

MESYS®



V - NOTCH BALL VALVE

SEGMENT VALVES

V-NOTCH BALL VALVE

Stem:

The valve stem adopts fine grinding process to match the actuator with high precision, which makes the valve return difference small.

Packing:

Adopt V type packing for excellent sealing.

Bearing:

The self-lubricated bearing has high bearing capacity low friction coefficient and reduced operating torque.

Ball:

The ball surface of V-shaped opening is processed with hard chromium ion nitriding or supersonic to improve the surface hardness so that the ball mouth keeps a hard and sharp edge to shear the medium.

Body:

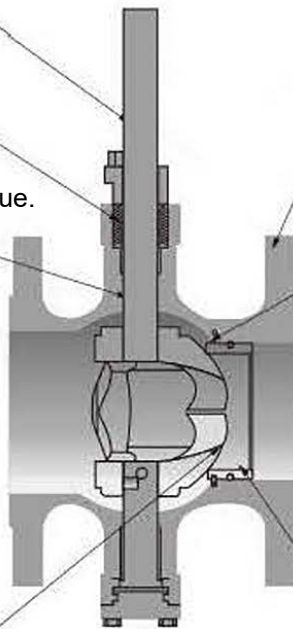
The body adopts the integral structure with good rigidity to reduce the possibility of out-leakage.

Spring:

The spring uses a special hexagon spring, which provides pretightening force, meanwhile reduces the friction between the ball and the seat also the operating torque of valve.

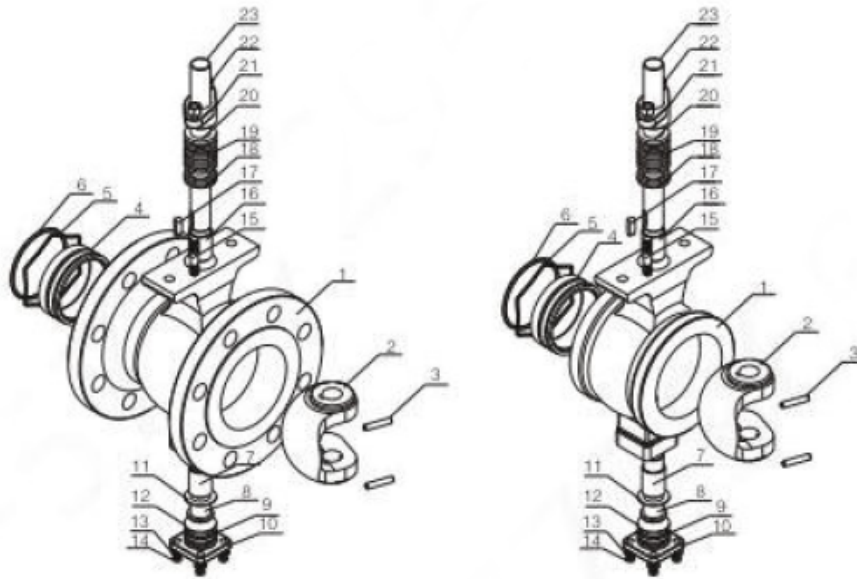
Seat:

The special non-bonnet design allows no dead angle between the seat and the body, makes the medium is not easy to accumulate and avoids stuck phenomenon of the solid particle media.



The segment ball valve is a kind of ball valve with a hemisphere of V-shaped opening as closing part. V-shape opening has a shaped edge provides a wiping between the closing parts while rotating, and it has a sharp cut off to the medium. V-shape opening port and the valve seat form a fan-shaped area to change the port cross area, creating a precision adjustment of medium during rotary. It is a kind of adjusting valve with angle rotation, with the same seal performance as common ball valve. Which makes it have a combination of regulation and on-off functions, equipped with pneumatic or electric actuators. being widely used in industrial process auto-control system.

V-NOTCH BALL VALVE

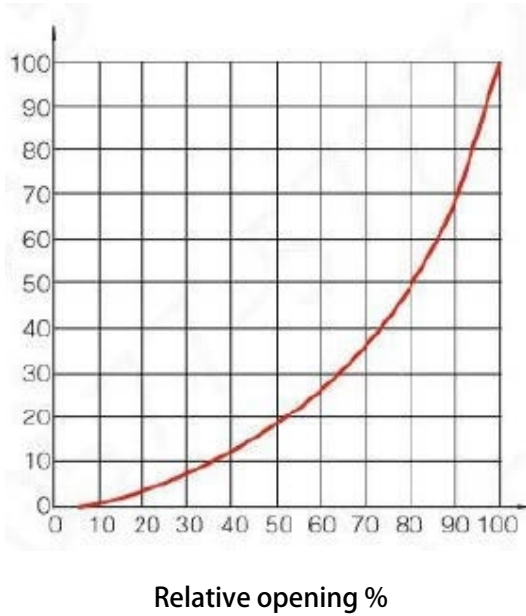


Accessories materials

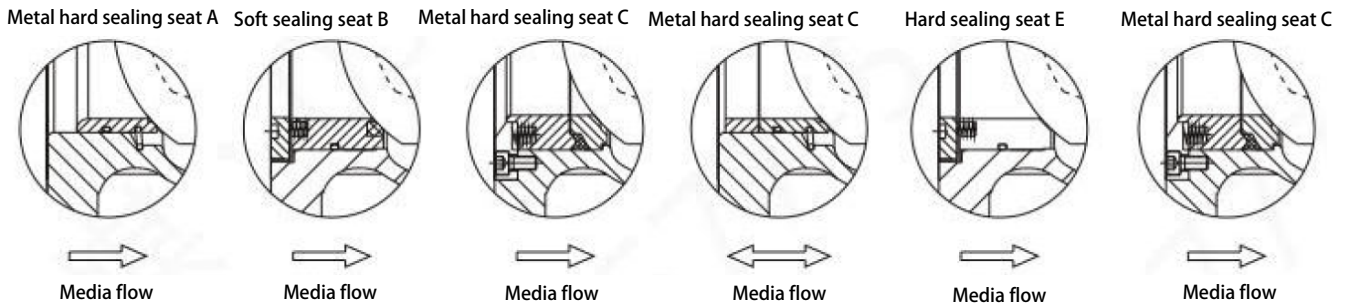
No	Name	Quantity	Material	Material	Material
1	Body	1	WCB	CF8	CF8M
2	Ball cylindrical	1	CF8 hard chrome plated	CF8 hard chrome plated	CF8M hard chrome plated
3	Pin	2	304	316	316
4	Seat	1	304 weld overlay hard alloy	304 weld overlay hard alloy	316 weld overlay hard alloy
5	Spring	1	17-7PH	17-7PH	17-7PH
6	O-ring	1	Viton	Viton	Viton
7	Self-lubricated bearing		304+PTFE	304+PTFE	316+PTFE
8	Lower stem	1	17-4PH	17-4PH	17-4PH
9	O-ring	1	Viton	Viton	Viton
10	Back gland	1	WCB	CF8	CF8M
11	Ring gasket	1	PTFE	PTFE	PTFE
12	Adjusting gasket	1	PTFE	PTFE	PTFE
13	Flat gasket	4	Q235	304	304
14	Bolt	4	25#	304	304
15	Stud	2	25#	304	304
16	Self-lubricated bearing	1	304+PTFE	304+PTFE	316+PTFE
17	Flat key	1	304	304	316
18	Lower packing	1	PTFE	PTFE	PTFE
19	Middle packing	1	PTFE	PTFE	PTFE
20	Upper packing	1	PTFE	PTFE	PTFE
21	Packing gland	1	WCB	CF8	CF8M
22	Nut	2	304	304	304
23	Upper stem serial	1	17-4PH	17-4PH	17-4PH

V-NOTCH BALL VALVE

Standard products CV valve table



Specification	CV valve
DN25(1")	27
DN32(1 1/4")	47
DN40(1 1/2")	70
DN50(2")	110
DN65(2 1/2")	170
DN80(3")	280
DN100(4")	410
DN125(5")	750
DN150(6")	980
DN200(8")	1720
DN250(10")	2900
DN300(12")	3800
DN350(14")	7000
DN400(16")	9800
DN450(18")	12000
DN500(20")	23000



Various seat structure applications

Metal hard sealing seat A、E

Seat	304/316+stellite
Seat	17-7PH/Inconel-x75
O-ring	Viton
Packing	PTFE
Hardening treatment of ball surface	Hard chromium plating/WC spraying/STL spraying
Applicable temperature range	-29°C-150°C
Applicable media	Water/oil/gas/solid particles /suspension

Seat	304/316+stellite
Seat	17-7PH/Inconel-x75
O-ring	High temperature fluororubber
Packing	Graphite
Hardening treatment of ball surface	Hard chromium plating/WC spraying/STL spraying
Applicable temperature range	-29°C-150°C
Applicable media	Water/oil/gas/solid particles /suspension

V-NOTCH BALL VALVE

The maximum pressure under various pressure levels and the corresponding torque table.

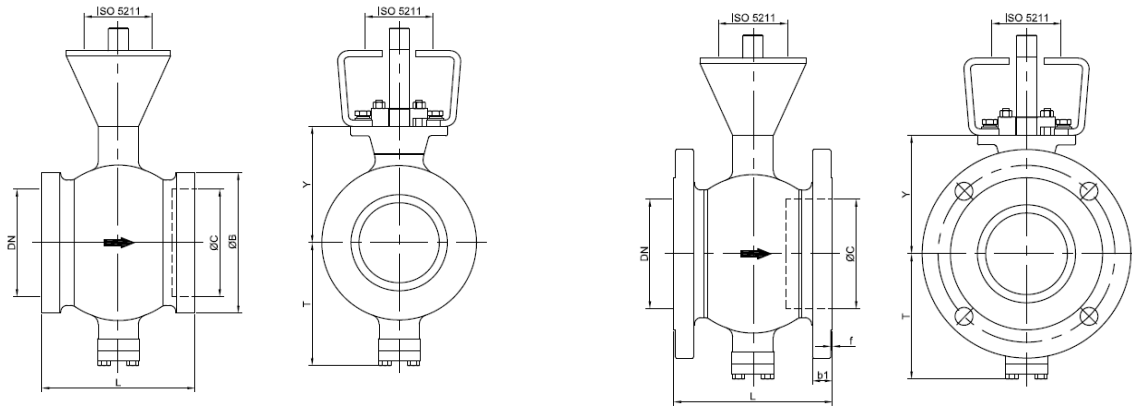
Nominal diameter	(PN16) Bearing pressure	N.M Torque	(PN25) Bearing pressure	N.M Torque	(PN40) Bearing pressure	N.M Torque	(PN63) Bearing pressure	N.M Torque
DN25	1.0MPa	32	1.8MPa	40	3.0MPa	60	4.0MPa	100
DN32	1.0MPa	40	1.8MPa	48	3.0MPa	60	4.0MPa	100
DN40	1.0MPa	76	1.8MPa	95	3.0MPa	110	4.0MPa	220
DN50	1.0MPa	90	1.8MPa	110	3.0MPa	120	4.0MPa	250
DN65	1.0MPa	100	1.8MPa	132	3.0MPa	207	4.0MPa	320
DN80	1.0MPa	140	1.8MPa	170	3.0MPa	210	4.0MPa	320
DN100	1.0MPa	150	1.8MPa	185	3.0MPa	250	4.0MPa	530
DN125	1.0MPa	200	1.8MPa	300	3.0MPa	540	4.0MPa	740
DN150	1.0MPa	300	1.8MPa	420	3.0MPa	660	4.0MPa	1020
DN200	1.0MPa	500	1.8MPa	640	3.0MPa	1000	4.0MPa	1450
DN250	1.0MPa	800	1.8MPa	1270	3.0MPa	1980	4.0MPa	2500
DN300	1.0MPa	1400	1.8MPa	1570	3.0MPa	2430	4.0MPa	3000
DN350	1.0MPa	2000	1.8MPa	2800				
DN400	1.0MPa	2900	1.8MPa	3650				
DN450	1.0MPa	3400	1.8MPa	4080				
DN500	1.0MPa	5000	1.8MPa	6000				

PN16 V-shape ball valve actuator configuration table

V-shape ball valve actuator configuration table												
DN	Pneumatic actuator				With GT mini actuator				Electric	Actuator gear	Pneumatic connecting pipe	Bleed pressure (MPa)
mm	ZS	Manual	ZDS	Manual	DA	Manual	SR	Manual				
25	ZS35-63	26:1	ZDS45-100	38:1	63	26:1	75	28:1	50	1	φ6X1(G1/4)	0.5-0.7
32	ZS36-63	26:1	ZDS45-100	38:1	63	26:1	75	28:1	50	1		
40	ZS36-80	28:1	ZDS45-100	38:1	83	28:1	92	38:1	10	1		
50	ZS45-80	28:1	ZDS45-100	38:1	92	28:1	105	38:1	10	1		
65	ZS45-80	28:1	ZDS55-125	38:1	92	28:1	105	38:1	20	2	φ8X1.5(G1/4)	
80	ZS45-100	38:1	ZDS55-125	38:1	105	38:1	125	38:1	20	2		
100	ZS45-100	38:1	ZDS55-125	54:1	105	38:1	125	54:1	40	2		
125	ZS55-100	54:1	ZDS55-125	54:1	125	54:1	140	54:1	40	3		
150	ZS55-125	54:1	ZDS63-160	80:1	140	54:1	160	80:1	40	3	φ10X2(G3/8)	
200	ZS63-160	54:1	ZDS63-200	80:1	160	54:1	210	80:1	60	4		
250	ZS80-200	80:1	ZDS80-250	78:1	210	80:1	210	78:1	100	5		
300	ZS80-250	80:1	ZDS100-300	78:1	210	80:1	270	78:1	150	5		
350	ZS100-300	78:1	ZDS125-300	98:1	270	78:1	300	98:1	200	5	φ12X2(G1/2)	
400	ZS100-300	78:1	ZDS125-350	98:1	300	78:1	350	98:1		6		
450	ZS125-350	320:1	ZDS125-400	320:1	350	320:1	400	320:1		6		
500	ZS125-350	320:1	ZDS125-400	320:1	350	320:1	400	320:1		6		

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Dimensions of body



PN10/PN16/150Lb(Wafer)

DN	L	B	C	T	Y
25	50	68	38	81	73
32	50	76	45	86	78
40	60	84	50	90	80
50	75	100	62	93	90
65	100	118	73	108	105
80	100	132	90	123	118
100	115	158	115	138	130
125	129	184	134	148	145
150	160	216	164	170	170
200	200	268	206	200	201
250	240	326	260	240	237

PN16(Flange)

DN	L	C	b1	f	T	Y
25	102	38	16	2	81	73
32	102	45	18	2	86	78
40	114	50	18	2	90	80
50	124	62	20	2	93	90
65	145	73	20	2	108	105
80	165	90	20	2	123	118
100	194	115	22	2	138	130
125	194	134	22	2	148	145
150	229	164	24	2	170	170
200	243	206	24	2	200	201
250	297	260	26	2	240	237
300	338	316	28	2	286	282
350	400	372	30	2	330	337
400	400	420	32	2	367	372
450	520	470	40	2	422	432
500	600	516	44	2	490	498



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