

# FBGD-Double Eccentric Flange Butterfly Valve

**F**BGD is a double eccentric flange butterfly valve, with soft seal on the body, it has the lowest operational torque, much less wearing, the dovetail seal design has been proven over half century service with reliability.

## Features:

- . The valve is made of DI body and DI disc.
- . Advanced newly design with dovetail seal design and captured by epoxy on the back with multiple raised ring to have more contact with disc but less friction during closure.
- . The double eccentric design provides less contact area of seal with disc, and less stress at the open position of the disc.
- . The disc design with arch shape and thru disc can provide better flow capacity, stronger and less weight
- . The shaft and disc connection with tangential pin which can be exchangeable and provide rigid connection.
- . The 6"-20" use flat disc, and 14"-48" use arch shape disc.
- . Epoxy coated interior and exterior.
- . Valve design meets AWWA C504 & API 609
- . Top flange connection meets ISO 5211-1982, and F/F meets AWWA C504.



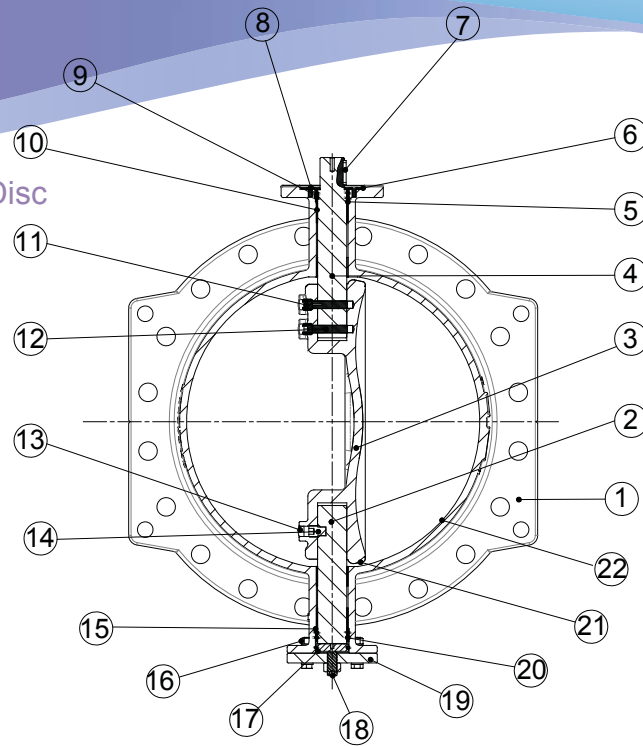
## Service Fields:

Water works system, waste water system, water distribution system, HVAC system, industry, petro chem plant, power plant.

## Technical Data:

Size Range: 6"- 48"  
Ratings: 150/250PSI  
Working Temperature: -10°C ~80°C  
Flow media: Water & Wastewater

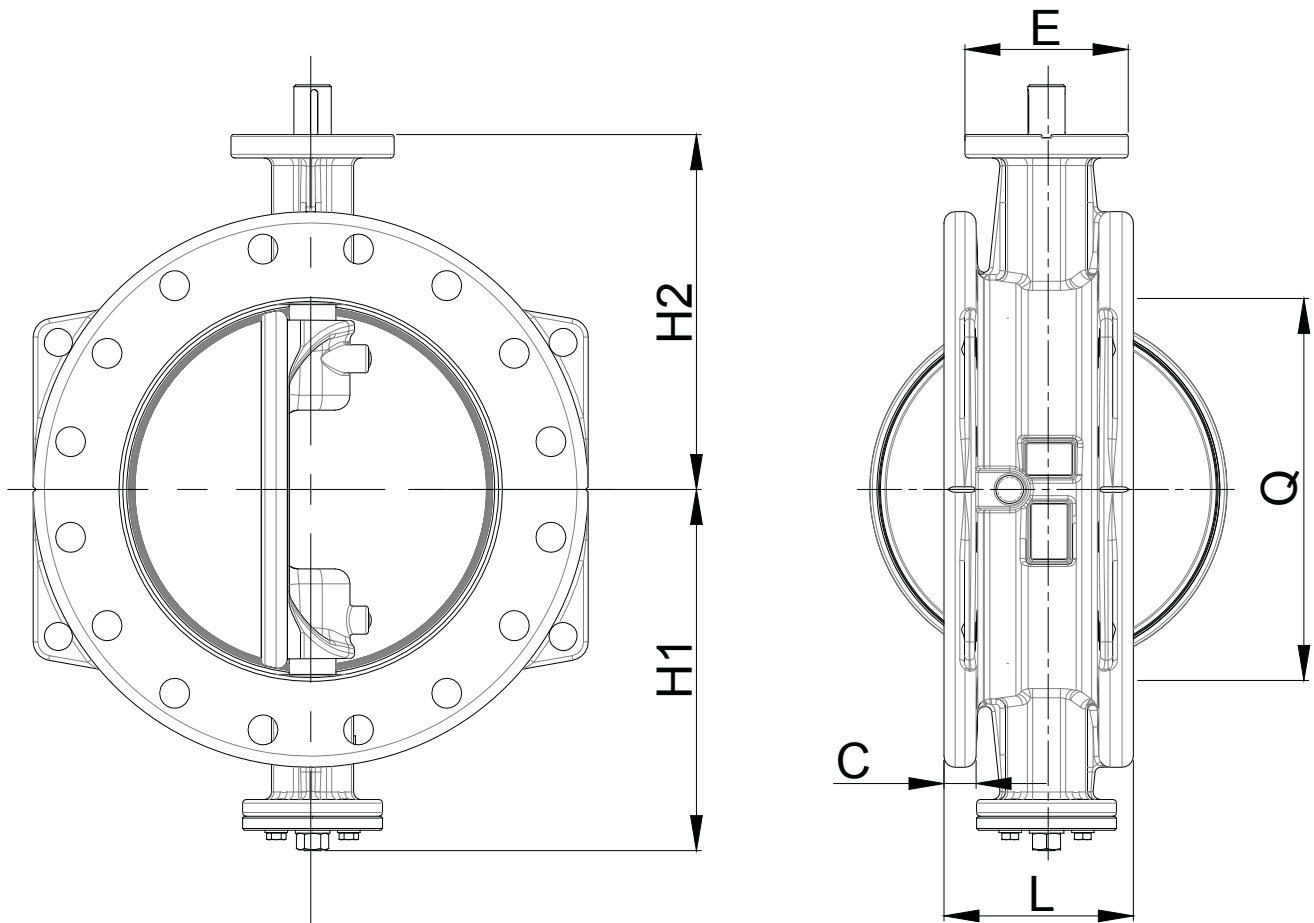
## Main Valve-6"-20"-Flat Disc



### Parts List

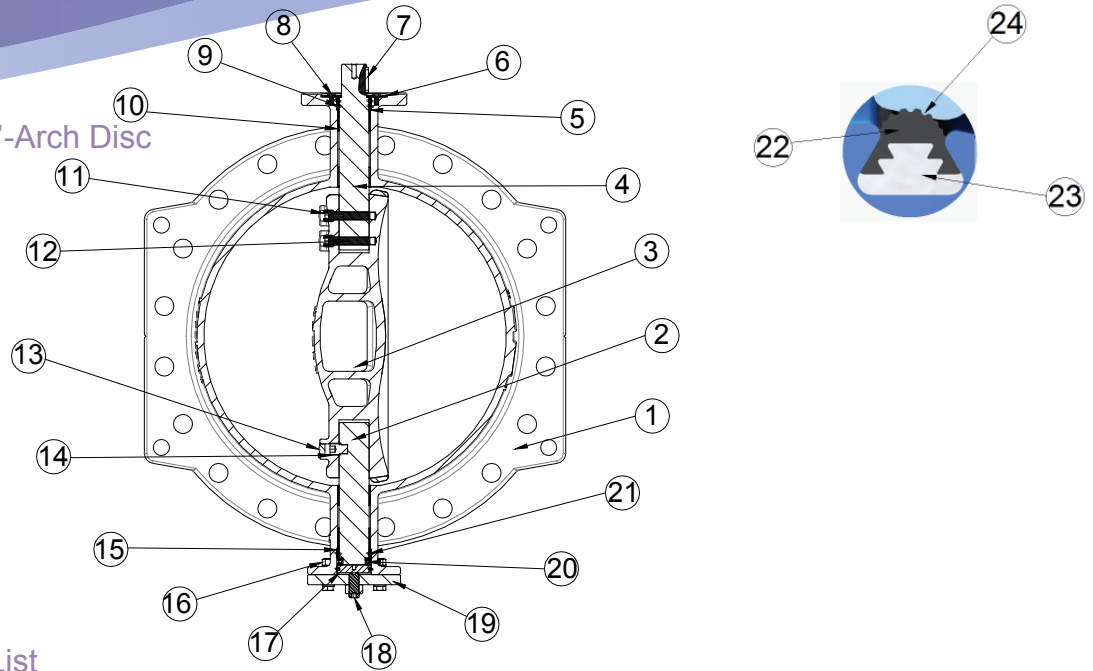
No.	Part Name	Material	Standard
1	Body	Ductile Iron	ASTM A536 Gr. 65-45-12
2	Lower Shaft	Stainless Steel	AISI 420/304/316
3	Disc	Ductile Iron	ASTM A536 Gr. 65-45-12
4	Main Shaft	Stainless Steel	AISI 420/304/316
5	Backup Ring	Plastic	PTFE
6	Retaining Plate	Carbon Steel	#45+EPDM Coated
7	Shaft Key	Carbon Steel	Commercial
8	In Hex Bolt	Carbon Steel	Commercial
9	O-ring	Rubber	NBR
10	Shaft Bearing	Carbon Steel+ Bronze/PTFE	Commercial
11	In Hex Bolt	Carbon Steel	Commercial
12	Pin	Stainless Steel	AISI 431
13	In Hex Bolt	Carbon Steel	Commercial
14	In Hex Bolt	Carbon Steel	Commercial
15	Shaft Bearing	Carbon Steel+ Bronze/PTFE	Commercial
16	Hex Bolt	Carbon Steel	Commercial
17	Position Plate	Ductile Iron	ASTM A536 Gr. 65-45-12
18	In Hex Bolt	Carbon Steel	Commercial
19	Bottom Flange	Ductile Iron	ASTM A536 Gr. 65-45-12
20	O-ring	Rubber	EPDM/NBR
21	Body Seat	Rubber	EPDM/NBR
22	Disc Seat	DI+ Epoxy/ Stainless Steel	ASTM A536 Gr.65-45-12 +Powder Epoxy/ 316SS L

Dimension-6"-20"



DN Inch	Model No.	L	H1	H2	H3	C CL 125	E	Q
6	FBBD-0150	5	5	6 1/2	1	3/4	3 1/2	2 1/2
8	FBBD-0200	6	6	8	1 1/2	3/4	5	5
10	FBBD-0250	8	7 1/2	9 1/2	1 1/2	3/4	5	7
12	FBBD-0300	8	8 3/4	10 3/4	1 1/2	1	6	10
14	FBBD-0350	8	12 1/4	13 1/2	2	1 3/8	6	11 1/2
16	FBBD-0400	8	14	15	3	1 7/16	6 3/4	13 1/4
18	FBBD-0450	8	14 3/4	16 1/2	3	1 9/16	6 3/4	15 1/2
20	FBBD-0500	8	16 1/2	17 1/2	3	1 11/16	6 3/4	17 1/2

## Main Valve-14"-48"-Arch Disc

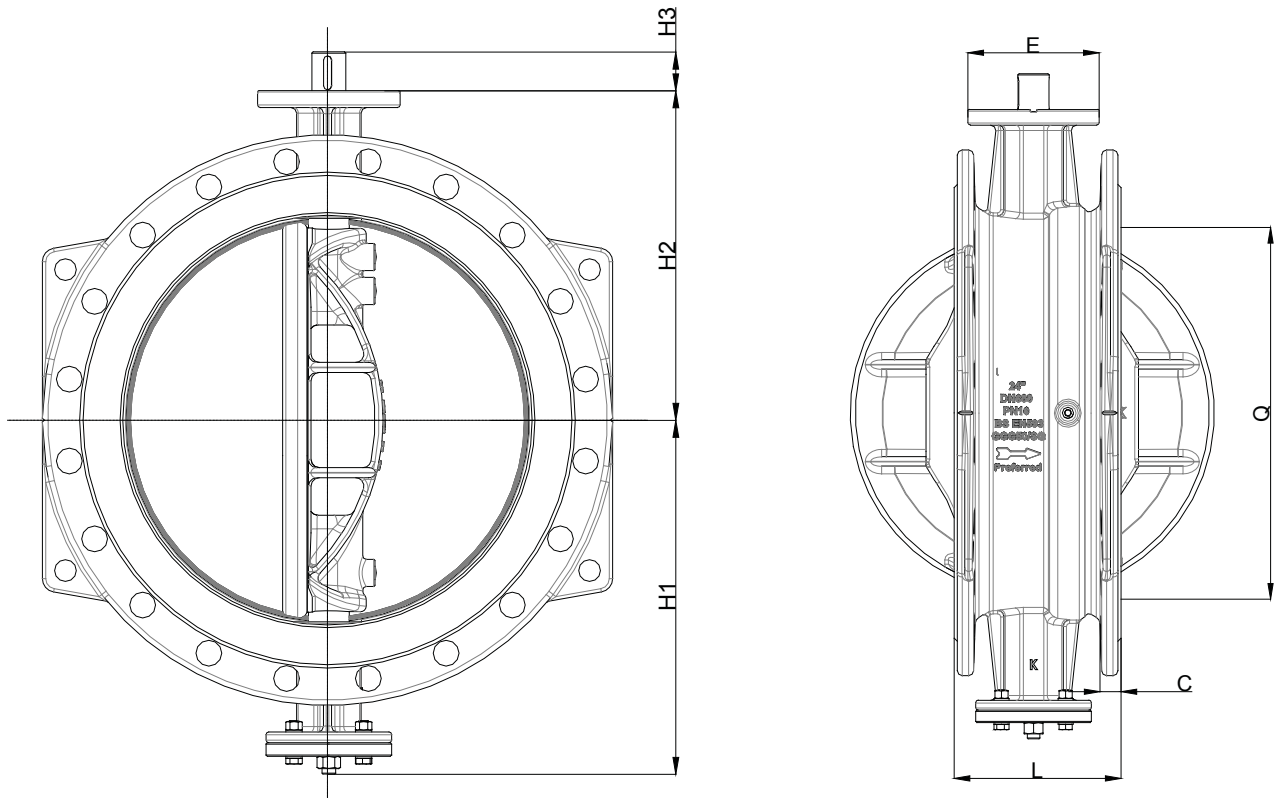


### Parts List

No.	Part Name	Material	Standard
1	Body	Ductile Iron	ASTM A536 Gr. 65-45-12
2	Lower Shaft	Stainless Steel	AISI 420/304/316
3	Disc	Ductile Iron	ASTM A536 Gr. 65-45-12
4	Main Shaft	Stainless Steel	AISI 420/304/316
5	Backup Ring	Plastic	PTFE
6	Retaining Plate	Carbon Steel	#45+EPDM Coated
7	Shaft Key	Carbon Steel	Commercial
8	In Hex Bolt	Carbon Steel	Commercial
9	O-ring	Rubber	NBR
10	Shaft Bearing	Carbon Steel+ Bronze/PTFE	Commercial
11	In Hex Bolt	Carbon Steel	Commercial
12	Pin	Stainless Steel	AISI 431
13	In Hex Bolt	Carbon Steel	Commercial
14	In Hex Bolt	Carbon Steel	Commercial
15	Shaft Bearing	Carbon Steel+ Bronze/PTFE	Commercial
16	Hex Bolt	Carbon Steel	Commercial
17	Position Plate	Ductile Iron	ASTM A536 Gr. 65-45-12
18	In Hex Bolt	Carbon Steel	Commercial
19	Bottom Flange	Ductile Iron	ASTM A536 Gr. 65-45-12
*20	Thrust Bearing	Steel	ASTM E52100
21	O-ring	Rubber	EPDM/NBR
22	Body Seat	Rubber	EPDM/NBR
23	Wedge	Epoxy	Commercial
24	Disc Seat	DI+ Epoxy/ Stainless Steel	ASTM A536 Gr.65-45-12 +Powder Epoxy/ 316SS L

\*For size  $\geq 30''$ .

## Dimension-14"-48"



Unit: Inch

DN Inch	Model No.	L	H1	H2	H3	C CL 125	E	Q
14	FBBD-0350	8	12 1/4	13 1/2	2	1 3/8	6	11 1/2
16	FBBD-0400	8	14	15	3	1 7/16	6 3/4	13 1/4
18	FBBD-0450	8	14 3/4	16 1/2	3	1 9/16	6 3/4	15 1/2
20	FBBD-0500	8	16 1/2	17 1/2	3	1 11/16	6 3/4	17 1/2
24	FBBD-0600	8	20 3/4	20	3	1 7/8	8 1/4	21 1/4
30	FBBD-0750	12	26 1/2	25 3/4	4 1/4	2 1/8	8 1/4	29
36	FBBD-0900	12	27 1/4	27 1/4	4 1/4	2 3/8	11 3/4	33
42	FBBD-1050	12	28 1/2	30 3/4	5	2 5/8	11 3/4	36
48	FBBD-1200	15	33	35 3/4	5	2 3/4	11 3/4	43 1/2

\*Other sizes are available upon request, please consult factory.

## Operating Torque

Unit: NM

DN Inch	Epoxy Coated Disc	SS Plated Disc	Actuator Mounting (ISO 5211)
	150 PSI	150PSI	
6	310	350	F07
8	570	620	F10
10	600	700	F10
12	620	730	F12
14	669	766	F12
16	896	961	F14
18	1080	1166	F14
20	1404	1512	F14
24	1728	1922	F16
28	2592	2786	F16
32	4428	4665	F16
36	5616	5929	F25
40	7245	7497	F25
48	13320	13590	F25

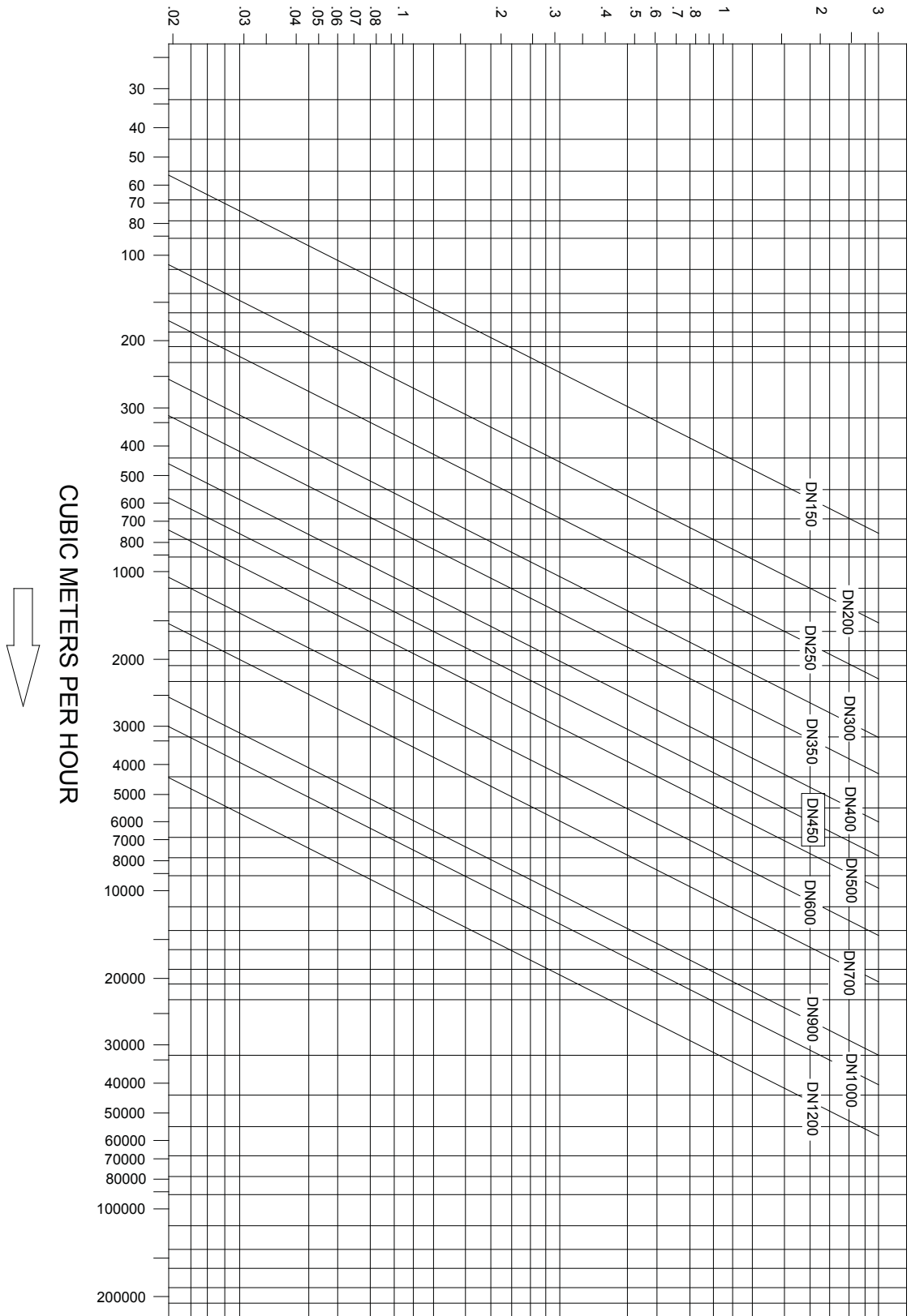
Remarks: Above design data based on atmosphere temperature under normal water working condition, please consult factory for details.

## Kv- Value

DN Inch	Open Angel (°)								
	10°	20°	30°	40°	50°	60°	70°	80°	90°
6	43	62	113	200	321	475	656	875	1035
8	72	102	218	377	600	911	1295	1730	2110
10	125	175	392	651	1025	1576	2260	3062	3928
12	180	263	585	910	1405	2394	3321	4605	5980
14	33	302	622	1152	1702	2203	3652	6152	7302
16	51	351	761	1402	2142	2822	4602	7602	8402
18	55	414	952	1632	2522	3402	5602	8962	11002
20	67	472	1077	1922	2572	4582	7922	11812	14242
24	80	750	1718	3062	4100	7304	12612	18802	22682
28	97	868	2168	3982	5178	9272	16052	23432	28852
32	194	1390	3036	5576	7766	12702	22152	33472	46282
36	290	1762	3902	6972	9582	16822	28222	43452	52902
40	362	2190	5056	8502	11442	21052	36162	52102	63402
48	506	2733	6746	12261	15971	29201	48902	73802	90802

Above some data based on calculation, please consult factory for details.

METERS OF WATER



Ordering Code

FB G D-0400-16-XXX

Model:

FB: Flange Butterfly Valve

Operator:

P: Pneumatic Operator

L: Lever Operator

G: Worm Gear Operator

E: Electric Operator

B: Bare Valve

Type:

D: Double Eccentric

Trim Code:

Please consult factory for different colour and other materials etc.

End Connection:

10: PN10

16: PN16

1K: JIS 10K

A1: ANSI 125 F/F

A5: ANSI 150 R/F

Valve Size:

0400: 400 mm

1200: 1200 mm