

## DESIGN FEATURES

- Built-in ISO 5211 Direct Mounting Pad Easy Automation
- Anti-static Devices for Ball-Stem-Body
- Blow-out Proof Stem
- Pressure Balance Hole in Ball Slot
- TA-Luft/ ISO 15848-1 Design Approved
- NACE standard MR0175 & MR0103 (Optional)
- Cavity Filled Seat (Optional, KV-L3\*-C series)
- Casting Approved by TÜV AD 2000-Merkblatt W0
- Options : 1.Actuator 2.Limit Switch 3.Positioner

## APPLICABLE STANDARDS

- Design Standard : MSS SP-110
- Wall Thickness : EN12516-3,
- Pipe Thread (KV-L30) : ASME B1.20.1,BS21, EN 10226  
DIN 2999/259, ISO 228/1  
JIS B0203 ISO7/1
- Butt Weld (KV-L31,L31-L) : ASME B16.25 (øB2 Sch40), EN 12627
- Socket Weld (KV-L32) : ASME B16.11
- Flange End (KV-L3F\*) : ASME B16.5 Class150 KV-L3F(1)  
ASME B16.5 Class300 KV-L3F(2)  
EN 1092-1 PN10-40 KV-L3F(K/N)
- Inspection & Testing : MSS SP-110



## CV VALUES

| NPS   | DN  | CV   |
|-------|-----|------|
| 1/4   | 8   | 16   |
| 3/8   | 10  | 23   |
| 1/2   | 15  | 30   |
| 3/4   | 20  | 55   |
| 1     | 25  | 96   |
| 1 1/4 | 32  | 170  |
| 1 1/2 | 40  | 270  |
| 2     | 50  | 470  |
| 2 1/2 | 65  | 780  |
| 3     | 80  | 1150 |
| 4     | 100 | 2100 |

## WEIGHT

| NPS   | DN  | KV-L30 |      | KV-L31 |      | KV-L32 |      |
|-------|-----|--------|------|--------|------|--------|------|
|       |     | (kg)   | (lb) | (kg)   | (lb) | (kg)   | (lb) |
| 1/4   | 8   | 0.64   | 1.41 | 0.64   | 1.41 | 0.65   | 1.43 |
| 3/8   | 10  | 0.65   | 1.43 | 0.61   | 1.34 | 0.61   | 1.34 |
| 1/2   | 15  | 0.68   | 1.50 | 0.63   | 1.39 | 0.67   | 1.48 |
| 3/4   | 20  | 0.95   | 2.09 | 0.91   | 2.01 | 0.95   | 2.09 |
| 1     | 25  | 1.40   | 3.09 | 1.35   | 2.98 | 1.33   | 2.93 |
| 1 1/4 | 32  | 2.21   | 4.87 | 2.08   | 4.59 | 2.04   | 4.50 |
| 1 1/2 | 40  | 2.99   | 6.59 | 2.97   | 6.55 | 2.80   | 6.17 |
| 2     | 50  | 4.50   | 9.92 | 4.30   | 9.48 | 4.30   | 9.48 |
| 2 1/2 | 65  | 8.40   | 18.5 | 8.50   | 18.8 | 8.30   | 18.2 |
| 3     | 80  | 12.3   | 27.1 | 12.3   | 27.1 | 12.3   | 27.1 |
| 4     | 100 | 23.7   | 52.3 | 23.4   | 51.6 | 23.0   | 50.7 |

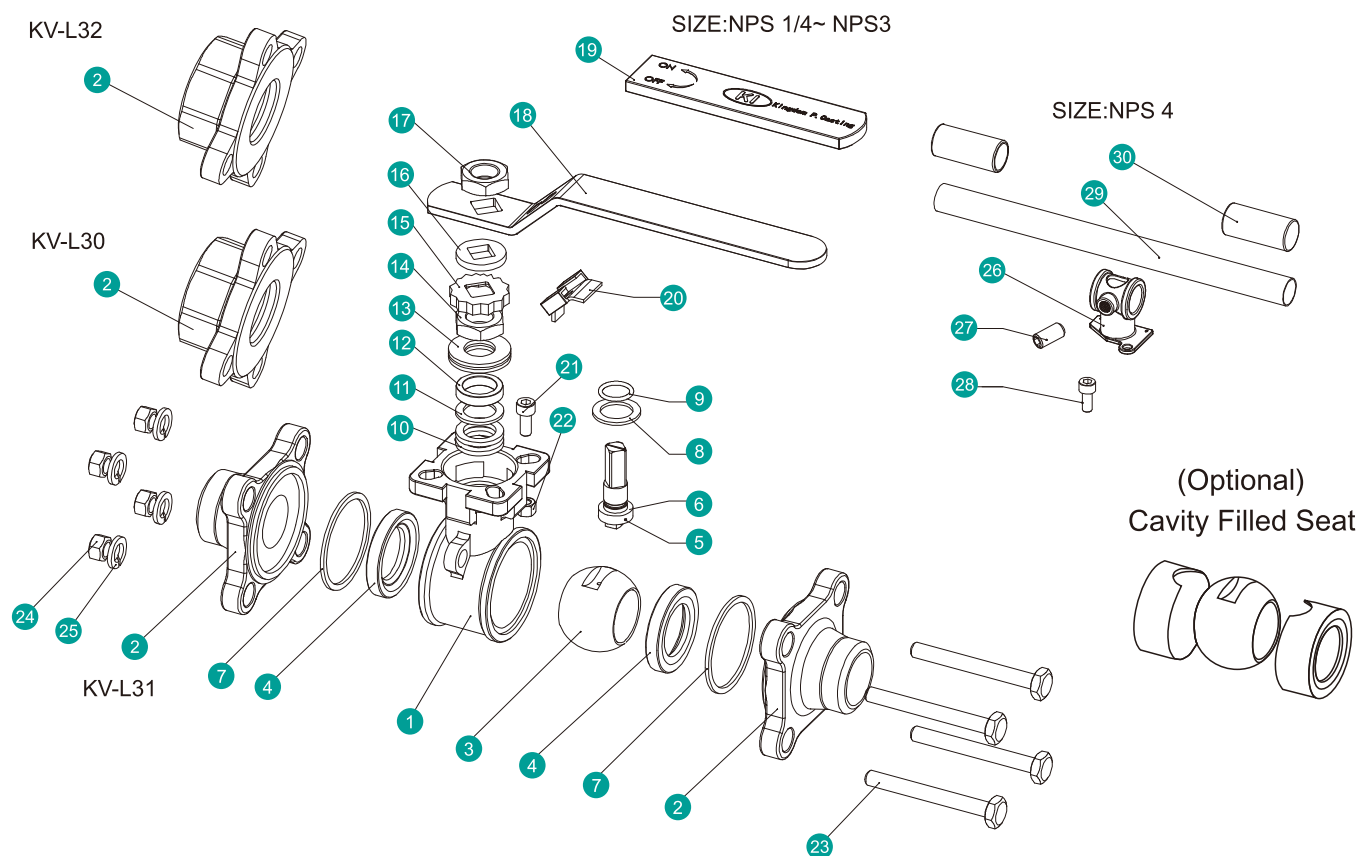
## TORQUE VALUES

Close to Open Torque at Various Differential Pressure ( $\Delta P$ ), Standard Seats (TFM1600 & PTFE)

unit : in·lb / N·m

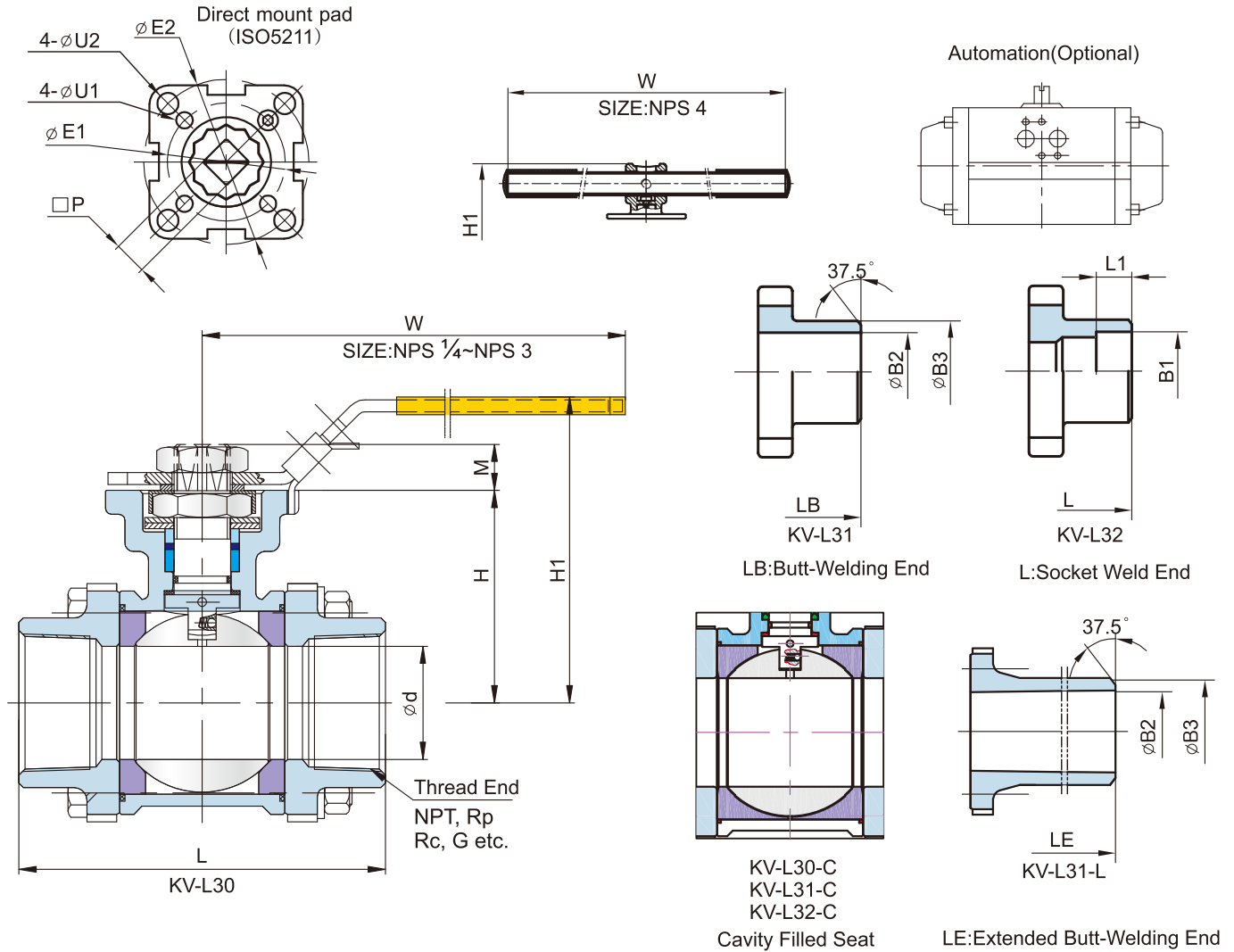
| Size/ $\Delta P$ |     | 75 psig |       | 150 psig |       | 300 psig |       | 700 psig |       | 1000 psig |       |
|------------------|-----|---------|-------|----------|-------|----------|-------|----------|-------|-----------|-------|
|                  |     | 5 bar   |       | 10 bar   |       | 20 bar   |       | 50bar    |       | 63bar     |       |
| NPS              | DN  | N·m     | In·lb | N·m      | In·lb | N·m      | In·lb | N·m      | In·lb | N·m       | In·lb |
| 1/4              | 8   | 4.5     | 40    | 4.5      | 40    | 4.5      | 40    | 4.5      | 40    | 4.5       | 40    |
| 3/8              | 10  | 4.5     | 40    | 4.5      | 40    | 4.5      | 40    | 4.5      | 40    | 4.5       | 40    |
| 1/2              | 15  | 5       | 44    | 5        | 44    | 5        | 44    | 5        | 44    | 5         | 44    |
| 3/4              | 20  | 6       | 53    | 6        | 53    | 6        | 53    | 6        | 53    | 6         | 53    |
| 1                | 25  | 10      | 88    | 10       | 89    | 11       | 97    | 11       | 97    | 11        | 97    |
| 1 1/4            | 32  | 13      | 115   | 13       | 115   | 15       | 133   | 17       | 150   | 19        | 168   |
| 1 1/2            | 40  | 19      | 168   | 19       | 168   | 22       | 195   | 24       | 212   | 26        | 230   |
| 2                | 50  | 25      | 221   | 29       | 257   | 32       | 283   | 35       | 310   | 38        | 336   |
| 2 1/2            | 65  | 40      | 354   | 45       | 398   | 49       | 434   | 54       | 478   | 59        | 522   |
| 3                | 80  | 65      | 575   | 72       | 637   | 81       | 717   | 90       | 796   | 101       | 894   |
| 4                | 100 | 100     | 885   | 110      | 973   | 122      | 1080  | 135      | 1195  | 148       | 1310  |

- Remark :
- 1.Torques will increase about 30% if seat materials are Reinforced Fiber-Glass PTFE, Carbon-filled PTFE or EK+PTFE or TFM4215.
  - 2.The torque figures at 5 bar pressure are maximum values to be tested after the valves are placed for 24 hours.
  - 3.For actuator sizing, a safety factor of minimum 30% is recommended.



## MATERIAL OF CONSTRUCTION

| NO. | PART NAME                    | MATERIALS              |             |             |
|-----|------------------------------|------------------------|-------------|-------------|
| 1   | Body                         | CF8M(1.4408)           | CF8(1.4308) | WCB(1.0619) |
| 2   | End Cap (Thread)             | CF8M(1.4408)           | CF8(1.4308) | WCB(1.0619) |
|     | End Cap (BW/SW)              | CF3M(1.4409)           | CF8(1.4308) | WCB(1.0619) |
| 3   | Ball                         | 316                    | 304         |             |
| 4   | Ball Seat                    | TFM1600 / PTFE/TFM4215 |             |             |
| 5   | Stem                         | 316                    | 304         |             |
| 6   | Anti-Static                  | 316                    | 304         |             |
| 7   | Body Gasket                  | PTFE / TFM1600         |             |             |
| 8   | Thrust washer                | PTFE / TFM1600 / RTFE  |             |             |
| 9   | O-Ring                       | FKM                    |             |             |
| 10  | Packing                      | PTFE / GRAPHITE*       |             |             |
| 11  | Bushing                      | 50%SS+50%PTFE / 304    |             |             |
| 12  | Gland                        | 316                    |             |             |
| 13  | Belleville Washer            | 301                    |             |             |
| 14  | Stem Nut                     | A194-8                 |             |             |
| 15  | Stop-lock-Cap                | 304                    |             |             |
| 16  | Handle Gland                 | 304                    |             |             |
| 17  | Handle Nut (NPS 1/4~NPS3)    | A194-8                 |             |             |
| 18  | Handle (NPS 1/4~NPS3)        | 304                    |             |             |
| 19  | Handle Sleeve (NPS 1/4~NPS3) | VINYL PLASTIC          |             |             |
| 20  | Lock Device (NPS 1/4~NPS3)   | 304                    |             |             |
| 21  | Stop Bolt                    | A2-70                  |             |             |
| 22  | Stop Nut                     | A2-70                  |             |             |
| 23  | Bolting                      | A193-B8 / A2-70        |             |             |
| 24  | Bolt Nut                     | A194-8 / A2-70         |             |             |
| 25  | Bolt Washer                  | 304                    |             |             |
| 26  | Handle Adapter (NPS4)        | A351-CF8               |             |             |
| 27  | Set Screwed (NPS4)           | A2-70                  |             |             |
| 28  | Bolting (NPS4)               | A2-70                  |             |             |
| 29  | Pipe Handle (NPS4)           | A53+PLATED Zn          |             |             |
| 30  | Handle Sleeve (NPS4)         | VINYL PLASTIC          |             |             |



## DIMENSION TABLE

### ANSI 1000 WOG DIMENSION TABLE

Unit : mm

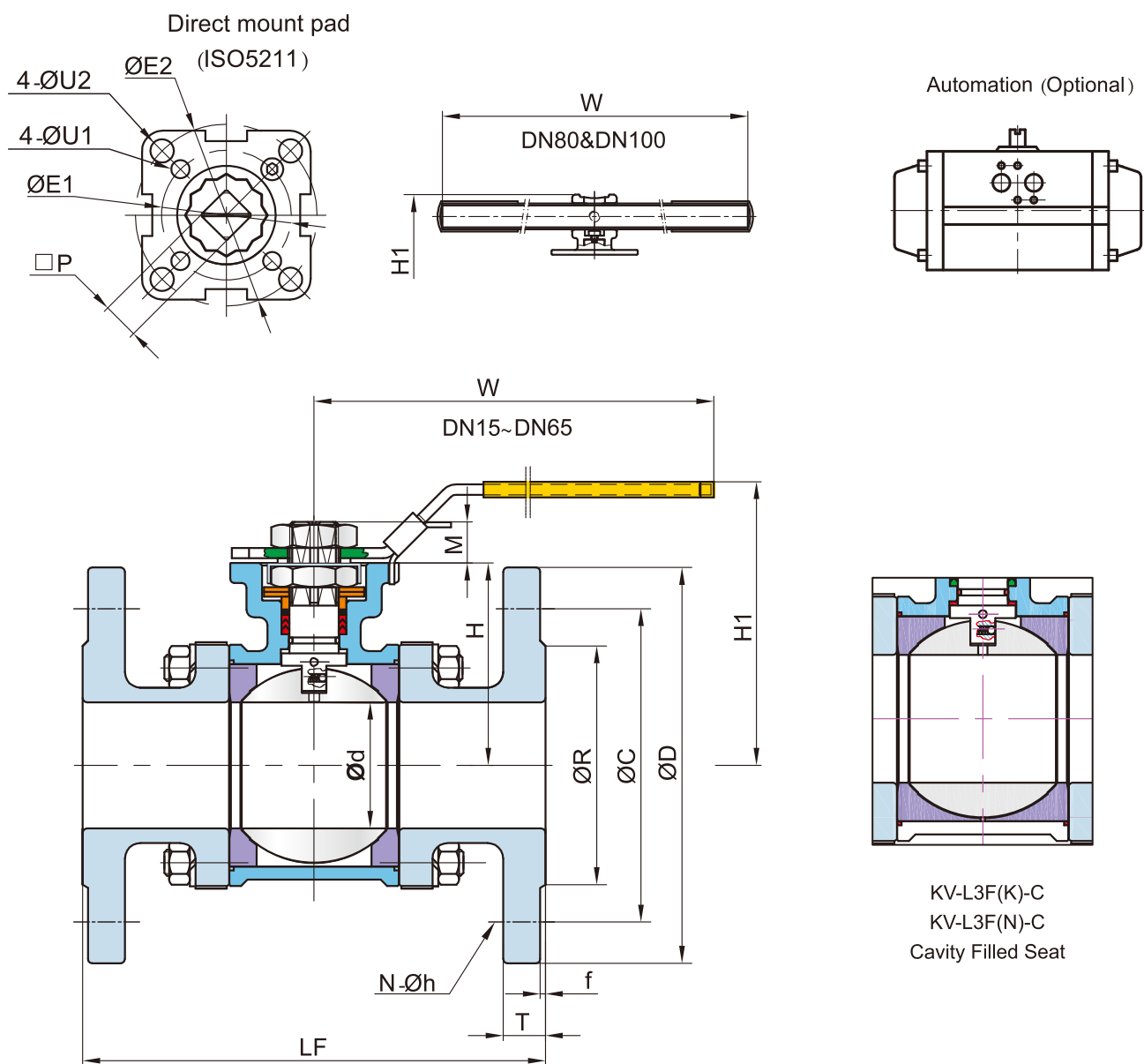
| NPS   | DN  | d    | L   | LB  | LE  | H     | H1  | W   | B1    | B2    | B3  | L1   | P  | M  | E1 | E2  | U1 | U2 | HEX.B | ISO 5211 |
|-------|-----|------|-----|-----|-----|-------|-----|-----|-------|-------|-----|------|----|----|----|-----|----|----|-------|----------|
| 1/4   | 8   | 10.6 | 75  | 70  | 225 | 42    | 72  | 147 | 14.2  | 9.3   | 18  | 10.0 | 9  | 9  | 36 | 42  | 6  | 6  | 28    | F03~F04  |
| 3/8   | 10  | 12.7 | 75  | 70  | 225 | 42    | 72  | 147 | 17.8  | 12.5  | 18  | 10.0 | 9  | 9  | 36 | 42  | 6  | 6  | 28    | F03~F04  |
| 1/2   | 15  | 15   | 75  | 75  | 225 | 42    | 72  | 147 | 21.8  | 15.8  | 22  | 10.0 | 9  | 9  | 36 | 42  | 6  | 6  | 28    | F03~F04  |
| 3/4   | 20  | 20   | 80  | 90  | 225 | 48.5  | 79  | 147 | 27.3  | 20.9  | 28  | 13.0 | 9  | 9  | 36 | 50  | 6  | 7  | 34.5  | F03~F05  |
| 1     | 25  | 25   | 90  | 100 | 245 | 58.5  | 89  | 177 | 34.0  | 26.7  | 34  | 13.0 | 11 | 11 | 42 | 50  | 6  | 7  | 42    | F04~F05  |
| 1 1/4 | 32  | 32   | 110 | 110 | 255 | 63    | 93  | 177 | 42.8  | 35.1  | 43  | 16.0 | 11 | 11 | 42 | 70  | 6  | 9  | 52    | F04~F07  |
| 1 1/2 | 40  | 38   | 120 | 125 | 260 | 71.3  | 103 | 197 | 48.9  | 40.9  | 50  | 16.0 | 14 | 14 | 50 | 70  | 7  | 9  | 58.5  | F05~F07  |
| 2     | 50  | 50   | 140 | 150 | 275 | 78.2  | 110 | 197 | 61.4  | 52.5  | 61  | 17.0 | 14 | 14 | 50 | 70  | 7  | 9  | 71.5  | F05~F07  |
| 2 1/2 | 65  | 63.5 | 185 | 190 | 330 | 100   | 150 | 267 | 74.0  | 62.7  | 76  | 17.0 | 17 | 17 | 70 | 102 | 9  | 11 | 86.5  | F07~F10  |
| 3     | 80  | 76   | 205 | 220 | 356 | 108.5 | 159 | 267 | 90.0  | 78.0  | 92  | 17.0 | 17 | 17 | 70 | 102 | 9  | 11 | 101   | F07~F10  |
| 4     | 100 | 100  | 240 | 270 | 432 | 140   | 212 | 400 | 115.5 | 102.4 | 115 | 20.0 | 22 | 22 | —  | 102 | —  | 11 | 132   | F10      |

Unit : inch

| NPS   | DN  | d    | L    | LB    | LE    | H    | H1   | W    | B1   | B2   | B3   | L1   | P     | M    | E1   | E2   | U1   | U2   | HEX.B | ISO 5211 |
|-------|-----|------|------|-------|-------|------|------|------|------|------|------|------|-------|------|------|------|------|------|-------|----------|
| 1/4   | 8   | 0.42 | 2.95 | 2.76  | 8.86  | 1.65 | 2.83 | 5.79 | 0.55 | 0.37 | 0.71 | 0.39 | 0.354 | 0.28 | 1.42 | 1.65 | 0.24 | 0.24 | 1.10  | F03~F04  |
| 3/8   | 10  | 0.50 | 2.95 | 2.76  | 8.86  | 1.65 | 2.83 | 5.79 | 0.70 | 0.49 | 0.71 | 0.39 | 0.354 | 0.28 | 1.42 | 1.65 | 0.24 | 0.24 | 1.10  | F03~F04  |
| 1/2   | 15  | 0.59 | 2.95 | 2.95  | 8.86  | 1.65 | 2.83 | 5.79 | 0.86 | 0.62 | 0.87 | 0.39 | 0.354 | 0.28 | 1.42 | 1.65 | 0.24 | 0.24 | 1.10  | F03~F04  |
| 3/4   | 20  | 0.79 | 3.15 | 3.54  | 8.86  | 1.91 | 3.11 | 5.79 | 1.07 | 0.82 | 1.10 | 0.51 | 0.354 | 0.35 | 1.42 | 1.97 | 0.24 | 0.28 | 1.36  | F03~F05  |
| 1     | 25  | 0.98 | 3.54 | 3.94  | 9.65  | 2.30 | 3.50 | 6.97 | 1.34 | 1.05 | 1.34 | 0.51 | 0.433 | 0.43 | 1.65 | 1.97 | 0.24 | 0.28 | 1.65  | F04~F05  |
| 1 1/4 | 32  | 1.26 | 4.33 | 4.33  | 10.04 | 2.48 | 3.66 | 6.97 | 1.69 | 1.38 | 1.69 | 0.63 | 0.433 | 0.43 | 1.65 | 2.76 | 0.24 | 0.35 | 2.05  | F04~F07  |
| 1 1/2 | 40  | 1.50 | 4.72 | 4.92  | 10.24 | 2.81 | 4.06 | 7.76 | 1.93 | 1.61 | 1.97 | 0.63 | 0.551 | 0.55 | 1.97 | 2.76 | 0.28 | 0.35 | 2.30  | F05~F07  |
| 2     | 50  | 1.97 | 5.51 | 5.91  | 10.83 | 3.08 | 4.33 | 7.76 | 2.42 | 2.07 | 2.40 | 0.67 | 0.551 | 0.55 | 1.97 | 2.76 | 0.28 | 0.35 | 2.81  | F05~F07  |
| 2 1/2 | 65  | 2.50 | 7.28 | 7.48  | 12.99 | 3.94 | 5.91 | 10.5 | 2.91 | 2.47 | 2.99 | 0.67 | 0.669 | 0.67 | 2.76 | 4.02 | 0.35 | 0.43 | 3.41  | F07~F10  |
| 3     | 80  | 2.99 | 8.07 | 8.66  | 14.02 | 4.27 | 6.26 | 10.5 | 3.54 | 3.07 | 3.62 | 0.67 | 0.669 | 0.67 | 2.76 | 4.02 | 0.35 | 0.43 | 3.98  | F07~F10  |
| 4     | 100 | 3.94 | 9.45 | 10.63 | 17.01 | 5.51 | 8.35 | 15.9 | 4.55 | 4.03 | 4.53 | 0.79 | 0.866 | 0.87 | —    | 4.02 | —    | 0.43 | 5.20  | F10      |

\*M3 Face to Face dimensions are available

\*For valves with butt weld ends per DIN11850 series 2 or ISO1127, the pressure rating will be 400 WOG.



## DIMENSION TABLE

### EN PN10/16/25/40 DIMENSION TABLE

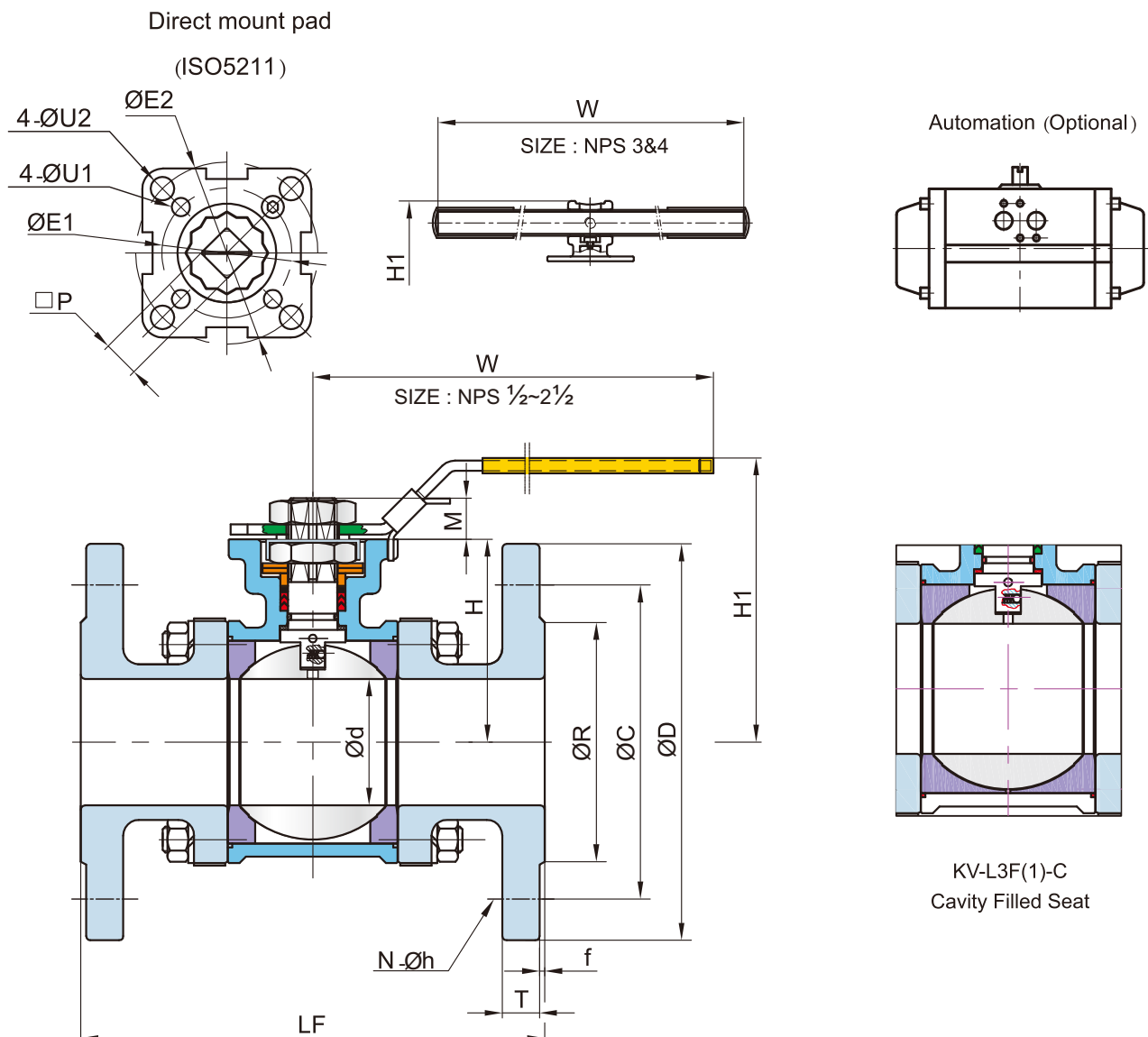
Unit : mm

| DN  | PN    | d    | LF  | R   | D   | C   | f | T  | N     | h  | H    | H1  | W   | P  | M  | E1  | E2  | U1  | U2 | ISO5211 |
|-----|-------|------|-----|-----|-----|-----|---|----|-------|----|------|-----|-----|----|----|-----|-----|-----|----|---------|
| 15  | 10    | 15   | 130 | 45  | 95  | 65  | 2 | 16 | 4     | 14 | 42   | 72  | 147 | 9  | 9  | 36  | 42  | 6   | 6  | F03~F04 |
| 20  |       | 20   | 150 | 58  | 105 | 75  | 2 | 18 | 4     | 14 | 48.5 | 79  | 147 | 9  | 9  | 36  | 50  | 6   | 7  | F03~F05 |
| 25  | 16    | 25   | 160 | 68  | 115 | 85  | 2 | 18 | 4     | 14 | 58.5 | 89  | 177 | 11 | 11 | 42  | 50  | 6   | 7  | F04~F05 |
| 32  | 25    | 32   | 180 | 78  | 140 | 100 | 2 | 18 | 4     | 18 | 63   | 94  | 177 | 11 | 11 | 42  | 70  | 6   | 9  | F04~F07 |
| 40  |       | 38   | 200 | 88  | 150 | 110 | 3 | 18 | 4     | 18 | 71.3 | 103 | 197 | 14 | 14 | 50  | 70  | 7   | 9  | F05~F07 |
| 50  | 40    | 50   | 230 | 102 | 165 | 125 | 3 | 20 | 4     | 18 | 78.2 | 110 | 197 | 14 | 14 | 50  | 70  | 7   | 9  | F05~F07 |
| 65  | 10/16 | 63.5 | 290 | 122 | 185 | 145 | 3 | 18 | 4 (a) | 18 | 100  | 150 | 267 | 17 | 17 | 70  | 102 | 9   | 11 | F07~F10 |
|     | 25/40 |      |     |     |     |     |   | 22 |       |    |      |     |     |    |    |     |     |     |    |         |
| 80  | 10/16 | 76   | 310 | 138 | 200 | 160 | 3 | 20 | 8     | 18 | 109  | 174 | 300 | 17 | 17 | 70  | 102 | 9   | 11 | F07~F10 |
|     | 25/40 |      |     |     |     |     |   | 24 |       |    |      |     |     |    |    |     |     |     |    |         |
| 100 | 10/16 | 100  | 350 | 158 | 220 | 180 | 3 | 20 | 8     | 18 | 140  | 212 | 400 | 22 | 22 | NON | 102 | NON | 11 | F10     |
|     | 25/40 |      |     | 162 | 235 | 190 |   | 24 |       | 22 |      |     |     |    |    |     |     |     |    |         |

KV-L3F ( K ) [PN16] KV-L3F ( N ) [PN40]

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

**ASME Class 150, High Performance  
3 - PC Body, Full Port, Flanged Ends Ball valve**



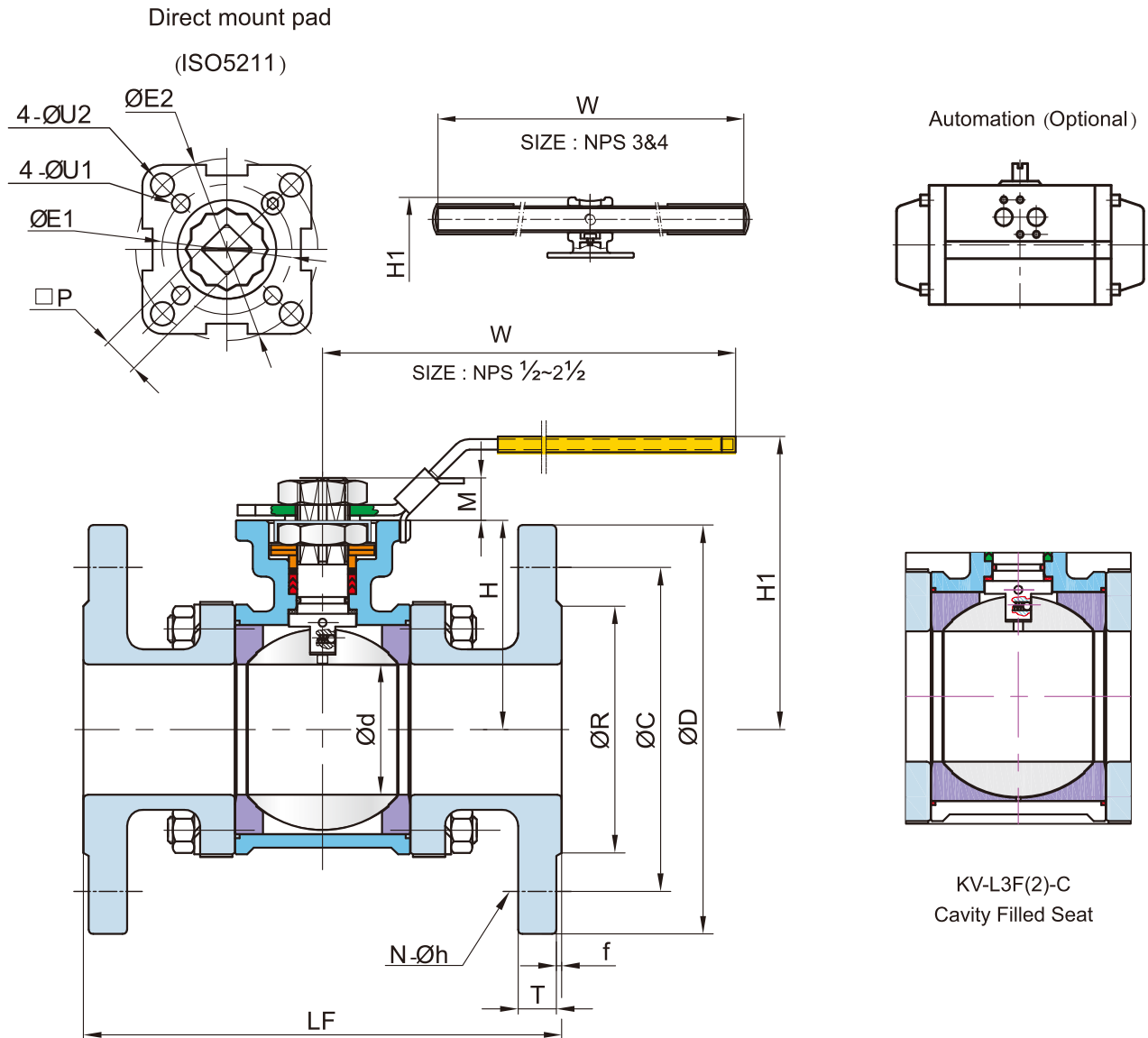
■ ASME Class 150 DIMENS ON TABLE

Unit : mm

| NPS   | d    | LF  | R     | D   | C     | f | T    | N | h    | H    | H1  | W   | P  | M  | E1 | E2  | U1 | U2 | ISO5211 |
|-------|------|-----|-------|-----|-------|---|------|---|------|------|-----|-----|----|----|----|-----|----|----|---------|
| 1/2   | 15   | 130 | 35.0  | 90  | 60.3  | 2 | 8.0  | 4 | 16.0 | 42   | 72  | 147 | 9  | 9  | 36 | 42  | 6  | 6  | F03~F04 |
| 3/4   | 20   | 150 | 43.0  | 100 | 69.9  | 2 | 8.9  | 4 | 16.0 | 48.5 | 79  | 147 | 9  | 9  | 36 | 50  | 6  | 7  | F03~F05 |
| 1     | 25   | 160 | 51.0  | 110 | 79.4  | 2 | 9.6  | 4 | 16.0 | 58.5 | 89  | 177 | 11 | 11 | 42 | 50  | 6  | 7  | F04~F05 |
| 1 1/4 | 32   | 180 | 63.5  | 115 | 88.9  | 2 | 11.2 | 4 | 16.0 | 63   | 94  | 177 | 11 | 11 | 42 | 70  | 6  | 9  | F04~F07 |
| 1 1/2 | 38   | 200 | 73.2  | 125 | 98.4  | 2 | 12.7 | 4 | 16.0 | 71.3 | 103 | 197 | 14 | 14 | 50 | 70  | 7  | 9  | F05~F07 |
| 2     | 50   | 230 | 92.0  | 150 | 120.7 | 2 | 14.3 | 4 | 19.0 | 78.2 | 110 | 197 | 14 | 14 | 50 | 70  | 7  | 9  | F05~F07 |
| 2 1/2 | 63.5 | 290 | 104.7 | 180 | 139.7 | 2 | 15.9 | 4 | 19.0 | 100  | 150 | 267 | 17 | 17 | 70 | 102 | 9  | 11 | F07~F10 |
| 3     | 76   | 310 | 127.0 | 190 | 152.4 | 2 | 17.5 | 4 | 19.0 | 109  | 174 | 300 | 17 | 17 | 70 | 102 | 9  | 11 | F07~F10 |
| 4     | 100  | 350 | 157.0 | 230 | 190.5 | 2 | 22.3 | 8 | 19.0 | 140  | 212 | 400 | 22 | 22 | —  | 102 | —  | 11 | F10     |

Unit : inch

| NPS   | d    | L     | R    | D    | C    | f    | T    | N | h   | H    | H1   | W    | P     | M    | E1   | E2   | U1   | U2   | ISO5211 |
|-------|------|-------|------|------|------|------|------|---|-----|------|------|------|-------|------|------|------|------|------|---------|
| 1/2   | 0.59 | 5.12  | 1.38 | 3.50 | 2.38 | 0.06 | 0.31 | 4 | 5/8 | 1.65 | 2.83 | 5.79 | 0.354 | 0.28 | 1.42 | 1.65 | 0.24 | 0.24 | F03~F04 |
| 3/4   | 0.79 | 5.91  | 1.69 | 3.88 | 2.75 | 0.06 | 0.34 | 4 | 5/8 | 1.91 | 3.11 | 5.79 | 0.354 | 0.35 | 1.42 | 1.97 | 0.24 | 0.28 | F03~F05 |
| 1     | 0.98 | 6.30  | 2.01 | 4.25 | 3.12 | 0.06 | 0.38 | 4 | 5/8 | 2.30 | 3.50 | 6.97 | 0.433 | 0.43 | 1.65 | 1.97 | 0.24 | 0.28 | F04~F05 |
| 1 1/4 | 1.26 | 7.09  | 2.50 | 4.62 | 3.50 | 0.06 | 0.44 | 4 | 5/8 | 2.48 | 3.66 | 6.97 | 0.433 | 0.43 | 1.65 | 2.76 | 0.24 | 0.35 | F04~F07 |
| 1 1/2 | 1.50 | 7.87  | 2.88 | 5.00 | 3.88 | 0.06 | 0.50 | 4 | 5/8 | 2.81 | 4.06 | 7.76 | 0.551 | 0.55 | 1.97 | 2.76 | 0.28 | 0.35 | F05~F07 |
| 2     | 1.97 | 9.06  | 3.62 | 6.00 | 4.75 | 0.06 | 0.56 | 4 | 3/4 | 3.08 | 4.33 | 7.76 | 0.551 | 0.55 | 1.97 | 2.76 | 0.28 | 0.35 | F05~F07 |
| 2 1/2 | 2.50 | 11.42 | 4.12 | 7.00 | 5.50 | 0.06 | 0.62 | 4 | 3/4 | 3.94 | 5.91 | 10.5 | 0.669 | 0.67 | 2.76 | 4.02 | 0.35 | 0.43 | F07~F10 |
| 3     | 2.99 | 12.20 | 5.00 | 7.50 | 6.00 | 0.06 | 0.69 | 4 | 3/4 | 4.27 | 6.85 | 11.9 | 0.669 | 0.67 | 2.76 | 4.02 | 0.35 | 0.43 | F07~F10 |
| 4     | 3.94 | 13.78 | 6.19 | 9.00 | 7.50 | 0.06 | 0.88 | 8 | 3/4 | 5.51 | 8.35 | 15.9 | 0.866 | 0.87 | —    | 4.02 | —    | 0.43 | F10     |



■ ASME Class 300 DIMENSION TABLE

Unit : mm

| NPS   | d    | LF  | R     | D   | C     | f | T    | N | h    | H    | H1  | W   | P  | M  | E1 | E2  | U1 | U2 | ISO5211 |
|-------|------|-----|-------|-----|-------|---|------|---|------|------|-----|-----|----|----|----|-----|----|----|---------|
| 1/2   | 15   | 130 | 35.0  | 95  | 66.7  | 2 | 12.7 | 4 | 16.0 | 42   | 72  | 147 | 9  | 9  | 36 | 42  | 6  | 6  | F03~F04 |
| 3/4   | 20   | 150 | 43.0  | 115 | 82.6  | 2 | 14.3 | 4 | 19.0 | 48.5 | 79  | 147 | 9  | 9  | 36 | 50  | 6  | 7  | F03~F05 |
| 1     | 25   | 160 | 51.0  | 125 | 88.9  | 2 | 15.9 | 4 | 19.0 | 58.5 | 89  | 177 | 11 | 11 | 42 | 50  | 6  | 7  | F04~F05 |
| 1 1/4 | 32   | 180 | 63.5  | 135 | 98.4  | 2 | 17.5 | 4 | 19.0 | 63   | 94  | 177 | 11 | 11 | 42 | 70  | 6  | 9  | F04~F07 |
| 1 1/2 | 38   | 200 | 73.2  | 155 | 114.3 | 2 | 19.1 | 4 | 22.3 | 71.3 | 103 | 197 | 14 | 14 | 50 | 70  | 7  | 9  | F05~F07 |
| 2     | 50   | 230 | 92.0  | 165 | 127.0 | 2 | 20.7 | 8 | 19.0 | 78.2 | 110 | 197 | 14 | 14 | 50 | 70  | 7  | 9  | F05~F07 |
| 2 1/2 | 63.5 | 290 | 104.7 | 190 | 149.2 | 2 | 23.9 | 8 | 22.3 | 100  | 150 | 267 | 17 | 17 | 70 | 102 | 9  | 11 | F07~F10 |
| 3     | 76   | 310 | 127.0 | 210 | 168.3 | 2 | 27.0 | 8 | 22.3 | 109  | 174 | 300 | 17 | 17 | 70 | 102 | 9  | 11 | F07~F10 |
| 4     | 100  | 350 | 157.0 | 255 | 200.0 | 2 | 30.2 | 8 | 22.3 | 140  | 212 | 400 | 22 | 22 | —  | 102 | —  | 11 | F10     |

Unit : inch

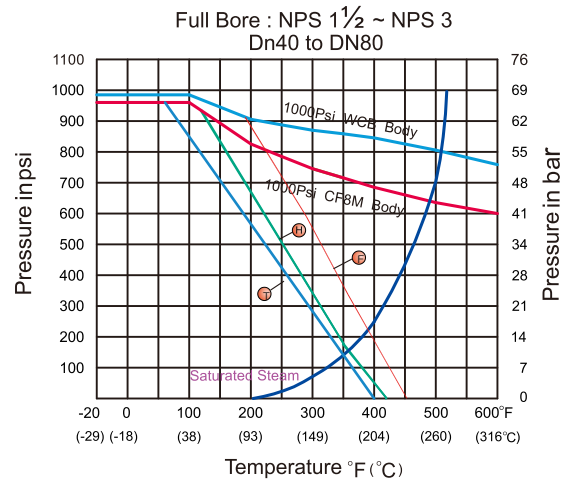
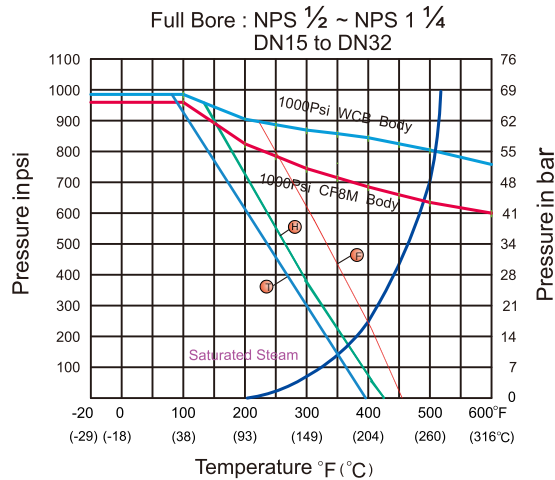
| NPS   | d    | L     | R    | D     | C    | f    | T    | N | h   | H    | H1   | W    | P     | M    | E1   | E2   | U1   | U2   | ISO5211 |
|-------|------|-------|------|-------|------|------|------|---|-----|------|------|------|-------|------|------|------|------|------|---------|
| 1/2   | 0.59 | 5.12  | 1.38 | 3.75  | 2.62 | 0.06 | 0.50 | 4 | 5/8 | 1.65 | 2.83 | 5.79 | 0.354 | 0.28 | 1.42 | 1.65 | 0.24 | 0.24 | F03~F04 |
| 3/4   | 0.79 | 5.91  | 1.69 | 4.62  | 3.25 | 0.06 | 0.56 | 4 | 3/4 | 1.91 | 3.11 | 5.79 | 0.354 | 0.35 | 1.42 | 1.97 | 0.24 | 0.28 | F03~F05 |
| 1     | 0.98 | 6.30  | 2.01 | 4.88  | 3.50 | 0.06 | 0.62 | 4 | 3/4 | 2.30 | 3.50 | 6.97 | 0.433 | 0.43 | 1.65 | 1.97 | 0.24 | 0.28 | F04~F05 |
| 1 1/4 | 1.26 | 7.09  | 2.50 | 5.25  | 3.88 | 0.06 | 0.69 | 4 | 3/4 | 2.48 | 3.66 | 6.97 | 0.433 | 0.43 | 1.65 | 2.76 | 0.24 | 0.35 | F04~F07 |
| 1 1/2 | 1.50 | 7.87  | 2.88 | 6.12  | 4.50 | 0.06 | 0.75 | 4 | 7/8 | 2.81 | 4.06 | 7.76 | 0.551 | 0.55 | 1.97 | 2.76 | 0.28 | 0.35 | F05~F07 |
| 2     | 1.97 | 9.06  | 3.62 | 6.50  | 5.00 | 0.06 | 0.81 | 8 | 3/4 | 3.08 | 4.33 | 7.76 | 0.551 | 0.55 | 1.97 | 2.76 | 0.28 | 0.35 | F05~F07 |
| 2 1/2 | 2.50 | 11.42 | 4.12 | 7.50  | 5.88 | 0.06 | 0.94 | 8 | 7/8 | 3.94 | 5.91 | 10.5 | 0.669 | 0.67 | 2.76 | 4.02 | 0.35 | 0.43 | F07~F10 |
| 3     | 2.99 | 12.20 | 5.00 | 8.25  | 6.62 | 0.06 | 1.06 | 8 | 7/8 | 4.27 | 6.85 | 11.9 | 0.669 | 0.67 | 2.76 | 4.02 | 0.35 | 0.43 | F07~F10 |
| 4     | 3.94 | 13.78 | 6.19 | 10.00 | 7.88 | 0.06 | 1.19 | 8 | 7/8 | 5.51 | 8.35 | 15.9 | 0.866 | 0.87 | —    | 4.02 | —    | 0.43 | F10     |

## TECHNICAL INFORMATION

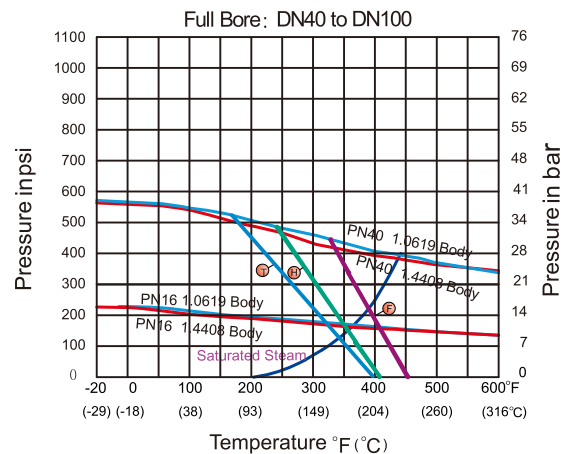
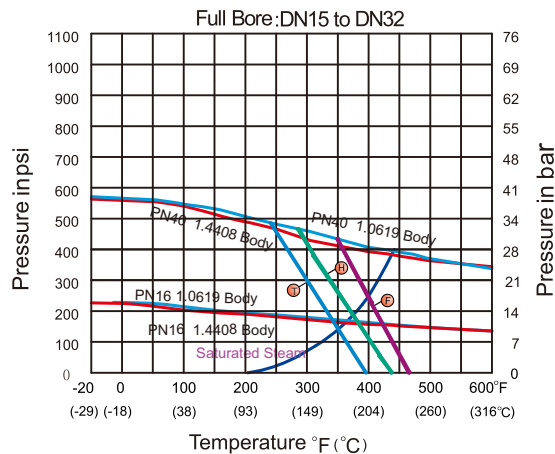
### PRESSURE - TEMPERATURE DATA

Floating Ball Valves, 1000psi

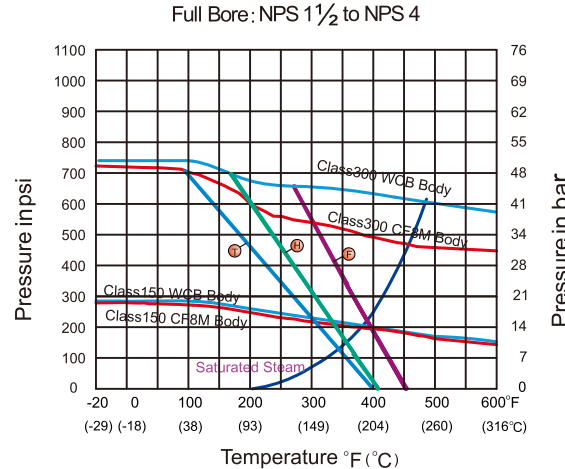
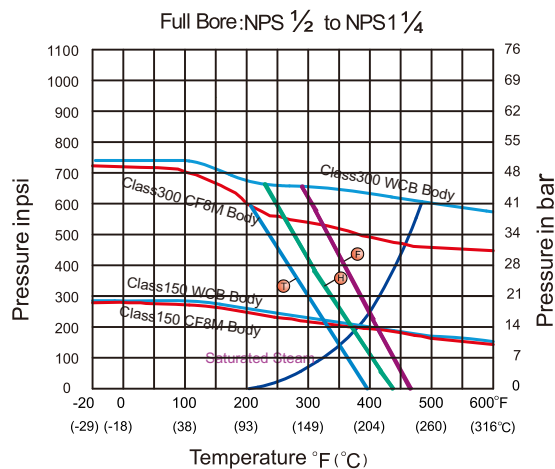
The pressure-temperature data of ball valves is determined not only by valve shell materials but also by sealing materials used for ball seats, gland packings and flange gaskets.



### Floating Ball Valves, EN PN16/40



### Floating Ball Valves, ASME Class 150/300



Seat Materials : T PTFE H TFM1600 E TFM4215

Body Ratings: Shown above are for ASTM A351 Gr.CF8M and A216 Gr.WCB

For ratings of other valve shell materials, please refer to the last edition of ASME B16.34.