

# Butterfly Valve Type 57 (Manual Type)

## Features

- High durability and flow characteristics in addition to excellent operability thanks to 19-STEP fine opening adjustment
- Plastic GEAR BOX with excellent corrosion resistance
- Easy switching from lever type to gear type or automatic valve
- Handle lever open/close direction can be changed.



## Basic specifications

- Valve Type : Butterfly Valve Type 57
- Size / Lever Type : 40 mm – 200 mm (1 1/2 inch – 8 inch)
- / Gear Type : 40 mm – 350 mm (1 1/2 inch - 14 inch)
- Body Material : U-PVC (Conforming to ASTM D1784 Cell Classification 12454A)
- PP (Conforming to ASTM D4101 Cell Classification PP0210B67272)
- PVDF (Conforming to ASTM D3222 Cell Classification Type II)
- Seal Material / Seat : EPDM, FKM etc.
- Connection / Wafer : JIS B2220 10K, JIS B2220 5K, DIN/EN1092-1, ANSI B16.5

Body Material	Fluid Temperature °C {°F}	Maximum Working Pressure (Nominal Temperature) MPa {psi}	
		40mm — 250mm	300mm, 350mm
U-PVC	0 ~ 50 { 30~122 }	1.0 {150}	0.75 {110}
PP	-20 ~ 80 { -5~176 }	1.0 {150}	0.75 {110}
PVDF	-20 ~ 120 { -5~250 }	1.0 {150}	0.75 {110}

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**

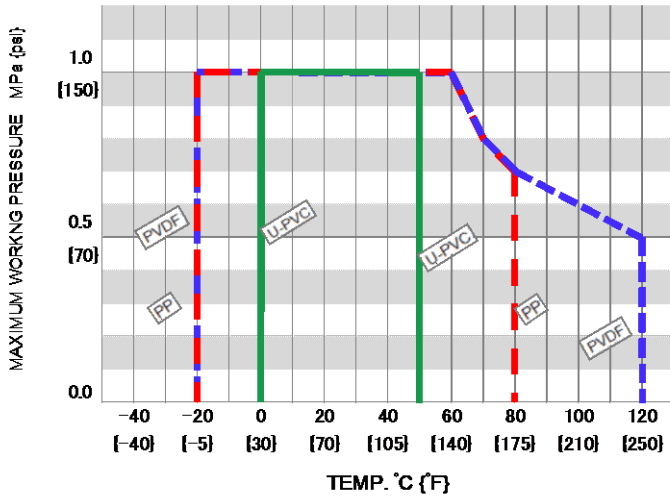
**PED, ABS, NSF/ANSI61**

“For details of applicable products, please consult us.”

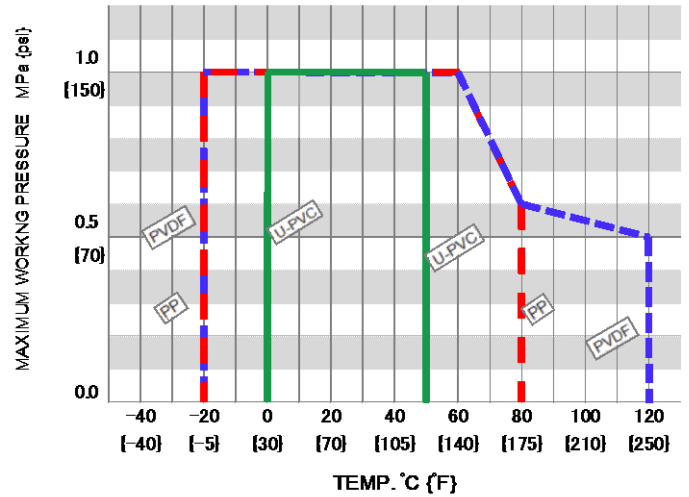
**Working pressure vs. Temperature**

MANUAL

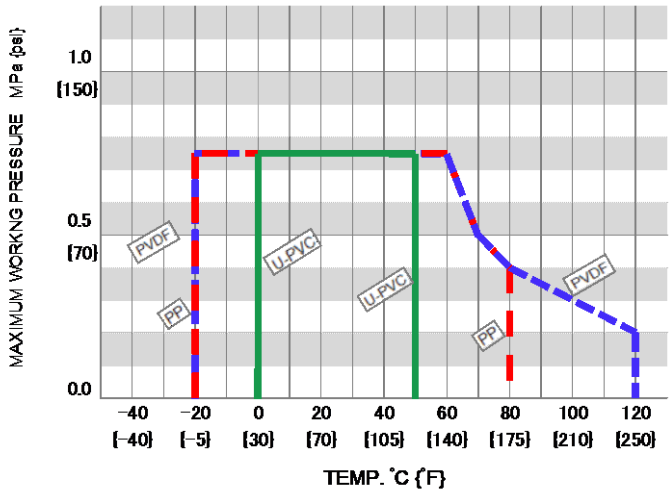
: 40mm - 150mm



: 200mm - 250mm

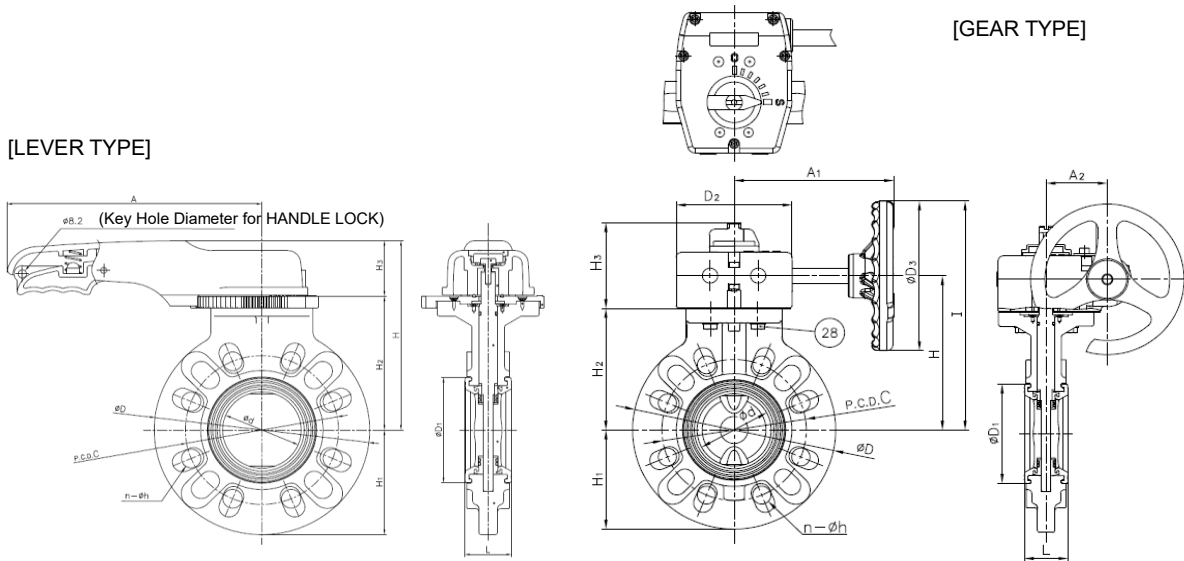


: 300mm - 350mm



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



■ JIS, DIN (Unit: mm)

mm	d	D	D1	D2	D3	L	I	A	A <sub>1</sub>	A <sub>2</sub>	H						JIS 5K			JIS 10K			DIN PN10					
											LEVER TYPE		GEAR TYPE		H <sub>1</sub>	H <sub>2</sub>		H <sub>3</sub>		C	n	h	C	n	h	C	n	h
											LEVER TYPE	GEAR TYPE	LEVER TYPE	GEAR TYPE		LEVER TYPE	GEAR TYPE											
40	45	150	71	122	160	39	210	220	167	64	156	130	75	100	95	56	92	95	4	15	105	4	19	110	4	18		
50	56	165	81	122	160	42	220	220	167	64	166	140	83	110	105	56	92	105	4	15	120	4	19	125	4	18		
65	69	185	95	122	160	46	230	220	167	64	176	150	93	120	115	56	92	130	4	15	140	4	19	145	4	18		
80(75)	77	211	105	122	160	46	245	250	167	64	191	165	106	135	130	56	92	145	4	19	150	8	19	160	8	18		
100	102	238	134	122	160	56	260	250	167	64	206	180	119	150	145	56	92	165	8	19	175	8	19	180	8	18		
125	129	255	169	122	160	66	275	320	167	64	237	195	128	168	160	69	92	200	8	19	210	8	23	210	8	18		
150	150	285	190	122	160	71	290	320	167	64	252	210	143	183	175	69	92	230	8	19	240	8	23	240	8	22		
200	195	350	242	122	160	87	321	400	167	64	283	241	170	214	206	69	92	280	8	23	290	12	23	295	8	22		
250	250	421	302	122	160	112	356	-	167	64	-	276	211	-	241	-	92	345	12	23	355	12	25	350	12	22		
300	303	488	360	188	300	129	490	-	272	99	-	340	244	-	298	-	108	390	12	23	400	16	25	400	12	22		
350	351	539	393	188	300	129	517	-	272	99	-	367	270	-	325	-	108	435	12	23	445	16	25	460	16	22		

■ ANSI (Unit: inch)

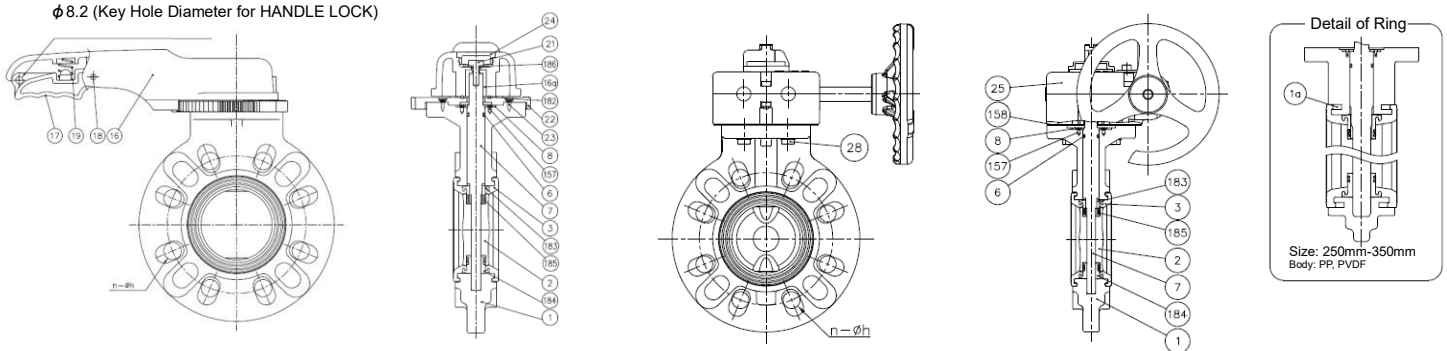
inch	mm	d	D	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	L	I	A	A <sub>1</sub>	A <sub>2</sub>	H						ANSI CLASS 150			GEAR BOX TYPE			
												LEVER TYPE		GEAR TYPE		H <sub>1</sub>	H <sub>2</sub>		H <sub>3</sub>			C	n	h
												LEVER TYPE	GEAR TYPE	LEVER TYPE	GEAR TYPE		LEVER TYPE	GEAR TYPE						
1 1/2	40	1.77	5.91	2.80	4.80	6.30	1.54	8.27	8.66	6.57	2.52	6.14	5.12	2.95	3.94	3.74	2.20	3.62	3.88	4	0.62	TYPE1		
2	50	2.20	6.50	3.19	4.80	6.30	1.65	8.66	8.66	6.57	2.52	6.54	5.51	3.27	4.33	4.13	2.20	3.62	4.75	4	0.75			
2 1/2	65	2.72	7.28	3.74	4.80	6.30	1.81	9.06	8.66	6.57	2.52	6.93	5.91	3.66	4.72	4.53	2.20	3.62	5.50	4	0.75			
3	80(75)	3.03	8.31	4.13	4.80	6.30	1.81	9.65	9.84	6.57	2.52	7.52	6.50	4.17	5.31	5.12	2.20	3.62	6.00	4	0.75			
4	100	4.02	9.37	5.28	4.80	6.30	2.20	10.24	9.84	6.57	2.52	8.11	7.09	4.69	5.91	5.71	2.20	3.62	7.50	8	0.75			
5	125	5.08	10.04	6.65	4.80	6.30	2.60	10.83	12.60	6.57	2.52	9.33	7.68	5.04	6.61	6.30	2.72	3.62	8.50	8	0.88			
6	150	5.91	11.22	7.48	4.80	6.30	2.80	11.42	12.60	6.57	2.52	9.92	8.27	5.63	7.20	6.89	2.72	3.62	9.50	8	0.88			
8	200	7.68	13.78	9.53	4.80	6.30	3.43	12.64	15.75	6.57	2.52	11.14	9.49	6.89	8.43	8.11	2.72	3.62	11.75	8	0.88			
10	250	9.84	16.57	11.89	4.80	6.30	4.41	14.02	-	6.57	2.52	-	10.87	8.31	-	9.49	-	3.62	14.25	12	1.00			
12	300	11.93	19.21	14.17	7.40	11.81	5.08	19.29	-	10.71	3.90	-	13.39	9.61	-	11.73	-	4.25	17.00	12	1.00			
14	350	13.82	21.22	15.47	7.40	11.81	5.08	20.35	-	10.71	3.90	-	14.45	10.63	-	12.80	-	4.25	18.75	12	1.12			

DATASHEET

Parts list

[LEVER TYPE]

[GEAR TYPE]



PART NO./NAME	QTY	MATERIAL
1 BODY	1	BODY / DISC, SEAT BUSH
2 DISC	1	U-PVC / PP
183 SEAT BUSH (A)	1	PP / PP
184 SEAT BUSH (B)	1	PVDF / PVDF
3 SEAT	1	
6 O-RING (C)	1	EPDM, FKM, etc.
185 O-RING (I)	4	
7 STEM	1	STAINLESS STEEL(SUS316) STAINLESS STEEL(SUS403)
8 STEM HOLDER (A)	1	PP
157 SCREW (F)	4	STAINLESS STEEL(SUS304)

ONLY USED LEVER TYPE

PART NO./NAME	QTY	MATERIAL
16 HANDLE (A)	1	PP
16a HANDLE INSERTED METAL	1	STAINLESS STEEL(SUS316L)
17 HANDLE LEVER	1	PPG
18 PIN	1	PPG
19 SPRING	1	STAINLESS STEEL(SUS304)
21 BOLT (B)	1	STAINLESS STEEL(SUS304)
22 LOCKING PLATE	1	PPG
23 SCREW (B)	4	STAINLESS STEEL(SUS304)
24 CAP (A)	1	PP
182 O-RING (H)	1	EPDM
186 WASHER WITH RUBBER	1	STAINLESS STEEL(SUS304)+EPDM

ONLY USED FOR GEAR TYPE

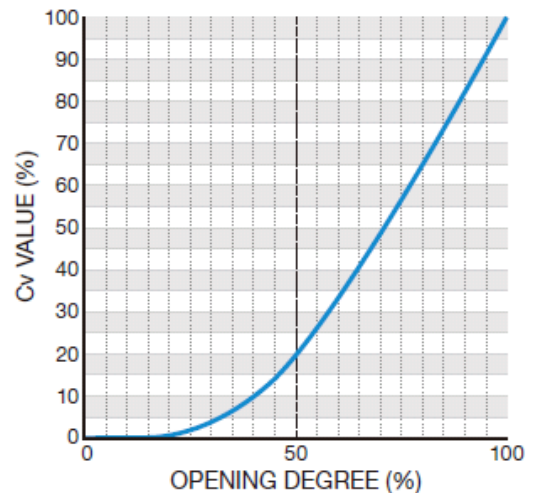
PART NO./NAME	QTY	MATERIAL
25 GEAR BOX	1	PLASTIC etc.
28 BOLT (C)	4	STAINLESS STEEL(SUS304)
158 GASKET (L)	1	EPDM
1a RING	2	STEEL(SS400) (Unichrome coated) When the body material is PP or PVDF, used for 250 - 350mm

Cv value for each opening degree

mm	40	50	65	80	100	125	150	200	250	300	350
inch	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14
BUTTERFLY VALVE TYPE 57	71	120	250	300	470	830	1,100	2,500	3,860	5,700	6,440

NOTE:

The values shown are reference values, not guaranteed values.



## Operating torque

UNIT : N · m

mm	inch	Operation torque (O→S)	
		EPDM	FKM, FKM-F/C
40	1 1/2	5	5
50	2	10	10
65	2 1/2	15	15
80	3	20	20
100	4	30	30
125	5	40	40
150	6	65	75
200	8	165	200
250	10	300 (40)	300 (40)
300	12	330 (43)	510 (66)
350	14	400 (71)	640 (114)

**Note :**

40mm-200mm: Lever type, 250mm-350mm: Gear type. ( )gear handle torque.

The values shown are reference values, not guaranteed values.

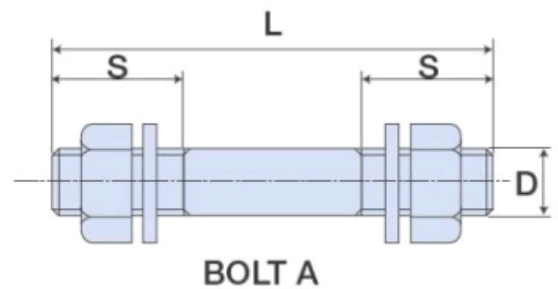
## Pipe bolt dimensions (reference:recommended data)

### BUTTERFLY VALVE TYPE 57

■ JIS 10K

UNIT : mm

mm	inch	BOLT A			QTY			
		d	L	S	BOLT A	BOLT B	NUT/WASHER	
40	1 1/2	M16	115	40	4	-	8	
50	2		125					
65	2 1/2		135					
80	3		135					
100	4	M20	145	45	8	-	16	
125	5		165					
150	6		175					
200	8		195					
250	10	M22	225	60	12	-	24	
300	12		245					
350	14		255	65				16

**Note :**

- (1) In the above list, the values for size 40 to 350 mm indicate the bolt dimensions when an AVTS flange is used.
- (2) The quantity of nuts and washers for Bolt A indicates the number of 2 sets (1 bolt / 2 nuts, 2 washers).

## Product weight list (reference)

LEVER TYPE / GEAR TYPE

Unit : kg

mm	inch	TYPE 57		
		U-PVC	PP	PVDF
40	1 1/2	1.3 / 3.4	1.1 / 3.1	1.4 / 3.5
50	2	1.5 / 3.5	1.2 / 3.3	1.7 / 3.8
65	2 1/2	1.7 / 3.8	1.4 / 3.4	1.9 / 4.0
80	3	1.9 / 3.9	1.6 / 3.6	2.2 / 4.2
100	4	2.5 / 4.5	2.0 / 4.0	2.9 / 4.9
125	5	4.9 / 6.5	4.0 / 5.6	5.7 / 7.3
150	6	5.8 / 7.4	4.6 / 6.2	6.9 / 8.5
200	8	9.3 / 10.7	7.4 / 8.9	11.0 / 12.5
250	10	- / 14.7	- / 12.2	- / 18.6
300	12	- / 28.0	- / 24.0	- / 34.5
350	14	- / 30.2	- / 26.3	- / 36.8

## Product model code list

ACTUATION	TYPE	OPERATING SYSTEM	BODY MATERIAL	SEAL MATERIAL	CONNECTION	STANDARD	SIZE
<b>V</b>	<b>57</b>	<b>**</b>	<b>*</b>	<b>*</b>	<b>W</b>	<b>*</b>	<b>***</b>
:	:	:	:	:	:	:	:
<b>V</b> MANUAL VALVE	<b>57</b> TYPE 57	<b>LV</b> LEVER TYPE <b>SG</b> SIDE GEAR TYPE	<b>U</b> U-PVC <b>P</b> PP <b>F</b> PVDF	<b>E</b> EPDM <b>V</b> FKM	<b>W</b> WAFER	<b>1</b> 10K <b>5</b> 5K <b>W</b> — <b>D</b> DIN <b>A</b> ANSI	<b>040</b> 40mm <b>S</b> <b>350</b> 350mm

## Installation, Operation and Maintenance Manual

"For details of Installation, Operation and Maintenance, please contact our nearest distribution agent or sales office.