7

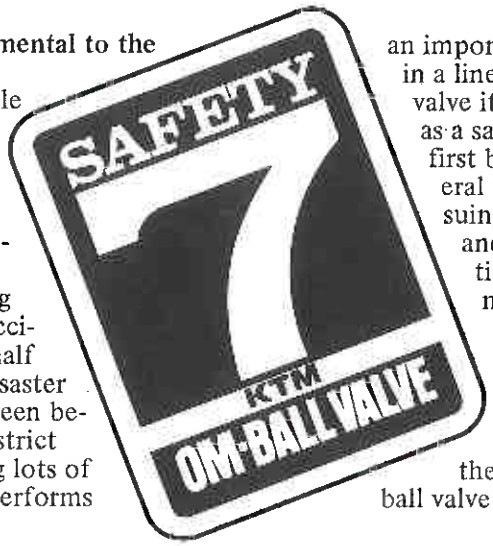
# 球 阀

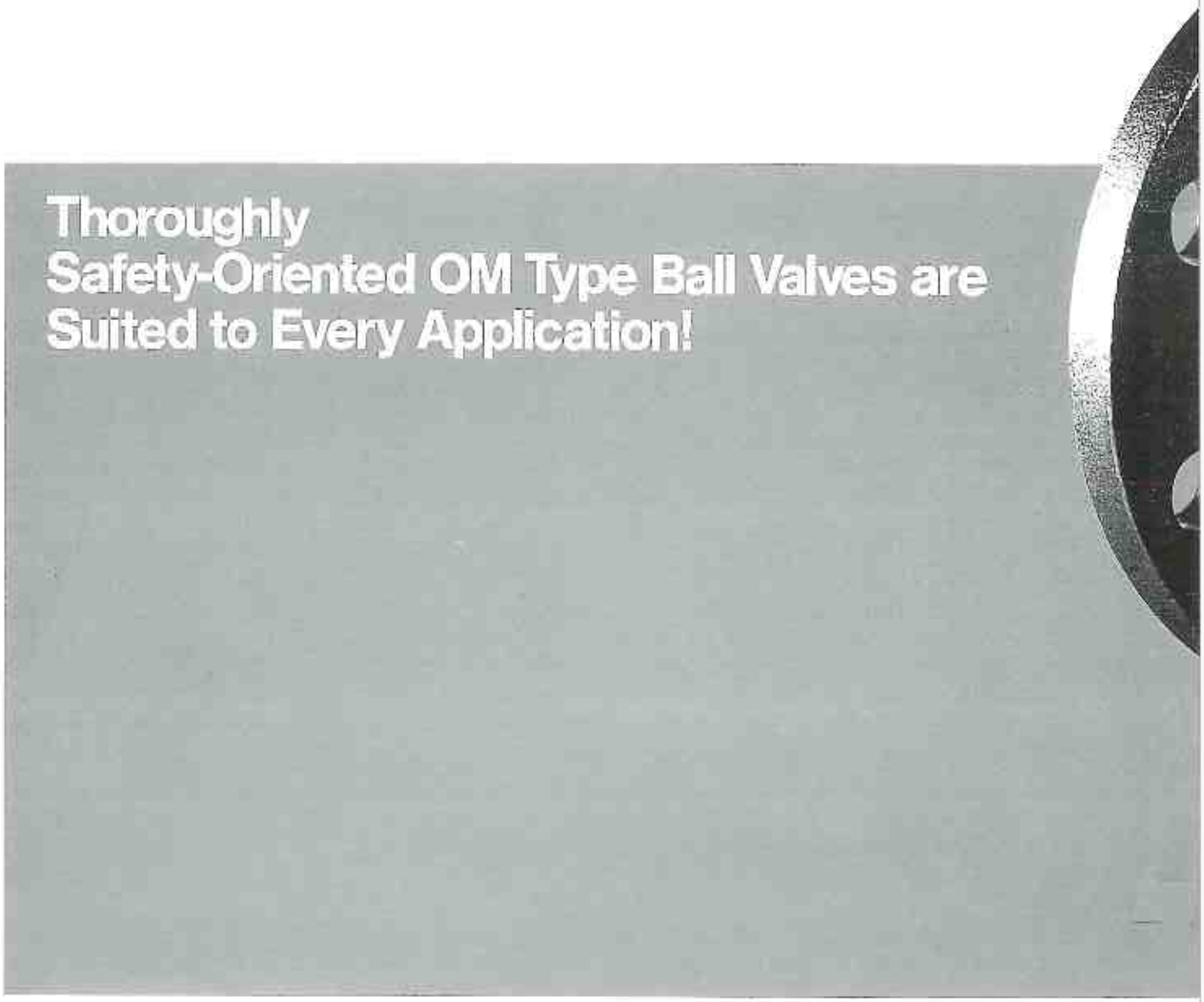
# BALL VALVES

# 球阀（多项安全装置用途广泛）

**Infinite Pursuit for Safety is Fundamental to the Entity of KTM**

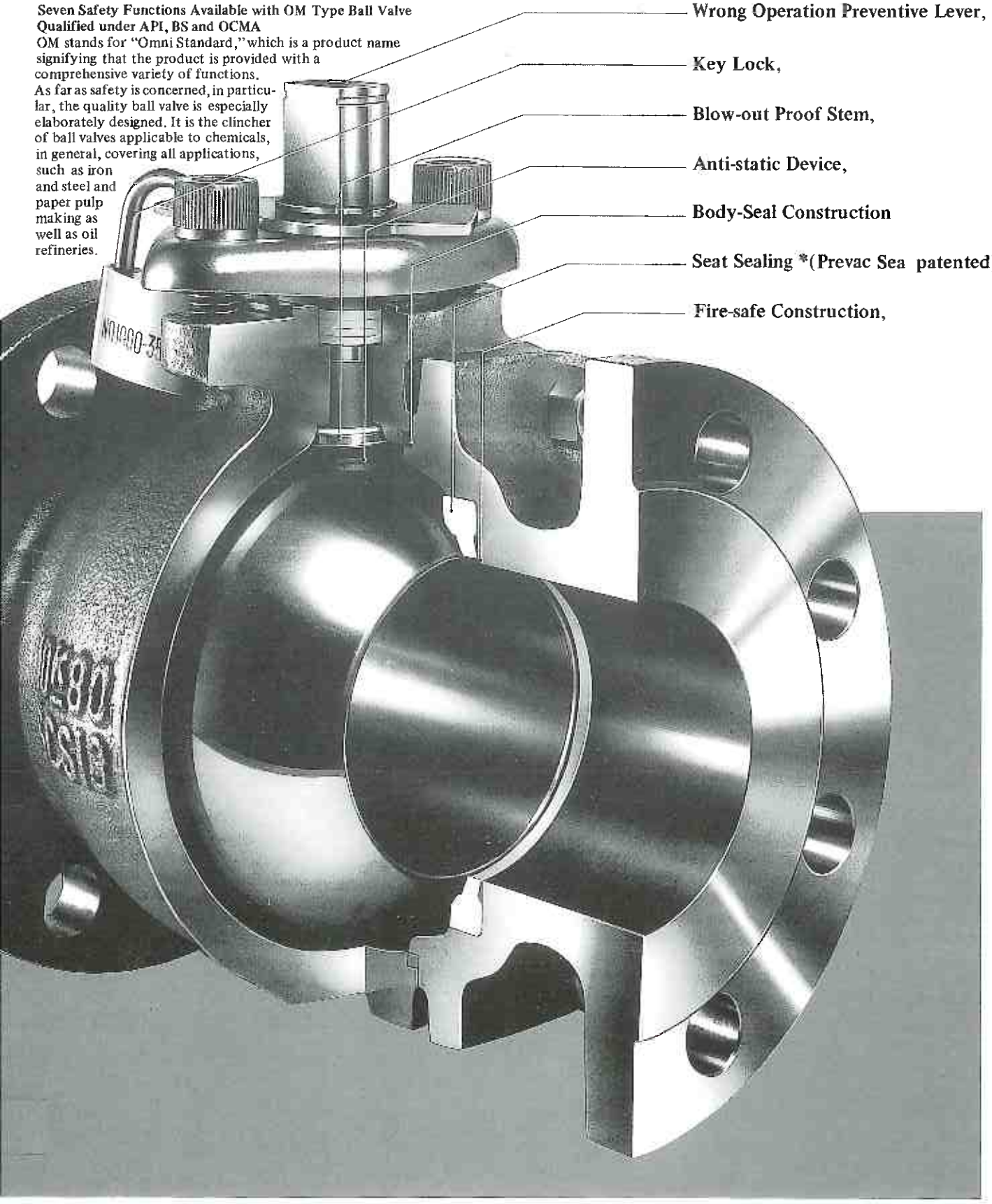
In the event of an explosion, valuable human lives would be lost at a moment while bringing about huge damage to facilities. This terrible disaster occupies as high as 20% of the total industrial accidents. By industry, it has taken place especially concentratedly in the manufacturing industrial sector, whose explosive accidents have reached approximately half the total. To prevent the terrible disaster from taking place, every plant has been being managed under more and more strict regulations for safety, not excepting lots of valves employed in plant. A valve performs an important function of controlling a fluid in a line with safety. At the same time, the valve itself is required to be highly reliable as a safety device. KTM has developed the first ball valve in Japan. Over ten and several years since then, we have been pursuing for the highest technological level and quality in relation to every function as well as safety. To meet the needs of the times, moreover, we have been continuing on manufacturing the most appropriate products. With the long years' experience of ours in the background, we have developed and placed on the market the epoch-making OM type ball valve provided with seven safety functions.



**Seven Safety Functions Available with OM Type Ball Valve Qualified under API, BS and OCMA**

OM stands for "Omni Standard," which is a product name signifying that the product is provided with a comprehensive variety of functions. As far as safety is concerned, in particular, the quality ball valve is especially elaborately designed. It is the clincher of ball valves applicable to chemicals, in general, covering all applications, such as iron and steel and paper pulp making as well as oil refineries.



# Construction and Features

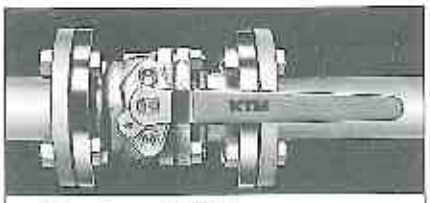
**Lever which Permits Neither Wrong Visual Determination of Open-Close position nor Improper Installation**

Open or close and opening degree is visually confirmed from a position of the lever.

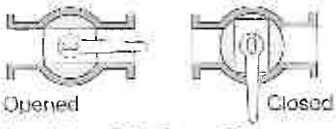
As ball, stem and lever is a unit assembly, the valve is open with the lever in parallel to piping. With the lever right-angled to piping, the valve is closed.

In the case of an ordinary ball valve generally available, the stem has a square top. Therefore, the lever does not always coincide with open and/or close of the valve due to an error in mounting and removing.

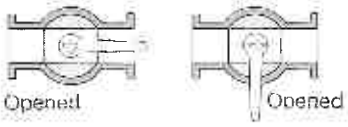
This leads to the possibility that the fluid may flow out once an opening or closure of the valve has been wrongly determined.

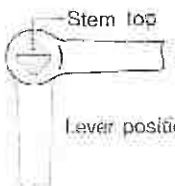


**Stem Top of OM Type**




**Stem Top of Ordinary Type**




The lever mounted in two directions will cause an open and close of the valve be reversed, if wrongly installed.

**Key Lock**

To prevent the valve from wrong operation, it is lockable with a pad lock at two points fully opened or fully closed positions. Especially when installed outdoors, the valve is so lockable as to prevent an outsider or third person from opening or closing. In other words, an operation of the valve is limited to protect it against the possibilities that an outsider may accidently operate the lever or the valve may be opened or closed due to vibrations, especially when an inflammable petrolic product or chemical is treated.

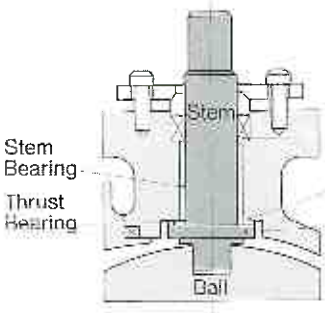
* The key lock is optionally available. (See page 10.) A pin may be also used for locking in the place of the key lock.

**Blow-out Proof Stem**

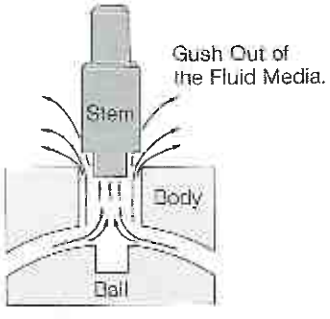
When the pressure running through the valve in the body cavity has risen, the stem may blow out.

To prevent such danger from taking place, the valve is provided with a stem flange in the lower part of the stem and so constructed that the stem may not blow out upwards. Even if the packing (thrust bearing) has burnt out in a fire or for any other reason, the internal pressure will bring the stem flange into close contact with the back seat of the valve body. Thus, the fluid may be positively prevented from leaking through the packing so burnt out. If the pressure in the body cavity should abnormally rise or a gland bolt should be loose or missing anyway, an ordinary stem held with packing will blow out and the fluid will brust out. Besides, there are possibilities that such accident may take place upon maintenance. If the gland packing has burnt out in a fire, in particular, the back seat at the stem flange will be a requirement essential to the fire-safety of the valve.

**Stem Seal in OM Type Ball Valve**




**Ordinary Stem**




* Employed in the stem-sliding portion are the stem bearing and thrust bearing, both made of Teflon as a base material. Therefore, galling is completely prevented while keeping the operational torque at the minimum level.

# 7项安全装置

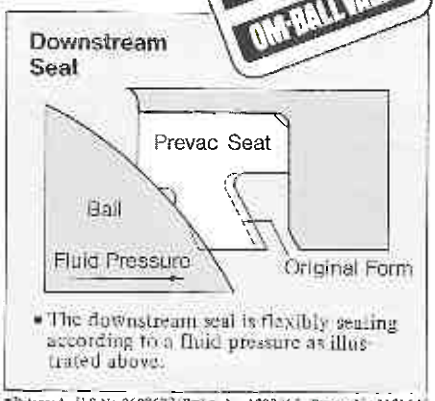

**Anti-Static Device**

Anti-static device has been provided to prevent an accident in petrolic and chemical plants. While operating the valve, static electricity is generated due to the friction between ball and Teflon seat and charged in the ball. To prevent this electrostatic charge, the OM type ball valve is provided with an anti-static device. Preventing electrostatic sparks from resulting in inflammation is a requirement essential to the treatment of such low-flashing point fluids as gasoline, natural liquefied gas, propane gas, etc.
The OM type ball valve is completely conductive between ball and body in which no static electricity may charge. Any other parts, moreover, are conductive to the grounding circuit.

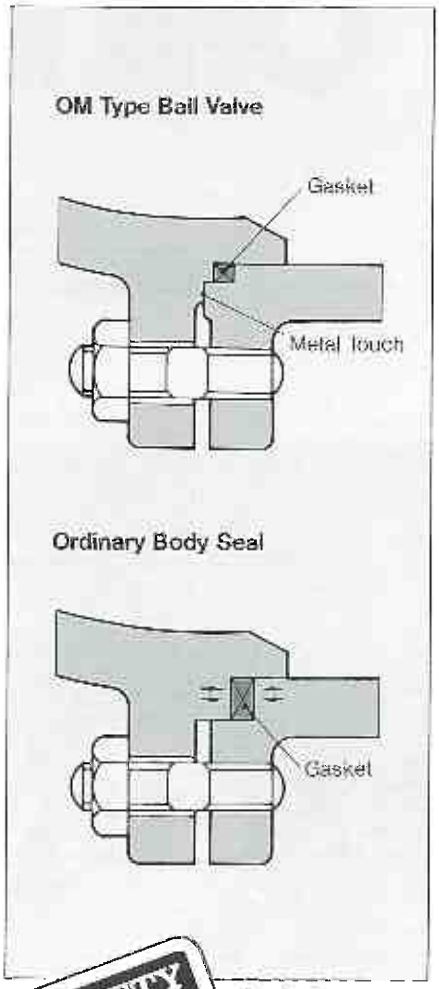
*Patented Japan No. 798512, 798513


**Effective Prevac Seat Seal**

Prevac Seat is a new seat born out of long years' experience of KTM. This seat is featured by its high capability of sealing against either high or low pressure as well as vacuum.



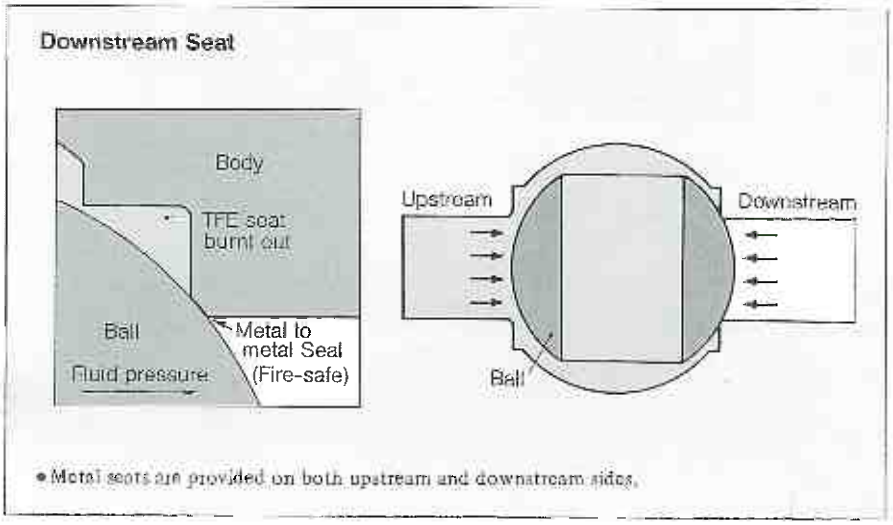

*Patented U.S No.3693687 Britain No.1297763 France No.2101646 Italy No.929541 Japan No.800826 Australia No.462894

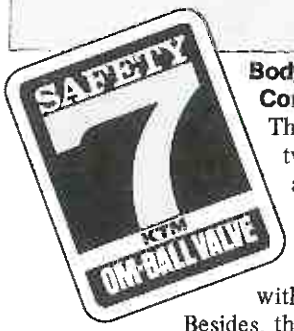




**Fire-Safe**

With the valve heated in a fire, such non-metal parts as seat, gland packing, gasket or the like, may burnt out. Then, an excessive leakage will result so that the fire will gain headway. To prevent such situation from arising, the OM type ball valve is provided with a fire-safe mechanism. Once the seat has burnt out, the ball comes in close contact directly with the metal seat located on a part of the body. Thus, the OM ball valve maintains its sealing property.




**Body-Seal Construction**

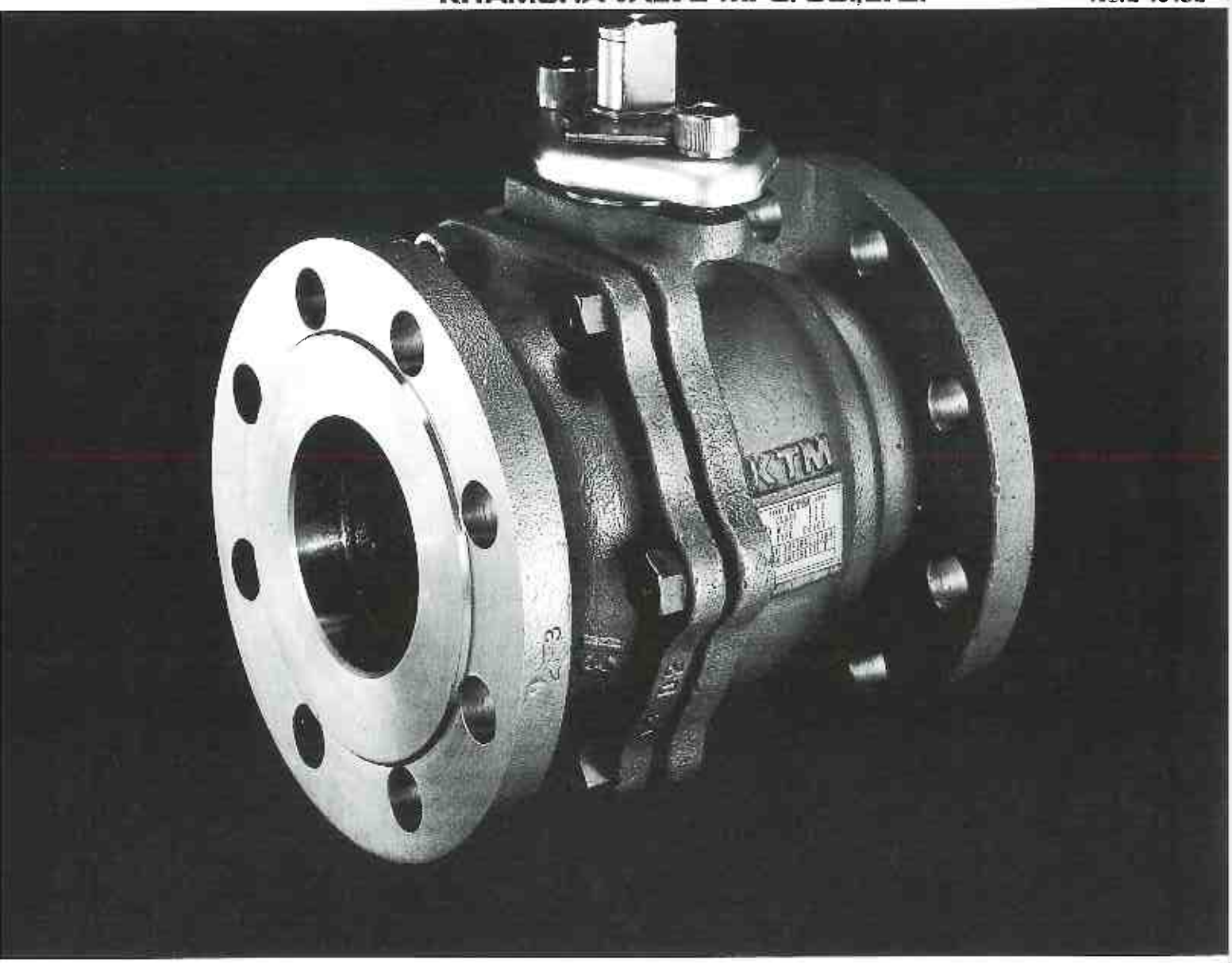
The joint between body and body cap are so constructed to be sealed with gasket.
Besides, the valve is so constructed as to prevent the body from being tightened one-sidedly.
At the same time, it is so designed that no excessively large force may act on the gasket due to the metal touch when the valve has received a load due to an external force. In addition, the body-seal construction will minimize all those factors, such as a change in turning torque or the like, which might lead to leakage or unequal working torque.

# KTM
# OM BALL VALVE

Ball Valve with Seven Safety Mechanism
Safety and Reliability for Prevention of Plant Disaster
Best Seller of Ball Valve

KITAMURA VALVE MFG. CO.,LTD.

No.2-1013E



# 设计及材料表

## Basic Design (Valves specified below have face to face dimensions according to ANSI B16.10.)

| Bore | Model No. | Pressure Rating | Flange Rating | Main Material | | Range of Products |
|---|---|---|---|---|---|---|
| | | | | Body/Body Cap | Ball/Stem | |
| Full Bore Type | E0105-62・1<br>E0105-62・1<br>E0105-62・2* | 10K<br>150 # | JIS 10K<br>ANSI 150lb. | A216(G)WCB | A351(G)CF8<br>A276TP304 | 15 ~ 250 mm<br>(32 mm is not manufactured.) |
| | E0105-31・1<br>E0105-31・1 | 10K<br>150 # | JIS 10K<br>ANSI 150lb. | A351(G)CF8 | A351(G)CF8<br>A276TP304 | 15 ~ 250 mm<br>(32 mm is not manufactured.) |
| | E0105-32・1<br>E0105-32・1 | 10K<br>150 # | JIS 10K<br>ANSI 150lb. | A351(G)CF8M | A351(G)CF8M<br>A276TP316 | 15 ~ 250 mm<br>(32 mm is not manufactured.) |
| | E0106-62・1<br>E0106-62・1<br>E0106-62・2* | 20K<br>300 # | JIS 20K<br>ANSI 300lb. | A216(G)WCB | A351(G)CF8<br>A276TP304 | 15 ~ 200 mm<br>(32 mm is not manufactured.) |
| | E0106-31・1<br>E0106-31・1 | 20K<br>300 # | JIS 20K<br>ANSI 300lb. | A351(G)CF8 | A351(G)CF8<br>A276TP304 | 15 ~ 200 mm<br>(32 mm is not manufactured.) |
| | E0106-32・1<br>E0106-32・1 | 20K<br>300 # | JIS 20K<br>ANSI 300lb. | A351(G)CF8M | A351(G)CF8M<br>A276TP316 | 15 ~ 200 mm<br>(32 mm is not manufactured.) |
| Reduced Bore Type | E0801-62・1<br>E0801-62・1<br>E0801-62・2* | 10K<br>150 # | JIS 10K<br>ANSI 150lb. | A216(G)WCB | A351(G)CF8<br>A276TP304 | 80 ~ 300 mm |
| | E0801-31・1<br>E0801-31・1 | 10K<br>150 # | JIS 10K<br>ANSI 150lb. | A351(G)CF8 | A351(G)CF8<br>A276TP304 | 80 ~ 300 mm |
| | E0801-32・1<br>E0801-32・1 | 10K<br>150 # | JIS 10K<br>ANSI 150lb. | A351(G)CF8M | A351(G)CF8M<br>A276TP316 | 80 ~ 300 mm |
| | E0802-62・1<br>E0802-62・1<br>E0802-62・2* | 20K<br>300 # | JIS 20K<br>ANSI 300lb. | A216G)WCB | A351(G)CF8<br>A276TP304 | 80 ~ 250 mm |
| | E0802-31・1<br>E0802-31・1 | 20K<br>300 # | JIS 20K<br>ANSI 300lb. | A351(G)CF8 | A351(G)CF8<br>A276TP304 | 80 ~ 250 mm |
| | E0802-31・1<br>E0802-32・1 | 20K<br>300 # | JIS 20K<br>ANSI 300lb. | A351(G)CF8M | A351(G)CF8M<br>A276TP316 | 80 ~ 250 mm |

* Gland flanges, gland bolts, stopper and snap ring employed are made of type 304 Stainless Steel.

Note 1. Face to face dimensions conform to the ANSI B16.10-1972.
2. E0105 125mm conforms to ANSI B16.10 "Plug Valves (regular)."
E0106, E0801 and E0802 conform to ANSI B16.10 "Gate Valves."
3. End flanges are based on JIS and/or ANSI Raised Face (with or with out serration).
4. Those OM type valves which have both face to face dimensions and flange ratings conform to DIN standards are also available in identical series. (Face to face dimensions conform to DIN3202/3204 and flanges to DIN2632 and 2633.)
5. For other body/trim material combinations consult your KTM distributor or the factory.

Subject to a chang or changs without prior notice for product improvement only.

## Materials of Standard Parts

### Full Bore Type Model E0105 (10K, 150lb)

| | Material Code | 62.1 | 62.2 | 31.1 | 32.1 |
|---|---|---|---|---|---|
| 1 | Body | A216(G)WCB | | A351(G)CF8 | A351(G)CF8M |
| 2 | Body Cap | A216(G)WCB | | A351(G)CF8 | A351(G)CF8M |
| 3 | Stem | A276TP304 | | | A276TP316 |
| 4 | Gland | 304SS | | | |
| 5 | Ball | A276TP304(2) | | | A276TP316(9) |
| 6 | Gland Flange | Carbon Steel(3) | 304SS(8) | | |
| 7 | Gland Cover | Ductile Iron(4) | | | |
| 8 | Stopper | Carbon Steel(5) | 304SS(10) | | |
| 9 | Gland Packing | T.F.E.(6) | | | |
| 10 | Gasket | Asbestos | | Reinforced T.F.E. | |
| 11 | Stem Bearing | Reinforced T.F.E. | | | |
| 12 | Lever | See page 10 in text. | | | |
| 13 | Gear Operator | See page 10 in text. | | | |
| 14 | Gland Bolt | Alloy Steel(7) | 304SS | | |
| 15 | Stud | Carbon Steel | | 304SS | |
| 16 | Nut | Carbon Steel | | 304SS | |
| 17 | Thrust Bearing | T.F.E. | | | |
| 18 | Spring | 316SS | | | |
| 19 | Seat | See page 9 in text. | | | |

### Full Bore Type Model E0106 (20K, 300lb)

| | Material Code | 62.1 | 62.2 | 31.1 | 32.1 |
|---|---|---|---|---|---|
| 1 | Body | A216(G)WCB(1) | | A351(G)CF8 | A351(G)CF8M |
| 2 | Body Cap | A216(G)WCB(1) | | A351(G)CF8 | A351(G)CF8M |
| 3 | Stem | A276TP304 | | | A276TP316 |
| 4 | Gland | 304SS | | | |
| 5 | Ball | A276TP304(2) | | | A276TP316(9) |
| 6 | Gland Flange | Carbon Steel(3) | 304SS(8) | | |
| 7 | Gland Cover | Ductile Iron(4) | | | |
| 8 | Stopper | Carbon Steel(5) | 304SS(10) | | |
| 9 | Gland Packing | T.F.E.(6) | | | |
| 10 | Gasket | Asbestos | | Reinforced T.F.E. | |
| 11 | Stem Bearing | Reinforced T.F.E. | | | |
| 12 | Lever | See page 10 in text. | | | |
| 13 | Gear Operator | See page 10 in text. | | | |
| 14 | Gland Bolt | Alloy Steel(7) | 304SS | | |
| 15 | Stud | Alloy Steel | | 304SS | |
| 16 | Nut | Carbon Steel | | 304SS | |
| 17 | Thrust Bearing | T.F.E. | | | |
| 18 | Spring | 316SS | | | |
| 19 | Seat | See page 9 in text. | | | |

* Material combination of carbon steel body with type 316 stainless steel trim is available (Material code: 62.5)

① A 105 for nominal diameter 15 thru 25mm
② 15 ~ 50mm: A276TP304
65 ~ 250mm: A351(G)CF8
③ 125 ~ 250mm: Ductile Iron
④ 125 ~ 200mm only
⑤ 200mm: Ductile Iron
⑥ SUS316 plate jointly employed in 15mm thru 20mm
⑦ 125 ~ 250mm: Carbon Steel
⑧ 125 ~ 250mm: Cast Stainless Steel
⑨ 15 ~ 50mm: A276TP316
65 ~ 250mm: A351(G)CF8M
⑩ 200mm: Cast Stainless Steel

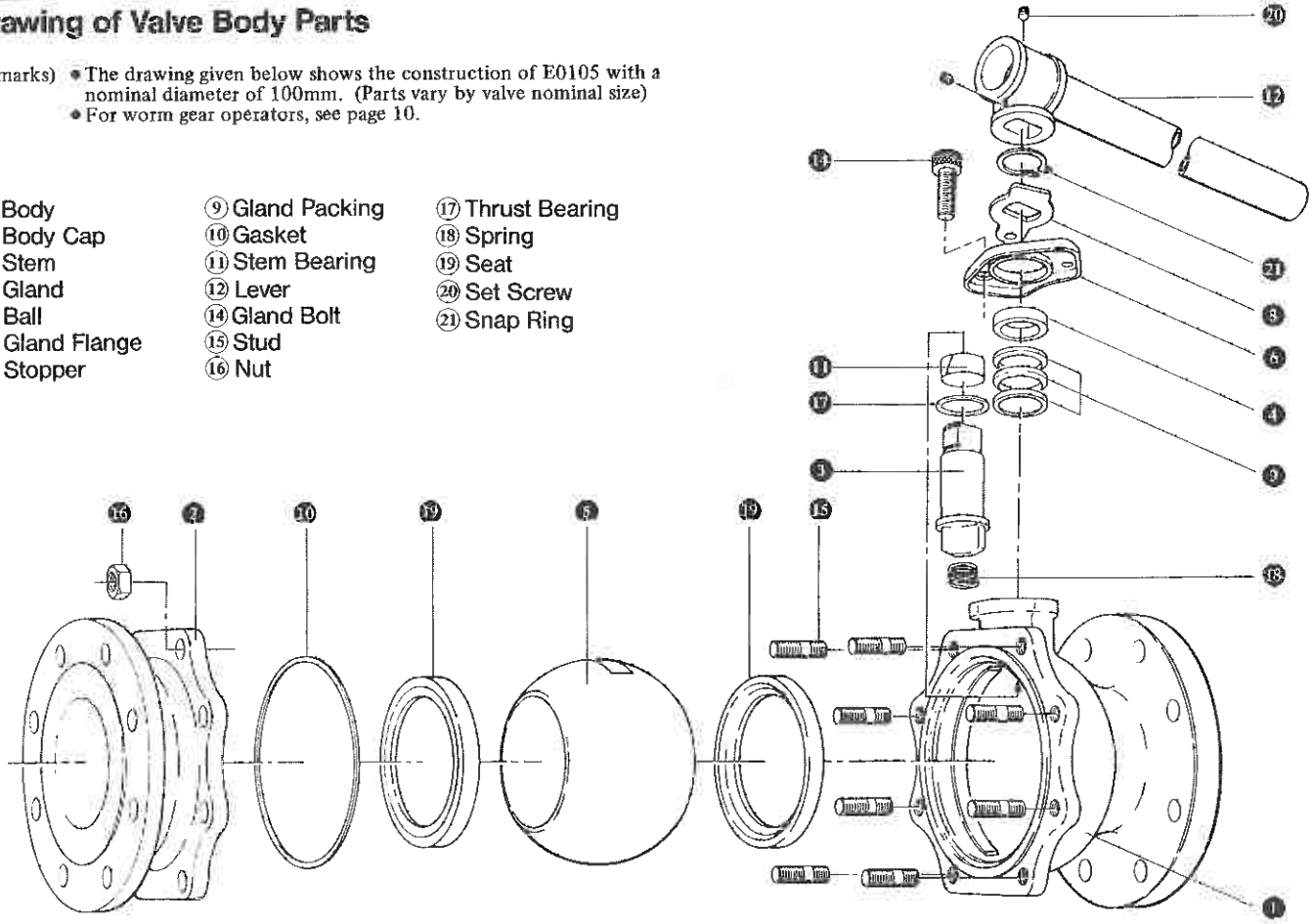
Snap Ring: Steel and 304SS

# 零件图表

## Drawing of Valve Body Parts

(Remarks) • The drawing given below shows the construction of E0105 with a nominal diameter of 100mm. (Parts vary by valve nominal size)
• For worm gear operators, see page 10.

| | | |
|---|---|---|
| ① Body | ⑨ Gland Packing | ⑰ Thrust Bearing |
| ② Body Cap | ⑩ Gasket | ⑱ Spring |
| ③ Stem | ⑪ Stem Bearing | ⑲ Seat |
| ④ Gland | ⑫ Lever | ⑳ Set Screw |
| ⑤ Ball | ⑭ Gland Bolt | ㉑ Snap Ring |
| ⑥ Gland Flange | ⑮ Stud | |
| ⑧ Stopper | ⑯ Nut | |




**Reduced Bore Type Model E0801 (10K, 150lb)**

| | Material Code | 62.1 | 62.2 | 31.1 | 32.1 |
|---|---|---|---|---|---|
| 1 | Body | A216(G)WCB | | A351(G)CF8 | A351(G)CF8M |
| 2 | Body Cap | A216(G)WCB | | A351(G)CF8 | A351(G)CF8M |
| 3 | Stem | A276TP304 | | | A276TP316 |
| 4 | Gland | 304SS | | | |
| 5 | Ball | A351(G)CF8 | | | A351(G)CF8M |
| 6 | Gland Flange | Carbon Steel① | 304SS⑤ | | |
| 7 | Gland Cover | Ductile Iron② | | | |
| 8 | Stopper | Carbon Steel③ | 304SS⑥ | | |
| 9 | Gland Packing | T.F.E. | | | |
| 10 | Gasket | Asbestos | | Reinforced T.F.E. | |
| 11 | Stem Bearing | Reinforced T.F.E. | | | |
| 12 | Lever | See page 10 in text. | | | |
| 13 | Gear Operator | See page 10 in text. | | | |
| 14 | Gland Bolt | Alloy Steel④ | 304SS | | |
| 15 | Stud | Carbon Steel | | 304SS | |
| 16 | Nut | Carbon Steel | | 304SS | |
| 17 | Thrust Bearing | T.F.E. | | | |
| 18 | Spring | 316SS | | | |
| 19 | Seat | See page 9 in text. | | | |

**Reduced Bore Type Model E0802 (20K, 300lb)**

| | Material Code | 62.1 | 62.2 | 31.1 | 32.1 |
|---|---|---|---|---|---|
| 1 | Body | A216(G)WCB | | A351(G)CF8 | A351(G)CF8M |
| 2 | Body Cap | A216(G)WCB | | A351(G)CF8 | A351(G)CF8M |
| 3 | Stem | A276TP304 | | | A276TP316 |
| 4 | Gland | 304SS | | | |
| 5 | Ball | A351(G)CF8 | | | A351(G)CF8M |
| 6 | Gland Flange | Carbon Steel① | 304SS⑤ | | |
| 7 | Gland Cover | Ductile Iron② | | | |
| 8 | Stopper | Carbon Steel③ | 304SS⑥ | | |
| 9 | Gland Packing | T.F.E. | | | |
| 10 | Gasket | Asbestos | | Reinforced T.F.E. | |
| 11 | Stem Bearing | Reinforced T.F.E. | | | |
| 12 | Lever | See page 10 in text. | | | |
| 13 | Gear Operator | See page 10 in text. | | | |
| 14 | Gland Bolt | Alloy Steel④ | 304SS | | |
| 15 | Stud | Alloy Steel | | 304SS | |
| 16 | Nut | Carbon Steel | | 304SS | |
| 17 | Thrust Bearing | T.F.E. | | | |
| 18 | Spring | 316SS | | | |
| 19 | Seat | See page 9 in text. | | | |

* Material combination of carbon steel body with type 316 stainless steel trim is available (Material code: 62.5)

① 150 ~ 300mm: Ductile Iron
② 150 ~ 250mm only
③ 250mm: Ductile Iron
④ 150 ~ 300mm: Carbon Steel
⑤ 150 ~ 300mm: Cast Stainless Steel
⑥ 250mm: Cast Stainless Steel

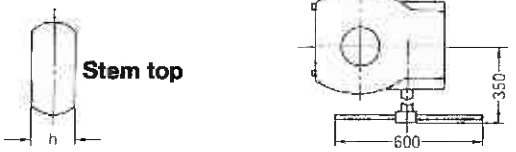
Snap Ring: Steel and 304SS

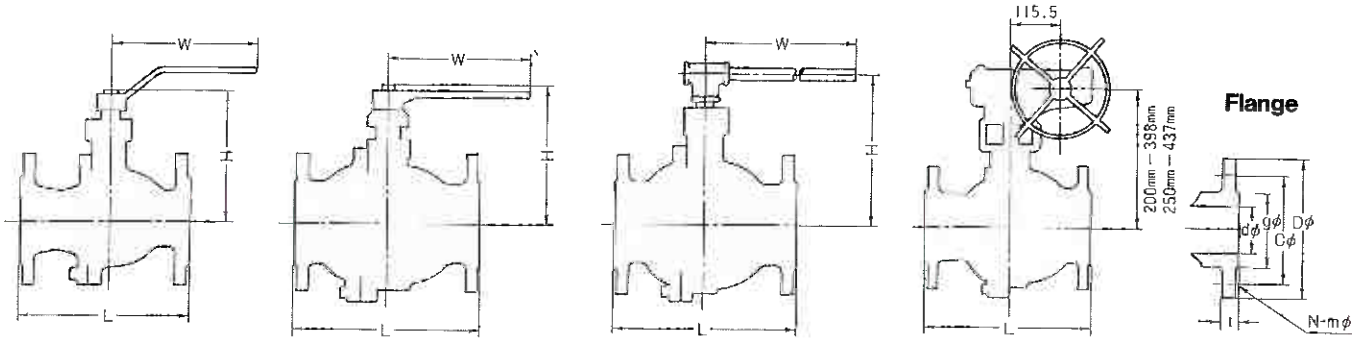
# 尺寸图表（同径型）

## Table of Dimensions

### Full Bore Type

**Model E0105 (10K, 150lb)**
**Model E0106 (20K, 300lb)**




**15mm~50mm** | **65mm~80mm** | **100mm~200mm** | **200mm, 250mm (Worm Gear Operator)**

• 200mm : Option

### E0105 (JIS 10K Flange) (ANSI 150lb Flange)

(mm)

| Nominal Diameter (mm) | d | L | H | JIS 10K Flange Size | | | | | | | ANSI 150lb Flange Size | | | | | | | h | W | Weight (kg) Approx |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | D | C | t | g | Rise | N | m | D | C | t | g | Rise | N | m | | | |
| 15 | 13 | 108 | 59 | 95 | 70 | 12 | 51 | 1 | 4 | 15 | 89 | 60.5 | 11.2 | 35 | 1.6 | 4 | 16 | 6 | 130 | 2.3 |
| 20 | 19 | 117 | 63 | 100 | 75 | 14 | 56 | 1 | 4 | 15 | 98 | 70.0 | 11.2 | 43 | 1.6 | 4 | 16 | 6 | 130 | 3.0 |
| 25 | 25 | 127 | 75 | 125 | 90 | 14 | 67 | 1 | 4 | 19 | 108 | 79.5 | 11.2 | 51 | 1.6 | 4 | 16 | 8 | 160 | 4.5 |
| 40 | 38 | 165 | 97 | 140 | 105 | 16 | 81 | 2 | 4 | 19 | 127 | 98.5 | 14.3 | 73 | 1.6 | 4 | 16 | 12 | 230 | 7.0 |
| 50 | 51 | 178 | 107 | 155 | 120 | 16 | 96 | 2 | 4 | 19 | 152 | 120.5 | 15.9 | 92 | 1.6 | 4 | 19 | 12 | 230 | 10.5 |
| 65 | 64 | 190 | 142 | 175 | 140 | 18 | 116 | 2 | 4 | 19 | 178 | 139.5 | 17.5 | 105 | 1.6 | 4 | 19 | 17 | 400 | 16.0 |
| 80 | 76 | 203 | 152 | 185 | 150 | 18 | 126 | 2 | 8 | 19 | 190 | 152.5 | 19.1 | 127 | 1.6 | 4 | 19 | 17 | 400 | 23.0 |
| 100 | 102 | 229 | 178 | 210 | 175 | 18 | 151 | 2 | 8 | 19 | 229 | 190.5 | 23.9 | 157 | 1.6 | 8 | 19 | 22 | 700 | 33.8 |
| 125 | 127 | 356 | 252 | 250 | 210 | 20 | 182 | 2 | 8 | 23 | 254 | 216.0 | 23.9 | 186 | 1.6 | 8 | 22 | 27 | 1100 | 58.0 |
| 150 | 152 | 394 | 272 | 280 | 240 | 22 | 212 | 2 | 8 | 23 | 279 | 241.5 | 25.4 | 216 | 1.6 | 8 | 22 | 27 | 1100 | 68.0 |
| 200 | 203 | 457 | 342* | 330 | 290 | 22 | 262 | 2 | 12 | 23 | 343 | 298.5 | 28.6 | 270 | 1.6 | 8 | 22 | 32 | 1500 | 108.0 |
| 250 | 254 | 533 | * | 400 | 355 | 24 | 324 | 2 | 12 | 25 | 406 | 362.0 | 30.2 | 324 | 1.6 | 12 | 25 | – | – | 230.0 |

* For worm gear operator, see the drawing

### E0106 (JIS 20K Flange) (ANSI 300lb Flange)

(mm)

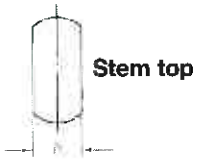
| Nominal Diameter (mm) | d | L | H | JIS 20K Flange Size | | | | | | | ANSI 300lb Flange Size | | | | | | | h | W | Weight (kg) Approx |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | D | C | t | g | Rise | N | m | D | C | t | g | Rise | N | m | | | |
| 15 | 13 | 140 | 59 | 95 | 70 | 14 | 51 | 1 | 4 | 15 | 95 | 66.5 | 14.3 | 35 | 1.6 | 4 | 16 | 6 | 130 | 2.5 |
| 20 | 19 | 152 | 63 | 100 | 75 | 16 | 56 | 1 | 4 | 15 | 117 | 82.5 | 15.9 | 43 | 1.6 | 4 | 19 | 6 | 130 | 3.5 |
| 25 | 25 | 165 | 75 | 125 | 90 | 16 | 67 | 1 | 4 | 19 | 124 | 89.0 | 17.5 | 51 | 1.6 | 4 | 19 | 8 | 160 | 5.5 |
| 40 | 38 | 190 | 97 | 140 | 105 | 18 | 81 | 2 | 4 | 19 | 156 | 114.5 | 20.7 | 73 | 1.6 | 4 | 22 | 12 | 230 | 10.5 |
| 50 | 51 | 216 | 107 | 155 | 120 | 18 | 96 | 2 | 8 | 19 | 165 | 127.0 | 22.3 | 92 | 1.6 | 8 | 19 | 12 | 230 | 14.8 |
| 65 | 64 | 241 | 142 | 175 | 140 | 20 | 116 | 2 | 8 | 19 | 190 | 149.0 | 25.4 | 105 | 1.6 | 8 | 22 | 17 | 400 | 23.5 |
| 80 | 76 | 283 | 152 | 200 | 160 | 22 | 132 | 2 | 8 | 23 | 210 | 168.0 | 28.6 | 127 | 1.6 | 8 | 22 | 17 | 400 | 36.1 |
| 100 | 102 | 305 | 178 | 225 | 185 | 24 | 160 | 2 | 8 | 23 | 254 | 200.0 | 31.8 | 157 | 1.6 | 8 | 22 | 22 | 700 | 41.4 |
| 125 | 127 | 381 | 252 | 270 | 225 | 26 | 195 | 2 | 8 | 25 | 279 | 235.0 | 35.0 | 186 | 1.6 | 8 | 22 | 27 | 1100 | 70.0 |
| 150 | 152 | 403 | 272 | 305 | 260 | 28 | 230 | 2 | 12 | 25 | 318 | 270.0 | 36.6 | 216 | 1.6 | 12 | 22 | 27 | 1100 | 105.0 |
| 200 | 203 | 502 | 342* | 350 | 305 | 30 | 275 | 2 | 12 | 25 | 381 | 330.0 | 41.3 | 270 | 1.6 | 12 | 25 | 32 | 1500 | 145.0 |

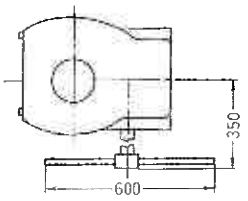
* For worm gear operator, see the drawing.

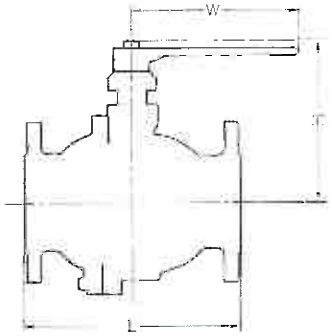
# 尺寸图表（减径型）

## Reduced Bore Type

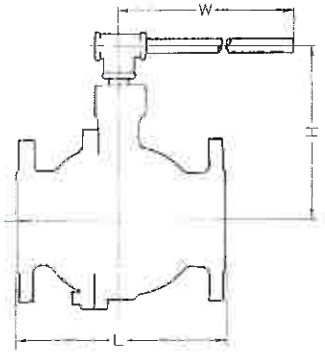
**Model E0801 (10K, 150lb)**
**Model E0802 (20K, 300lb)**



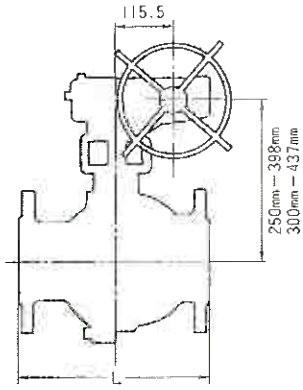




80mm~100mm

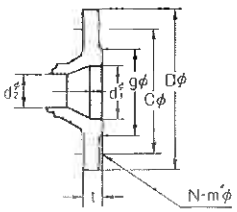



125mm~250mm




250mm, 300mm
(Worm Gear Operator)

• 250mm : Option




### E0801 (JIS 10K Flange) (ANSI 150lb Flange)

(mm)

| Nominal Diameter (mm) | $d_1$ | $d_2$ | L | H | JIS 10K Flange Size | | | | | | | ANSI 150lb Flange Size | | | | | | | h | W | Weight (kg) Approx |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | D | C | t | g | Rise | N | m | D | C | t | g | Rise | N | m | | | |
| 80 | 76 | 64 | 203 | 142 | 185 | 150 | 18 | 126 | 2 | 8 | 19 | 190 | 152.5 | 19.1 | 127 | 1.6 | 4 | 19 | 17 | 400 | 18.9 |
| 100 | 102 | 76 | 229 | 152 | 210 | 175 | 18 | 151 | 2 | 8 | 19 | 229 | 190.5 | 23.9 | 157 | 1.6 | 8 | 19 | 17 | 400 | 31.5 |
| 125 | 127 | 102 | 254 | 178 | 250 | 210 | 20 | 182 | 2 | 8 | 23 | 254 | 216.0 | 23.9 | 186 | 1.6 | 8 | 22 | 22 | 700 | 37.5 |
| 150 | 152 | 127 | 267 | 252 | 280 | 240 | 22 | 212 | 2 | 8 | 23 | 279 | 241.5 | 25.4 | 216 | 1.6 | 8 | 22 | 27 | 1100 | 54.9 |
| 200 | 203 | 152 | 292 | 272 | 330 | 290 | 22 | 262 | 2 | 12 | 23 | 343 | 298.5 | 28.6 | 270 | 1.6 | 8 | 22 | 27 | 1100 | 73 |
| 250 | 254 | 203 | 330 | 342* | 400 | 355 | 24 | 324 | 2 | 12 | 25 | 406 | 362.0 | 30.2 | 324 | 1.6 | 12 | 25 | 32 | 1500 | 121.5 |
| 300 | 305 | 254 | 610 | * | 445 | 400 | 24 | 368 | 3 | 16 | 25 | 483 | 432.0 | 31.8 | 381 | 1.6 | 12 | 25 | – | – | 280.0 |

* For worm gear operator, see the drawing.

### E0802 (JIS 20K Flange) (ANSI 300lb Flange)

(mm)

| Nominal Diameter (mm) | $d_1$ | $d_2$ | L | H | JIS 20K Flange Size | | | | | | | ANSI 300lb Flange Size | | | | | | | h | W | Weight (kg) Approx |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | D | C | t | g | Rise | N | m | D | C | t | g | Rise | N | m | | | |
| 80 | 76 | 64 | 283 | 142 | 200 | 160 | 22 | 132 | 2 | 8 | 23 | 210 | 168 | 28.6 | 127 | 1.6 | 8 | 22 | 17 | 400 | 34.2 |
| 100 | 102 | 76 | 305 | 152 | 225 | 185 | 24 | 160 | 2 | 8 | 23 | 254 | 200 | 31.8 | 157 | 1.6 | 8 | 22 | 17 | 400 | 38.2 |
| 125 | 127 | 102 | 381 | 178 | 270 | 225 | 26 | 195 | 2 | 8 | 25 | 279 | 235 | 35.0 | 186 | 1.6 | 8 | 22 | 22 | 700 | 51.8 |
| 150 | 152 | 127 | 403 | 252 | 305 | 260 | 28 | 230 | 2 | 12 | 25 | 318 | 270 | 36.6 | 216 | 1.6 | 12 | 22 | 27 | 1100 | 67.1 |
| 200 | 203 | 152 | 419 | 272 | 350 | 305 | 30 | 275 | 2 | 12 | 25 | 381 | 330 | 41.3 | 270 | 1.6 | 12 | 25 | 27 | 1100 | 94.5 |
| 250 | 254 | 203 | 457 | 342* | 430 | 380 | 34 | 345 | 2 | 12 | 27 | 444 | 387.5 | 47.7 | 324 | 1.6 | 16 | 29 | 32 | 1500 | 144.0 |

* For worm gear operator, see the drawing.

(Caution) Special precautions are required to be taken in flushing and handling a valve for oxygen and hydrogen peroxide. The standard type is not applicable. Please consult with us.

# 压力与温度比对表

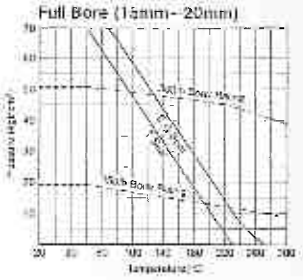
## Seat Rating

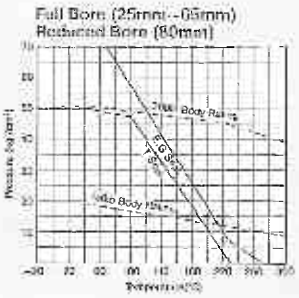
OM type ball valves have a range of their applications defined by temperature and pressure.
The seat is available in two types by material: one of them should be selected according to the working temperature.

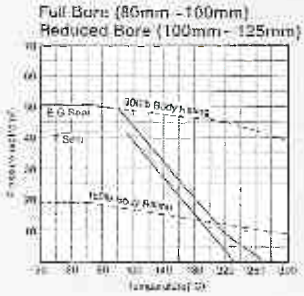
For higher temperature and pressure exceeding the limits shown here consult your KTM distributor or the factory.

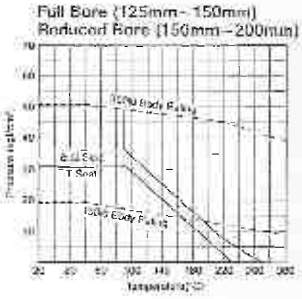
- For selection in the zone marked with slant lines, E0125 and E0821 with JIS 10K 150lb and E0126 and E0822 (trunnion mounted type) with JIS20K 300lb are available.
- Body ratings given in the above table conform to ANSI B16.34 1977 stainless steel and seat rating is to BS5351-1976.

(seat rating of 250mm full bore and 300mm reduced bore is ITM's own rating.)



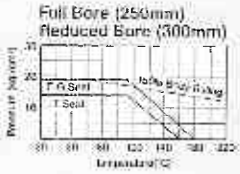



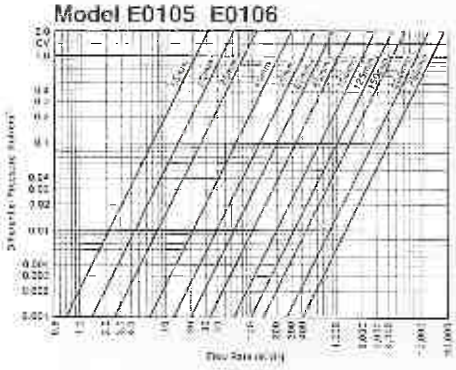



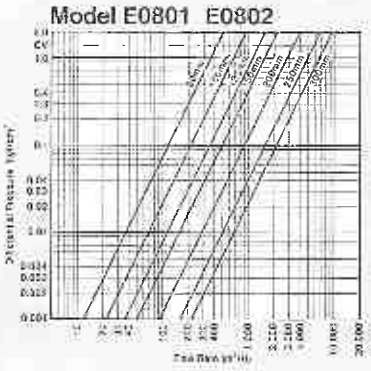


T Seat: T.F.E. (Teflon)
E Seat: Reinforced T.F.E.
G Seat: Reinforced T.F.E.




## Differential Pressure/ Flow Ratings




The flow indicated by a crossing with the Cv line represents a fully opened Cv value.

## Test Pressure

**Model E0105 (10K, 150lb)** (kgf/cm²)

| Rating | 10K | | 150lb | | |
|---|---|---|---|---|---|
| Nominal Diameter | Body | Seat | Body | Seat | |
| | | | | T | E.G |
| 15 ~ 200 mm | 24 | 15 | 32[30] | 23 | 23 |
| 250 mm | 24 | 15 | 32[30] | 15 | 21 |

**Model E0801 (10K, 150lb)** (kgf/cm²)

| Rating | 10K | | 150lb | | |
|---|---|---|---|---|---|
| Nominal Diameter | Body | Seat | Body | Seat | |
| | | | | T | E.G |
| 80 ~ 250 mm | 24 | 15 | 32[30] | 23 | 23 |
| 300 mm | 24 | 15 | 32[30] | 15 | 21 |

**Model E0106 (20K, 300lb)** (kgf/cm²)

| | 20K | | | 300lb | | |
|---|---|---|---|---|---|---|
| Nominal Diameter | Body | Seat | | Body | Seat | |
| | | T | E.G | | T | E.G |
| 15 ~ 65 mm | 58 | 40 | 40 | 80[78] | 51 | 59 |
| 80 ~ 100 mm | 58 | 40 | 40 | 80[78] | 42 | 56 |
| 125 ~ 150 mm | 58 | 30 | 35 | 80[78] | 31 | 36 |
| 200 mm | 58 | 25 | 30 | 80[78] | 25 | 30 |

**Model E0802 (20K, 300lb)** (kgf/cm²)

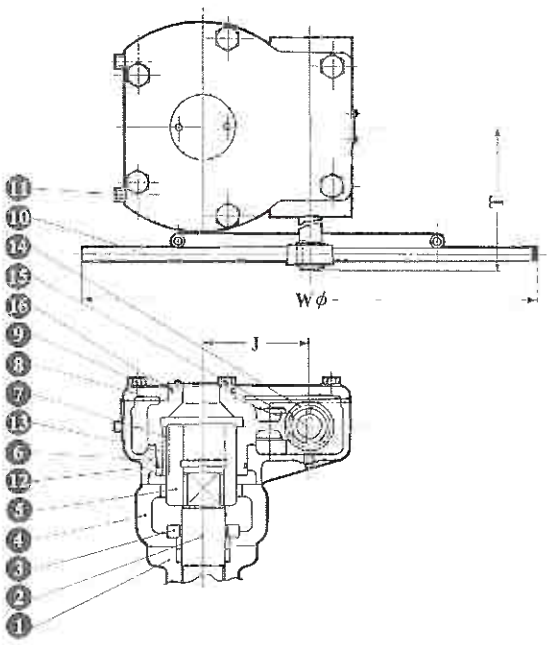
| Rating | 20K | | | 300lb | | |
|---|---|---|---|---|---|---|
| Nominal Diameter | Body | Seat | | Body | Seat | |
| | | T | E.G | | T | E.G |
| 80 mm | 58 | 40 | 40 | 80[78] | 51 | 59 |
| 100 ~ 125 mm | 58 | 40 | 40 | 80[78] | 42 | 56 |
| 150 ~ 200 mm | 58 | 30 | 35 | 80[78] | 31 | 36 |
| 250 mm | 58 | 25 | 30 | 80[78] | 25 | 30 |

• Test pressure shown in [ ] is for type 304 and 315 stainless steel.

## Accessories

### Worm Gear Operator

The gear operator, which is of completely enclosed type, may be employed in outdoor piping without any problem. A combination of worm with sector gear permits the control to be operated lightly.
Valve in size 250mm Full bore and 300mm Reduced bore is supplied with worm gear operator as standard.
The gear operator is optionally mountable onto Full Bore Type 65mm thru 200mm and Reduced Bore Type 80mm thru 250mm.




### Table of Materials

| No. | Part | Material |
|---|---|---|
| 1 | Valve Body | – |
| 2 | Valve Stem | – |
| 3 | Grand Flange | – |
| 4 | York | Ductile Iron |
| 5 | Connector | Carbon Steel |
| 6 | Gear Housing | Cast Iron |
| 7 | Key | Carbon Steel |
| 8 | Cover | Cast Iron |
| 9 | Cover Bolt | Carbon Steel |
| 10 | Hand Wheel | STEEL |
| 11 | Adjustment Screw | Carbon Steel |
| 12 | O-ring | NBR |
| 13 | Worm Wheel | Ductile Iron |
| 14 | Worm | Carbon Steel |
| 15 | Shaft | Carbon Steel |
| 16 | O-ring | NBR |

| Nominal Diameter of Applicable Valve | | Type of Enclosed Gear Operator | Dimensions | | |
|---|---|---|---|---|---|
| Full Bore Type | Reduced Bore Type | | T | J | W |
| 65 · 80 · 100 | 80 · 100 · 125 | $A_0$ | 180 | 55 | 300 |
| 125 · 150 | 150 · 200 | A | 240 | 85 | 450 |
| 200 · 250 | 250 · 300 | $B_1$ | 350 | 115.5 | 600 |

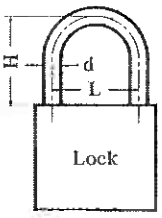
### Lever

The OM type ball valve has its operation lever classified into three types by valve nominal diameter, with an operating torque taken into account. It is made of the metal which will neither be molten nor deformed even if overheated in a fire or the like.

| Shape (material) | E0105, E0106 Nominal diameter | E0801, E0802 Nominal diameter |
|---|---|---|
| Carbon Steel | 15 ~ 50mm | · · · |
| Ductile Iron | 65 ~ 80mm | 80 ~ 100mm |
| Steel Pipe / Ductile Iron | 100 ~ 200m | 125 ~ 250mm |

### Pad Lock Size

To lock the OM type ball valve, employ the pad lock having a size as specified below.




### Table of Dimensions

| Valve Nominal Diameter | Key Hole | Pad Lock Size d | Pad Lock Size L | Pad Lock Size H | Reference (Nominal pad lock diameter alpha number) |
|---|---|---|---|---|---|
| 15mm | 6 | 4.5 | 16 | 11.5 | 1000–25m/m |
| 20~25mm | 6 | 5 | 19 | 15 | 1000–30m/m |
| 40~50mm | 8 | 6 | 27 | 24 | 1000–40m/m |
| 65~100mm | 10 | 6 | 30 | 27 | 1000–45m/m |
| 125~200mm | 10 | 6 | 30 | 27 | 1000–45m/m |

### Nomemclature, Model Number

OM type ball valves carry a model number comprising the type, pressure classification and part materials on a product by product basis. When placing an order with us, please quote the model number to consult with us.

MODEL E 0000 00,0
① ② ③

① Valve Type Code
E0000-00.0
E is the code representing a type of the ball valve.

② Model Number (pressure Rating classification)
E0105-00.0 Full bore type, 10K, 150lb
E0106-00.0 Full bore type, 20K, 300lb
E0801-00.0 Reduced bor type, 10K, 150lb
E0802-00.0 Reduced bor type, 20K, 300lb

Face to face dimensions to ANSI B16.10
(DIN standards are also available.)

③ Part Material Code
E0000-62.1, -62.2 Cast steel body combined with the parts made of standard materials.
E0000-31.1 Type 304 Stainless Steel body combined with the parts made of standard materials.
E0000-32.1 Type 316 Stainless Steel Body combined with the parts made of standard materials.

(See the table of standard materials.)

# 高压大型球阀规格

# HIGH PRESSURE/LARGE-SIZE BALL VALVES SPECIFICATIONS

For inquiries, please indicate the following specifications.

## SPECIFICATIONS

1. Fluid
   1) Name of fluid
   2) Properties of fluids (especially, whether a corrosive ingredient or a slurry is contained
   3) Temperature range (°C)
   4) Pressure range (valve-differential pressure)
   5) Flow rate ($m^3$/hr)
2. Installation location (environmental conditions)
3. Ambient temperature (°C)
4. Application (ON-OFF, emergency shut of, adjustment)
5. Operation frequency

## VALVE SPECIFICATIONS

1. Nominal piping diameter
2. Type of bore (Full, reduced, through-conduit)
   (Note: In the case of a through-conduit type, specify the internal diameter tolerance and finish.)
3. Pressure class
4. End connection standard
   1) Flange standard
   2) Requirement of raised face
   3) Serration requirement
   4) Butt weld (Specify dimensions or standard)
5. Sealing system
   1) Single seal (Standard)
   2) Double seal
   (Note: for double seal, indicate if a relief valve is required)
6. Sealant injection structure requirement
   1) Injection microhose requirement
7. Vent valve requirement
8. Stem extension requirement
   1) When required, specify the dimension.

## OPERATING SYSTEMS

1. Manual operation system
   1) Lever handle
   2) Gear operator
2. Automatic operator system
   1) Pneumatic (gas) type
   2) Hydraulic type
   3) Gas-Hydraulic type
   4) Electric motor type
   5) Electric/hydraulic type
3. Emergency shut-off requirement
4. Operating means
   1) Air pressure, gas pressure (pressure range)
   2) Hydraulic (pressure range)
   3) Electric power (AC or DC, phase, frequency, waterproof, explosionproof structure requirement, explosion proof class)
5. Signalling system
   1) Air signals
   2) Electrical signals
6. Remote opening indication
   1) Selsyn
   2) Potentiometer type
7. Operating panel requirement

# MODEL NUMBER CODE SYSTEM

EX. E0105 - 62·1 H A15 S 250mm

❶ ❷ ❸ ❹ ❺ ❻

## ❶ MODEL INDICATION (Bore, classified by pressure class)

| Model | Type |
|---|---|
| E0105 | Full bore, CLASS 125, 150 |
| E0106 | Full bore, CLASS 300 |
| E0107 | Full bore, CLASS 400 |
| E0108 | Full bore, CLASS 600 |
| E0109 | Full bore, CLASS 900 |
| E0110 | Full bore, CLASS 1500 |
| E0801 | Reduced bore, CLASS 125, 150 |
| E0802 | Reduced bore, CLASS 300 |
| E0803 | Reduced bore, CLASS 400 |
| E0804 | Reduced bore, CLASS 600 |
| E0807 | Reduced bore, CLASS 900 |
| E0808 | Reduced bore, CLASS 1500 |

## ❷ STANDARD BODY/PARTS MATERIAL COMBINATION CODE

| Material Code | Specification |
|---|---|
| 11·1 | Body: cast iron, ball: CAST IRON + Hcr plate |
| 11·2 | Body: cast iron, ball: WCB (steel) + Hcr plate |
| 11·3 | Body: cast iron, ball: CF8 (stainless steel) |
| 31·1 | Body: CF8 (stainless steel) standerd parts assembly |
| 32·1 | Body: CF8M (stainless steel) standerd parts assembly |
| 62·1 | Body: WCB (cast steel), ball: WCB + Hcr plate |
| 62·3 | Body: WCB (cast steel), ball: CF8 (stainless steel) |
| 62·5 | Body: WCB (ASTM cast steel), ball: CF8M (ASTM stainless steel) |
| 62·7 | Body: WCB (ASTM cast steel), ball: WCB + Hcr<br>NACE (anti-sulfuration) specifications |
| 62·9 | Body: WCB (ASTM cast steel), ball: WCB + ENP plate<br>Major component E.N.P. (electroless) plate specifications |
| 50·1 | Body: LCB (Low-temperature-use cast steel),<br>ball: LCB + Hcr plate<br>Low-temperature-use specifications |

## ❸ SEAT MATERIAL

T: TFE seat
H: Reinforced TFE seat
(NBR: N.B.R. seat)

## ❹ FLANGE STANDARD

A12: ANSI 125LB
A15: ANSI 150LB
A30: ANSI 300LB
A40: ANSI 400LB
A60: ANSI 600LB
A90: ANSI 900LB
A150: ANSI 1500LB
J10: JIS 10K
J20: JIS 20K

## ❺ FINISH OF FLANGE SURFACE

F: Flat face
R: Raised face
S: Serration
R. T. J.: Ring joint

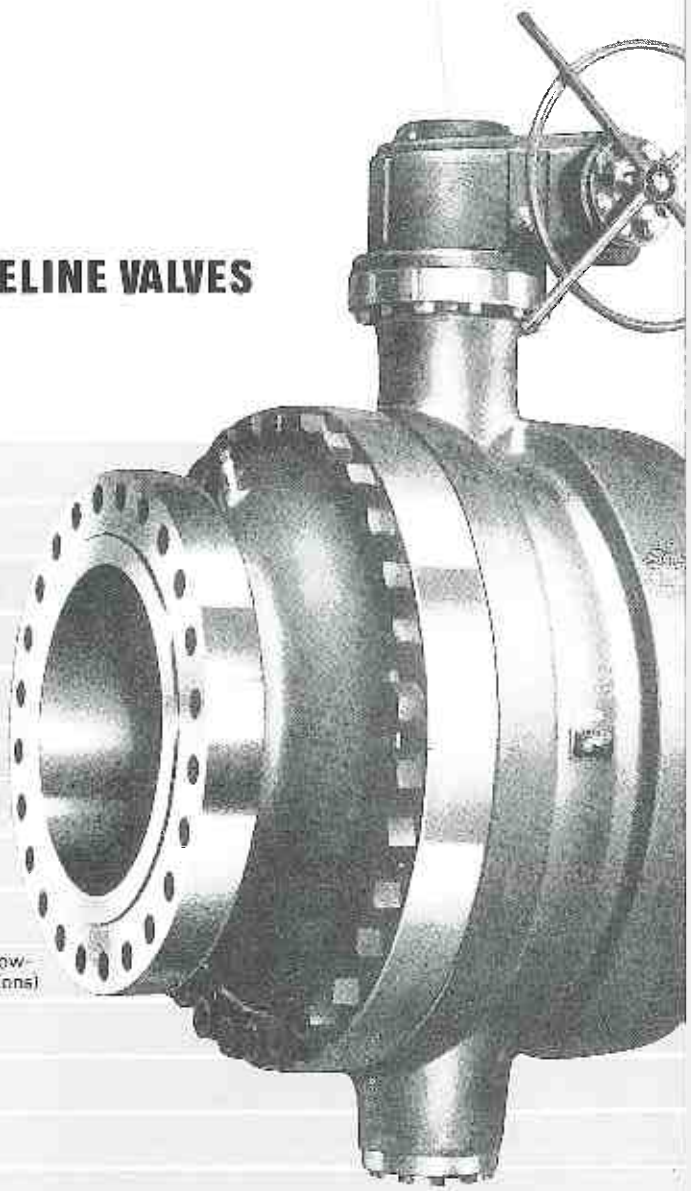
## ❻ NOMINAL VALVE SIZE

250mm (Expressed in millimeters)

# 高压大型球阀

# KTM® HIGH PRESSURE LARGE-SIZE BALL VALVES STANDARDIZED IN TWO TYPES OF APPLICATION-PIPELINE AND GENERAL PURPOSE USE

## PIPELINE VALVES



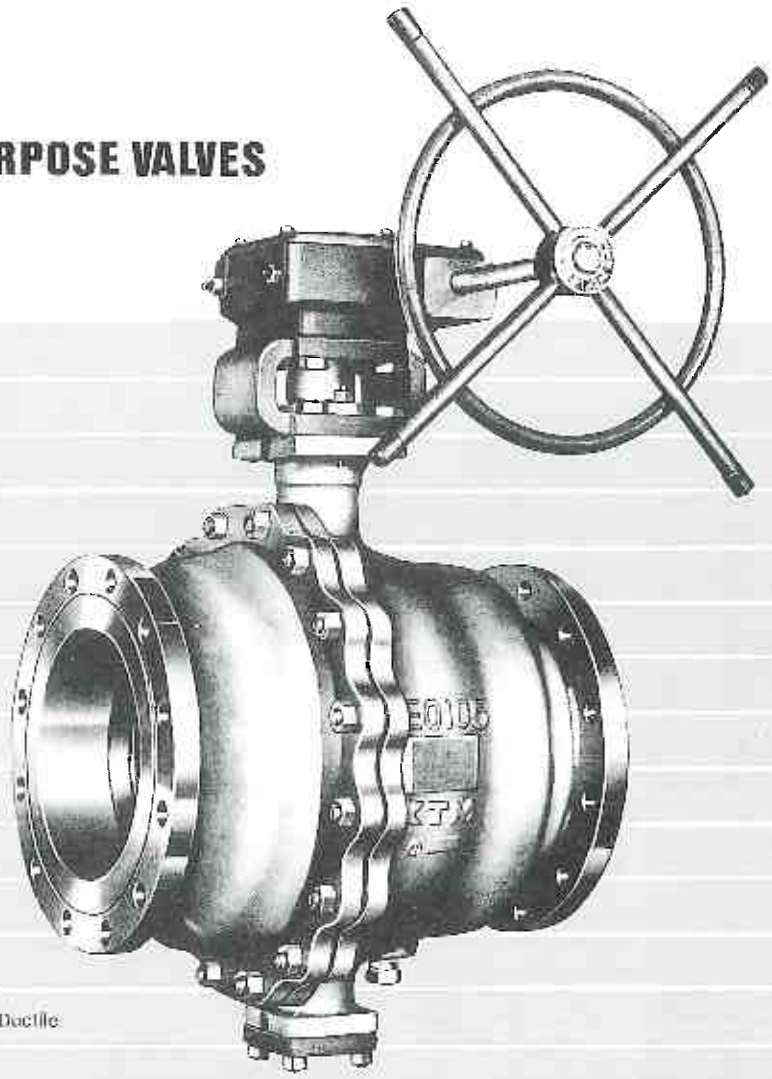
■ **Functions**

| | | ●Symbol Mark |
|---|---|---|
| 1. | Block & Bleed (Option) | (Vent valve) |
| 2. | Self-relief feature | (Single-seal) |
| 3. | Tight shut-off | |
| 4. | Fire-safe | (Seat and gland assembly) |
| 5. | Through-conduit (Option) | |
| 6. | Quick seal recovery (Sealant injection) (Option) | |
| 7. | Seat seal design (Single/Double) (Option) | (Single/Double seal) |
| 8. | Sealing of gland assembly (Gland seal material) | (Double seal) O-ring |
| 9. | Drain plug (Bleed port) | |
| 10. | Extensions | (For underground or low-temperature installations) |
| 11. | Operators (Option) | |
| 12. | End connection (Flange, butt-weld) | |
| 13. | Body material | (Carbon steel) |
| 14. | Seat materials (TFE, reinforced TFE, *synthetic rubber) | |
| 15. | Control systems | |
| 16. | Operational reliability | |
| 17. | Resistance to piping stress. | |

* Please consult us for synthetic rubber seat materials.

KTM introduces its comprehensive line-up of high-pressure, large-bore ball valves used for pipelines and general processes. They have been designed based on our valve manufacturing experience accumulated over many years, in conformity with high-pressure gas control laws and maintenance regulations in Japan as well as related overseas standards.
Since differences exist in the structures of high pressure, large-size valves for pipelines and for general processes, they are standardized in two categories. The valves for pipelines in particular are designed based on our in-depth studies on the strength, safety and resistance against various piping stresses. The gear operator, electric motor and cylinder actuator as valve operators are also standardized. Contact us for information on the various control systems.

# GENERAL PURPOSE VALVES



● **Symbol Mark**


Gland part as semi-equipped

Single

Teflon-asbestos

Length selected based on temperature

Butt welding as semi-equipped

Stainless and carbon steel for pipe lines Ductile

# BASIC DESIGN
(SUBJECT TO CHANGE WITHOUT NOTICE)

球阀基本设计

## STANDARD FACE-TO FACE DIMENSION
Conforms to ANSI Std. B16. 10-1973 and API 6D-1977

## Flange standard
Conforms to JIS and ANSI B16. 5-1977

## Operating temperature
−45°C to 150°C

## Pressure rating

The maximum pressures given above are for normal temperatures, for high temperature ranges refer to page 24.

### API 6D Standards

| CLASS | Maximum operating pressure | | Seat Test Pressure | | Body shell pressure | |
|---|---|---|---|---|---|---|
| | kgf/cm² | psi | kgf/cm² | psi | kgf/cm² | psi |
| 125 | 11 | 150 | 13 | – | 17 | 230 |
| 150 | 19.4 | 275 | 21 | 300 | 30 | 425 |
| 300 | 51 | 720 | 56 | 800 | 77 | 1100 |
| 400 | 68 | 980 | 75 | 1060 | 102 | 1450 |
| 600 | 102 | 1440 | 113 | 1600 | 153 | 2175 |
| 900 | 152 | 2160 | 169 | 2400 | 229 | 3250 |
| 1500 | 253 | 3600 | 281 | 4000 | 380 | 5400 |

### JIS Standards

| PRESSURE | Maximum operating pressure | Seat test pressure | Body shell pressure |
|---|---|---|---|
| | 10kgf/cm² | 10kgf/cm² | 10kgf/cm² |
| 10kgf/cm² CAST IRON | 11 | 15 | 20 |
| 10kgf/cm² WCB · CF8 | 14 | 15 | 24 |
| 20kgf/cm² | 36 | 40 | 58 |

### Standard production range

Note) T: TFE H: Reinforced TFE

| CLASS | 125 | | 150 | | 300 | | 400 | | 600 | | 900 | | 1500 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Body Matellals | CAST IRON | | CF8 CF8M WCB LCB | | CF8 CF8M WCB LCB | | CF8 CF8M WCB LCB | | CF8 CF8M WCB LCB | | CF8 CF8M WCB LCB | | CF8 CF8M WCB LCB | |
| Seat | T·H | | T·H | | H | | H | | H | | H | | H | |
| Flange Standard | ANSI 125 | JIS 10 | ANSI 150 | JIS 10 | ANSI 300 | JIS 20 | ANSI 400 | JIS | ANSI 600 | JIS 40 | ANSI 900 | JIS 63 | ANSI 1500 | |
| 15 X 15 | | | △ | △ | △ | △ | ○ | | ○ | ○ | ○ | ○ | ○ | |
| 20 X 20 | | | △ | △ | △ | △ | ○ | | ○ | ○ | ○ | ○ | ○ | |
| 25 X 25 | | | △ | △ | △ | △ | ○ | | ○ | ○ | ○ | ○ | ○ | |
| 40 X 40 | | | △ | △ | △ | △ | ○ | | ○ | ○ | ○ | ○ | ○ | |
| 50 X 50 | | | △ | △ | △ | △ | ○ | | ○ | ○ | ○ | ○ | ○ | |
| 80 X 50 | | | △ | △ | △ | △ | ○ | | ○ | ○ | ○ | ○ | ○ | |
| 80 X 80 | | | △ | △ | △ | △ | ○ | | ○ | ○ | ○ | ○ | ○ | |
| 100 X 80 | | | △ | △ | △ | △ | ○ | | ○ | ○ | ○ | ○ | ○ | |
| 100 X 100 | | | △ | △ | △ | △ | ○ | | ○ | ○ | ○ | ○ | ○ | |
| 150 X 100 | | | △ | △ | △ | △ | ○ | | ○ | ○ | ○ | ○ | ○ | |
| 150 X 150 | | | △ | △ | △ | △ | ○ | | ○ | ○ | ○ | ○ | ○ | |
| 200 X 150 | | | △ | △ | △ | △ | ○ | | ○ | ○ | ○ | ○ | ○ | |
| 200 X 200 | | | △ | △ | △ | △ | ○ | | ○ | ○ | ○ | ○ | ○ | |
| 250 X 200 | | | △ | △ | △ | △ | ○ | | ○ | ○ | ○ | ○ | ○ | |
| 250 X 250 | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | ○ | ○ | ○ | ○ | ○ | |
| 300 X 250 | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | ○ | ○ | ○ | ○ | ○ | |
| 300 X 300 | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | ○ | ○ | ○ | ○ | ○ | |
| 350 X 300 | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | ○ | ○ | ○ | ○ | ○ | |
| 350 X 350 | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | ○ | ○ | ○ | ○ | ○ | |
| 400 X 350 | ○ | ○ | ○ | ○ | ○ | ○ | ○ | | ○ | ○ | ○ | ○ | ○ | |
| 400 X 400 | | | ○ | ○ | ○ | ○ | ○ | | ○ | ○ | ○ | ○ | ○ | |
| 450 X 400 | | | ○ | ○ | ○ | ○ | ○ | | ○ | | ○ | | ○ | |
| 450 X 450 | | | ○ | ○ | ○ | ○ | ○ | | ○ | | ○ | | ○ | |
| 500 X 450 | | | ○ | ○ | ○ | ○ | ○ | | ○ | | ○ | | ○ | |
| 500 X 500 | | | ○ | ○ | ○ | ○ | ○ | | ○ | | ○ | | ○ | |
| 550 X 550 | | | ◉ | ◉ | ◉ | | | | | | | | | |
| 600 X 500 | | | ○ | ○ | ○ | | ○ | | ○ | | ○ | | ○ | |
| 600 X 600 | | | ◉ | ◉ | ◉ | | ◉ | | ◉ | | ◉ | | ◉ | |
| 650 X 650 | | | ◉ | ◉ | ◉ | | | | ◉ | | | | | |
| 700 X 600 | | | ◉ | ◉ | ◉ | | | | ◉ | | | | | |
| 700 X 700 | | | ◉ | ◉ | ◉ | | | | ◉ | | | | | |
| 750 X 600 | | | ◉ | ◉ | ◉ | | | | ◉ | | | | | |
| 750 X 750 | | | ◉ | ◉ | ◉ | | | | ◉ | | | | | |
| 900 X 750 | | | ◉ | ◉ | ◉ | | | | | | | | | |

△ General-use OM model ball valve production range ○2 PIECE BODY ◉3 PIECE BODY

# CLASS 125, 150
# Nominal Size 250 - 900 mm
# Flange : JIS 10K, ANSI 150Lb

## MODEL E0105
(CLASS 125, 150 Full Bore)

## MODEL E0801
(CLASS 125, 150 Reduced Bore)

### PRINCIPAL MATERIAL

| CLASS | 125 | 150 | |
|---|---|---|---|
| Body | CAST IRON | CF8 | CF8M |
| Ball | CAST IRON, others | CF8 | CF8M |
| Stem | A276TP410 | A276TP304 | A276TP316 |
| Seat | Reinforced T.F.E | Reinforced T.F.E | |

### FUNCTION

- B.B Block & Bleed
- Self-relief feature
- Tight shut-off
- Drain plug
- Extensions
- Operators
- End connection
- Body material
- Seat materials
- C.S Control systems
- Operational reliability
- Resistance to piping stress

The cast iron valves of ANSI-125Lb and JIS-10K flanges have flat faces as a standard.

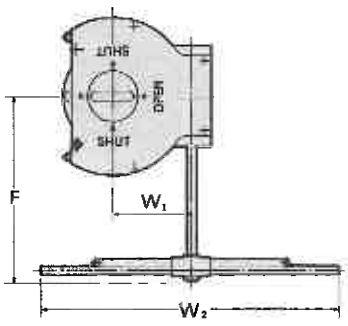
### CLASS 125 (cast iron) dimension table (mm)

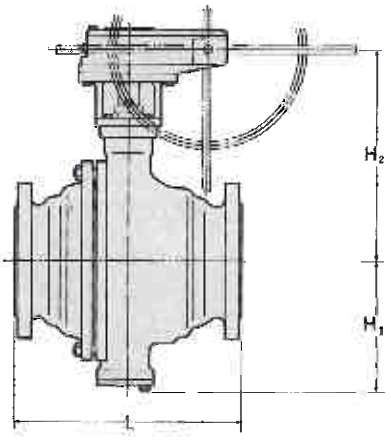
| Nominal Size | Ball bore | L (RF) | $H_1$ | $H_2$ | $W_1$ | $W_2$ | F | Weight (kgf) |
|---|---|---|---|---|---|---|---|---|
| 2 Piece Body | | | | | | | | |
| 250X250 | 254 | 533 | 330 | 495 | 116 | 600 | 350 | 320 |
| 300X250 | 254 | 610 | 330 | 495 | 116 | 600 | 350 | 360 |
| 300X300 | 305 | 610 | 380 | 580 | 171 | 800 | 420 | 480 |
| 350X300 | 305 | 686 | 380 | 580 | 171 | 800 | 420 | 540 |
| 350X350 | 337 | 686 | 425 | 625 | 171 | 800 | 420 | 590 |
| 400X350 | 337 | 762 | 425 | 625 | 171 | 800 | 420 | 680 |

### CLASS 150 (stainless steel) dimension table (mm)

| Nominal Size | Ball bore | L (RF) | $H_1$ | $H_2$ | $W_1$ | $W_2$ | F | Weight (kgf) |
|---|---|---|---|---|---|---|---|---|
| 2 Piece Body | | | | | | | | |
| 250X250 | 254 | 533 | 335 | 495 | 116 | 600 | 350 | 240 |
| 300X250 | 254 | 610 | 335 | 495 | 116 | 600 | 350 | 295 |
| 300X300 | 305 | 610 | 385 | 580 | 171 | 800 | 420 | 390 |
| 350X300 | 305 | 686 | 385 | 580 | 171 | 800 | 420 | 470 |
| 350X350 | 337 | 686 | 430 | 625 | 171 | 800 | 420 | 510 |
| 400X350 | 337 | 762 | 430 | 625 | 171 | 800 | 420 | 590 |
| 400X400 | 387 | 762 | 470 | 720 | 257 | 800 | 400 | 750 |
| 450X400 | 387 | 864 | 470 | 720 | 257 | 800 | 400 | 780 |
| 450X450 | 438 | 864 | 518 | 767 | 257 | 800 | 400 | 980 |
| 500X450 | 438 | 914 | 518 | 767 | 257 | 800 | 400 | 1030 |
| 500X500 | 489 | 914 | 590 | 840 | 257 | 800 | 400 | 1190 |
| 600X500 | 489 | 1067 | 555 | 840 | 257 | 800 | 400 | 1570 |
| 3 Piece Body | | | | | | | | |
| 550X550 | 540 | 1016 | 635 | 990 | 150 | 800 | 410 | 1700 |
| 600X600 | 591 | 1067 | 700 | 1050 | 150 | 800 | 410 | 2100 |
| 650X650 | 635 | 1143 | 725 | 1090 | 83 | 800 | 650 | 2500 |
| 700X600 | 591 | 1245 | 700 | 1050 | 150 | 800 | 410 | 2400 |
| 700X700 | 688 | 1245 | 780 | 1150 | 83 | 800 | 650 | 3000 |
| 750X600 | 591 | 1295 | 700 | 1050 | 150 | 800 | 410 | 2700 |
| 750X750 | 737 | 1295 | 825 | 1210 | 83 | 800 | 650 | 3500 |
| 900X750 | 737 | 1524 | 825 | 1210 | 83 | 800 | 650 | 4000 |

■ Two Piece Body



# Class 150, 300
# Nominal Size: 250 - 900 mm
# Flange: JIS 10K, 20K, ANSI 150Lb, 300Lb

## MODEL E0105
(CLASS 150 Full Bore)

## MODEL E0801
(CLASS 150 Reduced Bore)

## MODEL E0106
(CLASS 300 Full Bore)

## MODEL E0802
(CLASS 300 Reduced Bore)

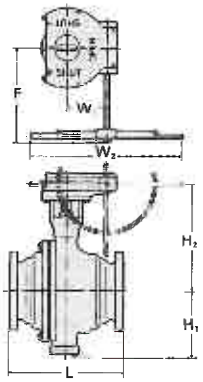
### PRINCIPAL MATERIALS

| Parts \ Application | General use | Low Tem-Perature use |
|---|---|---|
| Body | A216(G)WCB | A352(G)LCB |
| Ball | See main part materials tables (16) | |
| Stem | A276TP410 Hcr | A276TP403 Hcr |
| Seat | Reinforced TFE | Reinforced TFE |

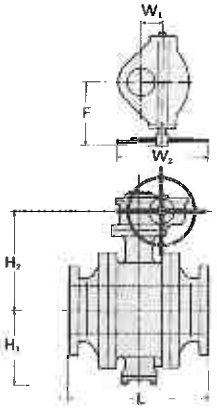
### FUNCTION

- B.B Block & Bleed
- Self-relief feature
- Tight shut-off
- Fire-safe
- Through-conduit
- Quick seal recovery
- Seat seal design
- Sealing of gland assembly
- Drain plug
- Extensions
- Operators
- End connection
- Body material
- Seat materials
- Control systems
- Operational reliability
- Resistance to piping stress

■ Two Piece Body




■ Three Piece Body




### CLASS 150 (carbon steel) dimension table (mm)

| Nominal Size | Ball bore | L (RF) | $H_1$ | $H_2$ | $W_1$ | $W_2$ | F | Weight (kgf) |
|---|---|---|---|---|---|---|---|---|
| 2 Piece Body | | | | | | | | |
| 250X250 | 254 | 533 | 325 | 405 | 116 | 600 | 350 | 300 |
| 300X250 | 254 | 610 | 325 | 405 | 116 | 600 | 350 | 310 |
| 300X300 | 305 | 610 | 365 | 455 | 171 | 800 | 420 | 445 |
| 350X300 | 305 | 686 | 365 | 455 | 171 | 800 | 420 | 470 |
| 350X350 | 337 | 686 | 400 | 490 | 171 | 800 | 420 | 550 |
| 400X350 | 337 | 762 | 400 | 490 | 171 | 800 | 420 | 590 |
| 400X400 | 387 | 762 | 440 | 550 | 257 | 800 | 400 | 810 |
| 450X400 | 387 | 864 | 440 | 550 | 257 | 800 | 400 | 830 |
| 450X450 | 438 | 864 | 500 | 620 | 257 | 800 | 400 | 1020 |
| 500X450 | 438 | 914 | 500 | 620 | 257 | 800 | 400 | 1040 |
| 500X500 | 489 | 914 | 555 | 680 | 257 | 800 | 400 | 1280 |
| 600X500 | 489 | 1067 | 555 | 680 | 257 | 800 | 400 | 1650 |
| 3 Piece Body | | | | | | | | |
| 550X550 | 540 | 1016 | 635 | 806 | 150 | 800 | 410 | 1760 |
| 600X600 | 591 | 1067 | 700 | 870 | 150 | 800 | 410 | 2200 |
| 650X650 | 635 | 1143 | 725 | 900 | 83 | 800 | 650 | 2600 |
| 700X600 | 591 | 1245 | 700 | 870 | 150 | 800 | 410 | 2500 |
| 700X700 | 686 | 1245 | 780 | 955 | 83 | 800 | 650 | 3100 |
| 750X600 | 591 | 1295 | 700 | 870 | 150 | 800 | 410 | 2800 |
| 750X750 | 737 | 1295 | 825 | 1010 | 83 | 800 | 650 | 3600 |
| 900X750 | 737 | 1524 | 825 | 1010 | 83 | 800 | 650 | 4100 |

### CLASS 300 (carbon steel) dimension table (mm)

| Nominal Size | Ball bore | L (RF) | $H_1$ | $H_2$ | $W_1$ | $W_2$ | F | Weight (kgf) |
|---|---|---|---|---|---|---|---|---|
| 2 Piece Body | | | | | | | | |
| 250X250 | 254 | 568 | 325 | 405 | 116 | 800 | 350 | 365 |
| 300X250 | 254 | 648 | 325 | 405 | 116 | 800 | 350 | 380 |
| 300X300 | 305 | 648 | 365 | 455 | 171 | 800 | 420 | 530 |
| 350X300 | 305 | 762 | 365 | 455 | 171 | 800 | 420 | 580 |
| 350X350 | 337 | 762 | 400 | 490 | 171 | 800 | 420 | 740 |
| 400X350 | 337 | 838 | 400 | 490 | 171 | 800 | 420 | 780 |
| 400X400 | 387 | 838 | 440 | 550 | 257 | 800 | 400 | 1030 |
| 450X400 | 387 | 914 | 440 | 550 | 257 | 800 | 400 | 1010 |
| 450X450 | 438 | 914 | 500 | 620 | 257 | 800 | 400 | 1280 |
| 500X450 | 438 | 991 | 500 | 620 | 257 | 800 | 400 | 1360 |
| 500X500 | 489 | 991 | 555 | 680 | 257 | 800 | 400 | 1540 |
| 600X500 | 489 | 1143 | 555 | 680 | 257 | 800 | 400 | 1950 |
| 3 Piece Body | | | | | | | | |
| 550X550 | 540 | 1092 | 635 | 806 | 150 | 800 | 410 | 2050 |
| 600X600 | 591 | 1143 | 700 | 870 | 150 | 800 | 410 | 2600 |
| 650X650 | 635 | 1245 | 725 | 900 | 83 | 800 | 650 | 3300 |
| 700X600 | 591 | 1346 | 700 | 870 | 150 | 800 | 410 | 3100 |
| 700X700 | 686 | 1348 | 780 | 955 | 83 | 800 | 650 | 3900 |
| 750X600 | 591 | 1397 | 700 | 870 | 150 | 800 | 410 | 3500 |
| 750X750 | 737 | 1397 | 825 | 1010 | 83 | 800 | 650 | 4800 |
| 900X750 | 737 | 1727 | 825 | 1010 | 83 | 800 | 650 | 5400 |

# CLASS 400, 600
# Nominal Size: 50 - 750 mm
# Flange: ANSI 400Lb, 600Lb

## MODEL E0107
(CLASS 400 Full Bore)

## MODEL E0803
(CLASS 400 Reduced Bore)

## MODEL E0108
(CLASS 600 Full Bore)

## MODEL E0804
(CLASS 600 Reduced Bore)

## ■PRINCIPAL MATERIAL

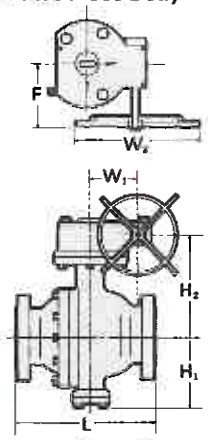
| Parts \ Application | General use | Low Tem-Perature use |
|---|---|---|
| Body | A216(G)WCB | A352(G)LCB |
| Ball | See main part materials tables (pages 16) | |
| Stem | A276TP410 Hcr | A276TP403 Hcr |
| Seat | Reinforced TFE | Reinforced TFE |

## ■FUNCTION

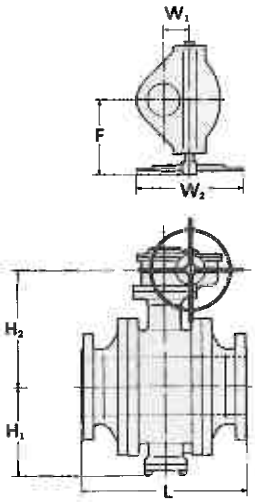
- B.B Block & Bleed
- Self-relief feature
- Tight shut-off
- Fire-safe
- Through-conduit
- Quick seal recovery
- Seat seal design
- Sealing of gland assembly
- Drain plug
- Extensions
- Operators
- End connection
- Body material
- Seat materials
- C.S Control systems
- Operational reliability
- Resistance to piping stress

Note) The double seal can be installed.

■ Two Piece Body




■ Three Piece Body




## ■Class 400 (carbon steel) dimension table (mm)

| Nominal Size | Ball bore | L (RF) | $H_1$ | $H_2$ | $W_1$ | $W_2$ | F | Weight (kgf) |
|---|---|---|---|---|---|---|---|---|
| 2 Piece Body | | | | | | | | |
| 250X250 | 254 | 673 | 370 | 445 | 171 | 800 | 420 | 540 |
| 300X250 | 254 | 762 | 370 | 445 | 171 | 800 | 420 | 660 |
| 300X300 | 305 | 762 | 420 | 515 | 257 | 800 | 400 | 780 |
| 350X300 | 305 | 825 | 420 | 515 | 257 | 800 | 400 | 880 |
| 350X350 | 337 | 825 | 460 | 550 | 257 | 800 | 400 | 1000 |
| 400X350 | 337 | 902 | 460 | 550 | 257 | 800 | 400 | 1100 |
| 400X400 | 387 | 902 | 505 | 615 | 257 | 800 | 400 | 1300 |
| 450X400 | 387 | 978 | 505 | 615 | 257 | 800 | 400 | 1500 |
| 450X450 | 438 | 978 | 560 | 700 | 150 | 800 | 410 | 1700 |
| 500X450 | 438 | 1054 | 560 | 700 | 150 | 800 | 410 | 1900 |
| 500X500 | 489 | 1054 | 630 | 810 | 150 | 800 | 410 | 2100 |
| 600X500 | 489 | 1232 | 630 | 810 | 150 | 800 | 410 | 2700 |
| 600X600 | 591 | 1232 | 685 | 845 | 180 | 800 | 565 | 3400 |

## ■Class 600 (carbon steel) dimension table (mm)

| Nominal Size | Ball bore | L (RF) | $H_1$ | $H_2$ | $W_1$ | $W_2$ | F | Weight (kgf) |
|---|---|---|---|---|---|---|---|---|
| 2 Piece Body | | | | | | | | |
| 250X250 | 254 | 787 | 370 | 445 | 171 | 800 | 420 | 600 |
| 300X250 | 254 | 838 | 370 | 445 | 171 | 800 | 420 | 660 |
| 300X300 | 305 | 838 | 420 | 515 | 257 | 800 | 400 | 820 |
| 350X300 | 305 | 889 | 420 | 515 | 257 | 800 | 400 | 1060 |
| 350X350 | 337 | 889 | 460 | 550 | 257 | 800 | 400 | 1130 |
| 400X350 | 337 | 991 | 460 | 550 | 257 | 800 | 400 | 1440 |
| 400X400 | 387 | 991 | 505 | 615 | 257 | 800 | 400 | 1550 |
| 450X400 | 387 | 1092 | 505 | 615 | 257 | 800 | 400 | 1880 |
| 450X450 | 438 | 1092 | 560 | 700 | 150 | 800 | 410 | 2100 |
| 500X450 | 438 | 1194 | 560 | 700 | 150 | 800 | 410 | 2400 |
| 500X500 | 489 | 1194 | 630 | 810 | 150 | 800 | 410 | 2800 |
| 600X500 | 489 | 1397 | 630 | 810 | 150 | 800 | 410 | 3900 |
| 3 Piece Body | | | | | | | | |
| 600X600 | 591 | 1397 | 825 | 1010 | 83 | 800 | 650 | 5300 |
| 650X650 | 635 | 1448 | 890 | 1100 | 123 | 800 | 800 | 5700 |
| 700X600 | 591 | 1549 | 825 | 1010 | 83 | 800 | 650 | 5600 |
| 700X700 | 686 | 1549 | 970 | 1180 | 123 | 800 | 800 | 6500 |
| 750X600 | 591 | 1651 | 825 | 1010 | 83 | 800 | 650 | 6100 |
| 750X750 | 737 | 1651 | 1050 | 1260 | 123 | 800 | 800 | 7400 |

# CLASS 900, 1500
# Nominal Size: 50-600 mm
# Flange: ANSI 900Lb, 1500Lb

## MODEL E0109
(CLASS 900 Full Bore)

## MODEL E0807
(CLASS 900 Reduced Bore)

## MODEL E0110
(CLASS 1500 Full Bore)

## MODEL E0808
(CLASS 1500 Reduced Bore)

## PRINCIPAL MATERIALS

| Parts \ Application | General use | Low Tem-Perature use |
|---|---|---|
| Body | A216(G)WCB | A352(G)LCB |
| Ball | A216(G)WCB | A352(G)LCB |
| Stem | A276TP410 Hcr | A276TP403 Hcr |
| Seat | Reinforced TFE | Reinforced TFE |

## FUNCTION


## CLASS 900 (carbon steel) dimension table (mm)

| Nominal Size | Ball bore | L (RTJ) | $H_1$ | $H_2$ | $W_1$ | $W_2$ | F | |
|---|---|---|---|---|---|---|---|---|
| 40X40 | 38 | 305 | 139 | 210 | — | *400 | — | |
| 50X40 | 51X38 | 371 | 139 | 210 | — | *400 | — | |
| 50X50 | 51 | 371 | 126 | 217 | — | *700 | — | |
| 80X50 | 76X51 | 384 | 126 | 217 | — | *700 | — | |
| 80X80 | 76 | 384 | 191 | 259 | 116 | 600 | 350 | |
| 100X80 | 102X76 | 460 | 191 | 259 | 116 | 600 | 350 | |
| 100X100 | 102 | 460 | 216 | 297 | 116 | 600 | 350 | |
| 150X100 | 152X102 | 613 | 216 | 297 | 116 | 600 | 350 | |
| 150X150 | 152 | 813 | 270 | 360 | 116 | 600 | 350 | |
| 200X150 | 203X152 | 740 | 270 | 360 | 116 | 600 | 350 | |
| 200X200 | 203 | 740 | 322 | 394 | 171 | 800 | 420 | |
| 250X200 | 254X203 | 841 | 322 | 394 | 171 | 800 | 420 | |
| 250X250 | 254 | 841 | 420 | 502 | 257 | 800 | 400 | |
| 300X250 | 305X254 | 968 | 420 | 502 | 257 | 800 | 400 | |
| 300X300 | 305 | 968 | 470 | 572 | 257 | 800 | 400 | |
| 350X300 | 324X305 | 1038 | 470 | 572 | 257 | 800 | 400 | |
| 350X350 | 324 | 1038 | 510 | 675 | 150 | 800 | 410 | |
| 400X350 | 375X324 | 1140 | 510 | 675 | 150 | 800 | 410 | |
| 400X400 | 375 | 1140 | 600 | 762 | 150 | 800 | 410 | |
| 450X400 | 426X375 | 1232 | 600 | 762 | 150 | 800 | 410 | |
| 450X450 | 426 | 1232 | 700 | 886 | 180 | 800 | 650 | |
| 500X450 | 473X426 | 1334 | 700 | 886 | 180 | 800 | 650 | |
| 500X500 | 473 | 1334 | 720 | 894 | 180 | 800 | 650 | |
| 600X500 | 572X473 | 1569 | 720 | 894 | 180 | 800 | 650 | |
| 600X600 | 572 | 1569 | 810 | 956 | 220 | 800 | 735 | |

*Lever Operator

## CLASS 1500 (carbon steel) dimension table (mm)

| Nominal Size | Ball bore | L (RTJ) | $H_1$ | $H_2$ | $W_1$ | $W_2$ | F | |
|---|---|---|---|---|---|---|---|---|
| 40X40 | 38 | 305 | 139 | 210 | — | *400 | — | |
| 50X40 | 51X38 | 371 | 139 | 210 | — | *400 | — | |
| 50X50 | 51 | 371 | 126 | 217 | — | *700 | — | |
| 80X50 | 76X51 | 473 | 126 | 217 | — | *700 | — | |
| 80X80 | 76 | 473 | 191 | 259 | 116 | 600 | 350 | |
| 100X80 | 102X76 | 549 | 191 | 259 | 116 | 600 | 350 | |
| 100X100 | 102 | 549 | 216 | 297 | 116 | 600 | 350 | |
| 150X100 | 146X102 | 711 | 216 | 297 | 116 | 600 | 350 | |
| 150X150 | 146 | 711 | 296 | 365 | 171 | 800 | 420 | |
| 200X150 | 194X146 | 841 | 296 | 365 | 171 | 800 | 420 | |
| 200X200 | 194 | 841 | 378 | 475 | 257 | 800 | 400 | |
| 250X200 | 241X194 | 1000 | 378 | 475 | 257 | 800 | 400 | |
| 250X250 | 241 | 1000 | 495 | 578 | 257 | 800 | 400 | |
| 300X250 | 289X241 | 1146 | 495 | 578 | 257 | 800 | 400 | |
| 300X300 | 289 | 1146 | 542 | 696 | 150 | 800 | 410 | |
| 350X300 | 318X289 | 1276 | 542 | 696 | 150 | 800 | 410 | |
| 350X350 | 318 | 1276 | 590 | 761 | 150 | 800 | 410 | |
| 400X350 | 362X318 | 1407 | 590 | 761 | 150 | 800 | 410 | |
| 400X400 | 362 | 1407 | 670 | 831 | 180 | 800 | 650 | |
| 450X400 | 395X362 | 1559 | 670 | 831 | 180 | 800 | 650 | |
| 450X450 | 395 | 1559 | 710 | 900 | 220 | 800 | 735 | |
| 500X450 | 440X395 | 1686 | 710 | 900 | 220 | 800 | 735 | |
| 500X500 | 440 | 1686 | 760 | 950 | 220 | 800 | 735 | |
| 600X500 | 528X440 | 1972 | 760 | 950 | 110 | 800 | 735 | |
| 600X600 | 504 | 1972 | 850 | 1080 | 280 | 800 | — | |

*Lever Operator