



Butterfly Valves

STC / STC-SR / STL / STL-SR



Standard Butterfly Valve

STC

STC-SR

STL

STL-SR

Size : Boot design seat type : 2" ~ 24"

Cartridge design seat type : 2" ~ 48"

Type : Wafer , Lug

Pressure Rating : Class 125/150

Body Material : Cast Iron, Ductile Iron and Stainless Steel

Seat Type : Standard Boot , Cartridge Type

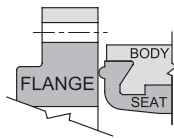
Operation : Lever , Gear

Drilling : ANSI 125/150, JIS 5/10/16K, DIN PN 10/16

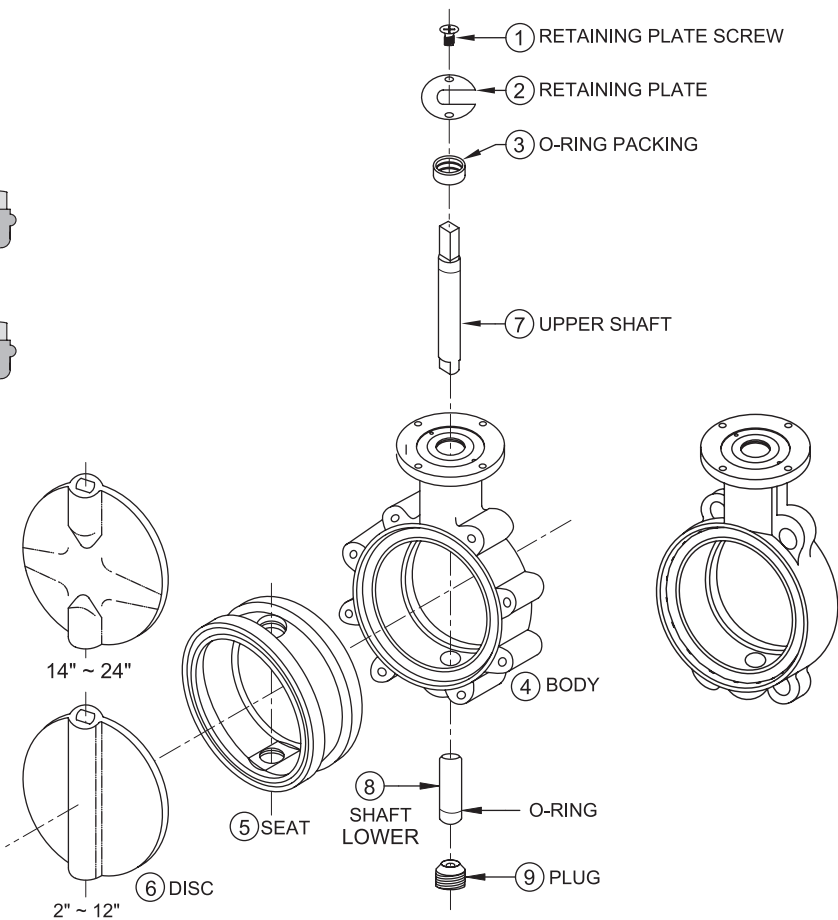
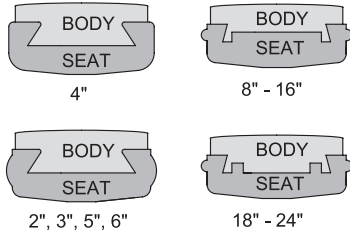
Available in tapped lug body or wafer design with common drilling (universal) including ANSI 125/150, JIS 5/10/16K, DIN PN 10/16.

- One – piece body construction of Ductile Iron, Cast Iron and Stainless Steel design complies with API 609, MSS SP 67, and ISO 5752.
- ISO 5211 mounting pad with square shaft permits direct mount actuation for both Manual (Lever & gear), pneumatic and electric operations.
- Teflon stem bushing to assure long life even during extended period of activity. Lowers operating torque to easy operation manually and maximize shaft support.
- High strength two-piece stem eliminates taper pins or disc screws which often fail prematurely through abrasion, corrosion or fatigue.
- All disc castings are spherically machined & polished for extended seat life & bubble tight shut off.
- Seat type available in both encapsulated phenolic backed Cartridge seat and Boot design. Cartridge design seat permits easy change without special tools
- Conform to API 598 and BS 5155. Shell tested to 150% and seat tested to 110% of maximum working pressure
- Lug body valves are rated for 150 PSI in dead end service.
- Valve Rating:
 - Top flange mounting pad: ISO 5211
 - Basic Design: API 609, MSS-SP-67, BS 5155, ISO 5752, DIN 3202 K1
 - Shell/Seat Test: API 598, MSS-SP-61
 - Shell: 400 psig
 - Closure: 2" ~ 12": 255 psig
 - 14" ~ 24": 188 psig

Standard Resilient Boot Type Seat Butterfly Valve Parts : STC / STL



DETAIL OF SEAT SECTION



• NOTE :

1. BASIC DESIGN :

DIMENSION : API 609, MS-SP-67, BS 5155,
ISO 5752, DIN 3202 K1

TOP FLANGE : ISO 5211

2. TESTING : API 598, MSS-SP-61

SHELL : 400 psig

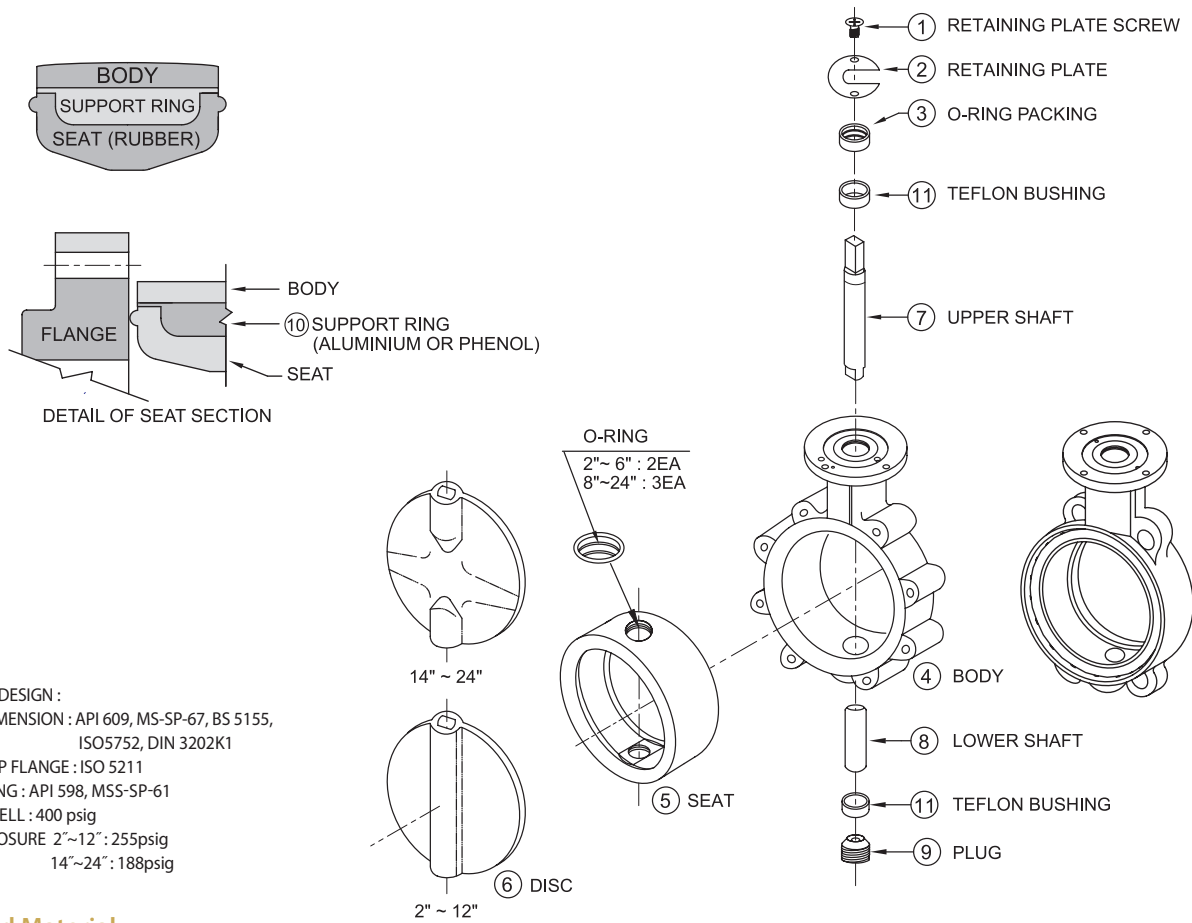
CLOSURE 2"~12" : 255psig

14"~24" : 188psig

Standard Material

| NO | DESCRIPTION | MATERIAL | CODE NO. | STANDARD | REMARKS |
|----|-----------------------|---------------------------|---------------------|---------------------------------------|---|
| 1 | RETAINING PLATE SCREW | CARBON STEEL | | ASTM A283D-A36 | GALVANIZED |
| 2 | RETAINING PLATE | CARBON STEEL | | ASTM A283D-A36 | GALVANIZED |
| 3 | O-RING PACKING | EPDM | | ASTM D2000 | |
| 4 | BODY | CAST IRON DUCTILE IRON | EN-GJL-250 GGG40 | ASTM A126/EN1561 ASTM A536/DIN1693 | |
| 5 | SEAT | EPDM | | ASTM D2000 | WORKING TEMPERATURE -30 °C ~ +110 °C |
| | | BUNA-N (NBR) | | ASTM D2000 | -20 °C ~ +90 °C |
| | | WHITE EPDM | | ASTM D2000 | -30 °C ~ +110 °C |
| | | VITON | | ASTM D2000 | -10 °C ~ +160 °C |
| | | HIGH TEMPERATURE EPDM | | ASTM D2000 | -30 °C ~ +130 °C |
| | | TEFLON (PTFE) | | PTFE | -40 °C ~ +300 °C |
| 6 | DISC | DUCTILE IRON | GGG40 | ASTM A536/DIN1693 | CHROME PLATED |
| | | STAINLESS STEEL | CF8 | ASTM A351 | |
| | | | CF8M | ASTM A351 | |
| 7 | UPPER STEM | STAINLESS STEEL | 410SS | ASTM A276 | |
| | | | 316SS | ASTM A276 | |
| 8 | LOWER STEM | | 304SS | ASTM A276 | |
| 9 | PLUG | CARBON STEEL | | ASTM A283D-A36 | |

Cartridge Type Butterfly Valve Parts : STC-SR / STL-SR



• NOTE :

1. BASIC DESIGN :

DIMENSION : API 609, MS-SP-67, BS 5155,
ISO5752, DIN 3202K1

TOP FLANGE : ISO 5211

2. TESTING : API 598, MSS-SP-61

SHELL : 400 psig

CLOSURE 2"~12" : 255psig

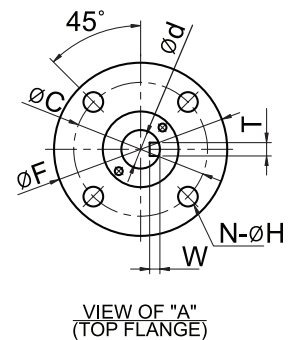
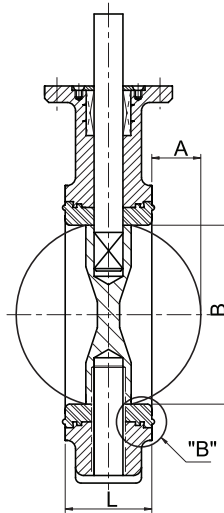
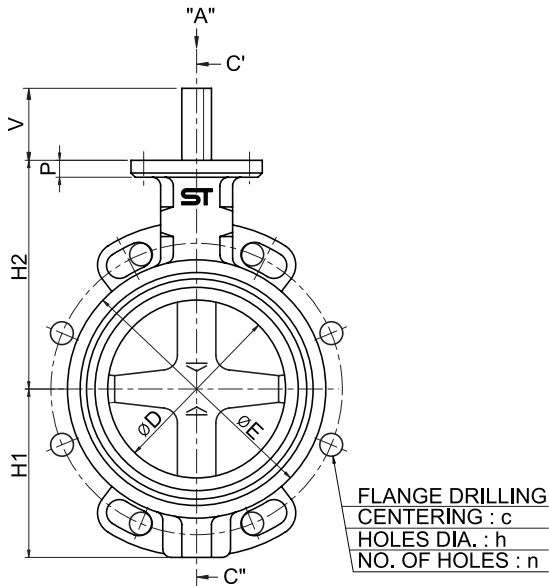
14"~24" : 188psig

Standard Material

| NO | DESCRIPTION | MATERIAL | CODE NO. | STANDARD | REMARKS |
|----|-----------------------|----------------------------------|------------|-------------------|---|
| 1 | RETAINING PLATE SCREW | CARBON STEEL/ STAINLESS STEEL304 | | ASTM A283D-A36 | GALVANIZED |
| 2 | RETAINING PLATE | CARBON STEEL/ STAINLESS STEEL316 | | ASTM A283D-A36 | GALVANIZED |
| 3 | O-RING PACKING | EPDM | | ASTM D2000 | |
| 4 | BODY | CAST IRON | EN-GJL-250 | ASTM A126/EN1561 | |
| | | DUCTILE IRON | GGG40 | ASTM A536/DIN1693 | |
| | | STAINLESS STEEL | CF8M | ASTM A351 | |
| 5 | SEAT | EPDM | | ASTM D2000 | WORKING TEMPERATURE -30 °C ~ +110 °C |
| | | BUNA-N (NBR) | | ASTM D2000 | -20 °C ~ +90 °C |
| | | WHITE EPDM | | ASTM D2000 | -30 °C ~ +110 °C |
| | | VITON | | ASTM D2000 | -10 °C ~ +160 °C |
| | | HIGH TEMPERATURE EPDM | | ASTM D2000 | -30 °C ~ +130 °C |
| | | TEFLON (PTFE) | | PTFE | -40 °C ~ +300 °C |
| 6 | DISC | DUCTILE IRON | GGG40 | ASTM A536/DIN1693 | CHROME PLATED |
| | | STAINLESS STEEL | CF8 | ASTM A351 | |
| | | | CF8M | ASTM A351 | |
| | | ALUMINIUM BRONZE | ALBC2 | JIS H 5114 | only available in CI/DI Body |
| 7 | UPPER STEM | STAINLESS STEEL | 410SS | ASTM A276 | |
| | | | 316SS | ASTM A276 | |
| 8 | LOWER STEM | STAINLESS STEEL | 304SS | ASTM A276 | |
| 9 | PLUG | CARBON STEEL/ STAINLESS STEEL316 | | ASTM A283D-A36 | |
| 10 | SUPPORT RING | PHENOL | | ASTM D2000 | (2" ~ 14") |
| | | ALUMINIUM | | ASTM B275 | (16" ~ 24") |
| 11 | TEFLON BUSHING | TEFLON | | PTFE | |

Model : STC

Wafer type, Common Drilled ANSI 150LBS, DIN PN10, PN16, JIS5K,10K,16K



Remarks* = ISO 5211 Flange Type

SECTION OF C'-C"

(unit : mm)

Dimensions

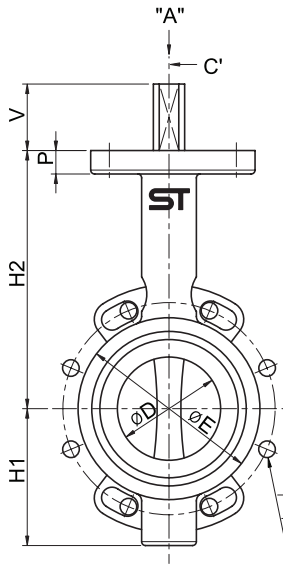
| SIZE | TOP FLANGE & STEM | | | | | | | | | | OUT LINE DIMENSION | | | | | | |
|------|-------------------|----|-----|---|------|----|-----|------|---|-----|--------------------|-------|-------|-------|-------|-------|-------|
| | mm | d | P | C | N | H | T | F | V | W | REMARKS* | L | D | H1 | H2 | E | A |
| 50A | 14 | 14 | 70 | 4 | 9.0 | 11 | 90 | 15.2 | - | F07 | 43.0 | 50.5 | 75.0 | 133.0 | 94 | 4.5 | 49.0 |
| 65A | 14 | 14 | 70 | 4 | 9.0 | 11 | 90 | 15.2 | - | F07 | 46.0 | 66.2 | 80.0 | 141.0 | 109 | 10.5 | 64.0 |
| 80A | 16 | 14 | 70 | 4 | 9.0 | 14 | 90 | 15.2 | - | F07 | 46.0 | 78.9 | 95.0 | 145.0 | 123 | 17.0 | 77.0 |
| 100A | 16 | 16 | 70 | 4 | 9.0 | 14 | 90 | 17.7 | - | F07 | 52.0 | 99.5 | 110.0 | 166.5 | 147 | 24.0 | 97.0 |
| 125A | 19 | 16 | 70 | 4 | 9.0 | 14 | 90 | 17.7 | - | F07 | 56.0 | 124.1 | 123.0 | 190.5 | 173 | 34.5 | 122.0 |
| 150A | 22 | 16 | 70 | 4 | 9.0 | 17 | 90 | 19.0 | - | F07 | 56.0 | 149.5 | 143.0 | 206.5 | 202 | 47.3 | 148.0 |
| 200A | 22 | 17 | 70 | 4 | 9.0 | 17 | 90 | 20.5 | - | F07 | 60.0 | 195.6 | 168.0 | 240.0 | 251.0 | 68.3 | 193.5 |
| 250A | 28 | 20 | 102 | 4 | 11.0 | 22 | 125 | 20.5 | - | F10 | 68.0 | 247.0 | 203.0 | 286.0 | 318.0 | 89.5 | 245.0 |
| 300A | 28 | 20 | 102 | 4 | 11.0 | 22 | 125 | 24.1 | - | F10 | 78.0 | 295.5 | 242.0 | 313.0 | 362.0 | 108.8 | 293.0 |
| 350A | 28 | 20 | 102 | 4 | 12.0 | 10 | 125 | 71.5 | 5 | F10 | 78.0 | 330.0 | 264.5 | 345.5 | 415 | 126.0 | 326.0 |
| 400A | 32 | 23 | 140 | 4 | 18.0 | 10 | 175 | 80.0 | 5 | F14 | 102.0 | 379.0 | 305.5 | 349.5 | 462 | 138.5 | 376.5 |
| 450A | 38 | 23 | 140 | 4 | 18.0 | 12 | 175 | 80.0 | 5 | F14 | 114.0 | 437.0 | 350.0 | 400.0 | 527 | 161.5 | 434.0 |
| 500A | 45 | 23 | 165 | 4 | 22.0 | 12 | 210 | 90.0 | 5 | F16 | 127.0 | 490.0 | 380.0 | 440.0 | 578 | 181.5 | 486.0 |
| 600A | 55 | 23 | 165 | 4 | 22.0 | 14 | 210 | 95.0 | 5 | F16 | 154.0 | 574.5 | 440.0 | 510.0 | 680 | 210.3 | 570.5 |

(unit : inch)

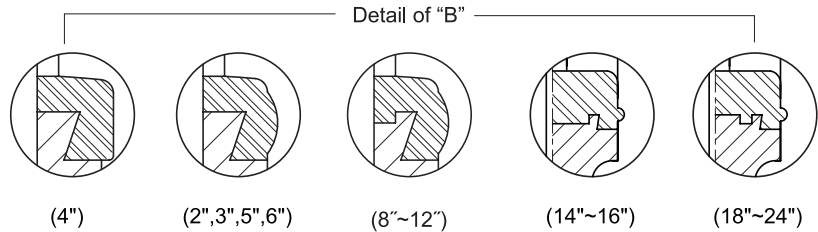
| SIZE | TOP FLANGE & STEM | | | | | | | | | | OUT LINE DIMENSION | | | | | | |
|--------|-------------------|------|------|---|------|------|------|------|------|-----|--------------------|-------|-------|-------|-------|------|-------|
| | inch | d | P | C | N | H | T | F | V | W | REMARKS* | L | D | H1 | H2 | E | A |
| 2" | 0.55 | 0.55 | 2.76 | 4 | 0.35 | 0.43 | 3.54 | 0.60 | - | F07 | 1.69 | 1.99 | 2.95 | 5.24 | 3.70 | 0.18 | 1.93 |
| 2 1/2" | 0.55 | 0.55 | 2.76 | 4 | 0.35 | 0.43 | 3.54 | 0.60 | - | F07 | 1.81 | 2.61 | 3.15 | 5.55 | 4.29 | 0.41 | 2.52 |
| 3" | 0.63 | 0.55 | 2.76 | 4 | 0.35 | 0.55 | 3.54 | 0.60 | - | F07 | 1.81 | 3.11 | 3.74 | 5.71 | 4.84 | 0.67 | 3.03 |
| 4" | 0.63 | 0.63 | 2.76 | 4 | 0.35 | 0.55 | 3.54 | 0.70 | - | F07 | 2.05 | 3.92 | 4.33 | 6.56 | 5.79 | 0.94 | 3.82 |
| 5" | 0.75 | 0.63 | 2.76 | 4 | 0.35 | 0.55 | 3.54 | 0.70 | - | F07 | 2.20 | 4.89 | 4.84 | 7.50 | 6.81 | 1.36 | 4.80 |
| 6" | 0.87 | 0.63 | 2.76 | 4 | 0.35 | 0.67 | 3.54 | 0.75 | - | F07 | 2.20 | 5.89 | 5.63 | 8.13 | 7.95 | 1.86 | 5.83 |
| 8" | 0.87 | 0.67 | 2.76 | 4 | 0.35 | 0.67 | 3.54 | 0.81 | - | F07 | 2.36 | 7.70 | 6.61 | 9.45 | 9.88 | 2.69 | 7.62 |
| 10" | 1.10 | 0.79 | 4.02 | 4 | 0.43 | 0.87 | 4.92 | 0.81 | - | F10 | 2.68 | 9.72 | 7.99 | 11.26 | 12.52 | 3.52 | 9.65 |
| 12" | 1.10 | 0.79 | 4.02 | 4 | 0.43 | 0.87 | 4.92 | 0.95 | - | F10 | 3.07 | 11.63 | 9.53 | 12.32 | 14.25 | 4.28 | 11.54 |
| 14" | 1.10 | 0.79 | 4.02 | 4 | 0.47 | 0.39 | 4.92 | 2.81 | 0.20 | F10 | 3.07 | 12.99 | 10.41 | 13.60 | 16.34 | 4.96 | 12.83 |
| 16" | 1.26 | 0.91 | 5.51 | 4 | 0.71 | 0.39 | 6.89 | 3.15 | 0.20 | F14 | 4.02 | 14.92 | 12.03 | 13.76 | 18.19 | 5.45 | 14.82 |
| 18" | 1.50 | 0.91 | 5.51 | 4 | 0.71 | 0.47 | 6.89 | 3.15 | 0.20 | F14 | 4.49 | 17.20 | 13.78 | 15.75 | 20.75 | 6.36 | 17.09 |
| 20" | 1.77 | 0.91 | 6.50 | 4 | 0.87 | 0.47 | 8.27 | 3.54 | 0.20 | F16 | 5.00 | 19.29 | 14.96 | 17.32 | 22.76 | 7.15 | 19.13 |
| 24" | 2.17 | 0.91 | 6.50 | 4 | 0.87 | 0.55 | 8.27 | 3.74 | 0.20 | F16 | 6.06 | 22.62 | 17.32 | 20.08 | 26.77 | 8.28 | 22.46 |

Model : STC

Wafer type, Common Drilled ANSI 150LBS,
DIN PN10, PN16, JIS5K, 10K, 16K



FLANGE DRILLING
CENTERING : c
HOLES DIA. : h
NO. OF HOLES : n



Drilling

(unit : mm)

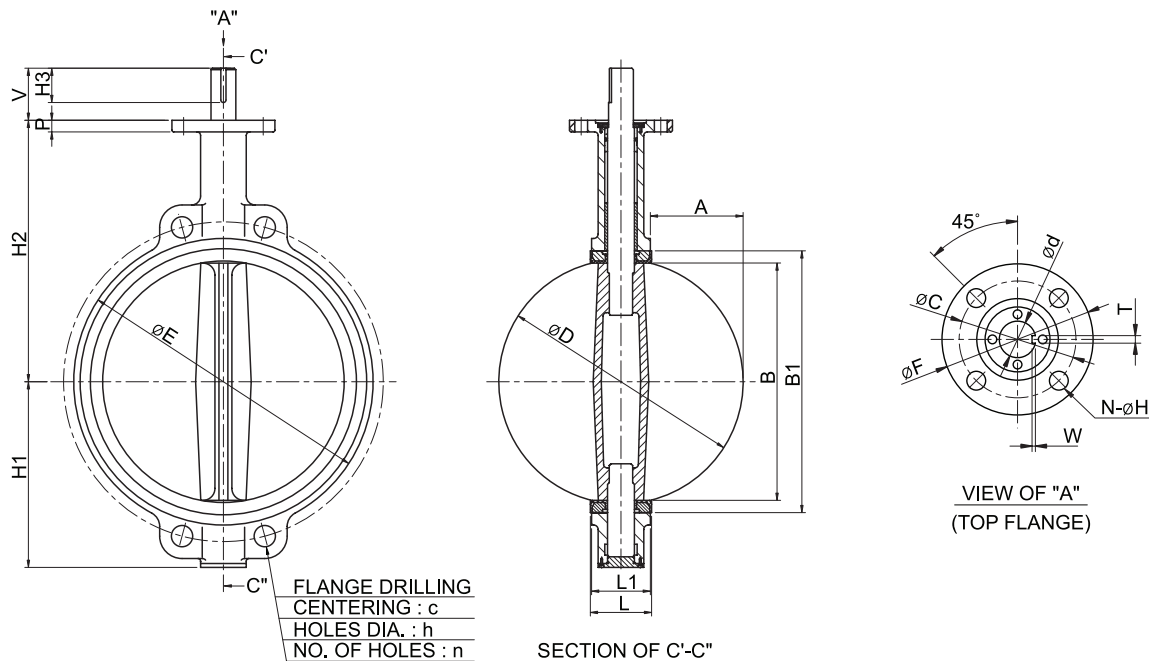
| SIZE | PN 10 | | | PN 16 | | | ANSI 150 LBS | | | JIS 5K | | | JIS 10K | | |
|------|-------|----|------|-------|----|------|--------------|----|------|--------|----|------|---------|----|------|
| | c | n | h | c | n | h | c | n | h | c | n | h | c | n | h |
| 50A | 125.0 | 4 | 18.0 | 125.0 | 4 | 18.0 | 120.7 | 4 | 19.0 | 105.0 | 4 | 15.0 | 120.0 | 4 | 19.0 |
| 65A | 145.0 | 4 | 18.0 | 145.0 | 4 | 18.0 | 139.7 | 4 | 19.0 | 130.0 | 4 | 15.0 | 140.0 | 4 | 19.0 |
| 80A | 160.0 | 8 | 18.0 | 160.0 | 8 | 18.0 | 152.4 | 4 | 19.0 | 145.0 | 4 | 19.0 | 150.0 | 8 | 19.0 |
| 100A | 180.0 | 8 | 18.0 | 180.0 | 8 | 18.0 | 190.5 | 8 | 19.0 | 165.0 | 8 | 19.0 | 175.0 | 8 | 19.0 |
| 125A | 210.0 | 8 | 18.0 | 210.0 | 8 | 18.0 | 215.9 | 8 | 22.0 | 200.0 | 8 | 19.0 | 210.0 | 8 | 23.0 |
| 150A | 240.0 | 8 | 22.0 | 240.0 | 8 | 22.0 | 241.3 | 8 | 22.0 | 230.0 | 8 | 19.0 | 240.0 | 8 | 23.0 |
| 200A | 295.0 | 8 | 22.0 | 295.0 | 12 | 22.0 | 298.5 | 8 | 22.0 | 280.0 | 8 | 23.0 | 290.0 | 12 | 23.0 |
| 250A | 350.0 | 12 | 22.0 | 355.0 | 12 | 26.0 | 362.0 | 12 | 25.0 | 345.0 | 12 | 23.0 | 355.0 | 12 | 25.0 |
| 300A | 400.0 | 12 | 22.0 | 410.0 | 12 | 26.0 | 431.8 | 12 | 25.0 | 390.0 | 12 | 23.0 | 400.0 | 16 | 25.0 |
| 350A | 460.0 | 16 | 22.0 | 470.0 | 16 | 26.0 | 476.0 | 12 | 29.0 | 435.0 | 12 | 25.0 | 445.0 | 12 | 25.0 |
| 400A | 515.0 | 16 | 26.0 | 525.0 | 16 | 30.0 | 539.5 | 16 | 29.0 | 495.0 | 16 | 25.0 | 510.0 | 16 | 27.0 |
| 450A | 565.0 | 20 | 26.0 | 585.0 | 20 | 30.0 | 578.0 | 16 | 32.0 | 555.0 | 16 | 25.0 | 565.0 | 20 | 27.0 |
| 500A | 620.0 | 20 | 26.0 | 650.0 | 20 | 33.0 | 635.0 | 20 | 32.0 | 605.0 | 20 | 25.0 | 620.0 | 20 | 27.0 |
| 600A | 725.0 | 20 | 30.0 | 770.0 | 20 | 36.0 | 749.5 | 20 | 35.0 | 715.0 | 20 | 27.0 | 730.0 | 24 | 33.0 |

(unit : inch)

| SIZE | PN 10 | | | PN 16 | | | ANSI 150 LBS | | | JIS 5K | | | JIS 10K | | |
|--------|-------|----|------|-------|----|------|--------------|----|------|--------|----|------|---------|----|------|
| | c | n | h | c | n | h | c | n | h | c | n | h | c | n | h |
| 2" | 4.92 | 4 | 0.71 | 4.92 | 4 | 0.71 | 4.75 | 4 | 0.75 | 4.13 | 4 | 0.59 | 4.72 | 4 | 0.75 |
| 2 1/2" | 5.71 | 4 | 0.71 | 5.71 | 4 | 0.71 | 5.50 | 4 | 0.75 | 5.12 | 4 | 0.59 | 5.51 | 4 | 0.75 |
| 3" | 6.30 | 8 | 0.71 | 6.30 | 8 | 0.71 | 6.00 | 4 | 0.75 | 5.71 | 4 | 0.75 | 5.91 | 8 | 0.75 |
| 4" | 7.09 | 8 | 0.71 | 7.09 | 8 | 0.71 | 7.50 | 8 | 0.75 | 6.50 | 8 | 0.75 | 6.89 | 8 | 0.75 |
| 5" | 8.27 | 8 | 0.71 | 8.27 | 8 | 0.71 | 8.50 | 8 | 0.87 | 7.87 | 8 | 0.75 | 8.27 | 8 | 0.91 |
| 6" | 9.45 | 8 | 0.87 | 9.45 | 8 | 0.87 | 9.50 | 8 | 0.87 | 9.06 | 8 | 0.75 | 9.45 | 8 | 0.91 |
| 8" | 11.61 | 8 | 0.87 | 11.61 | 12 | 0.87 | 11.75 | 8 | 0.87 | 11.02 | 8 | 0.91 | 11.42 | 12 | 0.91 |
| 10" | 13.78 | 12 | 0.87 | 13.98 | 12 | 1.02 | 14.25 | 12 | 0.98 | 13.58 | 12 | 0.91 | 13.98 | 12 | 0.98 |
| 12" | 15.75 | 12 | 0.87 | 16.14 | 12 | 1.02 | 17.00 | 12 | 0.98 | 15.35 | 12 | 0.91 | 15.75 | 16 | 0.98 |
| 14" | 18.11 | 16 | 0.87 | 18.50 | 16 | 1.02 | 18.74 | 12 | 1.14 | 17.13 | 12 | 0.98 | 17.52 | 12 | 0.98 |
| 16" | 20.28 | 16 | 1.02 | 20.67 | 16 | 1.18 | 21.24 | 16 | 1.14 | 19.49 | 16 | 0.98 | 20.08 | 16 | 1.06 |
| 18" | 22.24 | 20 | 1.02 | 23.03 | 20 | 1.18 | 22.76 | 16 | 1.26 | 21.85 | 16 | 0.98 | 22.24 | 20 | 1.06 |
| 20" | 24.41 | 20 | 1.02 | 25.59 | 20 | 1.30 | 25.00 | 20 | 1.26 | 23.82 | 20 | 0.98 | 24.41 | 20 | 1.06 |
| 24" | 28.54 | 20 | 1.18 | 30.31 | 20 | 1.42 | 29.51 | 20 | 1.38 | 28.15 | 20 | 1.06 | 28.74 | 24 | 1.30 |

Model : **STC-SR** Cartridge Seat Type

Wafer Type, Common Drilled ANSI 150LBS, DIN PN10, PN16, JIS10K,16K



Dimensions

(unit : mm)

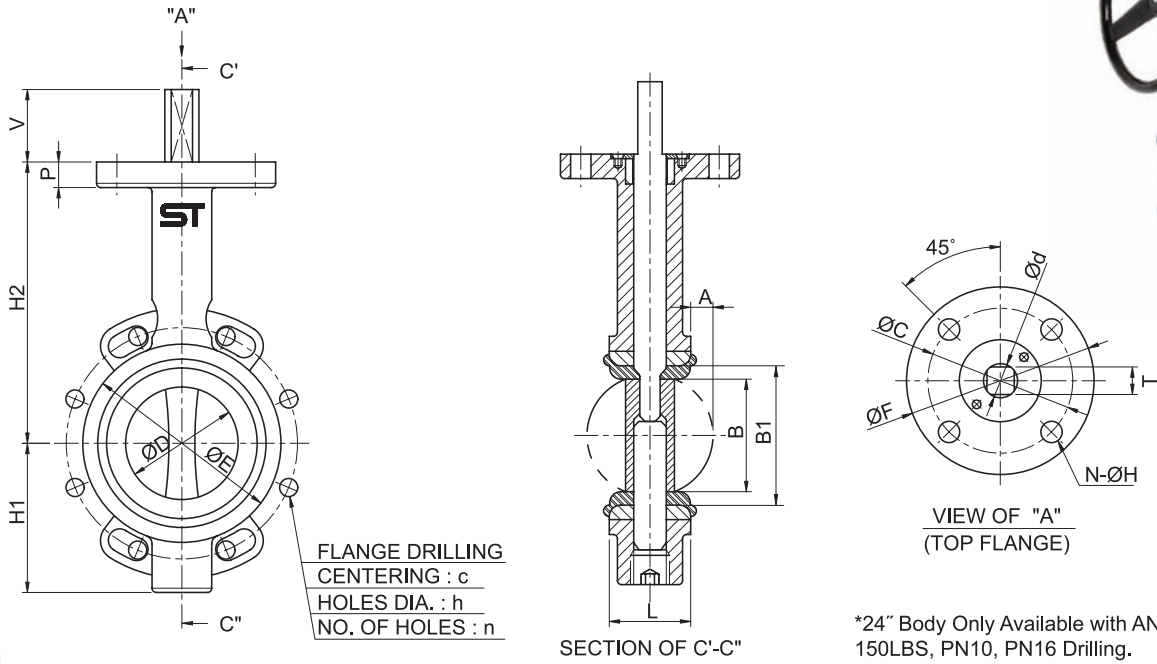
| SIZE | TOP FLANGE & STEM | | | | | | | | | | | OUT LINE DIMENSION | | | | | | | | | |
|------|-------------------|----|-----|---|------|----|----|-----|------|---|----------|--------------------|-----|-------|--------|--------|-------|--------|-------|-------|--|
| mm | d | P | C | N | H | H3 | T | F | V | W | REMARKS* | L | L1 | D | H1 | H2 | E | A | B | B1 | |
| 50A | 14 | 14 | 70 | 4 | 9.0 | - | 11 | 90 | 15.2 | - | F07 | 43.0 | - | 50.5 | 70.40 | 128.40 | 93 | 4.5 | 49.0 | - | |
| 65A | 14 | 14 | 70 | 4 | 9.0 | - | 11 | 90 | 15.2 | - | F07 | 46.0 | - | 66.2 | 75.05 | 136.05 | 108 | 10.5 | 64.0 | - | |
| 80A | 16 | 14 | 70 | 4 | 9.0 | - | 14 | 90 | 15.2 | - | F07 | 46.0 | - | 78.9 | 93.20 | 143.20 | 126 | 17.0 | 77.0 | - | |
| 100A | 16 | 16 | 70 | 4 | 9.0 | - | 14 | 90 | 17.7 | - | F07 | 52.0 | - | 99.5 | 106.20 | 162.70 | 150 | 24.0 | 97.0 | - | |
| 125A | 19 | 16 | 70 | 4 | 9.0 | - | 14 | 90 | 17.7 | - | F07 | 56.0 | - | 124.1 | 119.05 | 186.55 | 177 | 34.5 | 122.0 | - | |
| 150A | 22 | 16 | 70 | 4 | 9.0 | - | 17 | 90 | 19.0 | - | F10 | 56.0 | - | 149.5 | 139.20 | 202.70 | 208 | 47.3 | 148.0 | - | |
| 200A | 22 | 17 | 70 | 4 | 9.0 | - | 17 | 90 | 20.5 | - | F07 | 60.0 | - | 195.6 | 165.25 | 237.25 | 259 | 68.3 | 193.5 | - | |
| 250A | 28 | 20 | 102 | 4 | 11.0 | - | 22 | 125 | 20.5 | - | F10 | 68.0 | - | 247.0 | 199.60 | 282.60 | 317 | 89.5 | 245.0 | - | |
| 300A | 28 | 20 | 102 | 4 | 11.0 | - | 22 | 125 | 24.1 | - | F10 | 78.0 | - | 295.5 | 240.60 | 311.60 | 371 | 108.8 | 293.0 | - | |
| 350A | 28 | 20 | 102 | 4 | 12.0 | 60 | 10 | 125 | 71.5 | 5 | F10 | 86.0 | 78 | 330.0 | 264.5 | 345.5 | 415.1 | 126.0 | 326.0 | 375.1 | |
| 400A | 32 | 23 | 140 | 4 | 18.0 | 60 | 10 | 175 | 80.0 | 5 | F14 | 110.0 | 102 | 379.0 | 298.5 | 349.5 | 474.7 | 138.5 | 376.5 | 430.7 | |
| 450A | 38 | 23 | 140 | 4 | 18.0 | 60 | 12 | 175 | 80.0 | 5 | F14 | 122.0 | 114 | 437.0 | 350.0 | 400.0 | 526.5 | 161.5 | 434.0 | 482 | |
| 500A | 45 | 23 | 165 | 4 | 22.0 | 70 | 12 | 210 | 90.0 | 5 | F16 | 135.0 | 127 | 490.0 | 380.0 | 440.0 | 588.5 | 181.5 | 486.0 | 533.5 | |
| 600A | 55 | 23 | 165 | 4 | 22.0 | 70 | 14 | 210 | 95.0 | 5 | F16 | 162.0 | 154 | 574.5 | 440.0 | 510.0 | 706.1 | 210.25 | 570.5 | 641.1 | |

(unit : inch)

| SIZE | TOP FLANGE & STEM | | | | | | | | | | | OUT LINE DIMENSION | | | | | | | | | |
|--------|-------------------|------|------|---|------|------|------|------|------|------|----------|--------------------|------|-------|-------|-------|-------|------|-------|-------|--|
| inch | d | P | C | N | H | H3 | T | F | V | W | REMARKS* | L | L1 | D | H1 | H2 | E | A | B | B1 | |
| 2" | 0.55 | 0.55 | 2.76 | 4 | 0.35 | - | 0.43 | 3.54 | 0.60 | - | F07 | 1.69 | - | 1.99 | 2.77 | 5.06 | 3.66 | 0.18 | 1.93 | - | |
| 2 1/2" | 0.55 | 0.55 | 2.76 | 4 | 0.35 | - | 0.43 | 3.54 | 0.60 | - | F07 | 1.81 | - | 2.61 | 2.95 | 5.36 | 4.25 | 0.41 | 2.52 | - | |
| 3" | 0.63 | 0.55 | 2.76 | 4 | 0.35 | - | 0.55 | 3.54 | 0.60 | - | F07 | 1.81 | - | 3.11 | 3.67 | 5.64 | 4.96 | 0.67 | 3.03 | - | |
| 4" | 0.63 | 0.63 | 2.76 | 4 | 0.35 | - | 0.55 | 3.54 | 0.70 | - | F07 | 2.05 | - | 3.92 | 4.18 | 6.41 | 5.91 | 0.94 | 3.82 | - | |
| 5" | 0.75 | 0.63 | 2.76 | 4 | 0.35 | - | 0.55 | 3.54 | 0.70 | - | F07 | 2.20 | - | 4.89 | 4.69 | 7.34 | 6.97 | 1.36 | 4.80 | - | |
| 6" | 0.87 | 0.63 | 2.76 | 4 | 0.35 | - | 0.67 | 3.54 | 0.75 | - | F10 | 2.20 | - | 5.89 | 5.48 | 7.98 | 8.19 | 1.86 | 5.83 | - | |
| 8" | 0.87 | 0.67 | 2.76 | 4 | 0.35 | - | 0.67 | 3.54 | 0.81 | - | F07 | 2.36 | - | 7.70 | 6.51 | 9.34 | 10.20 | 2.69 | 7.62 | - | |
| 10" | 1.10 | 0.79 | 4.02 | 4 | 0.43 | - | 0.87 | 4.92 | 0.81 | - | F10 | 2.68 | - | 9.72 | 7.86 | 11.13 | 12.48 | 3.52 | 9.65 | - | |
| 12" | 1.10 | 0.79 | 4.02 | 4 | 0.43 | - | 0.87 | 4.92 | 0.95 | - | F10 | 3.07 | - | 11.63 | 9.47 | 12.27 | 14.61 | 4.28 | 11.54 | - | |
| 14" | 1.10 | 0.79 | 4.02 | 4 | 0.47 | 2.36 | 0.39 | 4.92 | 2.81 | 0.20 | F10 | 3.39 | 3.07 | 12.99 | 10.41 | 13.60 | 16.34 | 4.96 | 12.83 | 14.77 | |
| 16" | 1.26 | 0.91 | 5.51 | 4 | 0.71 | 2.36 | 0.39 | 6.89 | 3.15 | 0.20 | F14 | 4.33 | 4.02 | 14.92 | 11.75 | 13.76 | 18.69 | 5.45 | 14.82 | 16.96 | |
| 18" | 1.50 | 0.91 | 5.51 | 4 | 0.71 | 2.36 | 0.47 | 6.89 | 3.15 | 0.20 | F14 | 4.80 | 4.49 | 17.20 | 13.78 | 15.75 | 20.73 | 6.36 | 17.09 | 18.98 | |
| 20" | 1.77 | 0.91 | 6.50 | 4 | 0.87 | 2.76 | 0.47 | 8.27 | 3.54 | 0.20 | F16 | 5.31 | 5.00 | 19.29 | 14.96 | 17.32 | 23.17 | 7.15 | 19.13 | 21.00 | |
| 24" | 2.17 | 0.91 | 6.50 | 4 | 0.87 | 2.76 | 0.55 | 8.27 | 3.74 | 0.20 | F16 | 6.38 | 6.06 | 22.62 | 17.32 | 20.08 | 27.80 | 8.28 | 22.46 | 25.24 | |

Model : **STC-SR** Cartridge Seat Type

Wafer Type, Common Drilled ANSI 150LBS, DIN PN10, PN16, JIS10K, 16K



Drilling

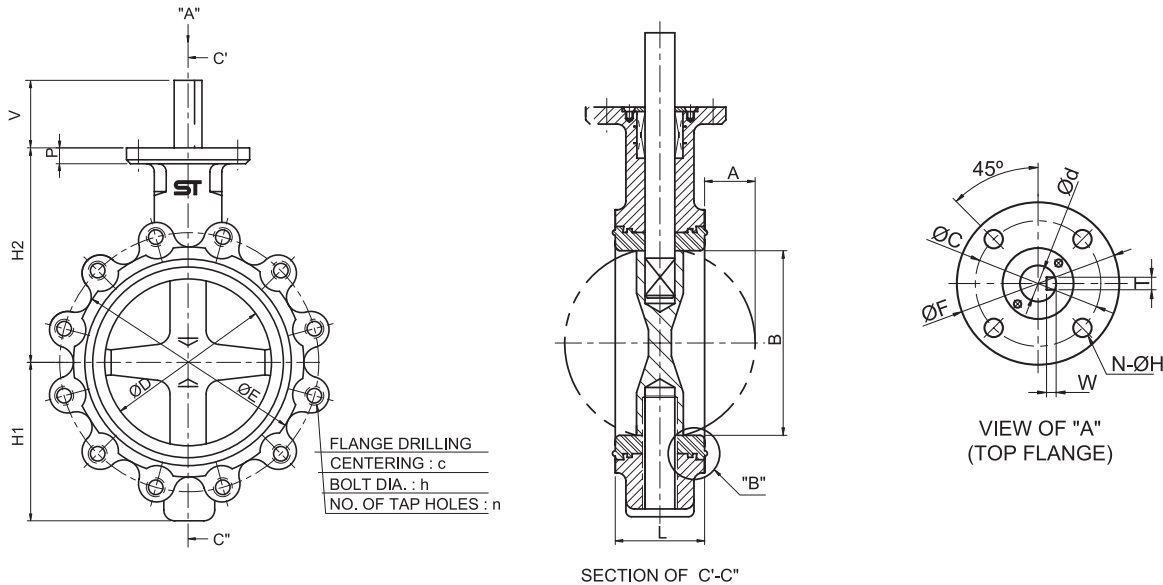
| SIZE | PN 10 | | | PN 16 | | | ANSI 150 LBS | | | JIS 10K | | |
|------|-------|----|------|-------|----|------|--------------|----|------|---------|----|------|
| mm | c | n | h | c | n | h | c | n | h | c | n | h |
| 50A | 125.0 | 4 | 18.0 | 125.0 | 4 | 18.0 | 120.7 | 4 | 19.0 | 120.0 | 4 | 19.0 |
| 65A | 145.0 | 4 | 18.0 | 145.0 | 4 | 18.0 | 139.7 | 4 | 19.0 | 140.0 | 4 | 19.0 |
| 80A | 160.0 | 8 | 18.0 | 160.0 | 8 | 18.0 | 152.4 | 4 | 19.0 | 150.0 | 8 | 19.0 |
| 100A | 180.0 | 8 | 18.0 | 180.0 | 8 | 18.0 | 190.5 | 8 | 19.0 | 175.0 | 8 | 19.0 |
| 125A | 210.0 | 8 | 18.0 | 210.0 | 8 | 18.0 | 215.9 | 8 | 22.0 | 210.0 | 8 | 23.0 |
| 150A | 240.0 | 8 | 22.0 | 240.0 | 8 | 22.0 | 241.3 | 8 | 22.0 | 240.0 | 8 | 23.0 |
| 200A | 295.0 | 8 | 22.0 | 295.0 | 12 | 22.0 | 298.5 | 8 | 22.0 | 290.0 | 12 | 23.0 |
| 250A | 350.0 | 12 | 22.0 | 355.0 | 12 | 26.0 | 362.0 | 12 | 25.0 | 355.0 | 12 | 25.0 |
| 300A | 400.0 | 12 | 22.0 | 410.0 | 12 | 26.0 | 431.8 | 12 | 25.0 | 400.0 | 16 | 25.0 |
| 350A | 460.0 | 16 | 22.0 | 470.0 | 16 | 26.0 | 476.0 | 12 | 29.0 | 445.0 | 16 | 25.0 |
| 400A | 515.0 | 16 | 26.0 | 525.0 | 16 | 30.0 | 539.5 | 16 | 29.0 | 510.0 | 16 | 27.0 |
| 450A | 565.0 | 20 | 26.0 | 585.0 | 20 | 30.0 | 578.0 | 16 | 32.0 | 565.0 | 20 | 27.0 |
| 500A | 620.0 | 20 | 26.0 | 650.0 | 20 | 33.0 | 635.0 | 20 | 32.0 | 620.0 | 20 | 27.0 |
| 600A | 725.0 | 20 | 30.0 | 770.0 | 20 | 36.0 | 749.5 | 20 | 35.0 | - | - | - |

(unit : inch)

| SIZE | PN 10 | | | PN 16 | | | ANSI 150 LBS | | | JIS 10K | | |
|--------|-------|----|------|-------|----|------|--------------|----|------|---------|----|------|
| inch | c | n | h | c | n | h | c | n | h | c | n | h |
| 2" | 4.92 | 4 | 0.71 | 4.92 | 4 | 0.71 | 4.75 | 4 | 0.75 | 4.72 | 4 | 0.75 |
| 2 1/2" | 5.71 | 4 | 0.71 | 5.71 | 4 | 0.71 | 5.50 | 4 | 0.75 | 5.51 | 4 | 0.75 |
| 3" | 6.30 | 8 | 0.71 | 6.30 | 8 | 0.71 | 6.00 | 4 | 0.75 | 5.91 | 8 | 0.75 |
| 4" | 7.09 | 8 | 0.71 | 7.09 | 8 | 0.71 | 7.50 | 8 | 0.75 | 6.89 | 8 | 0.75 |
| 5" | 8.27 | 8 | 0.71 | 8.27 | 8 | 0.71 | 8.50 | 8 | 0.87 | 8.27 | 8 | 0.91 |
| 6" | 9.45 | 8 | 0.87 | 9.45 | 8 | 0.87 | 9.50 | 8 | 0.87 | 9.45 | 8 | 0.91 |
| 8" | 11.61 | 8 | 0.87 | 11.61 | 12 | 0.87 | 11.75 | 8 | 0.87 | 11.42 | 12 | 0.91 |
| 10" | 13.78 | 12 | 0.87 | 13.98 | 12 | 1.02 | 14.25 | 12 | 0.98 | 13.98 | 12 | 0.98 |
| 12" | 15.75 | 12 | 0.87 | 16.14 | 12 | 1.02 | 17.00 | 12 | 0.98 | 15.75 | 16 | 0.98 |
| 14" | 18.11 | 16 | 0.87 | 18.50 | 16 | 1.02 | 18.74 | 12 | 1.14 | 17.52 | 16 | 0.98 |
| 16" | 20.28 | 16 | 1.02 | 20.67 | 16 | 1.18 | 21.24 | 16 | 1.14 | 20.08 | 16 | 1.06 |
| 18" | 22.24 | 20 | 1.02 | 23.03 | 20 | 1.18 | 22.76 | 16 | 1.26 | 22.24 | 20 | 1.06 |
| 20" | 24.41 | 20 | 1.02 | 25.59 | 20 | 1.30 | 25.00 | 20 | 1.26 | 24.41 | 20 | 1.06 |
| 24" | 28.54 | 20 | 1.18 | 30.31 | 20 | 1.42 | 29.51 | 20 | 1.38 | - | - | - |

Model : STL

Lug Type, ANSI 150LBS, DIN PN10, PN16, JIS 5K,10K,16K



Dimensions

(unit : mm)

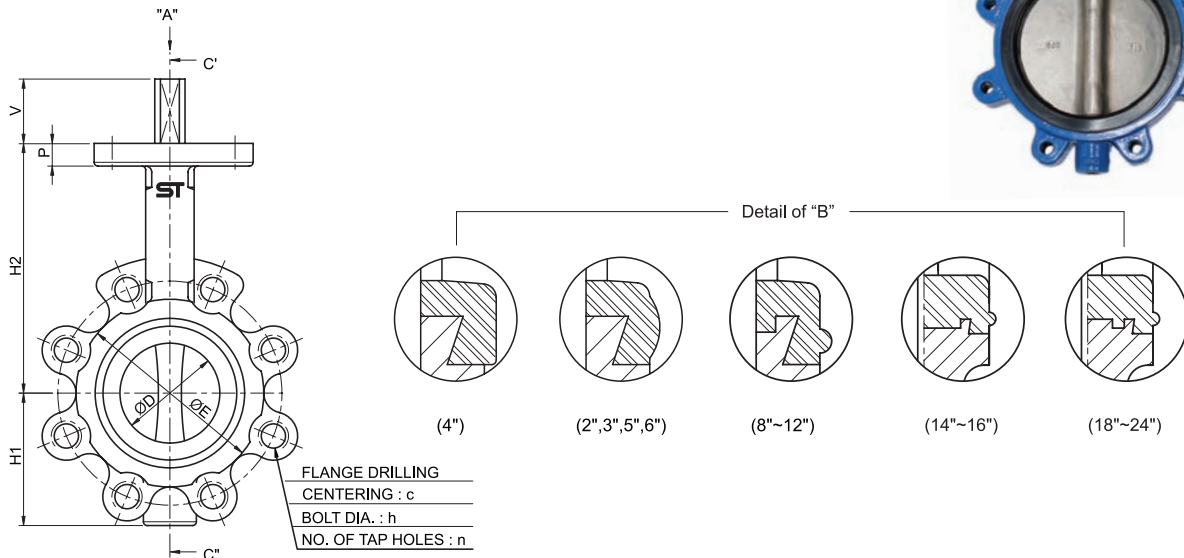
| SIZE | TOP FLANGE & STEM | | | | | | | | | | OUT LINE DIMENSION | | | | | | |
|------|-------------------|----|-----|---|------|----|-----|------|---|-----|--------------------|-------|-------|-------|-----|-------|-------|
| | mm | d | P | C | N | H | T | F | V | W | REMARKS* | L | D | H1 | H2 | E | A |
| 50A | 14 | 14 | 70 | 4 | 9.0 | 11 | 90 | 15.2 | - | F07 | 43.0 | 50.5 | 75.0 | 130.0 | 93 | 4.5 | 49.0 |
| 65A | 14 | 14 | 70 | 4 | 9.0 | 11 | 90 | 15.2 | - | F07 | 46.0 | 66.2 | 80.0 | 137.0 | 108 | 10.5 | 64.0 |
| 80A | 16 | 14 | 70 | 4 | 9.0 | 14 | 90 | 15.2 | - | F07 | 46.0 | 78.9 | 95.0 | 156.0 | 122 | 17.0 | 77.0 |
| 100A | 16 | 16 | 70 | 4 | 9.0 | 14 | 90 | 17.7 | - | F07 | 52.0 | 99.5 | 110.0 | 170.0 | 150 | 24.0 | 97.0 |
| 125A | 19 | 16 | 70 | 4 | 9.0 | 14 | 90 | 17.7 | - | F07 | 56.0 | 124.1 | 123.0 | 185.0 | 180 | 34.5 | 122.0 |
| 150A | 22 | 16 | 70 | 4 | 9.0 | 17 | 90 | 19.0 | - | F07 | 56.0 | 149.5 | 143.0 | 203.0 | 208 | 47.3 | 148.0 |
| 200A | 22 | 17 | 70 | 4 | 9.0 | 17 | 90 | 20.5 | - | F07 | 60.0 | 195.6 | 168.0 | 238.0 | 259 | 68.3 | 193.5 |
| 250A | 28 | 20 | 102 | 4 | 11.0 | 22 | 125 | 20.5 | - | F10 | 68.0 | 247.0 | 203.0 | 270.0 | 318 | 89.5 | 245.0 |
| 300A | 28 | 20 | 102 | 4 | 11.0 | 22 | 125 | 24.1 | - | F10 | 78.0 | 295.5 | 242.0 | 310.0 | 370 | 108.8 | 293.0 |
| 350A | 28 | 20 | 102 | 4 | 12 | 10 | 125 | 71.5 | 5 | F10 | 78.0 | 330.0 | 264.5 | 345.5 | 410 | 126.0 | 326.0 |
| 400A | 32 | 23 | 140 | 4 | 18 | 10 | 175 | 80.0 | 5 | F14 | 102.0 | 379.0 | 298.5 | 349.5 | 468 | 138.5 | 376.5 |
| 450A | 38 | 23 | 140 | 4 | 18 | 12 | 175 | 80.0 | 5 | F14 | 114.0 | 437.0 | 350.0 | 400.0 | 527 | 161.5 | 434.0 |
| 500A | 45 | 23 | 165 | 4 | 22 | 12 | 210 | 90.0 | 5 | F16 | 127.0 | 490.0 | 380.0 | 440.0 | 578 | 181.5 | 486.0 |
| 600A | 55 | 23 | 165 | 4 | 22 | 14 | 210 | 95.0 | 5 | F16 | 154.0 | 574.5 | 440.0 | 510.0 | 680 | 210.3 | 570.5 |

(unit : inch)

| SIZE | TOP FLANGE & STEM | | | | | | | | | | OUT LINE DIMENSION | | | | | | |
|--------|-------------------|------|------|---|------|------|------|------|------|-----|--------------------|-------|-------|-------|-------|------|-------|
| | inch | d | P | C | N | H | T | F | V | W | REMARKS* | L | D | H1 | H2 | E | A |
| 2" | 0.55 | 0.55 | 2.76 | 4 | 0.35 | 0.43 | 3.54 | 0.60 | - | F07 | 1.69 | 1.99 | 2.95 | 5.12 | 3.66 | 0.18 | 1.93 |
| 2 1/2" | 0.55 | 0.55 | 2.76 | 4 | 0.35 | 0.43 | 3.54 | 0.60 | - | F07 | 1.81 | 2.61 | 3.15 | 5.39 | 4.25 | 0.41 | 2.52 |
| 3" | 0.63 | 0.55 | 2.76 | 4 | 0.35 | 0.55 | 3.54 | 0.60 | - | F07 | 1.81 | 3.11 | 3.74 | 6.14 | 4.80 | 0.67 | 3.03 |
| 4" | 0.63 | 0.63 | 2.76 | 4 | 0.35 | 0.55 | 3.54 | 0.70 | - | F07 | 2.05 | 3.92 | 4.33 | 6.69 | 5.91 | 0.94 | 3.82 |
| 5" | 0.75 | 0.63 | 2.76 | 4 | 0.35 | 0.55 | 3.54 | 0.70 | - | F07 | 2.20 | 4.89 | 4.84 | 7.28 | 7.09 | 1.36 | 4.80 |
| 6" | 0.87 | 0.63 | 2.76 | 4 | 0.35 | 0.67 | 3.54 | 0.75 | - | F07 | 2.20 | 5.89 | 5.63 | 7.99 | 8.19 | 1.86 | 5.83 |
| 8" | 0.87 | 0.67 | 2.76 | 4 | 0.35 | 0.67 | 3.54 | 0.81 | - | F07 | 2.36 | 7.70 | 6.61 | 9.37 | 10.20 | 2.69 | 7.62 |
| 10" | 1.10 | 0.79 | 4.02 | 4 | 0.43 | 0.87 | 4.92 | 0.81 | - | F10 | 2.68 | 9.72 | 7.99 | 10.63 | 12.52 | 3.52 | 9.65 |
| 12" | 1.10 | 0.79 | 4.02 | 4 | 0.43 | 0.87 | 4.92 | 0.95 | - | F10 | 3.07 | 11.63 | 9.53 | 12.20 | 14.57 | 4.28 | 11.54 |
| 14" | 1.10 | 0.79 | 4.02 | 4 | 0.47 | 0.39 | 4.92 | 2.81 | 0.20 | F10 | 3.07 | 12.99 | 10.41 | 13.60 | 16.14 | 4.96 | 12.83 |
| 16" | 1.26 | 0.91 | 5.51 | 4 | 0.71 | 0.39 | 6.89 | 3.15 | 0.20 | F14 | 4.02 | 14.92 | 11.75 | 13.76 | 18.43 | 5.45 | 14.82 |
| 18" | 1.50 | 0.91 | 5.51 | 4 | 0.71 | 0.47 | 6.89 | 3.15 | 0.20 | F14 | 4.49 | 17.20 | 13.78 | 15.75 | 20.75 | 6.36 | 17.09 |
| 20" | 1.77 | 0.91 | 6.50 | 4 | 0.87 | 0.47 | 8.27 | 3.54 | 0.20 | F16 | 5.00 | 19.29 | 14.96 | 17.32 | 22.76 | 7.15 | 19.13 |
| 24" | 2.17 | 0.91 | 6.50 | 4 | 0.87 | 0.55 | 8.27 | 3.74 | 0.20 | F16 | 6.06 | 22.62 | 17.32 | 20.08 | 26.77 | 8.28 | 22.46 |

Model : STL

Lug Type, ANSI 150LBS, DIN PN10, PN16, JIS 5K,10K,16K



Drilling

(unit : mm)

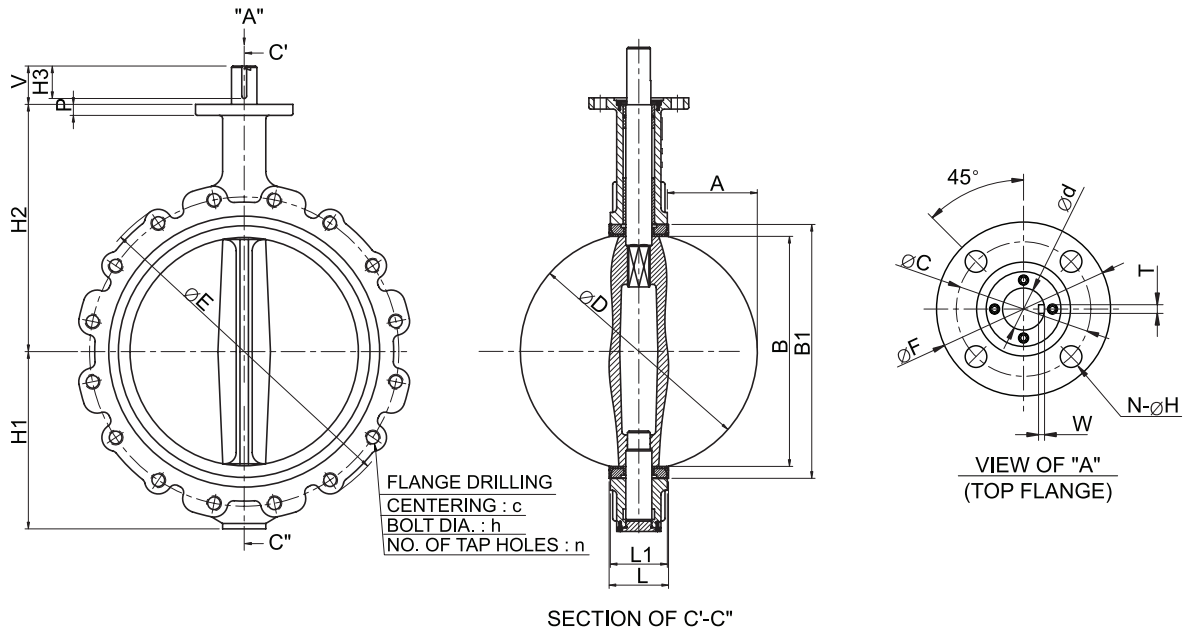
| SIZE | PN 10 | | | PN 16 | | | ANSI 150 LBS | | | JIS 5K | | | JIS 10K | | |
|------|-------|----|-----|-------|----|-----|--------------|----|--------|--------|----|-----|---------|----|-----|
| mm | c | n | h | c | n | h | c | n | h | c | n | h | c | n | h |
| 50A | 125.0 | 4 | M16 | 125.0 | 4 | M16 | 120.7 | 4 | 5/8" | 105.0 | 4 | M12 | 120.0 | 4 | M16 |
| 65A | 145.0 | 4 | M16 | 145.0 | 4 | M16 | 139.7 | 4 | 5/8" | 130.0 | 4 | M12 | 140.0 | 4 | M16 |
| 80A | 160.0 | 8 | M16 | 160.0 | 8 | M16 | 152.4 | 4 | 5/8" | 145.0 | 4 | M16 | 150.0 | 8 | M16 |
| 100A | 180.0 | 8 | M16 | 180.0 | 8 | M16 | 190.5 | 8 | 5/8" | 165.0 | 8 | M16 | 175.0 | 8 | M16 |
| 125A | 210.0 | 8 | M16 | 210.0 | 8 | M16 | 215.9 | 8 | 3/4" | 200.0 | 8 | M16 | 210.0 | 8 | M20 |
| 150A | 240.0 | 8 | M20 | 240.0 | 8 | M20 | 241.3 | 8 | 3/4" | 230.0 | 8 | M16 | 240.0 | 8 | M20 |
| 200A | 295.0 | 8 | M20 | 295.0 | 12 | M20 | 298.5 | 8 | 3/4" | 280.0 | 8 | M20 | 290.0 | 12 | M20 |
| 250A | 350.0 | 12 | M20 | 355.0 | 12 | M24 | 362.0 | 12 | 7/8" | 345.0 | 12 | M20 | 355.0 | 12 | M22 |
| 300A | 400.0 | 12 | M20 | 410.0 | 12 | M24 | 431.8 | 12 | 7/8" | 390.0 | 12 | M20 | 400.0 | 16 | M22 |
| 350A | 460.0 | 16 | M20 | 470.0 | 16 | M24 | 476.0 | 12 | 1" | 435.0 | 12 | M22 | 445.0 | 12 | M22 |
| 400A | 515.0 | 16 | M24 | 525.0 | 16 | M27 | 539.5 | 16 | 1" | 495.0 | 16 | M22 | 510.0 | 16 | M24 |
| 450A | 565.0 | 20 | M24 | 585.0 | 20 | M27 | 578.0 | 16 | 1 1/8" | 555.0 | 16 | M22 | 565.0 | 20 | M24 |
| 500A | 620.0 | 20 | M24 | 650.0 | 20 | M30 | 635.0 | 20 | 1 1/8" | 605.0 | 20 | M22 | 620.0 | 20 | M24 |
| 600A | 725.0 | 20 | M27 | 770.0 | 20 | M33 | 749.5 | 20 | 1 1/4" | 715.0 | 20 | M24 | 730.0 | 24 | M30 |

(unit : inch)

| SIZE | PN 10 | | | PN 16 | | | ANSI 150 LBS | | | JIS 5K | | | JIS 10K | | |
|--------|-------|----|-----|-------|----|-----|--------------|----|--------|--------|----|-----|---------|----|-----|
| inch | c | n | h | c | n | h | c | n | h | c | n | h | c | n | h |
| 2" | 4.92 | 4 | M16 | 4.92 | 4 | M16 | 4.75 | 4 | 5/8" | 4.13 | 4 | M12 | 4.72 | 4 | M16 |
| 2 1/2" | 5.71 | 4 | M16 | 5.71 | 4 | M16 | 5.50 | 4 | 5/8" | 5.12 | 4 | M12 | 5.51 | 4 | M16 |
| 3" | 6.30 | 8 | M16 | 6.30 | 8 | M16 | 6.00 | 4 | 5/8" | 5.71 | 4 | M16 | 5.91 | 8 | M16 |
| 4" | 7.09 | 8 | M16 | 7.09 | 8 | M16 | 7.50 | 8 | 5/8" | 6.50 | 8 | M16 | 6.89 | 8 | M16 |
| 5" | 8.27 | 8 | M16 | 8.27 | 8 | M16 | 8.50 | 8 | 3/4" | 7.87 | 8 | M16 | 8.27 | 8 | M20 |
| 6" | 9.45 | 8 | M20 | 9.45 | 8 | M20 | 9.50 | 8 | 3/4" | 9.06 | 8 | M16 | 9.45 | 8 | M20 |
| 8" | 11.61 | 8 | M20 | 11.61 | 12 | M20 | 11.75 | 8 | 3/4" | 11.02 | 8 | M20 | 11.42 | 12 | M20 |
| 10" | 13.78 | 12 | M20 | 13.98 | 12 | M24 | 14.25 | 12 | 7/8" | 13.58 | 12 | M20 | 13.98 | 12 | M22 |
| 12" | 15.75 | 12 | M20 | 16.14 | 12 | M24 | 17.00 | 12 | 7/8" | 15.35 | 12 | M20 | 15.75 | 16 | M22 |
| 14" | 18.11 | 16 | M20 | 18.50 | 16 | M24 | 18.74 | 12 | 1" | 17.13 | 12 | M22 | 17.52 | 12 | M22 |
| 16" | 20.28 | 16 | M24 | 20.67 | 16 | M27 | 21.24 | 16 | 1" | 19.49 | 16 | M22 | 20.08 | 16 | M24 |
| 18" | 22.24 | 20 | M24 | 23.03 | 20 | M27 | 22.76 | 16 | 1 1/8" | 21.85 | 16 | M22 | 22.24 | 20 | M24 |
| 20" | 24.41 | 20 | M24 | 25.59 | 20 | M30 | 25.00 | 20 | 1 1/8" | 23.82 | 20 | M22 | 24.41 | 20 | M24 |
| 24" | 28.54 | 20 | M27 | 30.31 | 20 | M33 | 29.51 | 20 | 1 1/4" | 28.15 | 20 | M24 | 28.74 | 24 | M30 |

Model : STL-SR

Lug - Cartridge Type, ANSI 150LBS, DIN PN10, PN16, JIS10K, 16K



Dimensions

(unit : mm)

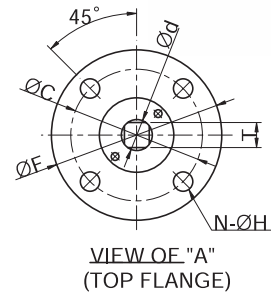
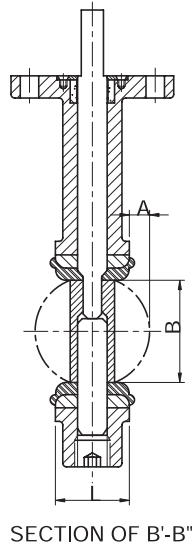
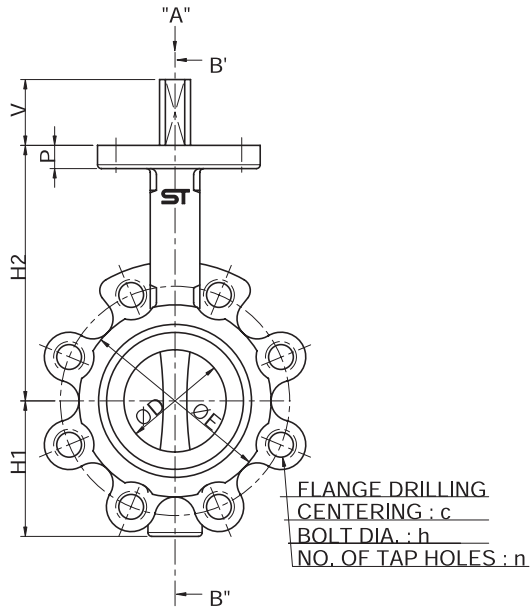
| SIZE | TOP FLANGE & STEM | | | | | | | | | | | OUT LINE DIMENSION | | | | | | | | |
|------|-------------------|----|-----|---|------|----|----|-----|------|---|----------|--------------------|-----|-------|--------|--------|-------|--------|-------|-------|
| mm | d | P | C | N | H | H3 | T | F | V | W | REMARKS* | L | L1 | D | H1 | H2 | E | A | B | B1 |
| 50A | 14 | 14 | 70 | 4 | 9.0 | - | 11 | 90 | 15.2 | - | F07 | 43.0 | - | 50.5 | 70.4 | 125.4 | 93 | 4.5 | 49.0 | - |
| 65A | 14 | 14 | 70 | 4 | 9.0 | - | 11 | 90 | 15.2 | - | F07 | 46.0 | - | 66.2 | 75.05 | 132.05 | 108 | 10.5 | 64.0 | - |
| 80A | 16 | 14 | 70 | 4 | 9.0 | - | 14 | 90 | 15.2 | - | F07 | 46.0 | - | 78.9 | 93.2 | 154.2 | 122 | 17.0 | 77.0 | - |
| 100A | 16 | 16 | 70 | 4 | 9.0 | - | 14 | 90 | 17.7 | - | F07 | 52.0 | - | 99.5 | 106.2 | 166.2 | 150 | 24.0 | 97.0 | - |
| 125A | 19 | 16 | 70 | 4 | 9.0 | - | 14 | 90 | 17.7 | - | F07 | 56.0 | - | 124.1 | 119.05 | 181.05 | 180 | 34.5 | 122.0 | - |
| 150A | 22 | 16 | 70 | 4 | 9.0 | - | 17 | 90 | 19.0 | - | F07 | 56.0 | - | 149.5 | 139.2 | 199.2 | 208 | 47.3 | 148.0 | - |
| 200A | 22 | 17 | 70 | 4 | 9.0 | - | 17 | 90 | 20.5 | - | F07 | 60.0 | - | 195.6 | 165.25 | 235.25 | 259 | 68.3 | 193.5 | - |
| 250A | 28 | 20 | 102 | 4 | 11.0 | - | 22 | 125 | 20.5 | - | F10 | 68.0 | - | 247.0 | 199.6 | 266.6 | 318 | 89.5 | 245.0 | - |
| 300A | 28 | 20 | 102 | 4 | 11.0 | - | 22 | 125 | 24.1 | - | F10 | 78.0 | - | 295.5 | 240.6 | 308.6 | 371 | 108.8 | 293.0 | - |
| 350A | 28 | 20 | 102 | 4 | 12.0 | 60 | 10 | 125 | 71.5 | 5 | F10 | 86.0 | 78 | 330.0 | 264.5 | 345.5 | 511.9 | 126.0 | 326.0 | 375.1 |
| 400A | 32 | 23 | 140 | 4 | 18.0 | 60 | 10 | 175 | 80.0 | 5 | F14 | 110.0 | 102 | 379.0 | 298.5 | 349.5 | 575.2 | 138.5 | 376.5 | 430.7 |
| 450A | 38 | 23 | 140 | 4 | 18.0 | 60 | 12 | 175 | 80.0 | 5 | F14 | 122.0 | 114 | 437.0 | 350.0 | 400.0 | 622.0 | 161.5 | 434.0 | 482 |
| 500A | 45 | 23 | 165 | 4 | 22.0 | 70 | 12 | 210 | 90.0 | 5 | F16 | 135.0 | 127 | 490.0 | 380.0 | 440.0 | 690.0 | 181.5 | 486.0 | 533.5 |
| 600A | 55 | 23 | 165 | 4 | 22.0 | 70 | 14 | 210 | 95.0 | 5 | F16 | 162.0 | 154 | 574.5 | 440.0 | 510.0 | 813.0 | 210.25 | 570.5 | 641.1 |

(unit : inch)

| SIZE | TOP FLANGE & STEM | | | | | | | | | | | OUT LINE DIMENSION | | | | | | | | |
|--------|-------------------|------|------|---|------|------|------|------|------|------|----------|--------------------|------|-------|-------|-------|-------|------|-------|-------|
| inch | d | P | C | N | H | H3 | T | F | V | W | REMARKS* | L | L1 | D | H1 | H2 | E | A | B | B1 |
| 2" | 0.55 | 0.55 | 2.76 | 4 | 0.35 | - | 0.43 | 3.54 | 0.60 | - | F07 | 1.69 | - | 1.99 | 2.77 | 4.94 | 3.66 | 0.18 | 1.93 | - |
| 2 1/2" | 0.55 | 0.55 | 2.76 | 4 | 0.35 | - | 0.43 | 3.54 | 0.60 | - | F07 | 1.81 | - | 2.61 | 2.95 | 5.20 | 4.25 | 0.41 | 2.52 | - |
| 3" | 0.63 | 0.55 | 2.76 | 4 | 0.35 | - | 0.55 | 3.54 | 0.60 | - | F07 | 1.81 | - | 3.11 | 3.67 | 6.07 | 4.80 | 0.67 | 3.03 | - |
| 4" | 0.63 | 0.63 | 2.76 | 4 | 0.35 | - | 0.55 | 3.54 | 0.70 | - | F07 | 2.05 | - | 3.92 | 4.18 | 6.54 | 5.91 | 0.94 | 3.82 | - |
| 5" | 0.75 | 0.63 | 2.76 | 4 | 0.35 | - | 0.55 | 3.54 | 0.70 | - | F07 | 2.20 | - | 4.89 | 4.69 | 7.13 | 7.09 | 1.36 | 4.80 | - |
| 6" | 0.87 | 0.63 | 2.76 | 4 | 0.35 | - | 0.67 | 3.54 | 0.75 | - | F07 | 2.20 | - | 5.89 | 5.48 | 7.84 | 8.19 | 1.86 | 5.83 | - |
| 8" | 0.87 | 0.67 | 2.76 | 4 | 0.35 | - | 0.67 | 3.54 | 0.81 | - | F07 | 2.36 | - | 7.70 | 6.51 | 9.26 | 10.20 | 2.69 | 7.62 | - |
| 10" | 1.10 | 0.79 | 4.02 | 4 | 0.43 | - | 0.87 | 4.92 | 0.81 | - | F10 | 2.68 | - | 9.72 | 7.86 | 10.50 | 12.52 | 3.52 | 9.65 | - |
| 12" | 1.10 | 0.79 | 4.02 | 4 | 0.43 | - | 0.87 | 4.92 | 0.95 | - | F10 | 3.07 | - | 11.63 | 9.47 | 12.15 | 14.61 | 4.28 | 11.54 | - |
| 14" | 1.10 | 0.79 | 4.02 | 4 | 0.47 | 2.36 | 0.39 | 4.92 | 2.81 | 0.20 | F10 | 3.39 | 3.07 | 12.99 | 10.41 | 13.60 | 20.15 | 4.96 | 12.83 | 14.77 |
| 16" | 1.26 | 0.91 | 5.51 | 4 | 0.71 | 2.36 | 0.39 | 6.89 | 3.15 | 0.20 | F14 | 4.33 | 4.02 | 14.92 | 11.75 | 13.76 | 22.65 | 5.45 | 14.82 | 16.96 |
| 18" | 1.50 | 0.91 | 5.51 | 4 | 0.71 | 2.36 | 0.47 | 6.89 | 3.15 | 0.20 | F14 | 4.80 | 4.49 | 17.20 | 13.78 | 15.75 | 24.49 | 6.36 | 17.09 | 18.98 |
| 20" | 1.77 | 0.91 | 6.50 | 4 | 0.87 | 2.76 | 0.47 | 8.27 | 3.54 | 0.20 | F16 | 5.31 | 5.00 | 19.29 | 14.96 | 17.32 | 27.17 | 7.15 | 19.13 | 21.00 |
| 24" | 2.17 | 0.91 | 6.50 | 4 | 0.87 | 2.76 | 0.55 | 8.27 | 3.74 | 0.20 | F16 | 6.38 | 6.06 | 22.62 | 17.32 | 20.08 | 32.01 | 8.28 | 22.46 | 25.24 |

Model : STL-SR

Lug - Cartridge Type, ANSI 150LBS, DIN PN10, PN16, JIS 10K,16K Drilling



*24" Body Only Available with ANSI 150LBS, PN10, PN16 Drilling.

Drilling

(unit : mm)

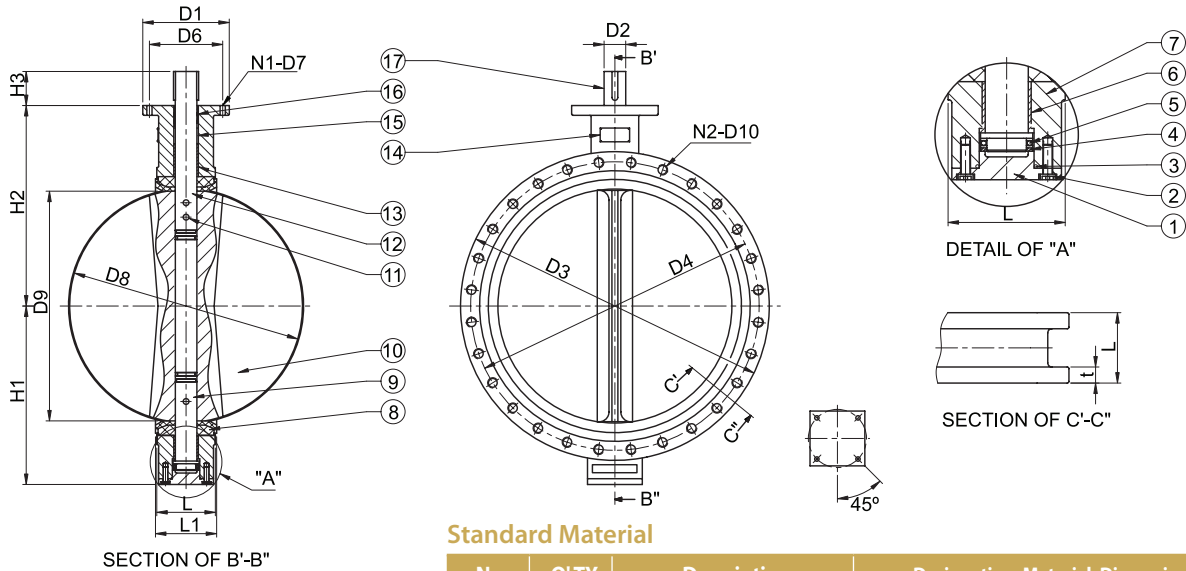
| SIZE | PN 10 | | | PN 16 | | | ANSI 150 LBS | | | JIS 10K | | |
|------|-------|----|-----|-------|----|-----|--------------|----|--------|---------|----|-----|
| mm | c | n | h | c | n | h | c | n | h | c | n | h |
| 50A | 125.0 | 4 | M16 | 125.0 | 4 | M16 | 120.7 | 4 | 5/8" | - | - | - |
| 65A | 145.0 | 4 | M16 | 145.0 | 4 | M16 | 139.7 | 4 | 5/8" | - | - | - |
| 80A | 160.0 | 8 | M16 | 160.0 | 8 | M16 | 152.4 | 4 | 5/8" | - | - | - |
| 100A | 180.0 | 8 | M16 | 180.0 | 8 | M16 | 190.5 | 8 | 5/8" | - | - | - |
| 125A | 210.0 | 8 | M16 | 210.0 | 8 | M16 | 215.9 | 8 | 3/4" | - | - | - |
| 150A | 240.0 | 8 | M20 | 240.0 | 8 | M20 | 241.3 | 8 | 3/4" | - | - | - |
| 200A | 295.0 | 8 | M20 | 295.0 | 12 | M20 | 298.5 | 8 | 3/4" | - | - | - |
| 250A | 350.0 | 12 | M20 | 355.0 | 12 | M24 | 362.0 | 12 | 7/8" | - | - | - |
| 300A | 400.0 | 12 | M20 | 410.0 | 12 | M24 | 431.8 | 12 | 7/8" | - | - | - |
| 350A | 460.0 | 16 | M20 | 470.0 | 16 | M24 | 476.0 | 12 | 1" | 445.0 | 16 | M22 |
| 400A | 515.0 | 16 | M24 | 525.0 | 16 | M27 | 539.5 | 16 | 1" | 510.0 | 16 | M24 |
| 450A | 565.0 | 20 | M24 | 585.0 | 20 | M27 | 578.0 | 16 | 1 1/8" | 565.0 | 20 | M24 |
| 500A | 620.0 | 20 | M24 | 650.0 | 20 | M30 | 635.0 | 20 | 1 1/8" | 620.0 | 20 | M24 |
| 600A | 725.0 | 20 | M27 | 770.0 | 20 | M33 | 749.5 | 20 | 1 1/4" | - | - | - |

(unit : inch)

| SIZE | PN 10 | | | PN 16 | | | ANSI 150 LBS | | | JIS 10K | | |
|--------|-------|----|-----|-------|----|-----|--------------|----|--------|---------|----|-----|
| inch | c | n | h | c | n | h | c | n | h | c | n | h |
| 2" | 4.92 | 4 | M16 | 4.92 | 4 | M16 | 4.75 | 4 | 5/8" | - | - | - |
| 2 1/2" | 5.71 | 4 | M16 | 5.71 | 4 | M16 | 5.50 | 4 | 5/8" | - | - | - |
| 3" | 6.30 | 8 | M16 | 6.30 | 8 | M16 | 6.00 | 4 | 5/8" | - | - | - |
| 4" | 7.09 | 8 | M16 | 7.09 | 8 | M16 | 7.50 | 8 | 5/8" | - | - | - |
| 5" | 8.27 | 8 | M16 | 8.27 | 8 | M16 | 8.50 | 8 | 3/4" | - | - | - |
| 6" | 9.45 | 8 | M20 | 9.45 | 8 | M20 | 9.50 | 8 | 3/4" | - | - | - |
| 8" | 11.61 | 8 | M20 | 11.61 | 12 | M20 | 11.75 | 8 | 3/4" | - | - | - |
| 10" | 13.78 | 12 | M20 | 13.98 | 12 | M24 | 14.25 | 12 | 7/8" | - | - | - |
| 12" | 15.75 | 12 | M20 | 16.14 | 12 | M24 | 17.00 | 12 | 7/8" | - | - | - |
| 14" | 18.11 | 16 | M20 | 18.50 | 16 | M24 | 18.74 | 12 | 1" | 17.52 | 16 | M22 |
| 16" | 20.28 | 16 | M24 | 20.67 | 16 | M27 | 21.24 | 16 | 1" | 20.08 | 16 | M24 |
| 18" | 22.24 | 20 | M24 | 23.03 | 20 | M27 | 22.76 | 16 | 1 1/8" | 22.24 | 20 | M24 |
| 20" | 24.41 | 20 | M24 | 25.59 | 20 | M30 | 25.00 | 20 | 1 1/8" | 24.41 | 20 | M24 |
| 24" | 28.54 | 20 | M27 | 30.31 | 20 | M33 | 29.51 | 20 | 1 1/4" | - | - | - |

Model : U-SECTION

Lug - Cartridge Type, Butterfly Valve



Standard Material

| No. | Q'TY | Description | Designation, Material, Dimension ETC |
|-----|------|---------------|--------------------------------------|
| 1 | 1 | End Cover | ASTM A536 |
| 2 | 4 | Screw | Steel |
| 3 | 1 | "O" Ring | ASTM D2000 (NBR) |
| 4 | 1 | Gasket | Steel |
| 5 | 1 | Bearing | ASTM A584 C83600 |
| 6 | 1 | Lower Bushing | ASTM A584 C83600 |
| 7 | 1 | Body | ASTM A536 |
| 8 | 1 | Seat | ASTM D2000 (EPDM) |
| 9 | 1 | Lower Shaft | ASTM A276 S31600 |
| 10 | 1 | Disc | ASTM A351 CF8M |
| 11 | 3 | Taper Pin | ASTM A564 S17400 |
| 12 | 1 | Upper Shaft | ASTM A276 S31600 |
| 13 | 1 | Long Bushing | ASTM A584 C83600 |
| 14 | 1 | Name Plate | Aluminium |
| 15 | 4 | Short Bushing | ASTM A584 C83600 |
| 16 | 3 | "O" Ring | ASTM D2000 (EPDM) |
| 17 | 2 | Key | Steel |

Technical Data

| | | |
|------------------|-------|--------------|
| Working Pressure | | 150 psi |
| Test Pressure | SEAT | 165 psi |
| | SHELL | 225 psi |
| Working Temp. | EPDM | -30° to 110° |
| | NBR | -20° to 82° |

Dimensions

(unit : mm)

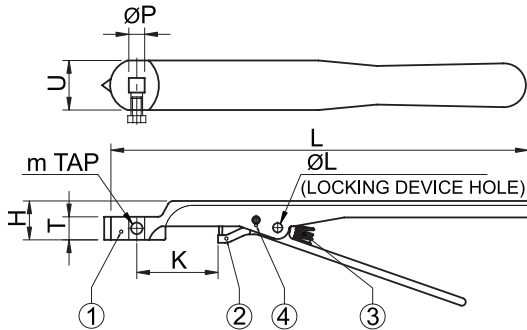
| SIZE | D1 | D2 | D3 | D4 | N2 | D10 | D6 | N1 | D7 | D8 | D9 | L | L1 | H1 | H2 | H3 | t | KEY |
|---------|-----|-------|------|-------|----|---------------|-----|----|----|------|------|-----|-----|-----|-----|-----|----|----------|
| DN 700 | 300 | 63.35 | 910 | 840 | 24 | 1-1/4-7UNC-2B | 254 | 8 | 18 | 695 | 676 | 163 | 169 | 520 | 624 | 66 | 54 | 18 x 63 |
| DN 750 | 300 | 63.75 | 984 | 914.4 | 28 | 1-1/4-7UNC-2B | 254 | 8 | 18 | 744 | 726 | 167 | 173 | 560 | 660 | 66 | 54 | 18 x 63 |
| DN 800 | 300 | 63.35 | 1015 | 950 | 24 | 1-3/8-6UNC-2B | 254 | 8 | 18 | 795 | 722 | 188 | 195 | 591 | 672 | 118 | 61 | 18 x 63 |
| DN 900 | 300 | 75 | 1168 | 1086 | 32 | 1-1/2-6UNC-2B | 254 | 8 | 18 | 865 | 841 | 203 | 211 | 656 | 720 | 118 | 61 | 20 x 100 |
| DN 1000 | 300 | 85 | 1230 | 1170 | 28 | 1-1/2-6UNC-2B | 254 | 8 | 18 | 965 | 940 | 216 | 224 | 721 | 800 | 150 | 64 | 20 x 100 |
| DN 1050 | 300 | 95 | 1346 | 1257 | 36 | 1-1/2-6UNC-2B | 254 | 8 | 18 | 1030 | 999 | 251 | 261 | 777 | 858 | 150 | 67 | 25 x 140 |
| DN 1200 | 350 | 105 | 1511 | 1422 | 44 | 1-1/2-6UNC-2B | 298 | 8 | 22 | 1160 | 1127 | 276 | 286 | 864 | 941 | 150 | 70 | 28 x 140 |

(unit : inch)

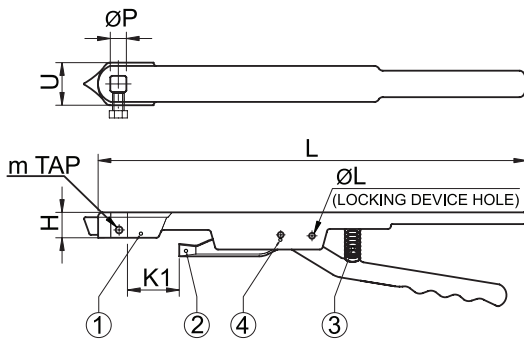
| SIZE | D1 | D2 | D3 | D4 | N2 | D10 | D6 | N1 | D7 | D8 | D9 | L | L1 | H1 | H2 | H3 | t | KEY |
|------|-------|------|-------|-------|----|---------------|-------|------|------|-------|-------|-------|-------|-------|-------|------|------|----------|
| 28" | 11.81 | 2.49 | 35.83 | 33.07 | 24 | 1-1/4-7UNC-2B | 10.00 | 0.31 | 0.71 | 27.36 | 26.61 | 6.42 | 6.65 | 20.47 | 24.57 | 2.60 | 2.13 | 18 x 63 |
| 30" | 11.81 | 2.51 | 38.74 | 36.00 | 28 | 1-1/4-7UNC-2B | 10.00 | 0.31 | 0.71 | 29.29 | 28.58 | 6.57 | 6.81 | 22.05 | 25.98 | 2.60 | 2.13 | 18 x 63 |
| 32" | 11.81 | 2.49 | 39.96 | 37.40 | 24 | 1-3/8-6UNC-2B | 10.00 | 0.31 | 0.71 | 31.30 | 28.43 | 7.40 | 7.68 | 23.27 | 26.46 | 4.65 | 2.40 | 18 x 63 |
| 36" | 11.81 | 2.95 | 45.98 | 42.76 | 32 | 1-1/2-6UNC-2B | 10.00 | 0.31 | 0.71 | 34.06 | 33.11 | 7.99 | 8.31 | 25.83 | 28.35 | 4.65 | 2.40 | 20 x 100 |
| 40" | 11.81 | 3.35 | 48.43 | 46.06 | 28 | 1-1/2-6UNC-2B | 10.00 | 0.31 | 0.71 | 37.99 | 37.01 | 8.50 | 8.82 | 28.39 | 31.50 | 5.91 | 2.52 | 20 x 100 |
| 42" | 11.81 | 3.74 | 52.99 | 49.49 | 36 | 1-1/2-6UNC-2B | 10.00 | 0.31 | 0.71 | 40.55 | 39.33 | 9.88 | 10.28 | 30.59 | 33.78 | 5.91 | 2.64 | 25 x 140 |
| 48" | 13.78 | 4.13 | 59.49 | 55.98 | 44 | 1-1/2-6UNC-2B | 11.73 | 0.31 | 0.87 | 45.67 | 44.37 | 10.87 | 11.26 | 34.02 | 37.05 | 5.91 | 2.76 | 28 x 140 |

Model : Lever

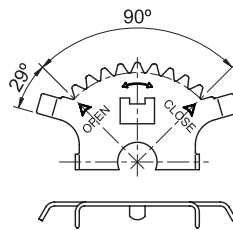
SIZE 2"~6"



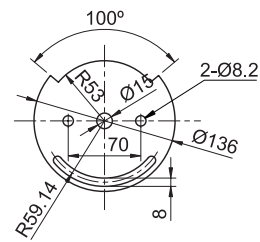
SIZE 8"~12"



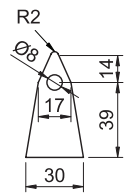
'P' Tolerance : $\begin{matrix} +0.2 \\ -0.0 \end{matrix}$



10 POSITION INDICATOR



INFINITE NOTCH PLATE



INFINITE NOTCH PLATE USE

Lever Weight

| Size | Kg |
|--------|------|
| 2" | 0.50 |
| 2 1/2" | 0.50 |
| 3" | 0.50 |
| 4" | 0.50 |
| 5" | 0.60 |
| 6" | 0.60 |
| 8" | 1.85 |
| 10" | 1.85 |
| 12" | 1.85 |

Standard Material

| No. | Description | Material |
|-----|-------------|-------------------------------|
| 1 | Lever | Steel Plate or Malleable Iron |
| 2 | Aux Lever | Steel Plate or Malleable Iron |
| 3 | Spring | SUP3 |
| 4 | Pin | SS41 |

Dimensions

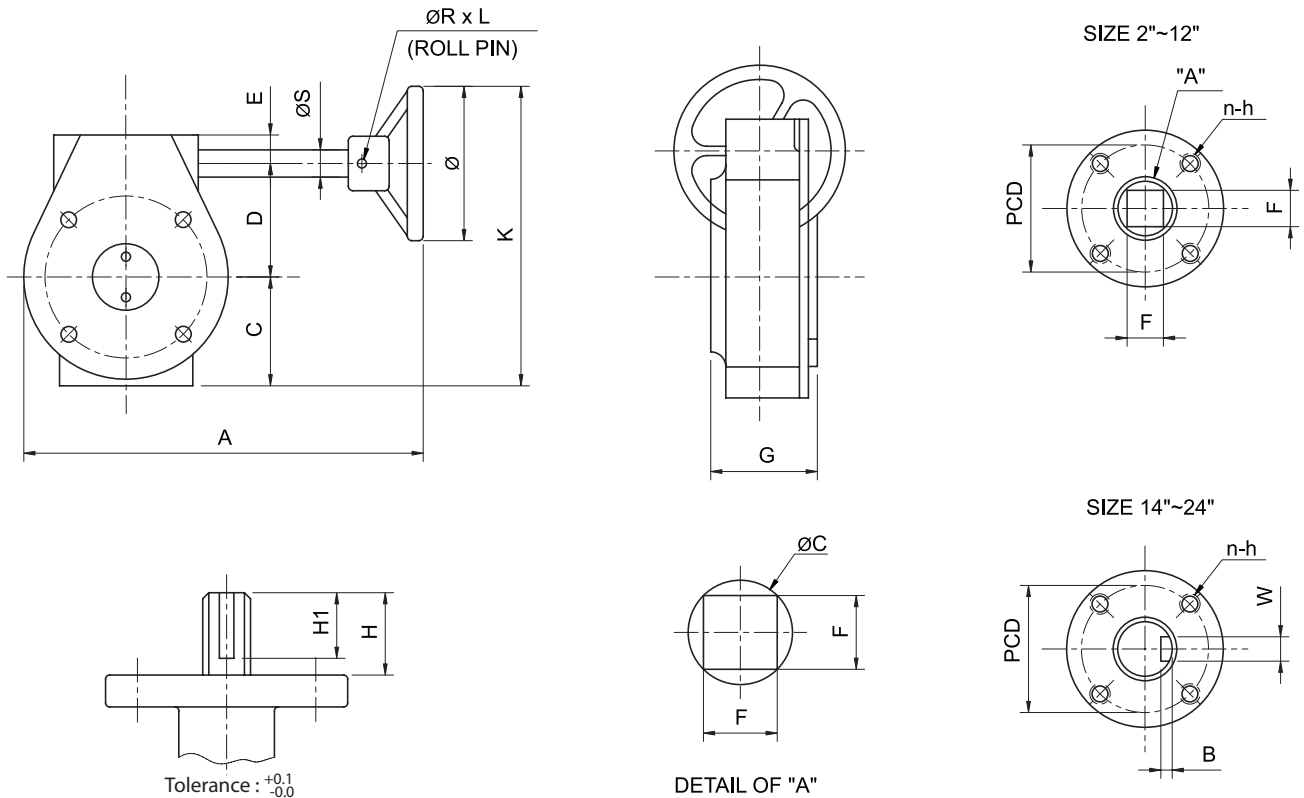
(unit : mm)

| SIZE | P | T | L | m | U | H | K | K1 | ØL |
|---------------|----|----|-------|----|----|----|----|----|-----|
| DN50~DN65 | 11 | 16 | 288.7 | 8 | 34 | 27 | 55 | - | 7.5 |
| DN80 | 14 | 18 | 288.7 | 8 | 34 | 27 | 55 | - | 7.5 |
| DN100 | 14 | 18 | 288.7 | 8 | 34 | 27 | 55 | - | 7.5 |
| DN125 | 14 | 18 | 288.7 | 8 | 34 | 27 | 55 | - | 7.5 |
| DN150 | 17 | 20 | 288.7 | 8 | 34 | 27 | 55 | - | 7.5 |
| DN200 | 17 | - | 453.0 | 10 | 45 | 26 | - | 42 | 7.5 |
| DN250 ~ DN300 | 22 | - | 453.0 | 8 | 45 | 26 | - | 53 | 7.5 |

(unit : inch)

| SIZE | P | T | L | m | U | H | K | K1 | ØL |
|-------------|------|------|-------|------|------|------|------|------|------|
| 2" ~ 2 1/2" | 0.43 | 0.63 | 11.37 | 0.31 | 1.34 | 1.06 | 2.17 | - | 0.30 |
| 3" | 0.55 | 0.71 | 11.37 | 0.31 | 1.34 | 1.06 | 2.17 | - | 0.30 |
| 4" | 0.55 | 0.71 | 11.37 | 0.31 | 1.34 | 1.06 | 2.17 | - | 0.30 |
| 5" | 0.55 | 0.71 | 11.37 | 0.31 | 1.34 | 1.06 | 2.17 | - | 0.30 |
| 6" | 0.67 | 0.79 | 11.37 | 0.31 | 1.34 | 1.06 | 2.17 | - | 0.30 |
| 8" | 0.67 | - | 17.83 | 0.39 | 1.77 | 1.02 | - | 1.65 | 0.30 |
| 10" ~ 12" | 0.87 | - | 17.83 | 0.31 | 1.77 | 1.02 | - | 2.09 | 0.30 |

Model : Gear



Dimensions

(unit : mm)

| SIZE | RATIO | A | G | C | D | E | K | Ø | n-h | PCD | B | W | H | F | ØC | H1 | ØS | ØRxL | Weight (kgs) |
|-------|-------|-----|------|------|------|----|-------|-----|-------|-----|---|----|------|----|----|----|----|--------|--------------|
| DN50 | 24:1 | 222 | 72 | 54 | 45 | 28 | 174 | 147 | 4-M8 | 70 | - | - | 15.2 | 11 | 14 | - | 16 | 5.2X40 | 3.40 |
| DN80 | 24:1 | 222 | 72 | 54 | 45 | 28 | 174 | 147 | 4-M8 | 70 | - | - | 15.2 | 14 | 16 | - | 16 | 5.2X40 | 3.40 |
| DN100 | 24:1 | 222 | 72 | 54 | 45 | 28 | 174 | 147 | 4-M8 | 70 | - | - | 17.7 | 14 | 16 | - | 16 | 5.2X40 | 3.46 |
| DN125 | 24:1 | 222 | 72 | 54 | 45 | 28 | 174 | 147 | 4-M8 | 70 | - | - | 17.7 | 14 | 19 | - | 16 | 5.2X40 | 3.46 |
| DN150 | 24:1 | 222 | 72 | 54 | 45 | 28 | 174 | 147 | 4-M8 | 70 | - | - | 19.0 | 17 | 22 | - | 16 | 5.2X40 | 3.62 |
| DN200 | 30:1 | 267 | 84 | 76 | 66 | 34 | 292 | 300 | 4-M8 | 70 | - | - | 20.5 | 17 | 22 | - | 19 | 6.4X50 | 6.70 |
| DN250 | 30:1 | 267 | 84 | 76 | 66 | 34 | 292 | 300 | 4-M10 | 102 | - | - | 20.5 | 22 | 28 | - | 19 | 6.4X50 | 7.18 |
| DN300 | 30:1 | 267 | 84 | 76 | 66 | 34 | 292 | 300 | 4-M10 | 102 | - | - | 24.1 | 22 | 28 | - | 19 | 6.4X50 | 9.58 |
| DN350 | 50:1 | 346 | 88.6 | 78.5 | 77.5 | 39 | 308.5 | 300 | 4-M10 | 102 | 5 | 10 | 71.5 | - | 28 | 60 | 19 | 6.4X50 | 9.44 |
| DN400 | 50:1 | 346 | 88.6 | 78.5 | 77.5 | 39 | 308.5 | 300 | 4-M16 | 140 | 5 | 10 | 80.0 | - | 32 | 60 | 19 | 6.4X50 | 10.34 |
| DN450 | 50:1 | 346 | 88.6 | 78.5 | 77.5 | 39 | 308.5 | 395 | 4-M16 | 140 | 5 | 12 | 80.0 | - | 38 | 60 | 19 | 6.4X50 | 10.62 |
| DN500 | 80:1 | 440 | 110 | 130 | 135 | 40 | 465 | 395 | 4-M20 | 165 | 5 | 12 | 90.0 | - | 45 | 70 | 25 | 8.4X51 | 23.54 |
| DN600 | 80:1 | 440 | 110 | 130 | 135 | 40 | 465 | 395 | 4-M20 | 165 | 5 | 14 | 95.0 | - | 55 | 70 | 25 | 8.4X51 | 23.54 |

(unit : inch)

| SIZE | RATIO | A | G | C | D | E | K | Ø | n-h | PCD | B | W | H | F | ØC | H1 | ØS | ØRxL | Weight (lbs) |
|------|-------|-------|------|------|------|------|-------|-------|-------|------|------|------|------|------|------|------|------|--------|--------------|
| 2" | 24:1 | 8.74 | 2.83 | 2.13 | 1.77 | 1.10 | 6.85 | 5.79 | 4-M8 | 2.76 | - | - | 0.60 | 0.43 | 0.55 | - | 0.63 | 5.2X40 | 7.50 |
| 3" | 24:1 | 8.74 | 2.83 | 2.13 | 1.77 | 1.10 | 6.85 | 5.79 | 4-M8 | 2.76 | - | - | 0.60 | 0.55 | 0.63 | - | 0.63 | 5.2X40 | 7.50 |
| 4" | 24:1 | 8.74 | 2.83 | 2.13 | 1.77 | 1.10 | 6.85 | 5.79 | 4-M8 | 2.76 | - | - | 0.70 | 0.55 | 0.63 | - | 0.63 | 5.2X40 | 7.63 |
| 5" | 24:1 | 8.74 | 2.83 | 2.13 | 1.77 | 1.10 | 6.85 | 5.79 | 4-M8 | 2.76 | - | - | 0.70 | 0.55 | 0.75 | - | 0.63 | 5.2X40 | 7.63 |
| 6" | 24:1 | 8.74 | 2.83 | 2.13 | 1.77 | 1.10 | 6.85 | 5.79 | 4-M8 | 2.76 | - | - | 0.75 | 0.67 | 0.87 | - | 0.63 | 5.2X40 | 7.98 |
| 8" | 30:1 | 10.51 | 3.31 | 2.99 | 2.60 | 1.34 | 11.50 | 11.81 | 4-M8 | 2.76 | - | - | 0.81 | 0.67 | 0.87 | - | 0.75 | 6.4X50 | 14.77 |
| 10" | 30:1 | 10.51 | 3.31 | 2.99 | 2.60 | 1.34 | 11.50 | 11.81 | 4-M10 | 4.02 | - | - | 0.81 | 0.87 | 1.10 | - | 0.75 | 6.4X50 | 15.83 |
| 12" | 30:1 | 10.51 | 3.31 | 2.99 | 2.60 | 1.34 | 11.50 | 11.81 | 4-M10 | 4.02 | - | - | 0.95 | 0.87 | 1.10 | - | 0.75 | 6.4X50 | 21.12 |
| 14" | 50:1 | 13.62 | 3.49 | 3.09 | 3.05 | 1.54 | 12.15 | 11.81 | 4-M10 | 4.02 | 0.20 | 0.39 | 2.81 | - | 1.10 | 2.36 | 0.75 | 6.4X50 | 20.81 |
| 16" | 50:1 | 13.62 | 3.49 | 3.09 | 3.05 | 1.54 | 12.15 | 11.81 | 4-M16 | 5.51 | 0.20 | 0.39 | 3.15 | - | 1.26 | 2.36 | 0.75 | 6.4X50 | 22.80 |
| 18" | 50:1 | 13.62 | 3.49 | 3.09 | 3.05 | 1.54 | 12.15 | 15.55 | 4-M16 | 5.51 | 0.20 | 0.47 | 3.15 | - | 1.50 | 2.36 | 0.75 | 6.4X50 | 23.41 |
| 20" | 80:1 | 17.32 | 4.33 | 5.12 | 5.31 | 1.57 | 18.31 | 15.55 | 4-M20 | 6.50 | 0.20 | 0.47 | 3.54 | - | 1.77 | 2.76 | 0.98 | 8.4X51 | 51.90 |
| 24" | 80:1 | 17.32 | 4.33 | 5.12 | 5.31 | 1.57 | 18.31 | 15.55 | 4-M20 | 6.50 | 0.20 | 0.55 | 3.74 | - | 2.17 | 2.76 | 0.98 | 8.4X51 | 51.90 |