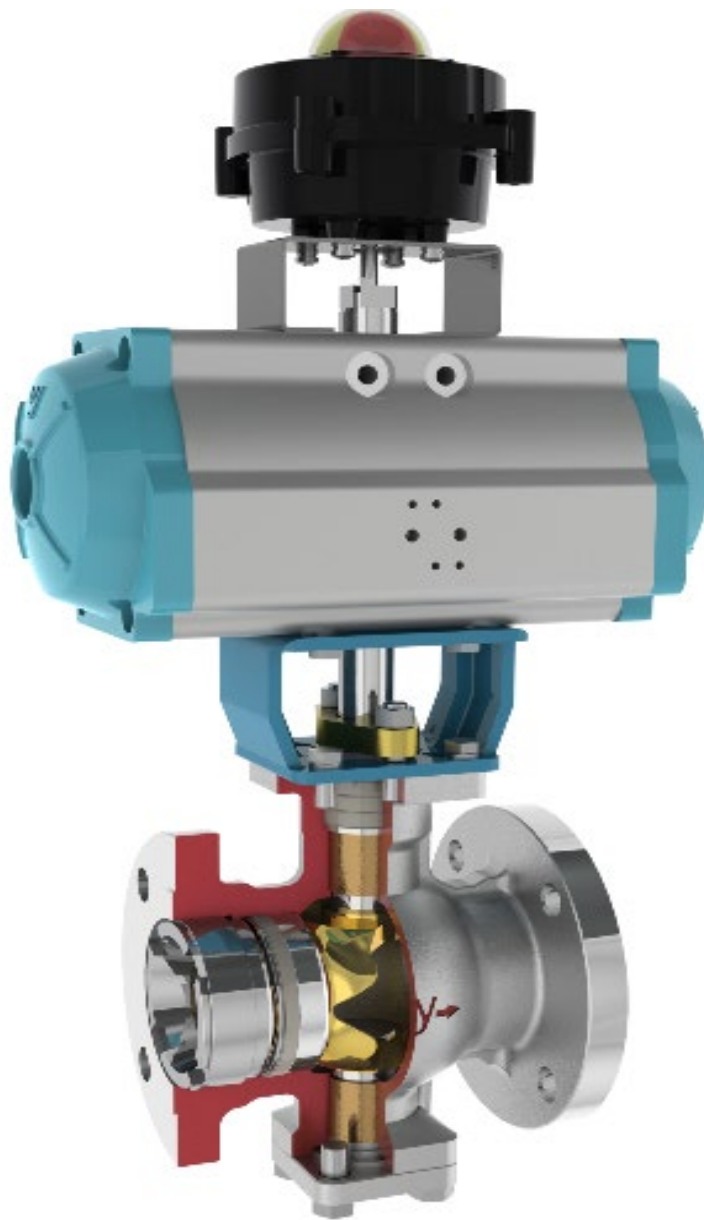


V2100

V-TYPE BALL VALVE



V2100 V-type ball valve

General:

V2100 V-type ball valve is a new V-type ball valve with a new design concept and structure. Compared with the traditional V-type ball valve, it has a more reliable seal and better performance. Its main structural features are: the use of integral cast valve body, good pressure bearing performance of the valve body; soft seals, normal temperature hard seals, high temperature hard seals all use a valve body; the valve seat uses new highly elastic materials and special heat treatment process, making The valve seat has good abrasion resistance, low friction, the ball core is not easy to seize, and the seal is good. It effectively extends the service life. At the same time, because the ball core has a special fan shape, when the valve is closed, the V-notch and the valve seat produce wedge-shaped shear. Role, with excellent cutting performance and adjustment performance, in addition to adapting to control pulp, sewage, suspended media containing fibers and a small amount of solid particles, and high-temperature steam, dry gas and other media, but also suitable for general media.

Body

Type	Through way V- type ball valve
Body size	DN25、 40、 50、 65、 80、 100、 125、 150、 200、 250、 300、 350、 400、 500 (1 " ~ 25 ")
Plug form	V- type half ball
Characteristics	Approximate Equal percentage
Trim materials Trim treatment	1。 See Table 1 & Fig 1 for standard combination of materials and operating pressure-temperature respectively
Body ratings	Class150、 300 、 PN16、 25、 40、
Face to Face dimension	See table 10、 11 and Fig 4
Body&Bonnet Material	See table 1
Packing	Teflon V-ring, Flexible graphite 填料使用温度见表 4 See table 4
Seat material	PTFE、 GH4169、 0Cr18Ni9+ST (304+ST)、 0Cr17Ni12Mo2+ST (316+ST) See table 1
Painting color	Carbon steel body sprayed with silver epoxy Stainless steel valve body sprayed steel gray acrylic enamel

	RB	PER
Purpose	Adjust, On-Off	Adjust, On-Off
Air supply or Power supply	3.5~8kg/cm ²	AC100V 200V 220V 50/60Hz Single-phase AC100V, 200V, 220V 50/60Hz
Connection	Rc1/4	PF 1/2X2 Plastic waterproof joint PF1/2X2
Direct action	Middle cavity ventilation clockwise off	
Reverse action	Counter-clockwise ventilation	
Ambient Temp	-20~+80℃	-22~+55℃
Painting	Hard anodizing	
Option equipment	Positioner, air filter pressure reducing valve, limit switch, solenoid valve, etc.	

ACTUATOR

PERFORMANCE

Rated Cv	See Table 5
Flow characteristics	See Fig . 3
Rangeability	50:1 (Plug size ≤ 1/4B—30:1)
Allowable pressure drops	See Table 7.1, 7.2

Table1.BODY/TRIM STANDARD MATERIAL COMBINATION, OPERATING TEMPERATURE AND

SEAL-LEAKAGE

Body material		ZG25I(WCB)、ZG0Cr18Ni9 (CF8)、ZG0Cr17Ni12Mo2(CF8M)		
Ball	material	ZG0Cr18Ni9 (CF8)、ZG0Cr17Ni12Mo2(CF8M)		
	Treatment	Soft seal: solid state		Hard seal: Nitriding
Shaft	Material	17-4PH (≤300℃)		0Cr17Ni12Mo2 (316)
	Treatment	Hardening		Nitriding
Seat	Type	S (Soft seal)	H ₁ (Nor-temp hard seal)	H ₂ (Hi-temp Hard seal)
	Material Treatment	PTFE	0Cr18Ni9+ST (304+ST), 0Cr17Ni12Mo2+ST (316+ST) Stellited	

			0Cr18Ni9+GH4169(304+GH4169) 0Cr17Ni12Mo2+GH4169(316+GH4169)		
Sealing ring	Sealing ring	Viton rubber ring	PTFE -ring	PTFE -ring	Graphite ring
	Temperature	-29°C~+150°C		-29°C~+200°C	-29°C~+530°C
Guide	Material	SF-1		SF-1	高镍铸铁 Cast with high nickel
Leakage	Soft seal	According GB/T4213 OR ANSI/FC070-2 class VI			
	CH (Hard seal)	Meets: GB / T4213 or ANSI / FC 70-2 Level IV (Valve seat material is: 0Cr18Ni9+ST (304+ST), 0Cr17Ni12Mo2+ST(316+ST)) Meets: GB / T4213 or ANSI / FC 70-2 IV OR V requirements (Valve seat material is: 0Cr18Ni9+GH4169(304+GH4169)、0Cr17Ni12Mo2+GH4169(316+GH4169))			

Table2 : Body material

Material	Temperature limitation
WCB	-29~420°C
CF8	-196~530°C
CF8M	-196~530°C

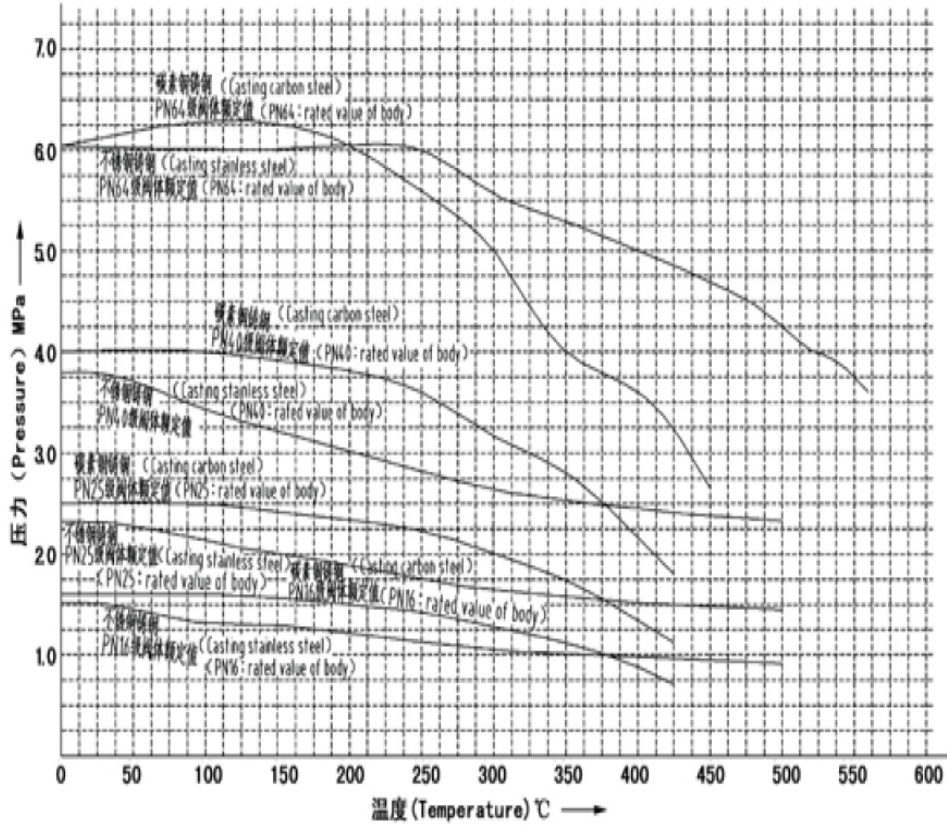


图 1.1 阀体温压曲线 Fig.1.1 Body temperature-pressure curve

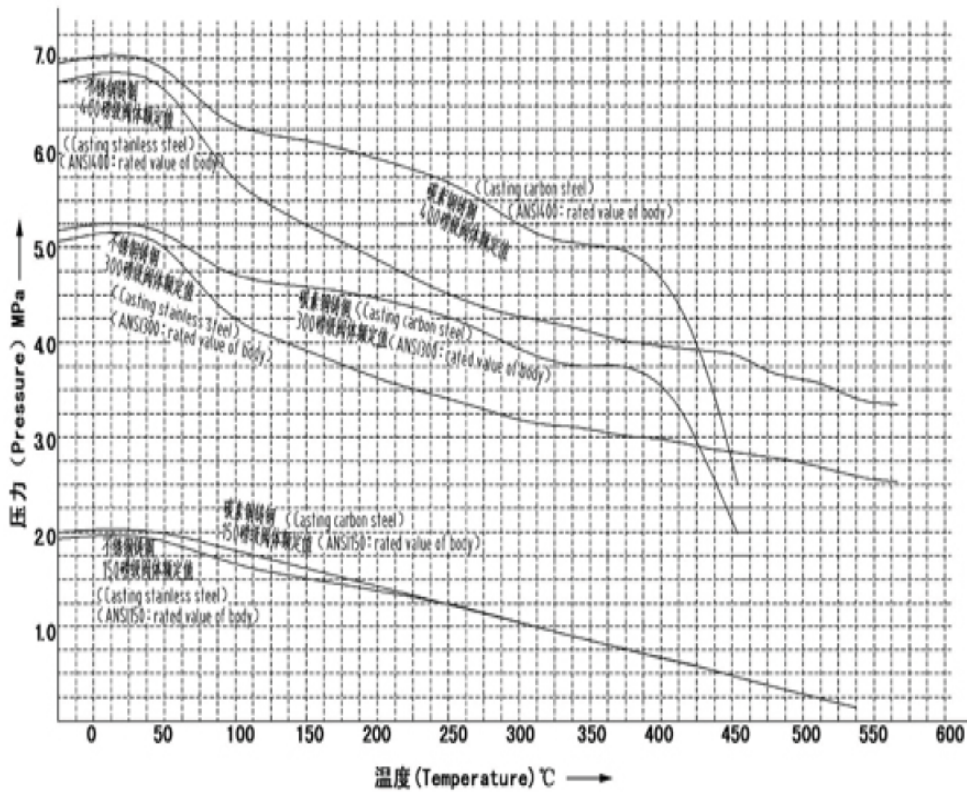


图 1.2 阀体温压曲线 Fig.1.2 Body temperature-pressure curve

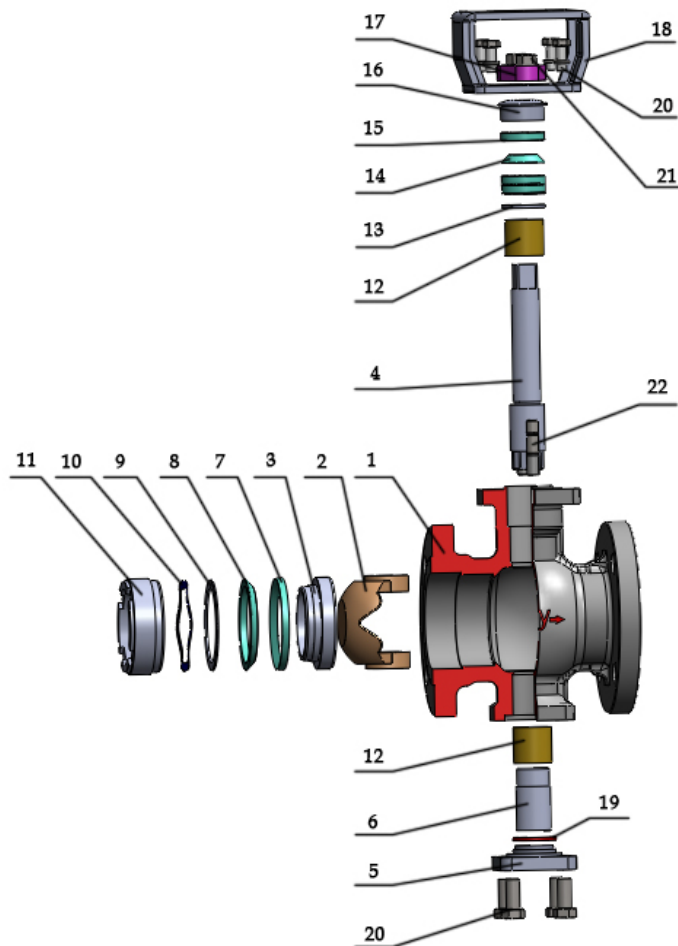
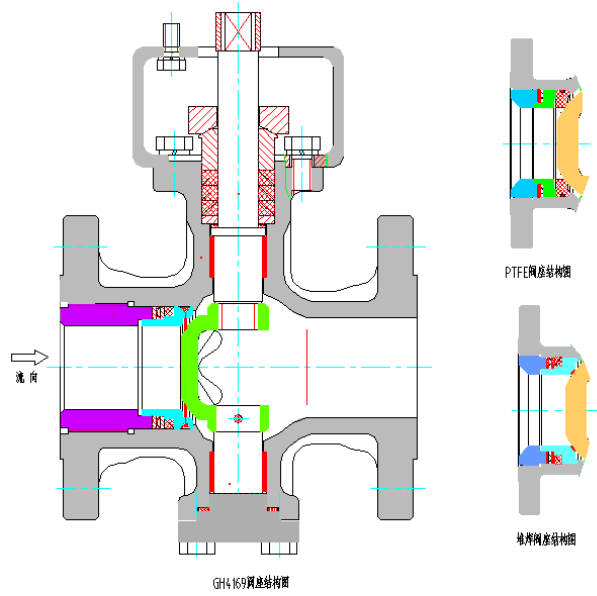


图 2 阀体结构图

FIG2: VALVE BODY STRUCTURE

Table3:Main parts of valve assemblies

Number	Part name	Material
1	Body	See table1
2	Ball	See table1
3	Seat ring	See table1
4	Main shaft	See table1
5	Lower bonnet	Consistent with the body
6	Short shaft	See table1
7	The lower seal ring	PTFE、RSHM
8	Upper seal ring	PTFE、RSHM
9	Cushion ring	0Cr18Ni9(304)、0Cr17Ni12Mo2(316)
10	Wave spring	17-7PH
11	Retainer	0Cr18Ni9(304)、00Cr17Ni12Mo2(316)
12	Guide sleeve	SF-1、GNZT
13	Packing Spacer	00Cr17Ni12Mo2(316)
14	Lower packing	PTFE、RSHM
15	Upper packing	PTFE、RSHM
16	Packing gland	316
17	Packing gland	304
18	Mounting Bracket	ZG25I
19	Spiral Wound gasket	316+SHM
20	Hex bolt	—
21	Hex Nut	—
22	Stud bolt	—

Table 4 The temperature limitation of Packing and Guide

Packing Material	Guide sleeve	temperature range
Teflon	SF-1	-29°C~+180°C
Graphite	High nickel cast iron	+180°C~+530°C

Table 5 Rated Cv values

DN	25	40	50	65	80	100	125	150	200	250	300	350	400	500
Seat diameter	15	33	40	53	66	85	104	128	170	212	255	300	340	400
Cv	19	57	105	164	263	430	700	1105	1800	2808	4563	7196	11400	15210

Fig.3 Flow characteristics

Fig.3 Flow characteristics curve

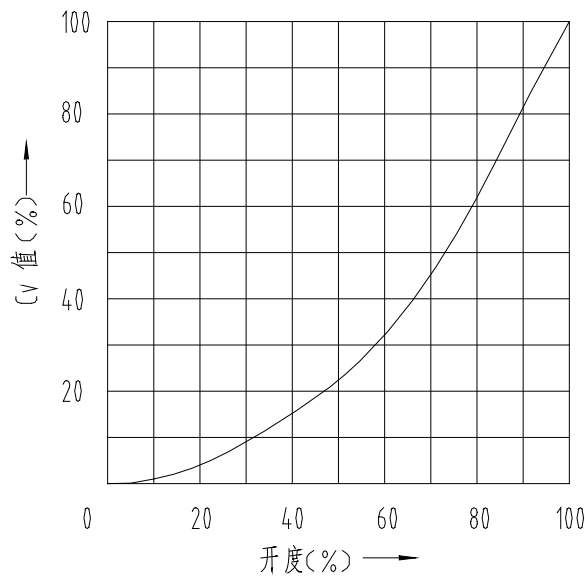


Table6: Output torque (N.m) (Be reference when choose actuator)

DN(mm)		25	40	50	65	80	100	125	150	200	250	300	350	400	500
Pressure	Class150 PN16	25	30	40	124	153	176	305	420	553	829	1036	1900	2300	2800
	Class300 PN25、40	30	60	99	185	265	365	580	995	1310	1890	2264	2884	3500	4200

Table 7.1: Allowable pressure drop (Actuator's air supply is 0.5MPa)

Actuator		Allowable pressure drop (MPa)														
		DN (mm)														
		25	40	50	65	80	100	125	150	200	250	300	350	400	500	
Double acting	RB80-DA	4.0														
	RB100-DA		4.0	4.0												
	RB125-DA				4.0											
	RB160-DA					2.3	2.3									
	RB200-DA							2.3	2.3							
	RB254-DA									2.3						
	α B 300DA											2.3	2.3			
	α B 350DA												2.3			
	α B 400DA													2.3		
Single Acting	RB100-SR-K5	4.0														
	RB125-SR-K4		4.0	4.0												
	RB160-SR-K4				4.0											
	RB200-SR-K4					2.3	2.3									
	RB254-SR-K5							2.3								
	α B280SR-K10									2.3						
	α B300SR-K10											2.3				
	α B350SR-K10												2.0	1.6		
	α B400SR-K10													1.2		

Table 7.2: Allowable pressure drop (Actuator's air supply is 0.4MPa)

Actuator		Allowable pressure drop (MPa)														
		DN (mm)														
		25	40	50	65	80	100	125	150	200	250	300	350	400	500	
Double Acting	RB80-DA	4.0														
	RB100-DA		4.0	4.0												
	RB125-DA				4.0											
	RB160-DA					2.3	2.3									
	RB200-DA							2.3								
	RB254-DA								2.3	2.3						
	α B 300DA										2.3	2.3				
	α B 350DA											2.3				
	α B 400DA												2.3			
Single Acting	RB100-SR-K4	4.0														
	RB125-SR-K3		4.0	4.0												
	RB160-SR-K3				4.0											
	RB200-SR-K3					2.3	2.3									
	RB254-SR-K4							2.3								
	α B280SR-K8								2.3							
	α B300SR-K8									2.3						
	α B350SR-K8										2.0	1.6				
	α B400SR-K8											1.2				

Note: αB450 and above include αB450 actuator selection according to valve torque according to HPY actuator

Table8: The model of Pneumatic Actuator

Type	Cylinder	
	RB	
model	Double acting	Spring return
Purpose	On-Off	On-Off
Air supply	0.4MPa~0.8MPa	0.4MPa~0.7MPa
Air input connect	Rc1/4	Rc1/4
Input signal	Electrical or air switching signal	Electrical or air switching signal
Travel	90°	90°
Operation	ON or OFF change with input signal	
Allow temp	-20℃~+80℃	
Optional equipment	Gear box, limit switch, solenoid valve, air filter pressure reducing valve, etc. Limit switch, Solenoid, Air-set	

Table9: The time of Pneumatic Actuator 's acting (Air supply: 0.4MPa~0.6Mpa)

Actuator model	RB80	RB100	RB125	RB160	RB200	RB254
Single acting (S)	0.9	1.5	2	4	6	8
Double Acting (S)	0.75	1.1	1.6	2.2	5	6

Note: See the RB rack and pinion pneumatic actuator sample for action time test

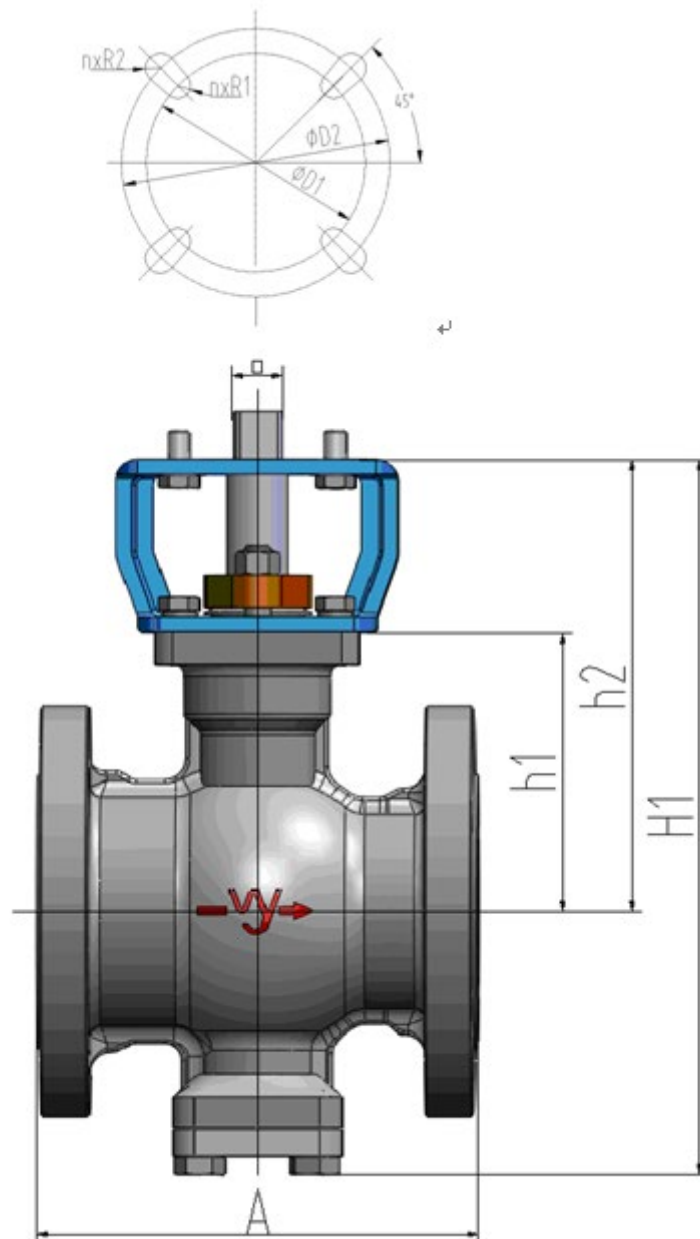


Figure 4 Dimensions of the valve body assembly

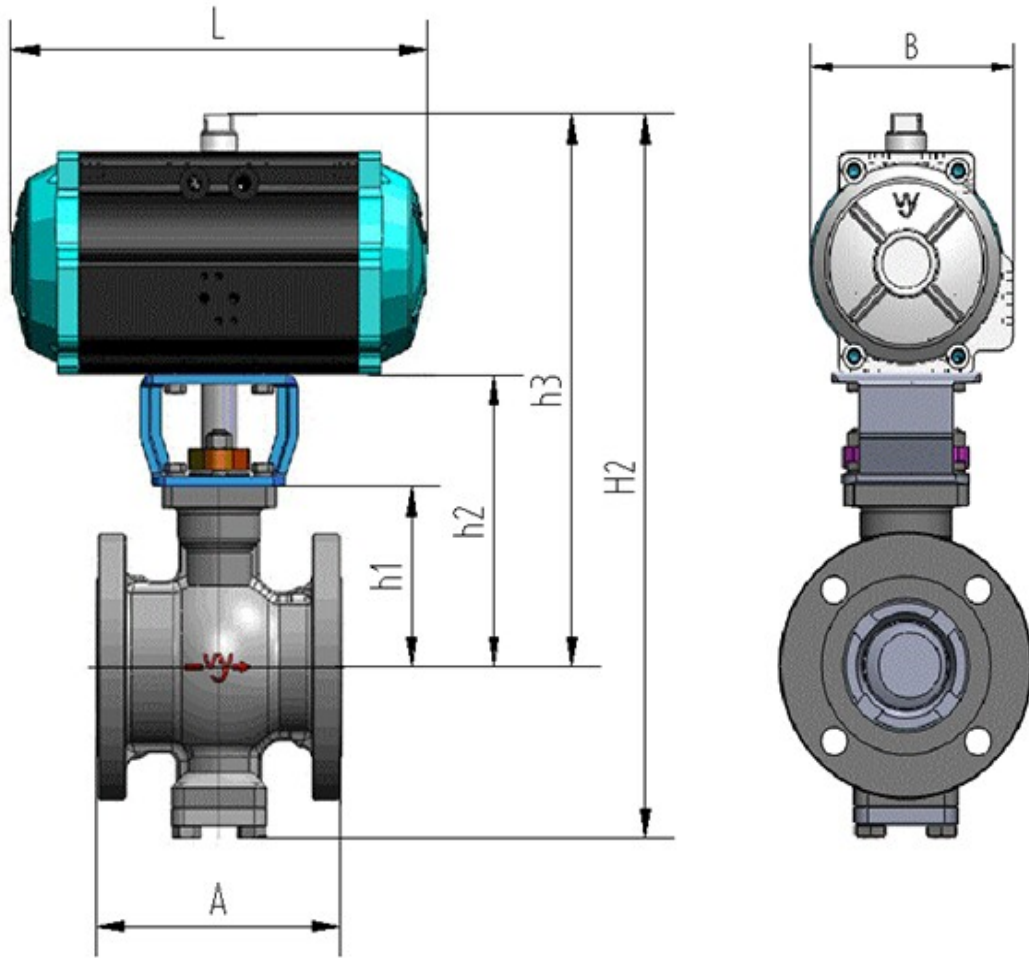


Fig.5 Dimensions with RB Actuator

Table12: Dimensions with Pneumatic Actuator and weight (Class150、PN16)

Pressure class	DN (mm)	Out-form dimension (mm)							Type of Actuator	Weight (kg)
		A	h1	h2	h3	H2	B	L		
Class150 PN16	25	127	73	118	253	306	102	236	RB80-DA	8.1
					285	343	130	272	RB100-SR	10.8
	40	165	90	150	317	403	130	272	RB100-DA	14.2
					338	421	150	340	RB125-SR	23.2
	50	178	100	160	328	422	130	272	RB100-DA	16.7
					348	442	150	340	RB125-SR	25.7
	65	190	120	200	390	510	150	340	RB125-DA	28.8
					435	555	193	452	RB160-SR	42.8
80	203	130	210	445	567	193	452	RB160-DA	49.1	
				480	602	220	570	RB200-SR	83.6	

100	229	138	228	463	604	193	452	RB160-DA	64.2
				498	639	220	570	RB200-SR	98.7
125	254	174	264	534	705	220	570	RB200-DA	103
				624	795	290	695	RB254-SR	156
150	267	190	280	550	735	220	570	RB200-DA	142.4
				640	825	290	695	RB254-DA	180.4
				640	825	300	706	RB280-SR	189.4
200	419	232	322	682	907	290	695	RB254-DA	209
				702	907	324	792	RB300-SR	238
250	457	305	415	765	1055	324	792	RB300-DA	240
				825	1115	388	850	RB350-SR	295
300	502	332	442	792	1112	324	792	RB300-DA	260
				852	1172	388	850	RB350-SR	315

Table 13: Standard configurations, dimensions and weights with pneumatic actuators (Class300, PN16, 25, 40)

Pressure class	DN (mm)	Dimension (mm)							Type of Actuator	Weight (kg)
		A	h1	h2	h3	H2	B	L		
Class300 PN16 PN25 PN40	25	127	73	118	253	306	102	236	RB80-DA	9.5
					285	343	130	272	RB100-SR	12.2
	40	165	90	150	317	403	130	272	RB100-DA	17.2
					338	421	150	340	RB125-SR	26.2
	50	178	100	160	328	422	130	272	RB100-DA	20.2
					348	442	150	340	RB125-SR	29.2
	65	190	120	200	390	510	150	340	RB125-DA	33.3
					435	555	193	452	RB160-SR	47.3
	80	203	130	210	445	567	193	452	RB160-DA	52.5
					480	602	220	570	RB200-SR	88
	100	229	138	228	463	604	193	452	RB160-DA	68.2
					498	639	220	570	RB200-SR	102.7
	125	254	174	264	534	705	220	570	RB200-DA	116
					624	795	290	695	RB254-SR	169
	150	267	190	280	550	735	220	570	RB200-DA	154.4
					640	825	290	695	RB254-DA	192.4
					640	825	300	706	RB280-SR	201.4
	200	419	232	322	682	907	290	695	RB254-DA	224
					702	907	324	792	RB300-SR	253
	250	457	305	415	765	1055	324	792	RB300-DA	255
825					1115	388	850	RB350-SR	310	
300	502	332	442	792	1112	324	792	RB300-DA	275	
				852	1172	388	850	RB350-SR	330	

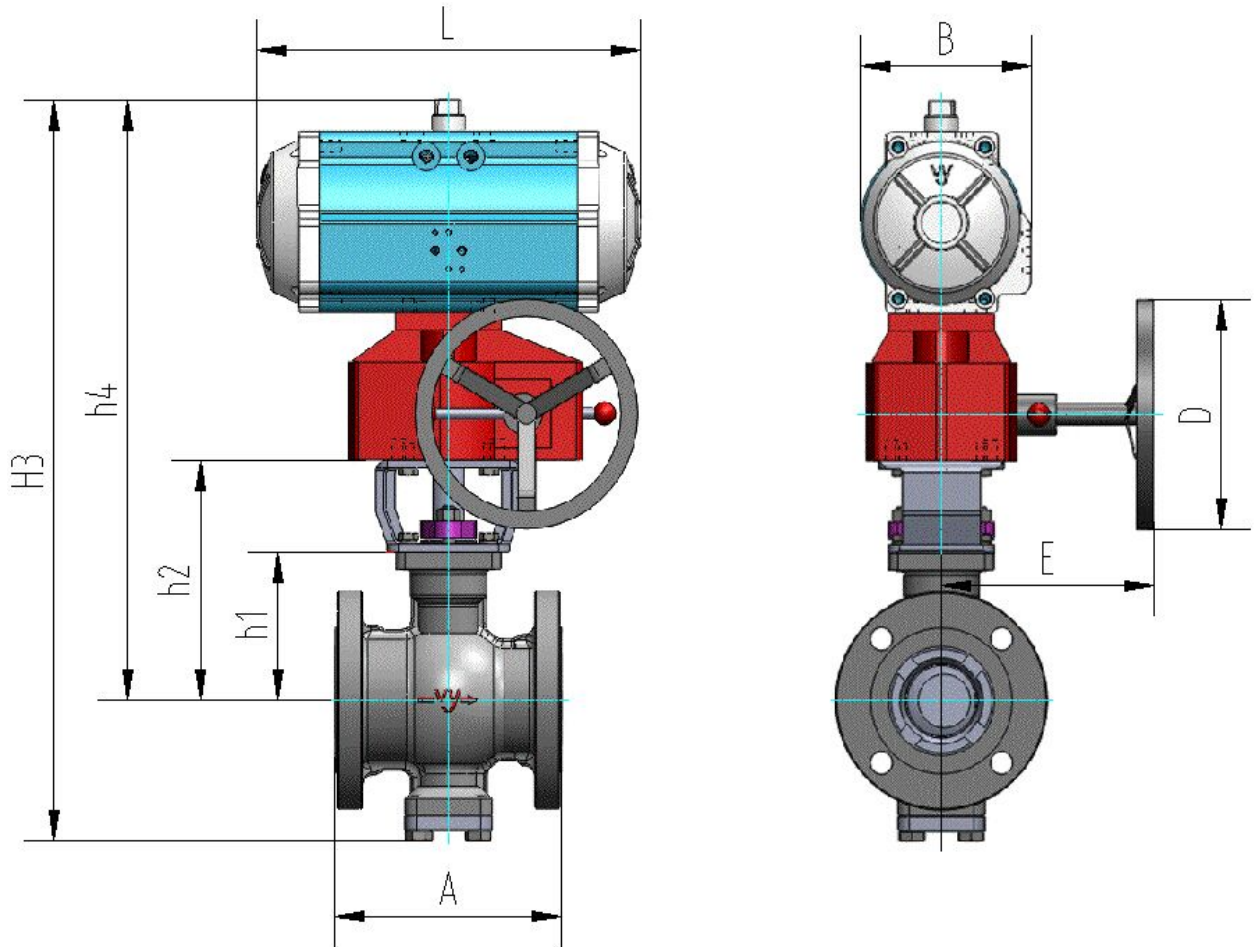


Figure 6 Dimensions of RB actuator with handwheel

Table 14: Standard assembly, dimensions and weight with handwheel of pneumatic actuator (Class150, PN16)

Press ure class	DN (mm)	Dimension (mm)									Type of Actuator	Weight (kg)
		A	h1	h2	h4	H3	B	L	E	D		
Class 150 PN16	25	127	73	118	361	414	102	236	155	160	RB80-DA	12.6
					413	471	130	272	190	295	RB100-SR	18.8
	40	165	90	150	445	531	130	272	190	295	RB100-DA	22.2
					466	549	150	340	190	295	RB125-SR	31.2
	50	178	100	160	456	550	130	272	190	295	RB100-DA	24.7
					476	570	150	340	190	295	RB125-SR	33.7

65	190	120	200	518	638	150	340	190	295	RB125-DA	36.8
				563	683	193	452	190	295	RB160-SR	50.8
80	203	130	210	573	695	193	452	190	295	RB160-DA	57.1
				639	761	220	570	230	340	RB200-SR	98.6
100	229	138	228	591	732	193	452	190	295	RB160-DA	72.2
				657	798	220	570	230	340	RB200-SR	113.7
125	254	174	264	693	864	220	570	230	340	RB200-DA	118
				805	976	290	695	292	450	RB254-SR	205
150	267	190	280	709	894	220	570	230	340	RB200-DA	157.4
				831	1006	290	695	292	450	RB254-DA	229.4
				831	1006	300	706	292	450	RB280-SR	238.4
200	419	232	322	863	1088	290	695	292	450	RB254-DA	258
				883	1088	324	792	292	450	RB300-SR	287
250	457	305	415	946	1236	324	792	292	450	RB300-DA	289
				1053	1343	388	850	400	450	RB350-SR	377
300	502	332	442	973	1293	324	792	292	450	RB300-DA	309
				1080	1400	388	850	400	450	RB350-SR	397

**Table 15: Standard outfit with pneumatic handwheel, class size and weight
(Class300, PN25, 40) Table15: Prime out-form dimensions for Pneumatic Actuator
and weight (Class300, PN25, 40)**

Press ure class	DN (mm)	Dimension (mm)									Type of Actuator	Weight (kg)
		A	h1	h2	h4	H3	B	L	E	D		
Class 150 PN16	25	127	73	118	361	414	102	236	155	160	RB80-DA	14
					413	471	130	272	190	295	RB100-SR	20.2
	40	165	90	150	445	531	130	272	190	295	RB100-DA	25.2
					466	549	150	340	190	295	RB125-SR	34.2
	50	178	100	160	456	550	130	272	190	295	RB100-DA	28.2
					476	570	150	340	190	295	RB125-SR	37.2
	65	190	120	200	518	638	150	340	190	295	RB125-DA	41.3
					563	683	193	452	190	295	RB160-SR	55.3
	80	203	130	210	573	695	193	452	190	295	RB160-DA	60.5
					639	761	220	570	230	340	RB200-SR	102
	100	229	138	228	591	732	193	452	190	295	RB160-DA	76.2
					657	798	220	570	230	340	RB200-SR	117.7
	125	254	174	264	693	864	220	570	230	340	RB200-DA	131
					805	976	290	695	292	450	RB254-SR	218
	150	267	190	280	709	894	220	570	230	340	RB200-DA	169.4
					831	1006	290	695	292	450	RB254-DA	241.4
831					1006	300	706	292	450	RB280-SR	241.4	

	200	419	232	322	863	1088	290	695	292	450	RB254-DA	273
					883	1088	324	792	292	450	RB300-SR	302
	250	457	305	415	946	1236	324	792	292	450	RB300-DA	304
					1053	1343	388	850	400	450	RB350-SR	392
	300	502	332	442	973	1293	324	792	292	450	RB300-DA	324
					1080	1400	388	850	400	450	RB350-SR	412