



YD200M系列高性能金属密封球阀

YD200M Series High Performance Metal-seated Ball 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

# YD200M SERIES

## High Performance Metal-seated Ball Valves

### Description

YD200M

YD200B

ANSI CLASS V,

YD200M Series High Performance Metal-seated ball valves has more outstanding performance than soft-seated ball valves. So it is well-suited with handle severe applications.

Due to hard-facing ball and seats, metal seats have no damages by every fluids such as slurries, pulp stocks, solid fluid and keep longer endurance than soft seated valves, also keep smooth operation on on-off frequency.

The spring load behind seat keeps stabilized torque and prevent from heavy torque on high temperature condition.

Leakage is ANSI CLASS V, optional meet zero Leakage .

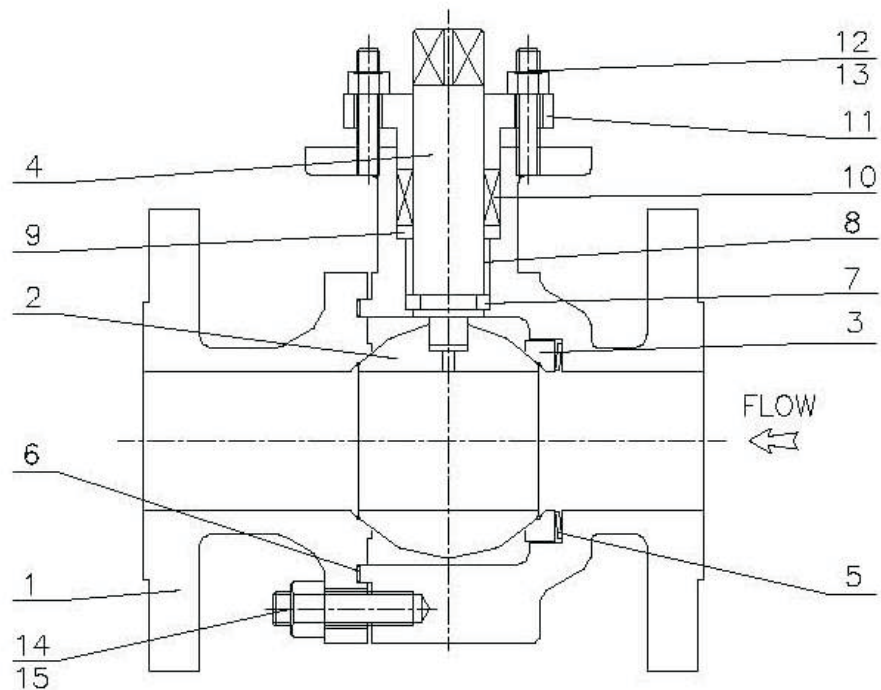
### Technical Data

1 Table 1

Body Type	Ball Valve
Body Size	DN15~DN400 (1/2"~16")
Body Rating	PN1.6~PN42MPa;ANSI CLASS 150~2500#;JIS10K~63K
Body Material	/ASTM 212 WCB/A105; /ASTM 217-WC6/F11, WC9/F22 304 /ASTM 351-CF8/F304; 316 /ASTM 351-CF8M/F316 MONEL, /hc, etc.
Plug Type	Floating type; Trunnion type
Seat Type	Metal seal
Fluid Temp	-196~540
Packing	Graphite, >200 temp. >200
Gasket	Spiral wound gasket
Characteristic	ON-OFF
Painting Color	Blue, But SS Body is not painted.
Special Requirement	Class VI;Slurry Design;Jacket Design;Fire-sate;Anti-static.

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图1-1 阀本体结构 Fig 1-1 Valve Structure  
 浮动球形式 Floating Type  
 Dn100及以下尺寸 4" And Under  
 有流向要求 With Flow Dir. Rea.



序号 No.	名称 Name	材料选择 Mat's	
1	阀体 Body	WCB/A105	CF8/304; CF8M/316; CF3M/316L
2	球 Ball	410SS/(HT+HCr)	316/Ni60
3	阀座 Seat	410SS/HT	316/Ni55
4	阀杆 Stem	316/HCr	316/HCr; Gr. 660/HCr (≥900#)
5	碟簧 Disk spring	17-4PH/HT	Inconel 718
6	垫圈 Gasket	Graphite SWG	Graphite SWG
7	分割环 Split ring	316	316
8	轴承 Bearing	316/HCr	316/HCr
9	垫环 Packing seat	316	316
10	填料 Packing	Graphite	Graphite
11	填料压板 Packing flange	304	304
12	双头螺柱 Stud	304	304; 35CrMoA (≥600#)
13	六角螺母 Nut	304	304; 30CrMo (≥600#)
14	双头螺柱 Stud	35CrMoA	304; 35CrMoA (≥600#)
15	六角螺母 Nut	45#	304; 30CrMo (≥600#)
温度范围 Tem. Range		-20~400℃	-196~540℃

备注: HT-热处理, HCr-镀硬铬, Ni60/50-喷焊Ni60/55镍基合金, 硬度60/55HRC.  
 Note: HT-Heat Treatment, HCr-Hard Chrome Plated, Ni60/55-Ni Based Alloy 60/55HRC.

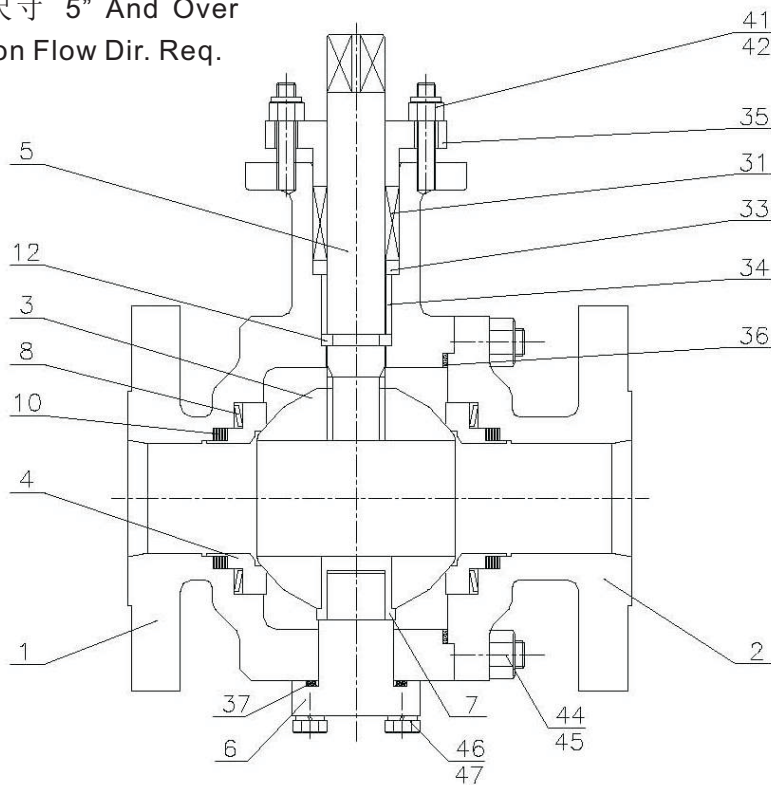
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图1-2 阀本体结构 Fig 1-2 Valve Structure

固定球形式 Trunnion Type

Dn125及以上尺寸 5" And Over

无流向要求 Non Flow Dir. Req.



序号 No.	名称 Name		材料选择 Mat' s	
1	阀体	Body	WCB/A105	CF8/304; CF8M/316; CF3M/316L
2	阀体帽	Body Cap	WCB/A105	CF8/304; CF8M/316; CF3M/316L
3	球	Ball	410SS/(HT+HCr)	316/Ni60
4	阀座	Seat	410SS/HT	316/Ni55
5	阀杆	Stem	316/HCr	316/HCr;Gr.660/HCr(≥900#)
6	底盖	Bottom Cap	WCB/A105	CF8/304; CF8M/316; CF3M/316L
7	下轴承	Under Bearing	316/HCr	316/HCr
8	碟簧	Disk Spring	17-4PH/HT	Inconel 718
10	密封环	Sealing Ring	Graphite	Graphite
12	分割环	Split Ring	316	316
31	填料	Packing	Graphite	Graphite
33	垫环	Packing Seat	316	316
34	上轴承	Upper Bearing	316/HCr	316/HCr
35	填料压板	Packing Flange	304	304
36,37	垫圈	Gasket	Graphite SWG	Graphite SWG
41	双头螺柱	Stud	304	304; 35CrMoA (≥600#)
42	锁紧螺母	Lock Nut	304	304; 30CrMo (≥600#)
44	双头螺柱	Stud	35CrMoA	304; 35CrMoA (≥600#)
45	六角螺母	Nut	45#	304; 30CrMo (≥600#)
温度范围		Tem. Range	-20~400℃	-196~540℃

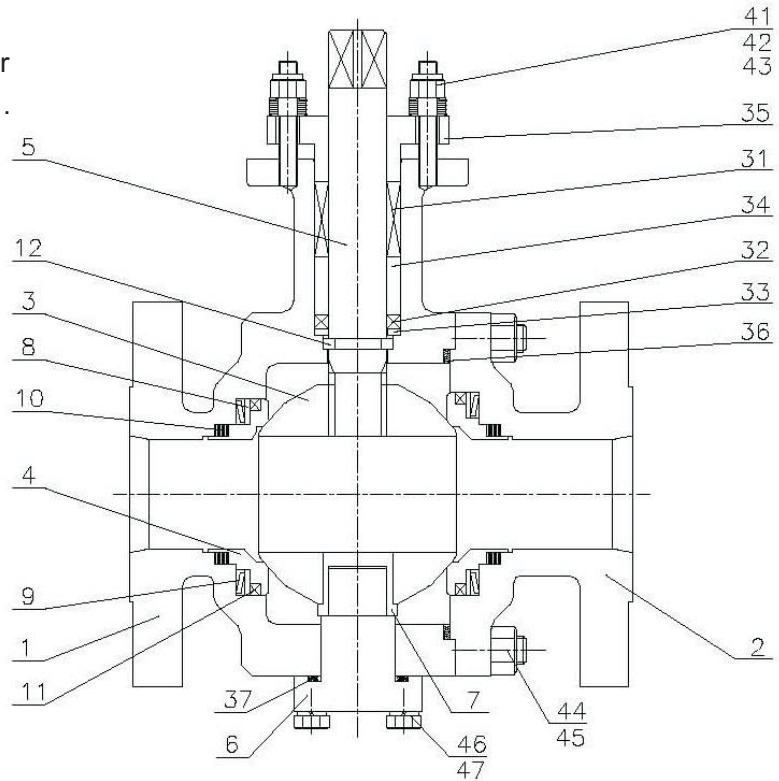
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图1-3 阀本体结构 Fig 1-3 Valve Structure

固定球形式 Trunnion Type

Dn50及以上尺寸 2" And Over

无流向要求 Non Flow Dir. Req.



序号 No.	名称 Name		材料选择 Mat' s	
1	阀体	Body	WCB/A105	CF8/304; CF8M/316; CF3M/316L
2	阀体帽	Body Cap	WCB/A105	CF8/304; CF8M/316; CF3M/316L
3	球	Ball	410SS/(HT+HCr)	316/Ni60
4	阀座	Seat	410SS/HT	316/Ni55
5	阀杆	Stem	316/HCr	316/HCr;Gr.660/HCr(≥900#)
6	底盖	Bottom Cap	WCB/A105	CF8/304; CF8M/316; CF3M/316L
7	下轴承	Under Bearing	316/HCr	316/HCr
8	碟簧	Disk Spring	17-4PH/HT	Inconel 718
9	垫环	Packing Seat	316	316
10,11	密封环	Sealing Ring	Graphite	Graphite
12	分割环	Split Ring	316	316
31,32	填料	Packing	Graphite	Graphite
33	垫环	Packing Seat	316	316
34	上轴承	Under Bearing	316/HCr	316/HCr
35	填料压板	Packing flange	304	304
36,37	垫圈	Gasket	Graphite SWG	Graphite SWG
41	双头螺柱	Stud	304	304; 35CrMoA (≥600#)
42	锁紧螺母	Lock Nut	304	304; 30CrMo (≥600#)
43	碟簧	Disk Spring	50CrVA	50CrVA
44	双头螺柱	Stud	35CrMoA	304; 35CrMoA (≥600#)
45	六角螺母	Nut	45#	304; 30CrMo (≥600#)
	温度范围	Tem. Range	-20~400℃	-196~540℃

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图1-4 阀本体结构 Fig 1-4 Valve Structure

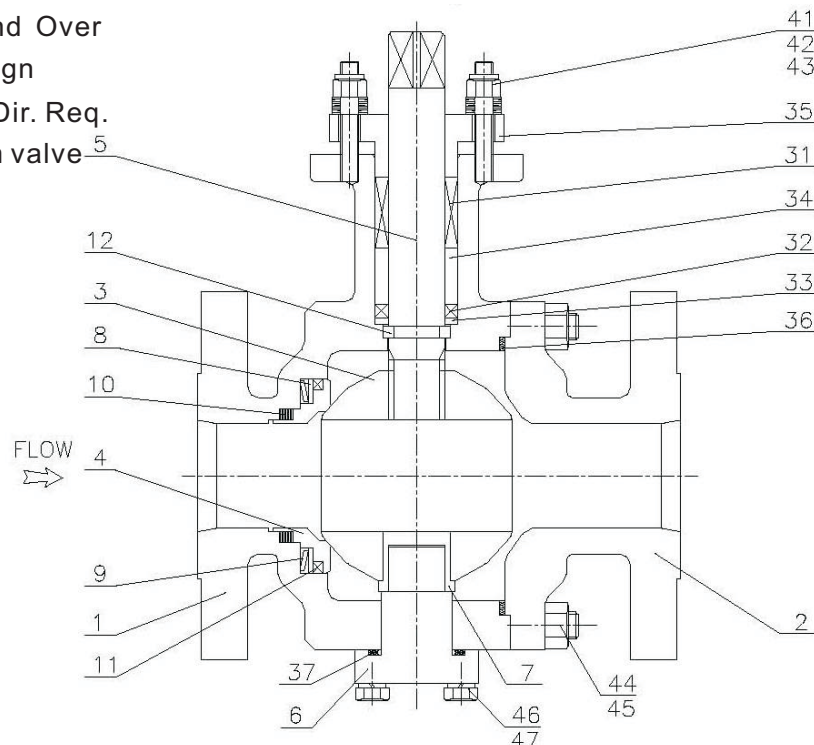
固定球形式 Trunnion Type

Dn50及以上尺寸 2" And Over

防颗粒设计 Slurry Design

有流向要求 With Flow Dir. Req.

釜底放料用 Tank Bottom valve



序号 No.	名称 Name	材料选择 Mat's	
1	阀体 Body	WCB/A105	CF8/304; CF8M/316; CF3M/316L
2	阀体帽 Body Cap	WCB/A105	CF8/304; CF8M/316; CF3M/316L
3	球 Ball	410SS/(HT+HCr)	316/Ni60
4	阀座 Seat	410SS/HT	316/Ni55
5	阀杆 Stem	316/HCr	316/HCr; Gr.660/HCr(≥900#)
6	底盖 Bottom Cap	WCB/A105	CF8/304; CF8M/316; CF3M/316L
7	下轴承 Under Bearing	316/HCr	316/HCr
8	碟簧 Disk Spring	17-4PH/HT	Inconel 718
9	垫环 Packing Seat	316	316
10,11	密封环 Sealing Ring	Graphite	Graphite
12	分割环 Split Ring	316	316
31,32	填料 Packing	Graphite	Graphite
33	垫环 Packing Seat	316	316
34	上轴承 Under Bearing	316/HCr	316/HCr
35	填料压板 Packing flange	304	304
36,37	垫圈 Gasket	Graphite SWG	Graphite SWG
41	双头螺柱 Stud	304	304; 35CrMoA(≥600#)
42	锁紧螺母 Lock Nut	304	304; 30CrMo(≥600#)
43	碟簧 Disk Spring	50CrVA	50CrVA
44	双头螺柱 Stud	35CrMoA	304; 35CrMoA(≥600#)
45	六角螺母 Nut	45#	304; 30CrMo(≥600#)
温度范围 Tem. Range		-20~400℃	-196~540℃

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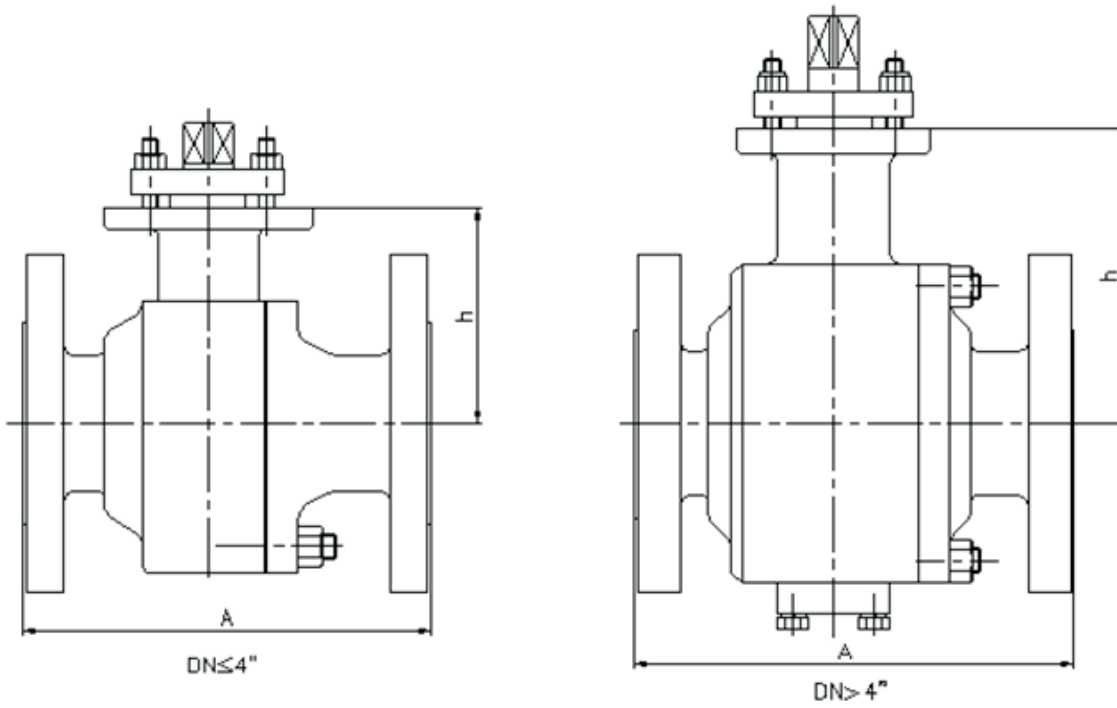
表2额定Cv值 Table 2. Rated Cv Value

DN	150#/300#	600#	900#/1500#	2500#
15(1/2")	30	30	30	20
20(3/4")	70	70	55	40
25(1")	110	110	85	60
40(1-1/2")	300	300	230	180
50(2")	450	450	400	230
65(2-1/2")	750	750	580	400
80(3")	1200	1200	920	610
100(4")	2100	2100	1800	1100
125(5")	3200	3200	2500	1700
150(6")	5100	5100	4200	2800
200(8")	9100	9100	6900	4900
250(10")	15000	14000	11000	7600
300(12")	22000	21000	16000	12000
350(14")	28500	26500	20500	14000
400(16")	37500	36000	28000	19500

如 选择缩腔型或蒸汽夹套型，则Cv值按照最小公称口径选择。

If choose reduced type or jacket type, please choose Cv value according to minimum DN.

表3-1: 阀本体尺寸和重量表 Table 3-1: Valve Dimension and weight



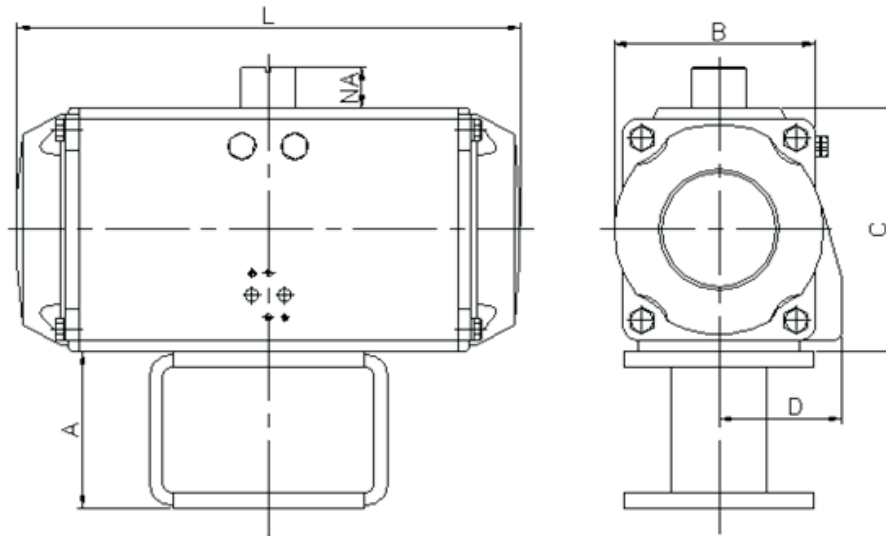
DN	A			h			Weight(Kg)		
	150#	300#	600#	150#	300#	600#	150#	300#	600#
15(1/2")	108	140	165	55	55	55	8	10	14
20(3/4")	117	152	190	60	60	60	9	12	17
25(1")	127	165	216	80	80	80	10	19	25
40(1-1/2")	165	178	241	90	90	90	15	22	30
50(2")	178	190	292	140	140	140	20	30	40
65(2-1/2")	190	216	330	170	170	170	28	40	50
80(3")	203	283	356	200	200	200	40	50	60
100(4")	229	305	432	250	250	250	60	80	100
125(5")	356	381	508	300	300	300	100	120	150
150(6")	394	403	559	350	350	350	120	160	200
200(8")	457	502	660	480	480	480	160	200	260
250(10")	533	568	787	540	540	540	250	320	420
300(12")	610	648	838	610	610	610	400	480	600
350(14")	686	762	889	680	680	680	550	680	850
400(16")	762	838	991	850	850	850	750	900	1050

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3-2 PX00RA  
: Without handle

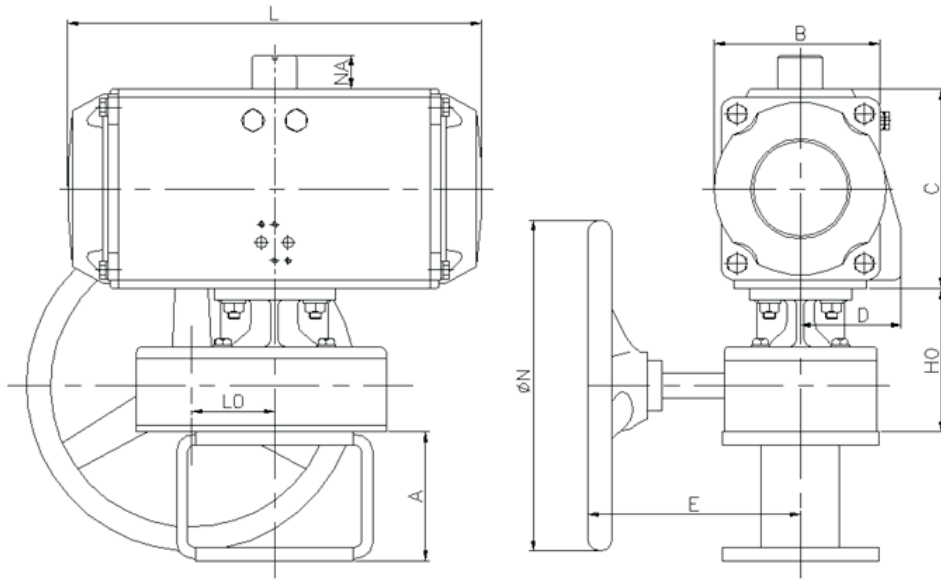
Table 3-2: PX00RA Actuator Dimension and weight



Actuator Code	L	NA	B	C	D	A	Weight(Kg)	
							Double	Spring
PX10RA	195	20	74	89	48	80	3.5	3.8
PX20RA	220	20	85	100	52	80	4.5	4.9
PX25RA	230	20	96	113	56	80	5.1	5.7
PX30RA	280	20	107	123	65	90	6.5	8.5
PX35RA	285	20	120	136	70	90	9.0	10
PX40RA	350	30	138	161	80	90	13.5	15
PX45RA	370	30	154	178	90	100	20	22
PX50RA	430	30	176	200	103	100	24	27
PX55RA	510	30	209	232	112	120	37	41
PX60RA	585	30	231	255	122	120	48	53
PX65RA	680	30	280	304	155	150	80	88
PX70RA	740	30	304	330	167	150	96	106
PX75RA	810	30	326	354	175	185	120	135
PX80RA	880	30	380	410	195	200	170	210

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表3-3: PX00RA执行机构尺寸和重量表 Table 3-3: PX00RA Actuator Dimension and weight  
带手轮: With handle



Actuator Code	L	NA	B	C	D	A	Handle				Weight(Kg)	
							H0	L0	E	N	Double	Spring
PX10RA	195	20	74	89	48	80	91	42	135	140	8.5	8.8
PX20RA	220	20	85	100	52	80	108	53	155	160	11.0	11.5
PX25RA	230	20	96	113	56	80	108	53	155	160	11.6	12.2
PX30RA	280	20	107	123	65	90	108	53	155	160	13.0	15.0
PX35RA	285	20	120	136	70	90	108	53	155	160	15.5	16.5
PX40RA	350	30	138	161	80	90	128	74	190	295	25	27
PX45RA	370	30	154	178	90	100	128	74	190	295	32	34
PX50RA	430	30	176	200	103	100	128	74	190	295	36	40
PX55RA	510	30	209	232	112	120	159	97	230	340	57	61
PX60RA	585	30	231	255	122	120	159	97	230	340	68	73
PX65RA	680	30	280	304	155	150	181	126	292	450	105	113
PX70RA	740	30	304	330	167	150	181	126	292	450	121	131
PX75RA	810	30	326	354	175	185	181	126	292	450	145	160
PX80RA	880	30	380	410	195	200	228	186	400	450	210	250

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YD200M

(Mpa G) Allowable Pressure Drop  
(150#/300#) Rating Class-150#/300#

4-1

Table 4-1 Double Pneumatic Actuator

Actuator Code	Air Supply													
		1/2	3/4	1	1-1/2	2	2-1/2	3	4	5	6	8	10	12
PX10RA	400KPa	2.00	1.40	0.70										
	500KPa	3.80	2.50	1.50										
PX20RA	400KPa		3.80	1.80										
	500KPa		5.00	3.30	0.70									
PX25RA	400KPa			3.60	0.80									
	500KPa			5.00	1.20									
PX30RA	400KPa				1.60	0.50								
	500KPa				2.30	0.90								
PX35RA	400KPa				2.60	1.10	0.50							
	500KPa				3.60	1.60	0.80							
PX40RA	400KPa				4.60	2.00	1.00	0.50						
	500KPa				5.00	3.00	1.50	0.70						
PX45RA	400KPa					3.00	1.50	0.70						
	500KPa					3.90	2.00	1.00						
PX50RA	400KPa					5.00	2.60	1.40	0.60					
	500KPa					5.00	3.50	1.80	0.90					
PX55RA	400KPa						4.60	2.50	1.20	0.40				
	500KPa						5.00	3.20	1.50	1.20				
PX60RA	400KPa							3.20	1.50	1.30				
	500KPa							4.10	2.00	2.30	0.70			
PX65RA	400KPa							5.00	2.80	4.00	1.80			
	500KPa							5.00	3.80	5.00	3.40			
PX70RA	400KPa								3.80	5.00	3.40			
	500KPa								4.80	5.00	5.00	0.70		
PX75RA	400KPa											1.30		
	500KPa											2.10	0.60	
PX80RA	400KPa											3.40	1.40	
	500KPa											4.50	2.10	

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YD200M 最大允许压差 (Mpa G) Allowable Pressure Drop

阀关闭时的允许压差 (600#) Rating Class-600#

表4-2 双动作活塞式执行机构 Table 4-2 Double Pneumatic Actuator

Actuator Code	Air Supply	浮动球阀								固定球阀				
		1/2	3/4	1	1-1/2	2	2-1/2	3	4	5	6	8	10	12
PX20RA	400KPa	5.70	3.80	2.00										
	500KPa	8.40	5.00	2.90										
PX25RA	400KPa			3.40										
	500KPa			4.50										
PX30RA	400KPa			6.00										
	500KPa			7.80	2.00									
PX35RA	400KPa				2.40									
	500KPa				3.00									
PX40RA	400KPa				4.20									
	500KPa				5.50	2.60								
PX45RA	400KPa				4.80	2.80								
	500KPa				7.10	3.70								
PX50RA	400KPa					4.60	2.30							
	500KPa					6.00	3.00							
PX55RA	400KPa						4.00	2.10						
	500KPa						5.10	2.70						
PX60RA	400KPa						5.10	2.70						
	500KPa						6.50	3.50						
PX65RA	400KPa							4.60	2.40	3.50				
	500KPa							6.30	3.20	5.80	3.00			
PX70RA	400KPa							6.30	3.20	5.80	3.00			
	500KPa								4.10	8.10	4.50			
PX75RA	400KPa										5.30			
	500KPa										7.50	1.80		
PX80RA	400KPa											2.70		
	500KPa											4.00		

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YD200M 最大允许压差 (Mpa G) Allowable Pressure Drop

阀关闭时的允许压差 (150#/300#) Rating Class-150#/300#

表4-3 单动作活塞式执行机构 Table 4-3 Spring Return Pneumatic Actuator

Actuator Code	Air Supply	浮动球阀								固定球阀				
		1/2	3/4	1	1-1/2	2	2-1/2	3	4	5	6	8	10	12
PX25RA	400KPa	1.20	0.80											
	500KPa	3.00	1.90	1.10										
PX30RA	400KPa		2.60	1.50										
	500KPa		4.00	2.40										
PX35RA	400KPa			3.20	0.60									
	500KPa			4.50	1.00									
PX40RA	400KPa				1.50	0.50								
	500KPa				2.20	0.80								
PX45RA	400KPa				2.20	0.80								
	500KPa				3.00	1.20	0.60							
PX50RA	400KPa				4.20	1.80	0.90							
	500KPa				5.00	2.40	1.20	0.60						
PX55RA	400KPa					3.40	1.70	0.80						
	500KPa					4.40	2.20	1.10	0.50					
PX60RA	400KPa						2.20	1.10	0.50					
	500KPa						2.90	1.50	0.70					
PX65RA	400KPa						4.20	2.30	1.10					
	500KPa						5.00	2.90	1.40	0.90				
PX70RA	400KPa							2.90	1.40	0.90				
	500KPa							3.70	1.80	1.90	0.40			
PX75RA	400KPa							4.20	2.10	2.50	0.80			
	500KPa							5.00	2.70	3.90	1.70			
PX80RA	400KPa								3.20	5.00	2.50			
	500KPa								4.10	5.00	3.90	0.20		

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YD200M 最大允许压差 (Mpa G) Allowable Pressure Drop

阀关闭时的允许压差 (600#) Rating Class-600#

表4-4 单动作活塞式执行机构 Table 4-4 Spring Return Pneumatic Actuator

Actuator Code	Air Supply	浮动球阀								固定球阀				
		1/2	3/4	1	1-1/2	2	2-1/2	3	4	5	6	8	10	12
PX25RA	400KPa													
	500KPa	3.00												
PX30RA	400KPa		2.60	1.40										
	500KPa		4.00	2.10										
PX35RA	400KPa		5.40	2.80										
	500KPa		7.60	4.00										
PX40RA	400KPa			5.50	1.30									
	500KPa			7.40	1.80									
PX45RA	400KPa				1.80									
	500KPa				2.50									
PX50RA	400KPa				3.50	1.60								
	500KPa				4.50	2.10								
PX55RA	400KPa				6.20	3.00	1.50							
	500KPa				8.00	3.90	1.90	1.00						
PX60RA	400KPa					3.90	1.90	1.00						
	500KPa					5.00	2.50	1.30						
PX65RA	400KPa					7.40	3.70	1.90						
	500KPa					9.40	4.70	2.50	1.20					
PX70RA	400KPa						4.70	2.50	1.20					
	500KPa						5.90	3.20	1.60	1.50				
PX75RA	400KPa						6.70	3.60	1.80	2.10				
	500KPa						8.50	4.50	2.30	3.40	1.40			
PX80RA	400KPa							5.40	2.80	4.60	2.20			
	500KPa							6.90	5.50	6.50	3.50			

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## 常用密封件 Parts of Sealings

填料 Packing

垫圈 Gasket

密封件的温度-压力使用范围详见我公司技术资料:YDVTEC  
See the technology data :YDVTEC

## YD200M型号编制说明 Valve Code

以YD200M-PX20RARN PN1.6MPa WCB 25A 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	手轮机构 Hand Wheel	公称压力 Nominal Pressure	阀体材料 Body Material	公称口径 Valve Size
YD200M	-- P X	20	R	A	R	N	PN1.6MPa	WCB	25A

控制阀型号: Type  
高性能金属密封球阀  
High Performance Metal-seated Ball Valves

执行机构类型: Type  
D: 弹簧薄膜型 Diaphragm  
P: 气缸型 Pneumatic Cylinder Actuator  
E: 电动式 Electronic  
Y: 液压式 Hydraulic pressure  
S: 特殊 Special

执行机构标识:  
Identifier of Actuator  
X系列 公司研发  
Made by ourselves

执行机构特征尺寸  
Characteristic Dimension  
05, 10, 20, 25...80

动作方向: Action Direction  
R: 角行程 Rotary

设计编号: Design Number  
A: 第一次设计 The First Design  
B: 第二次设计 The Second Design  
C: 第三次设计 The Third Design  
...

阀体口径尺寸 Valve Size  
mm: DN15~DN400  
inch: 1/2"~16"

阀体材料 Body Materials  
碳钢/ASTMA216-WCB/A105  
合金钢/ASTMA217-WC6/F11  
WC9/F22  
304/A351-CF8/F304  
316/A351-CF8M/F316  
钛/Ti, Monel, Hast.c合金等

公称压力 Nominal Pressure  
PN: 1.6~42MPa  
ANSI: 150~2500#  
JIS: 10~63K

手轮机构 Hand Wheel  
T: 顶装手轮 Wheel on the top  
S: 带手轮 Wheel on the side  
N: 无手轮 Non

作用方向 Action Direction  
D: 单动作正作用  
Direct and Single Action  
R: 单动作反作用  
Reverse and Single Action  
W: 双动作 Double Action

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备注: Note:

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