

DESIGN FEATURES

- Built-in ISO 5211 Direct Mounting Pad Easy Automation
- Anti-static Devices for Ball-Stem-Body
- Blow-out Proof Stem
- TA-Luft/ ISO 15848-1 Design Approved
- NACE MR-0175 (Optional)
- Casting Approved by TÜV AD 2000-Merkblatt W0
- Options : 1.Actuator 2.Limit Switch 3.Positioner

APPLICABLE STANDARDS

- Design Standard : MSS SP-110
- Clamp Ends : KV-L9C/A ASME BPE
KV-L9C/B BS4825
KV-L9C/I ISO2852
KV-L9C/D DIN 32676
- Butt Weld Ends : KV-L91/A ASME BPE
KV-L91/B BS4825&BPE
KV-L91/I ISO 2037
KV-L91/D DIN 11850
- Inspection & Testing : MSS SP-110



TECHNICAL INFORMATION

| SIZE | | CV | Weight | | | | | |
|-------|-----|------|-------------|-------|----------|-------|----------|-------|
| NPS | DN | | KV-L9C/A, B | | KV-L9C/I | | KV-L9C/D | |
| | | | (kg) | (lb) | (kg) | (lb) | (kg) | (lb) |
| 1/2 | 15 | 18 | 0.69 | 1.53 | 0.58 | 1.28 | 0.58 | 1.28 |
| 3/4 | 20 | 36 | 0.95 | 2.08 | 1.03 | 2.27 | 1.03 | 2.27 |
| 1 | 25 | 48 | 1.46 | 3.22 | 1.44 | 3.17 | 1.44 | 3.17 |
| 1 1/4 | 32 | 93 | — | — | 1.95 | 4.30 | 1.95 | 4.30 |
| 1 1/2 | 40 | 165 | 2.89 | 6.37 | 2.96 | 6.53 | 2.96 | 6.53 |
| 2 | 50 | 207 | 4.35 | 9.59 | 4.48 | 9.89 | 4.50 | 9.92 |
| 2 1/2 | 65 | 450 | 8.20 | 18.08 | 8.70 | 19.18 | 8.38 | 18.47 |
| 3 | 80 | 780 | 11.60 | 25.57 | 11.60 | 25.57 | 11.85 | 26.12 |
| 4 | 100 | 1360 | 22.6 | 49.82 | 23.30 | 51.37 | 23.30 | 51.37 |

| SIZE | | CV | Weight | | | |
|-------|-----|------|-------------|-------|----------|-------|
| NPS | DN | | KV-L91/A, B | | KV-L91/I | |
| | | | (kg) | (lb) | (kg) | (lb) |
| 1/2 | 15 | 18 | 0.65 | 1.43 | 0.65 | 1.43 |
| 3/4 | 20 | 36 | 0.92 | 2.02 | 0.87 | 1.92 |
| 1 | 25 | 48 | 1.31 | 2.90 | 1.50 | 3.31 |
| 1 1/4 | 32 | 93 | — | — | 1.92 | 4.23 |
| 1 1/2 | 40 | 165 | 2.84 | 6.25 | 2.94 | 6.48 |
| 2 | 50 | 207 | 4.25 | 9.37 | 4.48 | 9.87 |
| 2 1/2 | 65 | 450 | 7.90 | 17.42 | 8.70 | 19.18 |
| 3 | 80 | 780 | 11.35 | 25.02 | 12.0 | 26.46 |
| 4 | 100 | 1360 | 22.0 | 48.50 | 23.3 | 51.37 |

TORQUE VALUES

Close to Open Torque at Various Differential Pressure (ΔP), Standard Seats (TFM1600 & PTFE)

unit : in-lb / N-m

| Size/ ΔP | | 75 psig | | 150 psig | | 300 psig | | 400 psig | |
|------------------|-----|---------|-------|----------|-------|----------|-------|----------|-------|
| | | 5 bar | | 10 bar | | 20 bar | | 25bar | |
| NPS | DN | N-m | In-lb | N-m | In-lb | N-m | In-lb | N-m | In-lb |
| 1/2 | 15 | 5 | 44 | 5 | 44 | 5 | 44 | 5 | 44 |
| 3/4 | 20 | 6 | 53 | 6 | 53 | 6 | 53 | 6 | 53 |
| 1 | 25 | 10 | 88 | 10 | 88 | 11 | 97 | 11 | 97 |
| 1 1/4 | 32 | 13 | 115 | 13 | 115 | 15 | 133 | 17 | 150 |
| 1 1/2 | 40 | 19 | 168 | 19 | 168 | 22 | 195 | 24 | 212 |
| 2 | 50 | 25 | 221 | 29 | 257 | 32 | 283 | 34 | 301 |
| 2 1/2 | 65 | 40 | 354 | 45 | 398 | 49 | 434 | 52 | 460 |
| 3 | 80 | 65 | 575 | 72 | 637 | 81 | 717 | 88 | 779 |
| 4 | 100 | 100 | 885 | 110 | 973 | 122 | 1080 | 132 | 1168 |

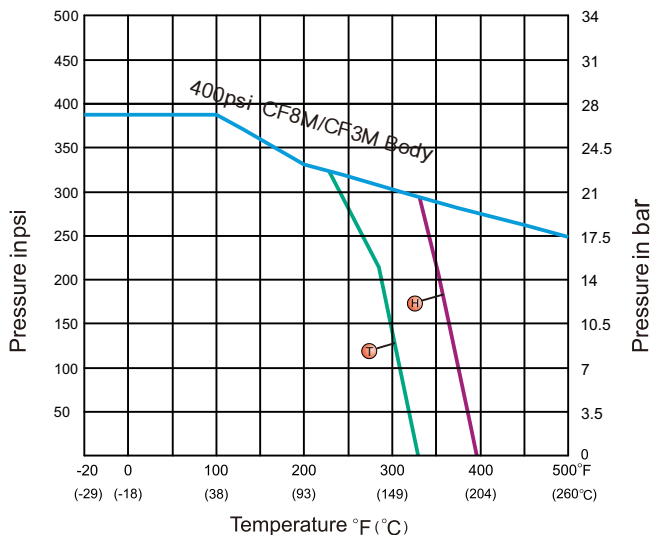
- Remark :
- 1.Torques will increase about 30% if seat materials are Reinforced Fiber-Glass PTFE
 - 2.The torque figures at 5 bar pressure are maximum values to be tested after the valves are placed for 24 hours.
 - 3.For actuator sizing, a safety factor of minimum 30% is recommended.

TECHNICAL INFORMATION

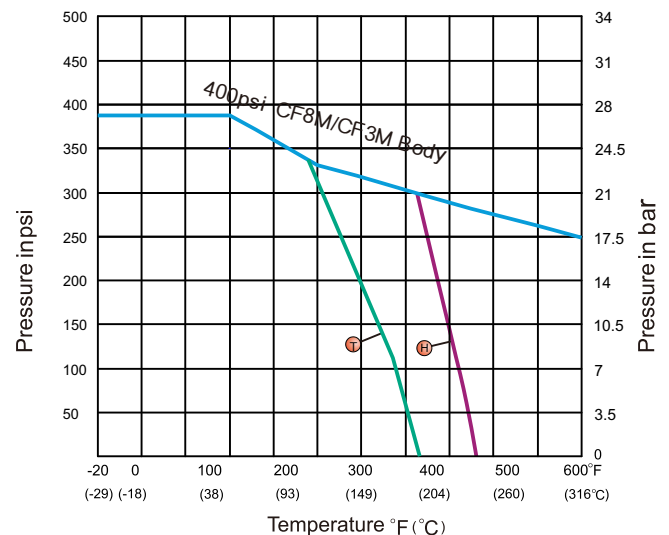
PRESSURE - TEMPERATURE RATINGS

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, 400PSI
 DN15 ~ DN32
 Full Bore : NPS 1/2 ~ NPS 1 1/4

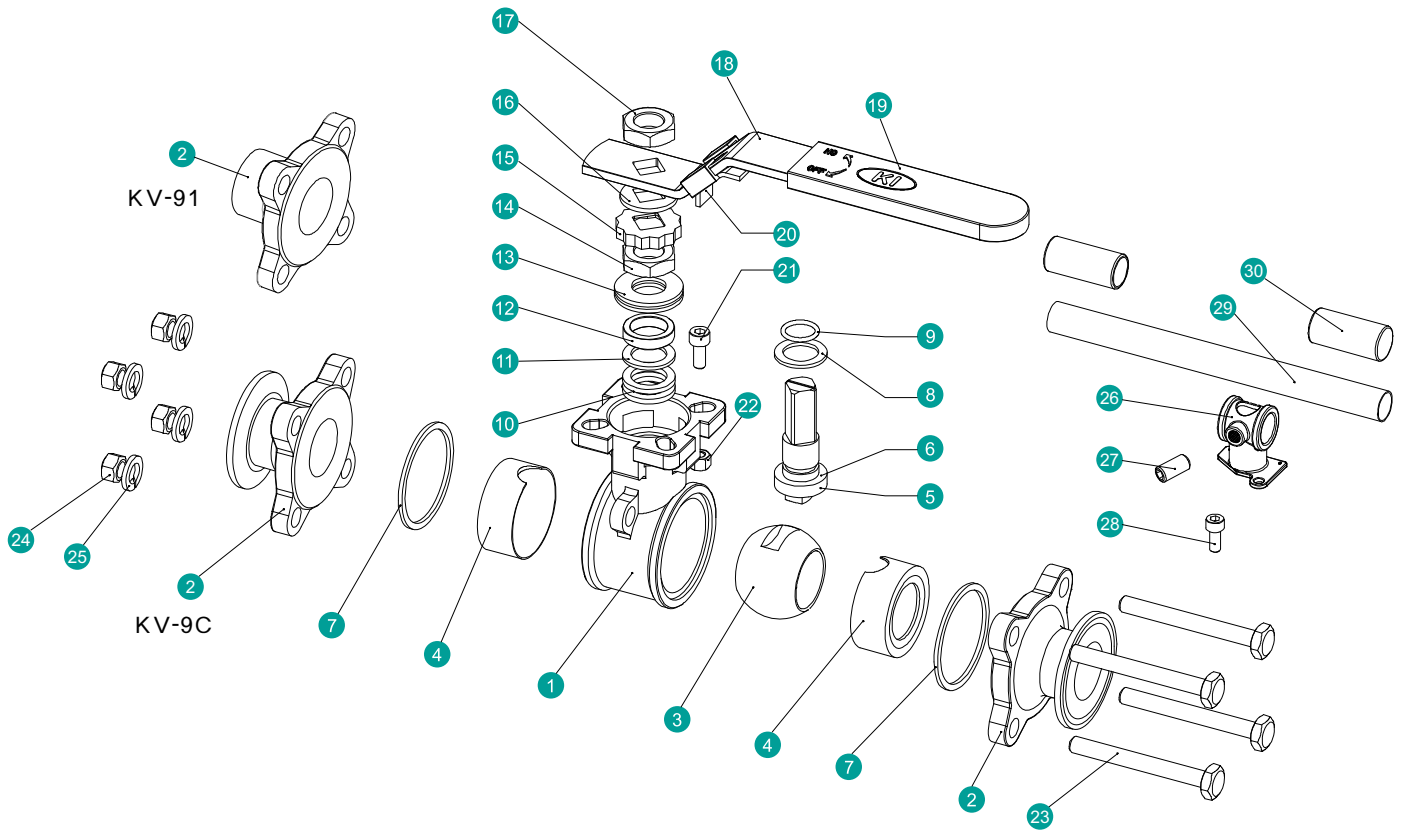


Floating Ball valves, 400PSI
 DN40 ~ DN100
 Full Bore : NPS 1 1/2 ~ NPS 4



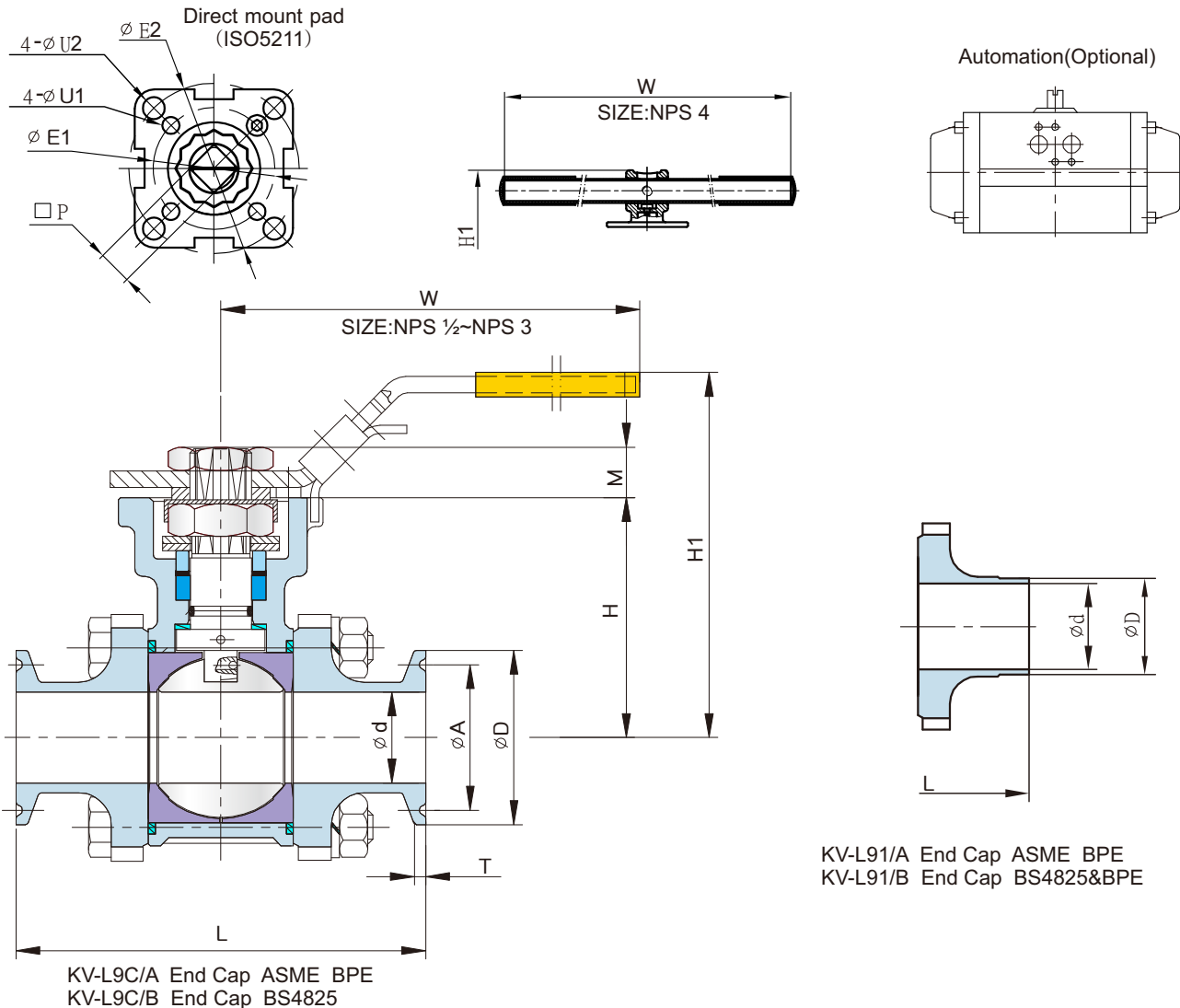
Seat Materials : **T** PTFE **H** TFM1600

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.



MATERIAL OF CONSTRUCTION

| NO. | PART NAME | MATERIALS | | |
|-----|---|---------------|--------------|-------------|
| 1 | Body | CF3M(1.4409) | CF8M(1.4408) | CF8(1.4308) |
| 2 | End Cap (Clamp) | CF3M(1.4409) | CF8M(1.4408) | CF8(1.4308) |
| | End Cap (BW) | CF3M(1.4409) | CF3M(1.4409) | CF8(1.4308) |
| 3 | Ball | CF3M | CF8M | CF8 |
| 4 | Ball Seat | PTFE/TFM1600 | | |
| 5 | Stem | 316L | 316 | 304 |
| 6 | Anti-Static | 316L | 316 | 304 |
| 7 | Body Gasket | PTFE | | |
| 8 | Thrust washer | PTFE | | |
| 9 | O-Ring | FKM | | |
| 10 | Packing | PTFE | | |
| 11 | Bushing | 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 $\frac{1}{2}$ -NPS3) | A194-8 | | |
| 18 | Handle (NPS $\frac{1}{2}$ -NPS3) | 304 | | |
| 19 | Handle Sleeve (NPS $\frac{1}{2}$ -NPS3) | VINYL PLASTIC | | |
| 20 | Lock Device (NPS $\frac{1}{2}$ -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

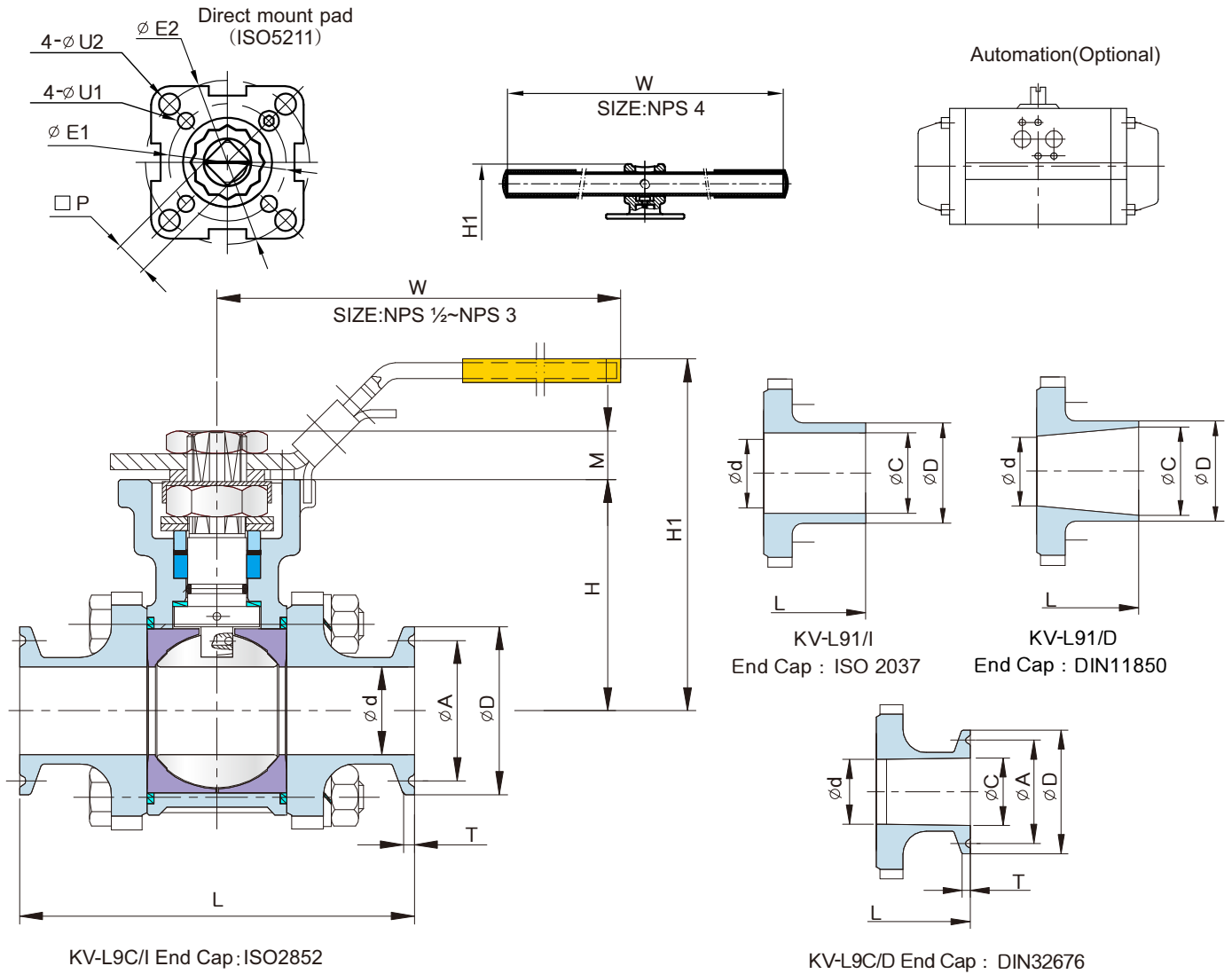
ANSI 400 WOG DIMENSION TABLE

Unit : mm

| SIZE | | KV-L9C/A ASME BPE | | | | KV-L9C/B BS4825 | | | | L91/A, L91/B | | L | H | H1 | W | P | M | E1 | E2 | U1 | U2 | ISO 5211 |
|-------|-----|-------------------|------|------|------|-----------------|------|------|------|--------------|-------|-----|-----|-----|-----|----|----|----|-----|----|----|----------|
| NPS | DN | d | A | D | T | d | A | D | T | d | D | | | | | | | | | | | |
| 1/2 | 15 | 9.4 | 20.3 | 25 | 3.63 | 9.5 | 20.3 | 25.4 | 3.7 | 9.5 | 12.7 | 90 | 42 | 72 | 147 | 9 | 9 | 36 | 42 | 6 | 6 | F03~F04 |
| 3/4 | 20 | 15.7 | 20.3 | 25 | 3.63 | 15.9 | 20.3 | 25.4 | 3.7 | 15.85 | 19.05 | 90 | 49 | 79 | 147 | 9 | 9 | 36 | 50 | 6 | 7 | F03~F05 |
| 1 | 25 | 22.2 | 43.5 | 50.5 | 2.85 | 22.2 | 43.5 | 50.5 | 2.85 | 22.2 | 25.4 | 100 | 58 | 90 | 177 | 11 | 11 | 42 | 50 | 6 | 7 | F04~F05 |
| 1 1/2 | 40 | 34.9 | 43.5 | 50.5 | 2.85 | 34.9 | 43.5 | 50.5 | 2.85 | 34.9 | 38.1 | 125 | 71 | 103 | 197 | 14 | 14 | 50 | 70 | 7 | 9 | F05~F07 |
| 2 | 50 | 47.6 | 56.5 | 64 | 2.85 | 47.6 | 56.5 | 64 | 2.85 | 47.6 | 50.8 | 150 | 78 | 110 | 197 | 14 | 14 | 50 | 70 | 7 | 9 | F05~F07 |
| 2 1/2 | 65 | 60.3 | 70.5 | 77.5 | 2.85 | 60.3 | 70.5 | 77.5 | 2.85 | 60.3 | 63.5 | 190 | 100 | 150 | 267 | 17 | 17 | 70 | 102 | 9 | 11 | F07~F10 |
| 3 | 80 | 73.0 | 83.5 | 91 | 2.85 | 73.0 | 83.5 | 91 | 2.85 | 73.0 | 76.2 | 220 | 109 | 159 | 267 | 17 | 17 | 70 | 102 | 9 | 11 | F07~F10 |
| 4 | 100 | 97.6 | 110 | 119 | 2.85 | 97.6 | 110 | 119 | 2.85 | 97.6 | 101.6 | 270 | 140 | 212 | 400 | 22 | 22 | — | 102 | — | 11 | F10 |

Unit : inch

| SIZE | | KV-L9C/A ASME BPE | | | | L91/A | | L | H | H1 | W | P | M | E1 | E2 | U1 | U2 | ISO 5211 |
|-------|-----|-------------------|------|------|------|-------|------|-------|------|------|------|-------|------|------|------|------|------|----------|
| NPS | DN | d | A | D | T | d | D | | | | | | | | | | | |
| 1/2 | 15 | 0.37 | 0.80 | 0.98 | 0.14 | 0.37 | 0.50 | 3.54 | 1.65 | 2.83 | 5.79 | 0.354 | 0.28 | 1.42 | 1.65 | 0.24 | 0.24 | F03~F04 |
| 3/4 | 20 | 0.62 | 0.80 | 0.98 | 0.14 | 0.62 | 0.75 | 3.54 | 1.93 | 3.11 | 5.79 | 0.354 | 0.35 | 1.42 | 1.97 | 0.24 | 0.28 | F03~F05 |
| 1 | 25 | 0.87 | 1.71 | 1.99 | 0.11 | 0.87 | 1.00 | 3.94 | 2.28 | 3.54 | 6.97 | 0.433 | 0.43 | 1.65 | 1.97 | 0.24 | 0.28 | F04~F05 |
| 1 1/2 | 40 | 1.37 | 1.71 | 1.99 | 0.11 | 1.37 | 1.50 | 4.92 | 2.80 | 4.06 | 7.76 | 0.551 | 0.55 | 1.97 | 2.76 | 0.28 | 0.35 | F05~F07 |
| 2 | 50 | 1.87 | 2.22 | 2.52 | 0.11 | 1.87 | 2.00 | 5.91 | 3.07 | 4.33 | 7.76 | 0.551 | 0.55 | 1.97 | 2.76 | 0.28 | 0.35 | F05~F07 |
| 2 1/2 | 65 | 2.37 | 2.78 | 3.05 | 0.11 | 2.37 | 2.50 | 7.48 | 3.94 | 5.91 | 10.5 | 0.669 | 0.67 | 2.76 | 4.02 | 0.35 | 0.43 | F07~F10 |
| 3 | 80 | 2.87 | 3.29 | 3.58 | 0.11 | 2.87 | 3.00 | 8.66 | 4.29 | 6.26 | 10.5 | 0.669 | 0.67 | 2.76 | 4.02 | 0.35 | 0.43 | F07~F10 |
| 4 | 100 | 3.84 | 4.33 | 4.69 | 0.11 | 3.84 | 4.00 | 10.63 | 5.51 | 8.35 | 15.9 | 0.866 | 0.87 | — | 4.02 | — | 0.43 | F10 |



KV-L9C/I End Cap : ISO2852

KV-L9C/D End Cap : DIN32676

DIMENSION TABLE

ANSI 400 WOG DIMENSION TABLE

Unit : mm

| SIZE | | KV-L9C/I ISO 2852 | | | | | KV-L91/I ISO 2037 | | | L | H | H1 | W | P | M | E1 | E2 | U1 | U2 | ISO 5211 |
|-------|-----|-------------------|------|------|------|------|-------------------|-------|-----|-----|-----|-----|----|----|----|-----|----|----|---------|----------|
| NPS | DN | d | A | D | T | d | C | D | | | | | | | | | | | | |
| 1/2 | 15 | 10.7 | 27.5 | 34 | 2.85 | 10.7 | 10.7 | 12.7 | 90 | 42 | 72 | 147 | 9 | 9 | 36 | 42 | 6 | 6 | F03-F04 | |
| 3/4 | 20 | 15.2 | 27.5 | 34 | 2.85 | 15.2 | 15.2 | 17.2 | 90 | 49 | 79 | 147 | 9 | 9 | 36 | 50 | 6 | 7 | F03-F05 | |
| 1 | 25 | 22.6 | 43.5 | 50.5 | 2.85 | 22.6 | 22.6 | 25.0 | 100 | 58 | 90 | 177 | 11 | 11 | 42 | 50 | 6 | 7 | F04-F05 | |
| 1 1/4 | 32 | 31.3 | 43.5 | 50.5 | 2.85 | 31.3 | 31.3 | 33.7 | 110 | 63 | 94 | 177 | 11 | 11 | 42 | 70 | 6 | 9 | F04-F07 | |
| 1 1/2 | 40 | 35.6 | 43.5 | 50.5 | 2.85 | 35.6 | 35.6 | 38.0 | 125 | 71 | 103 | 197 | 14 | 14 | 50 | 70 | 7 | 9 | F05-F07 | |
| 2 | 50 | 48.6 | 56.5 | 64 | 2.85 | 48.6 | 48.6 | 51.0 | 150 | 78 | 110 | 197 | 14 | 14 | 50 | 70 | 7 | 9 | F05-F07 | |
| 2 1/2 | 65 | 60.3 | 70.5 | 77.5 | 2.85 | 60.3 | 60.3 | 63.5 | 190 | 100 | 150 | 267 | 17 | 17 | 70 | 102 | 9 | 11 | F07-F10 | |
| 3 | 80 | 72.9 | 83.5 | 91 | 2.85 | 72.9 | 72.9 | 76.1 | 220 | 109 | 159 | 300 | 17 | 17 | 70 | 102 | 9 | 11 | F07-F10 | |
| 4 | 100 | 97.6 | 110 | 119 | 2.85 | 97.6 | 97.6 | 101.6 | 270 | 140 | 212 | 400 | 22 | 22 | — | 102 | — | 11 | F10 | |

Unit : mm

| SIZE | | KV-L9C/D DIN32676 | | | | | KV-L91/D DIN32676 & DIN11850 | | | L | H | H1 | W | P | M | E1 | E2 | U1 | U2 | ISO 5211 |
|-------|-----|-------------------|------|------|------|-----|------------------------------|------|-----|-----|-----|-----|-----|----|----|----|-----|----|----|----------|
| NPS | DN | d | A | D | T | C | d | C | D | | | | | | | | | | | |
| 1/2 | 15 | 10.7 | 27.5 | 34 | 2.85 | 16 | 10.7 | 16 | 19 | 90 | 42 | 72 | 147 | 9 | 9 | 36 | 42 | 6 | 6 | F03-F04 |
| 3/4 | 20 | 15.2 | 27.5 | 34 | 2.85 | 20 | 15.2 | 20 | 23 | 90 | 49 | 79 | 147 | 9 | 9 | 36 | 50 | 6 | 7 | F03-F05 |
| 1 | 25 | 22.6 | 43.5 | 50.5 | 2.85 | 26 | 22.6 | 26 | 29 | 100 | 58 | 90 | 177 | 11 | 11 | 42 | 50 | 6 | 7 | F04-F05 |
| 1 1/4 | 32 | 31.3 | 43.5 | 50.5 | 2.85 | 32 | 32.0 | 32 | 35 | 110 | 63 | 94 | 177 | 11 | 11 | 42 | 70 | 6 | 9 | F04-F07 |
| 1 1/2 | 40 | 35.6 | 43.5 | 50.5 | 2.85 | 38 | 35.6 | 35.6 | 41 | 125 | 71 | 103 | 197 | 14 | 14 | 50 | 70 | 7 | 9 | F05-F07 |
| 2 | 50 | 48.6 | 56.5 | 64 | 2.85 | 50 | 48.6 | 48.6 | 53 | 150 | 78 | 110 | 197 | 14 | 14 | 50 | 70 | 7 | 9 | F05-F07 |
| 2 1/2 | 65 | 60.3 | 83.5 | 91 | 2.85 | 66 | 60.3 | 60.3 | 70 | 190 | 100 | 150 | 267 | 17 | 17 | 70 | 102 | 9 | 11 | F07-F10 |
| 3 | 80 | 72.9 | 97.0 | 106 | 2.85 | 81 | 72.9 | 72.9 | 85 | 220 | 109 | 159 | 300 | 17 | 17 | 70 | 102 | 9 | 11 | F07-F10 |
| 4 | 100 | 97.6 | 110 | 119 | 2.85 | 100 | 97.6 | 97.6 | 104 | 270 | 140 | 212 | 400 | 22 | 22 | — | 102 | — | 11 | F10 |