

# ROTARY DAMPER

- BUTTERFLY VALVE FOR AIR VOLUME CONTROL (COMPLETE SEALING IS NOT AVAILABLE.)

## BASIC SPECIFICATIONS

VALVE TYPE ——— ROTARY DAMPER

SIZE / LEVER TYPE ——— 40 mm—600 mm (1 1/2 inch—24 inch)

BODY MATERIAL ——— U-PVC PP PVDF

SEAL MATERIAL ——— EPDM FKM PTFE etc.

CONNECTION / WAFER ——— JIS10K, JIS5K, DIN, ANSI

|       | FLUID TEMPERATURE | MAXIMUM WORKING PRESSURE (NORMAL TEMPERATURE) MPa(kgf/cm <sup>2</sup> ) |             |
|-------|-------------------|-------------------------------------------------------------------------|-------------|
|       |                   | 40mm—200mm                                                              | 250mm—600mm |
| U-PVC | 0°C ~ 50°C        | 0.1 {1.02}                                                              | 0.05 {0.51} |
| PP    | -20°C ~ 80°C      | 0.1 {1.02}                                                              | 0.05 {0.51} |
| PVDF  | -20°C ~ 120°C     | 0.1 {1.02}                                                              | 0.05 {0.51} |

**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 end of this catalog.



## PARTS LIST MANUAL

For parts list, see **OP. 105 and 106.**

## SPECIFICATION LIST MANUAL

| LEVER TYPE                                                                          |                                                                                     | SIDE GEAR TYPE                                                                      |                                                                                     | TOP GEAR TYPE                                                                       |  |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--|
|  |                                                                                     |  |                                                                                     |  |  |
| CHAIN TYPE                                                                          | LONG STEM TYPE                                                                      | FLOAT TYPE                                                                          | WITH LIMIT SWITCH                                                                   |                                                                                     |  |
|  |  | —                                                                                   |  |                                                                                     |  |

\* For other specifications, contact our sales office in your area.

## COMPATIBLE ACTUATOR AUTOMATIC

**PNEUMATIC TYPE TA** For detailed specifications, see **P.124**

**ELECTRIC TYPE T** For detailed specifications, see **P.139**

**ELECTRIC TYPE S** For detailed specifications, see **P.133**

## PRODUCT MODEL CODE LIST

**MANUAL**  
**AUTOMATIC**

| ACTUATION                | TYPE                                   | ACTUATOR TYPE                                              | OPERATION SYSTEM / ACTION / POWER SOURCE                                                                                                                                                                                  | BODY MATERIAL             | SEAL MATERIAL             | CONNECTION | STANDARD                                      | SIZE                      |
|--------------------------|----------------------------------------|------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|---------------------------|------------|-----------------------------------------------|---------------------------|
| *                        | **                                     | **                                                         | *                                                                                                                                                                                                                         | *                         | *                         | W          | *                                             | ***                       |
| MANUAL<br>V MANUAL VALVE | D7 TYPE 57<br>D6 TYPE 56<br>DP TYPE 75 | PNEUMATIC<br>K TYPE TA<br>ELECTRIC<br>T TYPE T<br>S TYPE S | MANUAL<br>LV LEVER TYPE<br>SG SIDE GEAR TYPE<br>PNEUMATIC<br>F DOUBLE ACTING<br>G AIR TO OPEN<br>S AIR TO CLOSE<br>ELECTRIC<br>1 Single-Phase 100V<br>2 Single-Phase 200V<br>3 Three-Phase AC200V<br>4 Three-Phase AC400V | U U-PVC<br>P PP<br>F PVDF | E EPDM<br>V FKM<br>T PTFE | W WAFER    | 1 JIS10K<br>5 JIS5k<br>W —<br>D DIN<br>A ANSI | 40 40mm<br>~<br>600 600mm |

\* Specify only in the case of automatic type.

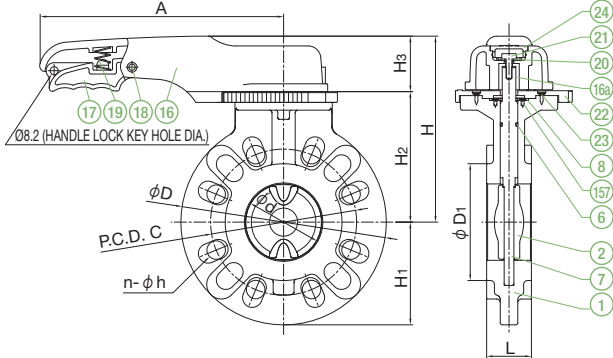
MANUAL

BODY MATERIAL  
U-PVC  
PP

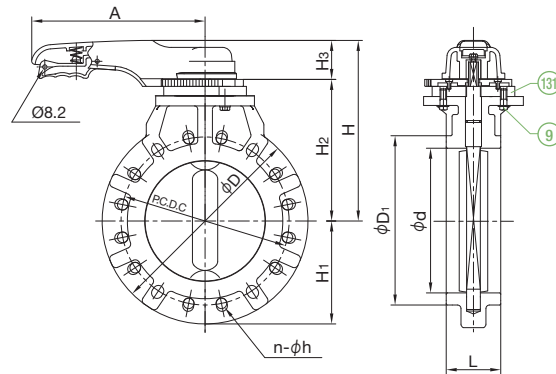
# ROTARY DAMPER (BODY MATERIAL — U-PVC, PP)

TYPE — VD7LV, VD6LV, VDPLV, VD7SG, VD6SG, VDPSG  
CONNECTION / WAFER — JIS, DIN, ANSI

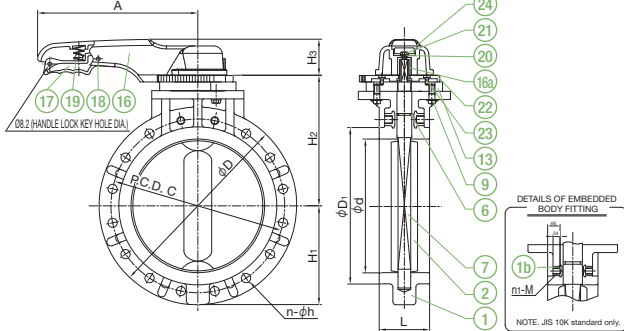
U-PVC, PP 40 mm - 200 mm



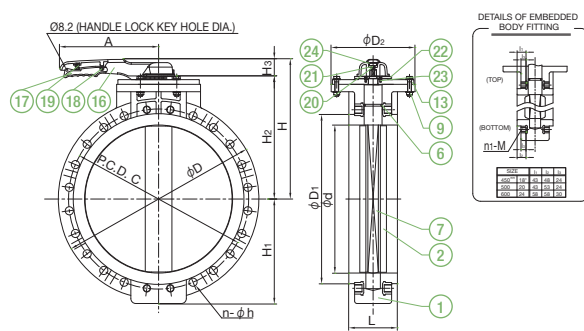
U-PVC, PP 250 mm - 350 mm



PP 400 mm



PP 450 mm - 600 mm



| PART NO. / NAME            | QTY | MATERIAL | MEMO                                                                          |
|----------------------------|-----|----------|-------------------------------------------------------------------------------|
| (19) SPRING                | 1   | SUS304   |                                                                               |
| (20) WASHER (A)            | 1   | SUS304   |                                                                               |
| (21) BOLT (B)              | 1   | SUS304   |                                                                               |
| (22) LOCKING PLATE         | 1   | PPG      |                                                                               |
| (23) SET SCREW (B)         | 4   | SUS304   |                                                                               |
| (24) CAP (A)               | 1   | PP       |                                                                               |
| (15) SET SCREW (F)         | 4   | SUS304   | Used for 40 mm - 200 mm.                                                      |
| (13) STEM HOLDER (C)       | 1   | PP       | Used for 250 mm - 600 mm.                                                     |
| (1b) EMBEDDED BODY FITTING | 8   | C3604    | Used for JIS10K standard 400 mm.<br>Used for JIS10K standard 450 mm - 600 mm. |

| PART NO. / NAME              | QTY | MATERIAL                           | MEMO                      |
|------------------------------|-----|------------------------------------|---------------------------|
| (1) BODY                     | 1   | BODY — DISC — STEM                 |                           |
| (2) DISC                     | 1   | U-PVC — PP — U-PVC<br>PP — PP — PP |                           |
| (7) STEM                     | 1   | PP                                 |                           |
| (6) O-RING (C)               | 1   | EPDM, FKM, etc.                    |                           |
| (8) STEM HOLDER (A)          | 1   | PP                                 | Used for 40 mm - 200 mm.  |
| (9) BOLT (A)                 | 3   | SUS304                             | Used for 250 mm - 600 mm. |
| (16) HANDLE (A)              | 1   | PP                                 |                           |
| (1b) EMBEDDED HANDLE FITTING | 1   | SUS316                             | Used for 40 mm - 400 mm.  |
| (17) HANDLE LEVER            | 1   | PPG                                |                           |
| (18) PIN                     | 1   | PPG                                |                           |

■ 40 - 600 mm JIS DIN (UNIT: mm)

|     |     |     |     |     |     |     |     |    |     |  | JIS5K |    |    |  | JIS10K |    |    |    |     |  | DIN PN10 |    |    |
|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|--|-------|----|----|--|--------|----|----|----|-----|--|----------|----|----|
| mm  | d   | D   | D1  | L   | H   | H1  | H2  | H3 | A   |  | C     | n  | h  |  | C      | n  | h  | n1 | M   |  | C        | n  | h  |
| 40  | 46  | 150 | 86  | 32  | 156 | 75  | 100 | 56 | 220 |  | 95    | 4  | 15 |  | 105    | 4  | 19 | —  | —   |  | 110      | 4  | 18 |
| 50  | 57  | 165 | 96  | 35  | 166 | 83  | 110 | 56 | 220 |  | 105   | 4  | 15 |  | 120    | 4  | 19 | —  | —   |  | 125      | 4  | 18 |
| 65  | 70  | 185 | 116 | 37  | 176 | 93  | 120 | 56 | 220 |  | 130   | 4  | 15 |  | 140    | 4  | 19 | —  | —   |  | 145      | 4  | 18 |
| 80  | 78  | 211 | 120 | 37  | 191 | 106 | 135 | 56 | 250 |  | 145   | 4  | 19 |  | 150    | 8  | 19 | —  | —   |  | 160      | 8  | 18 |
| 100 | 103 | 238 | 152 | 47  | 206 | 119 | 150 | 56 | 250 |  | 165   | 8  | 19 |  | 175    | 8  | 19 | —  | —   |  | 180      | 8  | 18 |
| 125 | 129 | 263 | 190 | 57  | 237 | 132 | 168 | 69 | 320 |  | 200   | 8  | 19 |  | 210    | 8  | 23 | —  | —   |  | 210      | 8  | 18 |
| 150 | 150 | 285 | 208 | 62  | 252 | 143 | 183 | 69 | 320 |  | 230   | 8  | 19 |  | 240    | 8  | 23 | —  | —   |  | 240      | 8  | 22 |
| 200 | 195 | 340 | 242 | 76  | 283 | 170 | 214 | 69 | 400 |  | 280   | 8  | 23 |  | 290    | 12 | 23 | —  | —   |  | 295      | 8  | 22 |
| 250 | 251 | 421 | 332 | 96  | 342 | 211 | 273 | 69 | 400 |  | 345   | 12 | 23 |  | 355    | 12 | 25 | —  | —   |  | 350      | 12 | 23 |
| 300 | 303 | 488 | 400 | 116 | 399 | 244 | 330 | 69 | 400 |  | 390   | 12 | 23 |  | 400    | 16 | 25 | —  | —   |  | 400      | 12 | 23 |
| 350 | 352 | 539 | 414 | 116 | 426 | 270 | 357 | 69 | 400 |  | 435   | 12 | 25 |  | 445    | 16 | 25 | —  | —   |  | 460      | 16 | 23 |
| 400 | 394 | 600 | 470 | 157 | 451 | 300 | 382 | 69 | 400 |  | 495   | 16 | 25 |  | 510    | 14 | 27 | 2  | M24 |  | 515      | 16 | 27 |
| 450 | 441 | 633 | 525 | 167 | 496 | 315 | 402 | 69 | 400 |  | 555   | 16 | 25 |  | 565    | 16 | 27 | 4  | M24 |  | 565      | 20 | 27 |
| 500 | 488 | 699 | 575 | 177 | 526 | 350 | 432 | 69 | 400 |  | 605   | 20 | 25 |  | 620    | 16 | 27 | 4  | M24 |  | 620      | 20 | 27 |
| 600 | 600 | 813 | 686 | 197 | 591 | 424 | 497 | 69 | 400 |  | 715   | 20 | 27 |  | 730    | 20 | 33 | 4  | M30 |  | 725      | 20 | 30 |

■ 1 1/2 inch - 24 inch ANSI (UNIT: inch)

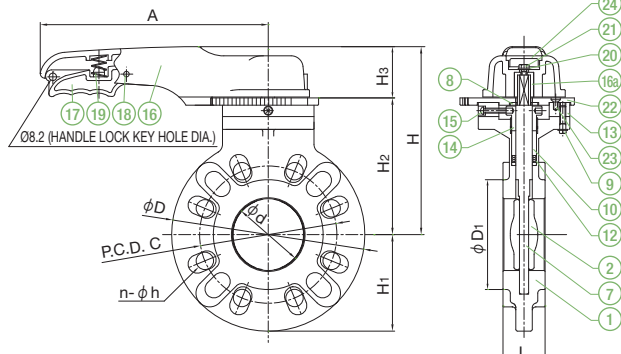
|       |     |       |       |       |      |       |       |       |      |       | ANSI CLASS 150 |    |      |  |       |    |      |  |  |  |  |  |
|-------|-----|-------|-------|-------|------|-------|-------|-------|------|-------|----------------|----|------|--|-------|----|------|--|--|--|--|--|
| inch  | mm  | d     | D     | D1    | L    | H     | H1    | H2    | H3   | A     | C              | n  | h    |  | C     | n  | h    |  |  |  |  |  |
| 1 1/2 | 40  | 1.81  | 5.91  | 3.39  | 1.26 | 6.14  | 2.95  | 3.94  | 2.20 | 8.66  | 3.68           | 4  | 0.62 |  | 3.68  | 4  | 0.75 |  |  |  |  |  |
| 2     | 50  | 2.24  | 6.50  | 3.78  | 1.38 | 6.54  | 3.27  | 4.33  | 2.20 | 8.66  | 4.75           | 4  | 0.75 |  | 4.75  | 4  | 0.75 |  |  |  |  |  |
| 2 1/2 | 65  | 2.76  | 7.28  | 4.57  | 1.46 | 6.93  | 3.66  | 4.72  | 2.20 | 8.66  | 5.50           | 4  | 0.75 |  | 5.50  | 4  | 0.75 |  |  |  |  |  |
| 3     | 80  | 3.07  | 8.31  | 4.72  | 1.46 | 7.52  | 4.17  | 5.31  | 2.20 | 9.84  | 6.00           | 4  | 0.75 |  | 6.00  | 4  | 0.75 |  |  |  |  |  |
| 4     | 100 | 4.06  | 9.37  | 5.98  | 1.85 | 8.11  | 4.69  | 5.91  | 2.20 | 9.84  | 7.50           | 8  | 0.75 |  | 7.50  | 8  | 0.75 |  |  |  |  |  |
| 5     | 125 | 5.08  | 10.35 | 7.48  | 2.24 | 9.33  | 5.20  | 6.61  | 2.72 | 12.60 | 8.50           | 8  | 0.88 |  | 8.50  | 8  | 0.88 |  |  |  |  |  |
| 6     | 150 | 5.91  | 11.22 | 8.19  | 2.44 | 9.92  | 5.63  | 7.20  | 2.72 | 12.60 | 9.50           | 8  | 0.88 |  | 9.50  | 8  | 0.88 |  |  |  |  |  |
| 8     | 200 | 7.68  | 13.39 | 9.53  | 2.99 | 11.14 | 6.69  | 8.43  | 2.72 | 15.75 | 11.75          | 8  | 0.88 |  | 11.75 | 8  | 0.88 |  |  |  |  |  |
| 10    | 250 | 9.88  | 16.57 | 13.07 | 3.78 | 13.46 | 8.31  | 10.75 | 2.72 | 15.75 | 14.25          | 12 | 0.98 |  | 14.25 | 12 | 0.98 |  |  |  |  |  |
| 12    | 300 | 11.93 | 19.21 | 15.75 | 4.57 | 15.71 | 9.61  | 12.99 | 2.72 | 15.75 | 17.01          | 12 | 0.98 |  | 17.01 | 12 | 0.98 |  |  |  |  |  |
| 14    | 350 | 13.86 | 21.22 | 16.30 | 4.57 | 16.77 | 10.63 | 14.06 | 2.72 | 15.75 | 18.74          | 12 | 1.14 |  | 18.74 | 12 | 1.14 |  |  |  |  |  |
| 16    | 400 | 15.51 | 23.62 | 18.50 | 6.18 | 17.76 | 11.81 | 15.04 | 2.72 | 15.75 | 21.24          | 16 | 1.14 |  | 21.24 | 16 | 1.14 |  |  |  |  |  |
| 18    | 450 | 17.36 | 24.92 | 20.67 | 6.57 | 19.53 | 12.40 | 15.83 | 2.72 | 15.75 | 22.76          | 16 | 1.26 |  | 22.76 | 16 | 1.26 |  |  |  |  |  |
| 20    | 500 | 19.21 | 27.52 | 22.64 | 6.97 | 20.71 | 13.78 | 17.01 | 2.72 | 15.75 | 25.00          | 20 | 1.26 |  | 25.00 | 20 | 1.26 |  |  |  |  |  |
| 24    | 600 | 23.62 | 32.01 | 27.01 | 7.76 | 23.27 | 16.69 | 19.57 | 2.72 | 15.75 | 29.51          | 20 | 1.38 |  | 29.51 | 20 | 1.38 |  |  |  |  |  |

# ROTARY DAMPER (BODY MATERIAL — PVDF)

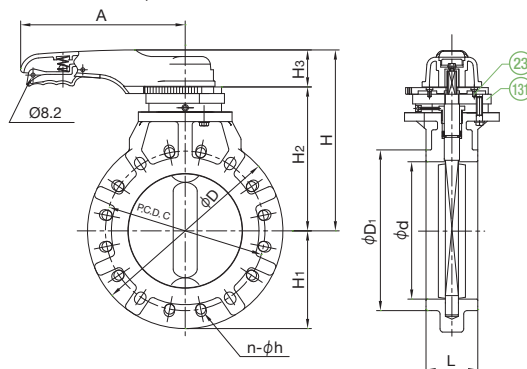
TYPE — VD7LV, VD6LV, VDPLV, VD7SG, VD6SG, VDPSG

CONNECTION / WAFER — JIS, DIN, ANSI

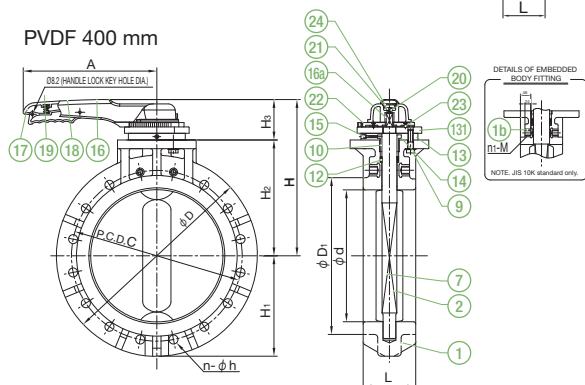
PVDF 40 mm - 350 mm



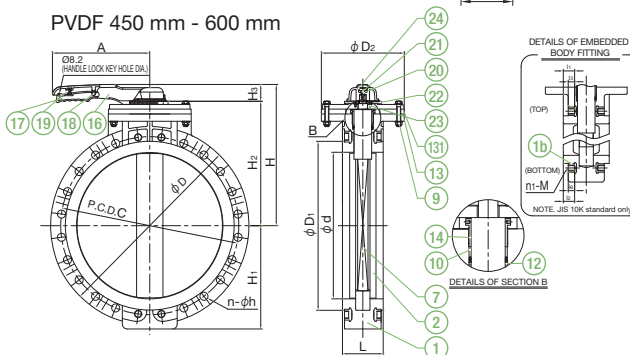
PVDF 300mm, 350 mm



PVDF 400 mm



PVDF 450 mm - 600 mm



| PART NO. / NAME   | QTY   | MATERIAL | MEMO                      |
|-------------------|-------|----------|---------------------------|
| 1 BODY            | 1     | PVDF     |                           |
| 2 DISC            | 1     | PVDF     |                           |
| 7 STEM            | 1     | PVDF     |                           |
| 8 STEM HOLDER (A) | 1     | SUS304   | Used for 40 mm - 250 mm.  |
| 9 BOLT (A)        | 4     | SUS304   | Used for 40 mm - 400 mm.  |
|                   | 3     | SUS304   | Used for 450 mm - 600 mm. |
| 10 BUSH (A)       | 1     | PTFE     | Used for 40 mm - 350 mm.  |
|                   |       | PVDF     | Used for 400 mm - 600 mm. |
| 12 V PACKING      | 1 SET | PTFE     |                           |

| PART NO. / NAME            | QTY   | MATERIAL | MEMO                     |
|----------------------------|-------|----------|--------------------------|
| 13 SPACER (A)              | 1 SET | C-PVC    |                          |
| 14 GLAND                   | 1     | PVDF     |                          |
| 15 SCREW (A)               | 1     | SUS304   | Used for 40 mm - 400 mm. |
| 16 EMBEDDED HANDLE FITTING | 1     | SUS316   | Used for 40 mm - 400 mm. |
| 17 HANDLE LEVER            | 1     | PPG      |                          |
| 18 PIN                     | 1     | PPG      |                          |
| 19 SPRING                  | 1     | SUS304   |                          |
| 20 WASHER (A)              | 1     | SUS304   |                          |
| 21 BOLT (B)                | 1     | SUS304   |                          |

| PART NO. / NAME          | QTY | MATERIAL | MEMO                                      |
|--------------------------|-----|----------|-------------------------------------------|
| 22 LOCKING PLATE         | 1   | PPG      |                                           |
| 23 SET SCREW (B)         | 4   | SUS304   | 300mm, 350mm, 450mm-600mm                 |
|                          | 2   |          | Used for 40 mm - 250 mm, 400 mm.          |
| 24 CAP (A)               | 1   | PP       |                                           |
| 13 STEM HOLDER (C)       | 1   | PP       | Used for 300 mm - 600 mm.                 |
| 16 EMBEDDED BODY FITTING | 4   | C3604    | Used for JIS10K standard 400 mm.          |
|                          | 8   |          | Used for JIS10K standard 450 mm - 600 mm. |

■ 40 - 600 mm JIS DIN (UNIT: mm)

|     |     |     |     |     |     |     |     |    |     | JIS5K |    |    | JIS10K |    |    |    |     | DIN PN10 |    |    |
|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|-------|----|----|--------|----|----|----|-----|----------|----|----|
| mm  | d   | D   | D1  | L   | H   | H1  | H2  | H3 | A   | C     | n  | h  | C      | n  | h  | n1 | M   | C        | n  | h  |
| 40  | 46  | 150 | 86  | 32  | 179 | 75  | 123 | 56 | 220 | 95    | 4  | 15 | 105    | 4  | 19 | —  | —   | 110      | 4  | 18 |
| 50  | 57  | 165 | 96  | 35  | 189 | 83  | 133 | 56 | 220 | 105   | 4  | 15 | 120    | 4  | 19 | —  | —   | 125      | 4  | 18 |
| 65  | 70  | 185 | 116 | 37  | 199 | 93  | 143 | 56 | 220 | 130   | 4  | 15 | 140    | 4  | 19 | —  | —   | 145      | 4  | 18 |
| 80  | 78  | 211 | 120 | 37  | 214 | 106 | 158 | 56 | 250 | 145   | 4  | 19 | 150    | 8  | 19 | —  | —   | 160      | 8  | 18 |
| 100 | 103 | 238 | 152 | 47  | 229 | 119 | 173 | 56 | 250 | 165   | 8  | 19 | 175    | 8  | 19 | —  | —   | 180      | 8  | 18 |
| 125 | 128 | 263 | 190 | 57  | 257 | 132 | 188 | 69 | 320 | 200   | 8  | 19 | 210    | 8  | 23 | —  | —   | 210      | 8  | 18 |
| 150 | 150 | 285 | 208 | 62  | 272 | 143 | 203 | 69 | 320 | 230   | 8  | 19 | 240    | 8  | 23 | —  | —   | 240      | 8  | 22 |
| 200 | 195 | 340 | 264 | 76  | 303 | 170 | 234 | 69 | 400 | 280   | 8  | 19 | 290    | 12 | 23 | —  | —   | 295      | 8  | 22 |
| 250 | 251 | 409 | 322 | 96  | 346 | 205 | 277 | 69 | 400 | 345   | 12 | 23 | 355    | 12 | 25 | —  | —   | 350      | 12 | 23 |
| 300 | 303 | 472 | 388 | 116 | 419 | 236 | 350 | 69 | 400 | 390   | 12 | 23 | 400    | 16 | 25 | —  | —   | 400      | 12 | 23 |
| 350 | 352 | 524 | 404 | 116 | 446 | 262 | 377 | 69 | 400 | 435   | 12 | 25 | 445    | 16 | 25 | —  | —   | 460      | 16 | 23 |
| 400 | 394 | 600 | 470 | 157 | 471 | 300 | 402 | 69 | 400 | 495   | 16 | 25 | 510    | 14 | 27 | 2  | M24 | 515      | 16 | 27 |
| 450 | 441 | 630 | 525 | 167 | 491 | 315 | 422 | 69 | 400 | 555   | 16 | 25 | 565    | 16 | 27 | 4  | M24 | 565      | 20 | 27 |
| 500 | 488 | 680 | 575 | 177 | 521 | 350 | 452 | 69 | 400 | 605   | 20 | 25 | 620    | 16 | 27 | 4  | M24 | 620      | 20 | 27 |
| 600 | 600 | 790 | 686 | 197 | 586 | 424 | 517 | 69 | 400 | 715   | 20 | 27 | 730    | 20 | 33 | 4  | M30 | 725      | 20 | 30 |

■ 1 1/2 inch - 24 inch ANSI (UNIT: inch)

| ■ 1 1/2 inch - 24 inch ANSI (UNIT: inch) |     |       |       |                |      |       |                |                |                |       | ANSI CLASS 150 |    |      |  |
|------------------------------------------|-----|-------|-------|----------------|------|-------|----------------|----------------|----------------|-------|----------------|----|------|--|
| inch                                     | mm  | d     | D     | D <sub>1</sub> | L    | H     | H <sub>1</sub> | H <sub>2</sub> | H <sub>3</sub> | A     | C              | n  | h    |  |
| 1 1/2                                    | 40  | 1.81  | 5.91  | 3.39           | 1.26 | 7.05  | 2.95           | 4.84           | 2.20           | 8.66  | 3.88           | 4  | 0.62 |  |
| 2                                        | 50  | 2.24  | 6.50  | 3.78           | 1.38 | 7.44  | 3.27           | 5.24           | 2.20           | 8.66  | 4.75           | 4  | 0.75 |  |
| 2 1/2                                    | 65  | 2.76  | 7.28  | 4.57           | 1.46 | 7.83  | 3.66           | 5.63           | 2.20           | 8.66  | 5.50           | 4  | 0.75 |  |
| 3                                        | 80  | 3.07  | 8.31  | 4.72           | 1.46 | 8.43  | 4.17           | 6.22           | 2.20           | 9.84  | 6.00           | 4  | 0.75 |  |
| 4                                        | 100 | 4.06  | 9.37  | 5.98           | 1.85 | 9.02  | 4.69           | 6.81           | 2.20           | 9.84  | 7.50           | 8  | 0.75 |  |
| 5                                        | 125 | 5.04  | 10.35 | 7.48           | 2.24 | 10.12 | 5.20           | 7.40           | 2.72           | 12.60 | 8.50           | 8  | 0.88 |  |
| 6                                        | 150 | 5.91  | 11.22 | 8.19           | 2.44 | 10.71 | 5.63           | 7.99           | 2.72           | 12.60 | 9.50           | 8  | 0.88 |  |
| 8                                        | 200 | 7.68  | 13.39 | 10.39          | 2.99 | 11.93 | 6.69           | 9.21           | 2.72           | 15.75 | 11.75          | 8  | 0.88 |  |
| 10                                       | 250 | 9.88  | 16.10 | 12.68          | 3.78 | 13.62 | 8.07           | 10.91          | 2.72           | 15.75 | 14.25          | 12 | 0.98 |  |
| 12                                       | 300 | 11.93 | 18.58 | 15.28          | 4.57 | 16.50 | 9.29           | 13.78          | 2.72           | 15.75 | 17.01          | 12 | 0.98 |  |
| 14                                       | 350 | 13.86 | 20.63 | 15.91          | 4.57 | 17.56 | 10.31          | 14.84          | 2.72           | 15.75 | 18.74          | 12 | 1.14 |  |
| 16                                       | 400 | 15.51 | 23.62 | 18.50          | 6.18 | 18.54 | 11.81          | 15.83          | 2.72           | 15.75 | 21.24          | 16 | 1.14 |  |
| 18                                       | 450 | 17.36 | 24.80 | 20.67          | 6.57 | 19.33 | 12.40          | 16.61          | 2.72           | 15.75 | 22.76          | 16 | 1.26 |  |
| 20                                       | 500 | 19.21 | 26.77 | 22.64          | 6.97 | 20.51 | 13.78          | 17.80          | 2.72           | 15.75 | 25.00          | 20 | 1.26 |  |
| 24                                       | 600 | 23.62 | 31.10 | 27.01          | 7.76 | 23.07 | 16.69          | 20.35          | 2.72           | 15.75 | 29.51          | 20 | 1.38 |  |