KOMOTO

Technical Bulletin B-430

Series 43
V-notch Ball Valves
for ANSI 150-300
DIN/BS 4504 PN10-PN25
JIS 10K-20K

Series 43 Features

General

The series 43 is full bore, reduced bore, trunnion, and stem ball type v-notched ball valve, which is exclusively designed for excellent proportional control as much as globe type control valves. The series 43 has special shape of disc which is suitable for accurate throttling control and on-off service not only general fluids but also critical condition in powders, slurry, gummy, fibrous material and other fluids having special characteristics. Specially the face to face dimension is just same with normal ball valves (API 6D)

Performance:

- High Cv body size ratio (Full bore)
- Controls through 90° rotation
- Excellent flow control rangeability
- Easy maintenance

Design Flexibility:

- Control any fluids
- Flow push seat design
- Full range of body and trim material options with availability of hard facings
- Seat changeability
- Self-cleaning and tight seating
- Double-eccentric disc (options)

Figure 1.
Series 43 V-notch ball valve mounted with AO-3800 Pneumatic cylinder actuator

V-notch Ball Valve Specifications

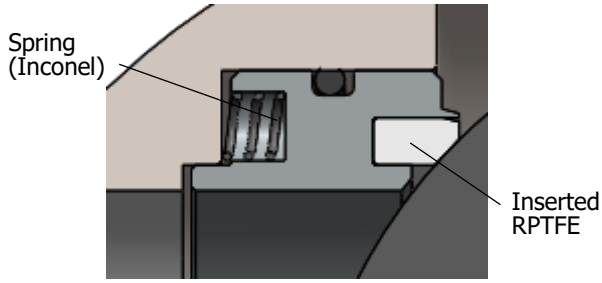
Valve Type	V-notch Ball Control Valve														
Valve Model	Series 43														
Valve Size (inch)	1/2	3/4	1	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14	16
(mm)	15	20	25	40	50	65	80	100	125	150	200	250	300	360	400
Pressure Rating	ANSI 150# ~ 300# (JIS 10K ~ 20K, PN 10~ 25)														
End Connection	RF, FF, SW, BW, RTJ														
Body Materials	A216WCB, A351CF8/CF8M, A351CF3/CF3M, H-C, H-B, and so on														
Bonnet Type	Plain(-17°C to 230°C), Extension(-45°C to -17°C, over 230°C), Cryogenic(-196°C to -45°C)														
Packing	Graphite foil, Carbon fiber, Teflon fiber														
Gasket	Spiral Wound Metal gasket														
Guiding	Bushing														
Seat Type	Metal/Soft														
Valve Plug Shapes	V-port														
Plug Characteristic	Equal Percentage/Linear														
Trim Materials	A351CF8/CF8M, A351CF3/CF3M, H-C, H-B and so on														

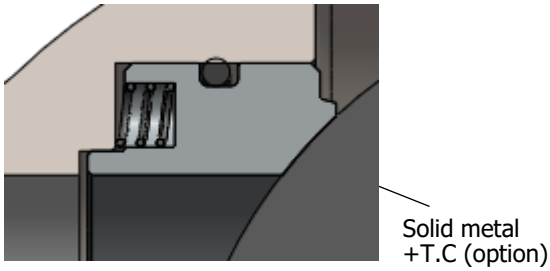
Standard Material of Construction:

Body: Carbon steel (ASTM A216 WCB)
Stainless steel (ASTM 351 CF8, CF8M)
Segmented ball: Stainless Steel (ASTM A351 CF8, CF8M)
Seat - Soft: Teflon, Reinforced Teflon
- Metal: Stainless steel (304SS, 316SS) with stellite
Stem: Stainless Steel (316SS, 17-4PH)
Inboard Bearing: Stainless Steel/Teflon
Packing: Teflon Fiber Graphite
Other materials: Combinations are available to suit more arduous or Corrosion resistant duties.
Please contact our factory.
Flow characteristics: Inherent Equal percentage, Linear

Actuation:

Various types of actuation are available including 3600 series spring opposed pneumatic diaphragm, 3800 series double acting, or spring opposed pneumatic piston actuator.
In addition, electric, electro hydraulic, hydraulic and manually operated versions are available.



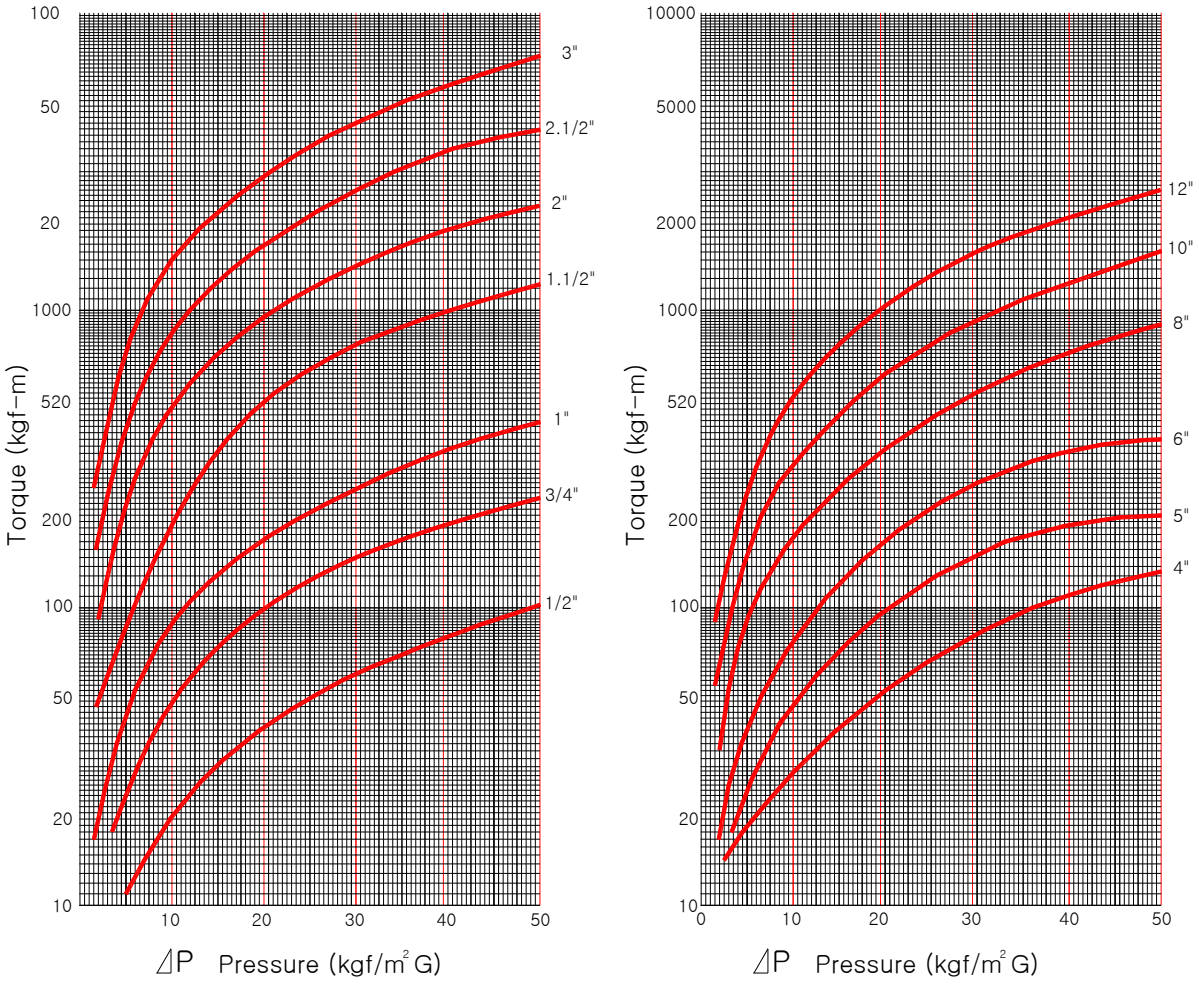


The Cv value detailed in the table 1. The figures by definition are related to the flow of water (SG=1) through the valve in US gallons per minute with a pressure drop of 1 lb/in^2.

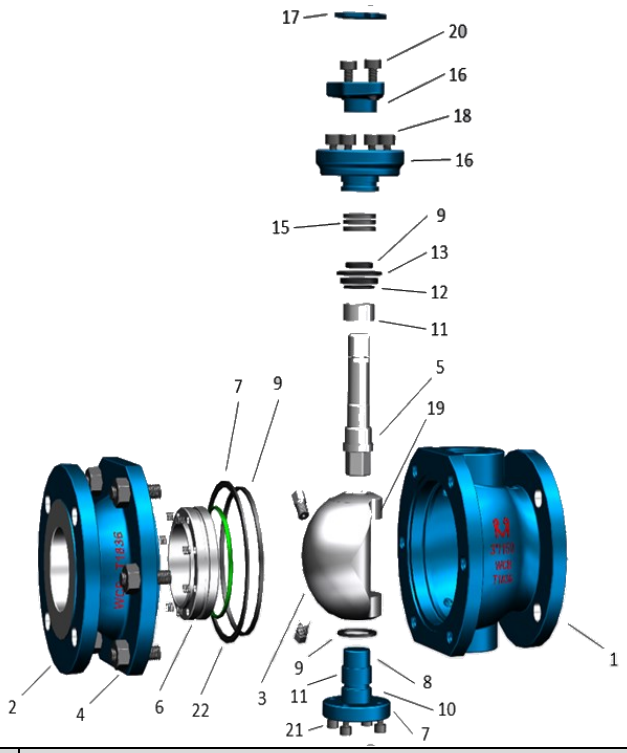
Table 1 Flow Coefficient (Cv)

Valve Size		Reactive Travel (%)						Valve Size		Reactive Travel (%)					
inch	mm	10	30	50	70	90	100	inch	mm	10	30	50	70	90	100
1/2	15	0.22	0.49	1.06	2.32	5.07	7.50	5	125	22.18	48.50	106.07	231.94	507.2	750.0
3/4	20	0.50	1.10	2.40	5.26	11.50	17.00	6	150	31.94	89.85	152.74	333.99	730.3	1080.0
1	25	0.89	1.94	4.24	9.28	20.29	30.00	8	200	56.78	124.17	271.53	593.76	1298.4	1920.0
1 1/2	40	2.00	4.37	9.55	20.87	45.65	68.00	10	250	88.73	194.02	424.26	927.75	2028.7	3000.0
2	50	3.55	7.76	16.97	37.11	81.1	120.0	12	300	127.76	279.39	610.94	1336.0	2921.4	4320.0
2 1/2	65	5.55	12.13	26.52	57.98	126.8	188.0	14	350	173.89	380.28	831.56	1818.44	3976.35	5880.0
3	80	7.99	17.46	38.18	83.50	182.6	270.0	16	400	227.13	496.69	1086.12	2375.11	5193.6	7680.0
4	100	14.20	31.04	67.88	148.44	324.6	480.0								

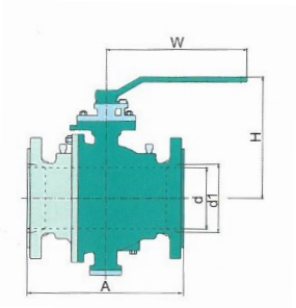
Table 2 Torque Curve (kgf-m)

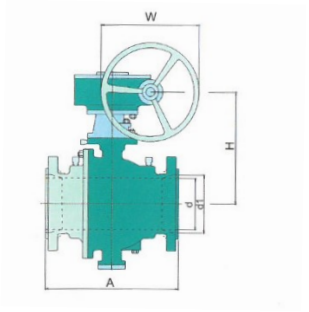


PARTS LIST (standard construction)



Part	Name	BODY MATERIAL	
		Stainless steel	Carbon steel
1	Body	ASTM A216-WCB, A351-CF8, CF8M	ASTM A216-WCB, A351-CF8, CF8M
2	Cap	A216-WCB, A351-CF8, CF9M	A216-WCB, A351-CF8, CF9M
3	Ball	ASTM A105+ENP, F304, F316, F316L, F316+TCC	ASTM A105+ENP, F304, F316, F316L, F316+TCC
4	Seat Ring	ASTM A105+ENP, A182-F304, F316	ASTM A105+ENP, A182-F304, F316
5	Stem	F316, 17-4PH	F316, 17-4PH
6	Seat	PTFE RPTFE PEEK PPL, F316+TCC	PTFE RPTFE PEEK PPL, F316+TCC
6	Seat Spring	Inconel X-7505	Inconel X-7505
7	Body Gasket	PTFE SS304+Graphite SS316+Graphite	PTFE SS304+Graphite SS316+Graphite
8	Trunnion	NBR Viton	NBR Viton
9	O-ring	NBR Viton	NBR Viton
10	Lower Gasket	PTFE	PTFE
11	Sliding Bearing	Stainless Steel+PTFE SS316+PTFE	Stainless Steel+PTFE SS316+PTFE
12	Thrust Washer	PTFE	PTFE
13	Gand Gasket	SS304+Graphite	SS304+Graphite
14	O-ring	NBR Viton	NBR Viton
15	Packing	PTFE Graphite	PTFE Graphite
16	Gland Flange	A216-WCB A315-CF8	A216-WCB A315-CF8
17	Stopper	Stainless Steel	Stainless Steel
18	Bolt	ASTM 194-2H	ASTM 194-2H
19	KEY	1045 A182-F304, F316, F316L, F304L	1045 A182-F304, F316, F316L, F304L
20	Stud	ASTM 193-B7	ASTM 193-B7
21	Screw	ASTM A193-B7, B8	ASTM A193-B7, B8
22	Seat Sealing	Graphite	Graphite
23	Bottom Cover Gasket	SS304+	SS304+
24	Bottom Cover	Stainless Steel	Stainless Steel





FULL BORE — Class 150

Size	d	A	H	W
in	mm	mm	mm	mm
2	51	178	140	250
3	76	203	177	350
4	102	229	206	420
6	151	394	305	*280
8	203	457	398	*320
10	254	533	495	*350
12	305	610	580	*400
14	337	686	625	*500
16	387	762	720	*500
18	438	864	770	*500
20	489	914	840	*500
24	591	1067	920	*600

REDUCED BORE — Class 150

Size	d	d1	A	H	W
in	mm	mm	mm	mm	mm
3x2	51	76	203	140	250
4x3	76	102	229	177	350
6x4	102	152	394	206	420
8x6	152	203	457	305	*280
10x8	203	254	533	398	*320
12x10	254	305	610	495	*350
14x12	305	337	686	580	*400
16x14	337	387	762	625	*500
18x16	387	438	864	720	*500
20x18	428	489	914	770	*500
24x20	489	591	1067	840	*500

FULL BORE — Class 300

Size	d	A	H	W
in	mm	mm	mm	mm
2	51	216	140	250
3	76	283	177	350
4	102	305	206	420
6	151	403	305	*280
8	203	502	398	*320
10	254	568	495	*350
12	305	648	580	*400
14	337	762	625	*500
16	387	838	720	*500
18	438	914	770	*500
20	489	991	840	*500
24	591	1143	920	*600

REDUCED BORE — Class 300

Size	d	d1	A	H	W
in	mm	mm	mm	mm	mm
3x2	51	76	283	140	250
4x3	76	102	305	177	350
6x4	102	152	403	206	420
8x6	152	203	502	305	*280
10x8	203	254	568	398	*320
12x10	254	305	648	495	*350
14x12	305	337	762	580	*400
16x14	337	387	838	625	*500
18x16	387	438	914	720	*500
20x18	428	489	991	770	*500
24x20	489	591	1143	840	*500

FULL BORE — Class 600

Size	d	A	H	W
in	mm	mm	mm	mm
2	51	292	140	250
3	76	356	177	350
4	102	432	206	420
6	151	559	305	*280
8	203	660	398	*320
10	254	787	495	*350
12	305	838	580	*400
14	337	889	625	*500
16	387	991	720	*500
18	438	1092	770	*500
20	489	1194	840	*500
24	591	1397	920	*600

REDUCED BORE — Class 600

Size	d	d1	A	H	W
in	mm	mm	mm	mm	mm
3x2	51	76	356	145	350
4x3	76	102	432	182	420
6x4	102	152	559	211	700
8x6	152	203	660	435	*400
10x8	203	254	787	530	*500
12x10	254	305	838	615	*500
14x12	305	337	889	680	*500
16x14	337	387	991	420	*600
18x16	387	438	1092	840	*600
20x18	428	489	1194	890	*600
24x20	489	591	1397	925	*600

Warranty / Remedy

Korea Motoyama Inc. warrants goods of its manufacture as being free of defective materials and faulty workmanship for 12 months from the date of shipment, unless otherwise specified. In this period, all of our products claimed by original defects may be returned to our factory after notice and authorization by us. If warranted goods are returned to Korea Motoyama Inc. during the period of coverage, it will be repaired or replaced without charge for those items it finds defective. Such defects shall be exclusive of the effects of corrosion, erosion, normal wear or improper handling and storage. In case our engineers have field service, the user shall detach and install valves by his cost. Determination of the suitability of the Products for the use contemplated by the buyer or buyer's customer(s) is the sole responsibility of the buyer in connection therewith. The foregoing is buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose.

Specifications are subject to change without notices.

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VALVES & CONTROLS

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