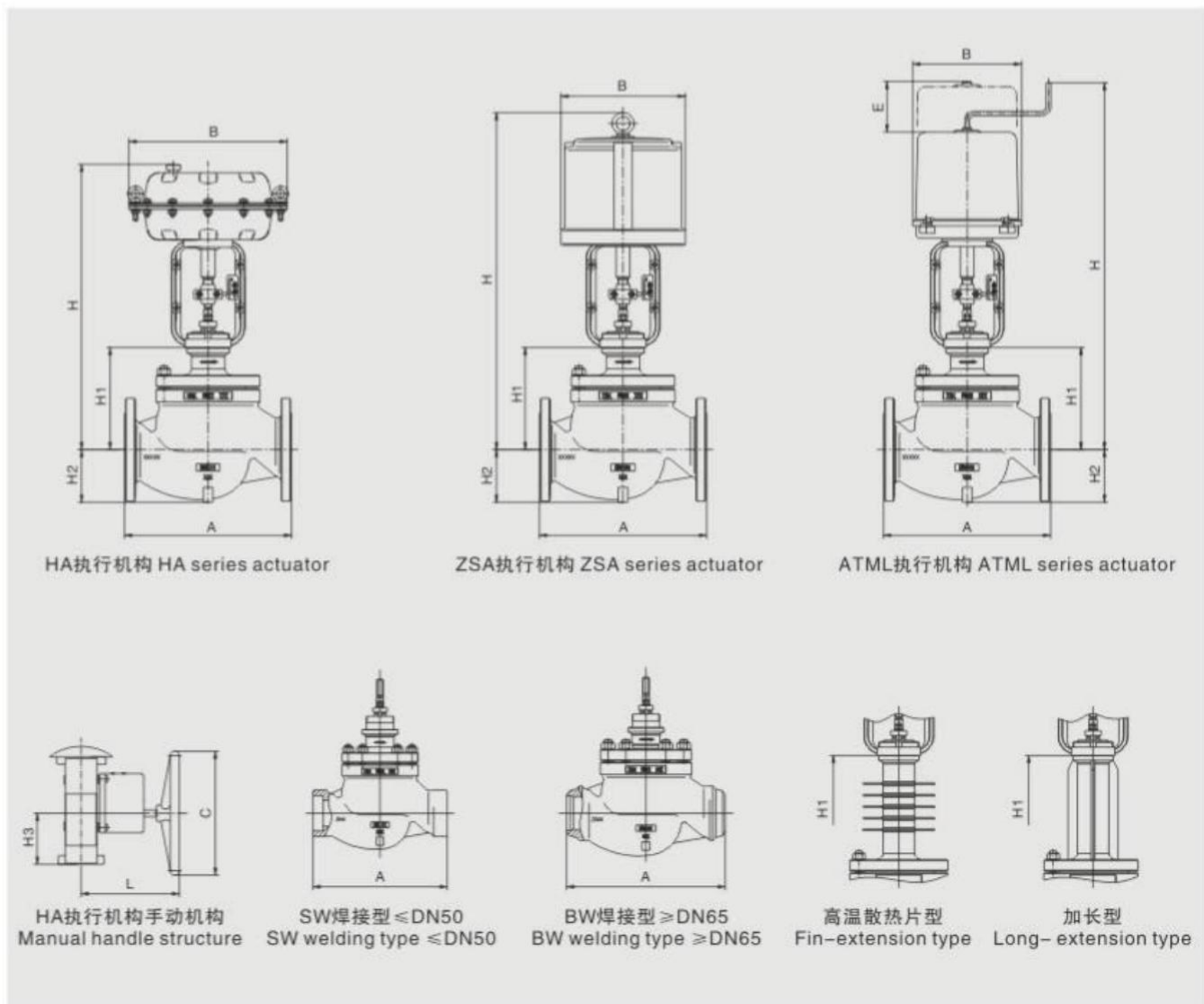
执行机构规格 Actuator type	气源压力 KPaG Air supply	阀座形式 Seat type	阀芯尺寸Plug size (mm)						
			125	150	200	250	300	350	400
ZSA25D	400	金属座Metal seat	9.80	9.80	9.80				
		软座Soft seat	3.00	3.00	3.00				
ZSA32D	400	金属座Metal seat				9.80	9.80	9.80	
		软座Soft seat				3.00	3.00	3.00	
ZSA40D	400	金属座Metal seat						9.80	9.80
		软座Soft seat						3.00	3.00

笼式多级调节阀 Cage Guided Multi-stage Control Valve

3-3 ATML 系列电子式电动执行机构 Table3-3 ATML series solid state electronic actuator

执行机构规格 Actuator type	阀座形式 Seat type	阀芯尺寸Plug size (mm)													
		25	40	50	65	80	100	125	150	200	250	300	350	400	
ATMLSA-20	金属座Metal seat	8.80	5.39	3.23											
	软座Soft seat	3.00	3.00	3.00											
ATMLSB-30	金属座Metal seat	9.80	9.80	8.33											
	软座Soft seat	3.00	3.00	3.00											
ATMLSB-50	金属座Metal seat		9.80	9.80	9.80	9.80	7.25	5.00	4.83						
	软座Soft seat		3.00	3.00	3.00	3.00	3.00	3.00	3.00						
ATMLSC-65	金属座Metal seat			9.80	9.80	9.80	9.80	7.25	6.40						
	软座Soft seat			3.00	3.00	3.00	3.00	3.00	3.00						
ATMLSC-100	金属座Metal seat							9.80	8.90	8.90	77.5	50.2			
	软座Soft seat							3.00	3.00	3.00	3.00	3.00			
ATMLSC-160	金属座Metal seat							9.80	9.80	9.80	9.80	6.90	4.35	2.72	
	软座Soft seat							3.00	3.00	3.00	3.00	3.00	3.00	2.00	

图3 配执行机构及阀外形尺寸 Fig.3 actuator and valve outline dimension



笼式多级调节阀 Cage Guided Multi-stage Control Valve

配HA系列薄膜式执行机构(外形尺寸) HA series diaphragm actuator(dimension)

单位Unit : mm

阀门尺寸 DN	直通式阀体结构 A Straight type valve structure			H2	标准型 Standard type		散热型 Fin- extension type		加长型 Long- extension type		手轮机构 Handle wheel structure			B(φ)	执行机构 Actuator
	ANSI 150 PN1.6 JIS10K	ANSI 300 PN4.0 JIS30K	ANSI 600 PN6.3 PN10.0 JIS40K		H1	H	H1	H	H1	H	H3	C	L		
40	222	235	251	75	156	511	306	661	676	1031	135	250	240	285	HA23
						591		741		1111		250			
50	254	267	286	85	162	517	312	667	682	1037	135	250	240	285	HA23
						597		747		1117		138			
65	276	292	311	95	220	655	400	835	770	1205	138	250	300	360	HA34
						758		938		1308		138			
80	298	317	337	105	232	667	412	847	782	1217	138	250	300	360	HA34
						770		950		1320		138			
100	352	368	394	125	240	675	420	855	790	1225	138	250	300	360	HA34
						778		958		1328		138			
125	400	400	420	145	284	822	504	1042	884	1422	138	300	320	470	HA45
						1034		1254		1634		158			
150	451	473	508	165	312	850	532	1070	912	1450	138	300	320	470	HA45
						1062		1282		1662		158			
200	543	568	610	190	344	882	564	1102	944	1482	138	300	320	470	HA45
						1094		1314		1694		158			
250	673	708	752	235	462	1212	682	1432	1062	1812	158	400	380	590	HA56
300	737	775	819	265	520	1270	740	1490	1120	1870	158	400	380	590	HA56

配ZSA系列双作用气缸式执行机构(外形尺寸) ZSA series double acting pneumatic cylinder actuator(dimension)

阀门尺寸 DN	A			H2	标准型 Standard type		散热型 Fin- extension type		加长型 Long- extension type		B(φ)	执行机构 Actuator	
	ANSI 150 PN1.6 JIS10K	ANSI 300 PN4.0 JIS30K	ANSI 600 PN6.3 PN10.0 JIS40K		H1	H	H1	H	H1	H			
125	400	400	420	145	284	854	390	1074	770	1454	290	ZSA25	
						964		1184		1564		380	ZSA32
						1114		1334		1714		470	ZSA40
150	451	473	508	165	312	882	400	1102	780	1482	290	ZSA25	
						992		1212		1592		380	ZSA32
						1142		1362		1742		470	ZSA40
200	543	568	610	190	344	914	435	1134	815	1514	290	ZSA25	
						1024		1244		1624		380	ZSA32
						1174		1394		1774		470	ZSA40
250	673	708	752	235	462	1292	682	1512	1062	1892	470	ZSA40	
300	737	775	819	265	520	1350	740	1570	1120	1950	470	ZSA40	
350	889	927	972	300	620	1630	840	1850	1220	2230	590	ZSA50	
400	1016	1057	1108	345	710	1720	930	1940	1310	2320	590	ZSA50	

笼式多级调节阀 Cage Guided Multi-stage Control Valve

配ATML系列电子式电动执行机构(外形尺寸) ATML series solid state electronic actuator (dimension) 单位Unit: mm

阀门尺寸 DN	A			H2	标准型 Standard type		散热型 Fin- extension type		加长型 Long- extension type		E	B(φ)	执行机构 Actuator
	ANSI 150 PN1.6 JIS10K	ANSI 300 PN4.0 JIS30K	ANSI 600 PN6.3 PN10.0 JIS40K		H1	H	H1	H	H1	H			
40	222	235	251	75	156	606	306	756	676	1126	130	280	ATML-A
						746		896		1266			310
50	254	267	286	85	162	612	312	762	682	1132	130	280	ATML-A
						752		902		1272			310
65	276	292	311	95	220	840	400	1020	770	1390	130	310	ATML-B
						1010		1190		1560			165
80	298	317	337	105	232	852	412	1032	782	1402	130	310	ATML-B
						1022		1202		1572			165
100	352	368	394	125	240	860	420	1040	790	1410	130	310	ATML-B
						1030		1210		1580			165
125	400	400	420	145	284	904	504	1124	884	1504	130	310	ATML-B
						1074		1294		1674			165
150	451	473	508	165	332	932	552	1152	932	1532	130	310	ATML-B
						1102		1322		1702			165
200	543	568	610	190	344	1134	564	1354	944	1734	165	360	ATML-C
250	673	708	752	235	462	1302	682	1522	1062	1902	165	360	ATML-D
300	737	775	819	265	520	1360	740	1580	1120	1960	165	360	ATML-D

笼式多级调节阀 Cage Guided Multi-stage Control Valve

表4 控制阀重量(单位: kg) Table 4 Control valve weight(unit: kg) >>

公称通径 DN mm	压力等级 PN			薄膜式执行机构 Diaphragm multi-spring type				双动作气缸式执行机构 Double acting pneumatic type				电子式电动执行机构 Solid state electronic type			
	ANSI	JIS	PN	HA23	HA34	HA45	HA56	ZSA25	ZSA32	ZSA40	ZSA50	ATMLSA	ATMLSB	ATMLSC	ATMLSD
40	150	10K	1.6	30	42							36	46		
	300	20K、30K	4.0	33	45							39	49		
	600	40K	6.3	39	51							45	55		
50	150	10K	1.6	32	44							38	48		
	300	20K、30K	4.0	36	48							42	52		
	600	40K	6.3	42	54							48	58		
65	150	10K	1.6		56	76							60	100	
	300	20K、30K	4.0		60	80							64	104	
	600	40K	6.3		70	90							74	114	
80	150	10K	1.6		70	90							76	114	
	300	20K、30K	4.0		84	104							88	128	
	600	40K	6.3		98	118							102	142	
100	150	10K	1.6		92	112							96	136	
	300	20K、30K	4.0		106	126							110	150	
	600	40K	6.3		136	156							140	180	
125	150	10K	1.6			136	192	115	142	210			130	160	
	300	20K、30K	4.0			156	212	135	162	230			140	180	
	600	40K	6.3			196	252	175	202	270			180	220	
150	150	10K	1.6			156	212	135	162	230			140	180	
	300	20K、30K	4.0			186	242	165	192	260			170	220	
	600	40K	6.3			246	302	225	252	320			230	270	
200	150	10K	1.6			216	272	195	222	290				240	
	300	20K、30K	4.0			256	312	235	262	330				280	
	600	40K	6.3			356	412	335	362	430				380	
250	150	10K	1.6				392			410					370
	300	20K、30K	4.0				462			480					440
	600	40K	6.3				642			660					620
300	150	10K	1.6				542			570					520
	300	20K、30K	4.0				652			680					630
	600	40K	6.3				902			930					880
350	150	10K	1.6							810					
	300	20K、30K	4.0							950					
	600	40K	6.3							1430					
400	150	10K	1.6							1030					
	300	20K、30K	4.0							1330					
	600	40K	6.3							2090					

衬塑波纹管调节阀 Lining Fluorine Bellows Control Valve

Z_DHF 衬塑波纹管调节阀 Lining fluorine bellows control valve

Z_DHF 衬塑波纹管调节阀是一种防腐蚀直通单座调节阀，与流体接触的阀体内壁和阀内件都衬F46防腐材料。分有内设波纹管组件和不设二种，有效的把介质与外界完全隔绝。该阀具有下列优点：

1. 几乎能抗所有化学介质（包括浓硝酸和王水）的腐蚀。
2. 密封性优良，一旦波纹管损坏，调节阀填料可起到第二道保护密封。

Z_DHF fluorine plastic-lined bellows type control valve is a kind of anti-corrosion direct-through single seat control valve, the inner wall of the valve body in contact with the fluid and valve trim lined anti-corrosion material F46. It divided into two types includes with bellows assembly and no bellows components, it can isolated medium with confined metal completely. The valve has the following advantages:

1. Resistant to all chemicals (including concentrated nitric acid and aqua regia) of corrosion
2. Good sealing performance, once the bellows damage, regulating valve packing can play a second protective seal.

技术参数和性能 Technical parameters and performance >>

标准本体部 Standard specification

型式Type	不平衡阀芯型 Unbalance plug type
公称口径DN	20-150mm
公称压力PN	PN1.6 MPa (使用压力 Operating pressure ≤ 1.0MPa)
阀体材料Body material	WCB、CF8、CF8M
连接形式 Body connections	法兰式Flanged type: FR, 标准按Flanged Standards for: JB/T 79.1-94 /GB/T9113/HG/T20592; 法兰距 请参见图4 Face to face dimension see Fig.4
阀内件型式Trim type	整体式波纹管单座阀芯; 阀本体结构 请参见图1 Integral type bellows single seat; Valve structure see Fig.1
上阀盖Bonnet	-29- +150℃
压盖型式Gland type	螺栓压紧式 Bolt pressing type
填料Packing	V型聚四氟乙烯填料。各种材质的使用温度·范围 请参见图2 V-shape PTFE packing, each packing material as to the operating pressure -temperature limitation, see Fig.2

执行机构 Actuator

名称Name	气动薄膜多弹簧式 Diaphragm multi-spring type	电子式电动 Solid state electronic type
型号Type	HA	ATML
用途Purpose	调节Modulation	调节Modulation
正作用Direct action	气压增加阀闭 Air to valve close	输入信号增加阀闭 Input signal increase to valve close
反作用Reverse action	气压增加阀开 Air to valve open	输入信号增加阀开 Input signal increase to valve open
供气压力或供给电压 Air supply or Vote supply	供气压力 (弹簧范围) Air supply (spring range) 140(20-100)KPaG 300(40-200)KPaG 300(80-240)KPaG	供给电压Power 220V AC 50Hz 输入信号Input signal 4-20mADC
性能指标 (带定位器) Performance index (with positioner)	滞后 Hysteresis	≤ 0.8%FS
	直线性 Linearity	≤ ± 2.0%FS
气源接口 Connection	M16*1.5 (HA56 Rc1/2)	配线Connection 2-G1/2
允许环境温度 Ambient temperature	-30-70℃	-10-60℃
表面涂层处理 Painting color	灰色 Gray	
附件配置 Accessory allocation	定位器, 空气过滤减压阀, 电磁阀, 限位阀, 阀位变送器, 限位开关, 手操机构等 Positioned, air-set, solenoid valve, limit switch, lock up valve, manual handle	加热器 Heater

衬塑波纹管调节阀 Lining Fluorine Bellows Control Valve

性能 Performance

额定Cv值 Rated Cv value	请参见表1 See table 1
流量特性 Flow characteristics	等百分比和线性 请参见图3 Equal Percentage and linear, Equal Percentage see Fig 3
泄漏量 Leakage	符合标准ANSI B16.104 VI级 Conform ANSI B16.104-class VI
可调比 Range ability	50: 1 DN < 15mm (30: 1)
允许压差 Allowable pressure drops	请参见表2 See table 2

图1 本体部结构 Fig.1 Valve section view >>

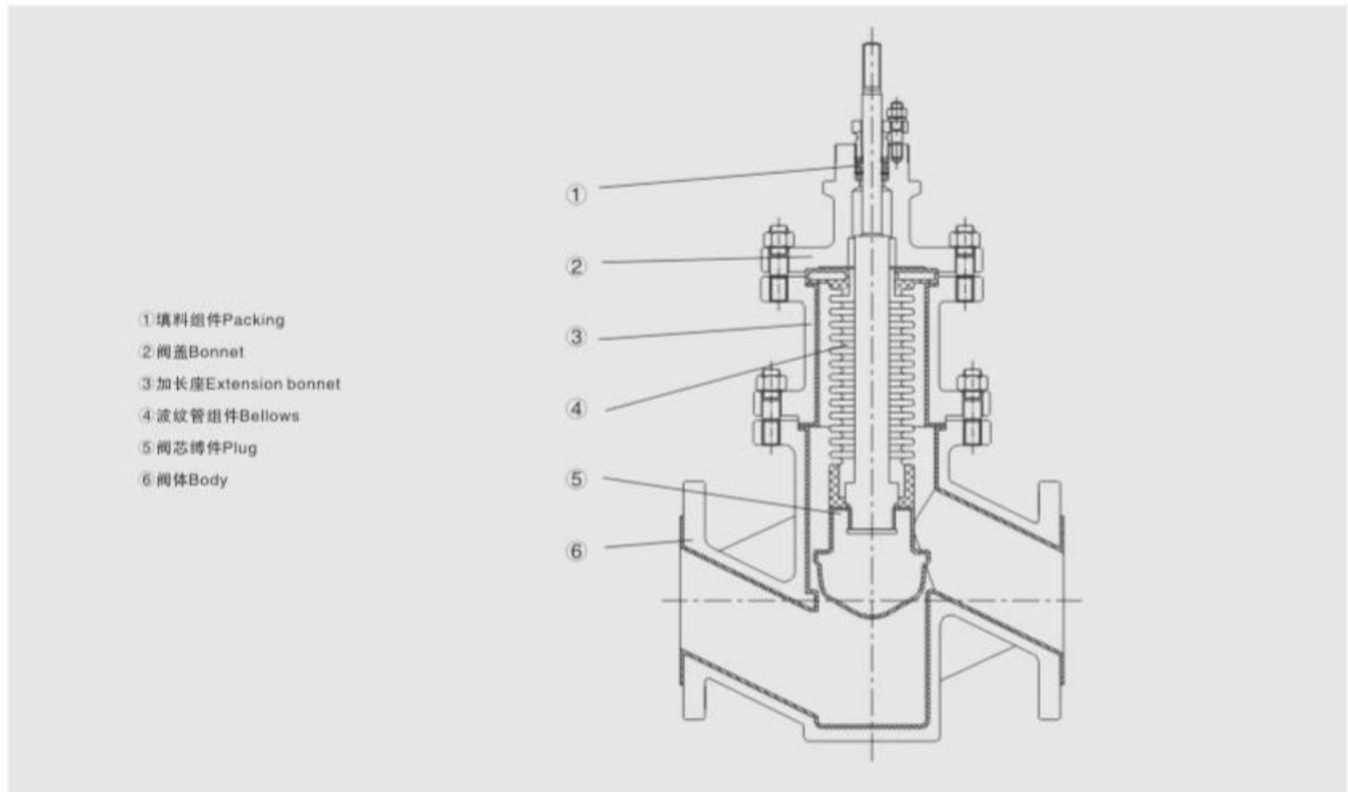
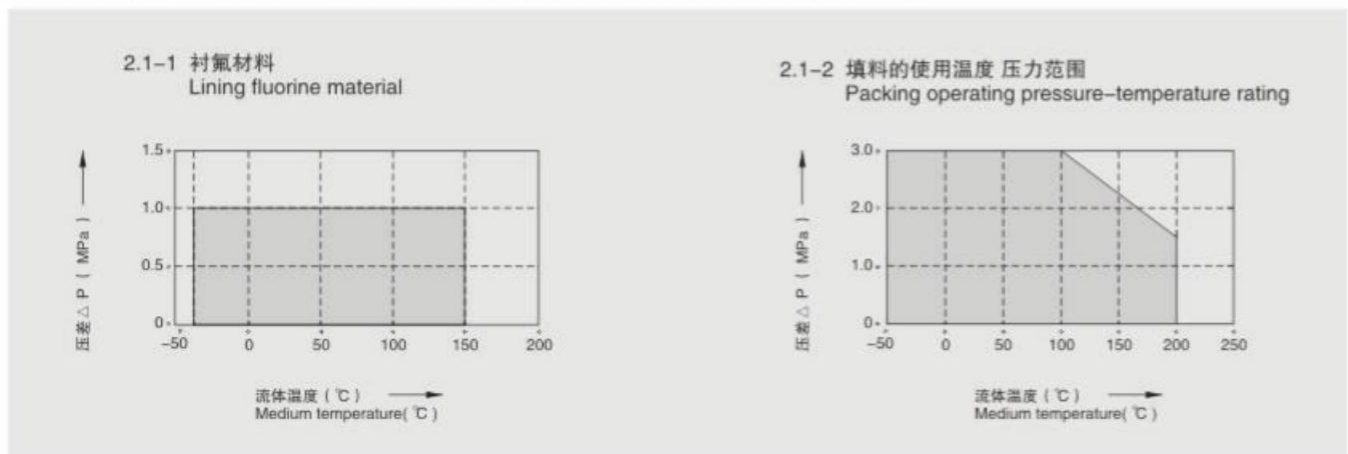


图2 阀内件材质 处理选定基准 Fig.2 trim material and choice >>

2-1 阀芯阀座及密封材料使用温度 压力范围及处理

Fig.2-1 Plug/seat and seal material operating pressure-temperature rating



衬塑波纹管调节阀 Lining Fluorine Bellows Control Valve

表1 Cv值和行程 Table 1 CV and stroke >>

公称口径 DN mm	阀芯尺寸 Plug size mm	额定Cv值Rated Cv		行程 Stroke mm	公称口径 DN mm	阀芯尺寸 Plug size mm	额定Cv值Rated Cv		行程 Stroke mm
		等百分比EQ%	直线Liner				等百分比EQ%	直线Liner	
20	10	1.6	-	16	65	40	25	-	25
	12	2.5	-	16		50	45	-	25
	15	4	-	16		65	72	85	40
	20	8	10	16	80	50	45	-	25
25	15	4	-	16		65	72	-	40
	20	8.3	-	16	80	100	125	40	
	25	13	15	16	100	65	72	-	40
40	25	13	-	16		80	100	-	40
	32	20	-	25		100	175	200	40
40	40	30	30	25	125	80	100	-	40
	50	32	20	-		25	100	175	-
40		25	-	25		125	280	310	60
50		45	40	25	150	100	175	-	40
50	40	25	-	25		125	280	-	60
	50	45	40	25		150	365	425	60

图3 流量特性 Fig 3 flow characteristic >>

等百分比特性 EQ%

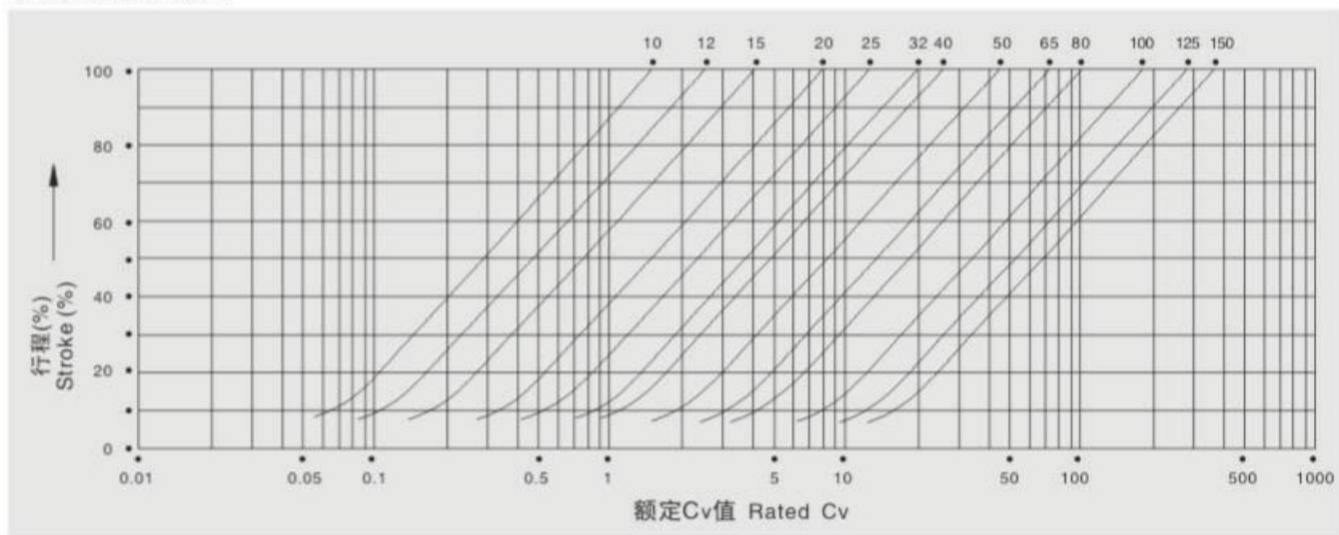


表2 控制阀最大允许压差(单位: MPa) Table 2 control valve allow able pressure drop(unit:MPa) >>

2-1 HA 薄膜式执行机构 Table 2-1 HA series diaphragm actuator

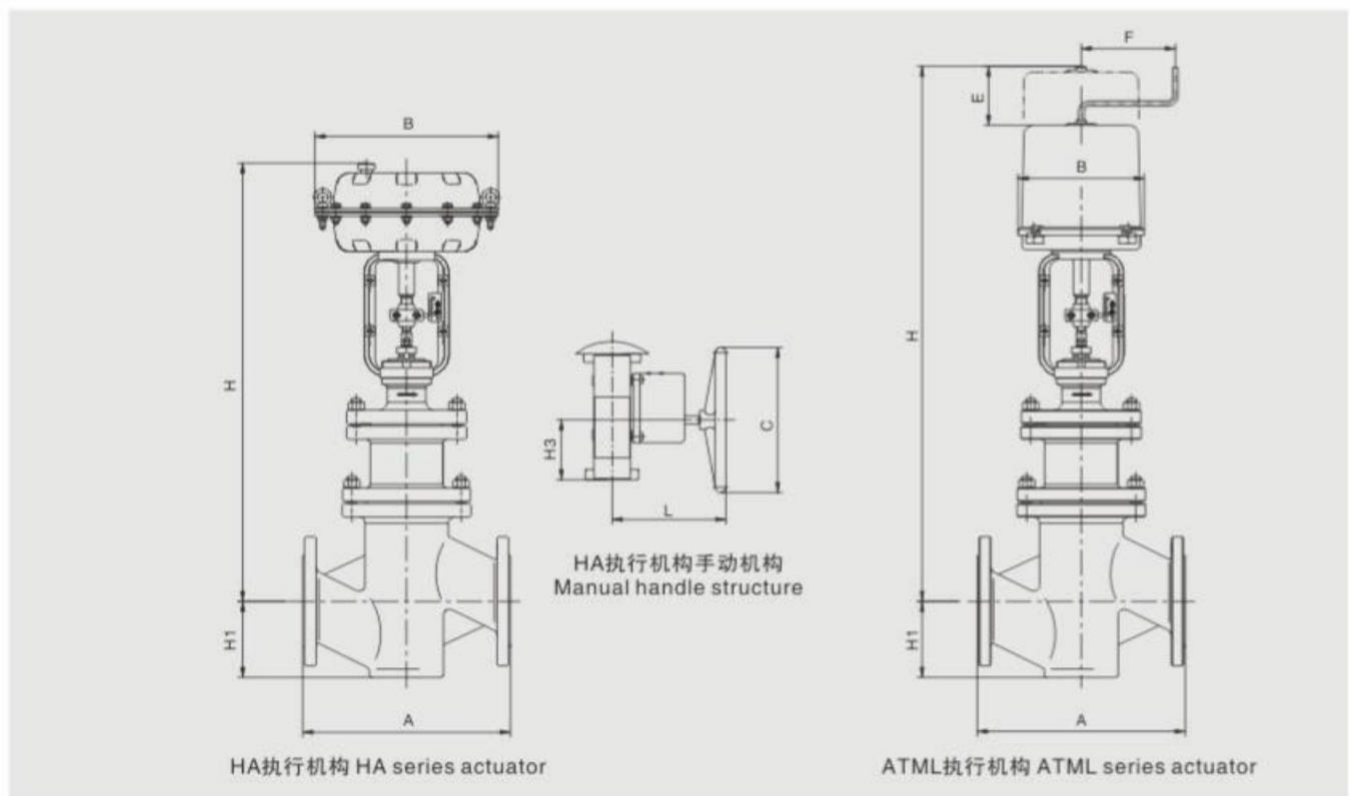
执行机构规格 Actuator type	气源压力 KPaG Air supply	弹簧范围 KPaG Spring range	阀座形式 Seat type	阀芯尺寸Plug size mm												
				15	20	25	32	40	50	65	80	100	125	150		
HA22 HA23	140	20-100	软座Soft seat	0.4	0.28	0.18	0.10	0.04	0.01							
	300	40-200D 80-240R	软座Soft seat	1.00	1.00	1.00	1.00	1.00	0.66							
HA34	140	20-100	软座Soft seat				0.74	0.51	0.30	0.19						
	300	40-200D 80-240R	软座Soft seat				1.00	1.00	1.00	0.92	0.60	0.36				
HA45	140	20-100	软座Soft seat							0.35	0.22	0.10				
	300	40-200D 80-240R	软座Soft seat							1.00	1.00	0.66	0.42	0.28		
HA56	300	40-200D 80-240R	软座Soft seat										0.61	0.42		

衬塑波纹管调节阀 Lining Fluorine Bellows Control Valve

2-2 ATML 系列全电子式执行器 Table 2-2 ATML series solid state electronic actuator

执行机构规格 Actuator type	阀座形式 Seat type	阀芯尺寸 Plug size mm										
		15	20	25	32	40	50	65	80	100	125	150
ATMLSA-10	软座 Soft seat	1.00	0.95	0.68								
ATMLSA-20	软座 Soft seat	1.00	1.00	1.00	1.00	1.00	0.68					
ATMLSB-30	软座 Soft seat			1.00	1.00	1.00	1.00	0.60	0.40	0.25		
ATMLSB-50	软座 Soft seat				1.00	1.00	1.00	1.00	0.70	0.42		
ATMLSC-65	软座 Soft seat							1.00	0.90	0.58	0.37	0.26
ATMLSC-100	软座 Soft seat							1.00	1.00	0.87	0.53	0.39
ATMLSC-160	软座 Soft seat									1.00	0.85	0.60

图4 配执行机构及阀外形尺寸 Fig.4 actuator and valve outline dimension >>



配HA 系列薄膜式执行器(外形尺寸) HA series diaphragm actuator(dimensions)

单位 Unit : mm

阀门尺寸 PN mm	A			标准型 Standard		手轮机构 Handle wheel structure			B (φ)	执行机构 Actuator
	ANSI150	JIS10K	PN1.6	H1	H	H3	C	L		
20	184			90	688	135	250	240	285	HA22
25	184			90	688	135	250	240	285	HA22
40	222			105	700	135	250	240	285	HA23
50	254			110	712	135	250	240	285	HA23
65	276			130	874	135	250	240	360	HA34
80	298			140	894	135	250	240	360	HA34
100	352			170	939	135	250	240	360	HA34
150	451			210	1180	138	250	300	470	HA45

衬塑波纹管调节阀 Lining Fluorine Bellows Control Valve

配ATML 系列电子式电动执行机构(外形尺寸) ATML series solid state electronic actuator(dimensions) 单位Unit : mm

阀门尺寸 PN mm	A			标准型 Standard		B (ϕ)	E	执行机构 Actuator
	ANSI150	JIS10K	PN1.6	H1	H			
20	184			90	815	280	130	ATML-A
25	184			90	815	280	130	ATML-A
40	222			105	935	310	130	ATML-B
50	254			110	947	310	130	ATML-B
65	276			130	1110	310	130	ATML-B
80	298			140	1130	310	130	ATML-B
100	352			170	1175	310	130	ATML-B
150	451			210	1440	360	165	ATML-C

表4 控制阀重量(单位: kg) Table 4 Control valve weight(unit: kg) >>

公称通径 DN mm	压力等级 PN			薄膜式执行机构 Diaphragm multi-spring type				电子式电动执行机构 Solid state electronic type		
	ANSI	JIS	PN	HA22	HA23	HA34	HA45	ATML-A	ATML-B	ATML-C
20	150	10K	1.6	25				33		
25	150	10K	1.6	26				34		
40	150	10K	1.6		34				40	
50	150	10K	1.6		36				42	
65	150	10K	1.6			65			69	
80	150	10K	1.6			75			79	
100	150	10K	1.6			100			104	
150	150	10K	1.6				180			164

角型单座调节阀 Angle Type Single Seated Control Valve

Z_DLP角型单座调节阀 Angle type single seated control valve

Z_DLP角型单座调节阀是一种高性能的顶部导向调节阀，阀体通道呈L型，流路流畅压降损失小、流量大、可调范围广。广泛适用于管道转向布局管网中含有细微颗粒的料浆、聚合物、结晶体及高温流体控制。

Z_DLP angle type single seated control valve is a kind of top guided control valve with high performance, the valve body channel appears L-shape, the flow path smooth, fluid pressure drop loss is small, the flow is large, range ability is large. It can be widely used in the pipeline distribution network to control media such as slurry, polymer, crystal and high temperature fluid.

The valve plug guided area large, vibration resistance ability is good, can be made of special structure such as bellows seal type, steam jacketed type, extended type valve cover type.

技术参数和性能 Technical parameters and performance >>

标准本体部 Standard specification

型式Type	不平衡阀芯型 Unbalance plug type
公称口径DN	25-200mm
公称压力PN	PN1.6、4.0、6.3、10.0MPa; JIS 10K、16K、20K、40K; Class 150、300、600Lb
阀体材料Body material	WCB、WC6、WC9、LCB、CF8、CF8M、CF3M 各种材质温度压力·范围, 请参见表1、附录 Each material operating pressure -temperature limitation, see table 1 and the appendix
连接形式 Body connections	法兰式Flanged type: RF、FM、RJ、和TG; 法兰距 请参见图4 Face to face dimension see Fig.4 法兰标准按Flanged Standards for: JB/T 79.1-94 /GB/T9113/ASME B16.5/HG /T20592/HG/T20615/JIS B2220
阀内件型式Trim type	上导向单座柱塞式阀芯; 分离式套筒; 阀本体结构 请参见图1 Top guided single seat plunger type plug, Separated cage Valve structure see Fig.1
上阀盖Bonnet	标准型Standards type for: -29/-46- +230℃; 散热片型Fin-extension type: +230- +538℃; 加长型Long-extension type: -196 - -46℃
压盖型式Gland type	螺栓压紧式Bolt pressing type
填料Packing	V型聚四氟乙烯填料, 柔性石墨填料。各种材质的使用温度·范围 请参见图2 V-shape PTFE packing, graphite packing, each material operating pressure-temperature limitation, see Fig.2

执行机构 Actuator

名称Name	气动薄膜多弹簧式 Diaphragm multi-spring type	双作用气缸式 Double acting pneumatic type	电子式电动 Solid state electronic type
型号Type	HA	ZSA	ATML
用途Purpose	调节Modulation	调节Modulation	调节Modulation
正作用Direct action	气压增加阀闭Air to valve close	输入信号增加阀闭 Input signal increase to valve close	输入信号增加阀闭 Input signal increase to valve close
反作用Reverse action	气压增加阀开Air to valve open	输入信号增加阀开 Input signal increase to valve open	输入信号增加阀开 Input signal increase to valve open
供气压力或供给电压 Air supply or Vote supply	供气压力(弹簧范围) Air supply(spring range) 140(20-100)KPaG 300(40-200)KPaG 300(80-240)KPaG	供气压力Air supply500KPaG 输入信号Input signal 4-20mADC	供给电压Power 220V AC 50Hz 输入信号Input signal 4-20mADC
性能指标 (带定位器) Performance index (with positioner)	滞后 Hysteresis	≤0.8%FS	≤0.5%FS
	直线性 Linearity	≤±2.0%FS	≤±1.0%FS
气源接口 Connection	M16*1.5 (HA56 Rc1/2)	Rc3/8 (ZSA40 Rc1/2)	配线Connection 2-G1/2
允许环境温度 Ambient temperature	-30-70℃	-30-70℃	-10-60℃
表面涂层处理 Painting color	灰色 Gray		
附件配置 Accessory allocation	定位器, 空气过滤减压阀, 电磁阀, 限位开关, 手操机构等 Positioned, air-set, solenoid valve, limit switch, lock up valve, manual handle		加热器 Heater

角型单座调节阀 Angle Type Single Seated Control Valve

性能 Performance

额定Cv值 Rated Cv value	请参见表2 See table 2
流量特性 Flow characteristics	等百分比和线性 请参见图3 Equal Percentage and linear, Equal Percentage see Fig 3
泄漏量 Leakage	金属阀座符合标准ANSI B16.104 IV级, $\leq 10^{-4}$ 额定Cv; 软阀座 VI级 Metal seat conform ANSI B16.104-class IV($\leq 10^{-4}$ Rated capacity of valve); Soft seat: class VI
可调比 Range ability	50: 1 DN < 15mm (30: 1)
允许压差 Allowable pressure drops	请参见表3 See table 3

表1 阀本体部材质 Table 1 valve body material >>

1-1 本体部材质: 碳钢 1-1 body material: carbon steel

阀体材质 Body material	WCB、WC6、WC9、LCB				
阀芯Plug	材质Material	304/316	304/316	304/316	304/316
	处理Treatment	-	-	司太立合金 Overlaying Stellite alloy	司太立合金 Overlaying Stellite alloy
阀座Seat	材质Material	304+RTFE	304/316	304/316	304/316
	处理Treatment	-	-	司太立合金 Overlaying Stellite alloy	司太立合金 Overlaying Stellite alloy
导向套Guide	材质Material	316	440B	440B	304
	处理Treatment	RTFE	热处理 Heat treatment	热处理 Heat treatment	司太立合金 Overlaying Stellite alloy
泄露等级Leakage	ANSI	ClassVI	ClassIV	ClassIV	ClassIV
	阀额定容量 × Valve rated capacity ×	微气泡级 Micro bubbles	0.01%	0.01%	0.01%
使用温度 (°C) Operating temperature	WCB	-29 ~ +230	-29 ~ +250	-29 ~ +425	-
	WC6/WC9	-	-	-	-29 ~ +538
	LCB	-46 ~ +200	-46 ~ +250	-46 ~ +350	-

1-2 本体部材质: 不锈钢 1-2 Body material: stainless steel

阀体材质 Body material	ZG1Cr18Ni9/CF8、ZG0Cr17Ni12Mo2/CF8M			
阀芯Plug	材质Material	316	316	316
	处理Treatment	-	-	司太立合金 Overlaying Stellite alloy
阀座Seat	材质Material	316+RTFE	316	316
	处理Treatment	-	-	司太立合金 Overlaying Stellite alloy
导向套Guide	材质Material	316	316	316
	处理Treatment	RTFE	RTFE	司太立合金 Overlaying Stellite alloy
泄露等级Leakage	ANSI	ClassVI	ClassIV	ClassIV
	阀额定容量 × Valve rated capacity ×	微气泡级 Micro bubbles	0.01%	0.01%
使用温度 (°C) Operating temperature		-75 ~ +200	-196 ~ +230	-196 ~ +538

角型单座调节阀 Angle Type Single Seated Control Valve

图1 本体部结构 Fig.1 Valve section view

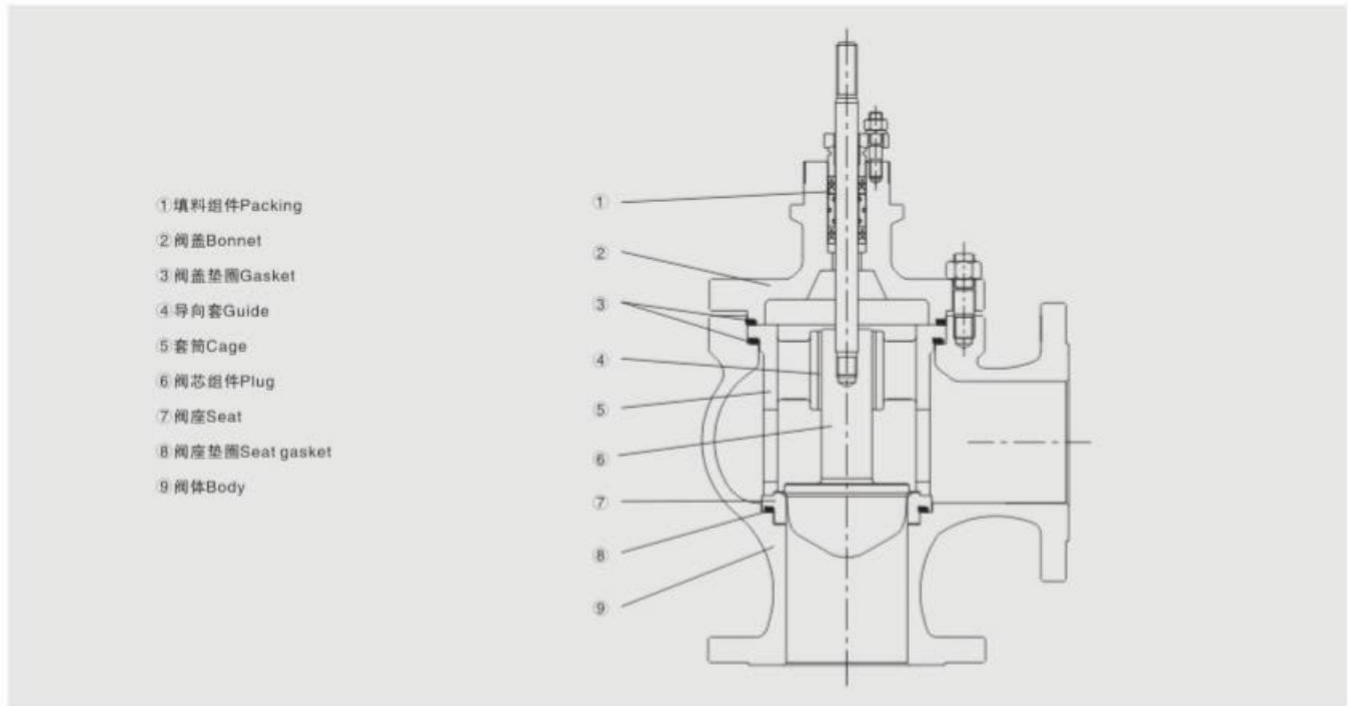
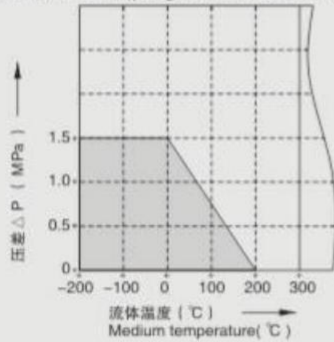


图2 阀内件材质 处理选定基准 Fig.2 trim material treatment and Choice

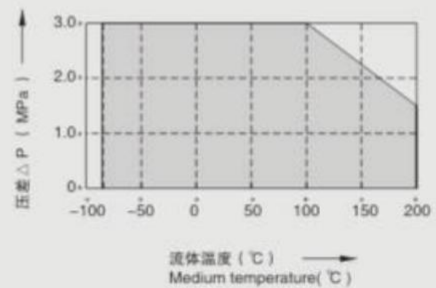
2-1 阀芯、阀座的使用温度 压力范围 2-1. Plug/seat operating pressure-temperature rating

2.1-1 金属阀座 Metal seat

硬化处理: (阀芯、阀座: 316+堆焊司太莱合金)
 Hard treatment(plug and seat: 316+overlying stellite alloy)

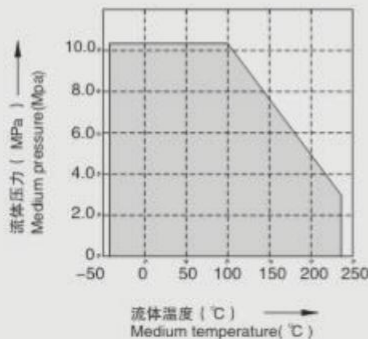


2.1-2 软阀座 Soft seat

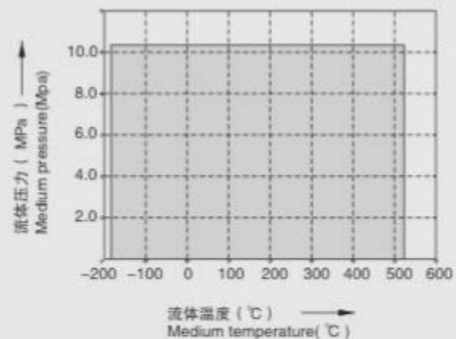


2-2 密封填料的使用温度 压力范围 2-2. Packing operating pressure-temperature rating

2.2-1 强化聚四氟乙烯材料 V 型填料 V-RTFE packing



2.2-2 柔性石墨填料 Graphite packing



备注: 空化、闪蒸, 阀, 不管工作温度和压差多大, 建议司太莱合金堆焊。

Remarks: The valve working in the condition of cavitation, flash, no oil and the valve always shut, no matter how much work temperature and pressure drops. Our proposal surfacing Stellite alloys.

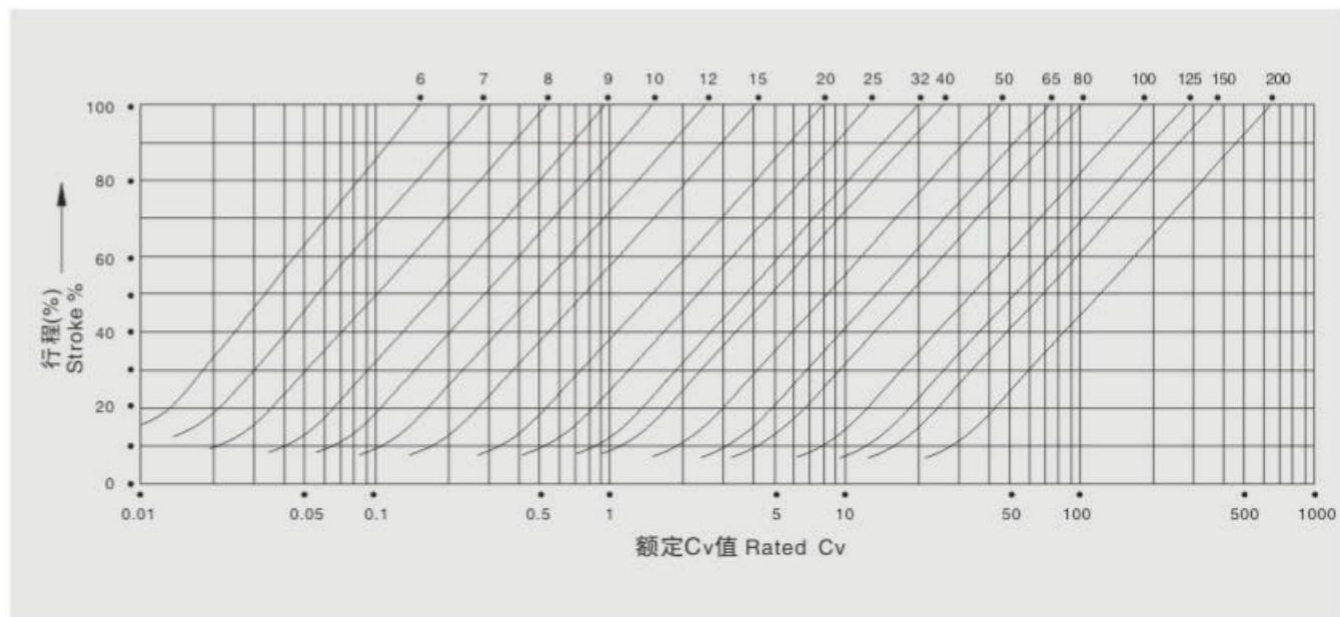
角型单座调节阀 Angle Type Single Seated Control Valve

表2 额定Cv值和行程 Table 2 CV and stroke >>

公称通径 DN mm	阀芯尺寸 Plug size mm	额定Cv值 Rated Cv		行程 Stroke mm	公称通径 DN mm	阀芯尺寸 Plug size mm	额定Cv值 Rated Cv		行程 Stroke mm	
		等百分比EQ%	直线Linear				等百分比EQ%	直线Linear		
25	6	0.16	-	10	65	40	25	-	25	
	7	0.28	-	10		50	45	-	25	
	8	0.52	-	10		65	72	85	40	
	40	9	0.96	-	10	80	50	45	-	25
		10	1.6	-	16		65	72	-	40
		12	2.5	-	16		80	100	125	40
		15	4	-	16	100	65	72	-	40
		20	8.3	-	16		80	100	-	40
		25	13	15	16		100	175	200	40
50		25	13	-	16	125	80	100	-	40
		32	20	-	25		100	175	-	40
	40	30	30	25	125		280	310	60	
65	32	20	-	25	150	100	175	-	40	
	40	25	-	25		125	280	-	60	
	50	45	40	25		150	365	425	60	
80	32	20	-	25	200	125	280	-	60	
	40	25	-	25		150	365	-	60	
	50	45	40	25		200	640	700	60	

图3 流量特性 Fig. 3 flow characteristic >>

等百分比特性 EQ%



角型单座调节阀 Angle Type Single Seated Control Valve

表3 控制阀最大允许压差(单位: MPa) Table 3 control valve allow able pressure drop(unit:MPa) >>

3-1 HA 薄膜式执行机构 Table 3-1 HA series diaphragm actuator

执行机构规格 Actuator type	气源压力 KPaG Air supply	弹簧范围 KPaG Spring range	阀座形式 Seat type	阀芯尺寸Plug size mm											
				15	20	25	32	40	50	65	80	100	125	150	200
HA22 HA23	140	20-100	金属座Metal seat	0.68	0.46	0.33	0.22	0.15	0.09						
			软座Soft seat	0.4	0.28	0.18	0.10	0.04	0.01						
	300	40-200D 80-240R	金属座Metal seat	9.8	5.96	3.87	2.22	1.32	0.77						
			软座Soft seat		3.00	2.50	1.60	0.95	0.55						
HA34	140	20-100	金属座Metal seat				0.48	0.32	0.21	0.15	0.09	0.04			
			软座Soft seat				0.32	0.19	0.09	0.06	0.03	0.01			
	300	40-200D 80-240R	金属座Metal seat				4.60	2.84	1.73	0.95	0.58	0.33			
			软座Soft seat				3.00	2.30	1.40	0.75	0.43	0.28			
HA45	140	20-100	金属座Metal seat							0.45	0.28	0.16	0.10	0.06	0.02
			软座Soft seat							0.30	0.18	0.08	0.05	0.02	0.01
	300	40-200D 80-240R	金属座Metal seat							1.85	1.18	0.71	0.42	0.27	0.12
			软座Soft seat							1.50	0.95	0.58	0.32	0.20	0.10
HA56	300	40-200D 80-240R	金属座Metal seat										0.66	0.44	0.22
			软座Soft seat										0.55	0.35	0.18

3-2 ZSA 系列气缸式执行机构 Table 3-2 ZSA series cylinder actuator

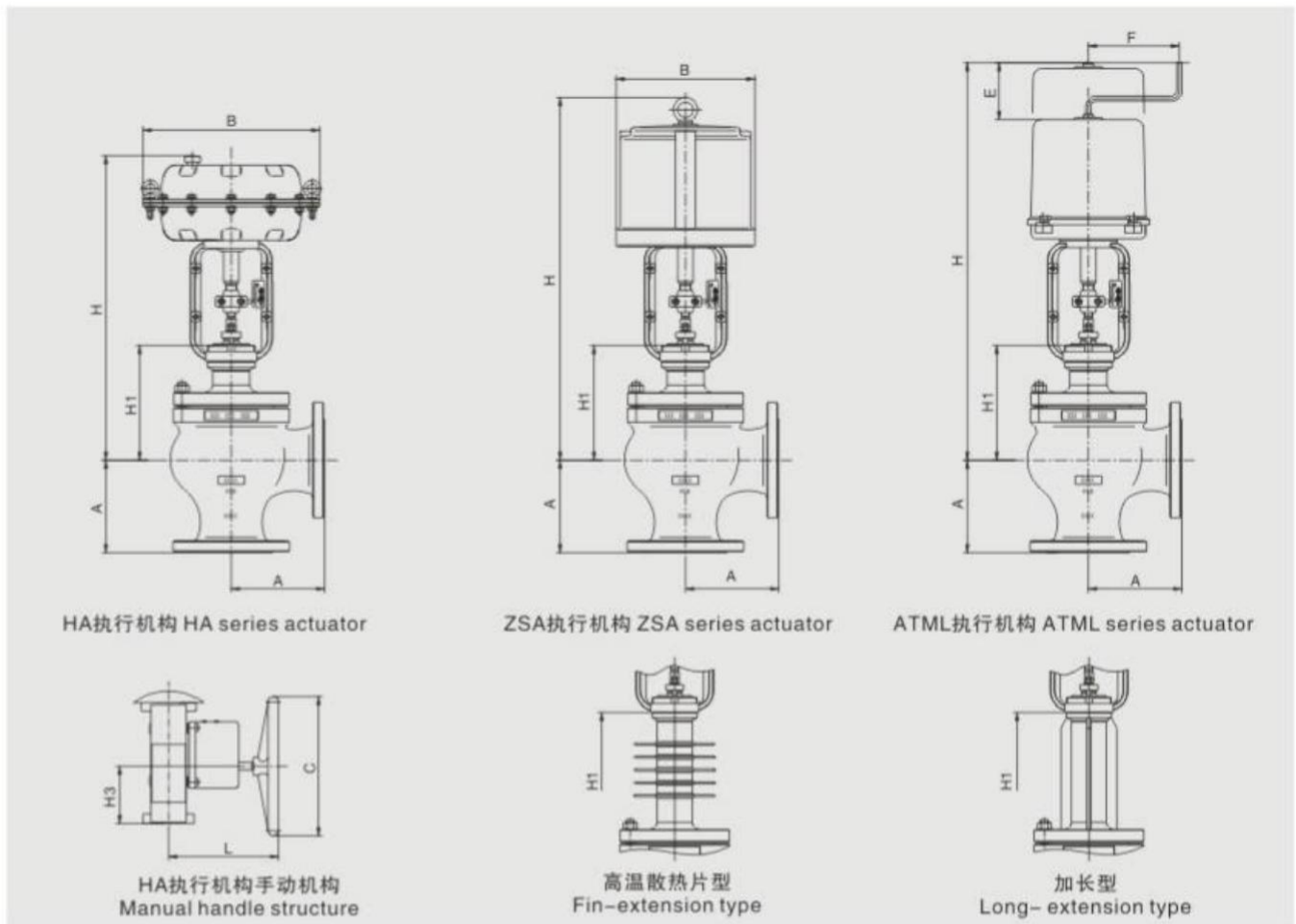
执行机构规格 Actuator type	气源压力 KPaG Air supply	阀座形式 Seat type	阀芯尺寸Plug size mm					
			65	80	100	125	150	200
ZSA17D	500	金属座Metal seat	2.52	1.65	1.00			
		软座Soft seat	2.00	1.35	0.80			
ZSA25D	500	金属座Metal seat	5.20	3.80	2.42	1.50	1.02	0.55
		软座Soft seat	3.00	3.00	1.95	1.28	0.85	0.45
ZSA32D	500	金属座Metal seat			4.00	2.60	1.70	0.95
		软座Soft seat			3.00	2.18	1.48	0.80
ZSA40D	500	金属座Metal seat				4.00	2.80	1.60
		软座Soft seat				3.00	2.40	1.30

3-3 ATML 系列电子式电动执行机构 Table 3-3 ATML series solid state electronic actuator

执行机构规格 Actuator type	阀座形式 Seat type	阀芯尺寸Plug size mm											
		15	20	25	32	40	50	65	80	100	125	150	150
ATMLSA-10	金属座Metal seat	2.20	1.62	1.00	0.56	0.28	0.18						
	软座Soft seat	1.40	0.95	0.68	0.40	0.20	0.10						
ATMLSA-20	金属座Metal seat	5.20	4.00	2.80	1.80	1.00	0.60						
	软座Soft seat	3.00	3.00	2.20	1.40	0.80	0.48						
ATMLSB-30	金属座Metal seat			4.60	2.84	1.80	1.10	0.58	0.34	0.18			
	软座Soft seat			3.00	2.20	1.46	0.80	0.40	0.20	0.10			
ATMLSB-50	金属座Metal seat			8.60	5.20	3.20	2.12	1.14	0.74	0.42	0.24	0.14	
	软座Soft seat			3.00	3.00	2.45	1.48	0.86	0.50	0.30	0.18	0.10	
ATMLSC-65	金属座Metal seat							1.64	1.02	0.62	0.36	0.23	0.10
	软座Soft seat							1.10	0.78	0.44	0.25	0.16	0.07
ATMLSC-100	金属座Metal seat							2.56	1.69	1.06	0.65	0.42	0.21
	软座Soft seat							1.80	1.26	0.74	0.46	0.30	0.15
ATMLSC-160	金属座Metal seat										1.10	0.74	0.40
	软座Soft seat										0.80	0.52	0.28

角型单座调节阀 Angle Type Single Seated Control Valve

图4 配执行机构及阀外形尺寸 Fig.4 actuator and valve outline dimension



配HA系列薄膜式执行机构(外形尺寸) HA series diaphragm actuator(dimensions)

单位Unit : mm

阀门尺寸 DN mm	A			标准型 Standard		散热型 Fin- extension type		加长型 Long- extension type		手轮机构 Handle wheel structure			B(φ)	执行 机构 Actuator
	ANSI 150 PN1.6 JIS10K	ANSI 300 PN4.0 JIS30K	ANSI 600 PN6.3 PN10.0 JIS40K	H1	H	H1	H	H1	H	H3	C	L		
25	92	98	105	140	465	290	615	660	985	135	250	240	285	HA22
40	111	117	125	156	511	306	661	676	1031	135	250	240	285	HA23
					591				741					1111
50	127	133	143	162	517	312	667	682	1037	135	250	240	285	HA23
					597				747					1117
65	138	146	156	220	655	400	835	770	1205	135	250	240	360	HA34
					758				938					1308
80	149	159	168	232	667	412	847	782	1217	135	250	240	360	HA34
					770				950					1320
100	176	184	197	240	675	420	855	790	1225	135	250	240	360	HA34
					778				958					1328
125	201	212	230	284	822	504	1042	884	1422	138	250	300	470	HA45
					1034				1254					1634
150	225	237	254	312	850	532	1070	912	1450	138	250	300	470	HA45
					1062				1282					1662
200	271	284	305	344	882	564	1102	944	1482	138	250	300	470	HA45
					1094				1314					1694

角型单座调节阀 Angle Type Single Seated Control Valve

配ZSA系列气缸式执行机构(外形尺寸) ZSA series cylinder actuator(dimensions)

单位Unit : mm

阀门尺寸 DN mm	A			标准型 Standard		散热型 Fin- extension type		加长型 Long- extension type		B(φ)	执行机构 Actuator	
	ANSI 150 PN1.6 JIS10K	ANSI 300 PN4.0 JIS30K	ANSI 600 PN6.3 PN10.0 JIS40K	H1	H	H1	H	H1	H			
65	138	146	156	220	660	400	840	770	1210	208	ZSA17	
					790		970		1340		290	ZSA25
					900		1080		1450		380	ZSA32
80	149	159	168	232	672	412	852	782	1222	208	ZSA17	
					802		982		1352		290	ZSA25
					912		1092		1462		380	ZSA32
100	176	184	197	240	680	420	860	790	1230	208	ZSA17	
					810		990		1360		290	ZSA25
					920		1100		1470		380	ZSA32
125	201	212	230	284	854	504	1074	884	1454	290	ZSA25	
					964		1184		1564		380	ZSA32
					1114		1334		1714		470	ZSA40
150	225	237	254	312	882	532	1102	912	1482	290	ZSA25	
					992		1212		1592		380	ZSA32
					1142		1362		1742		470	ZSA40
200	271	284	305	344	914	564	1134	944	1514	290	ZSA25	
					1024		1244		1624		380	ZSA32
					1174		1394		1774		470	ZSA40

配ATML系列电子式电动执行机构(外形尺寸) ATML series solid state electronic actuator

单位Unit : mm

阀门尺寸 DN mm	A			标准型 Standard		散热型 Fin- extension type		加长型 Long- extension type		E	B(φ)	执行机构 Actuator
	ANSI 150 PN1.6 JIS10K	ANSI 300 PN4.0 JIS30K	ANSI 600 PN6.3 PN10.0 JIS40K	H1	H	H1	H	H1	H			
25	92	98	105	140	590	290	740	660	1110	130	280	ATML-A
40	111	117	125	156	606	306	756	676	1126	130	280	ATML-A
					746		896		1266			130
50	127	133	143	162	612	312	762	682	1132	130	280	ATML-A
					752		902		1272			130
65	138	146	156	220	840	400	1020	770	1390	130	310	ATML-B
					1010		1190		1560			165
80	149	159	168	232	852	412	1032	782	1402	130	310	ATML-B
					1022		1202		1572			165
100	176	184	197	240	860	420	1040	790	1410	130	310	ATML-B
					1030		1210		1580			165
125	201	212	230	284	904	504	1124	884	1724	130	310	ATML-B
					1074		1294		1894			165
150	225	237	254	312	932	532	1152	912	1752	130	310	ATML-B
					1102		1322		1922			165
200	271	284	305	344	1134	564	1354	944	1954	165	360	ATML-C

角型单座调节阀 Angle Type Single Seated Control Valve

表4 控制阀重量(单位: kg) Table 4 Control valve weight(unit: kg)

公称口径 DN mm	压力等级PN			薄膜式执行机构 Diaphragm multi-spring type					双动作气缸式执行机构 Double acting pneumatic type				电子式电动执行机构 Solid state electronic type		
	ANSI	JIS	PN	HA22	HA23	HA34	HA45	HA56	ZSA17	ZSA25	ZSA32	ZSA40	ATMLSA	ATMLSB	ATMLSC
25	150	10K	1.6	20									28		
	300	20K、30K	4.0	22									30		
	600	40K	6.3	26									34		
40	150	10K	1.6		30	42							36	46	
	300	20K、30K	4.0		33	45							39	49	
	600	40K	6.3		39	51							45	55	
50	150	10K	1.6		32	44							38	48	
	300	20K、30K	4.0		36	48							42	52	
	600	40K	6.3		42	54							48	58	
65	150	10K	1.6			56	76		43	55	82			60	100
	300	20K、30K	4.0			60	80		47	59	86			64	104
	600	40K	6.3			70	90		57	69	96			74	114
80	150	10K	1.6			70	90		57	69	96			74	114
	300	20K、30K	4.0			84	104		71	83	110			88	128
	600	40K	6.3			98	118		85	97	124			102	142
100	150	10K	1.6			92	112		79	91	118			96	136
	300	20K、30K	4.0			106	126		93	105	132			110	150
	600	40K	6.3			136	156		123	135	162			140	180
125	150	10K	1.6				136	192		115	142	210		120	160
	300	20K、30K	4.0				156	212		135	162	230		140	180
	600	40K	6.3				186	242		165	192	260		170	210
150	150	10K	1.6				156	212		135	162	230		140	180
	300	20K、30K	4.0				186	242		165	192	260		170	210
	600	40K	6.3				246	302		225	252	320		230	230
200	150	10K	1.6				216	272		195	222	290			240
	300	20K、30K	4.0				256	312		235	262	330			280
	600	40K	6.3				356	412		335	362	430			380

角型笼式调节阀 Angle Type Cage Guided Control Valve

Z_D LM角型笼式调节阀 Angle type cage guided control valve

Z_D LM角型笼式调节阀是一种压力平衡的调节阀。该阀笼上设有高性能的平衡密封环，阀体流道呈L形，具有流道流畅流量大、泄漏量小、许用压差高、动作稳定、调节性能优越等优点。广泛适用于管道转向布局管网中工况条件苛刻等性能要求较高的场合。

Z_D LM angle type cage guided control valve is a kind of pressure balanced control valve. The valve cage provided a high performance balanced sealing ring, and the valve body channel appears L-shaped. The valve has the advantages of channel smooth, flow small, leakage amount small, stable action and excellent regulation performance. It can be widely used in the occasions such as needs high performance, has harsh working conditions, etc.

技术参数和性能 Technical parameters and performance >>

标准本体部 Standard specification

型式Type	平衡阀芯型 Balanced plug type
公称口径DN	40-300mm
公称压力PN	PN1.6、4.0、6.3、10.0MPa; JIS 10K、16K、20K、40K; Class 150、300、600Lb
阀体材料Body material	WCB、WC6、WC9、LCB、CF8、CF8M、CF3M 各种材质温度压力·范围, 请参见表1、附录 Each material operating pressure -temperature limitation, see table 1 and the appendix
连接形式 Body connections	法兰式Flanged type: RF、FM、RJ、和TG; 法兰距 请参见图4 Face to face dimension see Fig.4 标准按Flanged Standards for: JB/T 79.1-94 /GB/T9113/ASME B16.5/HG/T20592 /HG/T20615/JIS B2220
阀内件型式Trim type	单座平衡式阀芯; 整体式阀笼/分离式阀笼; 阀本体结构 请参见图1 Single seat balanced plug; integral cage/ Separated cage; Valve structure see Fig.1
上阀盖Bonnet	标准型Standards type for : -29/-46~ +230℃; 散热片型Fin-extension type: +230~ +538℃; 加长型Long-extension type: -196~-46℃
压盖型式Gland type	螺栓压紧式Bolt pressing type
填料Packing	V型聚四氟乙烯填料, 柔性石墨填料。各种材质的使用温度·范围 请参见图2 V-shape PTFE packing, graphite packing. Each material operating pressure -temperature limitation, see Fig.2

执行机构 Actuator

名称Name	气动薄膜多弹簧式 Diaphragm multi-spring type	双作用气缸式 Double acting pneumatic type	电子式电动 Solid state electronic type
型号Type	HA	ZSA	ATML
用途Purpose	调节Modulation	调节Modulation	调节Modulation
正作用Direct action	气压增加阀闭Air to valve close	输入信号增加阀闭 Input signal increase to valve close	输入信号增加阀闭 Input signal increase to valve close
反作用Reverse action	气压增加阀开Air to valve open	输入信号增加阀开 Input signal increase to valve open	输入信号增加阀开 Input signal increase to valve open
供气压力或供给电压 Air supply or Vote supply	供气压力(弹簧范围) Air supply(spring range) 140(20-100)KPaG 300(40-200)KPaG 300(80-240)KPaG	供气压力Air supply500KPaG 输入信号Input signal 4-20mADC	供给电压Power 220V AC 50Hz 输入信号Input signal 4-20mADC
性能指标 (带定位器) Performance index (with positioner)	滞后 Hysteresis	≤0.8%FS	≤0.5%FS
	直线性 Linearity	≤±2.0%FS	≤±1.0%FS
气源接口 Connection	M16*1.5 (HA56 Rc1/2)	Rc3/8 (ZSA40 Rc1/2)	配线Connection 2-G1/2
允许环境温度 Ambient temperature	-30-70℃	-30-70℃	-10-60℃
表面涂层处理 Painting color	灰色 Gray		
附件配置 Accessory allocation	定位器, 空气过滤减压阀, 电磁阀, 限位开关, 手操机构等 Positioned, air-set, solenoid valve, limit switch, lock up valve, manual handle		加热器 Heater

角型笼式调节阀 Angle Type Cage Guided Control Valve

性能 Performance

额定Cv值Rated Cv value	请参见表2 See table 2
流量特性Flow characteristics	等百分比和线性 请参见图3 Equal Percentage and linear, Equal Percentage see Fig 3
泄漏量Leakage	金属阀座符合标准ANSI B16.104 IV级, $\leq 10^{-4}$ 额定Cv; 软阀座 VI级 Metal seat conform ANSI B16.104-class IV($\leq 10^{-4}$ Rated capacity of valve); Soft seat: classVI
可调比 Range ability	50: 1
允许压差Allowable pressure drops	请参见表3 See table 3

表1 阀本体部材质 Table 1 valve body material >>

1-1 本体部材质: 碳钢 1-1 body material: carbon steel

阀体材质 Body material	WCB、WC6、WC9、LCB				
阀笼Cage	材质Material	17-4PH			304/316
	处理Treatment	析出硬化处理- Precipitation hardening			镀硬铬Hr
阀芯Plug	材质Material	304/316	410	410	304/316
	处理Treatment	-	热处理- Heat treatment	热处理- Heat treatment	司太立合金 Overlaying Stellite alloy
阀座Seat	材质Material	304/316	316	410	304/316
	处理Treatment	-	RTFE	热处理- Heat treatment	司太立合金 Overlaying Stellite alloy
密封环Seal ring	材质Material	RTFE+316	RTFE+316	柔性石墨Grafoil	柔性石墨Grafoil
泄露等级Leakage	ANSI	ClassIV	ClassVI	ClassIV	ClassIV
	阀额定容量 × Valve rated capacity ×	0.01%	微气泡级 Micro bubbles	0.01%	0.01%
使用温度 (°C) Operating temperature	WCB	-29 ~ +230	-29 ~ +200	-29 ~ +425	-
	WC6/WC9	-	-	-	-29 ~ +538
	LCB	-46 ~ +230	-46 ~ +200	-46 ~ +350	-

1-2 本体部材质: 不锈钢 1-2 Body material: stainless steel

阀体材质 Body material	ZG0Cr18Ni9/CF8、ZG0Cr17Ni12Mo2/CF8M					
阀笼Cage	材质Material	316				316
	处理Treatment	镀硬铬 Hard chrome plated				全部司太立合金 Fully overlaying Stellite alloy
阀芯Plug	材质Material	316	316	316	316	316
	处理Treatment	-	-	司太立合金 Overlaying Stellite alloy		全部司太立合金 Fully overlaying Stellite alloy
阀座Seat	材质Material	316	316	316	316	316
	处理Treatment	-	RTFE	司太立合金 Overlaying Stellite alloy		
密封环Seal ring	材质Material	RTFE+316	RTFE+316	RTFE+316	柔性石墨Grafoil	柔性石墨Grafoil
泄露等级 Leakage	ANSI	ClassIV	ClassVI	ClassIV	ClassIV	ClassIV
	阀额定容量 × Valve rated capacity ×	0.01%	微气泡级 Micro bubbles	0.01%	0.01%	0.01%
使用温度 (°C) Operating temperature		-196 ~ +230①	-196 ~ +200①	-196 ~ +230①	-196 ~ +538	-196 ~ +538

注: ① 使用PTFE可用于-196°C, 常规RTFE应在 $\geq -75^\circ\text{C}$ 介质中使用。

Notes: ① PTFE can be used for -196°C. The conventional RTFE should be used in $\geq -75^\circ\text{C}$

角型笼式调节阀 Angle Type Cage Guided Control Valve

图1 本体部结构 Fig.1 Valve section view

1.1 整体式阀笼 Integral cage

1.2 分离式阀笼 Separate cage

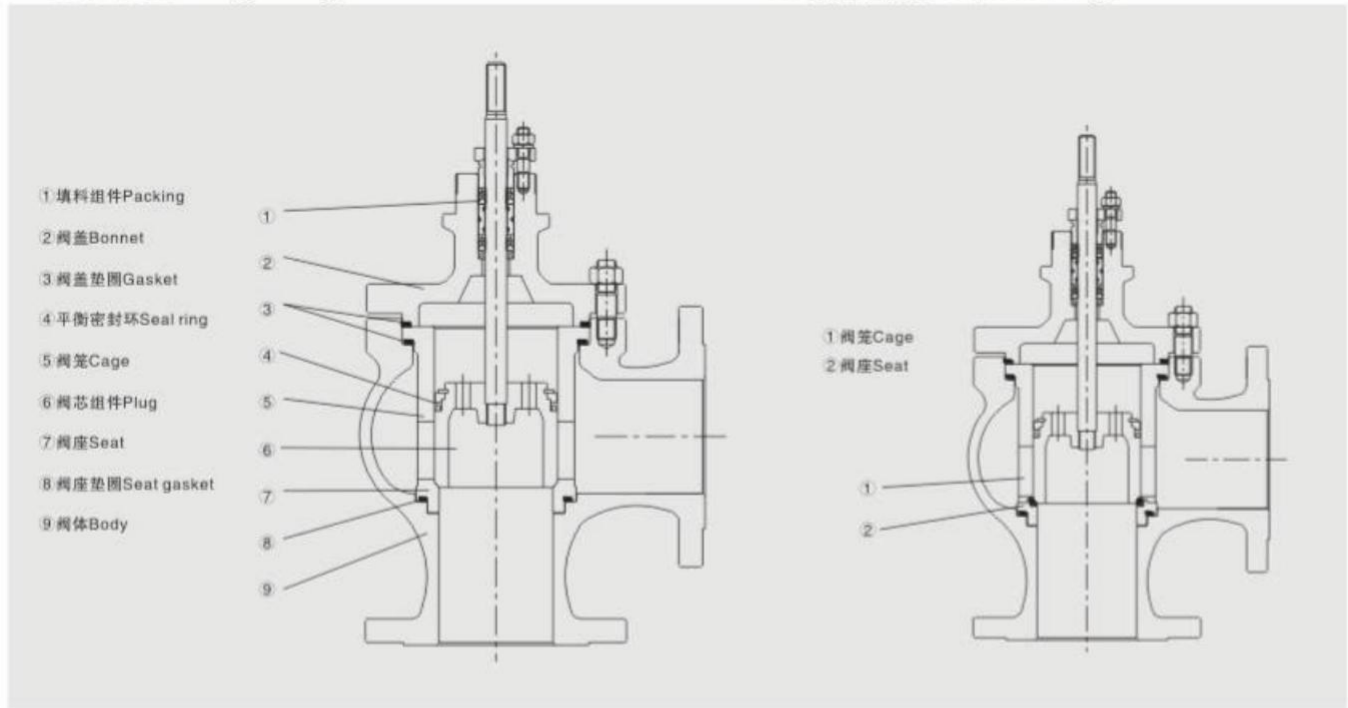
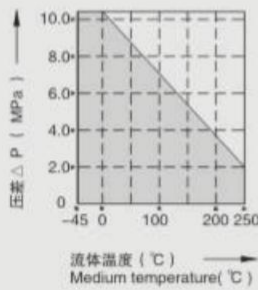


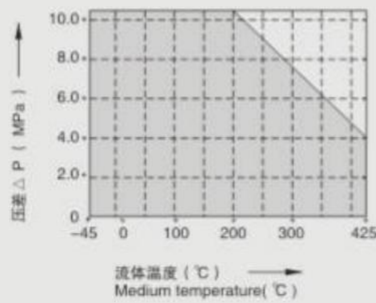
图2 阀内件材质 处理选定基准 Fig.2 trim material treatment and choice

2-1 阀芯、阀座的使用温度 压力范围 2-1.Plug/seat operating pressure-temperature rating

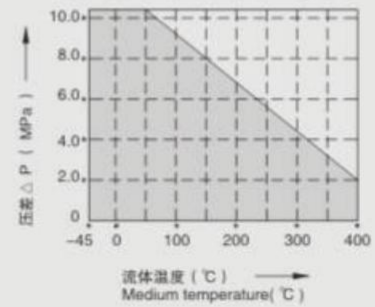
2.1-1 阀笼: 17-4PH 硬化处理
Cage: 17-4PH Hardening
阀芯 Plug: 304/316



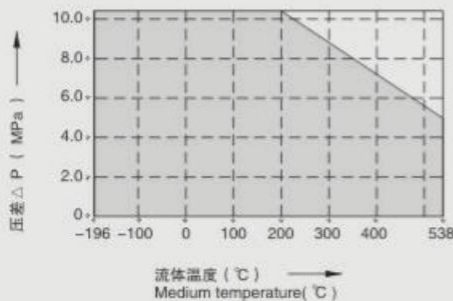
2.1-2 阀笼: 17-4PH 硬化处理
Cage: 17-4PH Hardening
阀芯: 410 热处理
Plug: 410 heat treatment



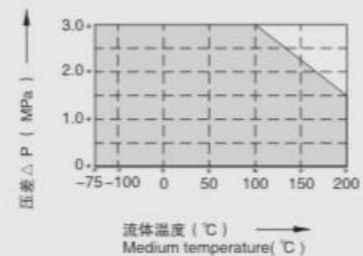
2.1-3 阀笼: 304/316 镀硬铬或堆焊合金
Cage: 316/304 bead welding satellite or hard chrome plated
阀芯: 304/316 堆焊合金
Plug: 304/316 Bead welding Stellite



2.1-4 阀笼: 304/316 镀硬铬或堆焊合金
Cage: 316/304 bead welding satellite or hard chrome plated
阀芯 Plug: 304/316 堆焊合金 bead welding Stellite

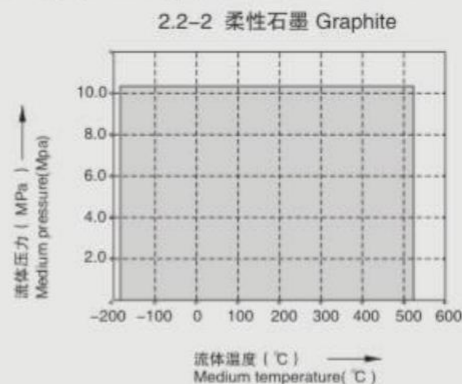
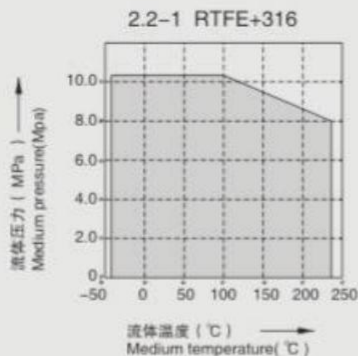


2.1-5 阀笼: 17-4PH 硬化处理或 316 镀硬铬
Cage: 17-4PH Hardening or 316 hard chrome plated
阀芯 Plug: 410 热处理 heat treatment 或 or 316
阀座 Seat: 316+RTFE



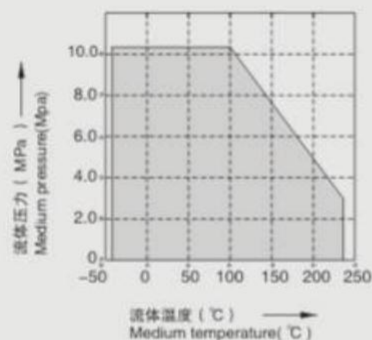
角型笼式调节阀 Angle Type Cage Guided Control Valve

2-2 平衡密封环的使用温度 压力范围 2-2 Balance sealing ring operating pressure-temperature rating

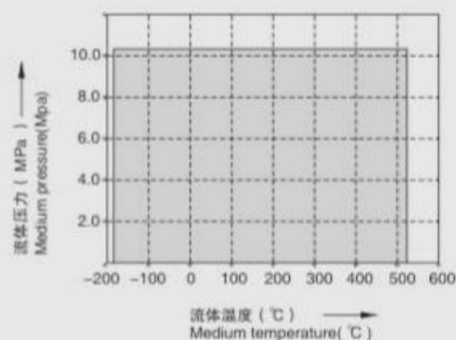


2-3 密封填料的使用温度 压力范围 2-3 packing operating pressure-temperature rating

2.3-1 强化聚四氟乙烯材料 V 型填料 V type PTFE



2.3-2 柔性石墨填料 Graphite



备注：空化、闪蒸、禁油及常处于关闭下的调节阀，不管工作温度和压差多大，建议硬化处理。

Remarks: The valve working in the condition of cavitation, flash, no oil and the valve always shut, no matter how much work temperature and pressure drops, Our proposal hardening treatment.

表2 额定Cv值和行程 Table 2 Cv and stroke

>>

公称通径 DN mm	阀芯尺寸 Plug size mm	额定Cv值 Rated Cv		行程 Stroke mm
		等百分比 EQ%	直线Liner	
40	20	10		25
	25	17	20	25
	32	25	30	25
	40	36	40	25
50	32	25	30	25
	40	36	40	25
	50	60	70	25
65	40	36	40	25
	50	60	70	25
	65	100	115	40
80	50	60	70	25
	65	100	115	40
	80	135	150	40

公称通径 DN mm	阀芯尺寸 Plug size mm	额定Cv值 Rated Cv		行程 Stroke mm
		等百分比 EQ%	直线Liner	
100	65	100	115	40
	80	135	150	40
	100	190	215	40
125	100	190	215	40
	125	280	315	60
150	125	280	315	60
	150	410	435	60
200	150	410	435	60
	200	650	735	60
250	200	650	735	60
	250	950	1050	100
300	250	950	1050	100
	300	1440	1400	100

角型笼式调节阀 Angle Type Cage Guided Control Valve

图3 流量特性 Fig 3 flow characteristic

等百分比特性 EQ%



表3 控制阀最大允许压差(单位: MPa) Table 3 control valve allow able pressure drop(unit: MPa)

3-1 HA 薄膜式执行机构 Table 3-1 HA series diaphragm actuator

执行机构规格 Actuator type	气源压力 KPaG Air supply	弹簧范围 KPaG Spring range	阀座形式 Seat type	阀芯尺寸Plug size mm										
				40	50	65	80	100	125	150	200	250	300	
HA22 HA23	140	20-100	金属座Metal seat											
			软座Soft seat											
	300	40-200D 80-240R	金属座Metal seat	6.80	5.62									
			软座Soft seat	3.00	3.00									
HA34	140	20-100	金属座Metal seat											
			软座Soft seat											
	300	40-200D 80-240R	金属座Metal seat	9.80	9.80	7.62	6.82	5.65						
			软座Soft seat	3.00	3.00	3.00	3.00	3.00						
HA45	140	20-100	金属座Metal seat											
			软座Soft seat											
	300	40-200D 80-240R	金属座Metal seat			9.80	9.80	9.80	7.72	6.80	5.00			
			软座Soft seat			3.00	3.00	3.00	3.00	3.00	3.00	3.00		
HA56	300	40-200D 80-240R	金属座Metal seat						9.80	9.80	9.80	6.60	380	
			软座Soft seat						3.00	3.00	3.00	3.00	3.00	260

3-2 ZSA 系列气缸式执行机构 Table 3-2 ZSA series cylinder actuator

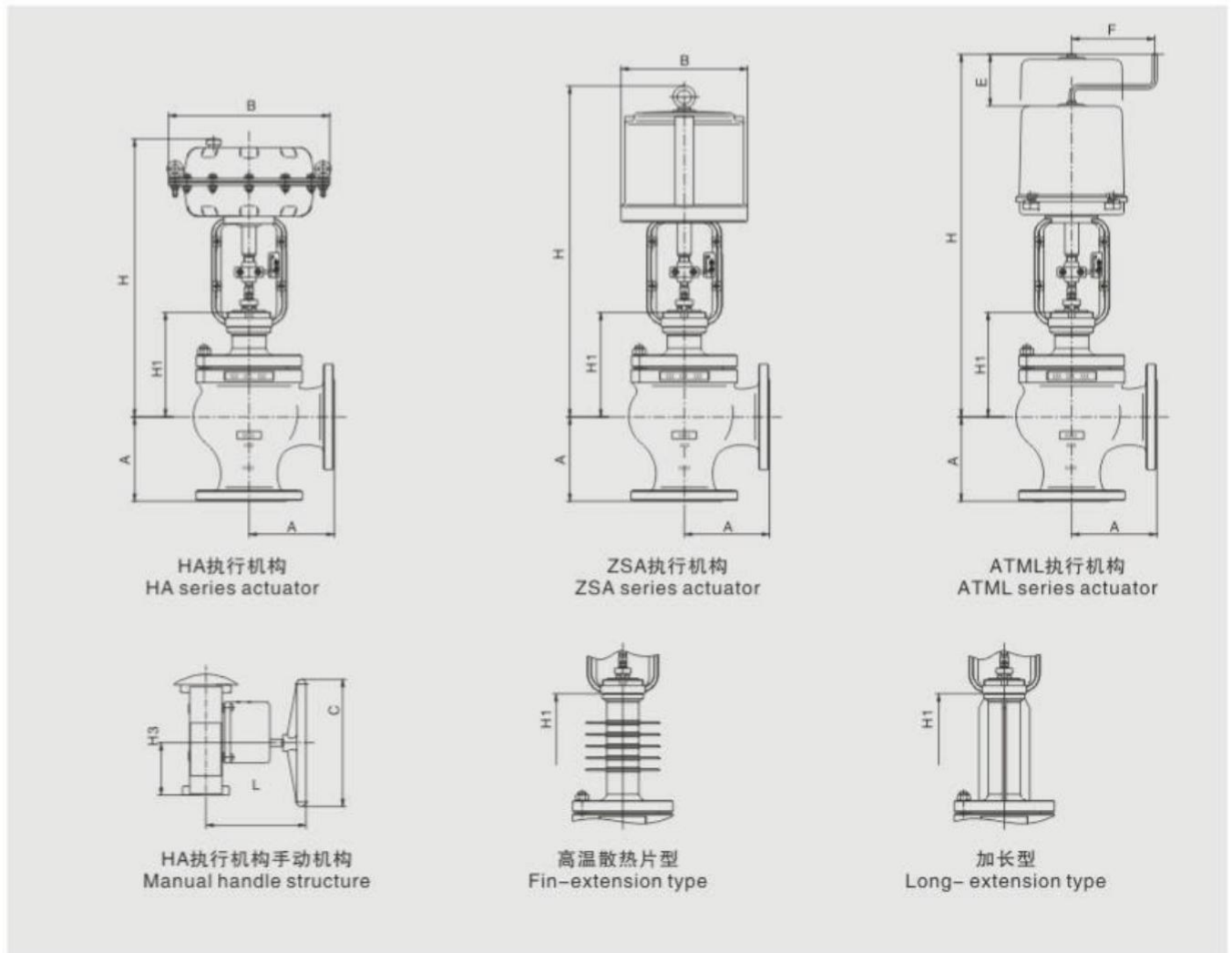
执行机构规格 Actuator type	气源压力 KPaG Air supply	阀座形式 Seat type	阀芯尺寸Plug size mm				
			125	150	200	250	300
ZSA25D	400	金属座Metal seat	9.80	9.80	9.80		
		软座Soft seat	3.00	3.00	3.00		
	500	金属座Metal seat	9.80	9.80	9.80		
		软座Soft seat	3.00	3.00	3.00		
ZSA32D	400	金属座Metal seat				9.80	9.80
		软座Soft seat				3.00	3.00
	500	金属座Metal seat				9.80	9.80
		软座Soft seat				3.00	3.00

角型笼式调节阀 Angle Type Cage Guided Control Valve

3-3 ATML 系列全电子式执行机构 Table 3-3 ATML series solid state electronic actuator

执行机构规格 Actuator type	阀座形式 Seat type	阀芯尺寸 Plug size mm									
		40	50	65	80	100	125	150	200	250	300
ATMLSA-20	金属座 Metal seat	5.39	3.23								
	软座 Soft seat	3.00	3.00								
ATMLSB-30	金属座 Metal seat	9.80	8.33								
	软座 Soft seat	3.00	3.00								
ATMLSB-50	金属座 Metal seat	9.80	9.80	9.80	9.80	7.25	5.00	4.83			
	软座 Soft seat	3.00	3.00	3.00	3.00	3.00	3.00	3.00			
ATMLSC-65	金属座 Metal seat		9.80	9.80	9.80	9.80	7.25	6.40			
	软座 Soft seat		3.00	3.00	3.00	3.00	3.00	3.00			
ATMLSC-100	金属座 Metal seat						9.80	8.90	8.90	7.75	5.02
	软座 Soft seat						3.00	3.00	3.00	3.00	3.00
ATMLSC-160	金属座 Metal seat						9.80	9.80	9.80	9.80	6.90
	软座 Soft seat						3.00	3.00	3.00	3.00	3.00

图4 配执行机构及阀外形尺寸 Fig.4 actuator and valve outline dimension



角型笼式调节阀 Angle Type Cage Guided Control Valve

配HA系列薄膜式执行机构(外形尺寸) HA series diaphragm actuator (dimensions)

单位Unit : mm

阀门尺寸 DN mm	A			标准型 Standard		散热型 Fin- extension type		加长型 Long- extension type		手轮机构 Handle wheel structure			B(φ)	执行机构 Actuator
	ANSI 150 PN1.6 JIS10K	ANSI 300 PN4.0 JIS30K	ANSI 600 PN6.3 PN10.0 JIS40K	H1	H	H1	H	H1	H	H3	C	L		
40	111	117	125	156	511	306	661	676	1031	135	250	240	285	HA23
					591		741		1111		135	250	240	360
50	127	133	143	162	517	312	667	682	1037	135	250	240	285	HA23
					597		747		1117		135	250	240	360
65	138	146	156	220	655	400	835	770	1205	135	250	240	360	HA34
					758		938		1308		138	250	300	470
80	149	159	168	232	667	412	847	782	1217	135	250	240	360	HA34
					770		950		1320		138	250	300	470
100	176	184	197	240	675	420	855	790	1225	135	250	240	360	HA34
					778		958		1328		138	250	300	470
125	201	212	230	284	822	504	1042	884	1422	138	250	300	470	HA45
					1034		1254		1634		138	300	320	590
150	225	237	254	312	850	532	1070	912	1450	138	250	300	470	HA45
					1062		1282		1662		138	300	320	590
200	271	284	305	344	882	564	1102	944	1482	138	250	300	470	HA45
					1094		1314		1694		138	300	320	590
250	-	-	-	462	1212	682	1432	1062	1812	138	300	320	590	HA56
300	-	-	-	520	1270	740	1490	1120	1870	138	300	320	590	HA56

配ZSA系列气缸式执行机构(外形尺寸) ZSA double acting cylinder actuator

单位Unit : mm

阀门尺寸 DN mm	A			标准型 Standard		散热型 Fin- extension type		加长型 Long- extension type		B(φ)	执行机构 Actuator
	ANSI 150 PN1.6 JIS10K	ANSI 300 PN4.0 JIS30K	ANSI 600 PN6.3 PN10.0 JIS40K	H1	H	H1	H	H1	H		
125	201	212	230	284	854	390	1074	770	1454	290	ZSA25
					964		1184		1564	380	ZSA32
					1114		1334		1714	470	ZSA40
150	225	237	254	312	882	400	1102	780	1482	290	ZSA25
					992		1212		1592	380	ZSA32
					1142		1362		1742	470	ZSA40
200	271	284	305	344	914	435	1134	815	1514	290	ZSA25
					1024		1244		1624	380	ZSA32
					1174		1394		1774	470	ZSA40
250	-	-	-	462	1292	480	1512	860	1892	470	ZSA40
300	-	-	-	520	1350	510	1570	890	1950	470	ZSA40

配ATML系列电子式电动执行机构(外形尺寸) ATML series solid state electronic actuator(dimensions)

单位Unit : mm

阀门尺寸 DN mm	A			标准型 Standard		散热型 Fin- extension type		加长型 Long- extension type		E	B(φ)	执行机构 Actuator
	ANSI 150 PN1.6 JIS10K	ANSI 300 PN4.0 JIS30K	ANSI 600 PN6.3 PN10.0 JIS40K	H1	H	H1	H	H1	H			
40	111	117	125	156	606	306	756	676	1126	130	280	ATML-A
					746		896		1266		130	310
50	127	133	143	162	612	312	762	682	1132	130	280	ATML-A
					752		902		1272		130	310

角型笼式调节阀 Angle Type Cage Guided Control Valve

续上表 Continued table

65	138	146	156	220	840	400	1020	770	1390	130	310	ATML-B
					1010		1190		1560	165	360	ATML-C
80	149	159	168	232	852	412	1032	782	1402	130	310	ATML-B
					1022		1202		1572	165	360	ATML-C
100	176	184	197	240	860	420	1040	790	1410	130	310	ATML-B
					1030		1210		1580	165	360	ATML-C
125	201	212	230	284	904	504	1124	884	1504	130	310	ATML-B
					1074		1294		1674	165	360	ATML-C
150	225	237	254	332	932	552	1152	932	1532	130	310	ATML-B
					1102		1322		1702	165	360	ATML-C
200	271	284	305	344	1134	564	1354	944	1734	165	360	ATML-C
250	-	-	-	462	1302	682	1522	1062	1902	165	360	ATML-D
300	-	-	-	520	1360	740	1580	1120	1960	165	360	ATML-D

表4 控制阀重量(单位: kg) Table 4 Control valve weight(unit: kg) >>

公称 口径 DN mm	压力等级 PN			薄膜式执行机构 Diaphragm multi-spring type					双动作气缸式执行机构 Double acting pneumatic type				电子式电动执行机构 Solid state electronic type			
	ANSI	JIS	PN	HA22	HA23	HA34	HA45	HA56	ZSA25	ZSA32	ZSA40	ZSA50	ATMLSA	ATMLSB	ATMLSC	ATMLSD
25	150	10K	1.6	20									28			
	300	20K、30K	4.0	22									30			
	600	40K	6.3	26									34			
40	150	10K	1.6		30	42							36	46		
	300	20K、30K	4.0		33	45							39	49		
	600	40K	6.3		39	51							45	55		
50	150	10K	1.6		32	44							38	48		
	300	20K、30K	4.0		36	48							42	52		
	600	40K	6.3		42	54							48	58		
65	150	10K	1.6			56	76							60	100	
	300	20K、30K	4.0			60	80							64	104	
	600	40K	6.3			70	90							74	114	
80	150	10K	1.6			70	90							76	114	
	300	20K、30K	4.0			84	104							88	128	
	600	40K	6.3			98	118							102	142	
100	150	10K	1.6			92	112							96	136	
	300	20K、30K	4.0			106	126							110	150	
	600	40K	6.3			136	156							140	180	
125	150	10K	1.6				136	192	115	142	210			130	160	
	300	20K、30K	4.0				156	212	135	162	230			140	180	
	600	40K	6.3				196	252	175	202	270			180	220	
150	150	10K	1.6				156	212	135	162	230			140	180	
	300	20K、30K	4.0				186	242	165	192	260			170	220	
	600	40K	6.3				246	302	225	252	320			230	270	
200	150	10K	1.6				216	272	195	222	290				240	
	300	20K、30K	4.0				256	312	235	262	330				280	
	600	40K	6.3				356	412	335	362	430				380	
250	150	10K	1.6					392			410					370
	300	20K、30K	4.0					462			480					440
	600	40K	6.3					642			660					620
300	150	10K	1.6					542			570					520
	300	20K、30K	4.0					632			670					630
	600	40K	6.3					902			920					880

高压单座调节阀 High-pressure Top Guided Single Seat Control Valve

Z_D HP 高压单座调节阀 High-pressure top guided single seat control valve

Z_D HP 高压单座调节阀是一种顶部导向的单座调节阀，采用压力不平衡式阀芯。由于没有流体平衡机构，该系列特别适用于料浆、聚合物、结晶体及高温流体。

Z_D HP high pressure single seat control valve is a kind of top guided single seat control valve, adopts unbalanced pressure valve plug. Because there is no fluid balance mechanism, this series of valve is particularly suitable for stocks, polymers, crystals and high temperature fluids.

技术参数和性能 Technical parameters and performance >>

标准本体部 Standard specification

型式Type	不平衡阀芯型 Unbalance plug type
公称口径DN	ANSI 900、1500; 20-100mm ANSI 2500; 25-100mm
公称压力PN	ANSI Class 900、1500、2500Lb
阀体材料Body material	WCB、WC6、WC9、LCB、CF8、CF8M、CF3M 各种材质温度压力·范围，请参见表1及附录 Each material's operating pressure - temperature limitation, see table 1 and the appendix
连接形式 Body connections	法兰式Flanged type: RF、RJ; 焊接式Welding type: 承插焊SW(20-50mm); 对接焊BW(80-100mm) 标准按Flanged Standard: JIS B2220, GB/T9113, ANSIB16.5; 法兰距 请参见图3 Face to face dimension see Fig.3
阀内件型式Trim type	上导向单座柱塞式阀芯、分离式套筒，请参见图1 Top guided single seat plunger type plug, separated cage, Valve structure see Fig.1
上阀盖Bonnet	标准型Standards type for: -29/-46/+230℃; 散热片型Fin-extension type: +230/+538℃; 加长型Long-extension type: -196--46℃
压盖型式Gland type	螺栓压紧式Bolt pressing type
填料Packing	V型聚四氟乙烯填料，柔性石墨填料。各种材质的使用温度·范围 请参见图2 V-shape PTFE packing, graphite packing. each material's operating pressure-temperature limitation, see Fig.2

执行机构 Actuator

名称Name	气动薄膜多弹簧式 Diaphragm multi-spring type	双作用气缸式 Double acting pneumatic type	电子式电动 Solid state electronic type
型号Type	HA	ZSA	ATML
用途Purpose	调节Modulation	调节Modulation	调节Modulation
正作用Direct action	气压增加阀闭Air to valve close	输入信号增加阀闭 Input signal increase to valve close	输入信号增加阀闭 Input signal increase to valve close
反作用Reverse action	气压增加阀开Air to valve open	输入信号增加阀开 Input signal increase to valve open	输入信号增加阀开 Input signal increase to valve open
供气压力或供给电压 Air supply or Vote supply	供气压力(弹簧范围) Air supply(spring range) 140(20-100)KPaG 300(40-200)KPaG 300(80-240)KPaG	供气压力Air supply 500KPaG 输入信号Input signal 4-20mADC	供给电压Power 220V AC 50Hz 输入信号Input signal 4-20mADC
性能指标 (带定位器) Performance index (with positioner)	滞后 Hysteresis	≤1.0%FS	≤0.8%FS
	直线性 Linearity	≤±2.0%FS	≤±1.5%FS
气源接口 Connection	M16*1.5 (HA56 Rc1/2)	Rc3/8 (ZSA40 Rc1/2)	配线Connection 2-G1/2
允许环境温度 Ambient temperature	-30-70℃	-30-70℃	-10-60℃
表面涂层处理 Painting color	灰色 Gray		
附件配置 Accessory allocation	定位器，空气过滤减压阀，电磁阀，限位开关，手操机构等 Positioned, air-set, solenoid valve, limit switch, lock up valve, manual handle		加热器 Heater

高压单座调节阀 High-pressure Top Guided Sinle Seat Control Valve

性能 Performance

额定Cv值 Rated Cv value	请参见表2 See table 2
泄漏量 Leakage	符合标准Conformed ANSI B16.104 IV 级 class, $\leq 10^{-4}$ 额定Cv Rated capacity of valve
可调比 Range ability	50: 1
允许压差 Allowable pressure drops	请参见表3 See table 3

表1 阀本体部材质 Table 1 valve body material >>

1-1 本体部材质：碳钢 1-1 body material: carbon steel

阀体材质 Body material	WCB、WC6、WC9、LCB			
阀芯Plug	材质Material	440C	304/316	304/316
	处理Treatment	热处理- Heat treatment	司太立合金 Overlaying Stellite alloy	全部司太立合金 Fully overlaying Stellite alloy
阀座Seat	材质Material	440C	304/316	304/316
	处理Treatment	热处理- Heat treatment	司太立合金 Overlaying Stellite alloy	全部司太立合金 Fully overlaying Stellite alloy
导向套Guide	材质Material	440B	440B	304
	处理Treatment	热处理- Heat treatment	热处理- Heat treatment	司太立合金 Overlaying Stellite alloy
泄露等级Leakage	ANSI	ClassIV	ClassIV	ClassIV
	阀额定容量 × Valve rated capacity ×	0.01%	0.01%	0.01%
使用温度 (°C) Operating temperature	WCB	-29 ~ +425	-29 ~ +425	-
	WC6/WC9	-	-	-29 ~ +538
	LCB	-46 ~ +350	-46 ~ +350	-

1-2 本体部材质：不锈钢 1-2 Body material: stainless steel

阀体材质 Body material	ZG1Cr18Ni9/CF8、ZG0Cr17Ni12Mo2/CF8M		
阀芯Plug	材质Material	316	316
	处理Treatment	司太立合金Overlaying Stellite alloy	全部司太立合金Fully overlaying Stellite alloy
阀座Seat	材质Material	316	316
	处理Treatment	司太立合金Overlaying Stellite alloy	全部司太立合金Fully overlaying Stellite alloy
导向套Guide	材质Material	316	316
	处理Treatment	司太立合金Overlaying Stellite alloy	司太立合金Overlaying Stellite alloy
泄露等级Leakage	ANSI	ClassIV	ClassIV
	阀额定容量 × Valve rated capacity ×	0.01%	0.01%
使用温度 (°C) Operating temperature		-196 ~ +538	-196 ~ +538

高压单座调节阀 High-pressure Top Guided Single Seat Control Valve

图1 本体部结构 Fig.1 Valve section view

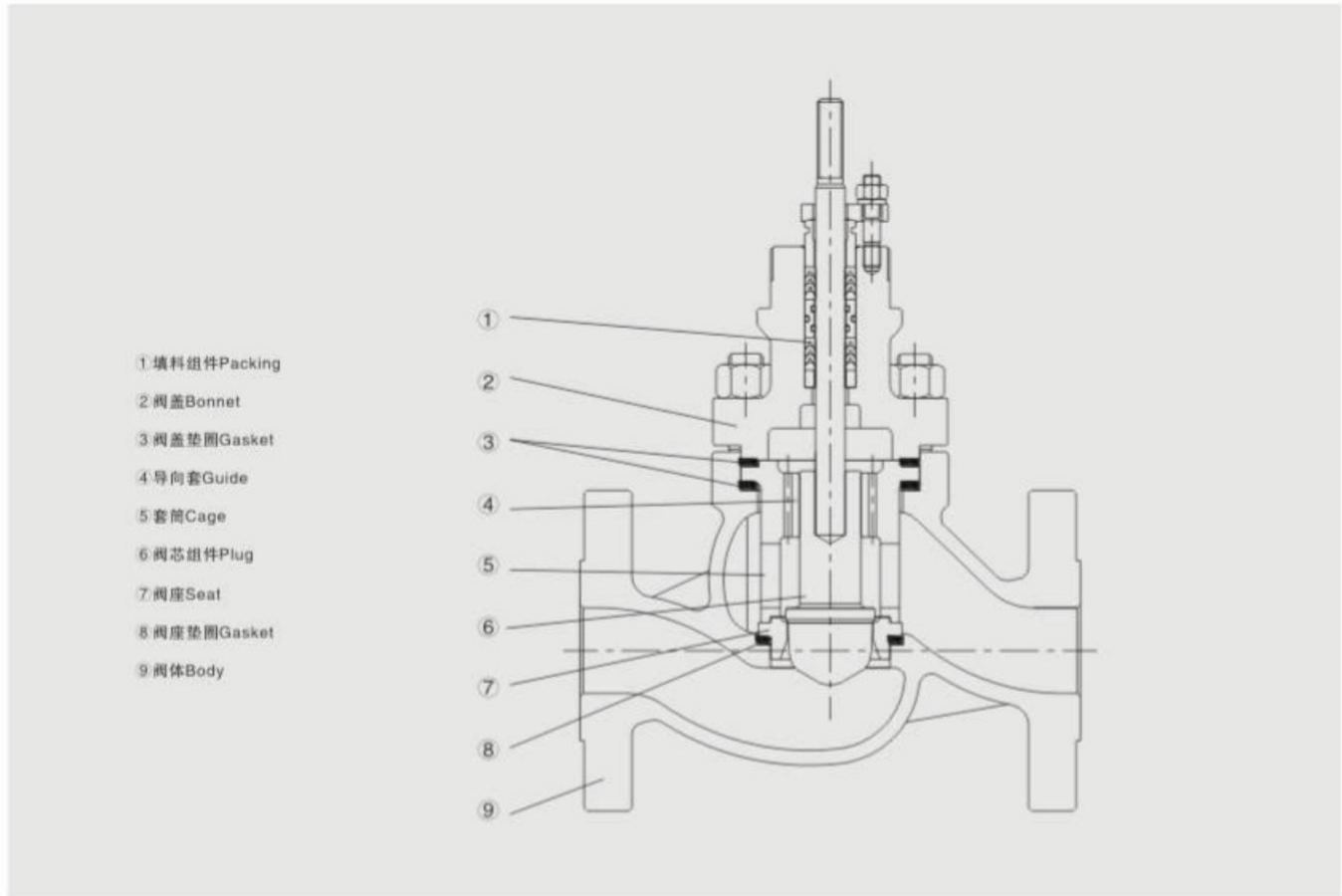
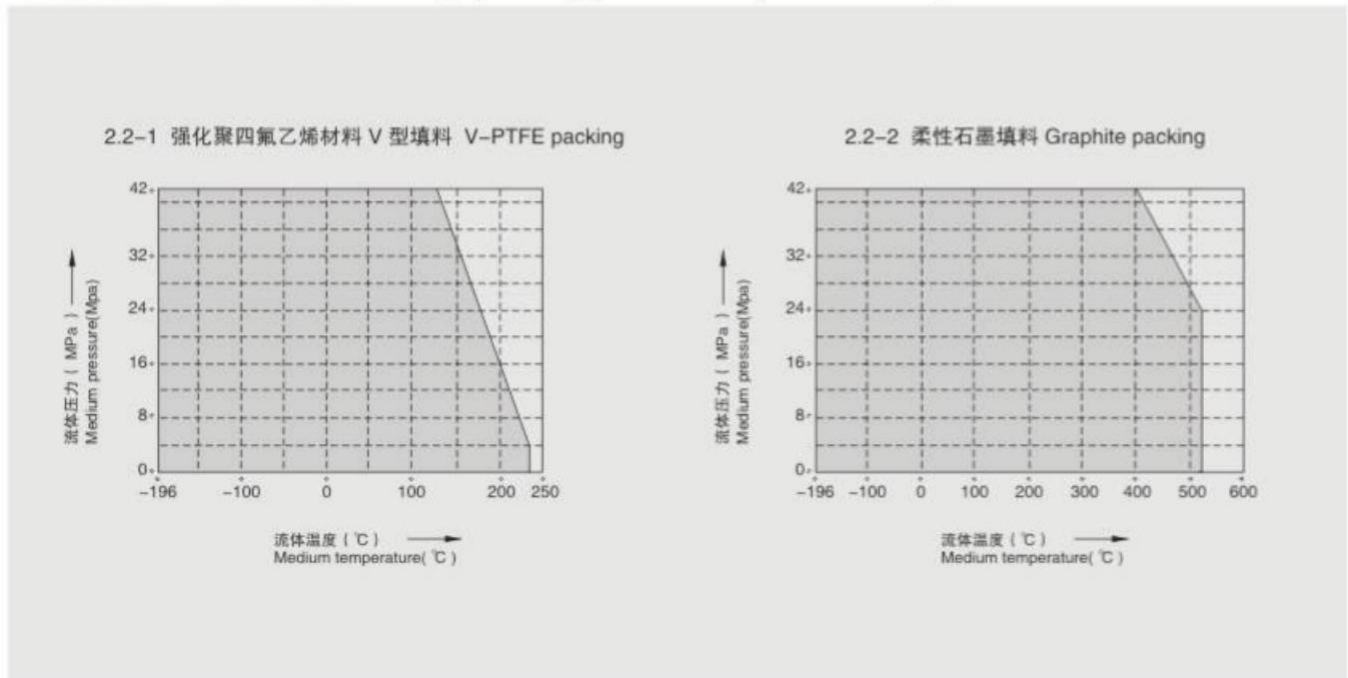


图2 阀内件材质 处理选定基准 Fig.2 trim material treatment and choice

密封填料的使用温度 压力范围 Packing operating pressure-temperature rating



高压单座调节阀 High-pressure Top Guided Sinle Seat Control Valve

表2 额定Cv值和行程 Table 2 CV and stroke >>

Class900、1500

公称通径 DN mm	阀芯尺寸 Plug size mm	额定Cv(等百分比) Rated Cv EQ%	行程 Stroke mm
20	7	0.28	10
	8	0.52	
	9	0.96	
	10	1.6	
	12	2.5	
	15	4	
25	10	1.6	16
	12	2.5	
	15	4	
	20	8	
	25	13	

公称通径 DN mm	阀芯尺寸 Plug size mm	额定Cv(等百分比) Rated Cv EQ%	行程 Stroke mm
40	25	13	16
	32	20	25
	40	25	
50	32	20	
	40	25	
	50	45	
80	50	45	
	65	72	
	80	100	
100	65	72	
	80	100	
	100	175	

Class2500

公称通径 DN mm	阀芯尺寸 Plug size mm	额定Cv(等百分比) Rated Cv EQ%	行程 Stroke mm
20	7	0.28	10
	8	0.52	
	9	0.96	
	10	1.6	
	12	2.5	
	15	4	
25	10	1.6	16
	12	2.5	
	15	4	
	20	8	

公称通径 DN mm	阀芯尺寸 Plug size mm	额定Cv(等百分比) Rated Cv EQ%	行程 Stroke mm
40	20	8	16
	25	13	25
	32	20	
50	25	13	
	32	20	
	40	25	
80	40	25	
	50	45	
	65	72	
100	50	45	
	65	72	
	80	100	

表3 控制阀最大允许压差(单位: MPa) Table 3 control valve allow able pressure drops(unit:MPa) >>

3-1 HA系列薄膜式执行机构 3-1 HA series diaphragm actuator

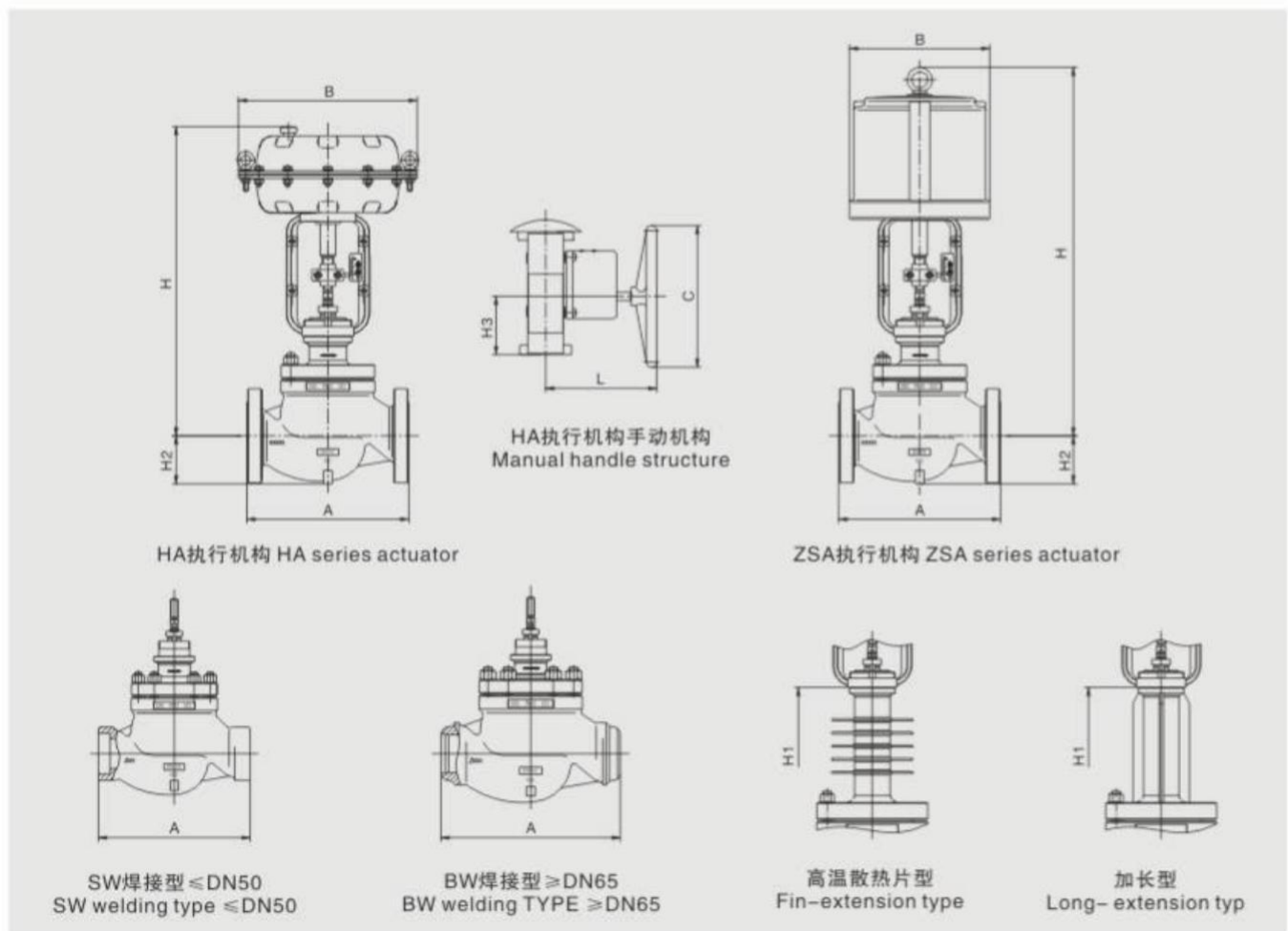
执行机构 规格 Actuator type	弹簧范围 KPaG Spring range	气源压力 KPaG Air supply	阀芯尺寸Plug size mm										
			≤10	12	15	20	25	32	40	50	65	80	100
HA34D	40-200	300	26.0	26.0	19.5	11.0	6.5	4.1	2.8	1.7	0.9		
HA34R	80-240												
HA45D	40-200	300			26.0	20.1	12.7	7.8	4.8	3.0	1.7	1.1	0.6
HA45R	80-240												
HA56D	40-200	300			26.0	19.0	11.0	7.3	4.6	2.6	1.7	1.0	
HA56R	80-240												

高压单座调节阀 High-pressure Top Guided Single Seat Control Valve

3-2 ZSA系列气缸式执行机构 3-2 ZSA series cylinder actuator

执行机构规格 Actuator type	气源压力 KPaG Air supply	阀芯尺寸 Plug size mm										
		≤10	12	15	20	25	32	40	50	65	80	100
ZSA25D	400	26.0	26.0	26.0	26.0	26.0	15.9	10.3	6.5			
	500	26.0	26.0	26.0	26.0	26.0	20.4	13.3	8.4			
ZSA32D	400					26.0	26.0	17.4	11.0	7.5		
	500					26.0	26.0	21.7	14.2	9.6		
ZSA40D	400							26.0	19.6	11.6	7.7	4.6
	500								26.0	16.0	10.5	6.2
ZSA50D	400								26.0	18.6	12.4	7.8
	500								26.0	24.8	16.4	10.0

图3 配执行机构及阀外形尺寸 Fig.3 Actuator and valve outline dimension



法兰距 Flanged distance

单位 Unit : mm

阀门尺寸 DN mm	A					
	ANSI 900		ANSI 1500		ANSI 2500	
	RF、SW、SB	RJ	RF、SW、SB	RJ	RF、SW、SB	RJ
20	276	276	276	276		
25	292	292	292	292	318	318
40	333	333	333	333	358	361
50	375	378	375	378	400	403
80	440	443	460	463	498	504
100	510	513	530	533	575	585

高压单座调节阀 High-pressure Top Guided Single Seat Control Valve

配HA系列薄膜式执行机构(外形尺寸) HA series diaphragm actuator(dimensions)

单位Unit : mm

阀门尺寸 DN mm	H1			H						手轮机构 Handle wheel structure			B (φ)	执行机构 Actuator
	ANSI 900	ANSI 1500	ANSI 2500	ANSI900		ANSI1500		ANSI2500		H3	C	L		
				标准型 Standard	高温型 Fin- extension type	标准型 Standard	高温型 Fin- extension type	标准型 Standard	高温型 Fin- extension type					
20	80	80	85	549	649	549	649			135	250	240	360	HA34
				653	753	653	753			138	250	300	470	HA45
25	90	90	95	549	649	549	649	579	679	135	250	240	360	HA34
				653	753	653	753	683	783	138	250	300	470	HA45
				865	965	865	965	895	995	138	300	320	590	HA56
40	100	105	120	564	715	564	715	604	755	135	250	240	360	HA34
				668	818	668	818	708	858	138	250	300	470	HA45
				880	1030	880	1030	920	1070	138	300	320	590	HA56
50	110	120	130	584	742	584	742	624	764	135	250	240	360	HA34
				688	828	688	828	728	868	138	250	300	470	HA45
				900	1050	900	1050	940	1090	138	300	320	590	HA56
80	140	150	165	758	938	758	938	808	988	138	250	300	470	HA45
				970	1150	970	1150	1020	1200	138	300	320	590	HA56
100	160	170	190	818	998	818	998	868	1058	138	250	300	470	HA45
				1030	1210	1030	1210	1080	1260	138	300	320	590	HA56

配ZSA系列气缸式执行机构(外形尺寸) ZSA Cylinder actuator(dimensions)

单位Unit : mm

阀门尺寸 DN mm	H1			H						B(φ)	执行机构 Actuator
	ANSI 900	ANSI 1500	ANSI 2500	ANSI900		ANSI1500		ANSI2500			
				标准型 Standard	高温型 Fin- extension type	标准型 Standard	高温型 Fin- extension type	标准型 Standard	高温型 Fin- extension type		
20	80	80	85	685	785	685	785			290	25
25	90	90	95	685	785	685	785	715	815	290	25
				795	895	795	895	825	925	380	32
40	100	105	120	700	851	700	851	740	891	290	25
				810	960	810	960	850	1000	380	32
				960	1110	960	1110	1000	1150	420	40
50	110	120	130	720	878	720	878	760	900	290	25
				830	970	830	970	870	1010	380	32
				980	1130	980	1130	1020	1170	420	40
80	140	150	165	1050	1230	1050	1230	1100	1280	420	40
				1230	1410	1230	1410	1280	1460	540	50
100	160	170	190	1110	1290	1110	1290	1160	1350	420	40
				1290	1470	1290	1470	1340	1520	540	50

高压单座调节阀 High-pressure Top Guided Sinle Seat Control Valve

表4 控制阀重量(单位: kg) Table 4 Control valve weight(unit: kg) >>

公称 口径 DN mm	压力等级 PN ANSI	HA 系列薄膜式执行机构 HA series diaphragm actuator						ZSA 系列气缸式执行机构 ZSA series cylinder actuator							
		法兰式 Flange type			对焊式 Welding type			法兰式 Flange type				对焊式 Welding type			
		HA34	HA45	HA56	HA34	HA45	HA56	ZSA25	ZSA32	ZSA40	ZSA50	ZSA25	ZSA32	ZSA40	ZSA50
20	900	48	70		43	65		42				32			
	1500	53	75		48	70		45				47			
25	900	53	75	125	43	65	115	47	65	145	255	37	55	135	245
	1500	58	80	130	48	70	120	52	70	150	260	42	60	140	250
	2500	78	100	150	63	85	135	72	90	170	280	57	75	155	265
40	900	58	80	130	48	70	120	52	70	150	260	42	60	140	250
	1500	63	85	135	53	75	125	57	75	155	265	47	65	145	255
	2500	88	110	160	73	95	145	82	100	180	290	67	85	165	275
50	900	68	90	140	58	80	130	62	80	160	270	52	70	150	260
	1500	78	100	150	63	85	135	72	90	170	280	57	75	155	265
	2500	113	135	185	88	110	160	107	125	205	315	82	100	180	290
80	900		130	180		105	155	102	120	200	310	77	95	175	285
	1500		165	215		130	180	137	155	235	345	102	120	200	310
	2500		250	300		190	240	222	240	320	430	162	180	260	370
100	900		200	250		150	200		190	270	380		140	220	330
	1500		240	290		190	240		230	310	420		180	260	370
	2500		350	400		260	310		340	420	530		250	330	440

笼式高压调节阀 Cage Guided High Pressure Control Valve

Z_DHM笼式高压调节阀 Cage guided high pressure control valve

Z_DHM系列是一种压力平衡的笼式高压调节阀。该阀笼上设有高性能的平衡密封环，具有流通能力大、许用压差高、动作稳定、调节性能优越等优点。广泛用于工况条件苛刻等性能要求较高的高压场合。

Z_DHM series cage guided high pressure control valve adopts multi stages valve cages, fully control the flow speed of the fluid, greatly reducing the noise created by the high pressure difference of gas, effectively prevent the cavitation of liquid. It has the advantages of no cavitation damage, low noise, comprehensive performance stability and so on. Widely used in the conditions with high noise and severe cavitation, harsh conditions of high pressure.

技术参数和性能 Technical parameters and performance >>

标准本体部 Standard specification

型式Type	流体压力平衡型 Pressure balanced plug type
公称口径DN	40-200mm
公称压力PN	ANSI Class 900、1500、2500Lb
阀体材料Body material	WCB、CF8、CF8M 各种材质温度压力·范围，请参见表1及附录 Each material operating pressure-temperature limitation, see table 1 and the appendix
连接形式 Body connections	法兰式Flanged type: RF、RJ; 焊接式Welding type: 承插焊SW(25-50mm); 对接焊BW(80以上) 标准按Flanged Standard: JIS B2201; ANSIB16.5; 法兰距 请参见图3 Face to face dimension see Fig.3
阀内件型式Trim type	分离式阀笼; 阀本体结构 请参见图2 Separated cage; Valve structure see Fig.2
上阀盖Bonnet	标准型Standards type for: -29/-46~+230°C; 散热片型Fin-extension type: +230~+538°C; 加长型Long-extension type: -196~-46°C
压盖型式Gland type	螺栓压紧式Bolt pressing type
填料Packing	V型聚四氟乙烯填料, 柔性石墨填料。各种材质的使用温度·范围 请参见图2 V-shape PTFE packing, graphite packing, each material's operating pressure-temperature limitation, see Fig.2

执行机构 Actuator

名称Name	气动薄膜多弹簧式 Diaphragm multi-spring type	双作用气缸式 Double acting pneumatic type	电子式电动 Solid state electronic type
型号Type	HA	ZSA	ATML
用途Purpose	调节Modulation	调节Modulation	调节Modulation
正作用Direct action	气压增加阀闭Air to valve close	输入信号增加阀闭 Input signal increase to valve close	输入信号增加阀闭 Input signal increase to valve close
反作用Reverse action	气压增加阀开Air to valve open	输入信号增加阀开 Input signal increase to valve open	输入信号增加阀开 Input signal increase to valve open
供气压力或供给电压 Air supply or Vote supply	供气压力(弹簧范围) Air supply(spring range) 140(20-100)KPaG 300(40-200)KPaG 300(80-240)KPaG	供气压力Air supply 500KPaG 输入信号Input signal 4-20mADC	供给电压Power 220V AC 50Hz 输入信号Input signal 4-20mADC
性能指标 (带定位器) Performance index (with positioner)	滞后 Hysteresis	≤1.0%FS	≤0.8%FS
	直线性 Linearity	≤±2.0%FS	≤±1.5%FS
气源接口 Connection	M16*1.5 (HA56 Rc1/2)	Rc3/8 (ZSA40 Rc1/2)	配线Connection 2-G1/2
允许环境温度 Ambient temperature	-30-70°C	-30-70°C	-10-60°C
表面涂层处理 Painting color	灰色 Gray		
附件配置 Accessory allocation	定位器, 空气过滤减压阀, 电磁阀, 限位开关, 手操机构等 Positioned, air-set, solenoid valve, limit switch, lock up valve, manual handle		加热器 Heater

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性能 Performance

额定Cv值 Rated Cv value	请参见表2 See table 2
流量特性 Flow characteristics	等百分比和线性 Equal percentage and linear
泄漏量 Leakage	金属阀座符合标准Metal seat conformed ANSI B16.104 class IV, $\leq 10^{-4}$ 额定Cv Rated capacity of valve
可调比 Range ability	50: 1
允许压差 Allowable pressure drops	请参见表3 See table 3

表1 阀本体部材质 Table 1 valve body material >>

1-1 本体部材质：碳钢 1-1 body material: carbon steel

阀体材质 Body material	WCB、WC6、WC9、LCB			
阀笼Cage	材质Material	17-4PH		304/316
	处理Treatment	析出硬化处理-Age-hardening		镀硬铬Hard chrome plated
阀芯Plug	材质Material	304/316	410	304/316
	处理Treatment	-	热处理-Heat treatment	司太立合金 Overlaying Stellite alloy
阀座Seat	材质Material	304/316	410	304/316
	处理Treatment	-	热处理-Heat treatment	司太立合金 Overlaying Stellite alloy
密封环Seal ring	材质Material	RTFE+316	柔性石墨Grafoil	柔性石墨Grafoil
泄露等级Leakage	ANSI	ClassIV	ClassIV	ClassIV
	阀额定容量 × Valve rated capacity ×	0.01%	0.01%	0.01%
使用温度 (°C) Operating temperature	WCB	-29 ~ +230	-29 ~ +425	-
	WC6/WC9	-	-	-29 ~ +538
	LCB	-46 ~ +230	-46 ~ +350	-

1-2 本体部材质：不锈钢 1-2 Body material: stainless steel

阀体材质 Body material	ZG0Cr18Ni9/CF8、ZG0Cr17Ni12Mo2/CF8M				
阀笼Cage	材质Material	316			316
	处理Treatment	镀硬铬Hard chrome plated			全部司太立合金 Fully overlaying Stellite alloy
阀芯Plug	材质Material	316	316	316	316
	处理Treatment	-	司太立合金 Overlaying Stellite alloy		全部司太立合金 Fully overlaying Stellite alloy
阀座Seat	材质Material	316	316	316	316
	处理Treatment	-	司太立合金Overlaying Stellite alloy		
密封环Seal ring	材质Material	RTFE+316	RTFE+316	柔性石墨Grafoil	柔性石墨Grafoil
泄露等级Leakage	ANSI	ClassIV	ClassIV	ClassIV	ClassIV
	阀额定容量 × Valve rated capacity ×	0.01%	0.01%	0.01%	0.01%
使用温度 (°C) Operating temperature		-196 ~ +230①	-196 ~ +230①	-196 ~ +538	-196 ~ +538

注：①使用PCTFE 可用于-196℃，常规RTFE 应在≥-75℃介质中使用。

Notes: ①PCTFE can be used for -196℃, The conventional RTFE should be used in media ≥-75℃

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图1 本体部结构 Fig.1 Valve section view

分离式阀笼 Type stage Separate cage

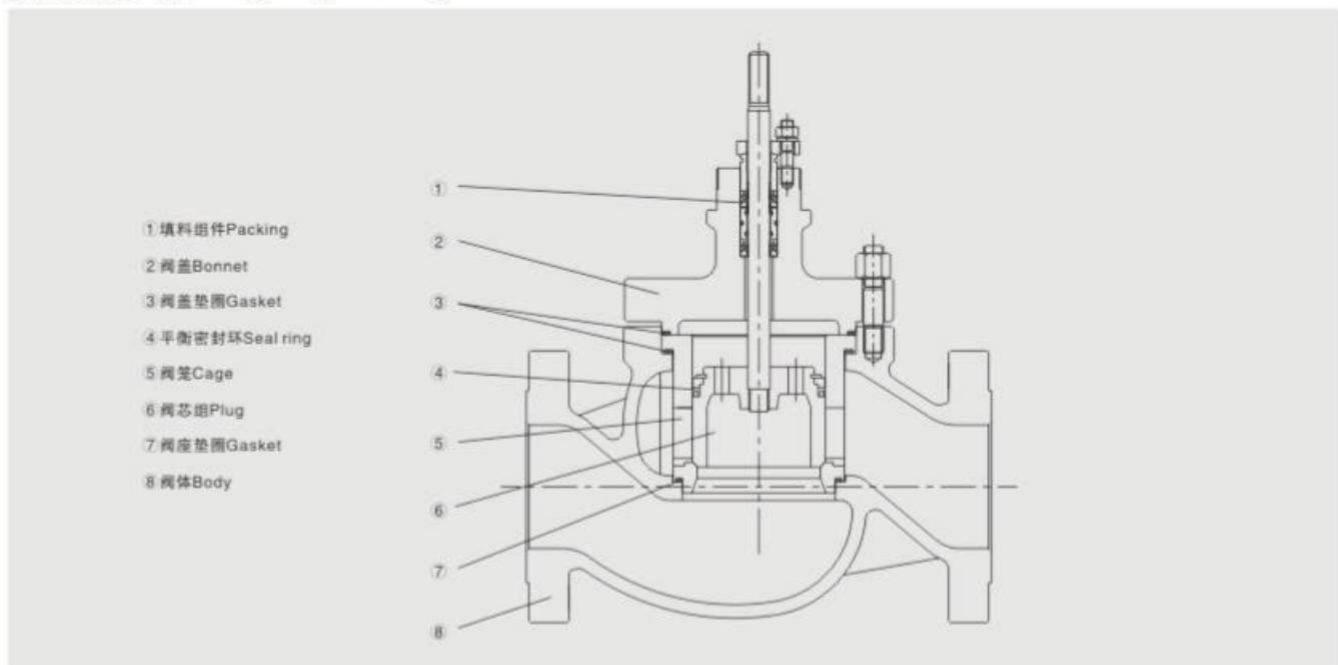
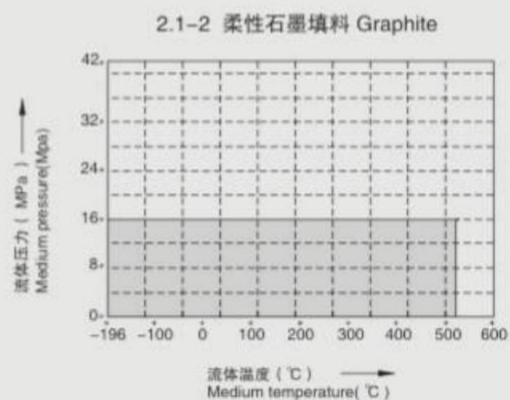
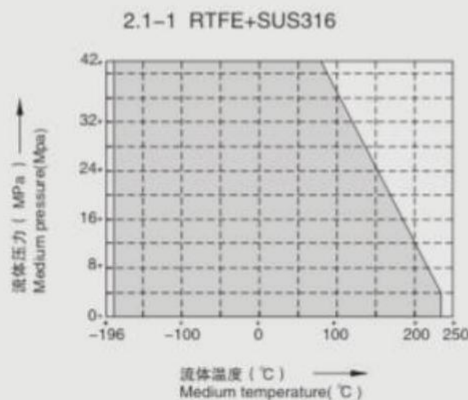
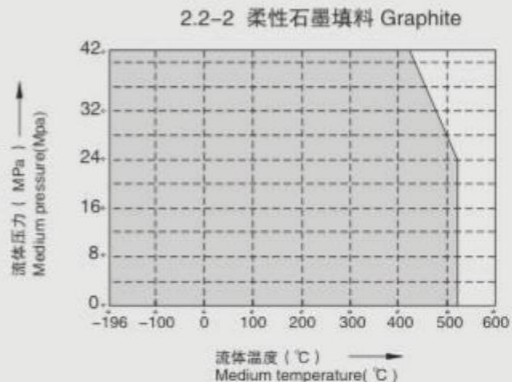
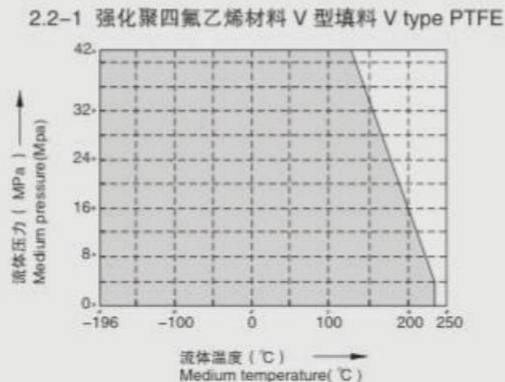


图2 阀内件材质 处理选定基准 Fig.2 trim material treatment and choice

2-1 平衡密封环的使用温度 压力范围 2.1 Plug/seat operating pressure-temperature rating



2-2 填料的使用温度 压力范围 2.2 Packing operating pressure-temperature rating



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表2 额定Cv值和行程 Table 2 Cv and stroke >>

2-1 ANSI Class 900、1500Lb

公称通径 DN mm	阀芯尺寸 Plug size mm	额定Cv(等百分比) Rated Cv		行程 Stroke mm
		等百分比 EQ%	直线 Liner	
40	20	12		25
	25	17	20	25
	32	25	30	25
50	32	17	20	25
	40	25	30	25
	50	52	62	25
80	50	52	62	40
	65	78	90	40
	80	110	135	40

公称通径 DN mm	阀芯尺寸 Plug size mm	额定Cv(等百分比) Rated Cv		行程 Stroke mm
		等百分比 EQ%	直线 Liner	
100	65	78	90	40
	80	110	135	40
	100	180	210	40
150	100	180	210	60
	125	270	330	60
	150	375	435	60
200	125	270	330	60
	150	375	435	60
	200	630	700	60

2-2 ANSI Class 2500Lb

公称通径 DN mm	阀芯尺寸 Plug size mm	额定Cv(等百分比) Rated Cv		行程 Stroke mm
		等百分比 EQ%	直线 Liner	
40	25	12		25
	32	17	20	25
50	32	17	20	25
	40	25	30	25
80	50	52	62	40
	65	78	90	40

公称通径 DN mm	阀芯尺寸 Plug size mm	额定Cv(等百分比) Rated Cv		行程 Stroke mm
		等百分比 EQ%	直线 Liner	
100	65	78	90	40
	80	110	135	40
150	100	180	210	60
	125	270	330	60
200	150	375	435	60
	175	480	540	60

表3 控制阀最大允许压差(单位: MPa) Table 3 control valve allow able pressure drops(unit: MPa) >>

3-1 HA 薄膜式执行机构 3-1 HA series diaphragm actuator

公称压力 PN	执行机构规格 Actuator type	气源压力 KPaG Air supply	弹簧范围 KPaG Spring range	阀座形式 Seat type	公称通径DN					
					40	50	80	100	150	200
900Lb 1500Lb	HA34	300	40-200D 80-240R	金属座Metal seat	19.6	14.6				
				软座Soft seat	9.8	9.8				
	HA45	300	40-200D 80-240R	金属座Metal seat	26.0	25.5	14.7	10.9	7.53	4.80
				软座Soft seat	9.8	9.8	9.8	9.8	6.20	3.70
	HA56	300	40-200D 80-240R	金属座Metal seat			26.0	20.8	13.6	9.40
				软座Soft seat			9.8	9.8	9.8	8.40
2500Lb	HA45	300	40-200D 80-240R	金属座Metal seat	40.0	30.0				
				软座Soft seat	9.8	9.8				
	HA56	300	40-200D 80-240R	金属座Metal seat	40.0	40.0	35.2	26.0	17.5	11.6
				软座Soft seat	9.8	9.8	9.8	9.8	9.8	9.8

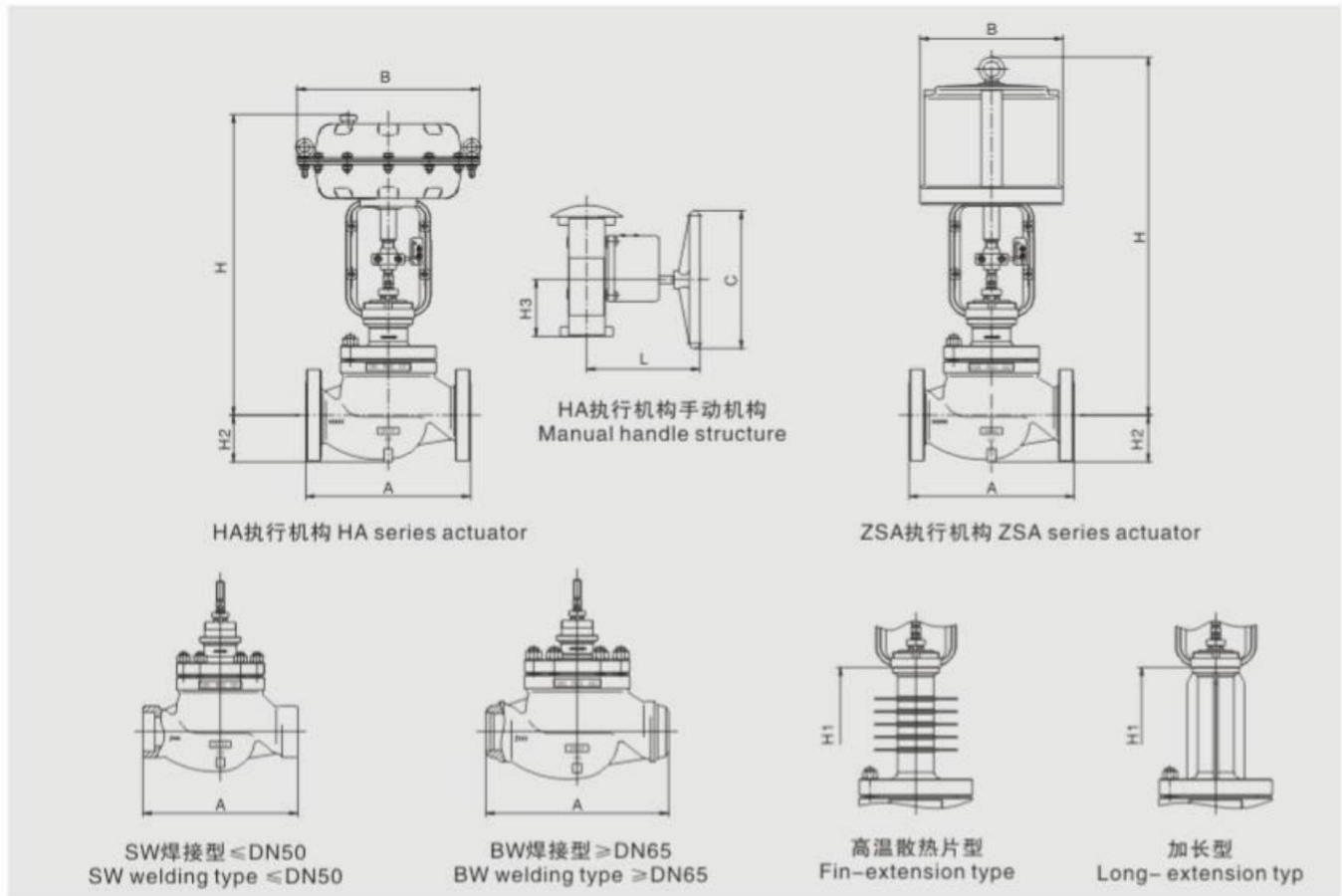
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3-2 ZSA 系列气缸式执行机构 3-2 ZSA series cylinder pneumatic actuator

公称压力 PN	执行机构 规格 Actuator type	气源压力 KPaG Air supply	阀座形式 Seat type	公称口径DN					
				40	50	80	100	150	200
900Lb 1500Lb	ZSA17D	400	金属座Metal seat	26.0	26.0				
			软座Soft seat	9.8	9.8				
		500	金属座Metal seat	26.0	26.0				
			软座Soft seat	9.8	9.8				
	ZSA25D	400	金属座Metal seat	26.0	26.0	26.0	24.5		
			软座Soft seat	9.8	9.8	9.8	9.8		
		500	金属座Metal seat	26.0	26.0	26.0	26.0		
			软座Soft seat	9.8	9.8	9.8	9.8		
	ZSA32D	400	金属座Metal seat			26.0	26.0	25.6	20.8
			软座Soft seat			9.8	9.8	9.8	9.8
		500	金属座Metal seat			26.0	26.0	26.0	24.6
			软座Soft seat			9.8	9.8	9.8	9.8
	ZSA40D	400	金属座Metal seat			26.0	26.0	26.0	26.0
			软座Soft seat			9.8	9.8	9.8	9.8
		500	金属座Metal seat			26.0	26.0	26.0	26.0
			软座Soft seat			9.8	9.8	9.8	9.8
2500Lb	ZSA25D	400	金属座Metal seat	40.0	40.0				
			软座Soft seat	9.8	9.8				
		500	金属座Metal seat	40.0	40.0				
			软座Soft seat	9.8	9.8				
	ZSA32D	400	金属座Metal seat			40.0	40.0		
			软座Soft seat			9.8	9.8		
		500	金属座Metal seat			40.0	40.0		
			软座Soft seat			9.8	9.8		
	ZSA40D	400	金属座Metal seat					40.0	40.0
			软座Soft seat					9.8	9.8
		500	金属座Metal seat					40.0	40.0
			软座Soft seat					9.8	9.8

笼式高压调节阀 Cage Guided High Pressure Control Valve

图3 配执行机构及阀外形尺寸 Fig.3 actuator and valve outline dimension >>



法兰距 Face to face dimension

单位Unit : mm

阀门尺寸 DN mm	A					
	ANSI 900		ANSI 1500		ANSI 2500	
	RF、SW、SB	RJ	RF、SW、SB	RJ	RF、SW、SB	RJ
40	333	333	333	333	358	361
50	375	378	375	378	400	403
80	440	443	460	463	498	504
100	510	513	530	533	575	585
150	715	718	770	776	820	833
200	915	918	972	982	1020	1036

配HA系列薄膜式执行机构(外形尺寸) HA series actuator(dimensions)

单位Unit : mm

阀门尺寸 DN mm	H1			H						手轮机构 Handle wheel structure			B (φ)	执行机构 Actuator
	ANSI 900	ANSI 1500	ANSI 2500	ANSI900		ANSI1500		ANSI2500		H3	C	L		
				标准型 Standard	高温型 Fin-extension type	标准型 Standard	高温型 Fin-extension type	标准型 Standard	高温型 Fin-extension type					
40	100	105	120	564	715	564	715	604	755	138	250	300	360	HA34
				668	818	668	818	708	858	138	300	320	470	HA45
				880	1030	880	1030	920	1070	158	400	380	590	HA56
50	110	120	130	584	742	584	742	624	764	138	250	300	360	HA34
				688	828	688	828	728	868	138	300	320	470	HA45
				900	1050	900	1050	940	1090	158	400	380	590	HA56
80	140	150	165	654	834	654	834	704	884	138	250	300	360	HA34
				758	938	758	938	808	988	138	300	320	470	HA45
				970	1150	970	1150	1020	1200	158	400	380	590	HA56

笼式高压调节阀 Cage Guided High Pressure Control Valve

续上表 Continued table

单位Unit : mm

阀门尺寸 DN mm	H1			H						手轮机构 Handle wheel structure			B (φ)	执行机构 Actuator
	ANSI 900	ANSI 1500	ANSI 2500	ANSI900		ANSI1500		ANSI2500		H3	C	L		
				标准型 Standard	高温型 Fin- extension type	标准型 Standard	高温型 Fin- extension type	标准型 Standard	高温型 Fin- extension type					
100	160	170	190	818	998	818	998	868	1058	138	300	320	470	HA45
				1030	1210	1030	1210	1080	1260	158	400	380	590	HA56
150	210	220	250	878	1058	878	1058	928	1118	138	300	320	470	HA45
				1090	1270	1090	1270	1140	1320	158	400	380	590	HA56
200	270	280	320	978	1158	978	1158	1028	1218	138	300	320	470	HA45
				1190	1370	1190	1370	1240	1420	158	400	380	590	HA56

配ZSA系列气缸式执行机构(外形尺寸) ZSA cylinder actuator(dimensions)

单位Unit : mm

公称通径 DN mm	H1			H						B (φ)	执行机构 Actuator
	ANSI 900	ANSI 1500	ANSI 2500	ANSI900		ANSI1500		ANSI2500			
				标准型 Standard	高温型Fin- extension type	标准型 Standard	高温型Fin- extension type	标准型 Standard	高温型Fin- extension type		
40	100	105	120	570	721	570	721	610	761	208	ZSA17D
				700	851	700	851	740	891	290	ZSA25D
50	110	120	130	590	748	590	748	630	770	208	ZSA17D
				720	878	720	878	760	900	290	ZSA25D
80	140	150	165	610	790	610	790	660	840	290	ZSA25D
				720	900	720	900	770	950	380	ZSA32D
				1050	1230	1050	1230	1100	1280	470	ZSA40D
100	160	170	190	670	850	670	850	720	910	290	ZSA25D
				780	960	780	960	830	1020	380	ZSA32D
				1110	1290	1110	1290	1160	1350	470	ZSA40D
150	210	220	250	840	1020	840	1020	890	1080	380	ZSA32D
				1170	1350	1170	1350	1220	1410	470	ZSA40D
200	270	280	320	940	1120	940	1120	990	1180	380	ZSA32D
				1270	1450	1270	1450	1320	1510	470	ZSA40D

表4 控制阀重量(单位: kg) Table 4 control valve weight(unit: kg)

>>

公称通径 DN mm	压力等级 PN ANSI	HA系列薄膜式执行机构HA series diaphragm actuator						ZSA系列气缸式执行机构ZSA cylinder actuator							
		法兰式Flange type			对焊式Welding type			法兰式Flange type				对焊式Flange type			
		HA34	HA45	HA56	HA34	HA45	HA56	ZSA17	ZSA25	ZSA32	ZSA40	ZSA17	ZSA25	ZSA32	ZSA40
40	900	70	100	140	60	90	130	55	65	90	160	45	55	80	150
	1500	75	105	145	65	95	135	60	70	95	165	50	60	85	155
	2500	100	130	170	85	115	155	85	95	120	190	70	80	95	165
50	900	80	110	150	70	100	140	65	75	100	170	55	65	90	160
	1500	88	115	155	63	100	140	70	80	105	175	55	65	90	160
	2500	130	160	200	105	135	175	115	125	150	220	90	100	125	195
80	900		160	200		135	175			150	220			125	195
	1500		200	240		165	205			190	260			155	225
	2500		280	320		220	260			270	340			210	280
100	900		200	240		150	190			190	260			140	210
	1500		250	290		200	240			240	310			190	260
	2500		360	400		270	310			350	420			260	330
150	900		380	400		310	340			360	430			290	360
	1500		450	490		360	400			440	510			350	420
	2500		620	660		430	470			615	680			420	490
200	900		600	640		490	530			590	660			480	550
	1500		700	740		540	580			690	760			530	600
	2500		890	930		590	640			880	950			590	660

角型高压调节阀 Angle Type High Pressure Control Valve

Z₀LP角型高压调节阀 Angle type high pressure control valve

Z₀LP角型高压调节阀是一种高性能的角阀，内设有二种结构阀芯。

压力不平衡型阀芯无压力平衡密封装置，该结构特别适用于料浆、聚合物、结晶体及高温流体，但需较大的启闭力矩。

压力平衡型阀芯上设有平衡密封装置，该结构适用极其苛刻的工况条件下对高压或高压差液体的精确控制。能防止液体产生空化气蚀、减少高速流体对阀内件的冲刷、降低噪音；尤其适合含有杂质和固体颗粒流体的控制。由于阀芯上设有压力平衡密封结构，因此只须用较小的操作力便可达到稳定调节以及较高工作压差。

Z₀LP angle type high pressure control valve is a kind of high performance angle valve, there are two kinds of structural plug.

Pressure unbalance type valve plug: has no pressure balanced sealing structure, the structure is especially suitable for slurry, polymer, crystal and high temperature fluids, but requires a larger opening and closing force.

Pressure balance type valve plug: has pressure balanced sealing structure, the structure is suitable for the precise control of high temperature, high pressure or high pressure difference liquid under extremely harsh working conditions. It can prevent the liquid from product cavitation, reduce the erosion of the valve and reduce the noise, and is especially suitable for control the fluid which contains impurities and solid particles. Because the valve plug is provided with a pressure balanced sealing structure, the control valve can achieve stable adjustment and higher working pressure difference with small operation force.

技术参数和性能 Technical parameters and performance >>

标准本体部 Standard specification

型式Type	不平衡阀芯型；平衡阀芯型 Unbalance plug type; balance plug type
公称口径DN	25-100mm
公称压力PN	ANSI Class 900、1500、2500Lb
阀体材料Body material	A105、304、316 各种材质温度压力·范围，请参见表1 Each material operating pressure-temperature limitation, see table 1
连接形式 Body connections	法兰式Flanged type: RF、RJ; 焊接式Welding type: 承插焊SW(25-50mm); 对接焊BW(80-100mm) 标准按Flanged Standard: JIS B2201; ANSIB16.5; 法兰距 请参见图3 Face to face dimension see Fig.3
阀内件型式Trim type	不平衡式多段型阀芯Unbalance multi section plug type DN25-50 DN25-50; 平衡式多段型阀芯Balanced multi section plug type DN50-100 DN50-100; 请参见图1 see Fig.1
上阀盖Bonnet	标准型Standards type: -29/-46-+230℃; 散热片型Fin-extension type: +230-+538℃; 加长型Long-extension type: -196--46℃
压盖型式Gland type	螺栓压紧式Bolt pressing type
填料Packing	V型聚四氟乙烯填料，柔性石墨填料。各种材质的使用温度·范围 请参见图2 V-shape PTFE packing, graphite packing each material operating pressure-temperature limitation, see Fig.2

执行机构 Actuator

名称Name	气动薄膜多弹簧式 Diaphragm multi-spring type	双作用气缸式 Double acting pneumatic type	电子式电动 Solid state electronic type
型号Type	HA	ZSA	ATML
用途Purpose	调节Modulation	调节Modulation	调节Modulation
正作用Direct action	气压增加阀闭Air to valve close	输入信号增加阀闭 Input signal increase to valve close	输入信号增加阀闭 Input signal increase to valve close
反作用Reverse action	气压增加阀开Air to valve open	输入信号增加阀开 Input signal increase to valve open	输入信号增加阀开 Input signal increase to valve open
供气压力或供给电压 Air supply or Vote supply	供气压力(弹簧范围) Air supply(spring range) 140(20-100)KPaG 300(40-200)KPaG 300(80-240)KPaG	供气压力Air supply 500KPaG 输入信号Input signal 4-20mADC	供给电压Power 220V AC 50Hz 输入信号Input signal 4-20mADC
性能指标 (带定位器) Performance index (with positioner)	滞后 Hysteresis	≤1.0%FS	≤0.8%FS
	直线性 Linearity	≤±2.0%FS	≤±1.5%FS
气源接口 Connection	M16*1.5 (HA56 Rc1/2)	Rc3/8 (ZSA40 Rc1/2)	配线Connection 2-G1/2
允许环境温度 Ambient temperature	-30-70℃	-30-70℃	-10-60℃
表面涂层处理 Painting color	灰色 Gray		
附件配置 Accessory allocation	定位器，空气过滤减压阀，电磁阀，限位开关，手操机构等 Positioned, air-set, solenoid valve, limit switch, lock up valve, manual handle		加热器 Heater

角型高压调节阀 Angle Type High Pressure Control Valve

性能 Performance

额定Cv值 Rated Cv value	请参见表2 See table 2
流量特性 Flow characteristics	等百分比和线性 请参见表2 Equal percentage and linear, see table 2
泄漏量 Leakage	金属阀座符合标准Metal seat conformed ANSI B16.104 IV 级 class IV, $\leq 10^{-4}$ 额定Cv Rated capacity of valve
可调比 Range ability	50: 1; DN < 10mm (30: 1)
允许压差 Allowable pressure drops	请参见表3 See table 3

表1 阀本体部材质 Table 1 valve body material >>

顶部导向型 Top guide type

阀体材质 Body material	A105		304、316	
阀芯Plug	材质Material	440C	304	316
	处理Treatment	热处理-Heat treatment	司太立合金 Overlaying Stellite alloy	司太立合金 Overlaying Stellite alloy
阀座Seat	材质Material	440C	304	316
	处理Treatment	热处理-Heat treatment	司太立合金 Overlaying Stellite alloy	司太立合金 Overlaying Stellite alloy
导向套Guide	材质Material	440B	440B	316
	处理Treatment	热处理-Heat treatment	热处理-Heat treatment	司太立合金 Overlaying Stellite alloy
泄露等级Leakage	ANSI	ClassIV	ClassIV	ClassIV
	阀额定容量 × Valve rated capacity ×	0.01%	0.01%	0.01%
使用温度 (°C) Operating temperature	-29 ~ +425		-29 ~ +425	-196 ~ +538

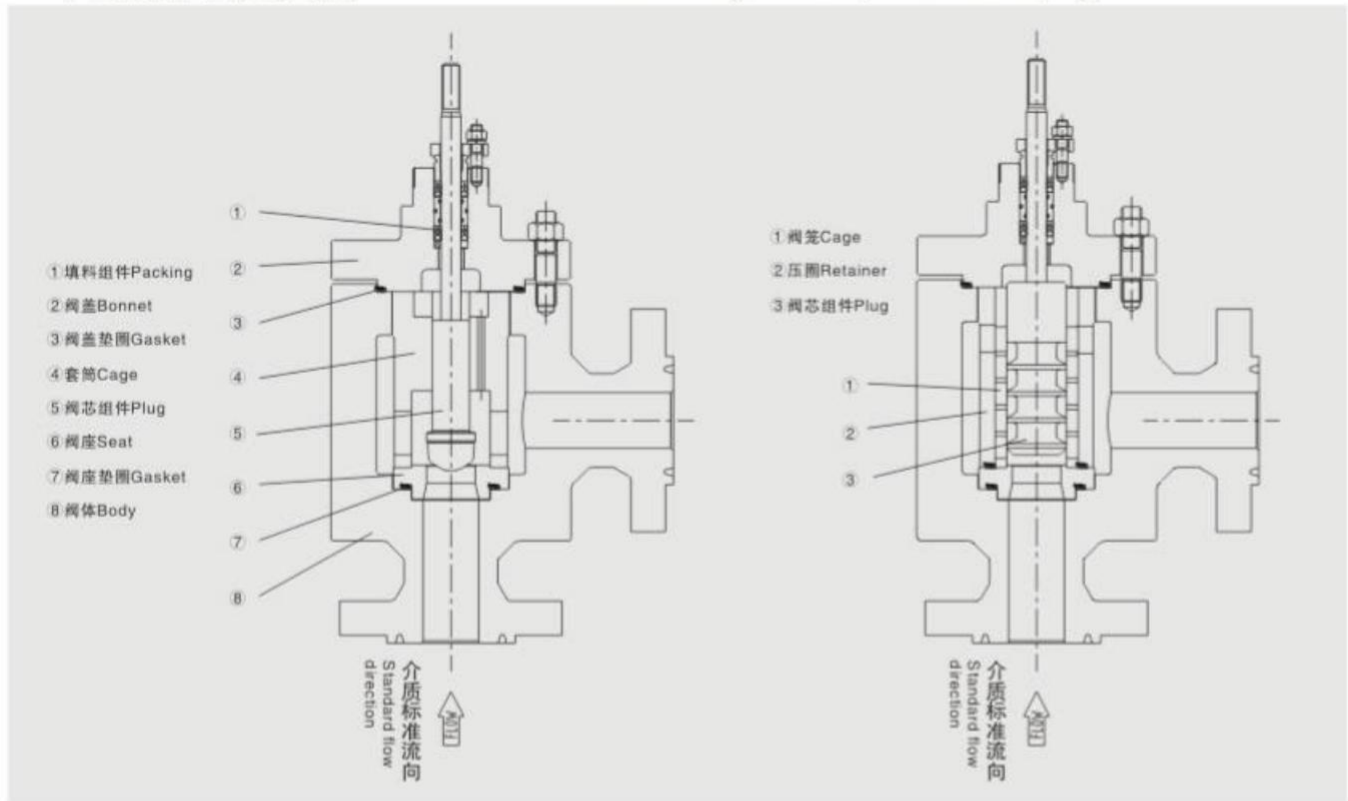
阀笼导向型 Cage guide type

阀体材质 Body material	A105		304、316	
阀笼Cage	材质Material	17-4PH	316	
	处理Treatment	析出硬化处理- Age-hardening	-	
阀芯Plug	材质Material	440C	316	
	处理Treatment	热处理-Heat treatment	司太立合金Overlaying Stellite alloy	
阀座Seat	材质Material	440B	316	
	处理Treatment	热处理-Heat treatment	司太立合金Overlaying Stellite alloy	
泄露等级Leakage	ANSI	ClassIV	ClassIV	
	阀额定容量 × Valve rated capacity ×	0.01%	0.01%	
使用温度 (°C) Operating temperature	-29 ~ +425		-196 ~ +538	

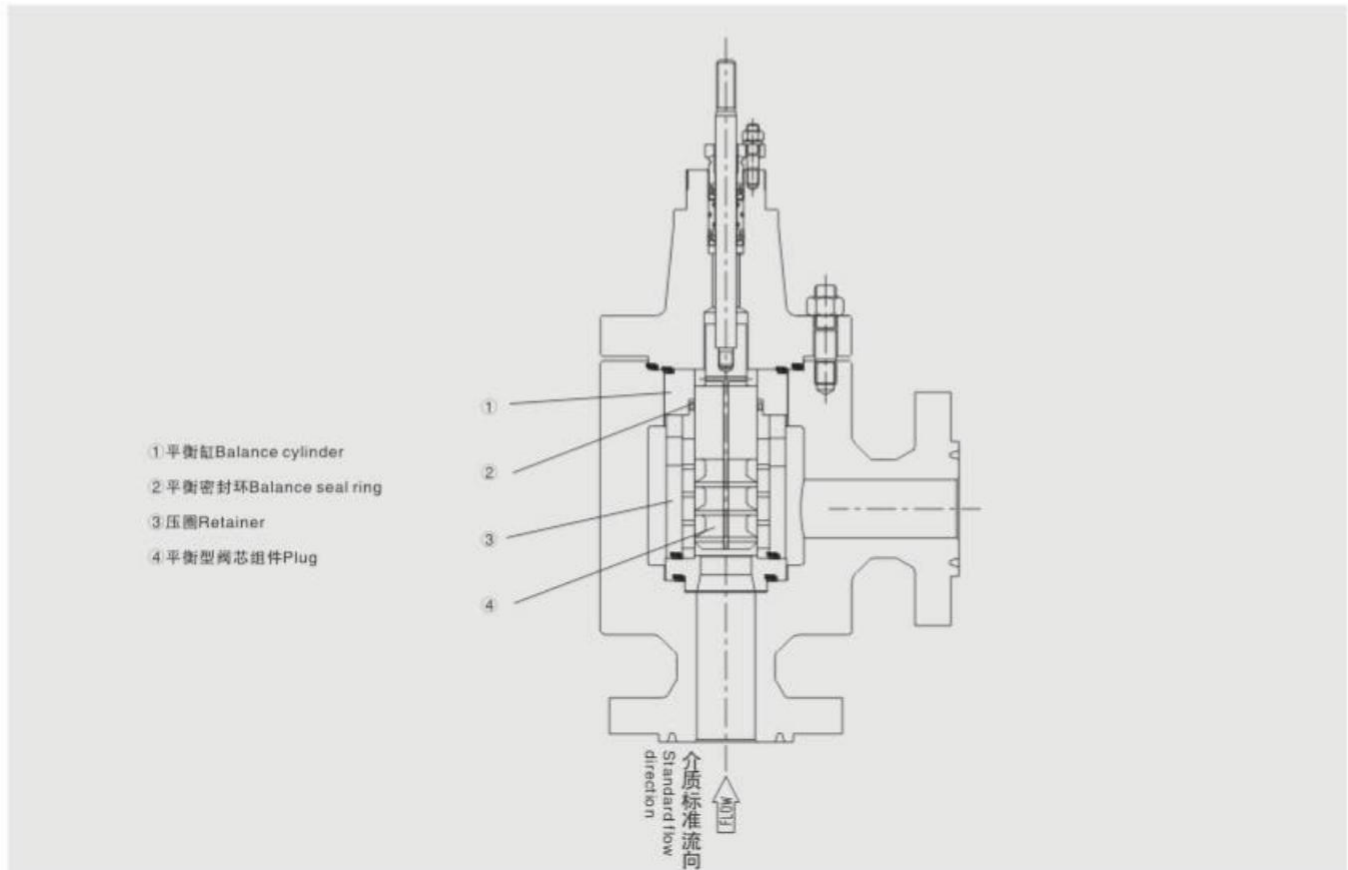
角型高压调节阀 Angle Type High Pressure Control Valve

图1 本体部结构 Fig.1 Valve section view >>

1-1 不平衡式单座、多段型阀芯 DN25-50 1-1 unbalanced single seated /multi section plug DN25-50



1-2 平衡式多段型阀芯 DN50-100 1-2 balanced multi section plug type DN50-100



角型高压调节阀 Angle Type High Pressure Control Valve

图2 阀内件材质 处理选定基准 Fig.2 trim material treatment and choice

密封填料的使用温度 压力范围 Packing operating pressure-temperature rating

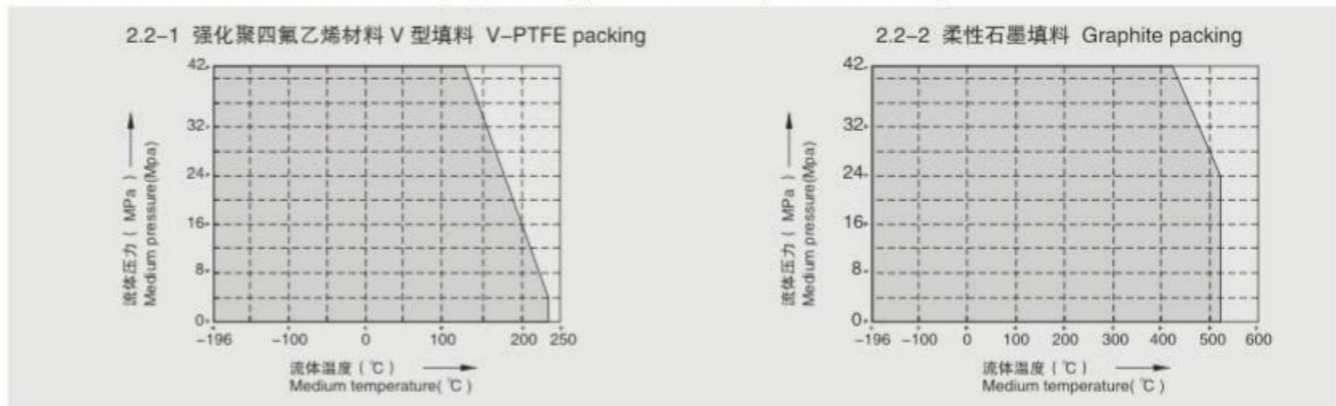


表2 额定Cv值和行程 Table 2 Cv and stroke

2-1 不平衡式单座阀芯 Table 2-1 unbalanced single seated plug

公称口径 DN mm	阀芯尺寸 Plug size mm	额定Cv(等百分比)Rated Cv		行程 Stroke mm
		等百分比EQ%	线性Linear	
25	5	0.14		10
	6	0.28		10
	7	0.52		10
	8	0.96		10
	9	1.6		10
	10	2.5		16
	15	4.0		16
	20	6.5		16
	25	13	15	16

公称口径 DN mm	阀芯尺寸 Plug size mm	额定Cv(等百分比)Rated Cv		行程 Stroke mm
		等百分比EQ%	线性Linear	
40	20	6.5		16
	25	13		16
	32	20		25
	40	25	30	25
50	25	13		16
	32	20		25
	40	25		25
	50	45	50	25

2-2 不平衡型多段阀芯 Unbalance multi section plug

公称口径DN mm	阀芯尺寸 Plug size mm	最小可控Cv值 Minimum controllable Cv	额定Cv值 行程 Rated Cv		行程Stroke mm
			线性 Linear	阀芯段数 The number of segments	
25	10	0.05	0.63	4 段16级降压 4 segments 16 level pressure drop	10
			1.0		10
			1.6		10
			2.5		12
40	15	0.6	2.5		12
			4.0		12
50	25	0.14	6.3		12
	32	0.18	10		12

2-3 平衡式多段型阀芯 Balance multi section plug type

公称口径DN mm	阀芯尺寸 Plug size mm	最小可控Cv值 Minimum controllable Cv	额定Cv值 行程 Rated Cv		行程Stroke mm
			线性 Linear	阀芯段数 The number of segments	
50	25	0.14	6.3	4 段16级降压 4 segments 16 level pressure drop	12
	32	0.18	10		12
80	50	0.47	16		12
80	40	0.36	16	3 段12级降压 3 segments 12 level pressure drop	16
	50	0.52	25		16
80	40	0.44	16	2 段8级降压 2 segments 8 level pressure drop	16
	50	0.64	25		16
100	65	0.93	40		25
	80	1.42	63		25

角型高压调节阀 Angle Type High Pressure Control Valve

表3 控制阀最大允许压差(单位: MPa) Table 3 control valve allow able pressure drops(unit: MPa) >>

3-1 HA 薄膜式执行机构 3-1 HA series diaphragm actuator

单座/多段压力不平衡型阀芯 Single seated /multi section unbalance plug

执行机构规格 Actuator type	气源压力 KPaG Air supply	弹簧范围 KPaG Spring range	阀座形式 Seat type	阀芯尺寸 Plug size mm						
				10	15	20	25	32	40	50
HA34	300	40-200D 80-240R	金属座Metal seat	26.0	19.5	11.0	6.5	4.1	2.9	1.8
HA45	300	40-200D 80-240R	金属座Metal seat		26.0	22.1	13.2	8.3	6.0	3.6

多段压力平衡型阀芯 Balance multi section plug type

执行机构规格 Actuator type	气源压力 KPaG Air supply	弹簧范围 KPaG Spring range	阀座形式 Seat type	阀芯尺寸 Plug size mm						
				25	32	40	50	65	80	100
HA45	300	40-200D 80-240R	金属座Metal seat	40.0	40.0	40.0	25.5	18.2	13.7	7.5
HA56	300	40-200D 80-240R	金属座Metal seat			40.0	40.0	35.4	25.8	13.8

3-2 ZSA系列气缸式执行机构 3-2 ZSA series cylinder actuator

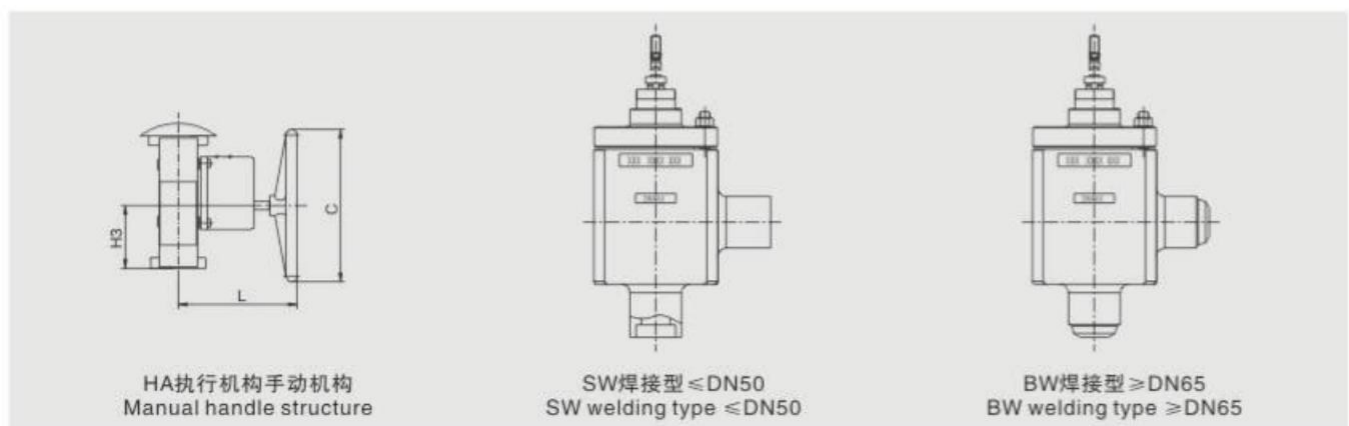
单座/多段压力不平衡型阀芯 Single seated /multi section unbalance plug

执行机构规格 Actuator type	气源压力 KPaG Air supply	阀座形式 Seat type	阀芯尺寸 Plug size mm						
			10	15	20	25	32	40	50
ZSA25D	400	金属座Metal seat		26.0	26.0	26.0	15.9	10.3	6.5
	500	金属座Metal seat		26.0	26.0	26.0	20.4	13.3	8.4
ZSA32D	400	金属座Metal seat				26.0	26.0	17.4	11.0
	500	金属座Metal seat				26.0	26.0	21.7	14.2

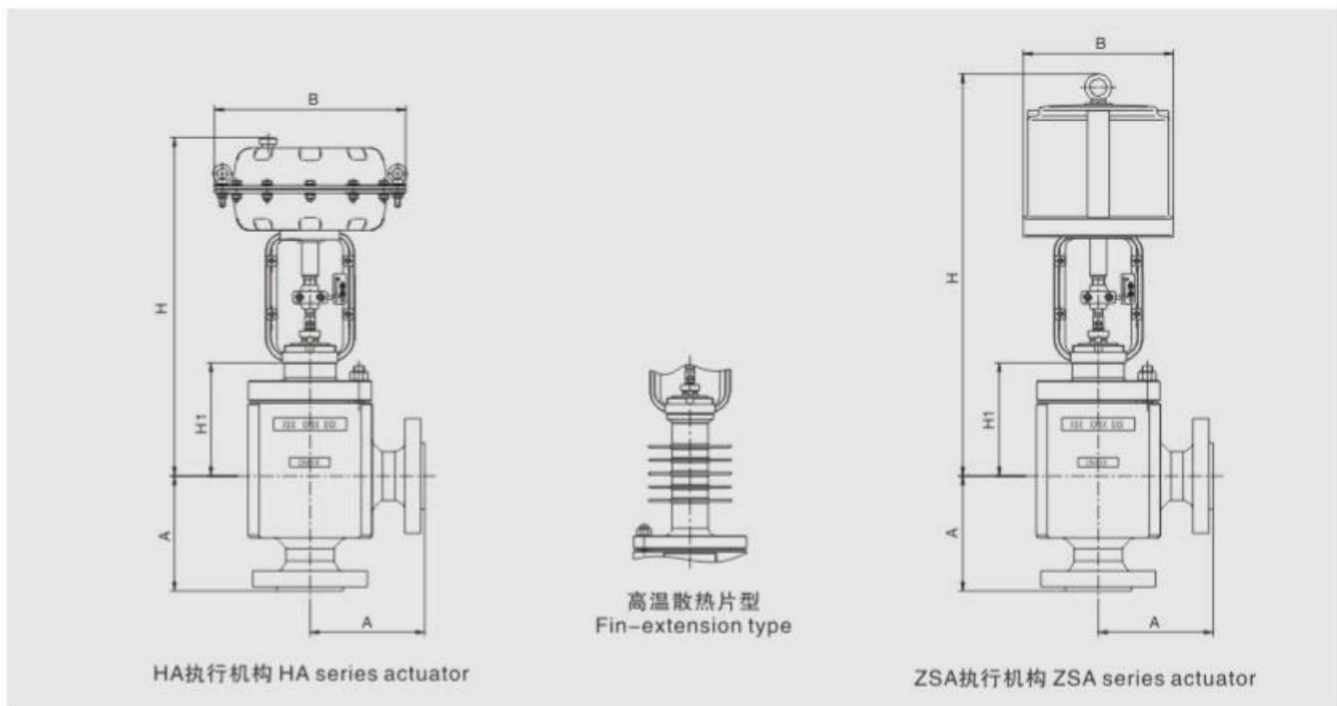
多段压力平衡型阀芯 Balance multi section plug type

执行机构规格 Actuator type	气源压力 KPaG Air supply	阀座形式 Seat type	阀芯尺寸 Plug size mm						
			25	32	40	50	65	80	100
ZSA25D	400	金属座Metal seat	40.0	40.0	40.0	40.0	39.8	28.5	17.5
	500	金属座Metal seat	40.0	40.0	40.0	40.0	40.0	34.6	24.6
ZSA32D	400	金属座Metal seat				40.0	40.0	40.0	40.0
	500	金属座Metal seat				40.0	40.0	40.0	40.0

图3 配执行机构及阀外形尺寸 Fig.3 actuator and valve outline dimension >>



角型高压调节阀 Angle Type High Pressure Control Valve



法兰距 Face to face dimension

单位Unit : mm

阀门尺寸 DN mm	A		
	ANSI 900	ANSI 1500	ANSI 2500
	RF、SW、SB、RJ	RF、SW、SB、RJ	RF、SW、SB、RJ
25	160	160	170
40	180	180	190
50	200	200	230
80	250	250	-
100	330	330	-

配HA系列薄膜式执行机构(外形尺寸) HA series diaphragm actuator(dimensions)

单位Unit : mm

阀门尺寸 DN mm	H1		H				B (ϕ)	执行机构 Actuator
	ANSI 900 ANSI 1500	ANSI 2500	ANSI900		ANSI2500			
			标准型 Standard	高温型Fin- extension type	标准型 Standard	高温型Fin- extension type		
25	210	316	644	794	750	900	360	HA34
			748	898	854	1004	470	HA45
			930	1080	1036	1186	590	HA56
40	253	320	687	837	754	904	360	HA34
			791	941	858	1008	470	HA45
			973	1123	1040	1190	590	HA56
50	280	369	714	864	803	953	360	HA34
			818	968	907	1057	470	HA45
			1000	1150	1089	1239	590	HA56
80	384	-	922	1102	-	-	470	HA45
			1104	1284	-	-	590	HA56
100	404	-	942	1122	-	-	470	HA45
			1124	1304	-	-	590	HA56

角型高压调节阀 Angle Type High Pressure Control Valve

配ZSA系列气缸式执行机构(外形尺寸) ZSA series cylinder actuator(dimensions)

单位Unit : mm

阀门尺寸 DN mm	H1		H				B (φ)	执行机构 Actuator
	ANSI 900 ANSI 1500	ANSI 2500	ANSI900 ANSI1500		ANSI2500			
			标准型 Standard	高温型Fin- extension type	标准型 Standard	高温型Fin- extension type		
25	210	316	780	930	886	1036	290	ZSA25
			890	1040	996	1146	380	ZSA32
40	253	320	823	973	890	1040	290	ZSA25
			933	1083	1000	1150	380	ZSA32
			1083	1233	1150	1300	420	ZSA40
50	280	369	850	1000	939	1089	290	ZSA25
			960	1110	1049	1199	380	ZSA32
			1110	1260	1199	1349	420	ZSA40
80	384	-	830	1010	-	-	420	ZSA40
			1394	1574	-	-	540	ZSA50
100	404	-	1214	1394	-	-	420	ZSA40
			1414	1594	-	-	540	ZSA50

表4 控制阀重量(单位: kg) Table 4 control valve weight(unit: kg)

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公称通径 DN mm	压力等级 Class	薄膜式执行机构 Diaphragm multi-spring type						双动作气缸式执行机构 Double acting pneumatic type			
		法兰式 Flange type			对焊式 Butt welding type			法兰式 Flange type		对焊式 Butt welding type	
		HA34	HA45	HA56	HA34	HA45	HA56	ZSA25	ZSA32	ZSA25	ZSA32
25	900	85	115	155	75	105	145	80	105	70	95
	1500	95	125	165	85	115	155	90	115	80	105
	2500	115	175	215	105	165	205	110	165	100	155
40	900	130	160	200	120	150	190	125	150	115	140
	1500	140	170	210	130	160	200	135	160	125	150
	2500	160	190	230	145	175	215	155	180	140	165
50	900	160	190	230	150	180	220	155	180	145	170
	1500	170	200	240	155	185	225	165	190	150	175
	2500	210	240	280	185	215	255	205	230	180	205
80	900	260	290	330	235	265	305	255	280	230	255
	1500	290	320	360	255	285	325	280	310	250	275
	2500	350	380	420	290	320	360	345	370	285	310
100	900	330	360	400	280	310	350	325	350	275	300
	1500	360	390	430	300	330	370	355	380	295	320
	2500	450	480	520	360	390	430	445	470	355	380

Z型高压调节阀 Z Type High Pressure Control Valve

Z_D^J ZP Z型高压调节阀 Z Type High pressure control valve

Z_D^JZP Z型高压调节阀是一种多级节流调节阀。也叫高压差调节阀，采用多段型阀芯结构，该结构在苛刻的工况条件下能防止液体产生空化气蚀、减少高速流体对阀内件的冲刷、降低噪音等功能。特别适用于料浆、聚合物、结晶体及高温流体。

Z_D^JZP Z Type high pressure control valve is a kind of new structure control valve. It adopts multi-spool structure, the structure can prevent cavitation of liquid in the harsh working conditions, reduce erosion to the valve trim from the high speed fluid, reduce noise and has other functions. It is especially suitable for slurry, polymer, crystal and high temperature fluid.

技术参数和性能 Technical parameters and performance >>

标准本体部 Standard specification

型式Type	不平衡阀芯型 Unbalance plug type
公称通径DN	25-80mm
公称压力PN	ANSI Class 900、1500、2500Lb
阀体材料Body material	A105、304、316 各种材质温度压力·范围，请参见表1及附录 Each material operating pressure-temperature limitation, see table 1 and the appendix
连接形式 Body connections	焊接式Welding type: 承插焊SW(25-50mm); 对接焊BW(80mm) 标准按Flanged Standard: JIS B2220, ANSIB16.5, GB/T9113; 法兰距 请参见图3 Face to face dimension see Fig.3
阀内件型式Trim type	不平衡式多段型阀芯Unbalance type multi section plug type DN25-50 平衡式多段型阀芯Balanced type multi section plug type DN50-80; 请参见图1 see Fig.1
上阀盖Bonnet	标准型Standards type : -29/-46- +230℃; 散热片型Fin-extension type: +230- +538℃; 加长型Long-extension type: -196- -46℃
压盖型式Gland type	螺栓压紧式Bolt pressing type
填料Packing	V型聚四氟乙烯填料, 柔性石墨填料。各种材质的使用温度·范围 请参见图2 V-shape PTFE packing, graphite packing each material operating pressure -temperature limitation, see Fig.2

执行机构 Actuator

名称Name	气动薄膜多弹簧式 Diaphragm multi-spring type	双作用气缸式 Double acting pneumatic type	电子式电动 Solid state electronic type
型号Type	HA	ZSA	ATML
用途Purpose	调节Modulation	调节Modulation	调节Modulation
正作用Direct action	气压增加阀闭Air to valve close	输入信号增加阀闭 Input signal increase to valve close	输入信号增加阀闭 Input signal increase to valve close
反作用Reverse action	气压增加阀开Air to valve open	输入信号增加阀开 Input signal increase to valve open	输入信号增加阀开 Input signal increase to valve open
供气压力或供给电压 Air supply or Vote supply	供气压力(弹簧范围) Air supply(spring range) 140(20-100)KPaG 300(40-200)KPaG 300(80-240)KPaG	供气压力Air supply 500KPaG 输入信号Input signal 4-20mADC	供给电压Power 220V AC 50Hz 输入信号Input signal 4-20mADC
性能指标 (带定位器) Performance index (with positioner)	滞后 Hysteresis	≤1.0%FS	≤0.8%FS
	直线性 Linearity	≤±2.0%FS	≤±1.5%FS
气源接口 Connection	M16*1.5 (HA56 Rc1/2)	Rc3/8 (ZSA40 Rc1/2)	配线Connection 2-G1/2
允许环境温度 Ambient temperature	-30-70℃	-30-70℃	-10-60℃
表面涂层处理 Painting color	灰色 Gray		
附件配置 Accessory allocation	定位器, 空气过滤减压阀, 电磁阀, 限位开关, 手操机构等 Positioned, air-set, solenoid valve, limit switch, lock up valve, manual handle		加热器 Heater

Z型高压调节阀 Z Type High Pressure Control Valve

性能 Performance

额定Cv值 Rated Cv value	请参见表2 See table 2
流量特性Flow characteristics	线性 Linear
泄漏量 Leakage	金属阀座符合标准Metal seat conformed ANSI B16.104 class IV, ≤10 ⁻⁴ 额定Cv Rated capacity of valve
可调比 Range ability	50: 1; DN < 10mm (30: 1)
允许压差 Allowable pressure drops	请参见表3 See table 3

表1 阀本体部材质 Table 1 valve body material >>

不平衡型多段阀芯 Unbalance type multi section plug

阀体材质 Body material	A105		304、316	
阀笼Cage	材质Material	440C	440C	316
	处理Treatment	热处理-Heat treatment	热处理-Heat treatment	司太立合金 Overlaying Stellite alloy
阀芯Plug	材质Material	440C	304	316
	处理Treatment	热处理-Heat treatment	司太立合金 Overlaying Stellite alloy	司太立合金 Overlaying Stellite alloy
阀座Seat	材质Material	440B	304	316
	处理Treatment	热处理-Heat treatment	司太立合金 Overlaying Stellite alloy	司太立合金 Overlaying Stellite alloy
泄露等级Leakage	ANSI	ClassIV	ClassIV	ClassIV
	阀额定容量 × Valve rated capacity ×	0.01%	0.01%	0.01%
使用温度 (°C) Operating temperature		-29 ~ +425	-29 ~ +425	-196 ~ +538

平衡型多段阀芯 Balanced type multi section plug

阀体材质 Body material	A105		304、316
阀笼Cage	材质Material	17-4PH	316
	处理Treatment	析出硬化处理- Precipitation hardening	司太立合金Overlaying Stellite alloy
阀芯Plug	材质Material	440C	316
	处理Treatment	热处理-Heat treatment	司太立合金Overlaying Stellite alloy
阀座Seat	材质Material	440B	316
	处理Treatment	热处理-Heat treatment	司太立合金Overlaying Stellite alloy
泄露等级 Leakage	ANSI	ClassIV	ClassIV
	阀额定容量 × Valve rated capacity ×	0.01%	0.01%
使用温度 (°C) Operating temperature		-29 ~ +425	-196 ~ +538

Z型高压调节阀 Z Type High Pressure Control Valve

图1 本体部结构 Fig.1 Valve section view

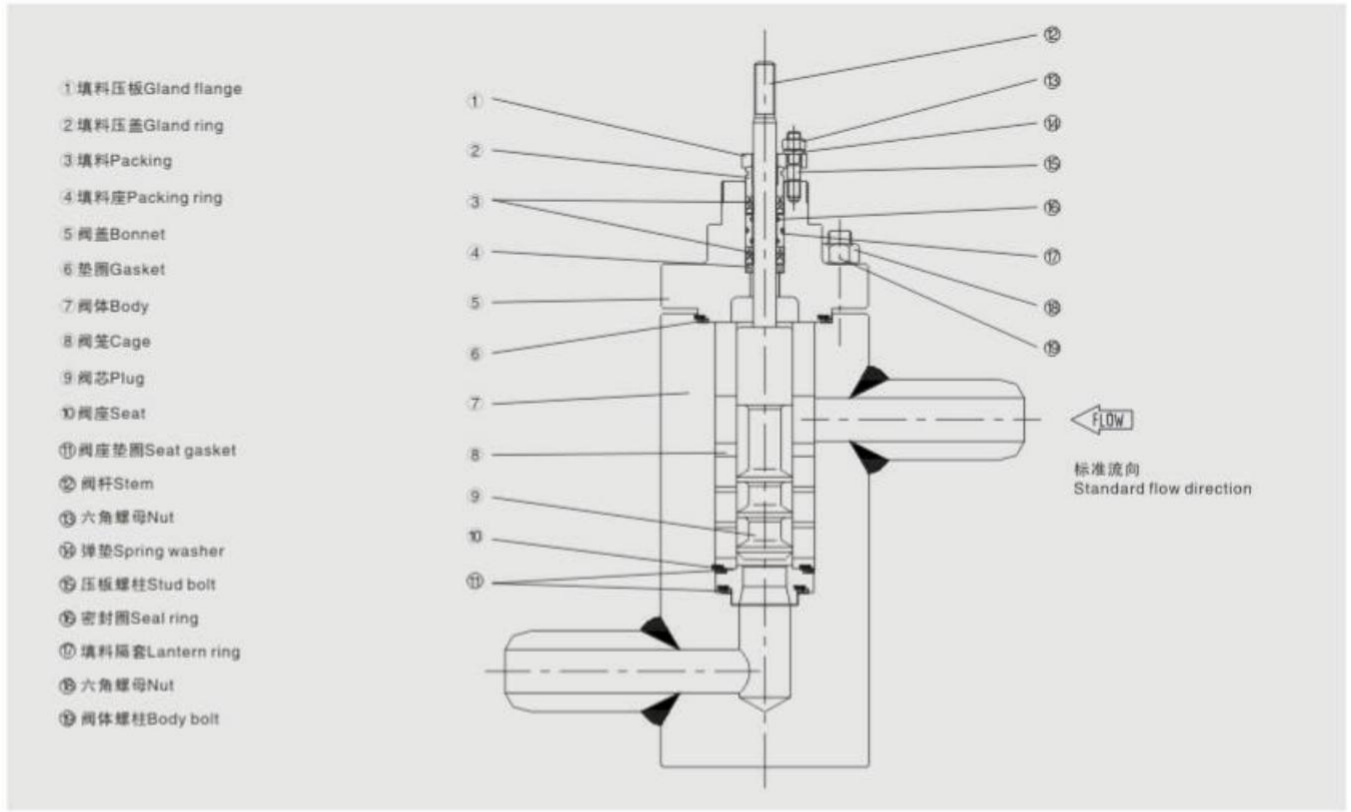


图2 阀内件材质 处理选定基准 Fig.2 trim material treatment and choice

密封填料的使用温度 压力范围 Packing operating pressure-temperature rating

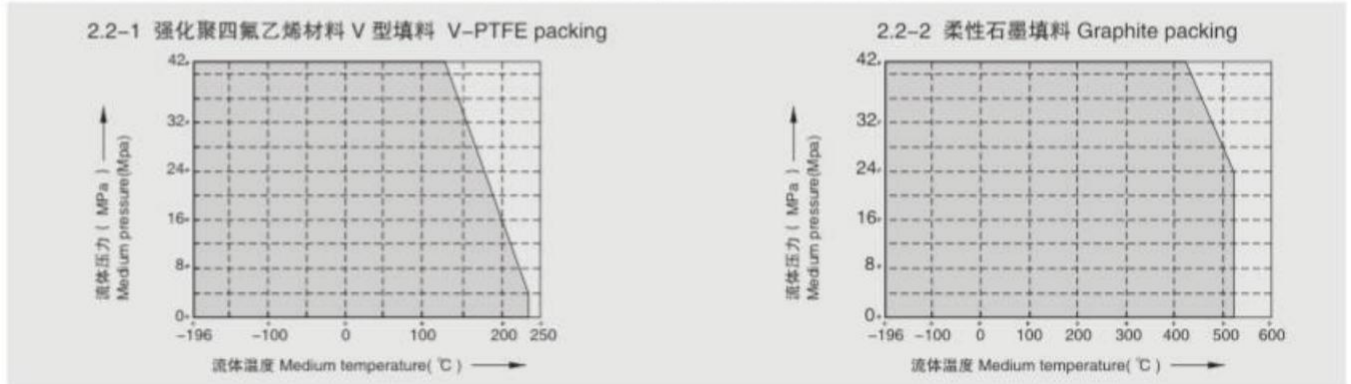


表2 额定Cv值和行程 Table 2 CV and stroke

2-1 不平衡型多段阀芯 2-1 unbalance type multi section plug

公称通径DN mm	阀芯尺寸 Plug size mm	最小可控Cv值 Minimum controllable Cv value	额定Cv值 Rated Cv		行程Stroke mm
			线性Linear	阀芯段数The number of segments	
25	10	0.05	0.63	4段16级降压 4 segments 16 level pressure drops	10
			1.0		10
			1.6		10
			2.5		12
40	15	0.6	2.5		12
			4.0		12
50	25	0.14	6.3		12
	32	0.18	10		12

Z型高压调节阀 Z Type High Pressure Control Valve

2-2 平衡式多段型阀芯 2-2 balance type multi-section plug

公称通径DN mm	阀芯尺寸 Plug size mm	最小可控Cv值 Minimum controllable Cv value	额定Cv值 Rated Cv		行程Stroke mm
			线性Linear	阀芯段数The number of segments	
50	25	0.14	6.3	4段16级降压 4 segments 16 level pressure drops	12
	32	0.18	10		12
80	50	0.47	16		12
80	40	0.36	16	3段12级降压 3 segments 12 level pressure drops	16
	50	0.52	25		16
80	40	0.44	25	2段8级降压 2 segments 8 level pressure drops	25
	50	0.64	30		25
	65	0.93	40		25

表3 控制阀最大允许压差(单位: MPa) Table 3 control valve allow able pressure drops(unit:MPa) >>

3-1 HA 薄膜式执行机构 Table 3-1 HA series diaphragm actuator

单座/多段压力不平衡型阀芯 Single seated /multi section unbalance plug

执行机构 规格 Actuator type	气源压力 KPaG Air supply	弹簧范围 KPaG Spring range	阀座形式 Seat type	阀芯尺寸Plug size mm						
				10	15	20	25	32	40	50
HA34	300	40-200D 80-240R	金属座 Metal seat	26.0	19.5	11.0	6.5	4.1	2.9	1.8
HA45	300	40-200D 80-240R	金属座 Metal seat		26.0	22.1	13.2	8.3	6.0	3.6

多段压力平衡型阀芯 Balance type multi section plug

执行机构 规格 Actuator type	气源压力 KPaG Air supply	弹簧范围 KPaG Spring range	阀座形式 Seat type	阀芯尺寸Plug size mm					
				25	32	40	50	65	80
HA45	300	40-200D 80-240R	金属座 Metal seat	40.0	40.0	40.0	25.5	18.2	13.7
HA56	300	40-200D 80-240R	金属座 Metal seat			40.0	40.0	35.4	25.8

3-2 ZSA系列气缸式执行机构 3-2 ZSA series cylinder actuator

单座/多段压力不平衡型阀芯 Single seated /multi section unbalance plug

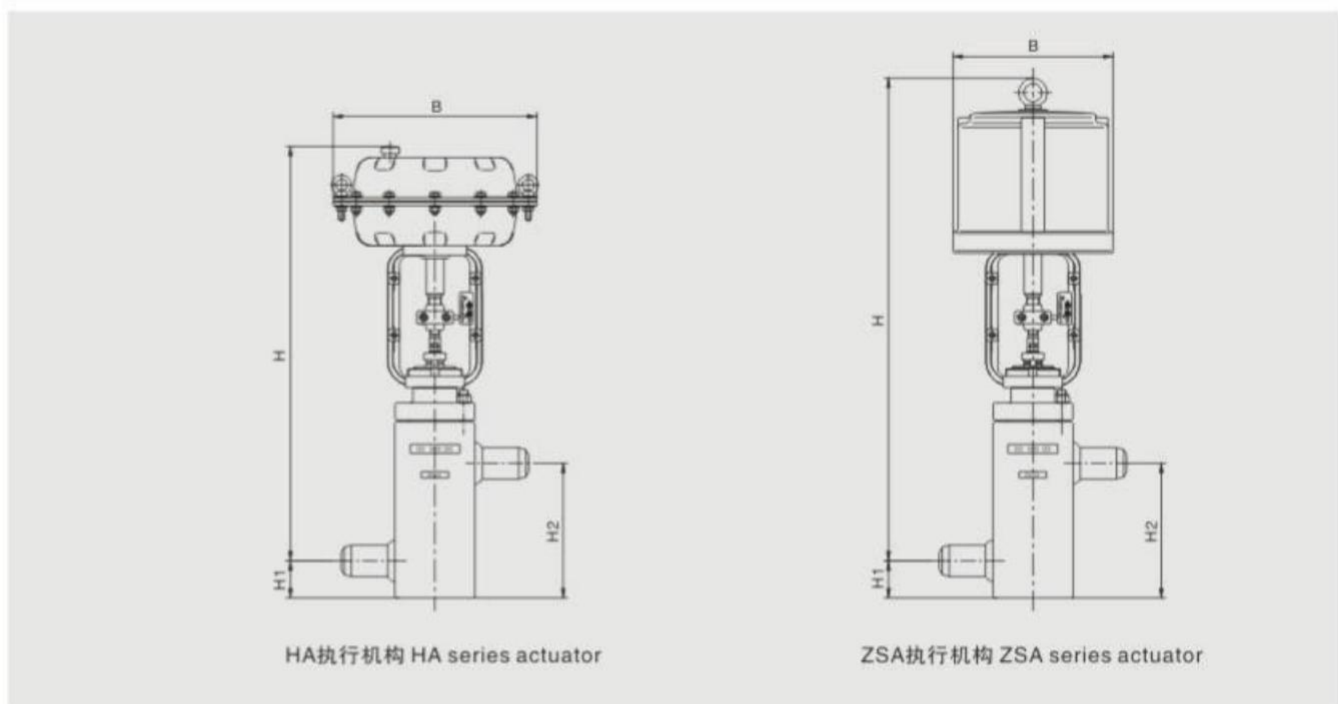
执行机构 规格 Actuator type	气源压力 KPaG Air supply	阀座形式 Seat type	阀芯尺寸Plug size mm						
			10	15	20	25	32	40	50
ZSA25D	400	金属座 Metal seat		26.0	26.0	26.0	15.9	10.3	6.5
	500	金属座 Metal seat		26.0	26.0	26.0	20.4	13.3	8.4
ZSA32D	400	金属座 Metal seat				26.0	26.0	17.4	11.0
	500	金属座 Metal seat				26.0	26.0	21.7	14.2

Z型高压调节阀 Z Type High Pressure Control Valve

多段压力平衡型阀芯 Balance type multi section plug

执行机构规格 Actuator type	气源压力 KPaG Air supply	阀座形式 Seat type	阀芯尺寸 Plug size mm					
			25	32	40	50	65	80
ZSA25D	400	金属座 Metal seat	40.0	40.0	40.0	40.0	39.8	28.5
	500	金属座 Metal seat	40.0	40.0	40.0	40.0	40.0	34.6
ZSA32D	400	金属座 Metal seat				40.0	40.0	40.0
	500	金属座 Metal seat				40.0	40.0	40.0

图3 配执行机构及阀外形尺寸 Fig.3 actuator and valve outline dimension



配HA系列薄膜式执行机构(外形尺寸) HA series diaphragm actuator(dimensions)

单位Unit: mm

阀门尺寸 DN mm	A1	A2	H1	H2	H3	H	B(φ)	执行机构 Actuator
25	167	175	383	37	217	817	360	HA34
	167	175	383	37	217	921	470	HA45
	167	175	383	37	217	1133	590	HA56
32	167	175	400	40	235	834	360	HA34
	167	175	400	40	235	938	470	HA45
	167	175	400	40	235	1150	590	HA56
40	167	180	429	50	270	863	360	HA34
	167	180	429	50	270	967	470	HA45
	167	180	429	50	270	1179	590	HA56
50	187	200	429	50	270	863	360	HA34
	187	200	429	50	270	967	470	HA45
	187	200	429	50	270	1179	590	HA56
80	211	207	577	80	390	1115	470	HA45
	211	207	577	80	390	1327	590	HA56

Z型高压调节阀 Z Type High Pressure Control Valve

配ZSA系列气缸式执行机构(外形尺寸) ZSA series cylinder actuator(dimensions)

单位Unit : mm

阀门尺寸 DN mm	A1	A2	H1	H2	H3	H	B(φ)	执行机构 Actuator
25	167	175	383	37	217	953	290	ZSA25D
	167	175	383	37	217	1063	380	ZSA32D
32	167	175	400	40	235	970	290	ZSA25D
	167	175	400	40	235	1080	380	ZSA32D
40	167	180	429	50	270	999	290	ZSA25D
	167	180	429	50	270	1109	380	ZSA32D
50	187	200	429	50	270	999	290	ZSA25D
	187	200	429	50	270	1109	380	ZSA32D
80	211	207	577	80	390	1257	380	ZSA32D

表4 控制阀重量(单位: kg) Table 4 control valve weight(unit: kg) >>

公称口径 DN mm	压力等级 Class ANSI	HA系列薄膜式执行机构 Diaphragm multi-spring type			ZSA系列气缸式执行机构 Double acting pneumatic type	
		HA34	HA45	HA56	ZSA25	ZSA32
25	900	75	105		70	
	1500	85	115		80	
	2500	105	165		100	
40	900	120	150	190	115	140
	1500	130	160	200	125	150
	2500	145	175	215	140	165
50	900	150	180	220	145	170
	1500	155	185	225	150	175
	2500	185	215	255	180	205
80	900		265	305	230	255
	1500		285	325	250	275
	2500		320	360	285	310

三通调节阀 Three Way Control Valve

Z_DS_X^Q三通调节阀 Three way control valve

Z_DS_X^Q三通调节阀是一种与三只管道同时连接的阀门，结构形式分合流型与分流型二种，合流型是将二路流体混合为一路线体，分流型是将一路流体分为二路流体。广泛用于石油、化工、金、电力等工业部门，用于热交换的温度控制，具有调节精度高切换性能稳定等特点。

Z_DS_X^Q Three way control valve is one kind of valve which can connected with three pipelines at the same time, it can be divided into two kinds includes the confluent type and the shunt type, the confluence type makes the two road fluid mixing to one way fluid, the shunt type is divides the fluid into two road fluid. It can be widely used in petroleum, chemical, metallurgical, power plant and other industrial sectors, for the temperature control of heat exchange, with characteristics of high precision adjust, switch performance stability and so on.

技术参数和性能 Technical parameters and performance >>

标准本体部 Standard specification

型式Type	Q: 合流型Confluent type; X: 分流型Shunt type
公称口径DN	25-300mm
公称压力PN	PN1.6、4.0、6.4、10.0MPa; JIS 10K、16K、20K、40K; Class 150、300、600Lb
阀体材料Body material	WCB、WC6、WC9、LCB、CF8、CF8M、CF3M 各种材质温度压力·范围, 请参见表1、附录 Each material operating pressure-temperature limitation, see table 1 and the appendix
连接形式 Body connections	法兰式Flanged type: RF、FM、RJ、和TG; 法兰距 请参见图4 Face to face dimension see Fig.4 标准按Flanged Standard: JB/T 79.1-94 /GB/T9113/ASME B16.5/HG/T20592/HG/T20615/JIS B2220
阀内件型式Trim type	分离式套筒; 阀本体结构 请参见图1 Separated cage; Valve structure see Fig.1
上阀盖Bonnet	标准型Standards type: -29/-46/+230℃; 散热片型Fin-extension type: +230/+538℃; 加长型Long-extension type: -196--46℃
压盖型式Gland type	螺栓压紧式Bolt pressing type
填料Packing	V型聚四氟乙烯填料, 柔性石墨填料。各种材质的使用温度·范围 请参见图2 V-shape PTFE packing, graphite packing each material operating pressure-temperature limitation, see Fig.2

执行机构 Actuator

名称Name	气动薄膜多弹簧式 Diaphragm multi-spring type	双作用气缸式 Double acting pneumatic type	电子式电动 Solid state electronic type
型号Type	HA	ZSA	ATML
用途Purpose	调节Modulation	调节Modulation	调节Modulation
正作用Direct action	气压增加阀闭Air to valve close	输入信号增加阀闭 Input signal increase to valve close	输入信号增加阀闭 Input signal increase to valve close
反作用Reverse action	气压增加阀开Air to valve open	输入信号增加阀开 Input signal increase to valve open	输入信号增加阀开 Input signal increase to valve open
供气压力或供给电压 Air supply or Vote supply	供气压力(弹簧范围) Air supply(spring range) 140(20-100)KPaG 300(40-200)KPaG 300(80-240)KPaG	供气压力Air supply 500KPaG 输入信号Input signal 4-20mADC	供给电压Power 220V AC 50Hz 输入信号Input signal 4-20mADC
性能指标 (带定位器) Performance index (with positioner)	滞后 Hysteresis	≤0.8%FS	≤0.5%FS
	直线性 Linearity	≤±2.0%FS	≤±1.0%FS
气源接口 Connection	M16*1.5 (HA56 Rc1/2)	Rc3/8 (ZSA40 Rc1/2)	配线Connection 2-G1/2
允许环境温度 Ambient temperature	-30-70℃	-30-70℃	-10-60℃
表面涂层处理 Painting color	灰色 Gray		
附件配置 Accessory allocation	定位器, 空气过滤减压阀, 电磁阀, 限位开关, 手操机构等 Positioned, air-set, solenoid valve, limit switch, lock up valve, manual handle		加热器 Heater

三通调节阀 Three Way Control Valve

性能 Performance

额定Cv值 Rated Cv value	请参见表2 See table 2
流量特性 Flow characteristics	等百分比和线性 Equal Percentage and linear
泄漏量 Leakage	金属阀座符合标准Metal seat conformed ANSI B16.104 class IV , ≤10 ⁻⁴ 额定Cv Rated capacity of valve
流体流向 Flow direction	请参见图3 See Fig.3
可调比 Range ability	50: 1
允许压差 Allowable pressure drops	请参见表3 See table 3

表1 阀本体部材质 Table 1 valve body material >>

1-1本体部材质：碳钢 1-1 body material: carbon steel

阀体材质 Body material	WCB、WC6、WC9、LCB			
阀笼Cage	材质Material	17-4PH		304/316
	处理Treatment	析出硬化处理- Age- hardening		镀硬铬Hard chrome plated
阀芯Plug	材质Material	304	410	304/316
	处理Treatment	-	热处理-Heat treatment	司太立合金 Overlaying Stellite alloy
阀座Seat	材质Material	304	410	304/316
	处理Treatment	-	热处理-Heat treatment	司太立合金 Overlaying Stellite alloy
泄露等级Leakage	ANSI	ClassIV	ClassIV	ClassIV
	阀额定容量 × Valve rated capacity ×	0.01%	0.01%	0.01%
使用温度 (°C) Operating temperature	WCB	-29 ~ +230	-29 ~ +425	-
	WC6/WC9	-	-	-29 ~ +538
	LCB	-46 ~ +230	-46 ~ +350	-

1-2本体部材质：不锈钢 1-2 Body material: stainless steel

阀体材质 Body material	ZG0Cr18Ni9/CF8、ZG0Cr17Ni12Mo2/C F8M			
阀笼Cage	材质Material	316		316
	处理Treatment	镀硬铬 Hard chrome plated		全部司太立合金 Fully overlaying Stellite alloy
阀芯Plug	材质Material	316	316	316
	处理Treatment	-	司太立合金 Overlaying Stellite alloy	全部司太立合金 Fully overlaying Stellite alloy
阀座Seat	材质Material	316	316	316
	处理Treatment	-	司太立合金 Overlaying Stellite alloy	司太立合金 Overlaying Stellite alloy
泄露等级Leakage	ANSI	ClassIV	ClassIV	ClassIV
	阀额定容量 × Valve rated capacity ×	0.01%	0.01%	0.01%
使用温度 (°C) Operating temperature		-196 ~ +230	-196 ~ +538	-196 ~ +538

三通调节阀 Three Way Control Valve

图1 本体部结构 Fig.1 Valve section view

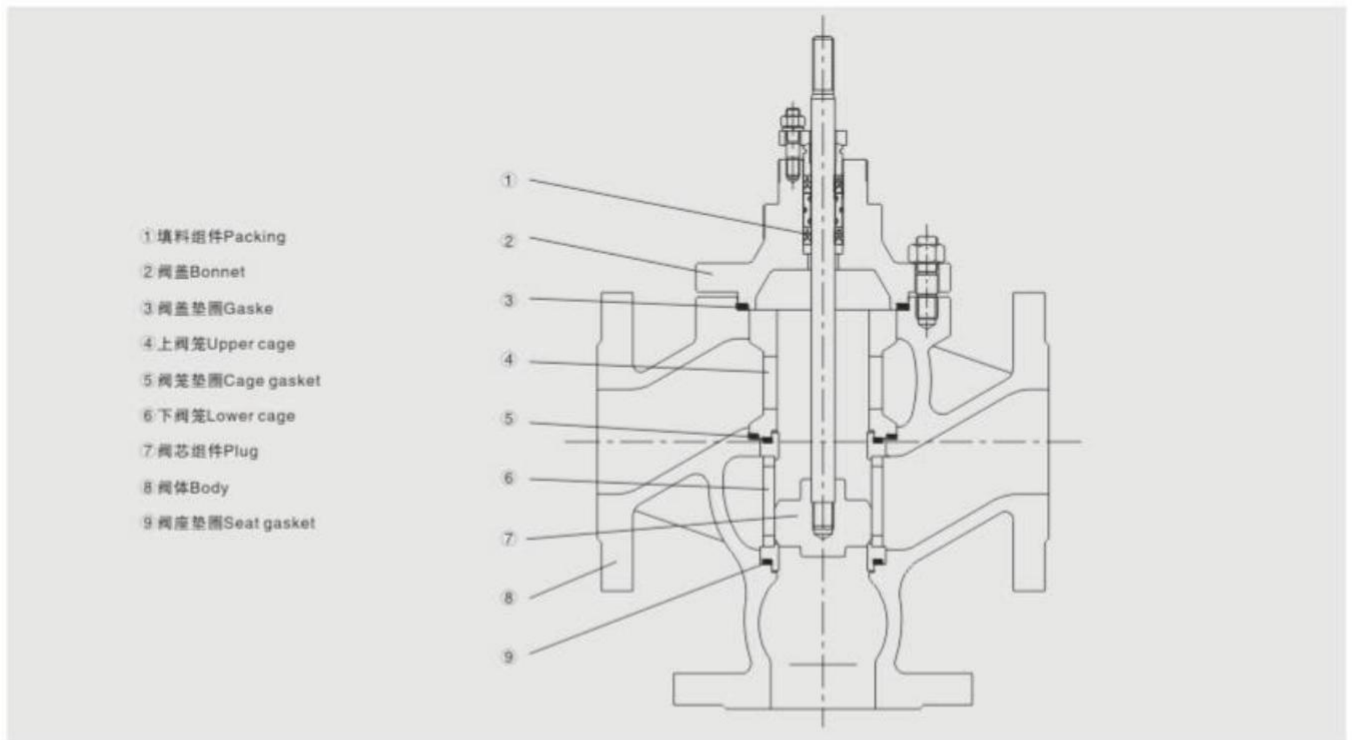
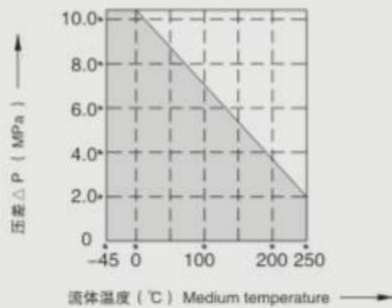


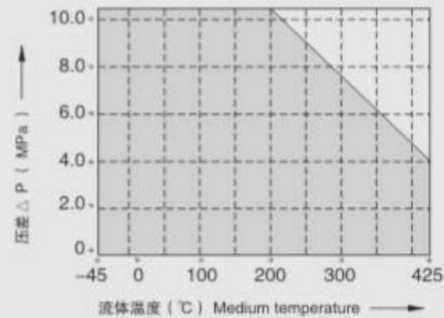
图2 阀内件材质 处理选定基准 Fig.2 trim material and choice

2-1 阀芯、阀座的使用温度 压力范围 2-1.Plug/seat operating pressure-temperature rating

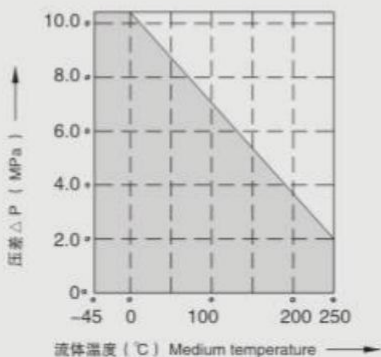
2.1-1 阀笼 Cage : 17-4PH 硬化处理 Hardening
阀芯 Plug : 304/316



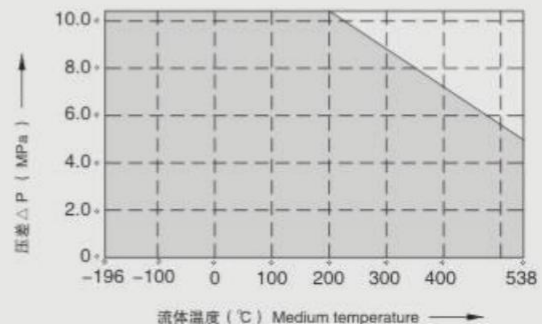
2.1-2 阀笼 Cage : 17-4PH 硬化处理 Hardening
阀芯、阀座 : 410 热处理
Plug, Seat: 410 heat treatment



2.1-3 阀笼 Cage : 316 镀硬铬 hard chrome plated
阀芯 Plug : 316



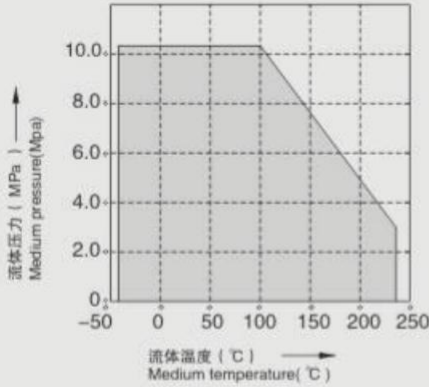
2.1-4 阀笼 : 316 镀硬铬或堆焊合金
Cage: bead welding satellite or hard chrome plated
阀芯、阀座 : 316 堆焊合金
Plug, Seat: 316 bead welding stellite



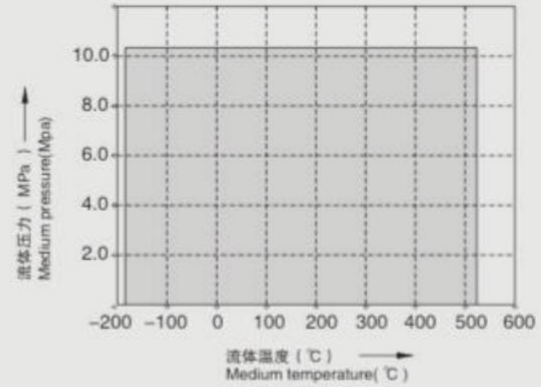
三通调节阀 Three Way Control Valve

2-2 密封填料的使用温度 压力范围 2-2 Packing operating pressure-temperature rating

2.2-1 强化聚四氟乙烯材料 V 型填料 V type PTFE



2.2-2 柔性石墨填料 Graphite



备注：空化、闪蒸、禁油及常处于关闭下的调节阀，不管工作温度和压差多大，建议硬化处理。
Remarks: The valve working in the condition of cavitation, flash, no oil and the valve always shut, no matter how much work temperature and pressure drops, Our proposal hardening treatment.

表2 额定Cv值和行程 Table 2 Rated Cv and stroke

公称通径 DN mm	阀芯尺寸 Plug size mm	额定Cv Rated Cv			行程 Stroke mm
		等百分比 EQ%	直线 Linearity	Q孔 Q hole	
25	16	6..3	8	15	10
	20	10	13		16
40	25	17	20	35	16
	32	25	30		16
50	32	25	30	55	16
	40	36	40		25
65	40	36	40	100	25
	50	60	70		25
80	50	60	70	140	25
	65	100	115		25
100	65	100	115	230	25
	80	135	150		40

公称通径 DN mm	阀芯尺寸 Plug size mm	额定Cv Rated Cv			行程 Stroke mm
		等百分比 EQ%	直线 Linearity	Q孔 Q hole	
125	80	135	150	340	40
	100	190	215		40
150	100	190	215	475	40
	125	280	315		60
200	150	280	315	720	60
	175	410	435		60
250	175	410	435	1000	60
	200	650	735		80
300	200	650	735	1400	80
	200	950	1050		100

三通调节阀 Three Way Control Valve

图3 流分合流型与分流 Fig. 3 confluent type and shunt type >>

型号Type	合流型Confluent type				分流型Shunt type			
公称通径DNmm	25-300				25-300			
执行机构 Actuator	正作用Direct action		反作用Reverse action		正作用Direct action		反作用Reverse action	
	气室进气 Air chamber intake	气室排气 Air chamber exhaust	气室进气 Air chamber intake	气室排气 Air chamber exhaust	气室进气 Air chamber intake	气室排气 Air chamber exhaust	气室进气 Air chamber intake	气室排气 Air chamber exhaust
流体的流动方向 Fluid flow direction	A-B	C-B	C-B	A-B	A-B	A-C	A-C	A-B
流体的流动方向 Fluid flow direction								

表3 控制阀最大允许压差(单位: MPa) Table 3 control valve allow able pressure drop(unit: MPa) >>

3-1 HA 薄膜式执行机构 3-1 HA series diaphragm actuator

执行机构 规格 Actuator type	气源压力 KPaG Air supply	弹簧范围 KPaG Spring range	阀座形式 Seat type	阀芯尺寸Plug size mm												
				25	40	50	65	80	100	125	150	200	250	300		
HA22 HA23	140	20-100	金属座Metal seat	0.62												
	300	80-240R	金属座Metal seat	2.48	0.83	0.48										
HA34	140	20-100	金属座Metal seat	1.25	0.48	0.29	0.24									
	300	80-240R	金属座Metal seat	5.04	1.89	1.18	0.75	0.43	0.28							
HA45	140	20-100	金属座Metal seat		0.86	0.54	0.36	0.18	0.12	0.08	0.05	0.03				
	300	80-240R	金属座Metal seat		3.61	2.30	1.42	0.87	0.57	0.30	0.19	0.10				
HA56	300	80-240R	金属座Metal seat				2.34	1.52	0.91	0.57	0.38	0.22	0.10	0.6		

三通调节阀 Three Way Control Valve

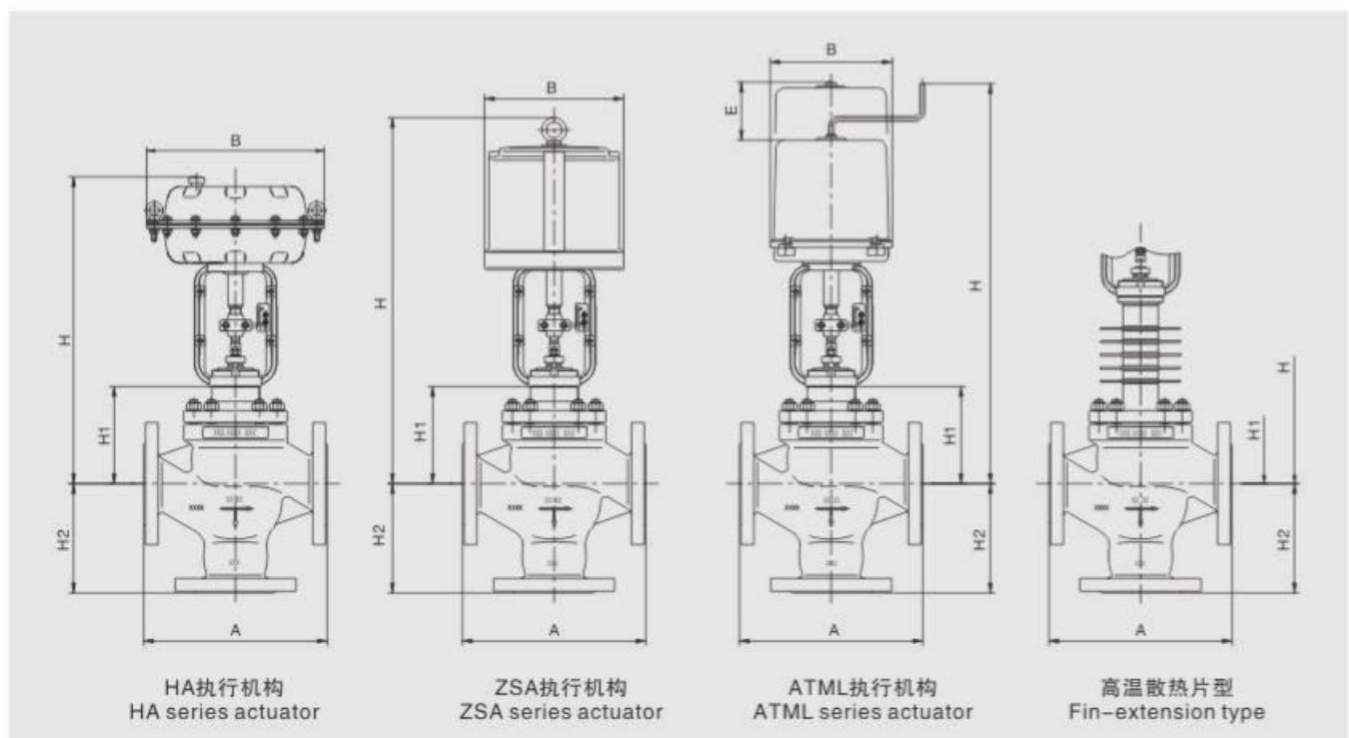
3-2 ZSA 系列气缸式执行机构 3-2 ZSA series cylinder actuator

执行机构规格 Actuator type	气源压力 KPaG Air supply	阀座形式 Seat type	阀芯尺寸 Plug size mm										
			65	80	100	125	150	200	250	300			
ZSA25D	400	金属座 Metal seat	3.60	2.16	1.40								
	500	金属座 Metal seat	4.60	2.80	1.80								
ZSA32D	400	金属座 Metal seat	6.20	4.12	2.62	1.70	1.24	0.73					
	500	金属座 Metal seat	7.95	5.30	3.40	2.22	1.62	0.96					
ZSA40D	400	金属座 Metal seat			4.60	2.96	2.10	1.21	0.79	0.56			
	500	金属座 Metal seat			6.00	3.85	2.74	1.57	1.03	0.73			
ZSA50D	400	金属座 Metal seat				4.74	3.32	1.88	1.21	0.85			
	500	金属座 Metal seat				6.00	4.16	2.36	1.51	1.06			

3-3 ATML 系列全电子式执行机构 3-3 ATML series solid state electronic actuator

执行机构规格 Actuator type	阀座形式 Seat type	阀芯尺寸 Plug size mm											
		20	25	40	50	65	80	100	125	150	200	250	300
ATMLSA-20	金属座 Metal seat	3.12	1.72	0.54									
ATMLSB-30	金属座 Metal seat	5.60	3.20	1.07	0.60								
ATMLSB-50	金属座 Metal seat		6.12	2.16	1.30	0.86	0.56						
ATMLSC-65	金属座 Metal seat			3.00	1.83	1.22	0.80	0.47					
ATMLSC-100	金属座 Metal seat			4.52	2.73	1.86	1.26	0.75	0.49	0.36	0.20		
ATMLSC-160	金属座 Metal seat					3.28	2.20	1.42	0.88	0.70	0.35	0.18	0.1

图4 配执行机构及阀外形尺寸 Fig.4 actuator and valve outline dimension



三通调节阀 Three Way Control Valve

配HA系列薄膜式执行机构(外形尺寸) HA series diaphragm actuator(dimensions)

单位Unit : mm

阀门尺寸 DN mm	A			H2			标准型 Standard		散热型Fin- extension type		加长型Long- extension type		B (φ)	执行 机构 Actuator
	ANSI150 PN1.6 JIS10K	ANSI300 PN4.0 JIS30K	ANSI600 PN6.4 PN10.0 JIS40K	ANSI150 PN1.6 JIS10K	ANSI300 PN4.0 JIS30K	ANSI600 PN6.4 PN10.0 JIS40K	H1	H	H1	H	H1	H		
25	184	197	210	92	98	105	140	465	290	615	660	985	285	HA22
40	222	235	251	111	117	125	156	511	306	661	676	1031	285	HA23
								591		741		1111	360	HA34
50	254	267	286	127	133	143	162	517	312	667	682	1037	285	HA23
								597		747		1117	360	HA34
65	276	292	311	138	146	156	220	655	400	835	770	1205	360	HA34
								758		938		1308	470	HA45
80	298	317	337	149	159	168	232	667	412	847	782	1217	360	HA34
								770		950		1320	470	HA45
100	352	368	394	176	184	197	240	675	420	855	790	1225	360	HA34
								778		958		1328	470	HA45
125	400	400	420	201	212	230	284	822	504	1042	884	1422	470	HA45
								1034		1254		1634	590	HA56
150	451	473	508	225	237	254	312	850	532	1070	912	1450	470	HA45
								1062		1282		1662	590	HA56
200	543	568	610	271	284	305	344	882	564	1102	944	1482	470	HA45
								1094		1314		1694	590	HA56
250	673	708	752	336	354	376	462	1212	682	1432	1062	1812	590	HA56
300	737	775	819	168	388	410	520	1270	740	1490	1120	1870	590	HA56

三通调节阀 Three Way Control Valve

配ZSA系列气缸式执行机构(外形尺寸) ZSA double acting cylinder actuator(dimensions)

单位Unit : mm

阀门尺寸 DN mm	A			H2			标准型 Standard		散热型Fin- extension type		加长型Long- extension type		B (φ)	执行 机构 Actuator	
	ANSI150 PN1.6 JIS10K	ANSI300 PN4.0 JIS30K	ANSI600 PN6.4 PN10.0 JIS40K	ANSI150 PN1.6 JIS10K	ANSI300 PN4.0 JIS30K	ANSI600 PN6.4 PN10.0 JIS40K	H1	H	H1	H	H1	H			
65	276	292	311	138	146	156	220	660	400	840	770	1210	208	ZSA17	
								790		970		1340		290	ZSA25
								900		1080		1450		380	ZSA32
80	298	317	337	149	159	168	232	672	412	852	782	1222	208	ZSA17	
								802		982		1352		290	ZSA25
								912		1092		1462		380	ZSA32
100	352	368	394	176	184	197	240	680	420	860	790	1230	208	ZSA17	
								810		990		1360		290	ZSA25
								920		1100		1470		380	ZSA32
125	400	400	420	201	212	230	284	854	504	1074	884	1454	290	ZSA25	
								964		1184		1564		380	ZSA32
								1114		1334		1714		470	ZSA40
150	451	473	508	225	237	254	312	882	532	1102	912	1482	290	ZSA25	
								992		1212		1592		380	ZSA32
								1142		1362		1742		470	ZSA40
200	543	568	610	271	284	305	344	914	564	1134	944	1514	290	ZSA25	
								1024		1244		1624		380	ZSA32
								1174		1394		1774		470	ZSA40
250	673	708	752	336	354	376	462	1468	678	1688	1058	2068	590	ZSA50	
300	737	775	819	168	388	410	520	1530	740	1750	1120	2130	590	ZSA50	

配ATML系列电子式电动执行机构(外形尺寸) ATML series solid state electronic actuator(dimensions)

单位Unit : mm

阀门尺寸 DN mm	A			H2			标准型 Standard		散热型Fin- extension type		加长型Long- extension type		E	B (φ)	执行 机构 Actuator
	ANSI150 PN1.6 JIS10K	ANSI300 PN4.0 JIS30K	ANSI600 PN6.4 PN10.0 JIS40K	ANSI150 PN1.6 JIS10K	ANSI300 PN4.0 JIS30K	ANSI600 PN6.4 PN10.0 JIS40K	H1	H	H1	H	H1	H			
25	184	197	210	92	98	105	140	590	290	740	660	1110	130	280	ATML-A
40	222	235	251	111	117	125	156	606	306	756	676	1126	130	280	ATML-A
								746		896		1266		130	310
50	254	267	286	127	133	143	162	612	312	762	682	1132	130	280	ATML-A
								752		902		1272		130	310
65	276	292	311	138	146	156	220	840	400	1020	770	1390	130	310	ATML-B
								1010		1190		1560		165	360
80	298	317	337	149	159	168	232	852	412	1032	782	1402	130	310	ATML-B
								1022		1202		1572		165	360
100	352	368	394	176	184	197	240	860	420	1040	790	1410	130	310	ATML-B
								1030		1210		1580		165	360
125	400	400	420	201	212	230	284	904	504	1124	884	1504	130	310	ATML-B
								1074		1294		1674		165	360
150	451	473	508	225	237	254	332	932	552	1152	932	1532	130	310	ATML-B
								1102		1322		1702		165	360
200	543	568	610	271	284	305	344	1134	564	1354	944	1734	165	360	ATML-C
250	673	708	752	336	354	376	462	1302	682	1522	1062	1902	165	360	ATML-D
300	737	775	819	168	388	410	520	1360	740	1580	1120	1960	165	360	ATML-D

三通调节阀 Three Way Control Valve

表4 控制阀重量(单位: kg) Table 4 control valve weight(unit: kg) >>

公称口径 DN mm	压力等级PN			薄膜式执行机构 Diaphragm multi-spring type					双动作气缸式执行机构 Double acting pneumatic type				电子式电动执行机构 Solid state electronic type			
	ANSI	JIS	PN	HA22	HA23	HA34	HA45	HA56	ZSA25	ZSA32	ZSA40	ZSA50	ATMLSA	ATMLSB	ATMLSC	ATMLSD
25	150	10K	1.6	20									28			
	300	20K、30K	4.0	22									30			
	600	40K	6.3	26									34			
40	150	10K	1.6		30	42							36	46		
	300	20K、30K	4.0		33	45							39	49		
	600	40K	6.3		39	51							45	55		
50	150	10K	1.6		32	44							38	48		
	300	20K、30K	4.0		36	48							42	52		
	600	40K	6.3		42	54							48	58		
65	150	10K	1.6			56	76							60	100	
	300	20K、30K	4.0			60	80							64	104	
	600	40K	6.3			70	90							74	114	
80	150	10K	1.6			64	84							68	108	
	300	20K、30K	4.0			74	94							78	118	
	600	40K	6.3			88	108							92	132	
100	150	10K	1.6			82	102							86	126	
	300	20K、30K	4.0			96	116							100	140	
	600	40K	6.3			118	138							122	162	
125	150	10K	1.6				124	180	103	130	198			108	148	
	300	20K、30K	4.0				146	202	125	152	220			130	170	
	600	40K	6.3				176	232	155	182	250			160	200	
150	150	10K	1.6				140	196	119	146	214			124	164	
	300	20K、30K	4.0				166	222	145	172	240			150	190	
	600	40K	6.3				216	272	195	222	290			200	240	
200	150	10K	1.6				196	252	175	202	270				220	
	300	20K、30K	4.0				266	322	245	272	340				290	
	600	40K	6.3				386	442	365	392	460				410	
250	150	10K	1.6					382			400	510				360
	300	20K、30K	4.0					462			480	590				440
	600	40K	6.3					672			690	800				650
300	150	10K	1.6					542			570	680				530
	300	20K、30K	4.0					682			700	810				660
	600	40K	6.3					982			1000	1110				960

自力式调节阀 Self-reliance Type Regulating Valve

ZZY^P_M_N 自力式调节阀 Self-reliance type regulating valve

ZZY^P_M_N型自力式压力调节阀，是一种无需外来能源，而只依靠被调介质自身的压力变化达到自动调节和稳定阀前（或阀后）压力为恒定值的一种节能型压力调节阀。

该阀是一种理想的节能型产品，它广泛应用于蒸汽的保压与稳定，也适用于非腐蚀性气体，低粘度液体介质减压稳压（阀后）或泄压稳压（阀前）的自动控制。

ZZY^P_M_N series self-reliance type regulating valve is a kind of energy-saving pressure regulating valve which needs no external energy, only depends on media pressure changes to makes regulating automatically and stable valve upstream (or down-stream) pressure to be const value.

This type of valve is a ideal of energy-saving product, can be widely used for keeping and stabilizing stream pressure, also suit for automatically control of non-corrosive gas, low viscosity liquid media reduce pressure and stabilizing pressure (upstream) or pressure relief and stabilizing pressure (or down-stream).

技术参数和性能 Technical parameters and performance >>

标准本体部 Standard specification

型式Type	单座柱塞不平衡型、笼式压力平衡型 Single port pressure unbalanced plug type; cage guided pressure balanced plug type
公称口径DN	25-300mm
公称压力PN	PN1.6、4.0、6.3MPa; JIS 10K、16K、20K; Class 150、300
阀体材料Body material	WCB、WC6、WC9、LCB、CF8、CF8M、CF3M 各种材质温度压力·范围，请参见表1、附录 Each material operating pressure-temperature limitation, see table 1 and the appendix
连接形式 Body connections	法兰式Flanged type: RF、FM; 法兰距 请参见图3 Face to face dimension: see Fig.3 标准按Flanged Standard: JB/T 79.1 /GB/T9113
阀内件型式Trim type	上导向单座柱塞式阀芯、笼式压力平衡型阀芯、双座柱塞型阀芯 见图1 Top guided single port plunged type plug ;cage guided pressure balanced type plug; double port plunged type plug, see Fig. 1
上阀盖Bonnet	标准型Standards type : -5~+80℃; 中温型Middle temperature type: < 300℃(带冷凝器with condenser); 波纹管平衡型Bellows balanced type; 活塞平衡型Piston balanced type
压盖型式Gland type	螺栓压紧式Bolt pressing type
填料Packing	V型聚四氟乙烯填料，柔性石墨填料 各种材质的使用温度·范围 请参见图2 V-shape PTFE packing, graphite packing, each material operating pressure -temperature limitation, see Fig.2

执行机构 Actuator

名称Name	薄膜式Diaphragm type	气缸式Pneumatic type
膜片材质Diaphragm material	NBR	ZAISi12
用途Purpose	调节Adjust	
气源接口Air connection	M16*1.5	
最小压差Minimum pressure drops	ΔP≥0.04 MPa	
压力调节范围Pressure adjust range	≤0.5MPa	> 0.6MPa
允许环境温度Operating temperature	-30 - 70℃	

性能 Performance

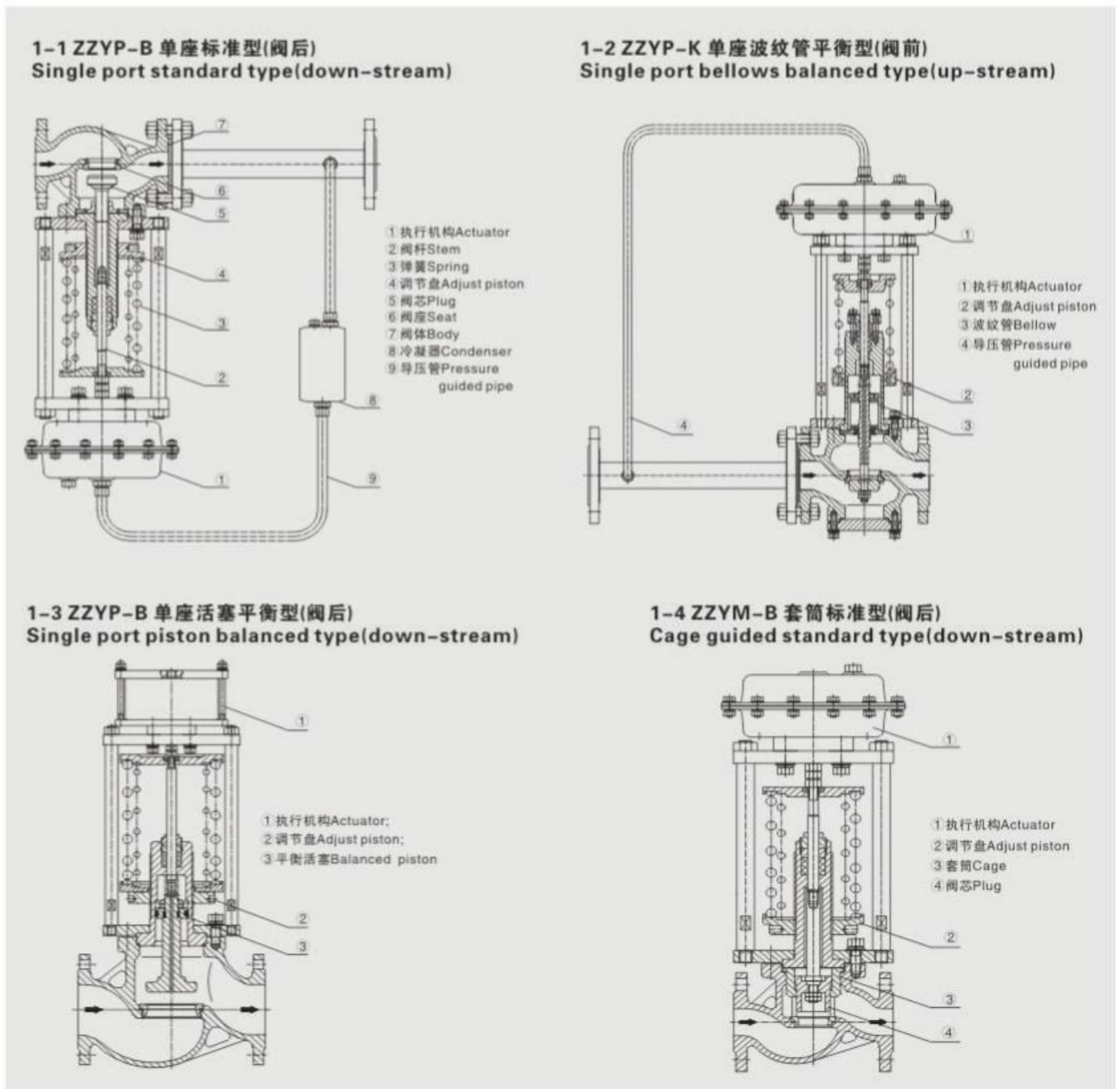
额定Cv值Rated Cv value	请参见表2 See table 2
流量特性Flow characteristics	快开（特殊可要求等百分比或线性） Fast open(equal percentage and linear type flow characteristic trim can be made if customer specifically required)
泄漏量Leakage	金属阀座符合标准Metal seat conform ANSI B16.104 class IV, ≤10 ⁻⁴ 额定Cv Rated capacity of valve; 软阀座Soft seat class VI
压力调节范围 Pressure adjust range	请参见表3 See table 3
压力控制精度 Pressure control precision	±5%

自力式调节阀 Self-reliance Type Regulating Valve

表1 阀本体部材质 Table 1 valve body material >>

阀体材质 Body material		WCB/304		
阀芯Plug	材质Material	304	304	304
	处理Treatment	-	-	司太立合金Stellite alloy
阀座Seat	材质Material	304	304	304
	处理Treatment	RTFE		司太立合金Stellite alloy
泄露等级 Leakage	ANSI	Class VI	Class IV	Class IV
	阀额定容量 × Valve rated capacity ×	微气泡级Micro bubbles	0.01%	0.01%
膜片Diaphragm		NBR (用于-5~+80℃)		
活塞Piston		ZAISI12 (用于-5~+80℃)		
波纹管Bellow		304		
使用温度 (℃) Operating temperature		-5 - +200	-5 - +300	

图1 本体部结构 Fig.1 body material >>



自力式调节阀 Self-reliance Type Regulating Valve

1-5 ZZYN-K 双座标准型(阀前) Double port standard type(upstream)

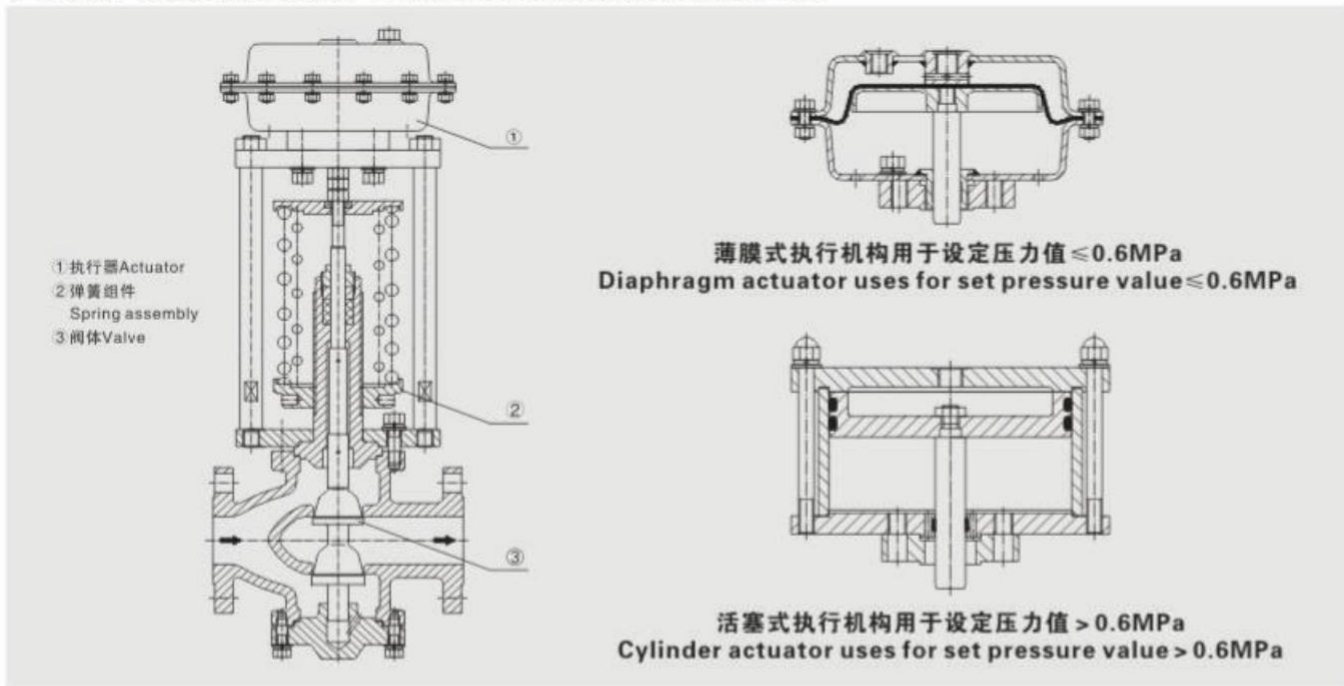


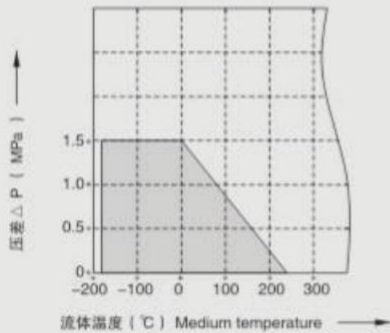
图2 阀内件材质 处理选定基准 Fig.2 trim material treatment and choice >>

2-1 阀芯、阀座的使用温度 压力范围 2-1 Plug, seat operating pressure-temperature rating

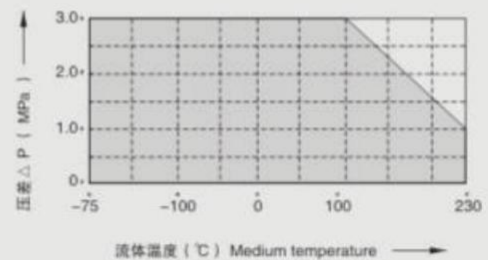
2.1-1 金属阀座 Metal seat

硬化处理: (阀芯、阀座: SUS316+堆焊司太莱合金)

Hardening: (Plug, Seat: SUS316+overlaying stellite alloy)

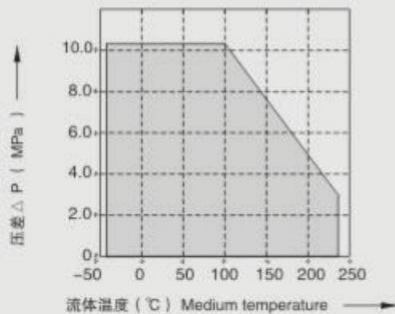


2.1-2 软阀座 Soft seat

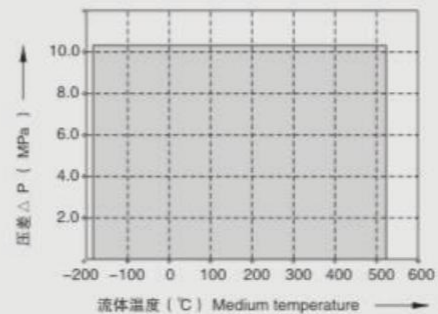


2-2 密封填料的使用温度 压力范围 Packing operating pressure-temperature rating

2.2-1 强化聚四氟乙烯材料 V 型填料 V type PTFE



2.2-2 柔性石墨填料 Graphite



备注: 空化、闪蒸, 禁油及常处于关闭下的调节阀, 不管工作温度和压差多大, 建议司太莱合金堆焊。

Remarks: The valve working in the condition of cavitation, flash, no oil and the valve always shut, no matter how much work temperature and pressure drops, our proposal overlaying Stellite alloy.

自力式调节阀 Self-reliance Type Regulating Valve

表2 额定Cv值和行程 Table 2 rated Cv and stroke >>

公称口径DN(mm)	20	25	32	40	50	65	80	100	125	150	200	250	300
额定Cv值Rated Cv value	9	13	24	35	55	95	140	220	350	560	890	1280	2040
行程Stroke mm	8	8	10	12	12	20	20	25	40	40	50	60	70

表3 压力调节范围(以薄膜式执行机构为例, 1000 ~ 2500KPa 视具体工况要求决定) >>
Table3 Pressure adjust range(uses diaphragm actuator, if pressure is 1000 ~ 2500KPa, see detail to make decision)

压力调节范围(KPa) Pressure adjust range	压力分段范围(KPa) Pressure section range	膜室有效面积(cm ²) Diaphragm effective area	使用阀门口径(mm) Uses valve size
15 - 140	40 - 80	280	20 - 25
	60 - 140		
	15 - 50	400	32 - 300
	40 - 80		
	60 - 140		
120 - 300	120 - 300	70	20 - 50
		100	65 - 100
		280	125 - 300
280 - 500	280 - 500	200	20 - 300
480 - 1000	480 - 1000	70	20 - 50
		100	65 - 100
		280	125 - 300

阀后压力调节, 其阀前压力与阀后压力的关系

For down-stream pressure adjust, the relation-ship between upstream and down-stream

自力式压力调节阀本身是一个调节系统, 阀本身又有一定的压降要求, 对阀后压力调节阀(B型), 为保证阀后压力在一定范围内, 其阀前压力必须达到一定值。(见表4)

The self-reliance type pressure regulating valve is a adjusting system itself, the valve has a pressure drops requirement itself, for down-stream pressure adjust (B type), the upstream pressure must get a certain value (see table 4).

表4 Table 4(Unit: KPa) >>

阀前压力 Upstream pressure	阀后压力 Down-stream pressure	阀前压力 Upstream pressure	阀后压力 Down-stream pressure	阀前压力 Upstream pressure	阀后压力 Down-stream pressure	阀前压力 Upstream pressure	阀后压力 Down-stream pressure
30	15 - 24	350	35 - 280	700	70 - 560	1250	125 - 1000
50	15 - 40	400	40 - 320	750	75 - 600	1500	150 - 1200
100	15 - 80	450	45 - 360	800	80 - 640	2000	200 - 1600
150	15 - 120	500	50 - 400	850	85 - 680	2500	250 - 2000
200	20 - 160	550	55 - 440	900	90 - 720	3000	300 - 2400
250	25 - 200	600	60 - 480	950	95 - 760		
300	30 - 240	650	65 - 520	1000	100 - 800		

整机作用方式确定 The whole machine function determine

自力式压力调节阀(K型)为控制阀前压力的调节阀, 其阀芯的初始位置在关闭位置, 当阀前压力逐渐升高, 超过设定值时, 阀逐渐打开, 直至阀前压力稳定在要求的设定值。

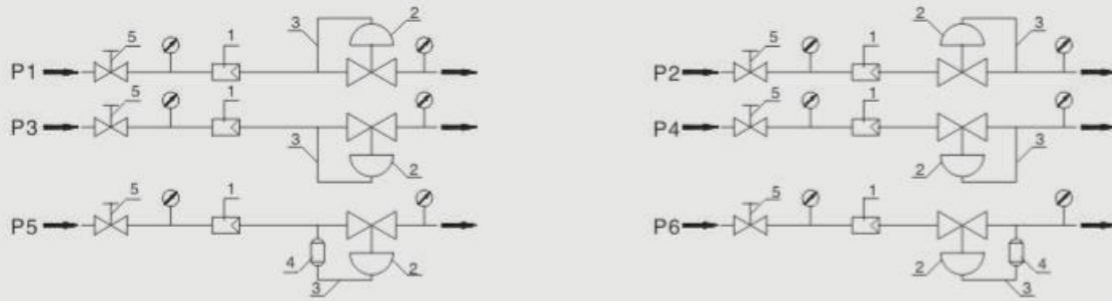
自力式压力调节阀(B型)为控制阀后压力的调节阀, 其阀芯的初始位置在开启位置, 当阀后压力逐渐升高, 超过设定值时, 阀逐渐关闭, 直至阀后压力稳定在要求的设定值。

The self-reliance type pressure regulating valve (K type) is used for control upstream pressure, the plug original location is at the shut location, when upstream pressure raised, exceeds the set value, the valve opens gradually, until the upstream pressure stabilized at the set value.

The self-reliance type pressure regulating valve (B type) is used for control down-stream pressure, the plug original location is at the open location, when down-stream pressure raised, exceeds the set value, the valve shuts gradually, until the down-stream pressure stabilized at the set value.

自力式调节阀 Self-reliance Type Regulating Valve

ZZY 自力式压力调节阀安装方法 The self-reliance type pressure regulating valve installation



1、过滤器Filter 2、自力式调节阀 T self-reliance regulating valve 3、导压管Pressure guided pipe $\Phi 12 \times 2$ 4、冷凝器Condenser

安装方式说明 Installation

- P1: 调节气体, 阀前压力调节 (K 型), 过滤器 (1) 可以不安装
- P2: 调节气体, 阀后压力调节 (B 型), 过滤器 (1) 可以不安装
- P3: 调节液体, 阀前压力调节 (K 型), 对于非清洁流体, 应装过滤器 (1)
- P4: 调节液体, 阀后压力调节 (B 型), 对于非清洁流体, 应装过滤器 (1)
- P5: 调节蒸气, 阀前压力调节 (K 型), 应装冷凝器 (4), 建议装过滤器 (1)
- P6: 调节蒸气, 阀后压力调节 (B 型), 应装冷凝器 (4), 建议装过滤器 (1)

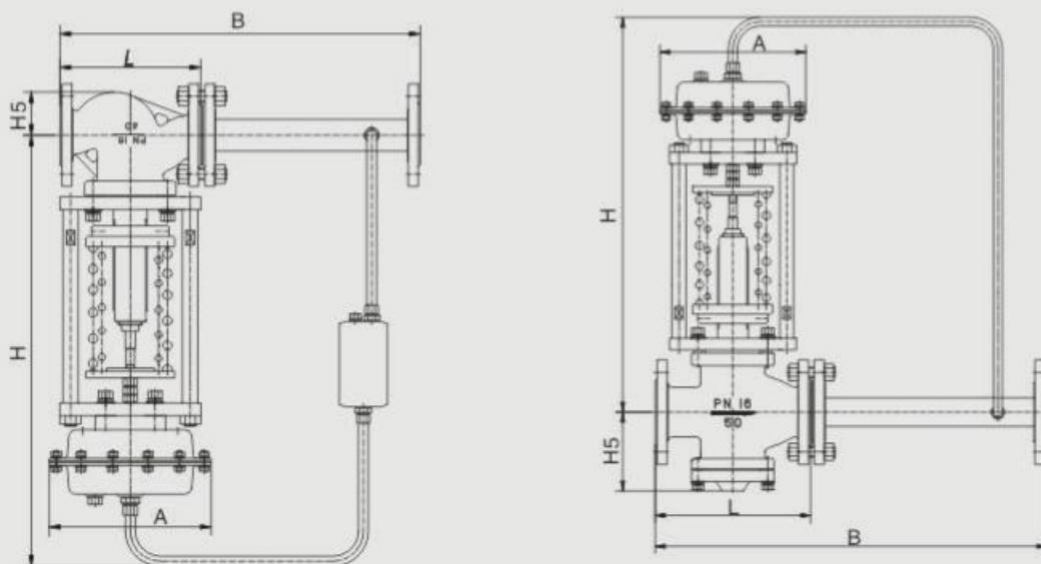
注意: 安装时取压点离开调节阀适当的距离, 控制阀前压力应大于2倍管道直径, 控制阀后压力应大于6倍管道直径。安装冷凝器时应注意冷凝器的位置, 使其高于膜头而低于工艺管道, 以保证冷凝器内充满冷凝液。

- P1: Adjust gas, up-stream pressure adjust (K type), filter(1) can be not installed
 - P2: Adjust gas, down-stream pressure adjust (B type), filter(1) can be not installed
 - P3: Adjust liquid, up-stream pressure adjust (K type), for unclean fluid, filter(1) should be installed
 - P4: Adjust liquid, down-stream pressure adjust (B type), for unclean fluid, filter(1) should be installed
 - P5: Adjust steam, up-stream pressure adjust (K type), condenser should be installed, filter is recommended to be installed
 - P6: Adjust steam, down-stream pressure adjust (B type), condenser should be installed, filter is recommended to be installed
- Note: Pressure measuring point should keep suitable distance from control valve, up-stream distance should large than 2 times the pipeline diameter, down-stream distance should large than 6 times the pipeline diameter. You should pay attention to the condenser location, make sure the condenser is higher than the diaphragm actuator and lower than the pipeline, to insure that the condenser is fully of condensate.

图3 阀外形尺寸 Fig.3 Valve overall dimensions

>>

阀后式自力式压力调节阀外形尺寸 Down-stream type self-reliance pressure regulating valve overall dimensions



自力式调节阀 Self-reliance Type Regulating Valve

单座/套筒外形尺寸 Single port/cage guided type valve overall dimensions

单位Unit : mm

公称 口径 DN	L		B	H5	H											
	PN16 PN40	PN63			A=176	A=195	A=230	A=280				A=308				
					压力调节范围 (KPa) Pressure regulating range											
					120 - 300	480 - 1000	120 - 300	480 - 1000	280 - 500	40 - 80	60 - 140	120 - 300	480 - 1000	15 - 50	40 - 80	60 - 140
20	150	230	383	43	585	585	—	—	595	595	595	—	—	—	—	—
25	160	230	383	48	585	585	—	—	595	595	595	—	—	—	—	—
32	180	260	512	57	595	595	—	—	605	—	—	—	—	605	605	605
40	200	260	512	66	610	610	—	—	620	—	—	—	—	620	620	620
50	230	300	603	80	620	620	—	—	630	—	—	—	—	630	630	630
65	290	340	862	92	—	—	720	720	730	—	—	—	—	730	730	730
80	310	380	862	100	—	—	735	735	745	—	—	—	—	745	745	745
100	350	430	1023	120	—	—	750	750	760	—	—	—	—	760	760	760
125	400	500	1380	134	—	—	—	—	790	—	—	790	790	790	790	790
150	480	550	1380	156	—	—	—	—	805	—	—	805	805	805	805	805
200	600	650	1800	199	—	—	—	—	855	—	—	855	855	855	855	855

注1) 阀体法兰及法兰端面距可按用户指定标准制造, 如: ANSI, JIS, DIN 等标准。

Note1) Valve flange and valve face to face dimension both can manufacture by customer offer standard, such as ANSI, JIS, DIN.

双座外形尺寸 Double port valve overall dimensions

单位Unit : mm

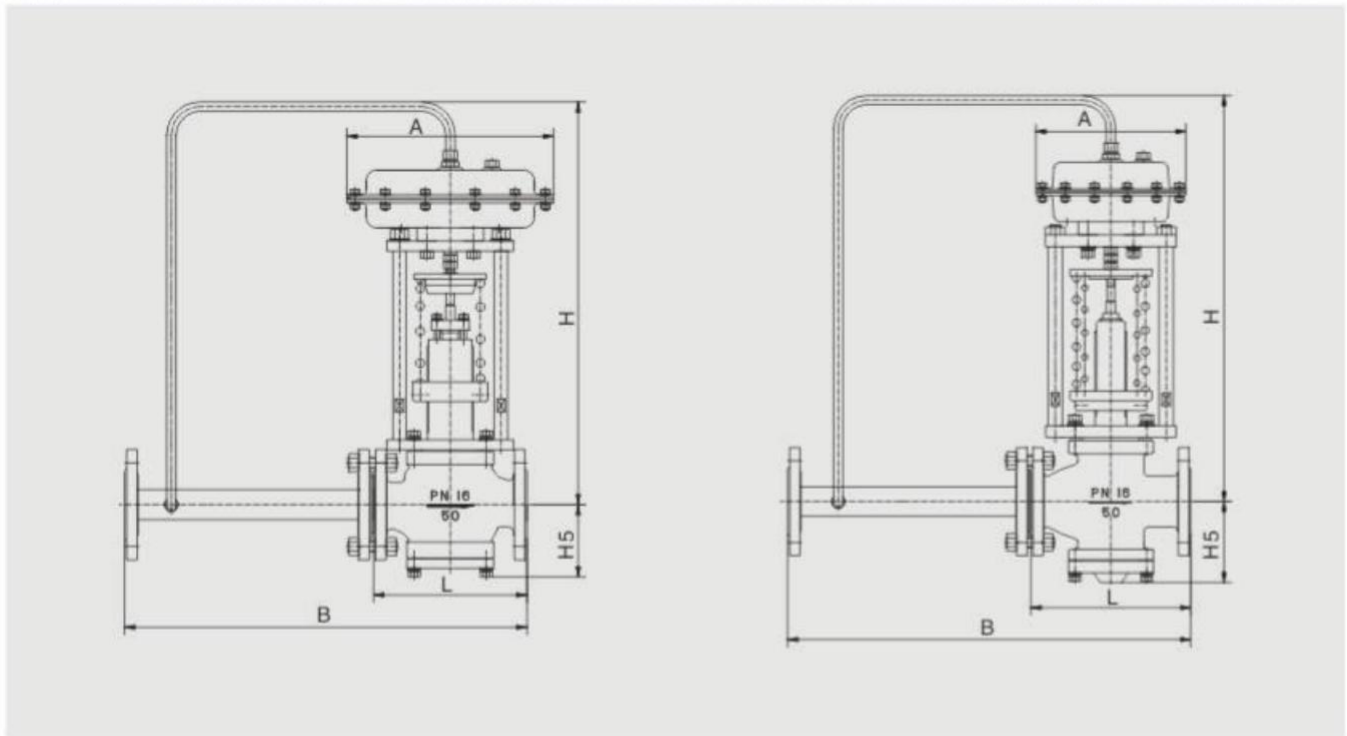
公称 口径 DN	L		B	H5	H											
	PN16 PN40	PN63			A=176	A=195	A=230	A=280				A=308				
					压力调节范围 (KPa) Pressure regulating range											
					120 - 300	480 - 1000	120 - 300	480 - 1000	280 - 500	40 - 80	60 - 140	120 - 300	480 - 1000	15 - 50	40 - 80	60 - 140
25	160	230	383	110	615	615	—	—	625	625	625	—	—	—	—	—
32	180	260	512	130	625	625	—	—	635	635	635	—	—	—	—	—
40	200	260	512	135	630	630	—	—	640	—	—	—	—	570	570	570
50	230	300	603	145	650	650	—	—	660	—	—	—	—	586	586	586
65	290	340	862	175	755	755	—	—	765	—	—	—	—	607	607	607
80	310	380	862	195	—	—	770	770	780	—	—	—	—	724	724	724
100	350	430	1023	210	—	—	780	780	790	—	—	—	—	747	747	747
125	400	500	1380	265	—	—	—	—	855	—	—	855	855	855	855	855
150	480	550	1380	280	—	—	—	—	860	—	—	860	860	860	860	860
200	600	650	1800	345	—	—	—	—	915	—	—	915	915	915	915	915
250	730	775	2000	425	—	—	—	—	990	—	—	990	990	990	990	990
300	850	900	2200	485	—	—	—	—	1065	—	—	1065	1065	1065	1065	1065

注1) 阀体法兰及法兰端面距可按用户指定标准制造, 如: ANSI, JIS, DIN 等标准。

Note1) Valve flange and valve face to face dimension both can manufacture by customer offer standard, such as ANSI, JIS, DIN.

自力式调节阀 Self-reliance Type Regulating Valve

阀前式自力式压力调节阀外形尺寸 Upstream type self-reliance pressure regulating valve overall dimensions



单座/套筒外形尺寸 Single port/cage guided type valve overall dimensions

单位Unit : mm

公称 口径 DN	L		B	H5	H											
	PN16 PN40	PN63			A=176		A=195		A=230		A=280			A=308		
					压力调节范围 (KPa) Pressure regulating range											
					120 ~ 300	480 ~ 1000	120 ~ 300	480 ~ 1000	280 ~ 500	40 ~ 80	60 ~ 140	120 ~ 300	480 ~ 1000	15 ~ 50	40 ~ 80	60 ~ 140
20	150	230	383	100	585	585	—	—	595	595	595	—	—	—	—	—
25	160	230	383	100	585	585	—	—	595	595	595	—	—	—	—	—
32	180	260	512	110	595	595	—	—	605	—	—	—	—	605	605	605
40	200	260	512	120	600	600	—	—	610	—	—	—	—	610	610	610
50	230	300	603	125	605	605	—	—	615	—	—	—	—	615	615	615
65	290	340	862	145	—	—	700	700	710	—	—	—	—	710	710	710
80	310	380	862	155	—	—	710	710	720	—	—	—	—	720	720	720
100	350	430	1023	170	—	—	725	725	735	—	—	—	—	735	735	735
125	400	500	1380	195	—	—	—	—	755	—	—	755	755	755	755	755
150	480	550	1380	225	—	—	—	—	780	—	—	780	780	780	780	780
200	600	650	1800	260	—	—	—	—	815	—	—	815	815	815	815	815

注：阀体法兰及法兰端面距可按用户指定标准制造，如：ANSI, JIS, DIN 等标准。

Note: Valve flange and valve face to face dimension both can manufacture by customer offer standard, such as ANSI, JIS, DIN.

自力式调节阀 Self-reliance Type Regulating Valve

双座外形尺寸 Double port valve overall dimensions

单位Unit : mm

公称 口径 DN	L		B	H5	H														
	PN16 PN40	PN63			A=176			A=195			A=230			A=280			A=308		
					压力调节范围 (KPa) Pressure regulating range														
					120 - 300	480 - 1000	120 - 300	480 - 1000	280 - 500	40 - 80	60 - 140	120 - 300	480 - 1000	15 - 50	40 - 80	60 - 140			
25	160	230	383	110	615	615	—	—	625	625	625	—	—	—	—	—			
32	180	260	512	130	625	625	—	—	635	635	635	—	—	—	—	—			
40	200	260	512	135	630	630	—	—	640	—	—	—	—	570	570	570			
50	230	300	603	145	650	650	—	—	660	—	—	—	—	586	586	586			
65	290	340	862	175	755	755	—	—	765	—	—	—	—	607	607	607			
80	310	380	862	195	—	—	770	770	780	—	—	—	—	724	724	724			
100	350	430	1023	210	—	—	780	780	790	—	—	—	—	747	747	747			
125	400	500	1380	265	—	—	—	—	855	—	—	855	855	855	855	855			
150	480	550	1380	280	—	—	—	—	860	—	—	860	860	860	860	860			
200	600	650	1800	345	—	—	—	—	915	—	—	915	915	915	915	915			
250	730	775	2000	425	—	—	—	—	990	—	—	990	990	990	990	990			
300	850	900	2200	485	—	—	—	—	1065	—	—	1065	1065	1065	1065	1065			

注：阀体法兰及法兰端面距可按用户指定标准制造，如：ANSI，JIS，DIN等标准。

Note: Valve flange and valve face to face dimension both can manufacture by customer offer standard, such as ANSI, JIS, DIN.

表4 控制阀重量(单位: kg) Table 4 control valve weight(Unit: kg)

公称口径 DN		20	25	32	40	50	65	80	100	125	150	200	250	300
单座/套筒 Single port type/cage guided type	PN16/40	26	26	37	37	42	72	90	118	135	150	190	—	—
	PN63	30	30	43	46	52	81	115	158	180	210	260	—	—
双座 Double port	PN16/40	—	33	43	46	56	86	102	120	134	165	200	225	280
	PN63	—	40	50	54	65	100	125	165	190	215	265	315	390

ZZ_C^V自力式微压差压调节阀 Micro-drops self-reliance type regulating valve

ZZ_C^V型自力式微压、差压阀是一种不需要外加能源而能自动调节一种或两种介质压差，使压差维持在恒定值，如在工业炉气体燃烧系统中，用于控制甲、乙两种燃料混合比流量调节，达到理想的燃烧条件，节省燃料及投资，也可以作为煤气、天然气、液化石油气、氨气、氮气、氧气等各种工业气体的减压、微压、差压的调节系统中。还可用于氢冷发电机组密封油系统，控制密封油与氢气间的压力差，以确保可靠密封。

微压阀控制阀前时可代替ZZYP-16KII型带指挥器操作式自力式压力调节阀，当差压阀的低压端通大气即成为微压阀(见图1)

ZZC型自力式差压调节阀和ZZV型自力式微压调节阀主要特点为：

1. 对单座微（差）压阀而言，若阀前压力 $\geq 100\text{KPa}$ 则安装ZZYP型自力式进行减压至 $\leq 100\text{KPa}$ ，因此可用于压力特别小的场合(例如 0.5KPa)。
2. 执行机构元件极为灵敏，极微小的压力变化会感测出来。
3. 压力调节极为方便，无需停止生产即可进行设定值调整。

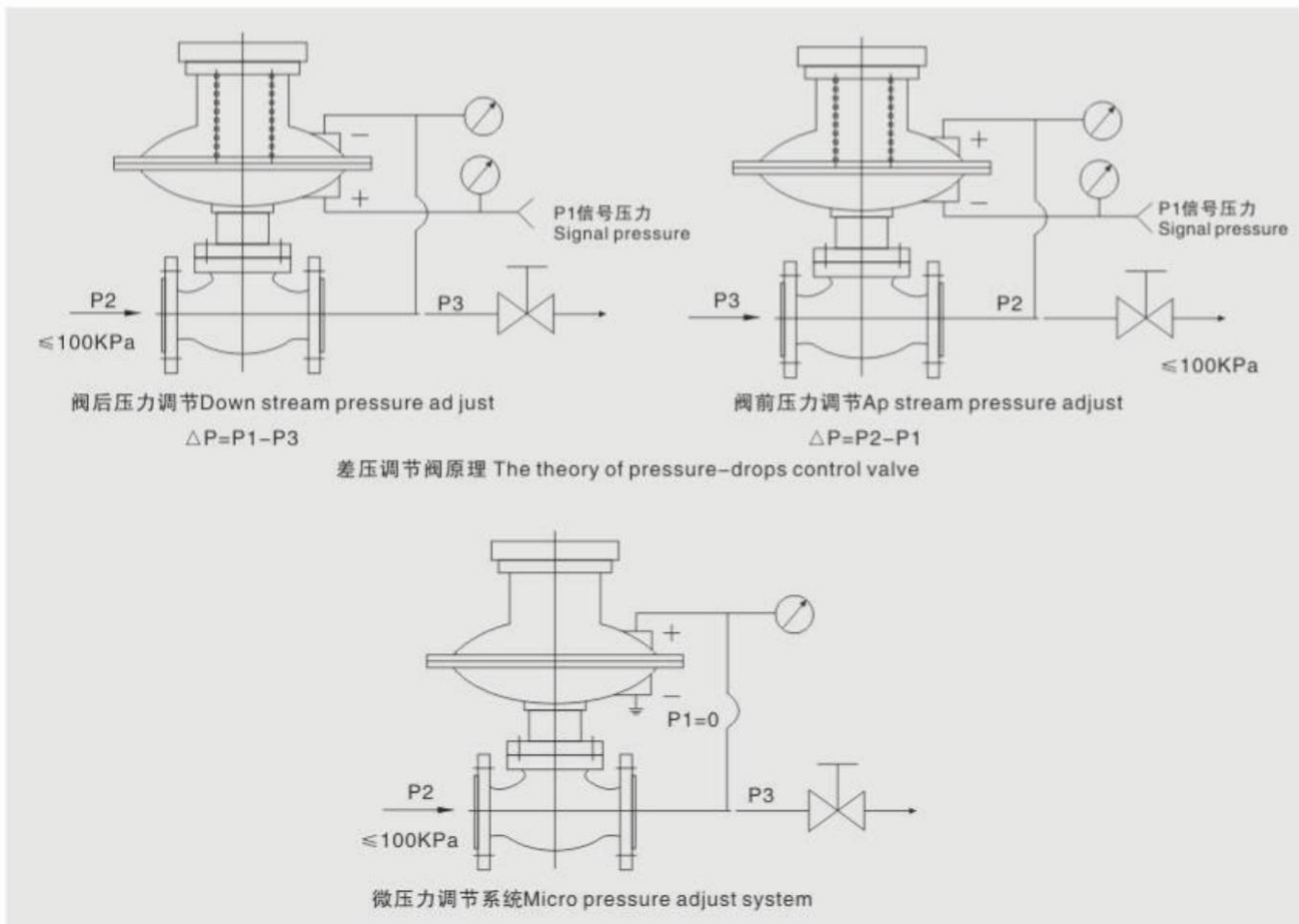
ZZ_C^V series micro-drops self-reliance type regulating valve is a kind of valve which can regulating one or two kind of media pressure automatically without external energy, it can stable valve pressure drops at the const value, for example, in the industrial boiler gas burning system, used for control two kinds of fuel mixing ratio adjust, to reached the ideally burning condition, to saved energy and invest, also can be used for all kinds of gas reduce pressure, micro-drops regulating, control system, such as coal gas, nature gas, liquefied petroleum gas, ammonia, nitrogen, oxygen, also can be used for hydrogen-cooled generating-set sealing oil system, to control the pressure drops between sealing oil and hydrogen to insure reliable sealing.

When was used for control upstream pressure, the micro-drops self-reliance type regulating valve can replaces the ZZYP-16KII type self-reliance regulating valve with director. When the down-stream side is connected with the atmosphere, the micro-drops self-reliance type regulating valve becomes the micro-pressure self-reliance type regulating valve.

The major characteristics of ZZC type and ZZV type micro-pressure self-reliance type regulating valve is:

1. To single-port micro-pressure (micro-drops) self-reliance type regulating valve, if upstream pressure $\geq 100\text{KPa}$, then installs ZZYP self-reliance type regulating valve reduces the pressure to $\leq 100\text{KPa}$, so it can be used for the occasion of pressure very small(for example 0.5KPa).
2. Actuator element is very sensitive, very small pressure changes can be inducted and measured.

图1 微压调节阀原理 Fig1. The theory of micro-pressure control valve



自力式微压差压调节阀 Micro-drops Self-reliance Type Regulating Valve

图2 自力式阀主要部件材质 Fig.2 Valve partner material

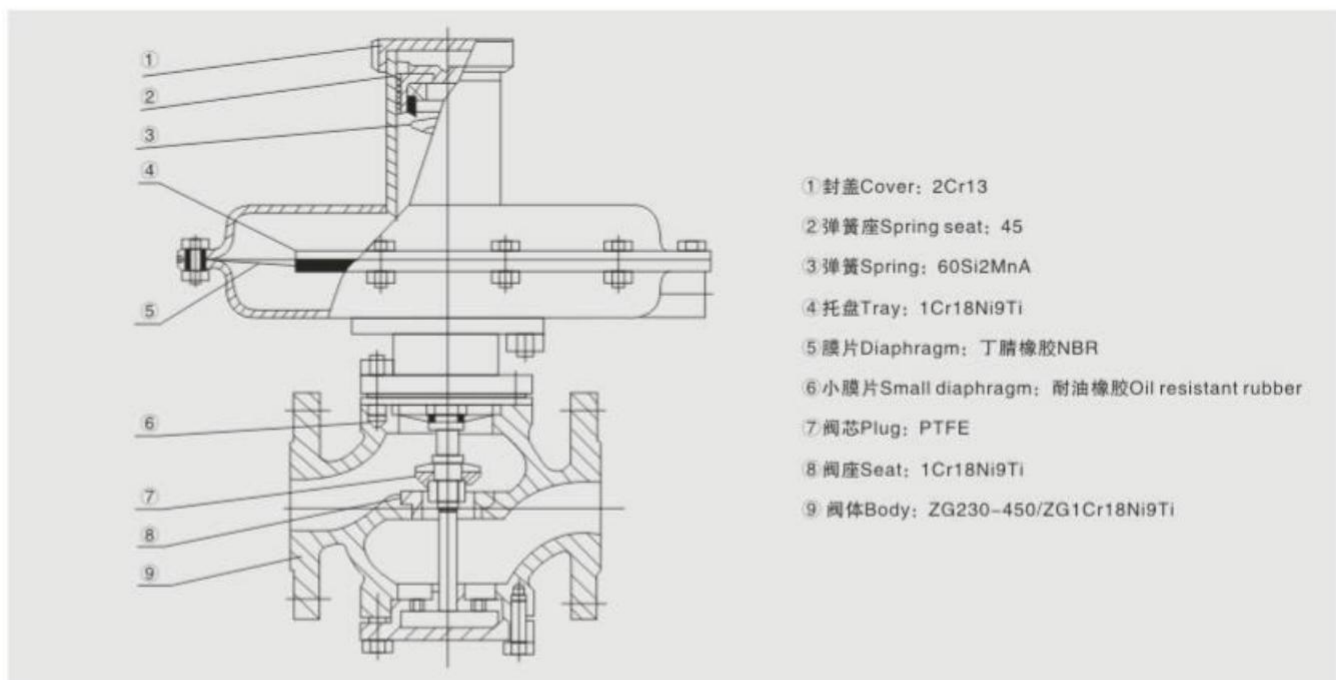


表1 主要技术参数和性能指标 Table 1 Major technical parameters and performance

公称通径DN (mm)		20	25	32	40	50	65	80	100									
额定流量系数KV Rated flow coefficient Kv	ZZCP/ZZVP	5	8	12.5	20	32	50	80	125									
	ZZCN					53	83											
额定行程Stroke(mm)		5	6		10		15		20									
公称压力PN (MPa)		0.10			1.0													
差压调节范围 (KPa) 一般设计范围 Pressure drops adjust range Ordinary design range				0.5-5.5	5-10	9-14	13-19	18-24	22-28	26-33	31-38	36-44	42-51	49-58	56-66	64-78	76-90	88-100
介质温度(°C) Operating temperature		≤80																
调节精度(%) Regulating precision		≤10																
允许泄漏量 (l/h) Allowable leakage	ZZCP/ZZVP	硬密封:10 ⁻⁴ ×阀额定容量(IV级) (GB/T4213-2008) 软密封:VI级 Hard sealing: 10 ⁻⁴ × Valve rated capacity(Class IV,GB/T4213-2008) Soft sealing: Class VI																
	ZZCN	5×10 ⁻⁴ ×阀额定容量Valve rated capacity(II级Class) (GB/T4213-2008)																

注: 1. ZZCP/ZZVP 公称压力为1.0MPa, ZZCN为1.6MPa。2. ZZCN 差压调节范围为36-44, 42-51, 49-58, 56-66, 64-78, 76-90, 88-100Kpa。
 Notes: 1. ZZCP/ZZVP Nominal Pressure is 1.0MPa, ZZCN Nominal Pressure is 1.6MPa.

2. ZZCN pressure drops regulating range is 36-44, 42-51, 49-58, 56-66, 64-78, 76-90, 88-100Kpa.

差(微)压阀调节范围的确定 Micro-pressure(micro-drops)control valve regulating range choose:

差(微)压调节范围的分段, 见表1。控制范围(控制点)应选取在中间期附近。

Micro-pressure (micro-drops) control valve regulating range section, see table 1. The control range(control point)should be selected near the middle point.

整机作用方式的确定 The whole machine function determine:

差(微)压调节有B型K型两种。

B型阀阀芯初始位置常开, 差(微)压增大时阀开度减少甚至闭合。

K型阀阀芯初始位置常闭, 差(微)压增大时阀开度增大。

Micro-pressure (micro-drops) control valve has two types, include B type and Ktype.

The B type valve plug original location is open, when pressure (pressure -drops) raised, the valve opening reduces gradually until the valve shuts completely.

The K type plug original location is shut, when pressure (pressure -drops) raised, the valve opening raised gradually.

自力式微压差压调节阀 Micro-drops Self-reliance Type Regulating Valve

型号编制说明 Type Arrangement >>

ZZCP-10B ZZCP-10K ZZCN

Z: 执行器大类; Z: 自力式系列; C: 差压阀; P: 单座; 10: PN1.0MPa、16: PN1.6MPa

B: 差压增加时阀关闭, K: 差压增加时阀开启。

N: 双座

ZZVP-10B, ZZVP-10K, ZZVN-10K ZZVN-10B

V: 微压阀, K、B 其控制方式同ZZYP 型自力式产品。

B: 阀后压力增加时阀关闭

K: 阀前压力增加时阀开启

N: 双座

ZZCP-10B ZZCP-10K ZZCN

Z: Control valve series; Z: self-reliance type series; C: pressure-drops valve; P: single port; 10: PN1.0MPa, 16: PN1.6MPa

B: Pressure-drops increased valve open, K: pressure-drops increased valve shuts

N: double port valve

ZZVP-10B, ZZVP-10K, ZZVN-10K ZZVN-10B

V: micro-drops valve, K、B the same to ZZCP series

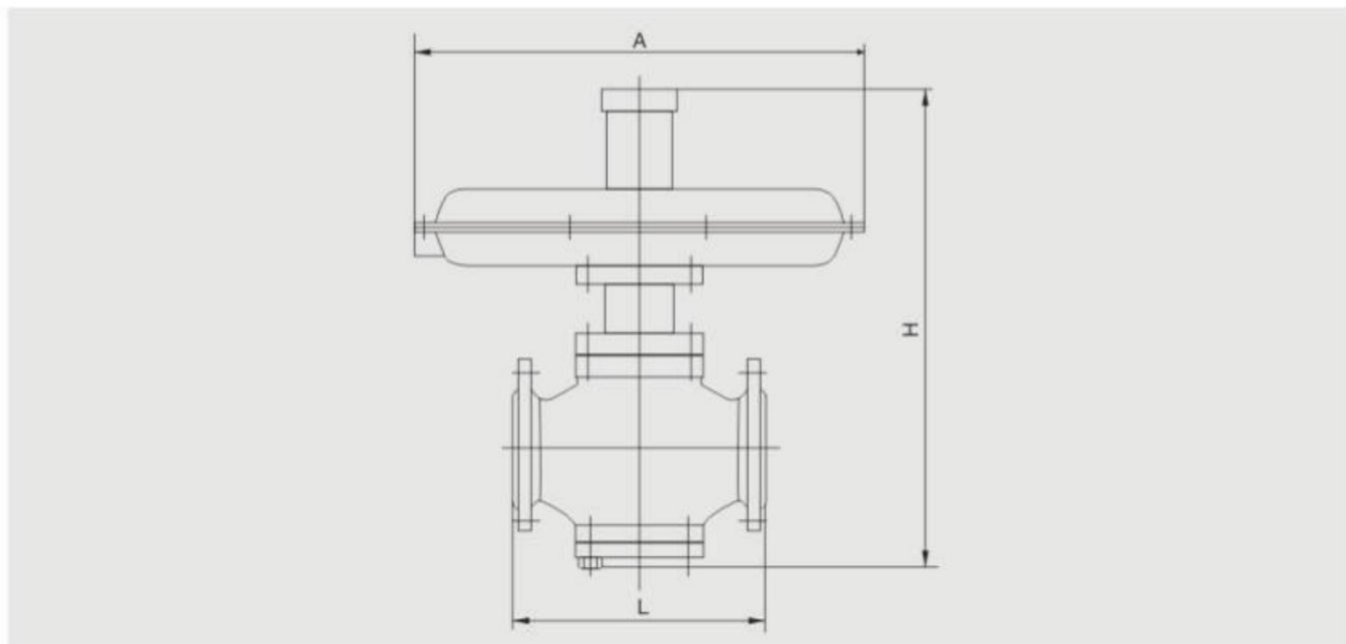
B: down-stream pressure increased valve shut

K: upstream pressure increased valve open

N: double port valve

外形尺寸及重量(通径大于100 时须定制)

Overall dimensions and weight(DN > 100 the valve should be customized) >>



DN		20	25	32	40	50	65	80	100
A		308	394	308	394	308	394	394	394
H	ZZCP/ZZVP	376	465	365	445	445	490	490	510
	ZZCN					536	536		
L	ZZCP/ZZVP	150	160	180	200	230	290	310	350
	ZZVN					222	222		
重量Weight (Kg)		12	18	25	32	45	58	68	76
导压管螺纹接头 Pressure guided pipe thread connection		M16 × 1.5							

软密封球阀 Soft Sealing Ball Valve

Z_S^DHO 软密封球阀 Z_S^DHO Soft sealing ball valve

Z_S^DHO系列O球阀按密封方式分为软密封、硬密封二种密封结构，按球体支承型式分为浮动球阀、固定球阀，按阀体类型分为一片式、二片式、三片式、顶装式、侧装式等，按毛坯种类分为锻钢式、铸钢式、钣焊式，按使用环境有超低温型、高温型、保温夹套型等，可满足用户各种需求。

其特点是：带O形流道球芯，流通能力强，流阻小，体积小，球芯旋转90°即可关闭，可快速启闭。适用于各种液体、气体及浆料的切断控制场合。O球阀也可根据客户要求订制，改变结构、材质、驱动类型等，以满足特殊工况控制需求。

软密封O球阀采用弹性密封结构，达到VI级双向密封，适用于要求流通能力强，流阻小，严格关断的清洁介质，如强酸溶液等。但不适合带纤维、颗粒的非清洁介质及高温场合。

顶装式球阀包括浮动式顶装球阀与固定式顶装球阀，均能够实现在线检修，无需拆卸阀体。检修时只需拆卸阀盖，便可以将球体及全部内件拆卸后维修更换，简单快捷，同时阀门只有一个阀盖法兰结合面，设计采用多种阀杆密封手段，减少了外漏风险。适用于要求能够快速在线检修、避免外漏的场所。

Z_S^DHO series O-shape ball valve is divided into soft seal, seal two kinds according to the seal way, divided into floating ball and fixed ball valve according to the ball bearing type, is divided into one piece, two pieces, three pieces, top mounted, side mounted type, etc., according to the type of valve body, is divided into forged steel, cast steel, sheet metal welding type according to the material type, according to the use of the environment, there are ultra low temperature type, high temperature, thermal insulation jacketed type etc., to meet the needs of all users.

The features are: with O-shape channel ball, strong flow capacity, flow resistance small, small size, the valve can be closed only when ball core rotate 90 degrees, can be quickly open and close. Suitable for all kinds of liquid, gas and slurry cutting occasions. O-ball valve can also be customized according to customer requirements, to change the structure, material, drive type, in order to meet the requirements of special conditions control.

Soft sealing O-ball valve with elastic sealing structure, reached grade VI two-way sealing, applicable to the requirements of circulation ability, small flow resistance, strictly off the cleaning medium, such as a strong acidic solution. But it is not suitable for the non-cleaning medium with fibers, particles and high temperature.

The top mounted ball valve is divided into floating ball valve and fixed ball valve, both of which can be realized on line maintenance without removing the valve body. Maintenance simply remove valve bonnet, can be sphere and all disassembly maintenance and replacement, simple and quick, at the same time the valve only has one valve bonnet flange joint surface. The valve uses a variety of stem sealing method, reduce the leakage risk. Apply to the requirements of rapid online repair, and avoid of leaking.

技术参数和性能 Technical parameters and performance >>

软密封浮动球阀 Soft sealing float ball valve

公称口径DN	DN15-200; NPS1/2-8"
公称压力PN	PN1.6、2.5、4.0、6.3、10MPa; Class 150、300、600Lb
阀体材料 Body material	WCB、LCB、WC6、CF8、CF8M、CF3M, 各种材质温度压力·范围, 请参见表1、附录 Each material's operating pressure-temperature limitation, see table 1 and the appendix
连接形式 Body connections	法兰式 Flanged type: 标准按 Standards for: JB/T 79.1-79.4-94 / GB/T9113/ASME B16.5/HG/T20592HG/T20615/JIS B2220 焊接式 Welding type: 标准按 Standards for ASME B16.25、B16.21 法兰距按 Face to face dimension: GB/T 12221/ASME B16.10 请参见图4 See Fig.4 端面型式可为 End type: FF、RF、RJ、MFM、TG、BW、SW、Thread
阀内件形状材料 Trim type/material	带O形通道球芯, 请参见图3 O-shaped channel ball, see Fig 3
适用温度 Apply temperature	标准型 Standards type: -29~+150℃, 低温型 Low temperature type: -196~+120℃ 请参见表2 see table 2
阀芯型式Ball type	浮动球式 Floating ball type
密封形式 Sealing type	防火型(标配)、轻扭矩型 fire proof type (standard equipment), Low torque type
填料Packing	V型聚四氟乙烯填料 V-shape PTFE packing: -196~+230℃, 石棉编织填料 Graphite knitting packing: -29~+350℃, 柔性石墨填料 Graphite packing: -196~+600℃
表面涂层处理 Painting color	灰色(不锈钢阀体无涂层) Gray (Stainless steel body with no coating)

软密封球阀 Soft Sealing Ball Valve

软密封固定球阀 Soft sealing fixed type ball valve

公称通径DN	DN150-1200; NPS6-48"
公称压力PN	PN1.6、2.5、4.0、6.3、10、15、25MPa; Class 150、300、600、900、1500Lb
阀体材料 Body material	WCB、LCB、WC6、CF8、CF8M、CF3M, 各种材质温度压力·范围, 请参见表1、附录 Each material's operating pressure-temperature limitation, see table 1 and appendix
连接形式 Body connections	法兰式Flanged type: 标准按 Standards for JB/T 79.1-79.4-94 /GB/T9113/ASME B16.5/ASME B16.47HG/T20592/HG/T20615/ JIS B2220 焊接式 Welding type: 标准按 Standards for ASME B16.25、B31.4、B31.8 法兰距按 Face to face dimension: GB/T 12221/ASME B16.10 见图4(顶装式球阀一般为厂标) See Fig.4 (Top mounted ball valve is in accordance with the manufacture standard) 端面型式可为 End type RF、RJ、MFM、TG、BW
阀内件形状材料 Trim type/material	带O形通道球芯, 请参见图3 O-shaped channel ball, see Fig 3
适用温度 Apply temperature	标准型 Standards type: -29~+150℃, 低温型 Low temperature type: -196~+120℃, 高温型 High temperature type: -29~+250℃, 请参见表2 see table 2
阀芯型式Ball type	固定球式 Fixed ball type
阀体型式 Body type	两片式 Two off-type (铸钢阀门为 Cast steel valves is DN150-400; NPS6-16") 三片式 Three off-type (铸钢阀门为 Cast steel valves is DN450-1200; NPS18-48") 顶装式 Top mounted type (铸钢阀门为 Cast steel valves is DN150-600; NPS6-24")
填料Packing	V型聚四氟乙烯填料 V type PTFE packing: -30~+230℃, 石棉编织填料 Graphite knitting packing: -30~+350℃, 柔性石墨填料 Graphite packing: -30~+600℃
表面涂层处理 Painting color	灰色(不锈钢阀体无涂层) Gray (Stainless steel body with no coating)

执行机构 Actuator

名称Name	单作用气缸式 Spring return pneumatic type	双作用气缸式 Double acting pneumatic type	电动式执行机构 Electric motor type
型号Type	8200S/8300RH	8200D/8300DS	ATMHC
用途Purpose	开关on-off	开关on-off	开关on-off
正作用 Direct action	气压增加阀闭 Air to valve close	信号增加阀开或阀闭 Signal increase to valve close or stop	阀开、阀闭、停止 Open/close/stop
反作用 Reverse action	气压增加阀闭 Air to valve close	信号增加阀开或阀闭 Signal increase to valve close or stop	
供气压力或 供给电压信号 Air supply or power supply and input signal	500KPaG	400、500KPaG	供给电压Power 220V、380V AC 50Hz 正反切换接点 Change over contact
接口Connection	请参见图 see Fig 4-1、4-2		配线Connection 2-G1/2
允许环境温度 Ambient temperature	-30~70℃	-30~70℃	-10~70℃
附件配置 Accessory allocationz	空气过滤减压阀, 电磁阀, 限位开关, 手操机构等 Air-set, solenoid valve, limit switch, manual handle		检测开度微动开关 Detecting opening micro switch

软密封球阀 Soft Sealing Ball Valve

顶装球阀系列 Top mounted ball valve

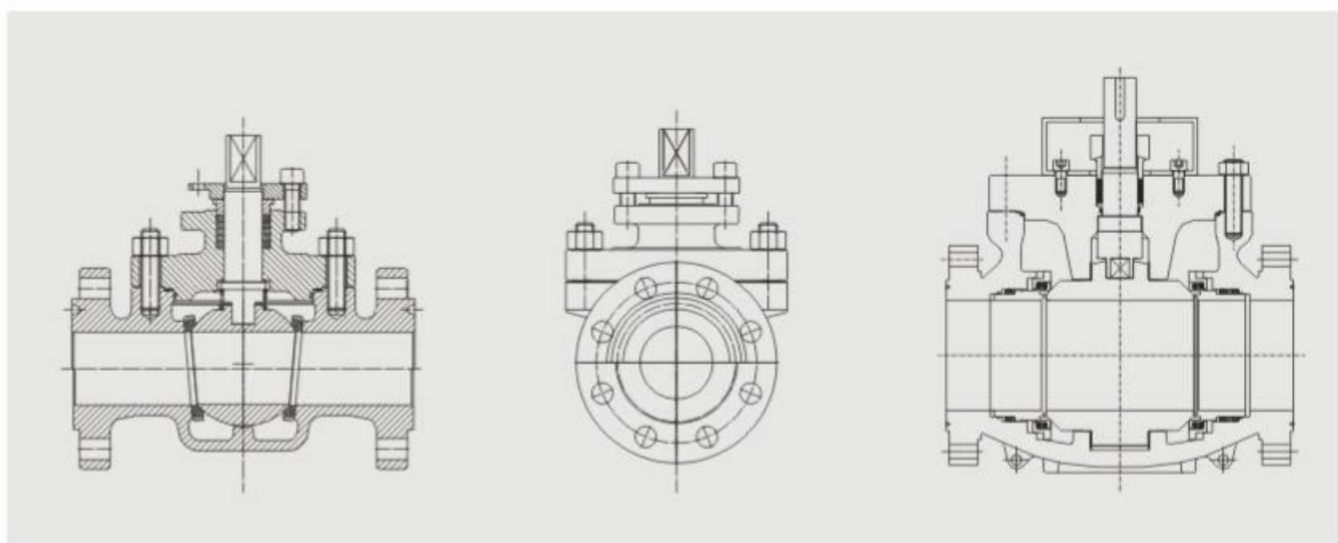


表1 阀体、阀内件常用材质及使用温度范围

Table 1 body, trim common material combination and operating temperature

名称 Part name	材质 Material	允许使用温度(°C) Working temperature	名称 Part name	材质 Material	允许使用温度(°C) Working temperature	
阀体 Valve body	WCB/A105	-29 ~ +420	阀杆 Stem	12Cr13	-29 ~ +600	
	ZG1Cr18Ni9/CF8	-196 ~ +816①		20Cr13	-29 ~ +600	
	ZG00Cr18Ni9/CF3	-196 ~ +350		17-4PH	-73 ~ +315	
	ZG0Cr17Ni2Mo2/CF8M	-196 ~ +816①		304	-196 ~ +538	
	ZG00Cr17Ni2Mo2/CF3M	-196 ~ +350		316	-196 ~ +538	
	ASTM A350 LF2 Cl.1	-46 ~ +350		321	-196 ~ +538	
	ASTM A352 LCB	-46 ~ +350		Inconel 625	-101 ~ +650	
	ASTM A351 CN7M	-196 ~ +315		Inconel 718	-101 ~ +700	
	ASTM A182 F51/ASTM A995 4A(CD3MN)	-51 ~ +315		316+PTFE	-196 ~ +210	
	ASTM A182 F53 /ASTM A995 5A(CE3MN)	-51 ~ +315		316+氟化	-29 ~ +200	
16MnDR	-45 ~ +350	轴承 Bearing	PTFE	-196 ~ +180		
球体 阀座 压圈 Ball, seat Compression ring	ZG1Cr18Ni9/CF8		-196 ~ +816①	密封圈 Sealing ring	RPTFE	-101 ~ +210
	ZG00Cr18Ni9/CF3		-196 ~ +350		Nylon1010	-73 ~ +90
	ZG0Cr17Ni2Mo2/CF8M		-196 ~ +816①		Molon	-29 ~ +80
	ZG00Cr17Ni2Mo2/CF3M		-196 ~ +350		Devolon V	-29 ~ +80
	ASTM A105+ENP	-29 ~ +420	Viton B 氟橡胶		-46 ~ +232	
	ASTM A182 F51/ASTM A995 4A(CD3MN)	-51 ~ +315	CR氯丁橡胶	-40 ~ +100		
	ASTM A182 F53 /ASTM A995 5A(CE3MN)	-51 ~ +315	O型圈 O-ring	NBR丁腈橡胶	-55 ~ +100	
ASTM A351 CN7M	-196 ~ +315	HNBR 氢化丁腈橡胶		-55 ~ +150		
弹簧 Spring	316 不锈钢ss	-196 ~ +250		SR/VMQ 硅橡胶	-60 ~ +225(300)	
	Inconel 625	-101 ~ +540		PTFE 聚四氟乙烯	-196 ~ +180(230)	
填料 Packing	V形强化聚四氟乙烯 V type PTFE	-30 ~ +230				
	石棉编织 Graphite knitting	-30 ~ +350				
	柔性石墨 Sealing ring	-196 ~ +600				

注①: 温度超过538℃时, 应控制 C≥0.04%, 且对于CL150 法兰端阀门适用温度≤538℃;

Notes: When the working temperature over 538 °C, should control C ≥ 0.04%, and for the CL150 flanged end valve, working temperature ≤ 538°C.

软密封球阀 Soft Sealing Ball Valve

典型阀门材料配置 Valve material combination

>>

序号 Serial number	1	2	3	4	5
阀体Body	A216 WCB	A351 CF8	A351 CF8M	ASTM A995 4A(CD3MN)	A352 LCC 堆焊Inconel 625
阀杆Stem	A182 F6a Cl.2	A276 304	A182 F316	ASTM A182 F53	Inconel 625
填料箱 Stuffing box	A105+ENP	A182 F304	A182 F316	ASTM A182 F51	Inconel 625
固定轴 Fixed axis	A105+ENP	A182 F304	A182 F316	ASTM A182 F51	Inconel 625
固定板 Fixed plate	A105+磷化 Phosphorization		A351 CF8M	ASTM A995 4A(CD3MN)	Inconel 625
支架York	A216 WCB/Q235B	A351 CF8	A351 CF8	A351 CF8	A351 CF8M
填料压板 Gland flange	A216 WCB	A351 CF8	A351 CF8	A351 CF8	Inconel 625
填料压套 Gland ring	A276 304	A276 304	A276 316	ASTM A182 F51	Inconel 625
球体Ball	12Cr13/A105+ENP	A182 F304	A182 F316	ASTM A182 F53	Inconel 625
阀座Seat	A105+ENP+PTFE	304+PCTFE	316+PTFE	ASTM A182 F53+PTFE	Inconel 625+PTFE
压圈 Press ring	A105+ENP	A182 F304	A182 F316	ASTM A182 F53	Inconel 625
螺栓Stud	A193 B7	A320 B8M	A193 B8M	A193 B8M	A453 660
螺母Nut	A194 2H	A194 8M	A194 8M	A194 8M	A453 651
垫片 Gasket	316+柔性石墨Grafoil	316+柔性石墨Grafoil	316+柔性石墨Grafoil	Ni+柔性石墨Grafoil	Ni+柔性石墨Grafoil
填料 Packing	316+柔性石墨Grafoil	PTFE	316+柔性石墨Grafoil	Ni+柔性石墨Grafoil	Ni+柔性石墨Grafoil
轴套 Axle sleeves	316+PTFE	316+PTFE	316+PTFE	Inconel 625+PTFE	Inconel 625+PTFE
加长颈(a) Lengthen bonnet	-	A351 CF8	-	-	-
应用场合 Applicable medium	常温Normal temperature -29℃ - 180℃弱 腐蚀性、微颗粒介质 Weakly corrosive and micro granular medium	低温Low temperature -196℃ - 180℃ 弱腐蚀性介质Weakly corrosive medium	常温Normal temperature -46℃ - 180℃ 腐蚀性介质 Corrosive media	常温Normal temperature -46℃ - 180℃ 应力腐蚀、点蚀及其 它含氯离子腐蚀性介质 Stress corrosion and pitting corrosion of chlorine ion and other corrosive medium	常温Normal temperature -29℃ - 232℃ 强腐蚀性介质Strong corrosive medium

注：表中配置仅供参考，另可提供多种配置，客户亦可自行提出解决方案，经协商一致后采用；

(a)：仅在介质温度 $\geq 280^{\circ}\text{C}$ 或者 $< -46^{\circ}\text{C}$ 时提供。

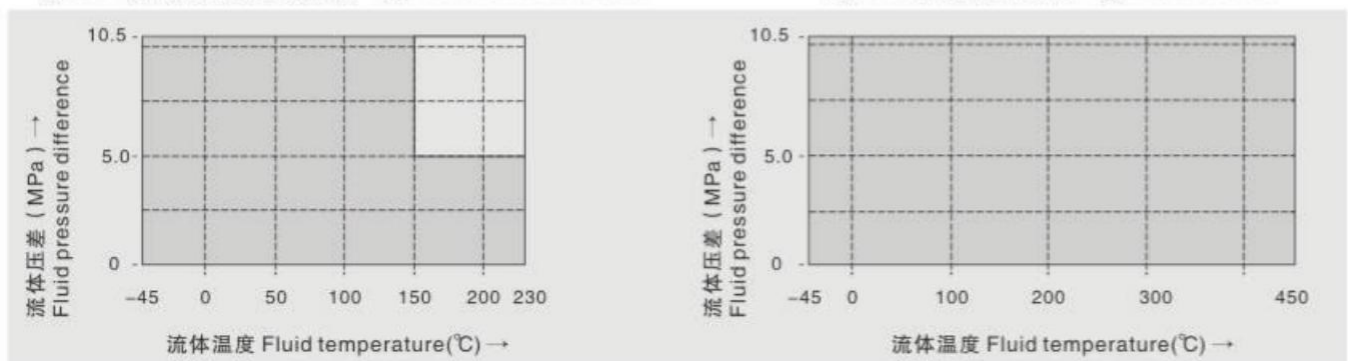
Notes: Table configuration for reference only, we can provide a variety of configurations besides of this, Customers can put forward to the solution, we can adopt by consultation.

(a)：Provided only when the medium temperature is $\geq 280^{\circ}\text{C}$ or $< -46^{\circ}\text{C}$.

图1.3 填料的使用温度·压力范围 Fig.1-3 Packing working temperature and pressure limitation >>

图1.3.1 强化聚四氟乙烯材质 Fig.1.3.1 RTFE material

图1.3.2 柔性石墨填料 Fig.1.3.2 Grafoil



软密封球阀 Soft Sealing Ball Valve

软密封浮动球阀扭矩 Soft sealing float ball valve torque >>

口径NPS	压力Class		
	150	300	600
1/2	22	38	54
3/4	22	38	54
1	24	66	95
1-1/2	37	87	150
2	46	103	145
2-1/2	108	205	265
3	132	270	430
4	256	384	750
6	680	1215	
8	1060	2040	

软密封固定球阀扭矩 Soft sealing fixed ball valve torque >>

口径NPS	压力Class					
	150	300	600	900	1500	2500
2	42	80	115	150	468	790
3	140	220	334	440	810	1390
4	220	359	460	830	1500	3520
6	380	680	1000	1880	3750	5160
8	628	1180	2000	3600	5500	7235
10	1200	2120	3580	5280	7560	11217
12	1653	2488	5390	7380	9801	15186
14	2793	4217	6521	8825	17520	
16	3754	5639	8688	11737	28881	
18	5088	8243	13348	18452	37821	
20	6405	11025	18498	25972	48664	
24	12296	19397	30888	42378	69809	
26	13997	22857	34539			
28	15697	26378	38190			
30	17402	29945	41810			
36	22939	36160	51528			

注：1. 以上扭矩为全压差工况扭矩，仅供选择驱动器使用；

2. 以上数值已包含安全系数1.4，若工况特殊，如空分设备、低温、介质有较大颗粒、介质情况不明等情况，安全系数应适当加大；

3. 若有精确数据（提供了准确压差、介质为清洁无颗粒介质等），驱动器输出扭矩可适当减小；

4. 若有不明情况，请详询技术部门。

Notes: 1. The torque is the maximum pressure differential operating torque, only for select actuator use;

2. The above value has 1.4 of the safety factor, if has special conditions, such as air separation equipment, low temperature, medium with large particles, the medium is unknown and so on, the safety factor should be increased;

3. If there is accurate data (provided accurate pressure difference, the media is clean without granular, etc.), the actuator torque can be properly reduced.

4. If there is an unknown condition, please contact with technical department.

软密封球阀 Soft Sealing Ball Valve

表4 最大关闭压力 (单位: MPa) Table 4 Maximum shut pressure(Unit : MPa) >>

表4-1 软密封浮动球阀配套双动作活塞执行机构: 气源压力400 KPa Table 4-1 Soft sealing float ball Valve, double acting pneumatic actuator, air supply 400 KPa

执行机构规格 Actuator type	公称通径DN								
	25	40	50	65	80	100	125	150	200
8206D	2	2							
8207D	5	5	1.6						
8209D	10	5	2						
8210D		10	5	2	1.6				
8211D			10	5	5	1.6			
8212D				10	5	2			
8214D					10	5	2		
8216D						5	2		
8219D						10	5	2	
8325 RS							10	5	2
8327 RS								10	5

表4-2 软密封浮动球阀配套单动作气缸执行机构: 气源压力400 KPa Table 4-2 Soft sealing float ball Valve, single acting pneumatic actuator, air supply 400 KPa

执行机构规格 Actuator type	公称通径DN								
	25	40	50	65	80	100	125	150	200
8209S08	2								
8209S05	5								
8210S05	10	5	2						
8211S08			5						
8212S05		10	10	5	2				
8214S06				10	5	1.6			
8216S06					10	2			
8219S08						5			
8325 RH						10	2		
8327 RH							5	2	
8335 RH							10	5	2

表4-3 软密封浮动球阀配套电动执行机构 Table 4-3 Soft sealing float ball Valve, electrical actuator

执行机构规格 Actuator type	公称通径DN								
	25	40	50	65	80	100	125	150	200
ATMH-C5	5	2							
ATMH-C10	10	10	5						
ATMH-C20			10	10	5	2			
ATMH-C30					10	5			
ATMH-C60						10	2		
ATMH-C90							5	2	
ATMH-C120							10	5	2
ATMH-C250								10	5

软密封球阀 Soft Sealing Ball Valve

表4-1 软密封固定球阀配套双动作活塞执行机构：气源压力400 KPa

Table 4-1 Soft sealing fixed ball Valve, double acting pneumatic actuator, air supply 400 KPa

执行机构规格 Actuator type	公称口径DN								
	50	65	80	100	125	150	200	250	300
8209D	2	1.6							
8210D	5	2	2						
8211D	10	5	5						
8212D				2					
8214D	15	10	10	5					
8216D	25	15	15	2					
8219D	42	25	25	10	5	5	2		
8325 RS		42	42	15	10	10	5	2	
8327 RS				25	15	15	10	5	2

表4-2 软密封固定球阀配套单动作气缸执行机构：气源压力400 KPa

Table 4-2 Soft sealing fixed ball Valve, single acting pneumatic actuator, air supply 400 KPa

执行机构规格 Actuator type	公称口径DN								
	50	65	80	100	125	150	200	250	300
8209S05	2								
8210S05	5	2	2						
8211S08		5							
8212S05	10		5	2					
8214S06		10							
8216S06	15		10	5	2				
8219S08	25	15							
8325 RH		25	15	10	5	2			
8327 RH	42		25		10	5	2		
8335 RH		42		15		10	5	2	

表4-3 软密封固定球阀配套电动执行机构

Table 4-3 Soft sealing fixed ball Valve, electrical actuator

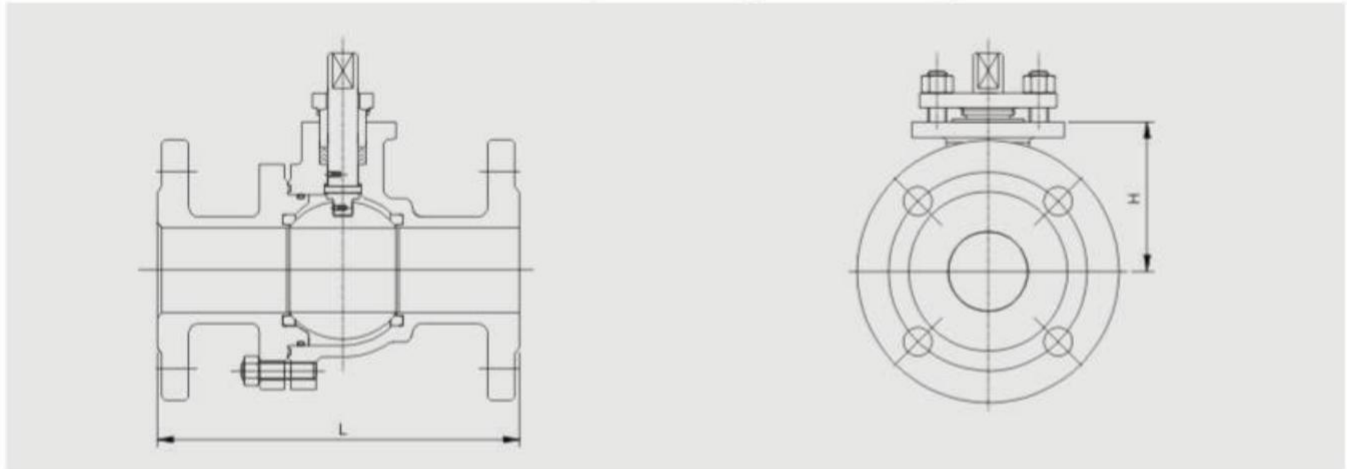
执行机构规格 Actuator type	公称口径DN								
	50	65	80	100	125	150	200	250	300
ATMH-C5	1.6								
ATMH-C10	5	2	2						
ATMH-C20	10	5	5	2					
ATMH-C30	15	10	10	5	1.6				
ATMH-C60	25	15	15	10	5	2			

软密封球阀 Soft Sealing Ball Valve

续上表 Continued table

执行机构规格 Actuator type	公称口径DN								
	50	65	80	100	125	150	200	250	300
ATMH-C90	42	25	25	15	10	5	2		
ATMH-C120		42	42			10	5	2	
ATMH-C250				25	15	15	10	5	2
ATMH-C500				42	25	25	15	10	5
ATMH-C1000					42	42	25	25	15
ATMH-C1500							42	42	25

超出本表范围的阀门，请与本公司联系 Beyond the range of this table, please contact with us

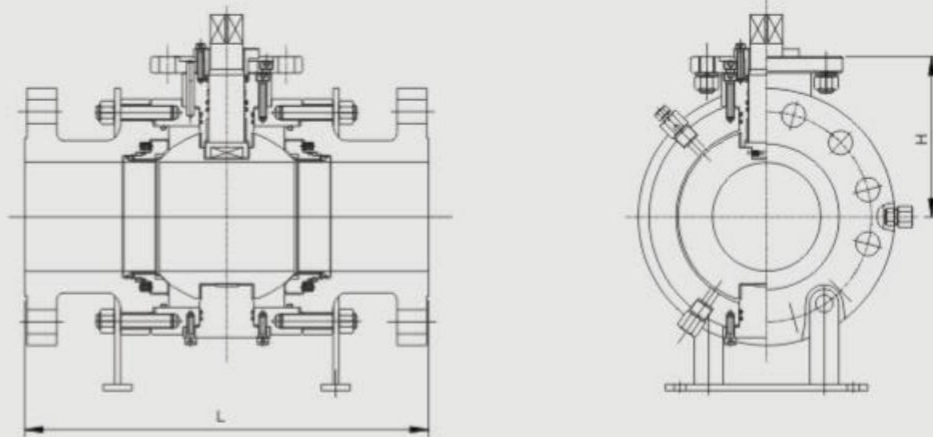


浮动球阀外形尺寸及阀体部分重量 Floating ball valve dimension and body weight

>>

公称口径DN		150Lb					300Lb				
DN	NPS	L(RF)	L(RTJ)	L(BW/SW)	H	Weight	L(RF)	L(RTJ)	L(BW/SW)	H	Weight
15	1/2	108	-	140	65	2.5	140	151	140	65	3
20	3/4	117	-	152	80	3	152	165	152	80	5
25	1	127	140	165	80	4.5	165	178	165	80	6
40	1-1/2	165	178	191	100	8	190	213	190	100	11
50	2	178	191	216	120	12	216	232	216	120	16
65	2-1/2	190	203	241	125	18	241	257	241	125	24
80	3	203	216	283	130	24	283	298	283	130	34
100	4	229	241	305	180	38	305	321	305	180	56
150	6	267	406	457	310	82	403	419	403	310	125
200	8	292	470	521	340	145	502	518	521	410	222
公称口径DN		600Lb					900Lb				
DN	NPS	L(RF)	L(RTJ)	L(BW/SW)	H	Weight	L(RF)	L(RTJ)	L(BW/SW)	H	Weight
15	1/2	165	163	165	65	5					
20	3/4	190	190	190	80	7					
25	1	216	216	216	80	9					
40	1-1/2	241	241	241	100	17					
50	2	292	295	292	120	25					
65	2-1/2	330	333	330	125	42					
80	3	356	359	356	130	56					
100	4	432	435	432	180	85					

软密封球阀 Soft Sealing Ball Valve



固定球阀外形尺寸及阀体部分重量 Fixed type ball valve dimension and body weight >>

公称通径DN		150Lb					300Lb				
DN	NPS	L(RF)	L(RTJ)	L(BW/SW)	H	Weight	L(RF)	L(RTJ)	L(BW/SW)	H	Weight
50	2	178	191	178	120	32	216	232	216	120	9
65	2-1/2	190	203	190	125	47	241	257	241	125	14
80	3	203	216	203	130	68	283	299	283	130	19
100	4	229	242	229	180	106	305	321	305	180	32
150	6	394	407	394	310	241	403	419	403	310	67
200	8	457	470	457	410	430	502	518	502	410	130
250	10	533	546	533	440	658	568	584	568	440	730
300	12	610	623	610	450	1030	648	664	648	450	1220
350	14	686	699	686	520	1297	762	778	762	520	1480
400	16	762	775	762	700	1780	838	854	838	700	1960
450	18	864	877	864	880	2400	914	930	914	880	2530
500	20	916	929	916	960	3000	919	935	919	960	3340
600	24	1067	1080	1067	1220	5400	1143	1159	1143	1220	5760
公称通径DN		600Lb					900Lb				
DN	NPS	L(RF)	L(RTJ)	L(BW/SW)	H	Weight	L(RF)	L(RTJ)	L(BW/SW)	H	Weight
50	2	292	295	292	120	32	368	371	368	135	45
65	2-1/2	330	333	330	125	47	419	422	419	140	55
80	3	356	359	356	130	68	381	384	381	144	94
100	4	432	435	432	180	106	457	460	457	193	141
150	6	559	562	559	310	241	610	613	610	320	325
200	8	660	664	660	410	430	737	740	737	443	580
250	10	787	791	787	460	658	838	841	838	670	855
300	12	838	841	838	470	1030	965	968	965	978	1330
350	14	889	892	889	540	1297	1029	1038	1029	1038	1660
400	16	991	994	991	620	1780	1130	1040	1130	1145	2280
450	18	1092	1095	1092	650	2400	1219	1232	1219	1236	2860
500	20	1194	1200	1094	720	3000	1321	1333	1321	1344	3770
600	24	1397	1407	1397	770	5400	1549	1568	1549	1570	6210
650	26	1448	1461	1448	924	4750					

软密封球阀 Soft Sealing Ball Valve

续上表 Continued table

公称口径DN		600Lb					900Lb				
DN	NPS	L(RF)	L(RTJ)	L(BW/SW)	H	Weight	L(RF)	L(RTJ)	L(BW/SW)	H	Weight
700	28	1549	1562	1549	956	5400					
750	30	1651	1664	1651	980	6000					
800	32	1778	1794	1778	1120	7400					
900	36	1930	1946	1930	1170	9200					
公称口径DN		1500Lb					2500Lb				
DN	NPS	L(RF)	L(RTJ)	L(BW/SW)	H	Weight	L(RF)	L(RTJ)	L(BW/SW)	H	Weight
50	2	368	371	368	165	67	451	454	451	180	104
65	2-1/2	419	422	419	170	80	508	514	508	210	140
80	3	470	473	470	200	125	578	584	578	260	202
100	4	546	549	546	240	142	673	683	673	340	305
150	6	705	711	705	350	182	914	927	914	4203	760
200	8	832	942	832	460	210	1022	1038	1022	570	1200
250	10	991	1001	991	720	240	1270	1292	1270	820	2080
300	12	1130	1146	1130	730	270	1422	1444	1422	830	2430
350	14	1257	1276	1257	600	330	-	-	-	-	-
400	16	1384	1406	1384	780	380	-	-	-	-	-
450	18										
500	20										
600	24										