

Butterfly Valve Type 55IS (Manual Type)

Features

- Face-to-face dimension compliant with internal ISO short standard.
- High chemical resistance in addition to excellent heat and cold resistance allowing for use at -20 to 100°C (-5 to 210°F).



Basic specifications

- Valve Type : Butterfly Valve Type 55IS
- Size / Lever Type : 50 mm - 125 mm { 2 inch - 5 inch }
- / Side Gear Type : 50 mm - 400 mm { 2 inch - 16 inch }
- Body Material : FCD450(Epoxy powder coating)
- : FCD-S (Epoxy powder coating)
- Seal Material / Seat : PTFE
- Connection / Wafer : JIS B2220 10K, DIN/EN1092-1 PN10, ANSI B16.5 CLASS150

	Fluid Temperature °C { °F }	Maximum Working Pressure (Normal Temperature) MPa {psi}	
		50mm - 300 mm { 2" - 12" }	350mm, 400 mm { 14", 16" }
FCD450 FCD-S	-20 ~ 100 { -5~210 }	1.0 { 150 }	0.7 { 100 }

Note: The maximum working pressure is the value including the water hammer pressure.
Be careful that the maximum working pressure is not exceeded during use.

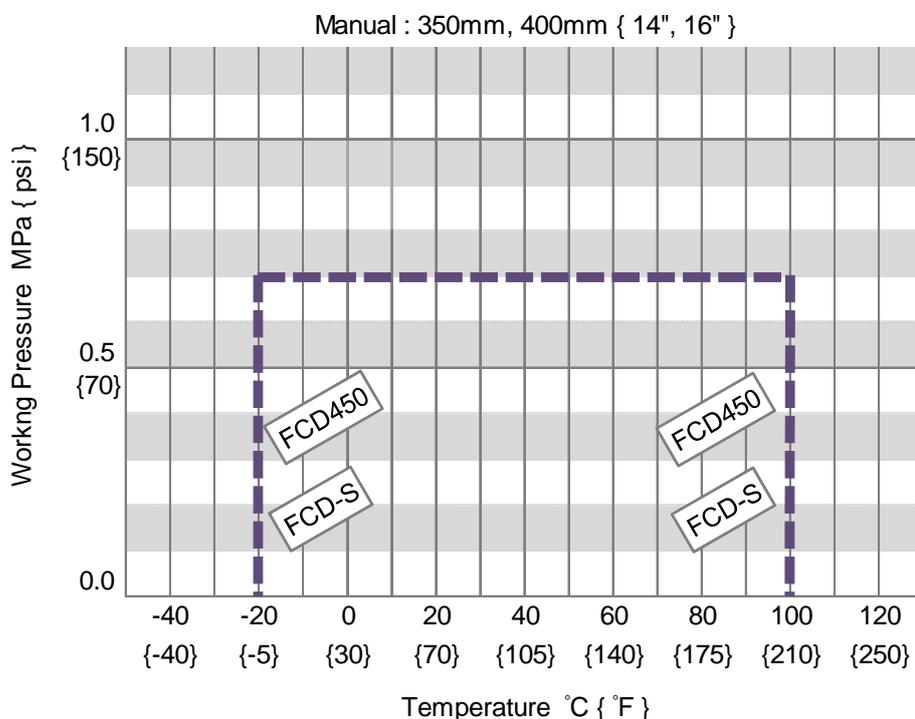
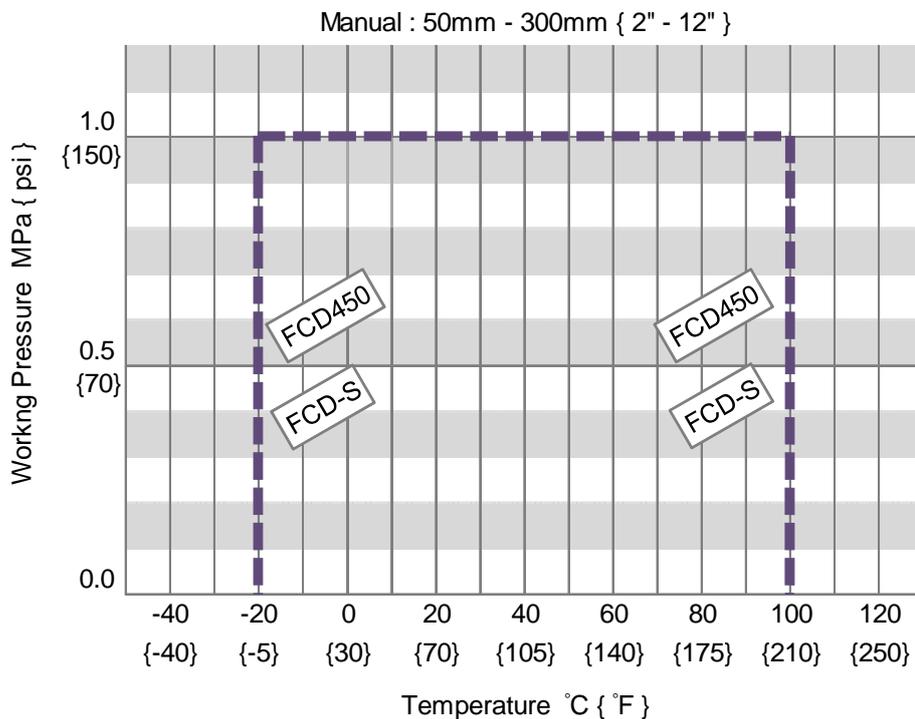
* Concerning the allowable pressure for each temperature and material, see the technical documents at the next page of this sheet.

Certificate / Approval

PED

"For details of applicable products, please consult us."

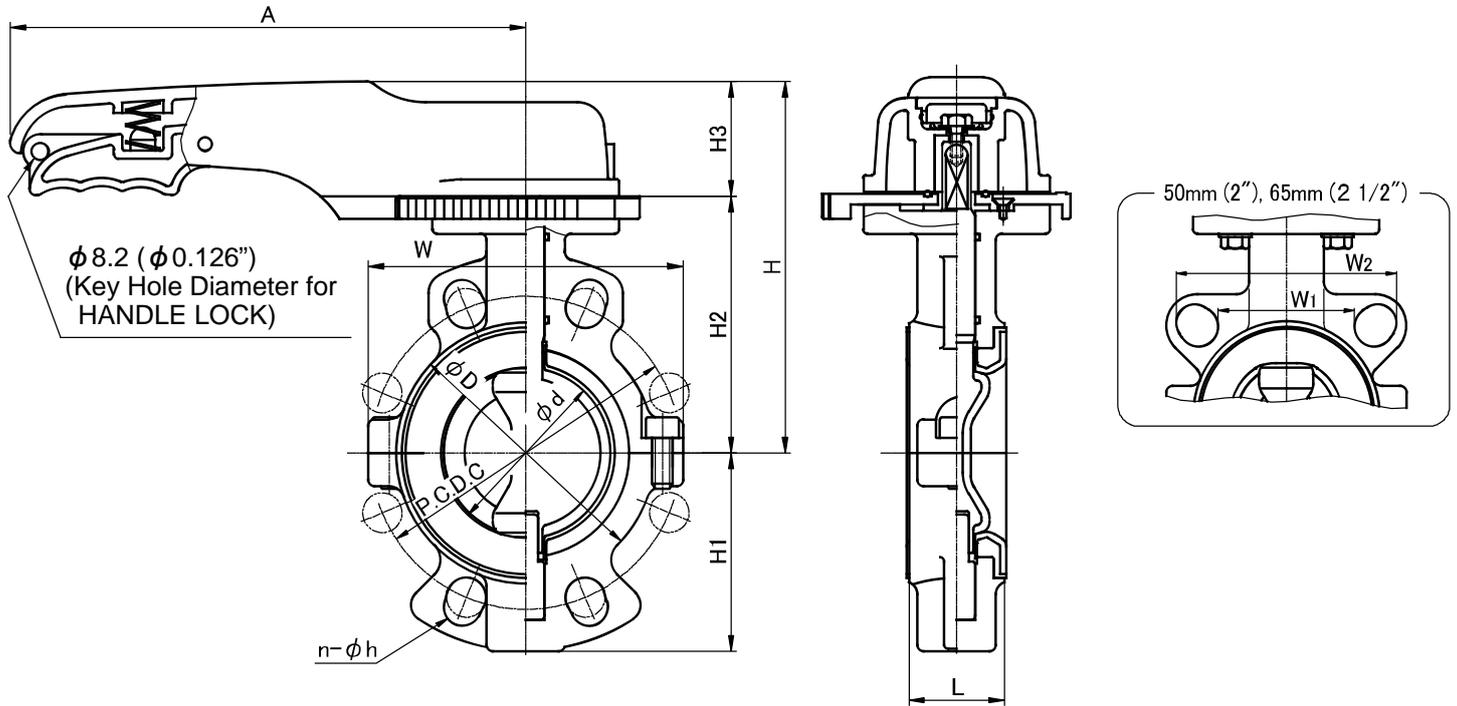
Working pressure vs. Temperature



Note: Make sure that the temperature and pressure are within the working range during operation.
 (If the tolerance range is exceeded during use, the valve may be damaged.)

Product dimension

[LEVER TYPE]



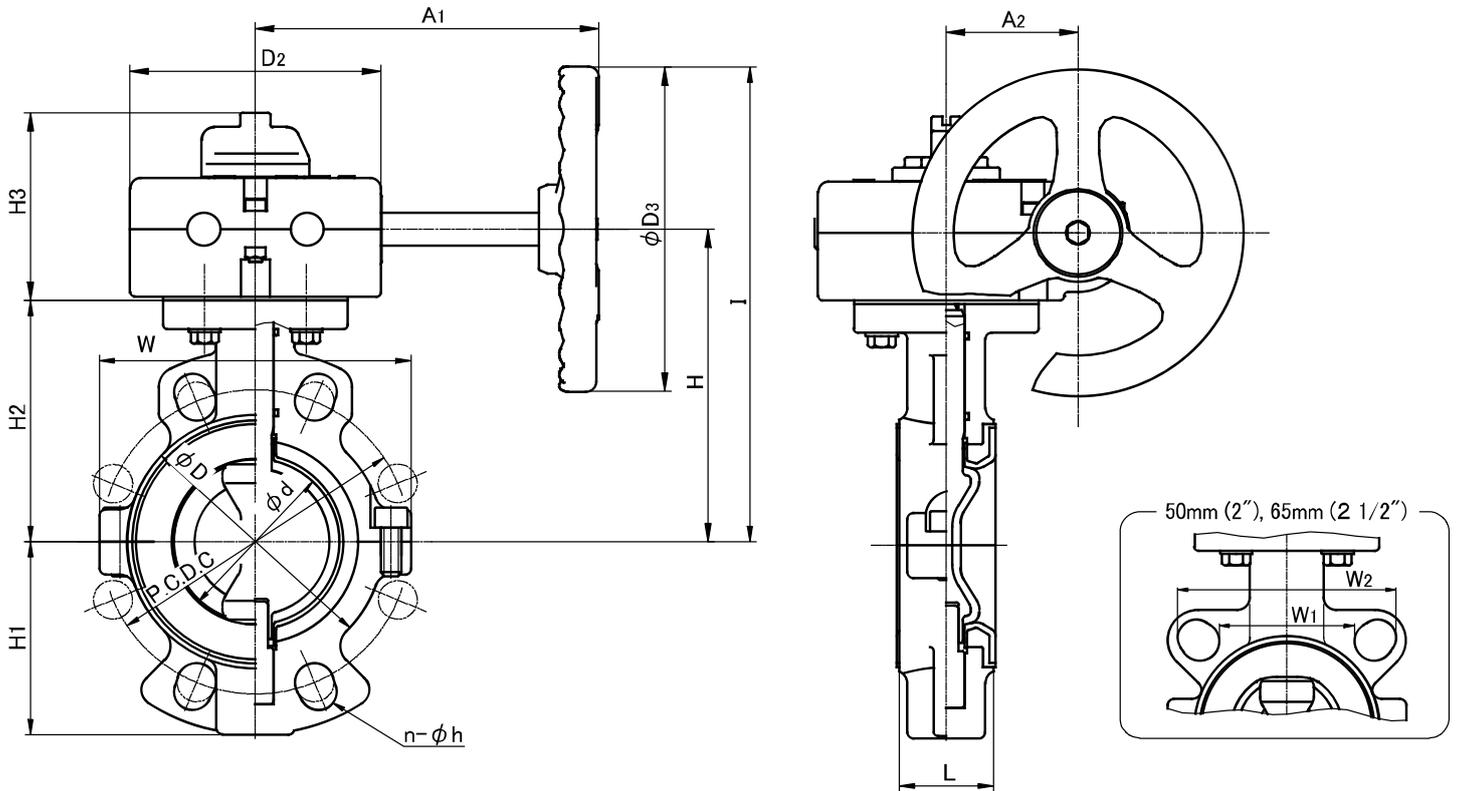
■ JIS, DIN (Unit: mm)

												JIS 10K			DIN PN10		
mm	d	D	L	H	H ₁	H ₂	H ₃	W	W ₁	W ₂	A	C	n	h	C	n	h
50	55	90	43	161	61	105	56	116	66	106	220	(120)	2(4)	(19)	(125)	2(4)	(18)
65	65	110	46	176	80	120	56	146	78	121	220	(140)	2(4)	(19)	145	2(4)	18
80	80	125	46	180	95	124	56	152	-	-	250	150	4(8)	19	160	4(8)	18
100	100	154	52	196	103	140	56	174	-	-	250	175	4(8)	19	(180)	4(8)	(18)
125	125	181	56	235	120	166	69	206	-	-	320	210	4(8)	23	210	4(8)	18

■ ANSI (Unit: inch)

												ANSI CLASS 150			
inch	mm	d	D	L	H	H ₁	H ₂	H ₃	W	W ₁	W ₂	A	C	n	h
2	50	2.17	3.54	1.69	6.34	2.40	4.13	2.20	4.57	2.60	4.17	8.66	(4.75)	2(4)	(0.75)
2 1/2	65	2.56	4.33	1.81	6.93	3.15	4.72	2.20	5.75	3.07	4.76	8.66	(5.50)	2(4)	(0.75)
3	80	3.15	4.92	1.81	7.09	3.74	4.88	2.20	5.98	-	-	9.84	(6.00)	- (4)	(0.75)
4	100	3.94	6.06	2.05	7.72	4.06	5.51	2.20	6.85	-	-	9.84	7.50	4(8)	0.75
5	125	4.92	7.13	2.20	9.25	4.72	6.54	2.72	8.11	-	-	12.60	8.50	4(8)	0.88

[SIDE GEAR TYPE]



■ JIS, DIN (Unit: mm)

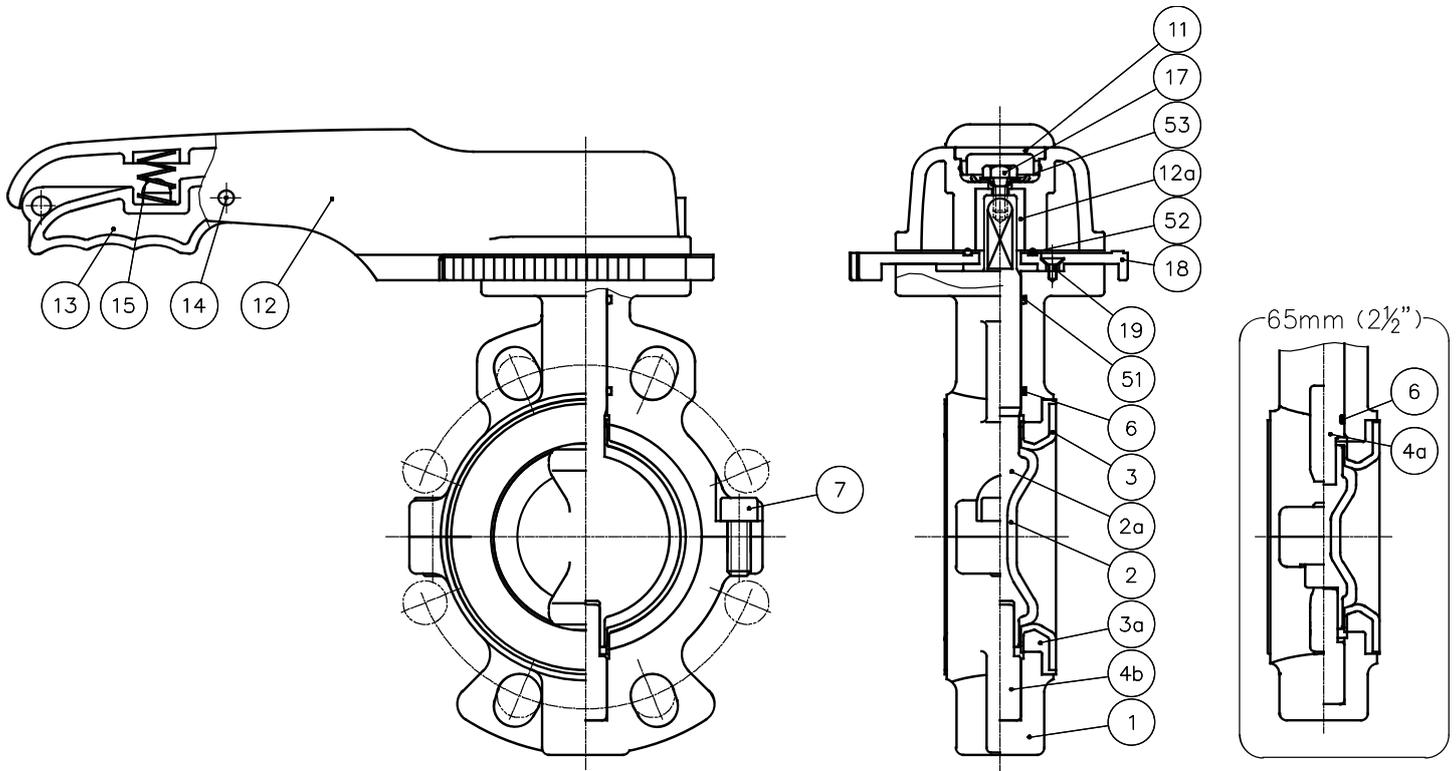
mm	d	D	D ₂	D ₃	L	H	H ₁	H ₂	H ₃	I	W	W ₁	W ₂	A ₁	A ₂	Handle Rotation	Gear Box Type	JIS 10K			DIN PN10		
																		C	n	h	C	n	h
50	55	90	122	160	43	135	61	100	92	215	116	66	106	167	64	9.5	TYPE 1	(120)	2(4)	(19)	(125)	2(4)	(18)
65	65	110	122	160	46	150	80	115	92	230	146	78	121	167	64			(140)	2(4)	(19)	(145)	2(4)	(18)
80	80	125	122	160	46	154	95	119	92	234	152	-	-	167	64			150	4(8)	19	160	4(8)	18
100	100	154	122	160	52	170	103	135	92	250	174	-	-	167	64			175	4(8)	19	(180)	4(8)	(18)
125	125	181	122	160	56	193	120	158	92	273	206	-	-	167	64			210	4(8)	23	210	4(8)	18
150	150	211	122	160	56	210	137	175	92	290	236	-	-	167	64			240	4(8)	23	240	4(8)	22
200	191	253	122	160	60	240	163	205	92	320	290	-	-	167	64			290	4(12)	23	295	4(8)	22
250	245	320	122	160	68	275	200	240	92	425	340	-	-	167	64			(355)	4(12)	(25)	350	4(12)	22
300	280	371	188	300	78	337	230	295	108	487	410	-	-	272	99			400	4(16)	25	400	4(12)	22
350	330	416	188	300	92	362	255	320	108	512	460	-	-	272	99			445	4(16)	25	460	4(16)	22
400	380	476	188	300	102	392	290	350	108	542	532	-	-	272	99	510	4(16)	27	515	4(16)	26		

■ ANSI (Unit: inch)

inch	mm	d	D	D ₂	D ₃	L	H	H ₁	H ₂	H ₃	I	W	W ₁	W ₂	A ₁	A ₂	Handle Rotation	Gear Box Type	ANSI CLASS 150		
																			C	n	h
2	50	2.17	3.54	4.80	6.30	1.69	5.31	2.40	3.94	3.62	8.46	4.57	2.60	4.17	6.57	2.52	9.5	TYPE 1	(4.75)	2(4)	(0.75)
2 1/2	65	2.56	4.33	4.80	6.30	1.81	5.91	3.15	4.53	3.62	9.06	5.75	3.07	4.41	6.57	2.52			(5.50)	2(4)	(0.75)
3	80	3.15	4.92	4.80	6.30	1.81	6.06	3.74	4.69	3.62	9.21	5.98	-	-	6.57	2.52			(6.00)	- (4)	(0.75)
4	100	3.94	6.06	4.80	6.30	2.05	6.69	4.06	5.31	3.62	9.84	6.85	-	-	6.57	2.52			7.50	4(8)	0.75
5	125	4.92	7.13	4.80	6.30	2.20	7.60	4.72	6.22	3.62	10.75	8.11	-	-	6.57	2.52			8.50	4(8)	0.88
6	150	5.91	8.31	4.80	6.30	2.20	8.27	5.39	6.89	3.62	11.42	9.29	-	-	6.57	2.52			9.50	4(8)	0.88
8	200	7.52	9.96	4.80	6.30	2.36	9.45	6.42	8.07	3.62	12.60	11.42	-	-	6.57	2.52			11.75	4(8)	0.88
10	250	9.65	12.60	4.80	6.30	2.68	10.83	7.87	9.45	3.62	16.73	13.39	-	-	6.57	2.52			14.25	4(12)	1.00
12	300	11.02	14.61	7.40	11.81	3.07	13.27	9.06	11.61	4.25	19.17	16.14	-	-	10.71	3.90			17.00	4(12)	1.00
14	350	12.99	16.38	7.40	11.81	3.62	14.25	10.04	12.60	4.25	20.16	18.11	-	-	10.71	3.90			18.75	4(12)	1.12
16	400	14.96	18.74	7.40	11.81	4.02	15.43	11.42	13.78	4.25	21.34	20.94	-	-	10.71	3.90	(21.25)	4(16)	(1.12)		

Parts list

[LEVER TYPE]

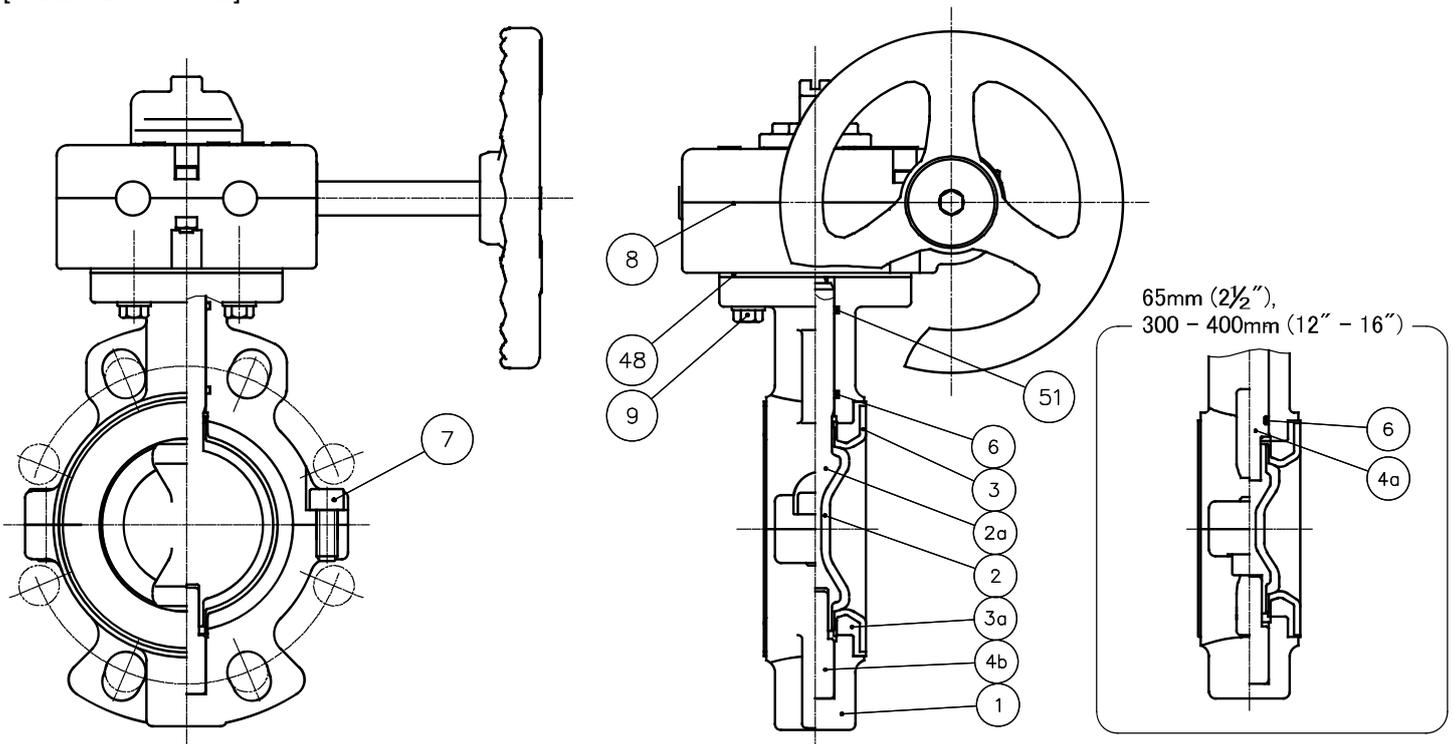


PART NO. / NAME	QTY	MATERIAL
1 BODY	1	FCD450 (epoxy powder coat) FCD-S (epoxy powder coat)
2 DISC	1	PTFE
2a INSERTED METAL OF DISC	1	STAINLESS STEEL
3 SEAT	1	PTFE
3a SEAT CUSHION	1	CR
4a STEM (A)*	1	STAINLESS STEEL
4b STEM (B)	1	STAINLESS STEEL
6 O-RING (A)	1	EPDM
7 BOLT (A)	2	STAINLESS STEEL
11 CAP	1	PP

*Used for size 65mm (2½").

PART NO. / NAME	QTY	MATERIAL
12 HANDLE	1	PP
12a HANDLE INSERTED METAL	1	STAINLESS STEEL
13 HANDLE LEVER	1	PPG
14 PIN	1	PPG
15 SPRING	1	STAINLESS STEEL
17 BOLT (C)	1	STAINLESS STEEL
18 LOCKING PLATE	1	PPG
19 SCREW (A)	4	STAINLESS STEEL
51 O-RING (B)	1	EPDM
52 O-RING (C)	1	EPDM
53 RUBBER + WASHER	1	EPDM + STAINLESS STEEL

[SIDE GEAR TYPE]

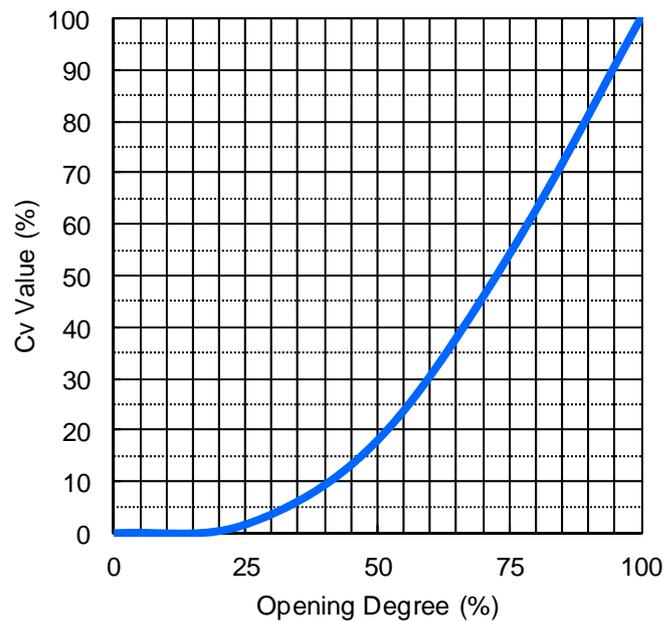


PART NO. / NAME	QTY	MATERIAL
1 BODY	1	FCD450 (epoxy powder coat) FCD-S (epoxy powder coat)
2 DISC	1	PTFE
2a INSERTED METAL OF DISC	1	STAINLESS STEEL
3 SEAT	1	PTFE
3a SEAT CUSHION	1	CR
4a STEM (A) *	1	STAINLESS STEEL
4b STEM (B)	1	STAINLESS STEEL
6 O-RING (A)	1	EPDM

PART NO. / NAME	QTY	MATERIAL
7 BOLT (A)	-	STAINLESS STEEL Used for size 50 - 125mm (2" - 5") : 2 150 - 400mm (6" - 16") : 4
8 GEAR BOX	1	PLASTIC etc.
9 BOLT (B)	4	STAINLESS STEEL
48 GASKET (C)	1	EPDM
51 O-RING (B)	1	EPDM

* Used for size 65mm (2½"), 300-400mm (12" - 16").

Cv value for each opening degree



mm	50	65	80	100	125	150	200	250	300	350	400
inch	2	2 1/2	3	4	5	6	8	10	12	14	16
Cv Value (at full open)	100	230	285	600	940	1,500	2,500	4,200	7,800	9,200	12,800

Handle rotation for side gear type (Full open - Full close)

mm	50	65	80	100	125	150	200	250	300	350	400
inch	2	2 1/2	3	4	5	6	8	10	12	14	16
Handle rotation	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5

Operating torque

mm	50	65	80	100	125	150	200	250	300	350	400
inch	2	2 1/2	3	4	5	6	8	10	12	14	16
Operation torque (O→S) Nm [lb-inch]	22 [195]	30 [265]	45 [400]	45 [400]	100 [885]	130 [1150]	190 [1680]	220 [1950]	270 [2390]	380 [3365]	480 [4250]
Handle torque (O→S) for side gear type Nm [lb-inch]	-	-	-	-	-	69 [610]	100 [885]	120 [1065]	61 [540]	85 [755]	110 [975]

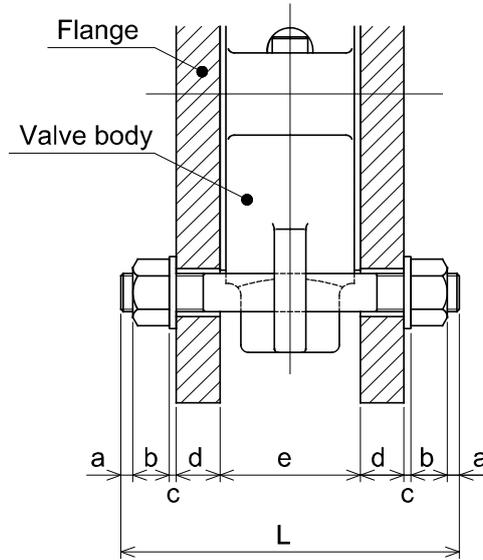
Dimension of bolt length (reference:recommended data)

Calculation of bolt length

$$\text{Bolt length [L]} = e + (a + b + c + d) \times 2$$

- a ; Screw pitch×3
- b ; Nut height
- c ; Washer thickness
- d ; Flange thickness
- e ; Valve face to face

* When installing AV gasket, add 5 mm.



Product weight list (reference)

Lever Type / Side Gear Type

Unit : kg [lb]

mm	50	65	80	100	125	150	200	250	300	350	400
inch	2	2 1/2	3	4	5	6	8	10	12	14	16
Lever Type	2.8 [6.2]	4.0 [8.8]	4.2 [9.3]	5.6 [12.3]	8.8 [19.4]	-	-	-	-	-	-
Side Gear Type	4.9 [10.8]	6.0 [13.2]	6.2 [13.7]	7.7 [17]	10 [22]	13 [29]	23 [51]	34 [75]	44 [97]	56 [123]	76 [168]

Product model code list

ACTUATION	TYPE	OPERATING SYSTEM	BODY MATERIAL	SEAL MATERIAL	CONNECTION	STANDARD	SIZE						
V	5S	**	*	T	W	*	***						
V	MANUAL VALVE	5S	TYPE 55IS	LV LEVER TYPE	4 FCD450	T	PTFE	W	WAFER	1	10K	050	50mm
				SG SIDE GEAR TYPE	S	FCD-S				D	DIN	∅	
										A	ANSI	400	400mm

Installation, Operation and Maintenance Manual

"For details of Installation, Operation and Maintenance, please refer IOM at below link"

http://www.asahi-yukizai.co.jp/en/product/mt_pdf/a_manual_valve_3_007.pdf