



**YD500P系列高性能旋塞阀**  
YD500P Series High Performance Plug Valves

控制阀顶级专家  
TOP CONTROL VALVES EXPERT



**无锡市亚迪流体控制技术有限公司**  
WUXI YADI FLUID CONTROL TECHNOLOGY CO., LTD

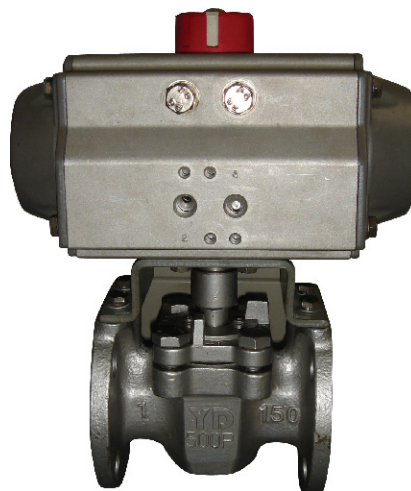
# YD500P SERIES

## 高性能旋塞阀 High Performance Plug Valves

### 技术特性概述 Description

YD500P系列高性能旋塞软密封和金属密封结构，其泄漏为零，并且具有零死区、零维护等优点，具有良好的切断和调节功能，适用于介质为纤维、浆料等流体的控制场合。

YD500P high performance plug valve has soft-seat and metal-seat sealing configurations. Each of them can come to the sealing rate: Zero leakage. Meanwhile, it has the merits of Zero Dead space, zero maintenance, etc. It has control and shut-off characteristics, and specially suits for control of fluids with fiber and slurry.

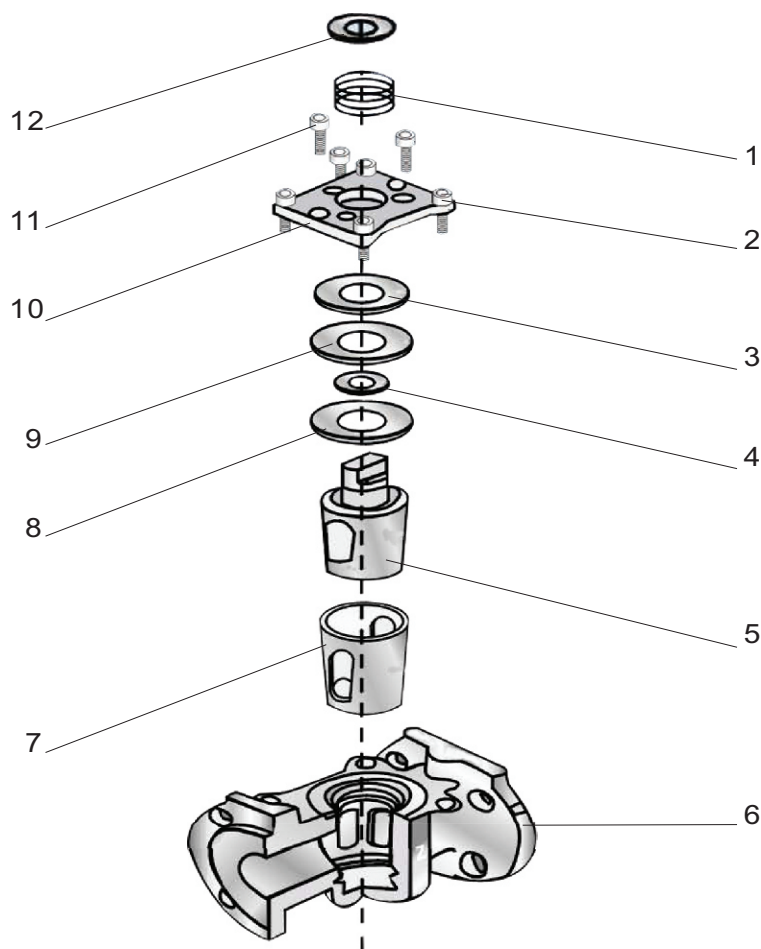


### 技术参数 Technical Data

表1 Table1

阀体形式 Body type	旋塞形二通、三通 Plug type(2 ways、3 ways)
公称通径 Body size	DN15~DN600 (1/2"~12")
公称压力 Body rating	ANSI CLASS 150~300#; PN1.6~PN4.0MPa(HG20596-97)
阀体及阀盖材质 Body and bonnet materials	WCB, LCB, CF8, CF8M, CF3M, MONEL, INCINEL, HAST.B, HAST.C, etc
阀芯形式 Plug type	套筒式、V形切口式(60°) Cage type、V-port type(60°)
连接方式 Connections	法兰式 Flange type(RF)
阀座形式 Seat type	软密封形、硬密封形 Soft-seat、Metal-seat
填料膜片 Packing	聚四氟乙烯 PTFE, 使用温度≤200°C
流量特性 Characteristic	线性 Linear, 等百分比 Eq%, 开关 ON-OFF
可调比 Rangeability	30:1~50:1
阀体涂层 Painting color	浅灰色 Light grey 阀体不涂色 Stainless steel body have no paint

结构部件及材质 Body Constructions and Materials



阀本体结构 Configuration of Body

表2 Table2

序号 No. Description	标准材料 Standard Materials
1 导向 弹簧 Guiding Spring	60Si2MnA
2 压盖 螺栓 Cover Bolt	35#; 304/SUS304
3 推 力 环 Thrust Ring	304/SUS304
4 Δ密 封环 Delta Ring	PTFE
5 阀 芯 Plug	304/SUS304,316/SUS316,304L,316L,etc
6 阀 体 Body	WCB, LCB, CF8, CF8M, CF3,CF3M, CN7M, CD4MCu, Monel, INCONEL,HB,HC,etc.
7 袖 套 Sleeve	PTFE, RTFE, PEEK, PFA,etc
8 PTFE 膜片 PTFEDIaphragm	PTFE
9 PTFE 膜片 PTFE Diaphragm	PTFE
10 压 盖 Cover	304/SUS304
11 调节 螺栓 Adjusting Bolt	35#; 304/SUS304
12 压 圈 Snap Ring	304/SUS304

## YD500P额定Cv值和行程 R.Cv and Travel

表3 Table3

阀门口径 Valve size(inch)	阀门开度 Open Degrees								
	10°	20°	30°	40°	50°	60°	70°	80°	90°
1/2 & 3/4"	0	0	0.23	0.4	0.9	1.6	2.7	5.4	9
1"	0	0	1.1	3	5	10	15	26	43
1-1/2"	0	0.5	2	6.7	12.5	23	37	58	89
2"	0	0.9	4	12	21	36	58	101	172
3"	0	1.5	8.8	21	44	70	110	182	294
4"	0	3	13.7	38	80	132	208	345	548
6"	0	5.3	25	70	124	214	366	634	1075
8"	0	7.9	42	103	183	317	541	939	1591
10"	0	12	65	140	248	430	734	1274	2159
12"	0	22	100	208	368	637	1088	1888	3200

Cv值和行程根据YADI公司标准设计，也可以按照客户要求特殊设计。

The rating Cv and travel are designed by the standard of YADI. Yet we can design them for client's special request.

### 阀芯形式:套筒型、V型切口形 Plug Type: Caged type、V-port type

套筒阀芯形式的旋塞阀具有调节和开关流量性,对含有固体颗粒、浆料、煤矿、化学处理等介质的处理控制,套筒阀芯形式的旋塞阀是理想的选择。

The caged control plug valve is ideal for abrasive applications of solids, and is commonly used in throttling and on/off applications. Caged control plug valve has been used successfully in many critical in Mining、Pulp&Paper、 and Chemical processing industries.



套筒型阀芯 Caged plug



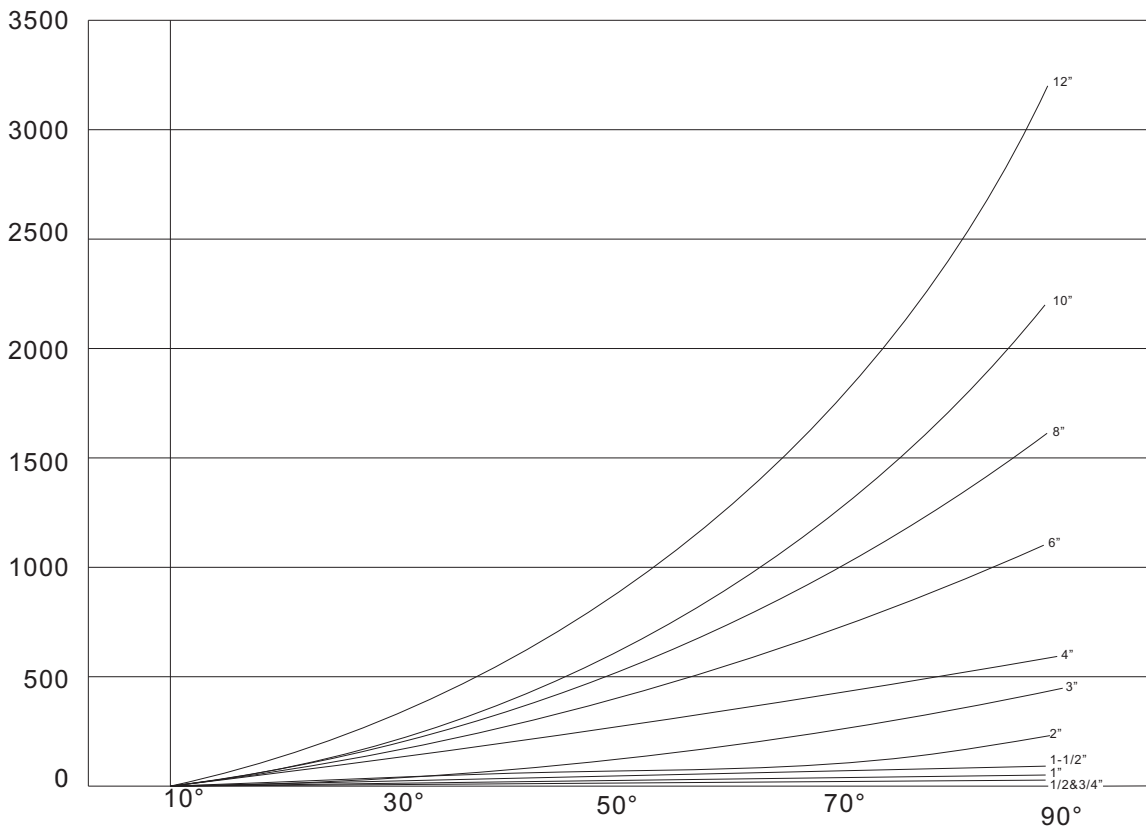
V型阀芯 V-port plug

V型切口阀芯在旋塞阀设计中非常适用. 该阀芯设计特点对含有浆料、腐蚀化学成分等介质起到了良好的控制效果,同时,这种无空穴设计也不会使阀杆密封处受到直线性的压力,保证了密封效果。

The standard V-port 60° are available in all trim materials in control plug valves. These design and features make it an excellent choice for fine throttling in slurry and chemical applications. The no cavity design allows the V-port control plug valve to throttle without exposing the stem seal to line pressure.

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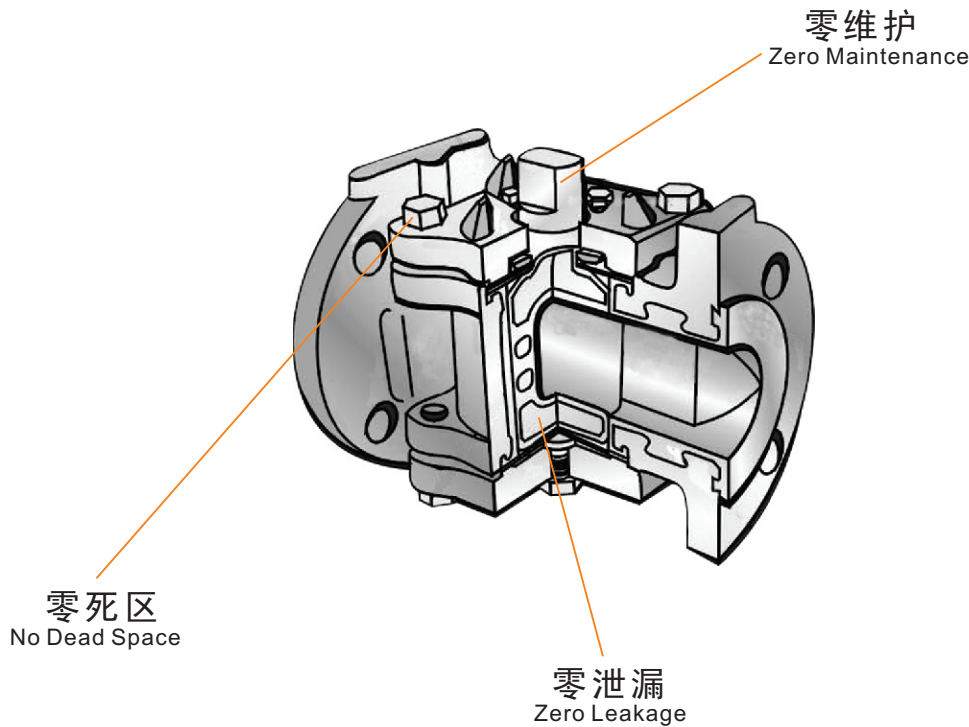
流量特性曲线图  
Chart of Flux Characteristic



阀门开闭、调节扭矩 Torque Data Unit:N•M 表4 Table4

公称通径 Valve Size	阀座材料 Seat Materials					
	聚四氟乙烯 PTFE			强化聚四氟乙烯 RTFE		
	开启力矩 Break	调节力矩 Running	阀座摩擦力矩 Seating	开启力矩 Break	调节力矩 Running	阀座摩擦力矩 Seating
1-2"	19	10	11	24	12	14
3/4"	19	10	11	24	12	14
1"	54	27	34	68	34	43
1-1/2"	109	54	68	136	68	85
2"	150	75	88	187	94	111
3"	163	82	95	204	102	119
4"	327	163	197	408	204	247
6"	680	340	408	851	425	510
8"	1061	531	640	1327	663	799
10"	1960	980	1170	2449	1225	1463
12"	2858	1429	1715	3572	1786	2143
14"	4436	2218	2654	5545	2773	3317
16"	8886	4436	5307	11108	5545	6634
18"	17690	8845	10614	22113	11057	13268

## 零死区、零泄漏、零维护技术特点 No Dead Space、Zero Leakage、Zero Maintenance



### 1. 零死区 No Dead Space

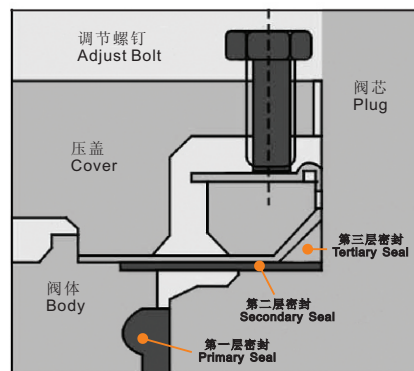
阀芯被PTFE袖套360°包围, 因此, 不论阀门是打开还是关闭, 阀芯内部的流体无法进入除密封区域外的其他部位。

Plug is always surrounded by PTFE sleeve 360° around, therefore, the fluid in the plug internal cannot flow into no dead space whether it's open or close.

### 2. 零泄漏 Zero Leakage

阀门的零泄漏由三层密封系统保证, 如右图. 第一层密封由袖套保证, 第二第三层密封由PTFE得尔塔密封环、膜片保证. 三层密封保证了阀门的零泄漏。

Threefold Stem Seal System. The zero leakage stem sealing is achieved by threefold sealing system. The primary seal is provided by the sleeve. The sealing is so tight that no leakage can be observed even without a valve cover. The secondary and tertiary seal are provided by a PTFE Teflon delta ring and a diaphragm.



### 3. 零维护 Zero Maintenance

由于旋塞阀自身的结构特点, 其维护为零. 当PTFE磨损以后, 调节螺栓旋转1/4转重新形成密封扭矩, 改善密封, 起到自密封效果。

Owed to the merits of its structure the valve is zero leakage and no maintenance is required. When seal pressure adjustment is required due to PTFE sleeve wear, a quarter turn of adjustment bolts pushes the plug down regenerating a sealing a sealing pressure as if it is a new valve.

阀本体尺寸(mm)及重量(Kg) Body Dimensions and Weights

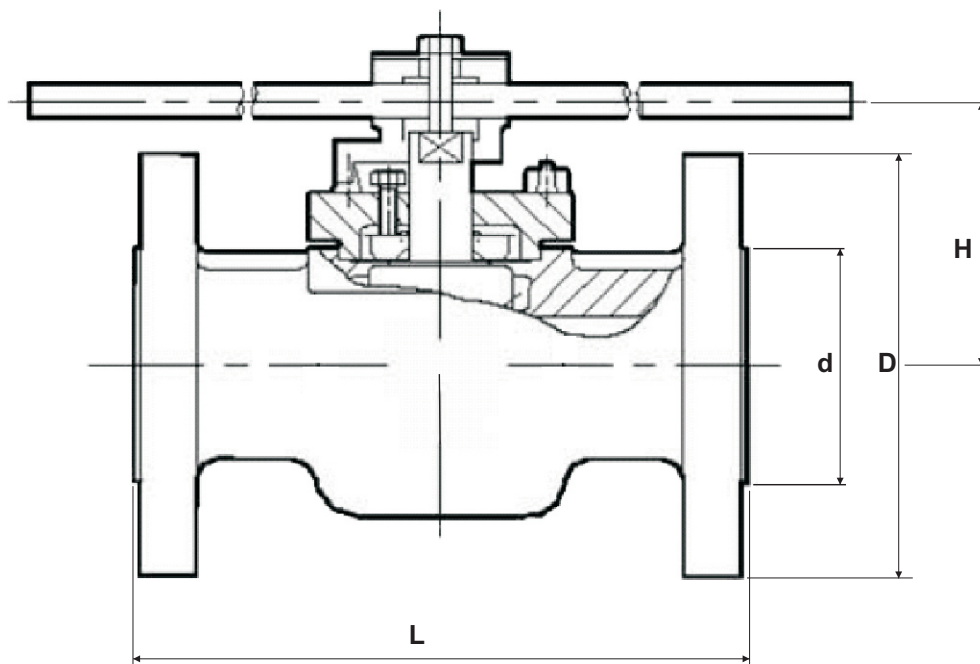
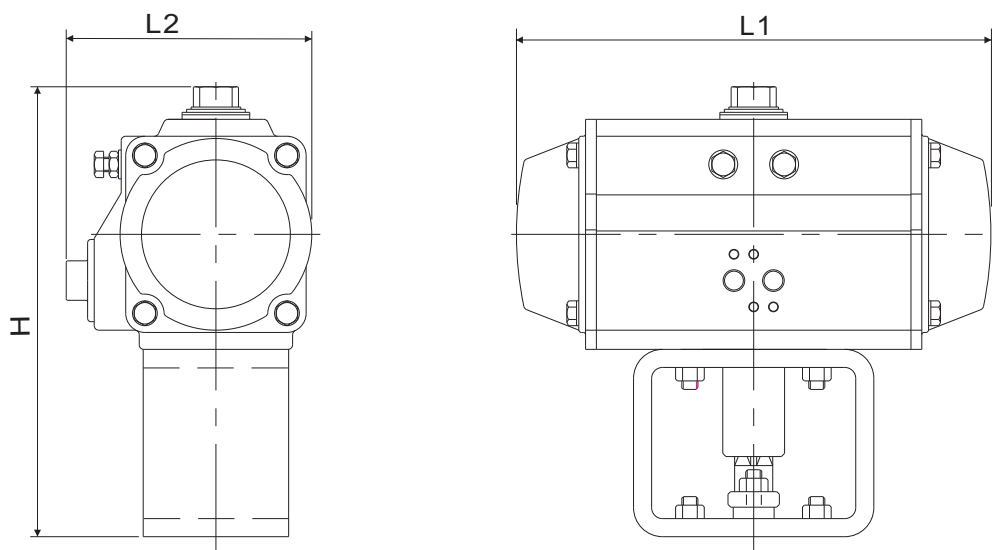


表5 Table5

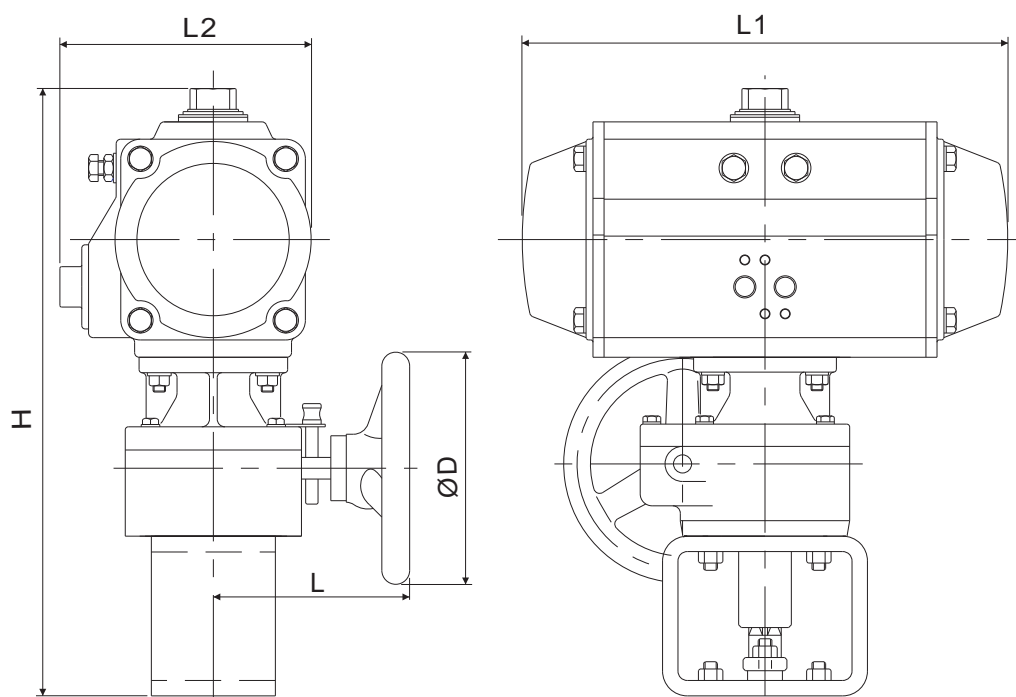
阀门口径 Valve size(inch)	ANSI Class 150# RF				重量 Weigt	ANSI Class 300# RF				重量 Weigt
	L	H	D	d		L	H	D	d	
1-1/2"	108	105	89	35	2.3	140	105	95	35	2.5
3/4"	117	105	98	43	3	152	105	117	43	3.5
1"	127	75	108	51	4.5	165	75	124	51	5.5
1-1/2"	165	91	127	73	7	190	91	156	73	10.5
2"	178	106	152	92	15	216	106	165	92	20
2-1/2"	190	121	178	105	20	283	121	210	127	25
3"	203	121	190	127	25	305	150	254	157	31
4"	229	150	229	157	48	305	233	254	157	52
6"	267	260	279	216	107	403	260	318	216	124
8"	292	343	343	270	165	419	343	381	270	205
10"	330	374	406	324	245	457	374	444	324	---
12"	356	464	483	381	---	502	464	521	381	---
14"	381	522	533	413	---	762	522	584	413	---
16"	762	572	597	470	---	---	---	---	---	---
18"	864	678	635	533	---	---	---	---	---	---
24"	1067	785	813	692	---	---	---	---	---	---

以上执行机构重量为理论值，实际重量以实物为准。  
The weights are academic, you can consult the actual weights of the actuators.

## YD500P配PC00RA执行机构尺寸 Actuator Data



单(双)动作执行机构 不带手轮 Single(Double) Action Actuator Without Wheel



单(双)动作执行机构 带手轮 Single(Double) Action Actuator With Wheel

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PC00RA执行机构尺寸(mm) PC00RA Actuator Dimensions(mm)

PC00RA单双作用执行机构尺寸(不带手轮) PC00RA Actuator Dimensions(without wheel Table6)

PC00RA单双作用执行机构尺寸(带手轮) PC00RA Actuator Dimensions(with wheel Table7)

表6 Table6

执行机构型号 Actuator Size	L1	L2	H
PC05RA	150	60	105
PC10RA	170	75	120
PC20RA	185	85	130
PC25RA	205	90	140
PC30RA	260	105	150
PC35RA	270	115	165
PC40RA	300	140	185
PC45RA	390	155	205
PC50RA	460	180	230
PC55RA	525	210	260
PC60RA	535	230	285
PC65RA	605	260	320
PC70RA	725	295	350
PC75RA	745	325	380
PC80RA	860	380	435

表7 Table7

执行机构型号 Actuator Size	L1	L2	H	ΦD	
				单动作 Single Action	双动作 Double Action
PC05RA	150	60	105	200	200
PC10RA	170	75	120	200	200
PC20RA	185	85	130	200	200
PC25RA	205	90	140	200	200
PC30RA	260	105	150	200	200
PC35RA	270	115	165	200	200
PC40RA	300	140	185	200	200
PC45RA	390	155	205	300	300
PC50RA	460	180	230	300	300
PC55RA	525	210	260	400	300
PC60RA	535	230	285	400	300
PC65RA	605	260	320	600	400
PC70RA	725	295	350	600	400
PC75RA	745	325	380	600	600
PC80RA	860	380	435	600	600

PC00RA执行机构重量(Kg) PC00RA Actuator Weights(Kg)

表8 Table8

执行机构型号 Actuator Size		PC05RA	PC10RA	PC20RA	PC25RA	PC30RA	PC35RA	PC40RA	PC45RA
带手轮 With	单动作 Single	13.3	13.8	14.5	15.2	20.1	22	24.3	35.3
	双动作 Double	13.1	14	14.2	14.9	19.3	21.2	23.8	32.2
不带手轮 Non	单动作 Single	1.3	2	2.5	3.2	5.1	7	9.3	15.3
	双动作 Double	1.1	1.8	2.2	2.9	4.3	6.2	8.8	12.2
L		195	195	195	195	195	195	225	235

续表 Continued Table8

执行机构型号 Actuator Size		PC50RA	PC55RA	PC60RA	PC65RA	PC70RA	PC75RA	PC80RA
带手轮 With	单动作 Single	43.8	69.8	78.6	111.8	150	165	269.4
	双动作 Double	40.1	58.1	65.1	88	118.8	145	121.5
不带手轮 Non	单动作 Single	23.8	44.8	53.6	76.8	115	130	234.4
	双动作 Double	20.1	38.1	45.1	63	93.8	110	186.5
L		235	235	235	280	280	325	325

YD500P配用其它系列执行机构(PA00RA系列)的尺寸和重量请咨询YADI技术部。  
You can ask for the data about rest Actuator to YADI technology department.

## YD500P型号编制说明 Valve Code

以YD500P-PC50RARS ANSI 150# WCB 80A 为例：

型号 Type	执行机构标识 Identifier of Actuator		特征尺寸 characteristic dimension	动作方式 Action Mode	设计编号 Design Number	作用方向 Action Direction	手动机构 Hand Wheel	公称压力 Nominal Pressure	阀体材料 Body Material	公称口径 Valve Size
YD500P	--	P C	50	R	A	R	S	ANSI150#	WCB	80A



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