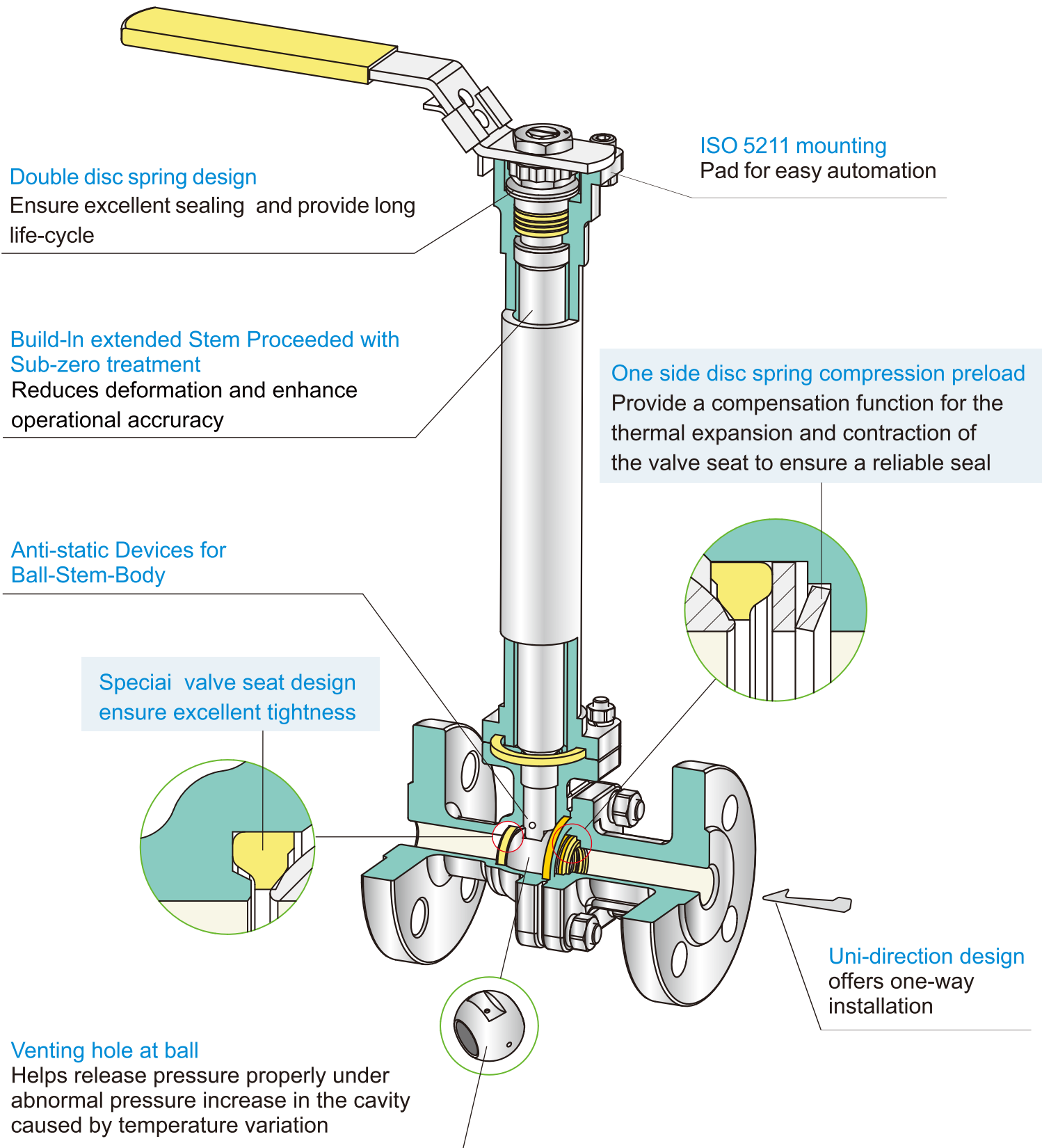




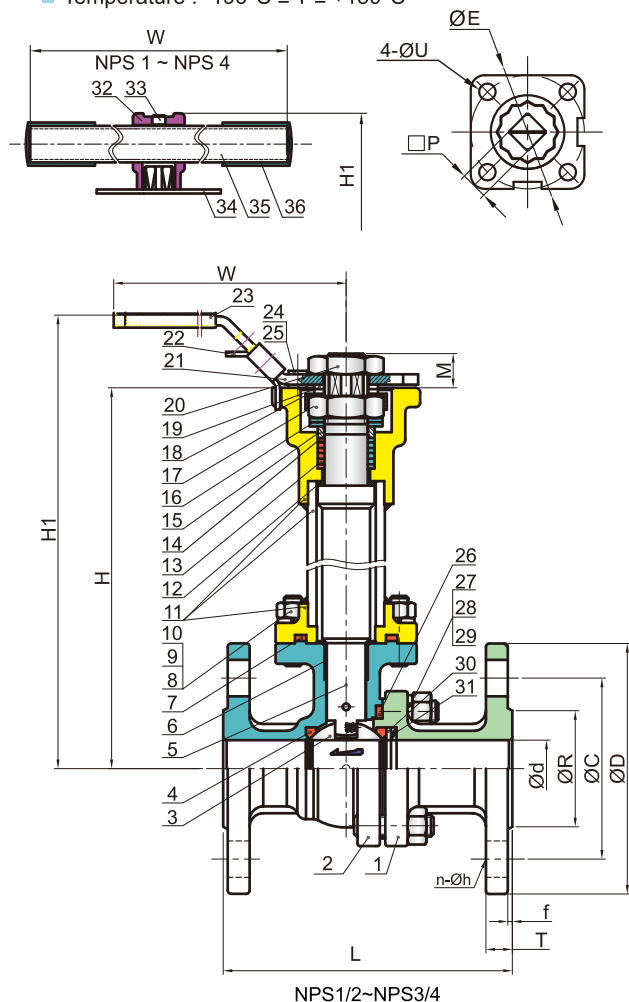
## Low Temperature & Cryogenic Valves





### Applicable Standards:

- Design : ASME B16.34, BS 6364
- Face to Face : ASME B16.10
- Flange Ends : ASME B16.5
- Wall Thickness : ASME B16.34
- Inspection & Testing : API 598, BS 6364
- Temperature :  $-196^{\circ}\text{C} \leq T \leq +150^{\circ}\text{C}$



| No. | PARTS NAME                   | MATERIALS                 |         |
|-----|------------------------------|---------------------------|---------|
| 1   | End Cap                      | CF8M                      | CF8     |
| 2   | Body                         | CF8M                      | CF8     |
| 3   | Ball                         | 316+ENP                   | 304+ENP |
| 4   | Ball Seat                    | PCTFE                     |         |
| 5   | Stem(Anti-Static Device)     | XM-19(Nitronic 50)        |         |
| 6   | Stem Sleeve                  | 50%SS+50%PTFE             |         |
| 7   | Extended Bonnet Gasket       | 316 Spiral Wound+Graphite |         |
| 8   | Bolting                      | A2-70                     |         |
| 9   | Bolt Nut                     | A2-70                     |         |
| 10  | Washer                       | 304                       |         |
| 11  | Extended Bonnet              | CF8M                      | CF8     |
| 12  | L-Stem Sleeve                | 50%SS+50%PTFE             |         |
| 13  | Packing                      | Graphite                  |         |
| 14  | Bushing                      | 304                       |         |
| 15  | Gland                        | 316                       |         |
| 16  | Belleville Washer            | 301                       |         |
| 17  | Stem Nut                     | A194-8                    |         |
| 18  | Stop-lock-cap                | 304                       |         |
| 19  | Handle Washer                | 304                       |         |
| 20  | Handle Nut (NPS: 1/2~3/4)    | A194-8                    |         |
| 21  | Handle (NPS: 1/2~3/4)        | 304                       |         |
| 22  | Lock Device (NPS: 1/2~3/4)   | 304                       |         |
| 23  | Handle Sleeve (NPS: 1/2~3/4) | Vinyl Plastic             |         |
| 24  | Stop Bolt                    | A2-70                     |         |
| 25  | Stop Nut                     | A2-70                     |         |
| 26  | Body Gasket                  | 316 Spiral Wound+Graphite |         |
| 27  | Bolting                      | A320-B8                   |         |
| 28  | Bolt Nut                     | A194-8                    |         |
| 29  | Washer                       | 304                       |         |
| 30  | Disc Spring                  | Inconel X-750             |         |
| 31  | Seat Pressure Ring           | 316                       | 304     |
| 32  | Handle Adapter (NPS: 1~4)    | CF8                       |         |
| 33  | Set Screw (NPS: 1~4)         | A2-70                     |         |
| 34  | Triangle Stopper (NPS: 1~4)  | 304                       |         |
| 35  | Pipe Handle (NPS: 1~4)       | A53+PLATED Zn             |         |
| 36  | Handle Sleeve (NPS: 1~4)     | VINYL PLASTIC             |         |

**ASME Class 150 DIMENSION TABLE**

**KV-C41-D**

Unit:mm

| NPS   | d   | L   | R     | D   | C     | T    | f | N | h    | W   | H   | H1  | P  | M  | E   | U  | ISO5211 |
|-------|-----|-----|-------|-----|-------|------|---|---|------|-----|-----|-----|----|----|-----|----|---------|
| 1/2   | 15  | 108 | 35.0  | 90  | 60.3  | 8.0  | 2 | 4 | 16.0 | 175 | 290 | 322 | 11 | 11 | 50  | 7  | F05     |
| 3/4   | 20  | 117 | 43.0  | 100 | 69.9  | 8.9  | 2 | 4 | 16.0 | 175 | 293 | 325 | 11 | 11 | 50  | 7  | F05     |
| 1     | 25  | 127 | 51.0  | 110 | 79.4  | 9.6  | 2 | 4 | 16.0 | 300 | 320 | 378 | 14 | 14 | 50  | 7  | F05~F07 |
| 1 1/4 | 32  | 140 | 63.5  | 115 | 88.9  | 11.2 | 2 | 4 | 16.0 | 300 | 323 | 383 | 14 | 14 | 50  | 7  | F05~F07 |
| 1 1/2 | 38  | 165 | 73.2  | 125 | 98.4  | 12.7 | 2 | 4 | 16.0 | 400 | 365 | 429 | 17 | 17 | 102 | 11 | F10     |
| 2     | 50  | 178 | 92.0  | 150 | 120.7 | 14.3 | 2 | 4 | 19.0 | 400 | 372 | 436 | 17 | 17 | 102 | 11 | F10     |
| 2 1/2 | 63  | 190 | 104.7 | 180 | 139.7 | 15.9 | 2 | 4 | 19.0 | 600 | 457 | 528 | 22 | 22 | 102 | 11 | F10     |
| 3     | 76  | 203 | 127.0 | 190 | 152.4 | 17.5 | 2 | 4 | 19.0 | 600 | 465 | 536 | 22 | 22 | 102 | 11 | F10     |
| 4     | 100 | 229 | 157.0 | 230 | 190.5 | 22.3 | 2 | 8 | 19.0 | 800 | 580 | 660 | 27 | 27 | 125 | 14 | F12     |

**ASME Class 300 DIMENSION TABLE**

**KV-C42-D**

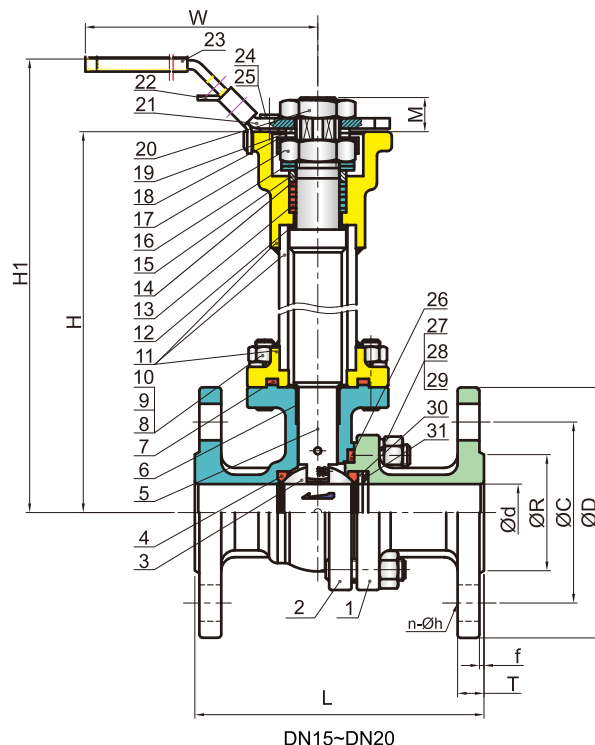
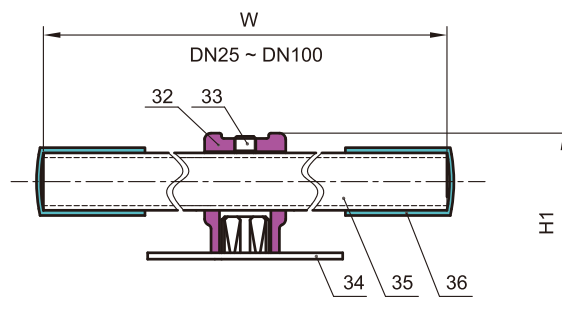
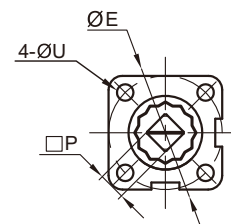
Unit:mm

| NPS   | d   | L   | R    | D   | C     | T    | f | N | h    | H   | H1  | W   | P  | M  | E   | U  | ISO5211 |
|-------|-----|-----|------|-----|-------|------|---|---|------|-----|-----|-----|----|----|-----|----|---------|
| 1/2   | 15  | 140 | 35   | 95  | 66.7  | 12.7 | 2 | 4 | 16.0 | 290 | 322 | 175 | 11 | 11 | 50  | 7  | F05     |
| 3/4   | 20  | 152 | 43   | 115 | 82.6  | 14.3 | 2 | 4 | 16.0 | 293 | 325 | 175 | 11 | 11 | 50  | 7  | F05     |
| 1     | 25  | 165 | 51   | 125 | 88.9  | 15.9 | 2 | 4 | 22.3 | 318 | 378 | 300 | 14 | 14 | 50  | 7  | F05~F07 |
| 1 1/4 | 32  | 178 | 63.5 | 135 | 98.4  | 17.5 | 2 | 4 | 22.3 | 323 | 383 | 300 | 14 | 14 | 50  | 7  | F05~F07 |
| 1 1/2 | 38  | 190 | 73.2 | 155 | 114.3 | 19.1 | 2 | 4 | 22.3 | 365 | 429 | 400 | 17 | 17 | 102 | 11 | F10     |
| 2     | 50  | 216 | 92   | 165 | 127.0 | 20.7 | 2 | 8 | 19.0 | 372 | 436 | 400 | 17 | 17 | 102 | 11 | F10     |
| 2 1/2 | 63  | 241 | 105  | 190 | 149.2 | 23.9 | 2 | 8 | 22.3 | 457 | 528 | 600 | 22 | 22 | 102 | 11 | F10     |
| 3     | 76  | 283 | 127  | 210 | 168.3 | 27.0 | 2 | 8 | 22.3 | 465 | 536 | 600 | 22 | 22 | 102 | 11 | F10     |
| 4     | 100 | 305 | 157  | 255 | 200.0 | 30.2 | 2 | 8 | 22.3 | 580 | 660 | 800 | 27 | 27 | 125 | 14 | F12     |

## Applicable Standards:

- Design : EN 12516, BS 6364
- Face to Face : EN 558
- Flange Ends : EN 1092-1
- Wall Thickness : EN 12516
- Inspection & Testing : EN 12266-1, BS 6364
- Temperature :  $-196^{\circ}\text{C} \leq T \leq +150^{\circ}\text{C}$

| No. | PARTS NAME                   | MATERIALS                 |         |
|-----|------------------------------|---------------------------|---------|
| 1   | End Cap                      | 1.4408                    | 1.4308  |
| 2   | Body                         | 1.4408                    | 1.4308  |
| 3   | Ball                         | 316+ENP                   | 304+ENP |
| 4   | Ball Seat                    | PTCFE                     |         |
| 5   | Stem(Anti-Static Device)     | XM-19(Nitronic 50)        |         |
| 6   | Stem Sleeve                  | 50%SS+50%PTFE             |         |
| 7   | Extended Bonnet Gasket       | 316 Spiral Wound+Graphite |         |
| 8   | Bolting                      | A2-70                     |         |
| 9   | Bolt Nut                     | A2-70                     |         |
| 10  | Washer                       | 304                       |         |
| 11  | Extended Bonnet              | 1.4408                    | 1.4308  |
| 12  | L-Stem Sleeve                | 50%SS+50%PTFE             |         |
| 13  | Packing                      | Graphite                  |         |
| 14  | Bushing                      | 304                       |         |
| 15  | Gland                        | 316                       |         |
| 16  | Belleville Washer            | 301                       |         |
| 17  | Stem Nut                     | A194-8                    |         |
| 18  | Stop-lock-cap                | 304                       |         |
| 19  | Handle Washer                | 304                       |         |
| 20  | Handle Nut (DN15~DN20)       | A194-8                    |         |
| 21  | Handle (DN15~DN20)           | 304                       |         |
| 22  | Lock Device (DN15~DN20)      | 304                       |         |
| 23  | Handle Sleeve (DN15~DN20)    | Vinyl Plastic             |         |
| 24  | Stop Bolt                    | A2-70                     |         |
| 25  | Stop Nut                     | A2-70                     |         |
| 26  | Body Gasket                  | 316 Spiral Wound+Graphite |         |
| 27  | Bolting                      | A320-B8                   |         |
| 28  | Bolt Nut                     | A194-8                    |         |
| 29  | Washer                       | 304                       |         |
| 30  | Disc Spring                  | Inconel X-750             |         |
| 31  | Seat Pressure Ring           | 316                       | 304     |
| 32  | Handle Adapter (DN25~DN100)  | CF8                       |         |
| 33  | Set Screwed (DN25~DN100)     | A2-70                     |         |
| 34  | Triangle Stopper(DN25~DN100) | 304                       |         |
| 35  | Pipe Handle(DN25~DN100)      | A53+PLATED Zn             |         |
| 36  | Handle Sleeve (DN25~DN100)   | VINYL PLASTIC             |         |



## EN PN 16 / 40 DIMENSION TABLE

## KV-C4K-D / KV-C4N-D

Unit:mm

| DN  | PN | d    | L   | R   | C   | D   | f | T  | N     | h  | H   | H1  | W   | P  | M  | E       | U     | ISO5211 |
|-----|----|------|-----|-----|-----|-----|---|----|-------|----|-----|-----|-----|----|----|---------|-------|---------|
| 15  | 16 | 15   | 130 | 45  | 65  | 95  | 2 | 16 | 4     | 14 | 290 | 322 | 175 | 11 | 11 | 50      | 7     | F05     |
| 20  |    | 20   | 130 | 58  | 75  | 105 | 2 | 18 | 4     | 14 | 293 | 323 | 175 | 11 | 11 | 50      | 7     | F05     |
| 25  |    | 25   | 140 | 68  | 85  | 115 | 2 | 18 | 4     | 14 | 318 | 378 | 300 | 14 | 14 | 50   70 | 7   9 | F05~F07 |
| 32  |    | 32   | 165 | 78  | 100 | 140 | 2 | 18 | 4     | 18 | 323 | 383 | 300 | 14 | 14 | 50   70 | 7   9 | F05~F07 |
| 40  |    | 38   | 165 | 88  | 110 | 150 | 3 | 18 | 4     | 18 | 365 | 429 | 400 | 17 | 17 | 102     | 11    | F10     |
| 50  |    | 50   | 203 | 102 | 125 | 165 | 3 | 20 | 4     | 18 | 372 | 436 | 400 | 17 | 17 | 102     | 11    | F10     |
| 65  | 16 | 63.5 | 222 | 122 | 145 | 185 | 3 | 20 | 4 (a) | 18 | 457 | 528 | 600 | 22 | 22 | 102     | 11    | F10     |
|     | 40 |      |     |     |     |     |   | 22 |       |    |     |     |     |    |    |         |       |         |
| 80  | 16 | 76   | 241 | 138 | 160 | 200 | 3 | 20 | 8     | 18 | 465 | 536 | 600 | 22 | 22 | 102     | 11    | F10     |
|     | 40 |      |     |     |     |     |   | 24 |       |    |     |     |     |    |    |         |       |         |
| 100 | 16 | 100  | 305 | 158 | 180 | 220 | 3 | 20 | 8     | 18 | 580 | 660 | 800 | 27 | 27 | 125     | 14    | F12     |
|     | 40 |      |     |     | 190 | 235 |   | 24 |       |    |     |     |     |    |    |         |       |         |

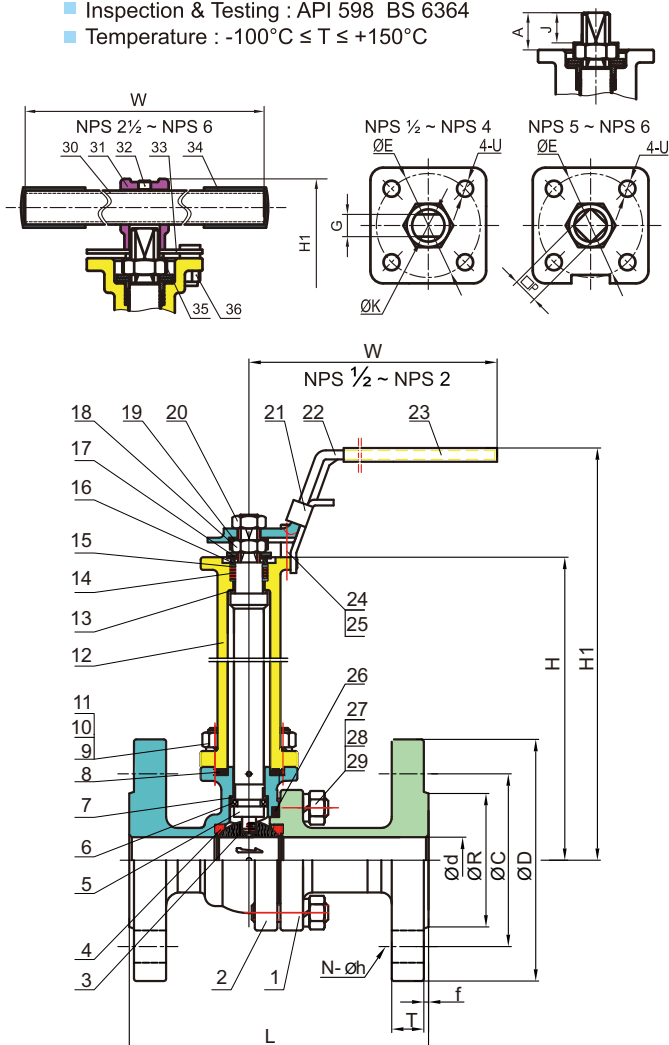
(a):4 holes is factory standard for DN65 PN16 valve and 8 holes is optional.

## Low Temperature Ball Valve, ASME 2-PC Body, Full Port, Flanged Ends Ball Valve

KV-D41 Class 150 / KV-D42 Class 300 Standard Type  
KV-D61 Class 150 / KV-D62 Class 300 Fire Safe Type

### Applicable Standards:

- Design : ASME B16.34
- Face to Face : ASME B16.10
- Flange Ends : ASME B16.5
- Wall Thickness : ASME B16.34
- Inspection & Testing : API 598 BS 6364
- Temperature :  $-100^{\circ}\text{C} \leq T \leq +150^{\circ}\text{C}$



| No. | PARTS NAME                      | MATERIASL                          |     |
|-----|---------------------------------|------------------------------------|-----|
| 1   | End Cap                         | CF8M                               | CF8 |
| 2   | Body                            | CF8M                               | CF8 |
| 3   | Ball                            | 316                                | 304 |
| 4   | Ball Seat                       | TFM1600                            |     |
| 5   | Stem(Anti-Static Device)        | 316                                | 304 |
| 6   | Split Ring                      | 316                                | 304 |
| 7   | L-stem Sleeve                   | TFM1600+25%GF                      |     |
| 8   | Extended Bonnet Gasket          | TFM1600/316 Spiral Wound+Graphite* |     |
| 9   | Bolting                         | A2-70                              |     |
| 10  | Bolt Nut                        | A2-70                              |     |
| 11  | Washer                          | 304                                |     |
| 12  | Extended Bonnet                 | CF8M                               | CF8 |
| 13  | L-Stem Sleeve                   | TFM1600+25%GF                      |     |
| 14  | Packing                         | TFM1600/Graphite*                  |     |
| 15  | Bushing                         | 304                                |     |
| 16  | Gland                           | 316                                |     |
| 17  | Belleville Washer               | 301                                |     |
| 18  | Stem Nut                        | A194-8                             |     |
| 19  | Stop-lock-cap                   | 304                                |     |
| 20  | Handle Nut (NPS: 1/2~2)         | A194-8                             |     |
| 21  | Lock Device (NPS: 1/2~2)        | 304                                |     |
| 22  | Handle (NPS: 1/2~2)             | 304                                |     |
| 23  | Handle Sleeve (NPS: 1/2~2)      | Vinyl Plastic                      |     |
| 24  | Stop Bolt (NPS: 1/2~6)          | A2-70                              |     |
| 25  | Stop Washer (NPS: 1/2~2)        | 304                                |     |
| 26  | Body Gasket                     | TFM1600/316 Spiral Wound+Graphite* |     |
| 27  | Bolting                         | A320-B8                            |     |
| 28  | Bolt Nut                        | A194-8                             |     |
| 29  | Washer                          | 304                                |     |
| 30  | Pipe Handle (NPS: 2 1/2~6)      | A53+PLATED Zn                      |     |
| 31  | Handle Adapter (NPS: 2 1/2~6)   | CF8                                |     |
| 32  | Set Screwed (NPS: 2 1/2~6)      | A2-70                              |     |
| 33  | Triangle Stopper (NPS: 2 1/2~6) | 304                                |     |
| 34  | Handle Sleeve (NPS: 2 1/2~6)    | VINYL PLASTIC                      |     |
| 35  | Handle Washer (NPS: 2 1/2~6)    | 304                                |     |
| 36  | Stop Nut (NPS: 2 1/2~6)         | A2-70                              |     |

\*Materials for KV-D61/D62 Series (Fire Safe Models)

### ASME Class 150

### KV-D41/KV-D61

Unit:mm

| NPS   | d     | L   | R   | C     | D   | f | T    | N | h    | W   | H   | H1  | A  | J  | K  | G(P) | E   | U   | ISO5211 |
|-------|-------|-----|-----|-------|-----|---|------|---|------|-----|-----|-----|----|----|----|------|-----|-----|---------|
| 1/2   | 15.0  | 108 | 35  | 60.3  | 90  | 2 | 8.0  | 4 | 16.0 | 137 | 180 | 228 | 22 | 10 | 12 | 6.3  | 42  | M5  | F04     |
| 3/4   | 20.0  | 117 | 43  | 69.9  | 100 | 2 | 8.9  | 4 | 16.0 | 137 | 183 | 231 | 22 | 10 | 12 | 6.3  | 42  | M5  | F04     |
| 1     | 25.0  | 127 | 51  | 79.4  | 110 | 2 | 9.6  | 4 | 16.0 | 172 | 192 | 241 | 26 | 12 | 15 | 9    | 50  | M6  | F05     |
| 1 1/4 | 32.0  | 140 | 64  | 88.9  | 115 | 2 | 11.2 | 4 | 16.0 | 172 | 196 | 245 | 26 | 12 | 15 | 9    | 50  | M6  | F05     |
| 1 1/2 | 38.0  | 165 | 73  | 98.4  | 125 | 2 | 12.7 | 4 | 16.0 | 202 | 233 | 276 | 30 | 15 | 16 | 9.6  | 70  | M8  | F07     |
| 2     | 50.0  | 178 | 92  | 120.7 | 150 | 2 | 14.3 | 4 | 19.0 | 202 | 243 | 286 | 30 | 15 | 16 | 9.6  | 70  | M8  | F07     |
| 2 1/2 | 63.5  | 190 | 105 | 139.7 | 180 | 2 | 15.9 | 4 | 19.0 | 400 | 300 | 371 | 35 | 35 | 29 | 18   | 100 | Ø11 | F10     |
| 3     | 76.0  | 203 | 127 | 152.4 | 190 | 2 | 17.5 | 4 | 19.0 | 400 | 310 | 381 | 35 | 35 | 29 | 18   | 100 | Ø11 | F10     |
| 4     | 100.0 | 229 | 157 | 190.5 | 230 | 2 | 22.3 | 8 | 19.0 | 400 | 332 | 403 | 35 | 35 | 29 | 18   | 100 | Ø11 | F10     |
| 5     | 125.0 | 356 | 186 | 215.9 | 255 | 2 | 22.3 | 8 | 22.3 | 800 | 388 | 468 | 30 | 30 | —  | 27   | 125 | Ø17 | F12     |
| 6     | 150.0 | 394 | 216 | 241.3 | 280 | 2 | 23.9 | 8 | 22.3 | 800 | 408 | 488 | 30 | 30 | —  | 27   | 125 | Ø17 | F12     |

### ASME Class 300

### KV-D42/KV-D62

Unit:mm

| NPS   | d     | L   | R   | C     | D   | f | T    | N | h    | W   | H   | H1  | A  | J  | K  | G(P) | E   | U   | ISO5211 |
|-------|-------|-----|-----|-------|-----|---|------|---|------|-----|-----|-----|----|----|----|------|-----|-----|---------|
| 1/2   | 15.0  | 140 | 35  | 66.7  | 95  | 2 | 12.7 | 4 | 16.0 | 137 | 180 | 228 | 22 | 10 | 12 | 6.3  | 42  | M5  | F04     |
| 3/4   | 20.0  | 152 | 43  | 82.6  | 115 | 2 | 14.3 | 4 | 19.0 | 137 | 183 | 231 | 22 | 10 | 12 | 6.3  | 42  | M5  | F04     |
| 1     | 25.0  | 165 | 51  | 88.9  | 125 | 2 | 15.9 | 4 | 19.0 | 172 | 192 | 241 | 26 | 12 | 15 | 9    | 50  | M6  | F05     |
| 1 1/4 | 32.0  | 178 | 64  | 98.4  | 135 | 2 | 17.5 | 4 | 19.0 | 172 | 196 | 245 | 26 | 12 | 15 | 9    | 50  | M6  | F05     |
| 1 1/2 | 38.0  | 190 | 73  | 114.3 | 155 | 2 | 19.1 | 4 | 22.3 | 202 | 233 | 276 | 30 | 15 | 16 | 9.6  | 70  | M8  | F07     |
| 2     | 50.0  | 216 | 92  | 127.0 | 165 | 2 | 20.7 | 4 | 19.0 | 202 | 243 | 286 | 30 | 15 | 16 | 9.6  | 70  | M8  | F07     |
| 2 1/2 | 63.5  | 241 | 105 | 149.2 | 190 | 2 | 23.9 | 4 | 22.3 | 400 | 300 | 371 | 35 | 35 | 29 | 18   | 100 | Ø11 | F10     |
| 3     | 76.0  | 282 | 127 | 168.3 | 210 | 2 | 27.0 | 4 | 22.3 | 400 | 310 | 381 | 35 | 35 | 29 | 18   | 100 | Ø11 | F10     |
| 4     | 100.0 | 305 | 157 | 200.0 | 255 | 2 | 30.2 | 8 | 22.3 | 400 | 332 | 403 | 35 | 35 | 29 | 18   | 100 | Ø11 | F10     |
| 5     | 125.0 | 381 | 186 | 235.0 | 280 | 2 | 33.4 | 8 | 22.3 | 800 | 388 | 468 | 30 | 30 | —  | 27   | 125 | Ø17 | F12     |
| 6     | 150.0 | 403 | 216 | 269.9 | 320 | 2 | 35.0 | 8 | 22.3 | 800 | 408 | 488 | 30 | 30 | —  | 27   | 125 | Ø17 | F12     |

## Low Temperature Ball Valve, EN 2-PC Body, Flanged Ends, Full Port

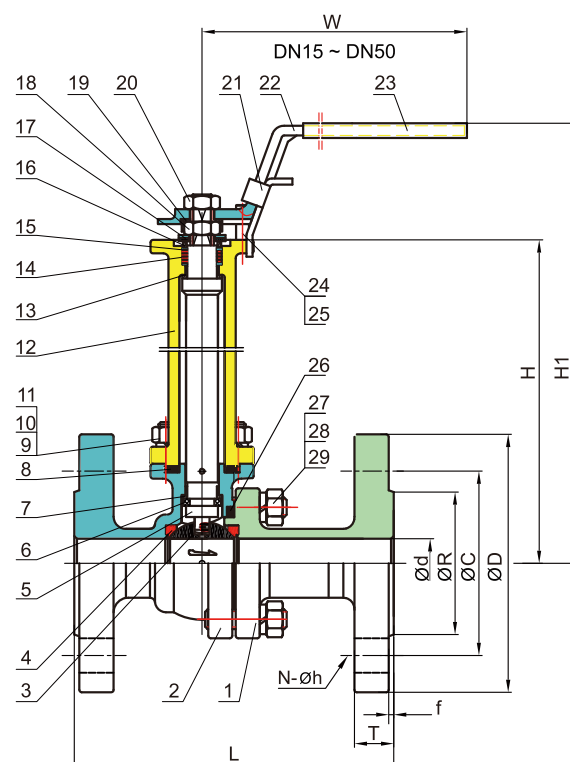
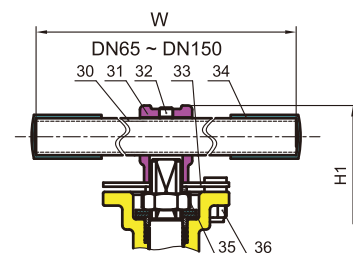
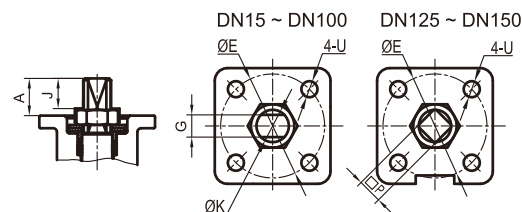
KV-D4K PN16 / KV-D4N PN40 Standard Type  
KV-D6K PN16 / KV-D6N PN40 Fire Safe Type

### Applicable Standards:

- Design : EN 12516
- Face to Face : EN 558
- Flange Ends : EN 1092-1
- Wall Thickness : EN 12516
- Inspection & Testing : EN 12266-1 BS 6364
- Temperature :  $-100^{\circ}\text{C} \leq T \leq +150^{\circ}\text{C}$

| No. | PARTS NAME                    | MATERIALS                          |        |
|-----|-------------------------------|------------------------------------|--------|
| 1   | End Cap                       | 1.4408                             | 1.4308 |
| 2   | Body                          | 1.4408                             | 1.4308 |
| 3   | Ball                          | 316                                | 304    |
| 4   | Ball Seat                     | TFM1600                            |        |
| 5   | Stem(Anti-Static Device)      | 316                                | 304    |
| 6   | Split Ring                    | 316                                | 304    |
| 7   | L-stem Sleeve                 | TFM1600+25%GF                      |        |
| 8   | Extended Bonnet Gasket        | TFM1600/316 Spiral Wound+Graphite* |        |
| 9   | Bolting                       | A2-70                              |        |
| 10  | Bolt Nut                      | A2-70                              |        |
| 11  | Washer                        | 304                                |        |
| 12  | Extended Bonnet               | 1.4408                             | 1.4308 |
| 13  | L-Stem Sleeve                 | TFM1600+25%GF                      |        |
| 14  | Packing                       | TFM1600/ Graphite*                 |        |
| 15  | Bushing                       | 304                                |        |
| 16  | Gland                         | 316                                |        |
| 17  | Belleville Washer             | 301                                |        |
| 18  | Stem Nut                      | A194-8                             |        |
| 19  | Stop-lock-cap                 | 304                                |        |
| 20  | Handle Nut (DN15~DN50)        | A194-8                             |        |
| 21  | Lock Device (DN15~DN50)       | 304                                |        |
| 22  | Handle (DN15~DN50)            | 304                                |        |
| 23  | Handle Sleeve (DN15~DN50)     | Vinyl Plastic                      |        |
| 24  | Stop Bolt (DN15~DN150)        | A2-70                              |        |
| 25  | Stop Washer (DN15~DN50)       | 304                                |        |
| 26  | Body Gasket                   | TFM1600/316 Spiral Wound+Graphite* |        |
| 27  | Bolting                       | A2-70                              |        |
| 28  | Bolt Nut                      | A2-70                              |        |
| 29  | Washer                        | 304                                |        |
| 30  | Pipe Handle (DN65~DN150)      | A53+PLATED Zn                      |        |
| 31  | Handle Adapter (DN65~DN150)   | CF8                                |        |
| 32  | Set Screw (DN65~DN150)        | A2-70                              |        |
| 33  | Triangle Stopper (DN65~DN150) | 304                                |        |
| 34  | Handle Sleeve (DN65~DN150)    | VINYL PLASTIC                      |        |
| 35  | Handle Washer (DN65~DN150)    | 304                                |        |
| 36  | Stop Nut (DN65~DN150)         | A2-70                              |        |

\*Materials for KV-D6K/D6N Series(Fire Safe Models)



### EN PN16 / 40

Unit:mm

| DN  | PN | d     | L   | R   | C   | D   | f | T  | N    | h  | W   | H   | H1  | A  | J  | K  | G(P) | E   | U   | ISO5211 |
|-----|----|-------|-----|-----|-----|-----|---|----|------|----|-----|-----|-----|----|----|----|------|-----|-----|---------|
| 15  | 16 | 15.0  | 130 | 45  | 65  | 95  | 2 | 16 | 4    | 14 | 135 | 180 | 228 | 22 | 10 | 12 | 6.3  | 42  | M5  | F04     |
| 20  |    | 20.0  | 130 | 58  | 75  | 105 | 2 | 18 | 4    | 14 | 135 | 183 | 231 | 22 | 10 | 12 | 6.3  | 42  | M5  | F04     |
| 25  |    | 25.0  | 140 | 68  | 85  | 115 | 3 | 18 | 4    | 14 | 170 | 192 | 241 | 26 | 12 | 15 | 9    | 50  | M6  | F05     |
| 32  |    | 32.0  | 165 | 78  | 100 | 140 | 3 | 18 | 4    | 18 | 170 | 196 | 245 | 26 | 12 | 15 | 9    | 50  | M6  | F05     |
| 40  |    | 38.0  | 165 | 88  | 110 | 150 | 3 | 18 | 4    | 18 | 200 | 233 | 276 | 30 | 15 | 16 | 9.6  | 70  | M8  | F07     |
| 50  | 40 | 50.0  | 203 | 102 | 125 | 165 | 3 | 20 | 4    | 18 | 200 | 243 | 286 | 30 | 15 | 16 | 9.6  | 70  | M8  | F07     |
| 65  |    | 63.5  | 222 | 122 | 145 | 185 | 3 | 18 | 4(a) | 18 | 400 | 300 | 371 | 35 | 35 | 29 | 18   | 100 | Ø11 | F10     |
| 80  |    | 76.0  | 241 | 138 | 160 | 200 | 3 | 20 | 8    | 18 | 400 | 310 | 381 | 35 | 35 | 29 | 18   | 100 | Ø11 | F10     |
| 100 |    | 100.0 | 305 | 158 | 180 | 220 | 3 | 20 | 8    | 18 | 400 | 332 | 403 | 35 | 35 | 29 | 18   | 100 | Ø11 | F10     |
| 125 |    | 125.0 | 356 | 188 | 210 | 250 | 3 | 22 | 8    | 18 | 800 | 388 | 468 | 30 | 30 | —  | 27   | 125 | Ø17 | F12     |
| 150 | 16 | 150.0 | 394 | 212 | 240 | 285 | 3 | 22 | 8    | 22 | 800 | 408 | 488 | 30 | 30 | —  | 27   | 125 | Ø17 | F12     |
|     |    | 403   | 218 | 250 | 300 |     | 3 | 28 | 8    | 26 |     |     |     |    |    |    |      |     |     |         |

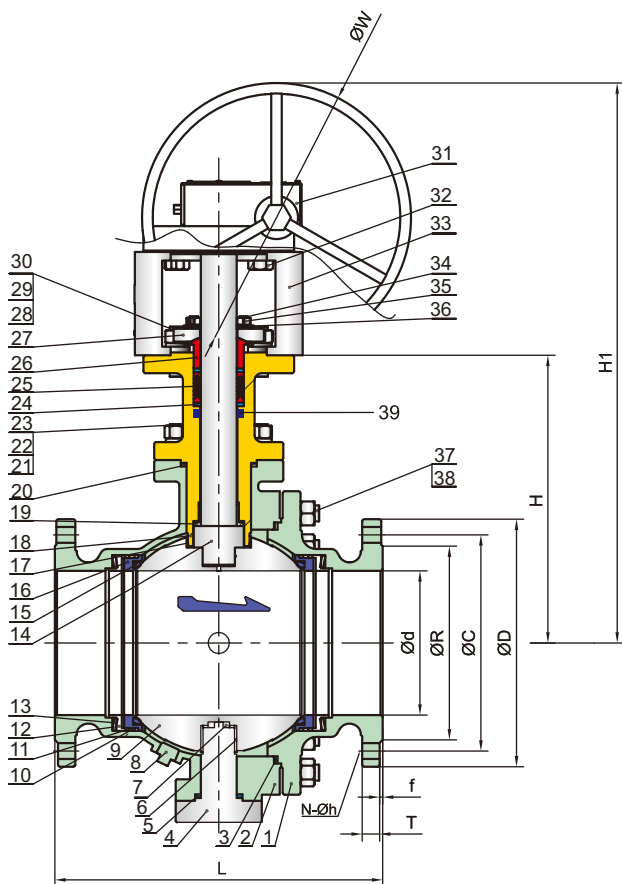
(a):4 holes is factory standard for DN65 PN16 valve and 8 holes is optional.

## Low Temperature Ball Valve, ASME 2-PC Body, Full Port, Flanged Ends Ball Valve

KV-D441 Class 150 / KV-D442 Class 300 Standard Type  
KV-D641 Class 150 / KV-D642 Class 300 Fire Safe Type

### Applicable Standards:

- Design : ASME B16.34
- Face to Face : ASME B16.10
- Flange Ends : ASME B16.5
- Wall Thickness : ASME B16.34
- Inspection & Testing : API 598, BS 6364
- Temperature :  $-100^{\circ}\text{C} \leq T \leq +150^{\circ}\text{C}$



| No. | PARTS NAME                     | MATERIALS                            |     |
|-----|--------------------------------|--------------------------------------|-----|
| 1   | End Cap                        | CF8M                                 | CF8 |
| 2   | Body                           | CF8M                                 | CF8 |
| 3   | Body Gasket                    | TFM1600 / 316 Spiral Wound+Graphite* |     |
| 4   | Bottom Stem                    | 316                                  | 304 |
| 5   | Bottom Stem Gasket             | TFM1600 / 316 Spiral Wound+Graphite* |     |
| 6   | Stem Sleeve                    | 316+PTFE                             |     |
| 7   | Bushing                        | 50%SS+50%PTFE                        |     |
| 8   | Drain Plug                     | 316                                  | 304 |
| 9   | Ball                           | 316                                  | 304 |
| 10  | Seal Ring                      | Graphite                             |     |
| 11  | Seat Backing Ring              | 316                                  | 304 |
| 12  | Pressure Ring                  | 316                                  | 304 |
| 13  | Disc spring / Column spring(b) | 17-7PH                               |     |
| 14  | Stem                           | 316                                  | 304 |
| 15  | Sealing Pair                   | TFM1600                              |     |
| 16  | Seat                           | 316                                  | 304 |
| 17  | Wear Sleeve                    | 316+PTFE                             |     |
| 18  | Extended Bonnet                | CF8M                                 | CF8 |
| 19  | L-Stem Sleeve                  | 50%SS+50%PTFE                        |     |
| 20  | Extended Bonnet Gasket         | TFM1600 / 316 Spiral Wound+Graphite* |     |
| 21  | Bolting                        | A2-70                                |     |
| 22  | Bolt Nut                       | A2-70                                |     |
| 23  | Washer                         | 304                                  |     |
| 24  | Bushing                        | 316                                  | 304 |
| 25  | Packing                        | TFM1600/Graphite*                    |     |
| 26  | Gland                          | 316                                  | 304 |
| 27  | Packing Gland                  | 316                                  | 304 |
| 28  | Bolting                        | A2-70                                |     |
| 29  | Bolt Nut                       | A2-70                                |     |
| 30  | Washer                         | 304                                  |     |
| 31  | Worm Gear                      | Assembly                             |     |
| 32  | Hexagon Bolt                   | A2-70                                |     |
| 33  | Yoke                           | WCB                                  |     |
| 34  | Bolting                        | A2-70                                |     |
| 35  | Bolt Nut                       | A2-70                                |     |
| 36  | Belleville Spring              | 301                                  |     |
| 37  | Bolting                        | A320-B8                              |     |
| 38  | Bolt Nut                       | A194-8                               |     |
| 39  | O-ring                         | FKM                                  |     |

(b) Disc spring(NPS5~NPS8),Column spring (NPS10~NPS24)  
\*Materials for KV-D641/D642 Series (Fire Safe Models)

### ASME Class 150 DIMENSION TABLE

### KV-D441 / KV-D641

Unit:mm

| NPS | d   | L    | R     | D   | C     | T    | f | N  | h    | W   | H   | H1   | ISO5211 |
|-----|-----|------|-------|-----|-------|------|---|----|------|-----|-----|------|---------|
| 5   | 125 | 356  | 185.7 | 255 | 215.9 | 22.3 | 2 | 8  | 22.3 | 360 | 344 | 701  | F16     |
| 6   | 150 | 394  | 215.9 | 280 | 241.3 | 23.9 | 2 | 8  | 22.3 | 360 | 405 | 762  | F16     |
| 8   | 201 | 457  | 269.9 | 345 | 298.5 | 27.0 | 2 | 8  | 22.3 | 460 | 405 | 833  | F16     |
| 10  | 252 | 533  | 323.8 | 405 | 362.0 | 28.6 | 2 | 12 | 25.4 | 600 | 478 | 966  | F16     |
| 12  | 303 | 610  | 381.0 | 485 | 431.8 | 30.2 | 2 | 12 | 25.4 | 600 | 510 | 984  | F25     |
| 14  | 337 | 686  | 412.8 | 535 | 476.3 | 33.4 | 2 | 12 | 25.4 | 600 | 597 | 1166 | F25     |
| 16  | 388 | 762  | 469.9 | 595 | 539.8 | 35.0 | 2 | 16 | 28.6 | 600 | 628 | 1227 | F25     |
| 18  | 438 | 864  | 533.4 | 635 | 577.9 | 38.1 | 2 | 16 | 31.8 | 600 | 679 | 1278 | F25     |
| 20  | 489 | 914  | 584.2 | 700 | 635.0 | 41.3 | 2 | 20 | 31.8 | 600 | 680 | 1445 | F30     |
| 24  | 590 | 1067 | 692.2 | 815 | 749.3 | 46.1 | 2 | 20 | 35.0 | 600 | 803 | 1618 | F30     |

### ASME Class 300 DIMENSION TABLE

### KV-D442 / KV-D642

Unit:mm

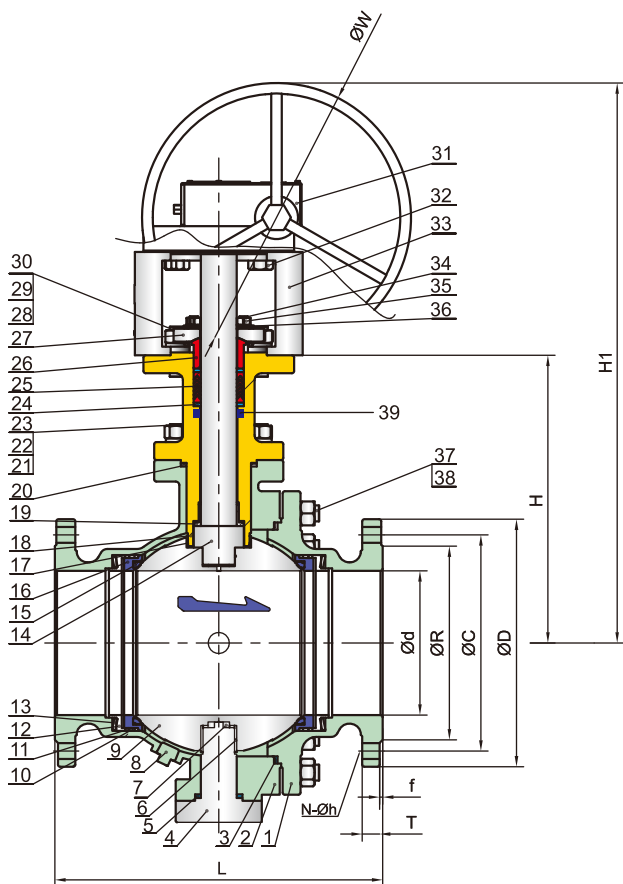
| NPS | d   | L    | R     | D   | C     | T    | f | N  | h    | W   | H   | H1   | ISO5211 |
|-----|-----|------|-------|-----|-------|------|---|----|------|-----|-----|------|---------|
| 5   | 125 | 381  | 185.7 | 280 | 235.0 | 33.4 | 2 | 8  | 22.3 | 360 | 344 | 701  | F16     |
| 6   | 150 | 403  | 215.9 | 320 | 269.9 | 35.0 | 2 | 12 | 22.3 | 360 | 405 | 762  | F16     |
| 8   | 201 | 502  | 269.9 | 380 | 330.2 | 39.7 | 2 | 12 | 25.4 | 460 | 405 | 833  | F16     |
| 10  | 252 | 568  | 323.8 | 445 | 387.4 | 46.1 | 2 | 16 | 28.6 | 600 | 478 | 966  | F16     |
| 12  | 303 | 648  | 381.0 | 520 | 450.8 | 49.3 | 2 | 16 | 31.8 | 600 | 510 | 984  | F25     |
| 14  | 337 | 762  | 412.8 | 585 | 514.4 | 52.4 | 2 | 20 | 31.8 | 600 | 597 | 1166 | F25     |
| 16  | 388 | 838  | 469.9 | 650 | 571.5 | 55.6 | 2 | 20 | 35   | 600 | 628 | 1227 | F25     |
| 18  | 438 | 914  | 533.4 | 710 | 628.6 | 58.8 | 2 | 24 | 35   | 600 | 679 | 1278 | F25     |
| 20  | 489 | 991  | 584.2 | 775 | 685.8 | 62.0 | 2 | 24 | 35   | 600 | 680 | 1445 | F30     |
| 24  | 590 | 1143 | 692.2 | 915 | 812.8 | 68.3 | 2 | 24 | 41.3 | 600 | 803 | 1618 | F30     |

## Low Temperature Ball Valve, EN 2-PC Body, Full Port, Flanged Ends Ball Valve

KV-D44K PN16 / KV-D44N PN40 Standard Type  
KV-D64K PN16 / KV-D64N PN40 FireSafe Type

### Applicable Standards:

- Design : EN 12516
- Face to Face : EN 558
- Flange Ends : EN 1092-1
- Wall Thickness : EN 12516
- Inspection & Testing : EN 12266-1, BS 6364
- Temperature :  $-100^{\circ}\text{C} \leq T \leq +150^{\circ}\text{C}$



| No. | PARTS NAME                     | MATERIALS                            |        |
|-----|--------------------------------|--------------------------------------|--------|
| 1   | End Cap                        | 1.4408                               | 1.4308 |
| 2   | Body                           | 1.4408                               | 1.4308 |
| 3   | Body Gasket                    | TFM1600 / 316 Spiral Wound+Graphite* |        |
| 4   | Bottom Stem                    | 316                                  | 304    |
| 5   | Bottom Stem Gasket             | TFM1600 / 316 Spiral Wound+Graphite* |        |
| 6   | Stem Sleeve                    | 316+PTFE                             |        |
| 7   | Bushing                        | 50%SS+50%PTFE                        |        |
| 8   | Drain Plug                     | 316                                  | 304    |
| 9   | Ball                           | 316                                  | 304    |
| 10  | Seal Ring                      | Graphite                             |        |
| 11  | Seat Backing Ring              | 316                                  | 304    |
| 12  | Pressure Ring                  | 316                                  | 304    |
| 13  | Disc spring / Column spring(b) | 17-7PH                               |        |
| 14  | Stem                           | 316                                  | 304    |
| 15  | Sealing Pair                   | TFM1600                              |        |
| 16  | Seat                           | 316                                  | 304    |
| 17  | Wear Sleeve                    | 316+PTFE                             |        |
| 18  | Extended Bonnet                | 1.4408                               | 1.4308 |
| 19  | L-Stem Sleeve                  | 50%SS+50%PTFE                        |        |
| 20  | Extended Bonnet Gasket         | TFM1600 / 316 Spiral Wound+Graphite* |        |
| 21  | Bolting                        | A2-70                                |        |
| 22  | Bolt Nut                       | A2-70                                |        |
| 23  | Washer                         | 304                                  |        |
| 24  | Bushing                        | 316                                  | 304    |
| 25  | Packing                        | TFM1600/Graphite*                    |        |
| 26  | Gland                          | 316                                  | 304    |
| 27  | Packing Gland                  | 316                                  | 304    |
| 28  | Bolting                        | A2-70                                |        |
| 29  | Bolt Nut                       | A2-70                                |        |
| 30  | Washer                         | 304                                  |        |
| 31  | Worm Gear                      | Assembly                             |        |
| 32  | Hexagon Bolt                   | A2-70                                |        |
| 33  | Yoke                           | WCB                                  |        |
| 34  | Bolting                        | A2-70                                |        |
| 35  | Bolt Nut                       | A2-70                                |        |
| 36  | Belleville Spring              | 301                                  |        |
| 37  | Bolting                        | A320-B8                              |        |
| 38  | Bolt Nut                       | A194-8                               |        |
| 39  | O-ring                         | FKM                                  |        |

(b) Disc spring (DN125~DN200), Column spring (DN250~DN600)  
\*Materials for KV-D64K/D64N Series (Fire Safe Models)

### EN PN 16 DIMENSION TABLE

### KV-D44K / KV-D64K

Unit:mm

| DN  | d   | L    | R   | D   | C   | T  | f | N  | h  | W   | H   | H1   | ISO5211 |
|-----|-----|------|-----|-----|-----|----|---|----|----|-----|-----|------|---------|
| 125 | 125 | 356  | 188 | 250 | 210 | 22 | 3 | 8  | 18 | 360 | 344 | 701  | F16     |
| 150 | 150 | 394  | 212 | 285 | 240 | 22 | 3 | 8  | 22 | 360 | 405 | 762  | F16     |
| 200 | 201 | 457  | 268 | 340 | 295 | 24 | 3 | 12 | 22 | 460 | 405 | 833  | F16     |
| 250 | 252 | 533  | 320 | 405 | 355 | 26 | 3 | 12 | 26 | 600 | 478 | 966  | F16     |
| 300 | 303 | 610  | 378 | 460 | 410 | 28 | 4 | 12 | 26 | 600 | 510 | 984  | F25     |
| 350 | 337 | 686  | 438 | 520 | 470 | 30 | 4 | 16 | 26 | 600 | 597 | 1166 | F25     |
| 400 | 388 | 762  | 490 | 580 | 525 | 32 | 4 | 16 | 30 | 600 | 628 | 1227 | F25     |
| 450 | 438 | 864  | 550 | 640 | 585 | 40 | 4 | 20 | 30 | 600 | 679 | 1278 | F25     |
| 500 | 489 | 914  | 610 | 715 | 650 | 44 | 4 | 20 | 33 | 600 | 680 | 1445 | F30     |
| 600 | 590 | 1067 | 725 | 840 | 770 | 54 | 5 | 20 | 36 | 600 | 803 | 1618 | F30     |

### EN PN 40 DIMENSION TABLE

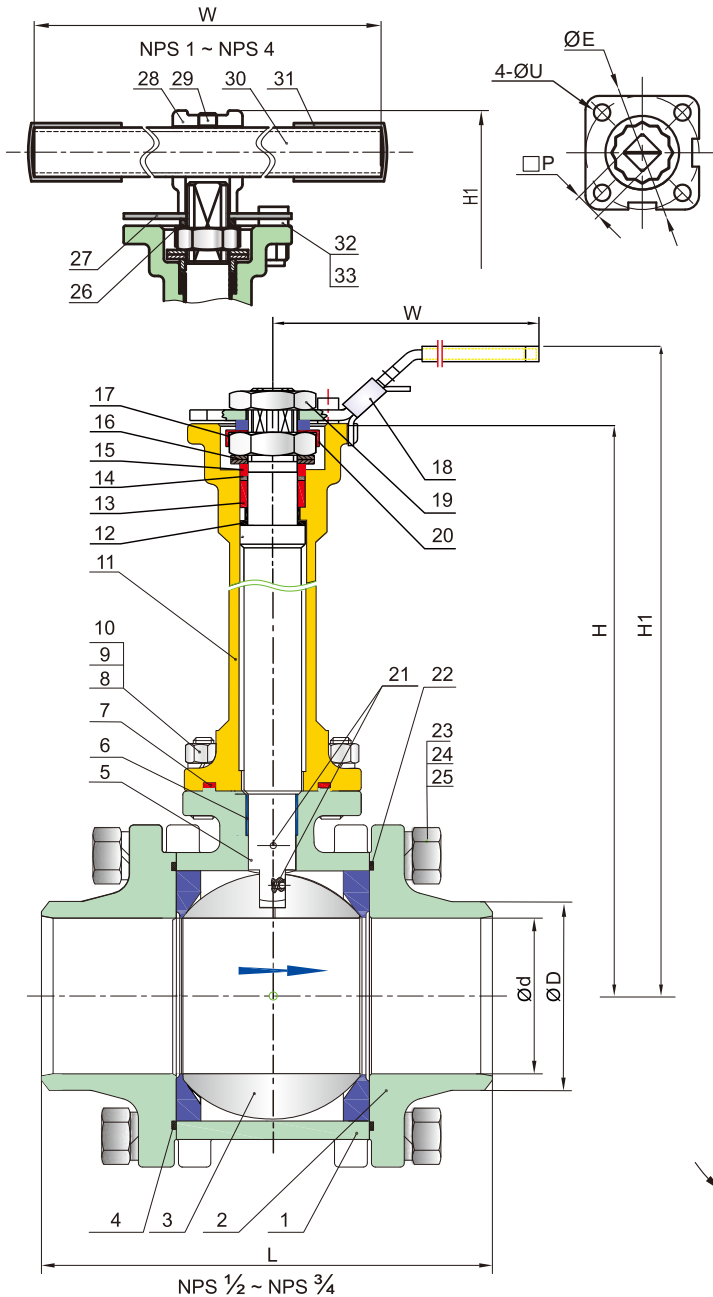
### KV-D44N / KV-D64N

Unit:mm

| DN  | d   | L    | R   | D   | C   | T  | f | N  | h  | W   | H   | H1   | ISO5211 |
|-----|-----|------|-----|-----|-----|----|---|----|----|-----|-----|------|---------|
| 125 | 125 | 381  | 188 | 270 | 220 | 26 | 3 | 8  | 26 | 360 | 344 | 701  | F16     |
| 150 | 150 | 403  | 218 | 300 | 250 | 28 | 3 | 8  | 26 | 360 | 405 | 762  | F16     |
| 200 | 201 | 502  | 285 | 375 | 320 | 34 | 3 | 12 | 30 | 460 | 405 | 833  | F16     |
| 250 | 252 | 568  | 345 | 450 | 385 | 38 | 3 | 12 | 33 | 600 | 478 | 966  | F16     |
| 300 | 303 | 648  | 410 | 515 | 450 | 42 | 4 | 16 | 33 | 600 | 510 | 984  | F25     |
| 350 | 337 | 762  | 465 | 580 | 510 | 46 | 4 | 16 | 36 | 600 | 597 | 1166 | F25     |
| 400 | 388 | 838  | 535 | 660 | 585 | 50 | 4 | 16 | 39 | 600 | 628 | 1227 | F25     |
| 450 | 438 | 914  | 560 | 685 | 610 | 57 | 4 | 20 | 39 | 600 | 679 | 1278 | F25     |
| 500 | 489 | 991  | 615 | 755 | 670 | 57 | 4 | 20 | 42 | 600 | 680 | 1445 | F30     |
| 600 | 590 | 1143 | 735 | 890 | 795 | 72 | 5 | 20 | 48 | 600 | 803 | 1618 | F30     |

### Applicable Standards:

- Design : ASME B16.34, BS 6364
- Face to Face : DIN 3202 S13
- Welding Ends : ASME B16.25
- Wall Thickness : ASME B16.34
- Inspection & Testing : API 598, BS 6364
- Temperature :  $-196^{\circ}\text{C} \leq T \leq +150^{\circ}\text{C}$



| No. | Parts Name                    | Material                  |         |
|-----|-------------------------------|---------------------------|---------|
| 1   | Body                          | CF8M                      | CF8     |
| 2   | Cap                           | CF3M                      | CF8     |
| 3   | Ball                          | 316+ENP                   | 304+ENP |
| 4   | Ball Seats                    | PCTFE                     |         |
| 5   | Stem                          | XM-19(Nitronic 50)        |         |
| 6   | Stem Sleeve                   | 50%SS+50%PTFE             |         |
| 7   | Extended Bonnet Gasket        | 316 Spiral Wound+Graphite |         |
| 8   | Bolt                          | A320-B8                   |         |
| 9   | Nut                           | A194-8                    |         |
| 10  | Bushing                       | 304                       |         |
| 11  | Extention Bonnet              | CF8M                      | CF8     |
| 12  | Sleeve                        | 50%SS+50%PTFE             |         |
| 13  | Packing                       | Graphite                  |         |
| 14  | Bushing                       | 304                       |         |
| 15  | Gland                         | 316                       | 304     |
| 16  | Belleville Washer             | 301                       |         |
| 17  | Stem Nut                      | A194-8                    |         |
| 18  | Handle(NPS: 1/2 ~ 3/4)        | 304                       |         |
| 19  | Handle Nut (NPS: 1/2 ~ 3/4)   | A194-8                    |         |
| 20  | Handle Washer                 | 304                       |         |
| 21  | Anti-Static Device            | 304                       |         |
| 22  | Body Gasket                   | 316 Spiral Wound+Graphite |         |
| 23  | Bolt                          | A320-B8                   |         |
| 24  | Nut                           | A194-8                    |         |
| 25  | Washer                        | 304                       |         |
| 26  | Stop-lock Cap                 | 304                       |         |
| 27  | Triangle Stopper (NPS: 1 ~ 4) | 304                       |         |
| 28  | Handle Adaptor (NPS: 1 ~ 4)   | CF8                       |         |
| 29  | Set Screwed (NPS: 1 ~ 4)      | A2-70                     |         |
| 30  | Pipe Handle (NPS: 1 ~ 4)      | A53+Zn Plated             |         |
| 31  | Handle Sleeve (NPS: 1 ~ 4)    | VINYL PLASTIC             |         |
| 32  | Stop Nut                      | A2-70                     |         |
| 33  | Stop Bolt                     | A2-70                     |         |

### ANSI 1000WOG DIMENSION TABLE

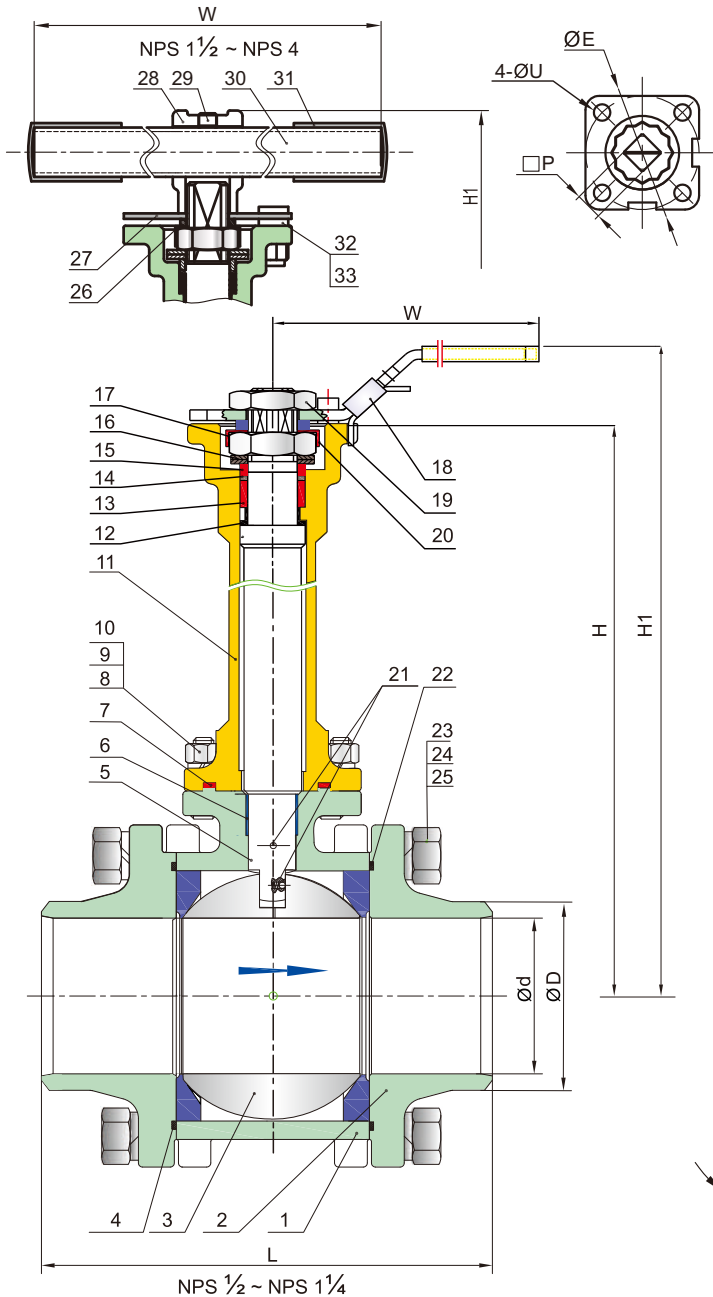
### KV-C31

Unit: mm

| NPS   | d    | L   | B1    | B2    | B3  | H   | H1  | W   | M  | P  | E       | U     | ISO5211 |
|-------|------|-----|-------|-------|-----|-----|-----|-----|----|----|---------|-------|---------|
| 1/2   | 15   | 140 | 15    | 18    | 23  | 45  | 320 | 175 | 11 | 11 | 50      | 7     | F05     |
| 3/4   | 20   | 152 | 20    | 23    | 28  | 48  | 323 | 175 | 11 | 11 | 50      | 7     | F05     |
| 1     | 25   | 165 | 26.7  | 29    | 34  | 56  | 378 | 300 | 14 | 14 | 50   70 | 7   9 | F05~F07 |
| 1 1/4 | 32   | 178 | 35.1  | 37.3  | 43  | 60  | 383 | 300 | 14 | 14 | 50   70 | 7   9 | F05~F07 |
| 1 1/2 | 38   | 190 | 40.9  | 43    | 50  | 65  | 428 | 400 | 17 | 17 | 102     | 11    | F10     |
| 2     | 50   | 216 | 52.5  | 54.5  | 63  | 72  | 435 | 400 | 17 | 17 | 102     | 11    | F10     |
| 2 1/2 | 63.5 | 190 | 62.7  | 66.7  | 78  | 92  | 526 | 600 | 22 | 22 | 102     | 11    | F10     |
| 3     | 76   | 220 | 78.0  | 82.0  | 92  | 100 | 534 | 600 | 22 | 22 | 102     | 11    | F10     |
| 4     | 100  | 270 | 102.4 | 106.4 | 115 | 130 | 660 | 800 | 27 | 27 | 125     | 14    | F12     |

### Applicable Standards:

- Design : ASME B16.34, BS 6364
- Face to Face : DIN 3202 S13
- Welding Ends : ASME B16.25
- Wall Thickness : ASME B16.34
- Inspection & Testing : API 598, BS 6364
- Temperature :  $-100^{\circ}\text{C} \leq T \leq +150^{\circ}\text{C}$



| No. | Parts Name                        | Material                  |      |
|-----|-----------------------------------|---------------------------|------|
| 1   | Body                              | CF8M                      | CF8  |
| 2   | Cap                               | CF3M                      | CF8  |
| 3   | Ball                              | 316                       | 304  |
| 4   | Ball Seats                        | TFM1600                   |      |
| 5   | Stem                              | F316                      | F304 |
| 6   | Stem Sleeve                       | 50%SS+50%PTFE             |      |
| 7   | Extended Bonnet Gasket            | 316 Spiral Wound+Graphite |      |
| 8   | Bolt                              | A320-B8                   |      |
| 9   | Nut                               | A194-8                    |      |
| 10  | Bushing                           | 304                       |      |
| 11  | Extention Bonnet                  | CF8M                      | CF8  |
| 12  | Sleeve                            | 50%SS+50%PTFE             |      |
| 13  | Packing                           | Graphite                  |      |
| 14  | Bushing                           | 304                       |      |
| 15  | Gland                             | 316                       | 304  |
| 16  | Belleville Washer                 | 301                       |      |
| 17  | Stem Nut                          | A194-8                    |      |
| 18  | Handle(NPS: 1/2 ~ 1 1/4)          | 304                       |      |
| 19  | Handle Nut (NPS: 1/2 ~ 1 1/4)     | A194-8                    |      |
| 20  | Handle Washer                     | 304                       |      |
| 21  | Anti-Static Device                | 304                       |      |
| 22  | Body Gasket                       | 316 Spiral Wound+Graphite |      |
| 23  | Bolt                              | A320-B8                   |      |
| 24  | Nut                               | A194-8                    |      |
| 25  | Washer                            | 304                       |      |
| 26  | Stop-lock Cap                     | 304                       |      |
| 27  | Triangle Stopper (NPS: 1 1/2 ~ 4) | 304                       |      |
| 28  | Handle Adaptor (NPS: 1 1/2 ~ 4)   | CF8                       |      |
| 29  | Set Screwed (NPS: 1 1/2 ~ 4)      | A2-70                     |      |
| 30  | Pipe Handle (NPS: 1 1/2 ~ 4)      | A53+Zn Plated             |      |
| 31  | Handle Sleeve (NPS: 1 1/2 ~ 4)    | VINYL PLASTIC             |      |
| 32  | Stop Nut                          | A2-70                     |      |
| 33  | Stop Bolt                         | A2-70                     |      |

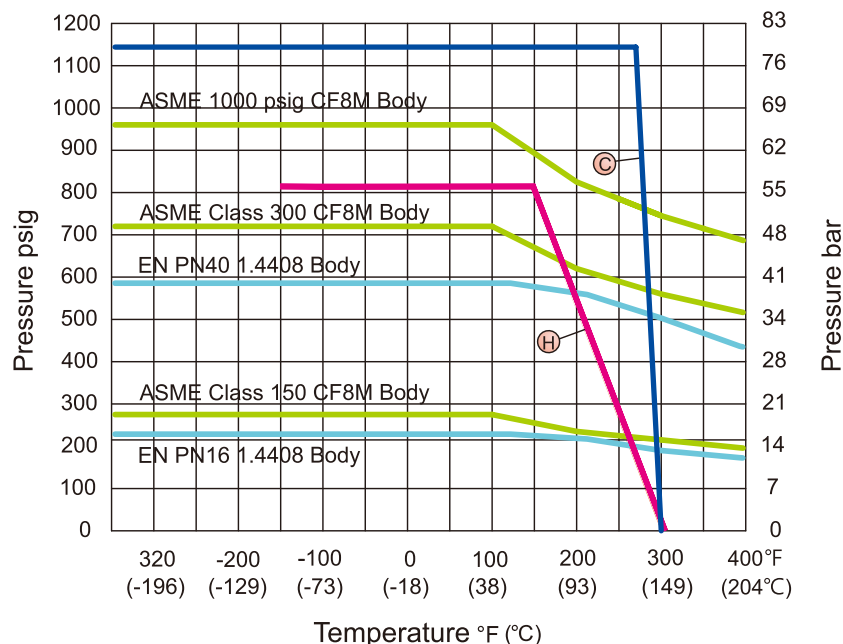
### ANSI 1000WOG DIMENSION TABLE

### KV-D31

Unit: mm

| NPS   | d    | L   | B1    | B2    | B3  | H   | H1  | W   | M  | P  | E       | U     | ISO5211 |
|-------|------|-----|-------|-------|-----|-----|-----|-----|----|----|---------|-------|---------|
| 1/2   | 15   | 140 | 15    | 18    | 23  | 45  | 320 | 175 | 11 | 11 | 50      | 7     | F05     |
| 3/4   | 20   | 152 | 20    | 23    | 28  | 48  | 323 | 175 | 11 | 11 | 50      | 7     | F05     |
| 1     | 25   | 165 | 26.7  | 29    | 34  | 56  | 350 | 190 | 14 | 14 | 50   70 | 7   9 | F05~F07 |
| 1 1/4 | 32   | 178 | 35.1  | 37.3  | 43  | 60  | 355 | 190 | 14 | 14 | 50   70 | 7   9 | F05~F07 |
| 1 1/2 | 38   | 190 | 40.9  | 43    | 50  | 65  | 428 | 300 | 17 | 17 | 102     | 11    | F10     |
| 2     | 50   | 216 | 52.5  | 54.5  | 63  | 72  | 435 | 300 | 17 | 17 | 102     | 11    | F10     |
| 2 1/2 | 63.5 | 190 | 62.7  | 66.7  | 78  | 92  | 526 | 400 | 22 | 22 | 102     | 11    | F10     |
| 3     | 76   | 220 | 78.0  | 82.0  | 92  | 100 | 534 | 400 | 22 | 22 | 102     | 11    | F10     |
| 4     | 100  | 270 | 102.4 | 106.4 | 115 | 130 | 660 | 600 | 27 | 27 | 125     | 14    | F12     |

The pressure-temperature data of ball valves is determined not only by valve shell materials but also by sealing materials used for ball seats, gland packings and flange gaskets.



Seat Materials: (H) TFM1600: Low Temperature Ball Valve (C) PCTFE: Cryogenic Ball Valve

## Torque Figure

KV-C41-D / KV-C42-D / KV-C4K-D / KV-C4N-D / KV-C31 (PCTFE)

Unit: N·m

| SIZE          | DN    | 15 | 20 | 25 | 32 | 40  | 50  | 65  | 80  | 100 |
|---------------|-------|----|----|----|----|-----|-----|-----|-----|-----|
|               | NPS   | ½  | ¾  | 1  | 1¼ | 1½  | 2   | 2½  | 3   | 4   |
| Torque Figure | CL150 | 26 | 34 | 54 | 62 | 100 | 120 | 240 | 300 | 380 |
|               | CL300 | 32 | 38 | 60 | 70 | 130 | 150 | 300 | 380 | 460 |
|               | PN16  | 25 | 32 | 52 | 60 | 90  | 110 | 220 | 280 | 350 |
|               | PN40  | 30 | 36 | 58 | 68 | 120 | 140 | 280 | 350 | 430 |

KV-D41 / KV-D61 / KV-D42 / KV-D62 / KV-D4K/KV-D6K/KV-D4N/KV-D6N/KV-D31 (TFM1600)

Unit: N·m

| SIZE          | DN    | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80  | 100 | 125 | 150 |
|---------------|-------|----|----|----|----|----|----|----|-----|-----|-----|-----|
|               | NPS   | ½  | ¾  | 1  | 1¼ | 1½ | 2  | 2½ | 3   | 4   | 5   | 6   |
| Torque Figure | CL150 | 6  | 8  | 13 | 18 | 24 | 35 | 62 | 100 | 140 | 300 | 430 |
|               | CL300 | 8  | 10 | 15 | 22 | 30 | 45 | 70 | 115 | 170 | 360 | 650 |
|               | PN16  | 6  | 8  | 13 | 16 | 22 | 32 | 60 | 95  | 130 | 280 | 400 |
|               | PN40  | 8  | 10 | 15 | 20 | 28 | 40 | 66 | 110 | 160 | 340 | 600 |

KV-D441 / KV-D641 / KV-D442 / KV-D642 / KV-D44K/KV-D64K/KV-D44N/KV-D64N (TFM1600)

Unit: N·m

| SIZE          | DN    | 125 | 150 | 200 | 250  | 300  | 350  | 400  | 450  | 500  | 600   |
|---------------|-------|-----|-----|-----|------|------|------|------|------|------|-------|
|               | NPS   | 5   | 6   | 8   | 10   | 12   | 14   | 16   | 18   | 20   | 24    |
| Torque Figure | CL150 | 270 | 500 | 720 | 1200 | 1800 | 2500 | 3600 | 4500 | 6000 | 9000  |
|               | CL300 | 350 | 550 | 880 | 2200 | 2700 | 3800 | 5500 | 6500 | 8800 | 14000 |
|               | PN16  | 250 | 480 | 700 | 1100 | 1600 | 2300 | 3300 | 4200 | 5600 | 10000 |
|               | PN40  | 310 | 530 | 840 | 1650 | 2400 | 3300 | 5000 | 6000 | 8000 | 12000 |

Remarks:  
Please consult with KI for any further information.



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