

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)
- Size / Gear Type : 40 mm – 350 mm (1 1/2 inch - 14 inch)
- Body Material : U-PVC (Conforming to ASTM D1784 Cell Classification 12454A)
- Body Material : PP (Conforming to ASTM D4101 Cell Classification PP0210B67272)
- Body Material : 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

| | FLUID TEMPERATURE °C {°F} | WORKING PRESSURE (NORMAL TEMPERATURE) MPa {psi} | | DESIGN PRESSURE (NORMAL TEMPERATURE) MPa {psi} |
|-------|---------------------------|--|--------------|---|
| | | 40mm — 250mm | 300mm, 350mm | 300mm, 350mm |
| U-PVC | 0 ~ 50 { 30~122 } | 1.0 {150} | 0.75 {110} | 1.3 {185} |
| PP | -20 ~ 80 { -5~176 } | 1.0 {150} | 0.75 {110} | 1.3 {185} |
| PVDF | -20 ~ 120 { -5~250 } | 1.0 {150} | 0.75 {110} | 1.3 {185} |

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

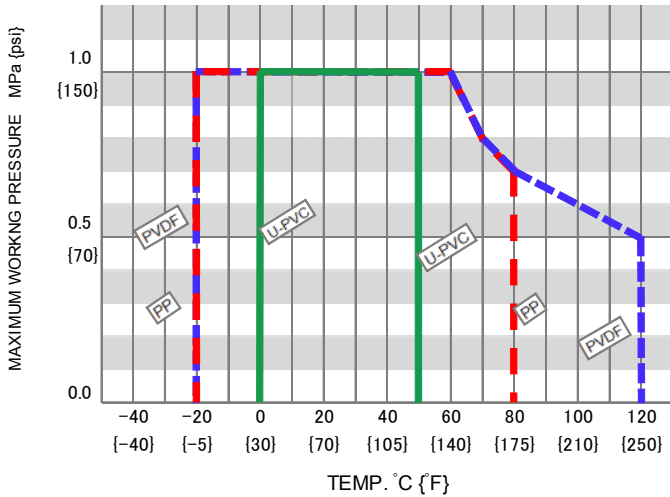
PED, ABS, NSF/ANSI61

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

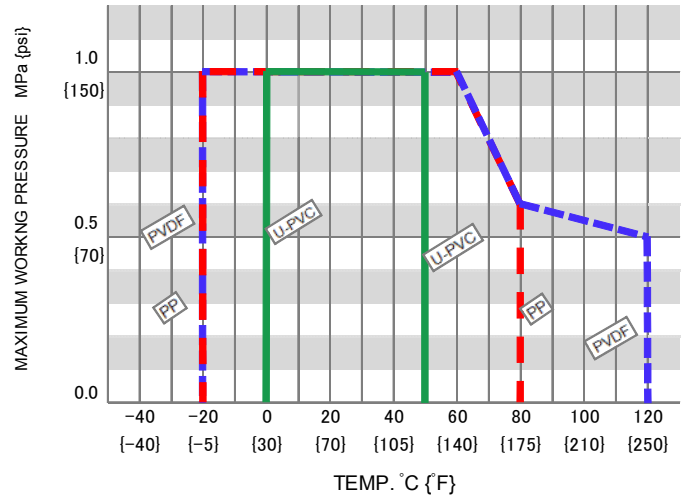
Working pressure vs. Temperature

MANUAL

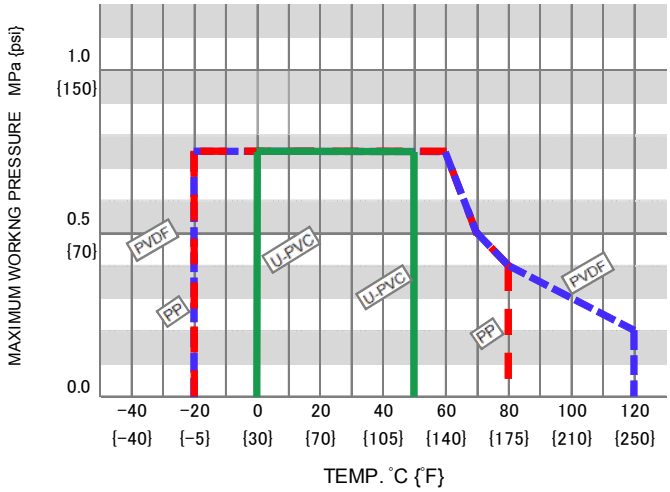
: 40mm - 150mm



: 200mm - 250mm



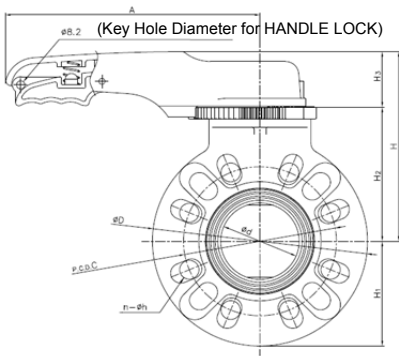
: 300mm - 350mm



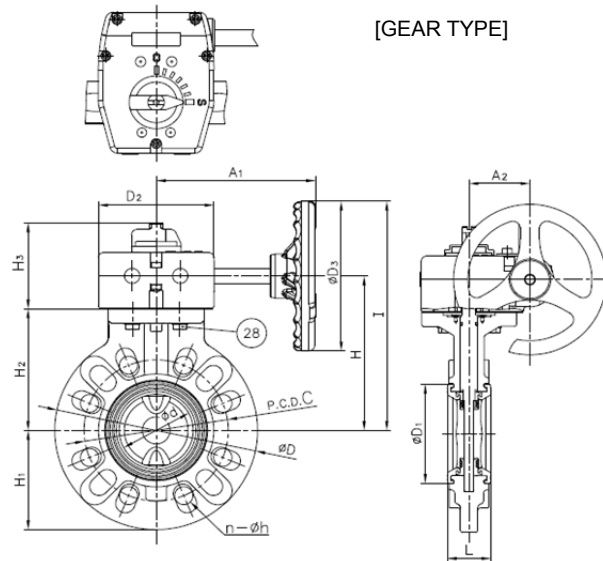
Note : Make sure that the temperature and pressure are within the working range during operation.
 (If the tolerance range is exceeded during use, the valve may be damaged.)

Product dimension

[LEVER TYPE]



[GEAR TYPE]



■ JIS, DIN (Unit: mm)

| mm | d | D | D1 | D2 | D3 | L | I | A | A ₁ | A ₂ | H | | H ₁ | H ₂ | | H ₃ | | JIS 5K | | | JIS 10K | | | DIN PN10 | | | | |
|--------|-----|-----|-----|-----|-----|-----|-----|-----|----------------|----------------|------------|-----------|----------------|----------------|-----------|----------------|-----------|------------|-----------|----|---------|----|----|----------|----|----|---|---|
| | | | | | | | | | | | LEVER TYPE | | | GEAR TYPE | | LEVER TYPE | | GEAR TYPE | | C | n | h | C | n | h | C | n | h |
| | | | | | | | | | | | LEVER TYPE | GEAR TYPE | | 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 | | |

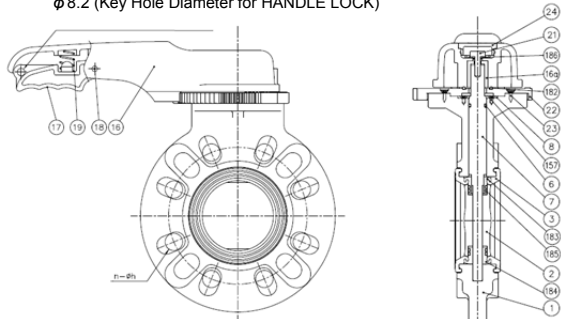
■ ANSI (Unit: inch)

| inch | mm | d | D | D ₁ | D ₂ | D ₃ | L | I | A | A ₁ | A ₂ | H | | H ₁ | H ₂ | | H ₃ | | ANSI CLASS 150 | | | GEAR BOX TYPE | | |
|-------|--------|-------|-------|----------------|----------------|----------------|------|-------|-------|----------------|----------------|------------|-----------|----------------|----------------|-----------|----------------|-----------|----------------|-----------|------|---------------|---|---|
| | | | | | | | | | | | | LEVER TYPE | | | GEAR TYPE | | LEVER TYPE | | GEAR TYPE | | C | | n | h |
| | | | | | | | | | | | | LEVER TYPE | GEAR TYPE | | 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 | | | |

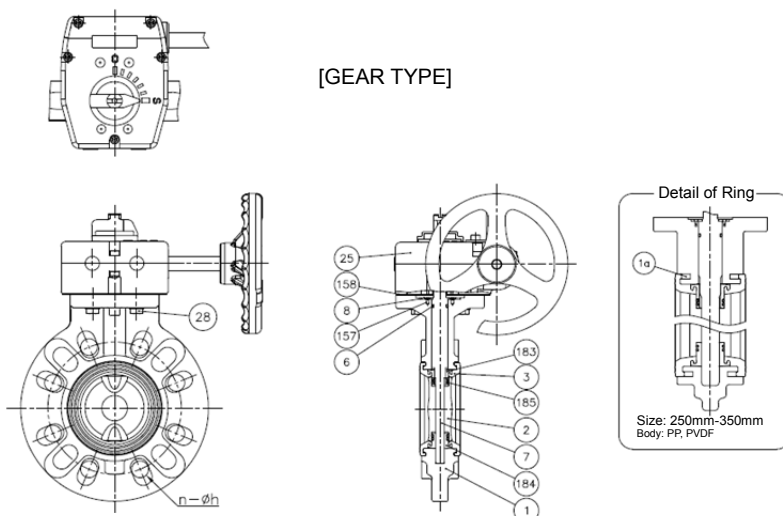
Parts list

[LEVER TYPE]

φ8.2 (Key Hole Diameter for HANDLE LOCK)



[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

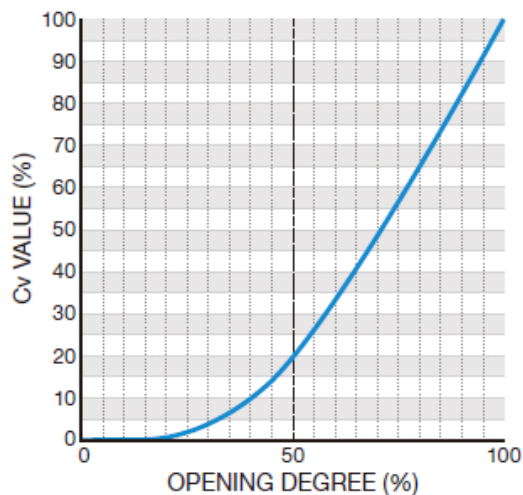
| PART NO./NAME | QTY | MATERIAL |
|---------------------------|-----|------------------------------|
| 16 HANDLE (A) | 1 | PP |
| 16a HANDLE INSERTED METAL | 1 | STAINLESS STEEL(SUS316L) |
| 17 HANDLE LEVER | 1 | PPG |
| 18 PIN | 1 | PPG |
| 19 SPRING | 1 | STAINLESS STEEL(SUS304) |
| 21 BOLT (B) | 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 |



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.

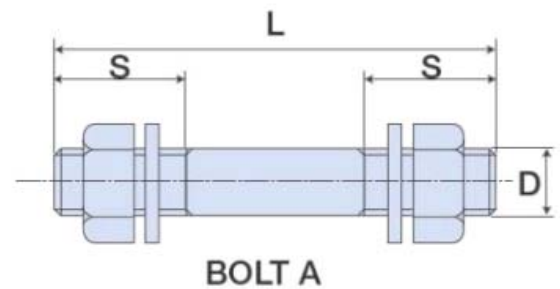
Pipe bolt dimensions (reference:recommended data)

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 | M20 | 135 | 45 | 8 | - | 16 |
| 100 | 4 | | 145 | | | | |
| 125 | 5 | | 165 | | | | |
| 150 | 6 | M22 | 175 | 55 | 12 | | 24 |
| 200 | 8 | | 195 | | | | |
| 250 | 10 | | 225 | | | | |
| 300 | 12 | M22 | 245 | 60 | 16 | | 32 |
| 350 | 14 | | 255 | | | | |

**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 |
|-----------------------|-------------------|--|--|-------------------------------|----------------|--|---|
| V | 57 | ** | * | * | W | * | *** |
| : | : | : | : | : | : | : | : |
| V MANUAL VALVE | 57 TYPE 57 | LV LEVER TYPE SG SIDE GEAR TYPE | U U-PVC P PP F PVDF | E EPDM V FKM | W WAFER | 1 10K 5 5K W — D DIN A ANSI | 040 40mm 5 350 350mm |

Installation, Operation and Maintenance Manual

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