



Type-57IL Isolator Lug Butterfly Valves

Standard Features (Sizes 3" – 12")

- Standard model (3" - 12") has PVC body and PP disc for superior chemical resistance and elevated temperature capabilities
- Our 316 stainless steel stem has full engagement over the entire length of the disc and is a non-wetted part, totally isolated from the media
- Only solid and abrasion resistant plastic disc and elastomeric liner are wetted parts
- ISO bolt circle on top flange - No body or stem modifications required for accessories
- Stem retainer - PP retainer to prevent stem removal
- Seat overtightening protection molded body stops and seat stress relief area
- Spherical disc design offers increased Cv, ultimate sealing and high cycle life
- Over molded 316 stainless steel factory lug that allows bidirectional installation
- Plasgear™ gear operators for 3" - 12" standard

Options

- Pneumatically and electrically actuated with accessories
- Alternate discs:
 - (I) PVC: 3" - 12"
 - (II) PVDF: 3" - 12"
- Stems in titanium or Hastelloy C[‡]
- 2" square nut on stem (3" - 8" only)
- 2" square nut on gear operator (all sizes)
- Stem extensions (single stem and two-piece stem)
- Locking devices (gear type - standard on lever)
- Chain operators
- Manual limit switch - Asahi P-Series
- Tandem arrangements (Patented by A/A, Inc.)

Specifications

Sizes: Lever: 3" – 8"
Gear: 3" – 12"

Models: Lug Style

Operators: Lever and Gear

Body: PVC

Discs: PVC, PP, and PVDF

Seats: EPDM, FKM and Nitrile

Seals: Same as seating material

Stems: 316 stainless steel, Titanium, Hastelloy C[‡]

**PVC/PP/EPDM
NSF Certified**

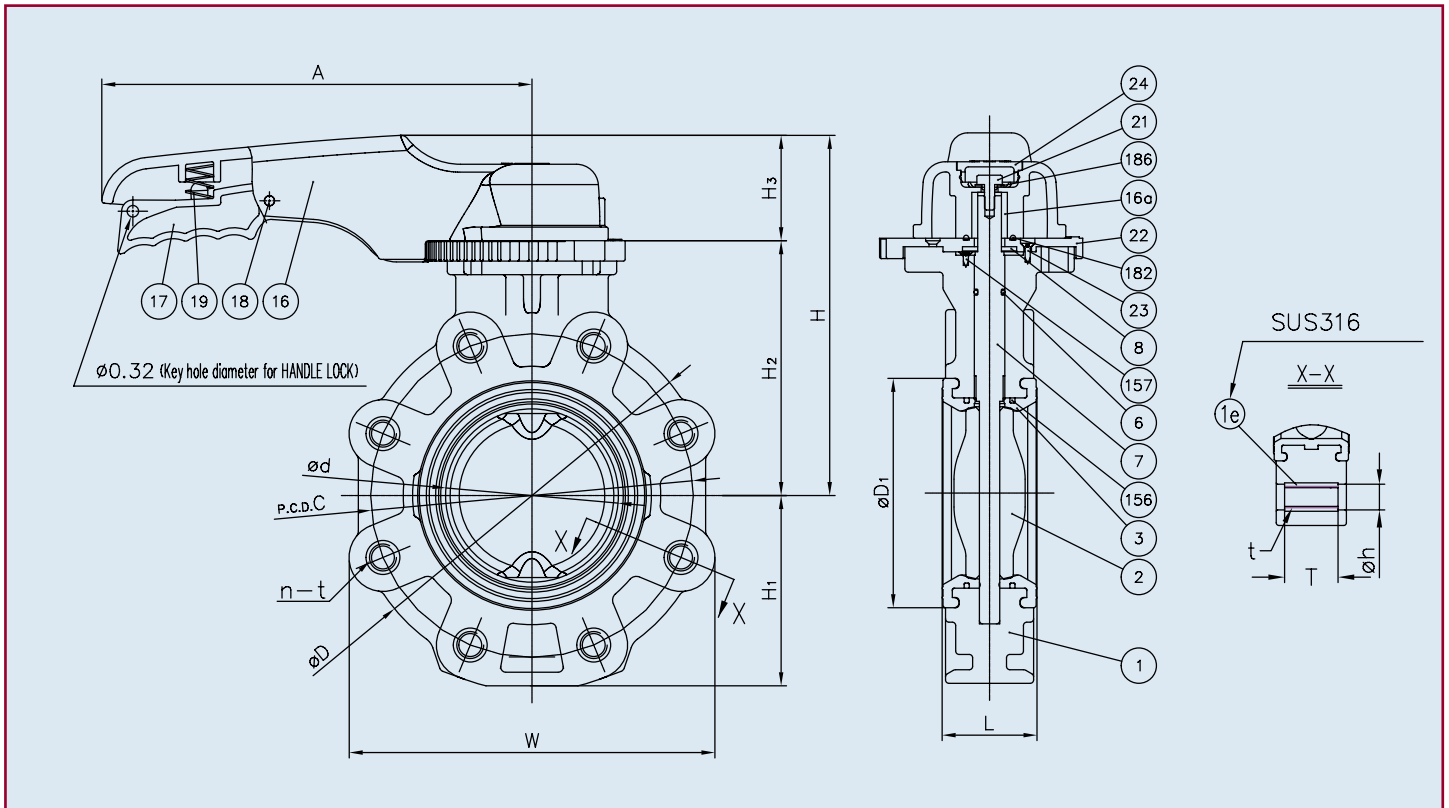
‡ Trademark of Cabot Corporation

Parts List (Lever: Sizes 3" – 8")

| PARTS | | | |
|-------|------------------------|------|-------------------------|
| NO. | DESCRIPTION | PCS. | MATERIAL |
| 1 | Body | 1 | PVC |
| 1e | Lug | - | Stainless Steel 316 |
| 2 | Disc | 1 | PVC, PP, PVDF |
| 3 | Seat | 1 | EPDM, FKM, NBR |
| 6 | O-Ring (C) | 1 | EPDM, FKM, NBR |
| 7 | Stem | 1 | Stainless Steel 316 |
| 8 | Stem Retainer | 1 | PP |
| 16 | Handle | 1 | PP |
| 16a | Metal Insert in Handle | 1 | Stainless Steel 316L |
| 17 | Handle Lever | 1 | PPG |
| 18 | Pin | 1 | PPG |
| 19 | Spring | 1 | Stainless Steel 304 |
| 20 | Washer (A) | 1 | Stainless Steel 304 |
| 21 | Bolt (B) | 1 | Stainless Steel 304 |
| 22 | Locking Plate | 1 | PPG |
| 23 | Screw (B) | 4 | Stainless Steel 304 |
| 24 | Cap (A) | 1 | PP |
| 156 | Stabilization Ring | 2 | Stainless Steel (SCS13) |
| 157 | Screw (F) | 4 | Stainless Steel 304 |



Type-57IL Isolator Lug Lever Butterfly Valve



Dimensions (Lever: Sizes 3" - 8") (in.)

| NOMINAL SIZE | | ANSI CLASS 150 | | | | | | | | | | | | | | | | |
|--------------|-----|----------------|-------|---|------|-------|------|------|-------|------|------|------|-------|-------|------|------------|--|--|
| INCHES | mm | d | C | n | h | D | D1 | L | H | H1 | H2 | H3 | A | W | T | t | | |
| 3 | 80 | 3.03 | 6.00 | 4 | 0.75 | 7.28 | 4.13 | 1.81 | 7.52 | 3.82 | 5.31 | 2.20 | 9.84 | 7.09 | 1.26 | 5/8-11 UNC | | |
| 4 | 100 | 4.02 | 7.50 | 8 | 0.75 | 8.27 | 5.28 | 2.20 | 8.11 | 4.41 | 5.91 | 2.20 | 9.84 | 8.50 | 1.52 | 5/8-11 UNC | | |
| 6 | 150 | 5.91 | 9.50 | 8 | 0.87 | 10.63 | 7.48 | 2.80 | 9.92 | 5.55 | 7.2 | 2.72 | 12.60 | 10.67 | 1.97 | 3/4-10 UNC | | |
| 8 | 200 | 7.68 | 11.75 | 8 | 0.87 | 12.6 | 9.53 | 3.43 | 11.14 | 6.61 | 8.43 | 2.72 | 15.75 | 12.76 | 2.26 | 3/4-10 UNC | | |

Pressure vs. Temp.

| BODY | | PVC | | |
|--------------|-----|--------|--------|--------|
| DISC | | PP | | |
| NOMINAL SIZE | | 30° F | 121° F | 141° F |
| INCHES | mm | 120° F | 140° F | 175° F |
| 3 | 80 | 150 | 70 | 30 |
| 4 | 100 | 150 | 45 | 30 |
| 6 | 150 | 150 | 45 | 30 |
| 8 | 200 | 150 | 40 | 20 |

Vacuum

| NOMINAL SIZE | | VACUUM SERVICE (INCHES OF MERCURY) |
|--------------|-----|------------------------------------|
| INCHES | mm | |
| 3 | 80 | -29.92 |
| 4 | 100 | -29.92 |
| 6 | 150 | -29.92 |
| 8 | 200 | -29.92 |
| 10 | 250 | -29.92 |
| 12 | 300 | -24.37 |

Cv Values

| NOMINAL SIZE | | Cv (at various opening degrees) | | |
|--------------|-----|---------------------------------|------|------|
| INCHES | mm | 30° | 60° | 90° |
| 3 | 80 | 18 | 183 | 300 |
| 4 | 100 | 28 | 287 | 470 |
| 6 | 150 | 66 | 671 | 1100 |
| 8 | 200 | 150 | 1525 | 2500 |
| 10 | 250 | 232 | 2355 | 3860 |
| 12 | 300 | 342 | 3477 | 5700 |

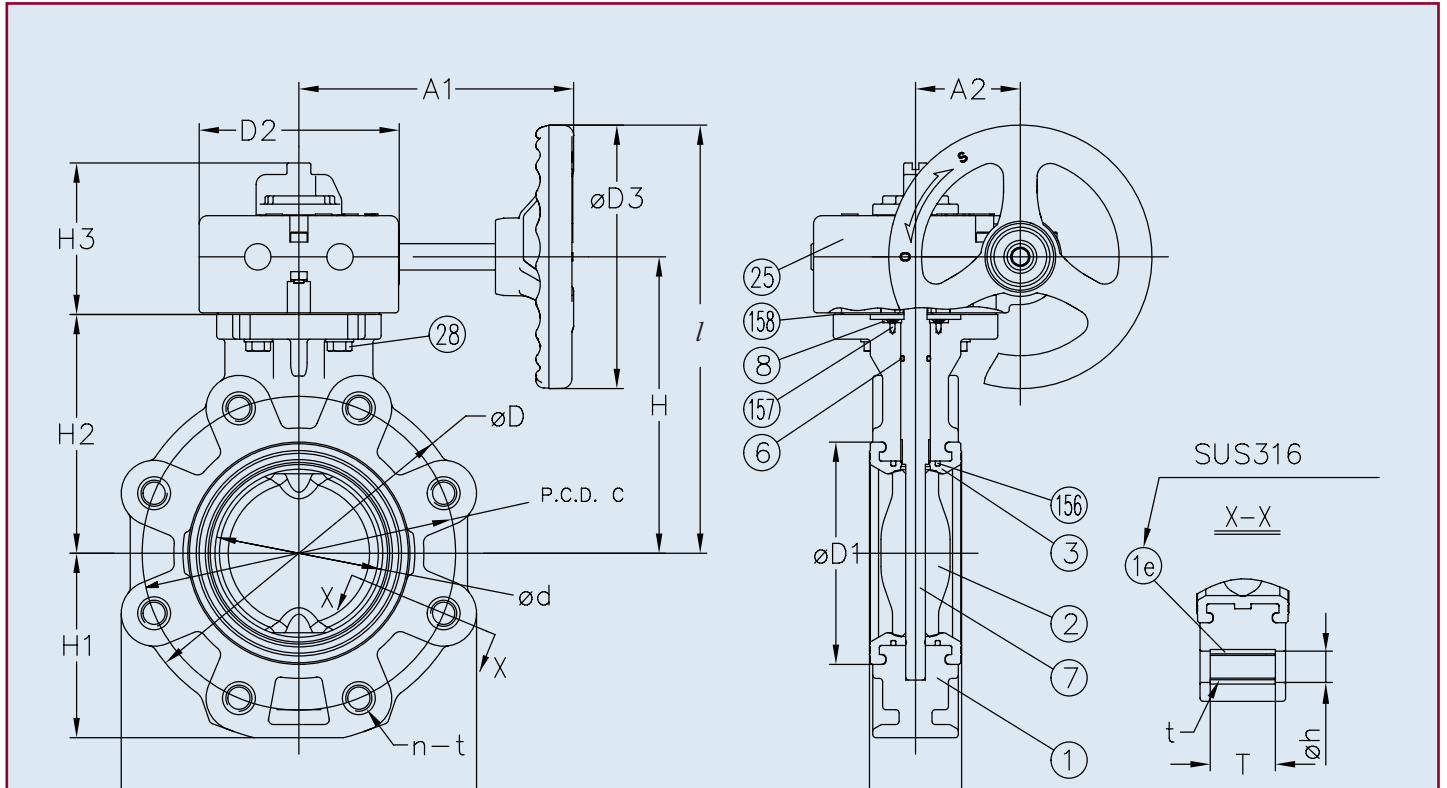
Wt (lbs.)

| NOMINAL SIZE | | LEVER OPERATED | GEAR OPERATED |
|--------------|-----|----------------|---------------|
| INCHES | mm | | |
| 3 | 80 | 10 | 15 |
| 4 | 100 | 15 | 20 |
| 6 | 150 | 23 | 28 |
| 8 | 200 | 34 | 39 |
| 10 | 250 | n/a | 50 |
| 12 | 300 | n/a | 85 |

Caution

- Never remove valve from pipeline under pressure.
- Always wear protective gloves and goggles.

Type-57IL Isolator Lug Gear Butterfly Valve



Dimensions (Gear: Sizes 3" - 12") (in.)

| NOMINAL SIZE | INCHES | mm | ANSI CLASS 150 | | | | D | D1 | D2 | D3 | L | H | H1 | H2 | H3 | L | A1 | A2 | W | T | t | Wheel Cycles | Gear box model |
|--------------|--------|-----|----------------|-------|----|------|-------|-------|------|-------|------|-------|------|-------|------|-------|-------|------|-------|------|------------|--------------|----------------|
| | | | d | C | n | h | | | | | | | | | | | | | | | | | |
| 3 | | 80 | 3.03 | 6.00 | 4 | 0.75 | 7.28 | 4.13 | 4.80 | 6.30 | 1.81 | 6.50 | 3.82 | 5.12 | 3.62 | 9.65 | 6.57 | 2.52 | 7.09 | 1.37 | 5/8-11 UNC | 9.5 | 241 |
| 4 | | 100 | 4.02 | 7.50 | 8 | 0.75 | 8.27 | 5.28 | 4.80 | 6.30 | 2.20 | 7.09 | 4.41 | 5.71 | 3.62 | 10.24 | 6.57 | 2.52 | 8.50 | 1.37 | 5/8-11 UNC | 9.5 | |
| 6 | | 150 | 5.91 | 9.50 | 8 | 0.87 | 10.63 | 7.48 | 4.80 | 6.30 | 2.80 | 8.27 | 5.55 | 6.89 | 3.62 | 11.42 | 6.57 | 2.52 | 10.67 | 2.15 | 3/4-10 UNC | 9.5 | |
| 8 | | 200 | 7.68 | 11.75 | 8 | 0.87 | 12.6 | 9.53 | 4.80 | 6.30 | 3.43 | 9.49 | 6.61 | 8.11 | 3.62 | 12.64 | 6.57 | 2.52 | 12.76 | 2.15 | 3/4-10 UNC | 9.5 | |
| 10 | | 250 | 9.84 | 14.25 | 12 | 0.98 | 15.75 | 11.89 | 4.80 | 6.30 | 4.41 | 10.87 | 7.95 | 9.49 | 3.62 | 14.01 | 6.57 | 2.52 | 15.91 | 3.14 | 7/8-9 UNC | 9.5 | |
| 12 | | 300 | 11.93 | 17.01 | 12 | 0.98 | 18.31 | 14.17 | 7.40 | 11.81 | 5.08 | 13.39 | 9.29 | 11.73 | 4.25 | 19.29 | 10.71 | 3.90 | 18.54 | 3.14 | 7/8-9 UNC | 9.5 | |

Parts List (Gear)

| PARTS | | | |
|-------|--------------------|------|-------------------------|
| NO. | DESCRIPTION | PCS. | MATERIAL |
| 1 | Body | 1 | PVC |
| 1e | Lug | - | Stainless Steel 316 |
| 2 | Disc | 1 | PVC, PP, PVDF |
| 3 | Seat | 1 | EPDM, FKM, NBR |
| 6 | O-Ring (C) | 1 | EPDM, FKM, NBR |
| 7 | Stem | 1 | Stainless Steel 316 |
| 8 | Stem Retainer | 1 | PP |
| 25 | Gear Box | 1 | Plasgear™ |
| 28 | Bolt (C) | 4 | Stainless Steel 304 |
| 156 | Stabilization Ring | 2 | Stainless Steel (SCS13) |
| 157 | Screw (F) | 4 | Stainless Steel 304 |
| 158 | Gasket (L) | 1 | EPDM |

Pressure vs. Temperature

| BODY | | PVC | | |
|--------------|-----|--------|--------|--------|
| DISC | | PP | | |
| NOMINAL SIZE | | 30° F | 121° F | 141° F |
| INCHES | mm | 120° F | 140° F | 175° F |
| 8 | 200 | 150 | 40 | 20 |
| 10 | 250 | 150 | 40 | 20 |
| 12 | 300 | 100 | 30 | 15 |

Type-57IL Isolator Lug Butterfly Valve

Troubleshooting

What if fluid still flows when valve is closed?

1. Make sure lever or gear is in a fully closed position (gear type may require travel stop adjustment).
2. Liner is damaged or worn. Replace liner.
3. Disc is damaged or abraded. Change disc.
4. Foreign material is caught between seat and disc. Remove the substance.
5. Mating flange bolts either overtightened or unevenly tightened. Retighten properly.

What if fluid leaks outside between seat and mating flange?

1. Seat damage. Change seat.
2. Mating flange bolts not tightened with proper torque or unevenly tightened. Retighten to the appropriate torque.

What if valve does not operate smoothly?

1. Foreign material is caught between disc and seat. Remove the material and clean.
2. Lever or gearbox is damaged. Replace.
3. Mating flange bolts overtightened. Retighten.

Sample Specification

All solid thermoplastic butterfly valves sizes 3" through 12" shall be of the Type-57IL (isolator lug) PVC lined body design and bubble-tight seal (meeting or exceeding Class VI as defined by American National Standard Institute) with only the liner and disc as wetted parts. The lever handle (sizes 3" through 8") shall have a molded provision for a padlock. Gear operators shall be worm gear design, self-locking Plasgear™. The spherical disc design for higher Cv values shall be of solid abrasion resistant plastic. Liner shall be molded and formed around the body, functioning as gasket seals with convex ring design on each side of the valve for lower bolt tightening torque and valve body shall have molded body stops and seat relief area to prevent overtightening of mating flanges. Valves shall be molded to accept 316 stainless steel A/A factory molded lugs. Valve shall be capable of having flange removed while maintaining full line pressure on upstream side for end of line service. Stem shall be of 316 stainless steel, non-wetted and have engagement over the full length of the disc. Valves shall have a molded ISO bolt pattern on top flange for actuator mount. PVC shall conform to ASTM D1784 Cell Classification 12454A, PP conforming to ASTM D4101 Cell Classification PP0210B67272. All (3" through 10") valves shall be rated to 150psi and 12" rated to 100psi. Butterfly valves shall be lug style, as manufactured by Asahi/America, Inc.