

Cast Iron Valves

JIS 5K/10K, Class 125



STANDARD PRODUCTION RANGE

| Valve Type | Nominal Pressure | Fig. No. | Construction (Note) | Page |
|--------------|------------------|----------|---------------------|------|
| Gate valves | JIS 5K | 5FCM | B.B./O.S.&Y. | 4 |
| | JIS 10K | 10FCL | B.B./O.S.&Y. | 4 |
| | JIS 10K | 10FCLS | B.B./O.S.&Y. | 4 |
| | JIS 10K | 10FCLU | B.B./O.S.&Y. | 4 |
| | JIS 10K | 10FCWI | B.B./I.S./N.R.S. | 5 |
| | 10K | 10FCHI | B.B./I.S./N.R.S. | 5 |
| | Class 125 | 125FCL | B.B./O.S.&Y. | 6 |
| | Class 125 | 125FCLS | B.B./O.S.&Y. | 6 |
| | Class 125 | 125FCWI | B.B./I.S./N.R.S. | 6 |
| | Class 125 | 125FCHI | B.B./I.S./N.R.S. | 7 |
| Globe valves | JIS 10K | 10FCJ | B.B./O.S.&Y. | 8 |
| | JIS 10K | 10FCJS | B.B./O.S.&Y. | 8 |
| | JIS 10K | 10FCJU | B.B./O.S.&Y. | 8 |
| | Class 125 | 125FCJ | B.B./O.S.&Y. | 8 |
| | Class 125 | 125FCJS | B.B./O.S.&Y. | 8 |
| Check valves | JIS 10K | 10FCO | Bolted cover | 9 |
| | JIS 10K | 10FCOS | Bolted cover | 9 |
| | JIS 10K | 10FCOU | Bolted cover | 9 |
| | Class 125 | 125FCO | Bolted cover | 9 |
| | Class 125 | 125FCOS | Bolted cover | 9 |
| | 10K | 10FWZ | Wafer type | 10 |
| Strainers | 10K | 10FCY | Bolted cover | 10 |
| | Class 125 | 125FCY | Bolted cover | 11 |
| Ball valves | 10K | 10FCT | Full bore | 12 |
| | 10K | 10FCTB | Full bore | 12 |
| | 10K | 10FCTR | Reduced bore | 13 |
| | 10K | 10FCTB2L | Full bore, 3-way | 13 |
| | 10K | 10FCTR2L | Reduced bore, 3-way | 13 |
| | Class 125 | 125FCTB | Full bore | 14 |
| | Class 125 | 125FCTR | Reduced bore | 14 |

Product Coding

EX:

| | | | |
|-----|----|---|---|
| 125 | FC | L | S |
| ↓ | ↓ | ↓ | ↓ |
| 1 | 2 | 3 | 4 |

- 1 Nominal pressure
 125 Class 125
 5 JIS 5K
 10 JIS 10K

- 2 Symbol of shell material
 FC Cast iron
- 3 Type of valve
 L & M Gate valve
 WI & HI ... Gate valve with indicator
 J Globe valve
 O Check valve
 Y Strainer
 TB Full port ball valve
 2L 3-way ball valve

- 4 Trim material
 None Bronze trim
 U 18-8 stainless steel
 S 13Cr stainless steel

NOTE

B.B. Bolted bonnet
 O.S.&Y ... Outside screw & yoke

I.S. Inside screw
 N.R.S. Non-rising stem

Conditions of Fluids and Maximum Permissible Pressures

Unit: MPa

| Standards | | 5K | 10K | | | 10K | | |
|--------------------------------------|---|--------------------------|--|--|-------------------------|--|----------------------|---|
| Nominal pressure | | JIS B2031 | JIS B2031 | | | KITZ standard | | |
| Valve type | | Outside screw gate valve | Outside screw gate valve | Globe valve, Swing check valve | Inside screw gate valve | Valve 350 A or more | FC300 valve | |
| Disc seat structure | | Press-fit seat | Screw seat | Screw seat | Press-fit seat | Screw seat | Press-fit seat | |
| Main section | | CAC406 | CAC 406 13 chrome 18-8 stainless steel | CAC 406 13 chrome 18-8 stainless steel | CAC 406 | CAC 406 13 chrome 18-8 stainless steel | CAC 406 13 chrome | |
| Maximum permissible working pressure | Steady flow below 120 degrees in centigrade | 0.7 | 1.4 | 1.4 | - | 1.4 | 1.0 | |
| | Oil, pulsating flow and water below 120 degrees in centigrade | 0.5 | 1.0 | 1.0 | - | 1.0 | 0.9 | |
| | Saturated steam*1 | 0.2 | 0.7 | 0.7 | - | 0.2 | 0.7 | |
| | Gas below 120 degrees in centigrade*2 | 0.2 | 0.2 | 0.2 | - | 0.2 | 0.2 | |
| | 120 degrees in centigrade | - | - | - | 1.4 | - | - | - |
| | 220 degrees in centigrade | - | - | - | 1.0 | - | - | - |

*1 스틱배관에 사용되며 18-8 스테인리스 강으로 만들어지는 주요 부품들의 경우, Seat 표면에 강화된 금속 피복재를 용접해야 합니다. 스틱사양에 대한 부분도 명시해주시길 바랍니다.
0.5MPa 이상의 압력에서 포화증기(Saturated Steam)에 사용되는 경우 역시 명시해주시길 바랍니다.
*2 고압가스 안전법에 규정된 기체는 제외됩니다. 가스-가연성 및 유독성 가스 이외의 가스입니다.

Basic Design Specifications

| Nominal Pressure | JIS5K/10K | Class 125 | 10K |
|------------------------|------------|--------------|------------|
| Face-to-face dimension | JIS B 2031 | ASME B 16.10 | KITZ Std. |
| End flange dimension | JIS B 2239 | ASME B 16.1 | JIS B 2239 |
| Wall thickness | JIS B 2031 | KITZ Std. | |

Material Specifications for Grey Iron Casting

| Mechanical Properties | JIS materials | | |
|--|----------------------------|-------|----------|
| | FC200 | FC250 | FC300 |
| Tensile strength (N/mm ²) min. | 200 | 250 | 300 |
| Brinell hardness (HB) max. | 235 | 248 | 269 |
| ASTM A126 Class B | Tensile strength (min) | | 31ksi |
| Transverse test requirement | Face at center, min. | | 3,300 lb |
| | Deflection at center, min. | | 0.12in |

Class 125 Valves Pressure-Temperature Ratings

Maximum Allowable Non-Shock Pressure

| Temperature | Class 125 | |
|-------------|-------------|--------------|
| | Size 1 - 12 | Size 14 - 24 |
| °C | bar | |
| -29 to 65 | 13.8 | 10.3 |
| 80 | 13.3 | 9.8 |
| 100 | 12.7 | 9.2 |
| 120 | 12.1 | 8.6 |
| 140 | 11.5 | 8.0 |
| 160 | 10.8 | 7.4 |
| 178※ | - | 6.9 |

※8.6bar의 포화증기(Saturated Steam)에서 178 °C의 온도를 반영합니다.

Simplified Material Indication (as referred to on each page)

- Bronze trim** : Iron body with bronze trim
- 13 Cr. trim** : Iron body with 13 Cr. trim
- 18-8 trim** : Iron body with 18 Cr.-8 Ni trim

Certification by JIS Mark

일본산업기준법(JIS)은 제조와 공정의 우수한 품질보증 시스템 도입을 촉진하기 위하여 효과적인 정책을 제시하여 왔습니다. JIS마크로 식별되는 KITZ밸브의 경우, 해당 밸브들이 지정된 품질 수준을 안정적이고 지속적으로 충족시키기 위하여 엄격한 품질보증 절차와 관행에 따라 생산되었다는 것을 공식적으로 증명합니다.

Valve Position Indicators(밸브 위치 표시기)



Valve Position Indicator(밸브위치 표시기)는 왼쪽 그림에서도 볼 수 있듯이 게이트밸브(Gate Valve)에 적용되는 사양입니다. 밸브를 열거나 닫아도 밸브의 Stem은 수직 방향으로 움직이지 않습니다. 대신 위치표시기에 나타나는 밸브의 3가지 작동위치(완전히 열림, 완전히 닫힘, 일부만 열림)를 통해 밸브의 작동상태를 육안상 확인할 수 있습니다.

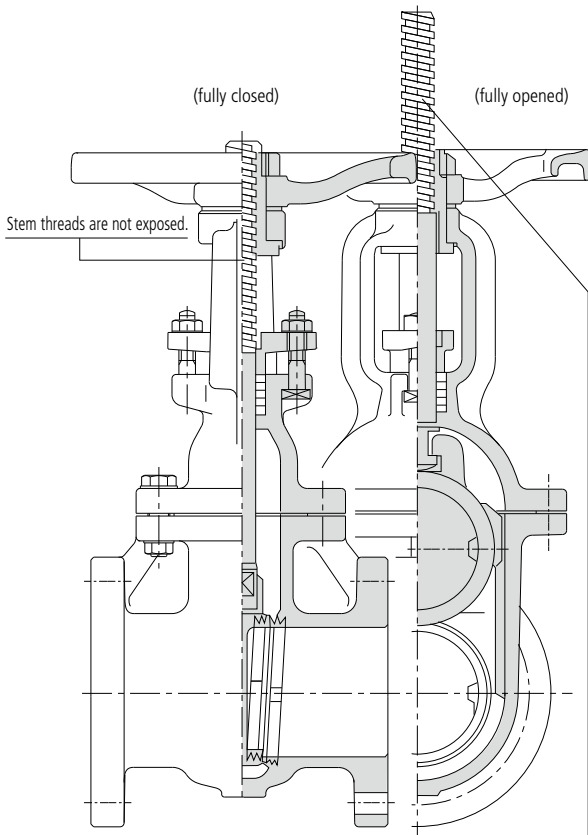
Trim Materials

KITZ 주철밸브(Cast Iron Valve)의 Trim은 다양한 서비스 제공을 위하여 아래 표와 같이 3가지 종류로 나뉘어 집니다. 게이트밸브(Gate Valve)와 글로브밸브(Globe Valve)의 Color Code는 명판(Name Plate)에 표기되며, 스윙체크밸브(Swing Check Valve)는 커버에 나타냅니다.

| Trim Material | Color Coding | Suffix of Fig. |
|-----------------------------|--------------|----------------|
| ■ Bronze seats / Brass stem | None | - |
| ■ 13 Cr. seats / stem | Orange | S |
| ■ 18-8 seats / stem | Green | U |

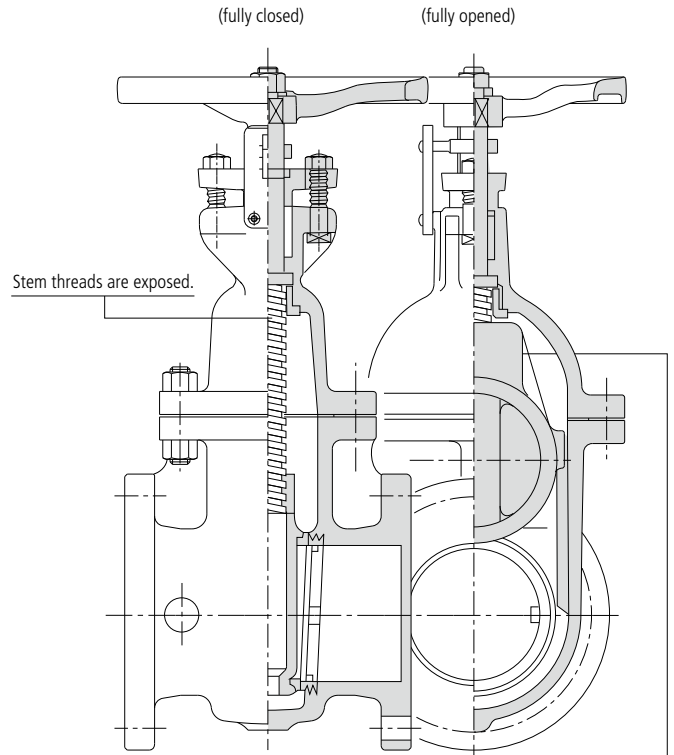
Outside Screw (O.S.) Valves and Inside Screw (I.S.) Valves

Outside Screw Gate Valve (외부 나사식 게이트 밸브)



밸브의 손잡이는 움직이지 않는 반면 stem의 상부가 위아래로 움직입니다.

Inside Screw Gate Valve (내부 나사식 게이트 밸브)



Stem과 손잡이가 동일한 위치에 있는 동안 Wedge가 위로 이동합니다.

Outside Screw Gate Valves

게이트밸브(Gate Valve)의 스템나사(Stem thread)는 유체에 직접 노출되지 않으며, 밸브가 열릴 때 손잡이는 제자리에 있지만 stem은 위쪽으로 움직입니다. 밸브 작동 위치는 stem의 위치이동 여부를 통하여 육안상 관찰이 가능하며, KITZ밸브 FCM, FCL, FCLU가 이러한 방식으로 디자인 되었습니다.

Outside Screw Globe Valves

글로브밸브(Globe Valve)가 열리고 닫힐 때 마다, 밸브의 stem과 손잡이가 동시에 위아래로 움직입니다. KITZ사의 모든 글로브 밸브는 이러한 형태로 디자인 되었습니다.

Inside Screw Gate Valves

게이트밸브(Gate Valve)의 스템나사(Stem thread)가 유체에 직접 노출되며, 밸브가 열릴 때 Stem과 손잡이는 움직이지 않습니다. 따라서 밸브 작동 위치(Valve Operating Position)는 육안상 확인이 불가능 합니다. 이러한 이유로 Position Indicator(위치표시기) 사양이 제공됩니다. Inside Screw Gate Valve(내부나사식)는 일반적으로 Outside Screw Gate Valve(외부나사식)보다 더 짧은 구조를 가지고 있습니다. 이러한 특징 때문에 Inside Screw Gate Valve는 지하설비나 공간이 제한된 좁은 지역에 많이 사용됩니다. 대표적인 KITZ밸브로는 FCWI와 FCHI가 있습니다.

Asbestos-free Packings and Gaskets

KITZ사는 모든 주철밸브(Cast Iron Valve)에 대하여 환경오염에 영향을 미치지 않는 Asbestos-free Sealer를 사용하였습니다. PTFE-impregnated glass fiber gland packing과 Compressed glass and aramid fiber gaskets은 KITZ 주철 밸브에 사용하는 표준 Sealer입니다.

JIS 5K

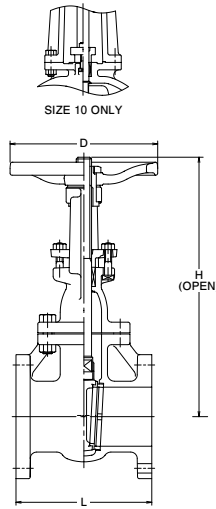
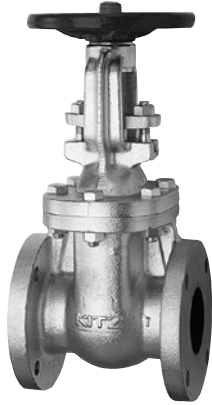
GATE VALVE

Bolted bonnet, outside screw & yoke, rising stem.

Designed to JIS B2031

Fig. 5FCM

- Bronze trim



Materials

| Parts | Material | JIS Spec. |
|-----------------|---------------------------|-----------|
| Body | Cast Iron | FC200 |
| Bonnet | Cast Iron | FC200 |
| Stem | Forged Brass | C3771 |
| Disc | Cast Iron | FC200 |
| Disc seat ring | Cast Bronze | CAC406 |
| Body seat ring | Cast Bronze | CAC406 |
| Gland | Ductile Iron | FCD-5 |
| Gland packing | Non-Asbestos Packing | |
| Gasket | Non-Asbestos Sheet Gasket | |
| Gland bolt/nut | Carbon Steel | |
| Bonnet bolt/nut | Carbon Steel | |
| Yoke sleeve | Cast Bronze | |
| Handwheel | Cast Iron | |

JIS 밸브의 압력 온도 등급과 MPa는 2페이지를 참조

Dimensions

| Valve Size | B | 2 | 2½ | 3 | 4 | 5 | 6 | 8 | 10 | mm |
|-----------------|---|-----|-----|-----|-----|-----|-----|-----|------|----|
| L Face-to-face | A | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | |
| H Height (OPEN) | | 160 | 170 | 180 | 200 | 220 | 240 | 260 | 300 | |
| D Diameter | | 328 | 382 | 436 | 532 | 627 | 726 | 919 | 1134 | |
| | | 160 | 170 | 170 | 225 | 225 | 250 | 280 | 350 | |

JIS 10K

GATE VALVE

Bolted bonnet, outside screw & yoke, rising stem.

Designed to JIS B2031

Fig. 10FCL

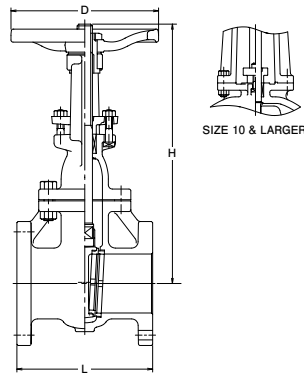
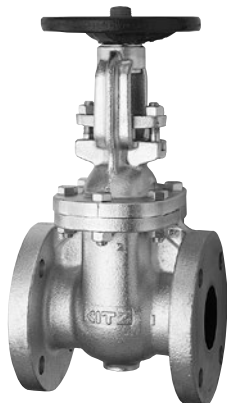
- Bronze trim

Fig. 10FCLS

- Stainless steel trim (13 Cr.)

Fig. 10FCLU

- Stainless steel trim (18-8)



Materials

| Parts | Material | JIS Spec. | | |
|-----------------|------------------------------|---------------------------|-----------|--------|
| | | 10FCL | 10FCLS | 10FCLU |
| Body | Cast Iron | FC200 | | |
| Bonnet | Cast Iron | FC200 | | |
| Stem | Forged Brass/Stainless Steel | C3771 | 403SS | 304SS |
| Disc | Cast Iron | FC200 | | |
| Disc seat ring | Cast Bronze/Stainless Steel | CAC406 | 403SS | 304SS |
| Body seat ring | Cast Bronze/Stainless Steel | CAC406 | 403SS | 304SS |
| Gland | 11/2 to 14 16 to 24 | Ductile Iron | FCD-5 | |
| Gland packing | | Stainless Steel | | |
| Gland packing | | SUS403 | | |
| Gland packing | | Non-Asbestos Packing | | |
| Gasket | | Non-Asbestos Sheet Gasket | | |
| Gland bolt/nut | | Carbon Steel | | |
| Bonnet bolt/nut | | Carbon Steel | | |
| Yoke sleeve | | Cast Bronze | | |
| Handwheel | 11/2 to 8 10 to 24 | Cast Iron | FC250 | |
| Handwheel | | Ductile Iron | FCD400-15 | |

JIS 밸브의 압력 온도 등급과 MPa는 2페이지를 참조

Dimensions

| Valve Size | B | 1½* | 2 | 2½ | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 14* | 16* | 18* | 20* | 24* | mm |
|-----------------|---|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|----|
| L Face-to-face | A | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600 | |
| H Height (OPEN) | | 165 | 180 | 190 | 200 | 230 | 250 | 270 | 290 | 330 | 350 | 381 | 406 | 432 | 457 | 508 | |
| D Diameter | | 306 | 343 | 389 | 462 | 547 | 648 | 759 | 956 | 1168 | 1363 | 1560 | 1795 | 1995 | 2230 | 2640 | |
| | | 160 | 170 | 170 | 200 | 250 | 280 | 300 | 350 | 400 | 450 | 500 | 600 | 600 | 680 | 760 | |

*JIS Mark is not applicable

JIS 10K

GATE VALVE

Bolted bonnet, inside screw with indicator, non-rising stem.

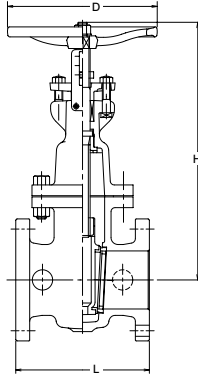
Designed to JIS B2031

Fig. 10FCWI

• Bronze trim



SIZE 8 & LARGER



Materials

| Parts | Material | JIS Spec. |
|-----------------|---------------------------|--------------|
| Body | Cast Iron | FC200 |
| Bonnet | Cast Iron | FC200 |
| Stem | Forged Brass | C3771BD |
| Disc | Cast Iron | FC200 |
| Disc seat ring | Cast Bronze | CAC406 |
| Body seat ring | Cast Bronze | CAC406 |
| Gland | Ductile Iron | FCD-5 |
| Gland packing | Non-Asbestos Packing | |
| Gasket | Non-Asbestos Sheet Gasket | |
| Gland bolt/nut | Carbon Steel | |
| Bonnet bolt/nut | Carbon Steel | |
| Bonnet bushing | Cast Bronze | CAC406 |
| Handwheel | 1 1/2 to 8 | Cast Iron |
| | 10 to 12 | Ductile Iron |
| | | FCD400-15 |

JIS 밸브의 압력 온도 등급과 MPa는 2페이지를 참조

Dimensions

| Valve Size | B | 1 1/2 | 2 | 2 1/2 | 3 | 4 | 5 | 6 | 8 | 10 | 12 |
|----------------|---|-------|-----|-------|-----|-----|-----|-----|-----|-----|-----|
| | A | 40* | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 |
| L Face-to-face | | 165 | 180 | 190 | 200 | 230 | 250 | 270 | 290 | 330 | 350 |
| H Height | | 285 | 313 | 344 | 401 | 444 | 517 | 577 | 693 | 814 | 925 |
| D Diameter | | 160 | 180 | 180 | 200 | 250 | 280 | 300 | 350 | 400 | 450 |

*No JIS Mark

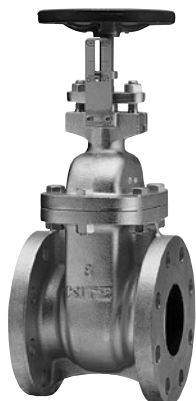
10K

GATE VALVE

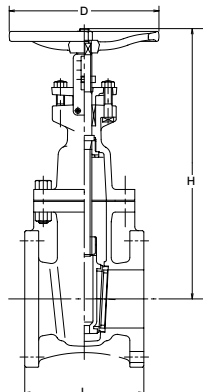
Bolted bonnet, inside screw with indicator, non-rising stem.

Fig. 10FCHI

• Bronze trim



SIZE 8 & LARGER



Materials

| Parts | Material | JIS Spec. |
|-----------------|---------------------------|-------------|
| Body | Cast Iron | FC300 |
| Bonnet | Cast Iron | FC300 |
| Stem | Forged Brass | C3771 |
| Disc | 1 1/2 | Cast Bronze |
| | 2 to 12 | Cast Iron |
| Disc seat ring | Cast Bronze | CAC406 |
| Body seat ring | Cast Bronze | CAC406 |
| Gland | Ductile Iron | FCD400 |
| Gland packing | Non-Asbestos Packing | |
| Gasket | Non-Asbestos Sheet Gasket | |
| Gland bolt/nut | Carbon Steel | |
| Bonnet bolt/nut | Carbon Steel | |
| Bonnet bushing | Cast Bronze | CAC406 |
| Handwheel | Cast Iron | |

밸브의 압력 온도 등급과 MPa는 2페이지를 참조

Dimensions

| Valve Size | B | 1 1/2 | 2 | 2 1/2 | 3 | 4 | 5 | 6 | 8 | 10 | 12 |
|----------------|---|-------|-----|-------|-----|-----|-----|-----|-----|-----|-----|
| | A | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 |
| L Face-to-face | | 140 | 146 | 159 | 165 | 171 | 190 | 210 | 241 | 273 | 305 |
| H Height | | 210 | 250 | 285 | 350 | 400 | 460 | 515 | 635 | 760 | 870 |
| D Diameter | | 140 | 140 | 160 | 160 | 180 | 225 | 225 | 300 | 350 | 350 |

Class 125

GATE VALVE

Bolted bonnet, outside screw & yoke, rising stem.

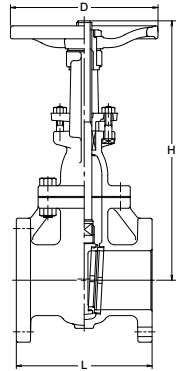
Fig. 125FCL

- Bronze trim



Fig. 125FCLS

- Stainless steel trim (13 Cr.)



SIZE 10 & LARGER

Materials

| Parts | Material | ASTM Spec. | |
|-----------------|------------------------------|--------------|--------------|
| | | 125FCL | 125FCLS |
| Body | Cast Iron | FC200 | |
| Bonnet | Cast Iron | FC200 | |
| Stem | Forged Brass/Stainless Steel | C3771 | A276 Type403 |
| Disc | Cast Iron | FC200 | |
| Disc seat ring | Cast Bronze/Stainless Steel | CAC406 | A182 Gr.F6a |
| Body seat ring | Cast Bronze/Stainless Steel | CAC406 | A182 Gr.F6a |
| Gland | Ductile Iron | FCD-5 | |
| Gland packing | Non-Asbestos Packing | | |
| Gasket | Non-Asbestos Sheet Gasket | | |
| Gland bolt/nut | Carbon Steel | | |
| Bonnet bolt/nut | Carbon Steel | | |
| Yoke sleeve | Cast Bronze | | |
| Handwheel | 2 to 10 | Cast Iron | |
| | 12 & 14 | Ductile Iron | |

Class 125 밸브의 압력 온도 등급과 MPa는 2페이지를 참조

Dimensions

| Valve Size | NPS | 2 | 2 1/2 | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 14 |
|-----------------|-----|-----|-------|-----|-----|-----|-----|-----|------|------|------|
| | DN | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 | 350 |
| L Face-to-face | | 178 | 190 | 203 | 229 | 254 | 267 | 292 | 330 | 356 | 381 |
| H Height (OPEN) | | 328 | 382 | 436 | 532 | 627 | 726 | 919 | 1134 | 1363 | 1560 |
| D Diameter | | 160 | 170 | 170 | 225 | 225 | 250 | 280 | 350 | 450 | 500 |

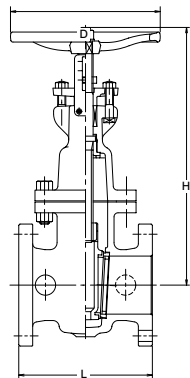
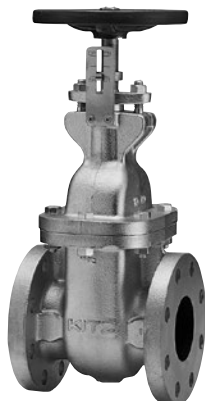
Class 125

GATE VALVE

Bolted bonnet, inside screw with indicator, non-rising stem.

Fig. 125FCWI

- Bronze trim



SIZE 8 & LARGER

Materials

| Parts | Material | ASTM Spec. |
|-----------------|---------------------------|------------|
| Body | Cast Iron | FC200 |
| Bonnet | Cast Iron | FC300 |
| Stem | Forged Brass | C3771 |
| Disc | Cast Iron | FC300 |
| Disc seat ring | Cast Bronze | CAC |
| Gland | Ductile Iron | FCD-5 |
| Gland packing | Non-Asbestos Packing | |
| Gasket | Non-Asbestos Sheet Gasket | |
| Gland bolt/nut | Carbon Steel | |
| Bonnet bolt/nut | Carbon Steel | |
| Body seat ring | Cast Bronze | CAC406 |
| Bonnet bushing | Cast Bronze | CAC406 |
| Handwheel | Cast Iron | |

Class 125 밸브의 압력 온도 등급과 MPa는 2페이지를 참조

Dimensions

| Valve Size | NPS | 2 | 2 1/2 | 3 | 4 | 5 | 6 | 8 | 10 | 12 |
|----------------|-----|-----|-------|-----|-----|-----|-----|-----|-----|-----|
| | DN | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 |
| L Face-to-face | | 178 | 190 | 203 | 229 | 254 | 267 | 292 | 330 | 356 |
| H Height | | 250 | 285 | 350 | 400 | 465 | 515 | 630 | 760 | 870 |
| D Diameter | | 140 | 160 | 160 | 180 | 225 | 225 | 300 | 350 | 350 |

Class 125 GATE VALVE

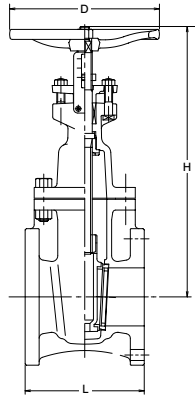
Bolted bonnet, inside screw & yoke, non-rising stem.

Fig. 125FCHI

• Bronze trim



SIZE 8 ONLY



Materials

| Parts | Material | ASTM Spec. | |
|-----------------|---------------------------|------------|-------|
| Body | Cast Iron | FC300 | |
| Bonnet | Cast Iron | FC300 | |
| Stem | Forged Brass | C3771 | |
| Disc | 1 1/2 | Bronze | CAC |
| | 2 & larger | Cast Iron | FC300 |
| Disc seat ring | Cast Bronze | CAC | |
| Body seat ring | Cast Iron | CAC | |
| Gland | Ductile Iron | FCD-5 | |
| Gland packing | Non-Asbestos Packing | | |
| Gasket | Non-Asbestos Sheet Gasket | | |
| Gland bolt/nut | Carbon Steel | | |
| Bonnet bolt/nut | Carbon Steel | | |
| Bonnet bushing | Cast Bronze | CAC | |
| Handwheel | Cast Iron | | |

Design Specifications

| Items | |
|--|----------------------|
| Shell wall thickness and general valve design | KITZ Standard |
| Face-to-face dimensions, end-to-end dimensions | KITZ Standard |
| End flange dimensions, gasket contact facing | ASME B16.1 Class 125 |

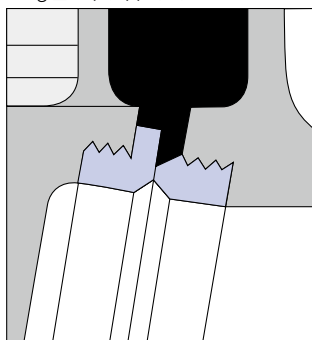
Class 125 밸브의 압력 온도 등급과 MPa는 2페이지를 참조

Dimensions

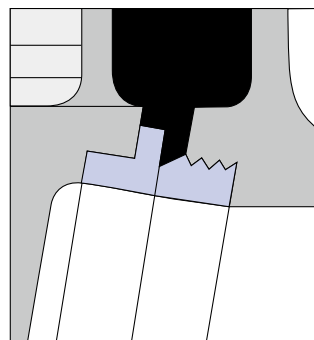
| Valve Size | NPS | 1 1/2 | 2 | 2 1/2 | 3 | 4 | 5 | 6 | 8 | mm |
|----------------|-----|-------|-----|-------|-----|-----|-----|-----|-----|----|
| | DN | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | |
| L Face-to-face | | 140 | 146 | 159 | 165 | 171 | 190 | 210 | 241 | |
| H Height | | 210 | 250 | 285 | 350 | 400 | 465 | 515 | 630 | |
| D Diameter | | 140 | 140 | 160 | 160 | 180 | 225 | 225 | 300 | |

Mounting of Seat Rings

KITZ사의 주철 게이트 밸브(Cast Iron Gate Valve)경우, Seat ring이 밸브 Disc위에 장착하게 되는데 나사방식(Threading) 또는 압입방식(Press-fitting: 압력으로 눌러서 고정시키는 방식)으로 장착됩니다. 예를 들어, 포화증기(Saturated Steam)에 사용하기 적절한 JIS 10K 외부나사식 게이트밸브(Outside Screw Gate Valve)는 Seat Ring이 나사방식(Threading)으로 조립됩니다. JIS 10K 내부나사식 게이트밸브(Inside Screw Gate Valve)는 Seat Ring이 압입방식(Press-fitting)으로 조립되며 특허를 받은 공정방식으로 제작되기 때문에 이 또한 포화증기용 밸브로 적합합니다. KITZ사의 모든 주철 글로브 밸브(Cast Iron Globe Valve)와 주철 체크 밸브(Cast Iron Check Valve)는 나사방식 Seat Ring을 사용합니다.



나사 식 seat ring



압입 식 seat ring

JIS 10K

GLOBE VALVE

Bolted bonnet, outside screw & yoke, rising stem.

Designed to JIS B2031

Fig. 10FCJ

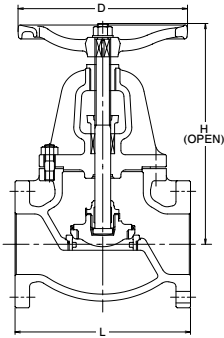
• Bronze trim

Fig. 10FCJS

• Stainless steel trim (13 Cr.)

Fig. 10FCJU

• Stainless steel trim (18-8)



Materials

| Parts | Material | JIS Spec. | | |
|-----------------|---|--------------|--------|--------|
| | | 10FCJ | 10FCJS | 10FCJU |
| Body | Cast Iron | FC200 | | |
| Bonnet | Cast Iron | FC200 | | |
| Stem | Forged Brass/Stainless Steel | C3771 | 403SS | 304SS |
| Disc | 11/4 & 2 Cast Bronze/Stainless Steel | CAC406 | 403SS | 304SS |
| | 2 1/2 & larger Cast Iron | FC200 | | |
| Disc seat ring | Cast Bronze/Stainless Steel | CAC406 | 403SS | 304SS |
| Body seat ring | Cast Bronze/Stainless Steel | CAC406 | 403SS | 304SS |
| Gland | Ductile Iron | FCD-5 | | |
| Gland packing | Non-Asbestos Packing | | | |
| Gasket | Flexible Graphite | | | |
| Gland bolt/nut | Carbon Steel | | | |
| Bonnet bolt/nut | Carbon Steel | | | |
| Yoke bushing | Cast Bronze | | | |
| Handwheel | 1 1/2 to 6 | Cast Iron | | |
| | 8 to 10 | Ductile Iron | | |
| | 12 only | Ductile Iron | FC200 | |

JIS 밸브의 압력 온도 등급과 MPa는 2페이지를 참조

Dimensions

| Valve Size | B A | 1 1/2 | 2 | 2 1/2 | 3 | 4 | 5 | 6 | 8 | 10 | 12 |
|-----------------|--------|-------|-----|-------|-----|-----|-----|-----|-----|-----|-----|
| L Face-to-face | | 190 | 200 | 220 | 240 | 290 | 360 | 410 | 500 | 620 | 700 |
| H Height (OPEN) | | 260 | 277 | 307 | 353 | 404 | 467 | 533 | 620 | 665 | 883 |
| D Diameter | | 160 | 180 | 180 | 225 | 280 | 300 | 350 | 450 | 450 | 500 |

CLASS 125

GLOBE VALVE

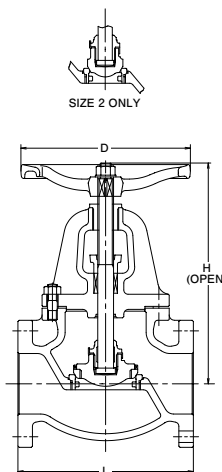
Bolted bonnet, outside screw & yoke, rising stem.

Fig. 125FCJ

• Bronze trim

Fig. 125FCJS

• Stainless steel trim (13 Cr.)



Materials

| Parts | Material | ASTM Spec. | |
|-----------------|---------------------------------------|--------------|---------|
| | | 125FCJ | 125FCJS |
| Body | Cast Iron | FC200 | |
| Bonnet | Cast Iron | FC200 | |
| Stem | Forged Brass/Stainless Steel | C3771 | 403SS |
| Disc | 2 only Cast Bronze/Stainless Steel | CAC406 | 403SS |
| | 2 1/2 & larger Cast Iron | FC200 | |
| Disc seat ring | Cast Bronze/Stainless Steel | CAC406 | 403SS |
| Body seat ring | Cast Bronze/Stainless Steel | CAC406 | 403SS |
| Gland | Ductile Iron | FCD-5 | |
| Gland packing | Non-Asbestos Packing | | |
| Gasket | Non-Asbestos Sheet Gasket | | |
| Gland bolt/nut | Carbon Steel | | |
| Bonnet bolt/nut | Carbon Steel | | |
| Yoke bushing | Cast Bronze | | |
| Handwheel | 2 to 6 | Cast Iron | |
| | 8 only | Ductile Iron | |

Class 125 밸브의 압력 온도 등급과 MPa는 2페이지를 참조

Dimensions

| Valve Size | NPS DN | 2 | 2 1/2 | 3 | 4 | 5 | 6 | 8 |
|-----------------|-----------|-----|-------|-----|-----|-----|-----|-----|
| L Face-to-face | | 203 | 216 | 241 | 292 | 330 | 356 | 495 |
| H Height (OPEN) | | 277 | 307 | 353 | 404 | 467 | 533 | 620 |
| D Diameter | | 180 | 180 | 225 | 280 | 300 | 350 | 450 |

JIS 10K

SWING CHECK VALVE

Bolted cover, disc.

Designed to JIS B2031

Fig. 10FCO

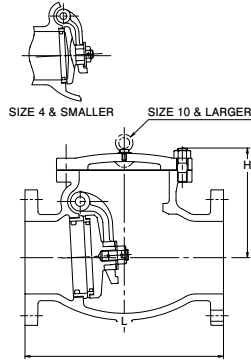
• Bronze trim

Fig. 10FCOS

• Stainless steel trim (13 Cr.)

Fig. 10FCOU

• Stainless steel trim (18-8)



Materials

| Parts | Material | JIS Spec. | | |
|----------------|------------------------------|-----------------------------|--------|-------------|
| | | 10FCO | 10FCOS | 10FCOU |
| Body | Cast Iron | FC200 | | |
| Cover | Cast Iron | FC200 | | |
| Disc | 1 1/2 to 4 | Cast Bronze/Stainless Steel | CAC406 | 403SS 304SS |
| | 5 & larger | Cast Iron | FC200 | |
| Hinge pin | Forged Brass/Stainless Steel | C3771 | 403SS | 304SS |
| Disc seat ring | Cast Bronze/Stainless Steel | CAC406 | 403SS | 304SS |
| Body seat ring | Cast Bronze | CAC406 | 403SS | 304SS |
| Arm | Stainless Steel | A351 Gr.CF8/SCS13A | | |
| Gasket | Soft Steel | | | |
| Cover bolt/nut | Carbon Steel | | | |

JIS 밸브의 압력 온도 등급과 MPa는 2페이지를 참조

Dimensions

| Valve Size | B | 1 1/2* | 2 | 2 1/2 | 3 | 4 | 5 | 6 | 8 | 10* | 12* | 14* | mm |
|----------------|---|--------|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|----|
| L Face-to-face | A | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 | 350 | |
| H Height | | 106 | 111 | 121 | 145 | 165 | 207 | 225 | 268 | 315 | 356 | 381 | |

Only 12* & 14* for 10FCOS & 10FCOU. *No JIS Mark

CLASS 125

SWING CHECK VALVE

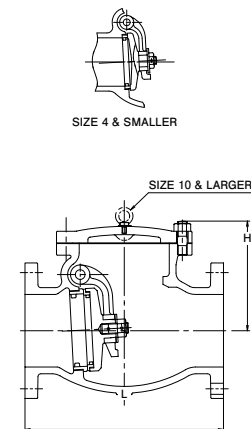
Bolted cover, disc.

Fig. 125FCO

• Bronze trim

Fig. 125FCOS

• Stainless steel trim (13 Cr.)



Materials

| Parts | Material | ASTM Spec. | |
|----------------|------------------------------|-----------------------------|--------------|
| | | 125FCO | 125FCOS |
| Body | Cast Iron | FC200 | |
| Cover | Cast Iron | FC200 | |
| Disc | 2 to 4 | Cast Bronze/Stainless Steel | CAC406 403SS |
| | 5 & larger | Cast Iron | FC200 |
| Hinge pin | Forged Brass/Stainless Steel | C3771 | 403SS |
| Disc seat ring | Cast Bronze/Stainless Steel | CAC406 | 403SS |
| Body seat ring | Cast Bronze/Stainless Steel | CAC406 | 403SS |
| Arm | Stainless Steel | A351 Gr.CF8/SCS13A | |
| Gasket | Soft Steel | | |
| Cover bolt/nut | Carbon Steel | | |

Class 125 밸브의 압력 온도 등급과 MPa는 2페이지를 참조

Dimensions

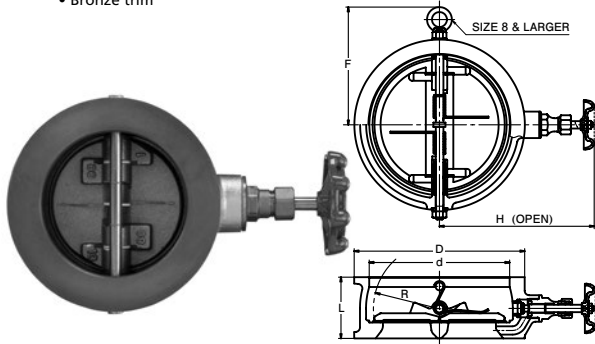
| Valve Size | NPS | 2 | 2 1/2 | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 14 | mm |
|-----------------|-----|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|----|
| | DN | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 | 350 | |
| L Face-to-face | | 203 | 216 | 241 | 292 | 330 | 356 | 495 | 622 | 698 | 787 | |
| H Height (OPEN) | | 111 | 121 | 145 | 165 | 207 | 225 | 268 | 315 | 356 | 381 | |

10K

WAFER TYPE CHECK VALVE

Fig. 10FWZ

• Bronze trim



Materials

| Parts | Material | JIS Spec. |
|-----------------|-----------------|-----------|
| Body | Cast Iron | FC250+NBR |
| Pin | Stainless Steel | 304SS |
| Disc | Bronze | CAC406 |
| Nut 6 to 18 | Stainless Steel | 304SS |
| Plug 1 1/2 to 5 | Carbon Steel | S45CH |

Bypass Valve

| Parts | Material | JIS Spec. |
|-------------------|---------------|-----------|
| Bonnet 1 1/2 to 5 | Brass | C3771 |
| 6 to 18 | Bronze | CAC406 |
| Stem | Brass | C3531 |
| Disc | Brass | C3531 |
| Body seat ring | Brass | C3531 |
| Grand packing | Asbestos-free | |

Design Specifications

| Items | |
|--|----------------------|
| Shell wall thickness and general valve design | KITZ Standard |
| Face-to-face dimensions, end-to-end dimensions | KITZ Standard |
| End flange dimensions, gasket contact facing | Wafer Type (JIS 10K) |

80°C Non-shock water: 1.4 MPa
80°C Water, oil, air: 1.0 MPa

Dimensions

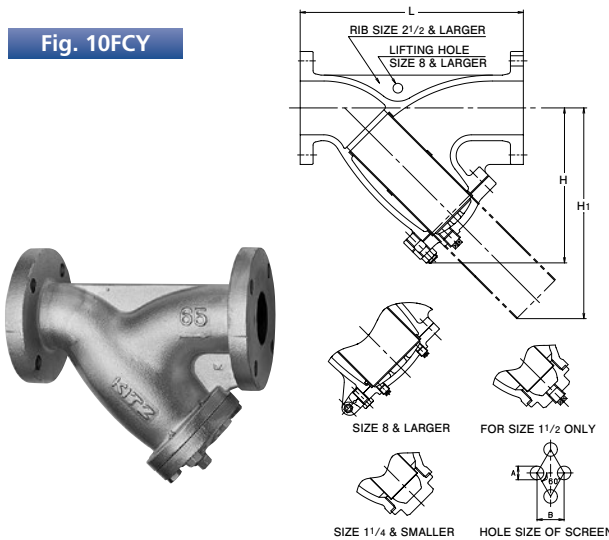
| Valve Size | B | 1 1/2 | 2 | 2 1/2 | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 18 |
|------------|---------------|-------|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| L | A | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 | 350 | 400 | 450 |
| H | Height (OPEN) | 128 | 143 | 150 | 156 | 169 | 183 | 216 | 243 | 290 | 315 | 330 | 355 | 388 |
| F | | — | — | — | — | — | — | 187 | 229 | 254 | 272 | 301 | 338 | |
| D | | 86 | 101 | 121 | 131 | 156 | 187 | 217 | 267 | 330 | 375 | 420 | 483 | 538 |
| d | | 54 | 63 | 77 | 90 | 116 | 143 | 169 | 220 | 273 | 324 | 356 | 406 | 457 |
| R | | 26 | 33 | 37 | 44 | 55 | 67 | 78 | 105 | 129 | 155 | 170 | 195 | 220 |

10K

Y-PATTERN STRAINER

Bolted cover, Y-pattern body, Punched stainless steel plate screen.

Fig. 10FCY



Materials

| Parts | Material | JIS Spec. |
|--------------------|---------------------------|-----------|
| Body | Cast Iron | FC200 |
| Cap | Forged Brass | C3771 |
| Cover 3/8 to 1 1/2 | Cast Iron | FC200 |
| 2 & larger | Stainless Steel | 304SS |
| Screen | Non-Asbestos Sheet Gasket | |
| Gasket | Carbon Steel | |
| Cover bolt/nut | Stainless Steel | 304SS |
| Plug | | |

Screen dimensions

| Valve Size | A | B |
|------------|------|-------|
| 3/8 to 2 | 1.4ø | 2.4mm |
| 2 1/2 to 5 | 1.5ø | 2.5mm |
| 6 & 8 | 3.0ø | 5.0mm |
| 10 to 14 | 5.0ø | 7.0mm |

120°C Non-shock water: 1.4 MPa
120°C Water, oil, air: 1.4 MPa
120°C Gas: 0.2 MPa, Saturated steam: 0.7 MPa

Strainer dimensions

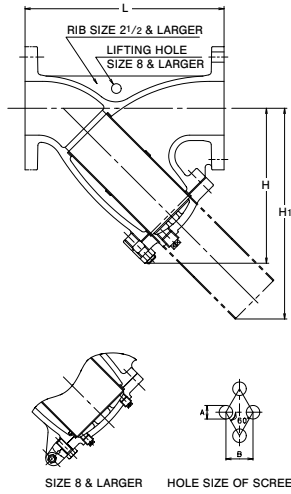
| Valve Size | B | 3/8 | 1/2 | 3/4 | 1 | 1 1/4 | 1 1/2 | 2 | 2 1/2 | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 14 |
|------------|--------------|-----|-----|-----|-----|-------|-------|-----|-------|-----|-----|-----|-----|-----|-----|-----|------|
| L | A | 10 | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 | 350 |
| L | Face-to-face | 115 | 125 | 140 | 150 | 170 | 190 | 230 | 305 | 360 | 415 | 465 | 515 | 580 | 680 | 800 | 950 |
| H | Height | 46 | 57 | 63 | 77 | 90 | 100 | 138 | 208 | 237 | 280 | 325 | 370 | 457 | 536 | 625 | 741 |
| H1 | | 64 | 82 | 91 | 114 | 134 | 146 | 173 | 289 | 335 | 388 | 446 | 497 | 643 | 768 | 893 | 1047 |

CLASS 125 Y-PATTERN STRAINER

Bolted cover, Y-pattern body, Punched stainless steel plate screen.

Fig. 125FCY

- Bronze trim



Materials

| Parts | Material | ASTM Spec. |
|----------------|---------------------------|------------|
| Body | Cast Iron | FC200 |
| Cover | Cast Iron | FC200 |
| Screen | Stainless Steel | 304SS |
| Gasket | Non-Asbestos Sheet Gasket | |
| Cover bolt/nut | Carbon Steel | |
| Plug | Stainless Steel | 304SS |

Screen dimensions

| Valve Size | A | B |
|------------|------|-------|
| 2 only | 1.4ø | 2.4mm |
| 2 1/2 to 5 | 1.5ø | 2.5mm |
| 6 & 8 | 3.0ø | 5.0mm |
| 10 to 14 | 5.0ø | 7.0mm |

Design Specifications

| Items | |
|--|---------------------|
| Shell wall thickness and general valve design | KITZ Standard |
| Face-to-face dimensions, end-to-end dimensions | KITZ Standard |
| End flange dimensions, gasket contact facing | ASME B16.1 Class125 |

Class 125 밸브의 압력 온도 등급과 MPa는 2페이지를 참조

Dimensions

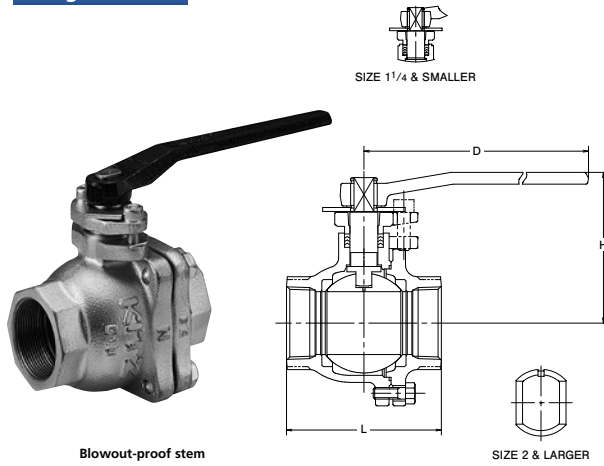
| Valve Size | NPS | 2 | 2 1/2 | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 14 | mm |
|-----------------------|-----|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|----|
| | DN | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 | 350 | |
| L Face-to-face | | 250 | 285 | 315 | 370 | 420 | 490 | 570 | 680 | 800 | 950 | |
| H Height | | 168 | 212 | 242 | 284 | 325 | 370 | 440 | 515 | 600 | 740 | |
| H1 | | 208 | 289 | 335 | 388 | 446 | 497 | 589 | 694 | 818 | 993 | |



10K

THREADED BALL VALVE (Full Bore)

Fig. 10FCT



Materials

| Parts | Material | JIS Spec. |
|---------------|-----------------|-----------|
| Body | Cast Iron | FC200 |
| Body cap | Cast Iron | FC200 |
| Stem | Stainless Steel | 4035S |
| Ball | Stainless Steel | 3045S |
| Grand packing | PTFE | |
| Gasket | PTFE | |
| Ball seat | PTFE | |
| Cap bolt/nut | Carbon Steel | |
| Handle | Ductile Iron | FCD400-15 |

Design Specifications

| Items | |
|--|---------------|
| Shell wall thickness and general valve design | KITZ Standard |
| Face-to-face dimensions, end-to-end dimensions | KITZ Standard |
| Threaded ends | JIS B0203 |

압력-온도 등급은 각 카탈로그를 참조(No.E-201)

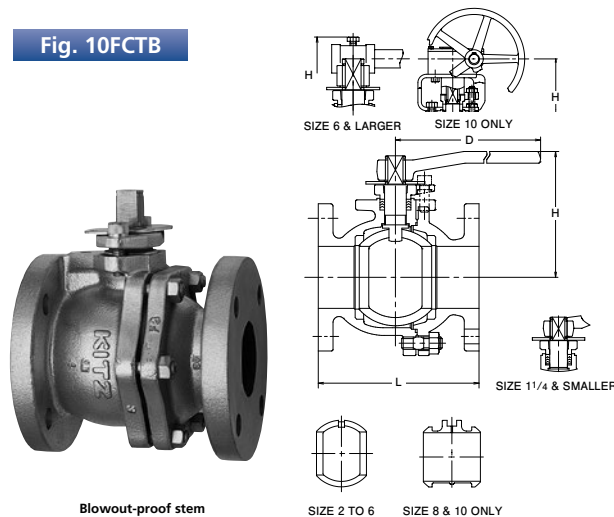
Dimensions

| Valve Size | B | 3/8 | 1/2 | 3/4 | 1 | 1 1/4 | 1 1/2 | 2 | 2 1/2 | 3 | mm |
|----------------|---|-----|-----|-----|-----|-------|-------|-----|-------|-----|----|
| L Face-to-face | A | 10 | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | |
| H Height | | 72 | 80 | 85 | 95 | 120 | 120 | 140 | 160 | 182 | |
| D Handle | | 71 | 102 | 105 | 125 | 130 | 115 | 120 | 155 | 165 | |
| | | 130 | 130 | 130 | 160 | 160 | 230 | 230 | 400 | 400 | |

10K

BALL VALVE (Full Bore)

Fig. 10FCTB



Materials

| Parts | Material | JIS Spec. |
|---------------|-----------------|-----------|
| Body | Cast Iron | FC200 |
| Body cap | Cast Iron | FC200 |
| Stem | Stainless Steel | 4035S |
| Ball | Stainless Steel | 3045S |
| Grand packing | PTFE | |
| Gasket | PTFE | |
| Ball seat | PTFE | |
| Cap bolt/nut | Carbon Steel | |
| Handle | Ductile Iron | FCD400-15 |

Design Specifications

| Items | |
|--|---------------|
| Shell wall thickness and general valve design | KITZ Standard |
| Face-to-face dimensions, end-to-end dimensions | KITZ Standard |
| End flange dimensions, gasket contact facing | JIS B2239 10K |

압력-온도 등급은 각 카탈로그를 참조(No.E-201)

Dimensions

| Valve Size | B | 1/2 | 3/4 | 1 | 1 1/4 | 1 1/2 | 2 | 2 1/2 | 3 | 4 | 5 | 6 | 8 | 10 | mm |
|----------------|---|-----|-----|-----|-------|-------|-----|-------|-----|-----|-----|------|------|------|----|
| L Face-to-face | A | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250* | |
| H Height | | 102 | 105 | 124 | 128 | 114 | 121 | 154 | 163 | 199 | 219 | 292 | 352 | 477 | |
| D Handle | | 130 | 130 | 160 | 160 | 230 | 230 | 400 | 400 | 460 | 460 | 1000 | 1500 | - | |

*Note: Gear Operated. Contact KITZ or KITZ distributors for details.

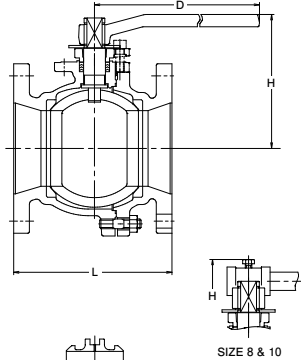
10K

BALL VALVE (Reduced Bore)

Fig. 10FCTR



Blowout-proof stem



SIZE 10 ONLY

Materials

| Parts | Material | JIS Spec. |
|---------------|-----------------|-----------|
| Body | Cast Iron | FC200 |
| Body cap | Cast Iron | FC200 |
| Stem | Stainless Steel | 403SS |
| Ball | Stainless Steel | 304SS |
| Grand packing | PTFE | |
| Gasket | PTFE | |
| Ball seat | PTFE | |
| Cap bolt/nut | Carbon Steel | |
| Handle | Ductile Iron | FCD400-15 |

Design Specifications

| Items | |
|---|---------------|
| Shell wall thickness and general valve design | KITZ Standard |
| Face-to-face dimensions, end-to-end dimensions* | JIS B2002 |
| End flange dimensions, gasket contact facing | JIS B2239 10K |

*공칭 크기 5는 JIS B2002와 상응하지 않습니다.

압력-온도 등급은 각 카탈로그를 참조(No.E-201)

Dimensions

| Valve Size | B | 5 | 6 | 8 | 10 | mm |
|----------------|---|-----|-----|------|------|----|
| | A | 125 | 150 | 200 | 250 | |
| L Face-to-face | | 250 | 270 | 290 | 330 | |
| H Height | | 200 | 220 | 295 | 355 | |
| D Handle | | 460 | 460 | 1000 | 1500 | |

*No JIS Mark

10K

3-WAY BALL VALVE (Full or Reduced Bore)

Fig. 10FCTB2L

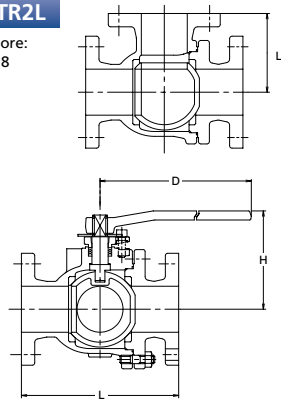
• Full Bore:
Size 1 1/2 to 4



Blowout-proof stem

Fig. 10FCTR2L

• Reduced Bore:
Size 5 to 8



Materials

| Parts | Material | JIS Spec. |
|---------------|-----------------|-----------|
| Body | Cast Iron | FC200 |
| Body cap | Cast Iron | FC200 |
| Stem | Stainless Steel | 403SS |
| Ball | Stainless Steel | 304SS |
| Grand packing | PTFE | |
| Gasket | PTFE | |
| Ball seat | PTFE | |
| Cap bolt/nut | Carbon Steel | |
| Handle | Ductile Iron | FCD400-15 |

Note:

① Form 1에서는 Port "A"와 "C" 사이에 유체 흐름이 존재합니다. Form 2의 Port "B"와 "C" 사이에도 유체 흐름이 존재합니다. Form 1과 Form 2의 유체 흐름 경로는 서로 변경이 가능합니다.

② Closed Path의 유체압력 P2가 Open Path의 P1보다 높으면, Closed Path를 통해 P1에서 약간의 유체 누출이 발생할 수 있습니다.

Design Specifications

| Items | |
|--|---------------|
| Shell wall thickness | JIS B2031 |
| Face-to-face dimensions, end-to-end dimensions | KITZ Standard |
| End flange dimensions, gasket contact facing | JIS B2239 10K |

압력-온도 등급은 각 카탈로그를 참조(No.E-201)

Dimensions

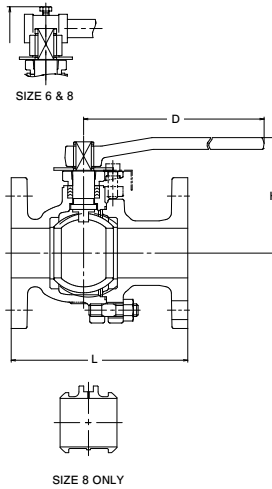
| Valve Size | B | 1 1/2 | 2 | 2 1/2 | 3 | 4 | 5 | 6 | 8 | mm |
|----------------|---|-------|-----|-------|-----|-----|-----|-----|------|----|
| | A | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | |
| L Face-to-face | | 210 | 220 | 250 | 260 | 330 | 370 | 430 | 540 | |
| L1 | | 105 | 110 | 125 | 130 | 165 | 185 | 215 | 270 | |
| H Height | | 115 | 120 | 155 | 165 | 200 | 205 | 225 | 295 | |
| D Handle | | 230 | 230 | 400 | 400 | 460 | 460 | 460 | 1000 | |

CLASS 125 BALL VALVE (Full Bore)

Fig. 125FCTB



Blowout-proof stem



Materials

| Parts | Material | ASTM Spec. |
|---------------|-----------------|------------|
| Body | Cast Iron | A126 CL. B |
| Body cap | Cast Iron | A126 CL. B |
| Stem | Stainless Steel | 403SS |
| Ball | Stainless Steel | 304SS |
| Grand packing | PTFE | |
| Gasket | PTFE | |
| Ball seat | PTFE | |
| Cap bolt/nut | Carbon Steel | |
| Handle | Ductile Iron | |

Design Specifications

| Items | |
|--|----------------------|
| Shell wall thickness and general valve design | KITZ Standard |
| Face-to-face dimensions, end-to-end dimensions | ASME B16.10 Class150 |
| End flange dimensions, gasket contact facing | ASME B16.1 Class125 |

압력-온도 등급은 각 카탈로그를 참조(No.E-201)

Dimensions

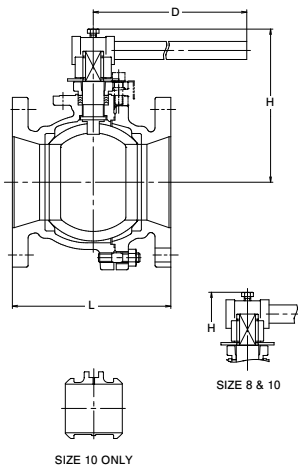
| Valve Size | NPS | 2 | 2½ | 3 | 4 | 6 | 8 | mm |
|----------------|-----|-----|-----|-----|-----|------|------|----|
| | DN | 50 | 65 | 80 | 100 | 150 | 200 | |
| L Face-to-face | | 178 | 190 | 203 | 229 | 394 | 457 | |
| H Height | | 120 | 155 | 165 | 200 | 295 | 355 | |
| D Handle | | 230 | 400 | 400 | 460 | 1000 | 1500 | |

CLASS 125 BALL VALVE (Reduced Bore)

Fig. 125FCTR



Blowout-proof stem



Materials

| Parts | Material | ASTM Spec. |
|---------------|-----------------|------------|
| Body | Cast Iron | A126 CL. B |
| Body cap | Cast Iron | A126 CL. B |
| Stem | Stainless Steel | 403SS |
| Ball | Stainless Steel | 304SS |
| Grand packing | PTFE | |
| Gasket | PTFE | |
| Ball seat | PTFE | |
| Cap bolt/nut | Carbon Steel | |
| Handle | Ductile Iron | |

Design Specifications

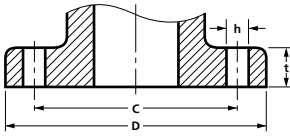
| Items | |
|--|----------------------|
| Shell wall thickness and general valve design | KITZ Standard |
| Face-to-face dimensions, end-to-end dimensions | ASME B16.10 Class150 |
| End flange dimensions, gasket contact facing | ASME B16.1 Class125 |

압력-온도 등급은 각 카탈로그를 참조(No.E-201)

Dimensions

| Valve Size | NPS | 6 | 8 | 10 | mm |
|----------------|-----|-----|------|------|----|
| | DN | 150 | 200 | 250 | |
| L Face-to-face | | 267 | 292 | 330 | |
| H Height | | 220 | 295 | 355 | |
| D Handle | | 460 | 1000 | 1500 | |

PIPE FLANGE DIMENSIONS

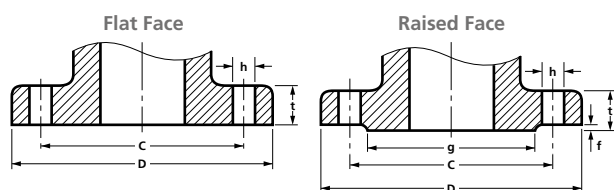


Class 125 ASME B16.1 - 2010

| Nominal Size | | D | | C | | t | | h (Bolt Holes) | | Bolting | |
|--------------|-----|-------|-----|-------|-------|------|------|----------------|-----|---------|---------------|
| NPS | DN | in. | mm. | in. | mm. | in. | mm. | in. | mm. | Number | Diam. of Bolt |
| 1 | 25 | 4.25 | 108 | 3.12 | 79.5 | 0.44 | 11.2 | 5/8 | 16 | 4 | 1/2 |
| 1 1/4 | 32 | 4.62 | 117 | 3.50 | 89.0 | 0.50 | 12.7 | 5/8 | 16 | 4 | 1/2 |
| 1 1/2 | 40 | 5.00 | 127 | 3.88 | 98.5 | 0.56 | 14.3 | 5/8 | 16 | 4 | 1/2 |
| 2 | 50 | 6.00 | 152 | 4.75 | 120.5 | 0.62 | 15.9 | 3/4 | 19 | 4 | 5/8 |
| 2 1/2 | 65 | 7.00 | 178 | 5.50 | 139.5 | 0.69 | 17.5 | 3/4 | 19 | 4 | 5/8 |
| 3 | 80 | 7.50 | 190 | 6.00 | 152.5 | 0.75 | 19.1 | 3/4 | 19 | 4 | 5/8 |
| 4 | 100 | 9.00 | 229 | 7.50 | 190.5 | 0.94 | 23.9 | 3/4 | 19 | 8 | 5/8 |
| 5 | 125 | 10.00 | 254 | 8.50 | 216.0 | 0.94 | 23.9 | 7/8 | 22 | 8 | 3/4 |
| 6 | 150 | 11.00 | 279 | 9.50 | 241.5 | 1.00 | 25.4 | 7/8 | 22 | 8 | 3/4 |
| 8 | 200 | 13.50 | 343 | 11.75 | 298.5 | 1.12 | 28.6 | 7/8 | 22 | 8 | 3/4 |
| 10 | 250 | 16.00 | 406 | 14.25 | 362.0 | 1.19 | 30.2 | 1 | 25 | 12 | 7/8 |
| 12 | 300 | 19.00 | 483 | 17.00 | 432.0 | 1.25 | 31.8 | 1 | 25 | 12 | 7/8 |
| 14 | 350 | 21.00 | 533 | 18.75 | 476.5 | 1.38 | 35.0 | 1 1/8 | 29 | 12 | 1 |
| 16 | 400 | 23.50 | 597 | 21.25 | 539.5 | 1.44 | 36.6 | 1 1/8 | 29 | 16 | 1 |
| 18 | 450 | 25.00 | 635 | 22.75 | 578.0 | 1.56 | 39.7 | 1 1/4 | 32 | 18 | 1 1/8 |
| 20 | 500 | 27.50 | 699 | 25.00 | 635.0 | 1.69 | 42.9 | 1 1/4 | 32 | 20 | 1 1/8 |
| 24 | 600 | 32.00 | 813 | 29.50 | 749.5 | 1.88 | 47.8 | 1 3/8 | 35 | 20 | 1 1/4 |

Remark: 상위 표의 mm 치수는 사용자의 편의에 따라 inch 치수로 변환 가능합니다.

PIPE FLANGE DIMENSIONS



JIS 5K Cast iron pipe flange dimensions JIS B2239 - 2013

Unit: mm

| Valve Size | | D | C | g | t | h | f | Bolt | |
|------------|-----|-----|-----|-----|----|----|---|--------|-------|
| B | A | | | | | | | Number | Diam. |
| 1 1/2 | 40 | 120 | 95 | 75 | 16 | 15 | 2 | 4 | M12 |
| 2 | 50 | 130 | 105 | 85 | 16 | 15 | 2 | 4 | M12 |
| 2 1/2 | 65 | 155 | 130 | 110 | 18 | 15 | 2 | 4 | M12 |
| 3 | 80 | 180 | 145 | 121 | 18 | 19 | 2 | 4 | M16 |
| 4 | 100 | 200 | 165 | 141 | 20 | 19 | 2 | 8 | M16 |
| 5 | 125 | 235 | 200 | 176 | 20 | 19 | 2 | 8 | M16 |
| 6 | 150 | 265 | 230 | 206 | 22 | 19 | 2 | 8 | M16 |
| 8 | 200 | 320 | 280 | 252 | 24 | 23 | 2 | 8 | M20 |
| 10 | 250 | 385 | 345 | 317 | 26 | 23 | 2 | 12 | M20 |
| 12 | 300 | 430 | 390 | 360 | 28 | 23 | 3 | 12 | M20 |
| 14 | 350 | 480 | 435 | 403 | 30 | 25 | 3 | 12 | M22 |

JIS 10K Cast iron pipe flange dimensions JIS B2239 - 2013

Unit: mm

| Valve Size | | D | C | g | t | h | f | Bolt | |
|------------|-----|-----|-----|-----|----|----|---|--------|-------|
| B | A | | | | | | | Number | Diam. |
| 3/8 | 10 | 90 | 65 | 46 | 14 | 15 | 1 | 4 | M12 |
| 1/2 | 15 | 95 | 70 | 51 | 16 | 15 | 1 | 4 | M12 |
| 3/4 | 20 | 100 | 75 | 56 | 18 | 15 | 1 | 4 | M12 |
| 1 | 25 | 125 | 90 | 67 | 18 | 19 | 1 | 4 | M16 |
| 1 1/4 | 32 | 135 | 100 | 76 | 20 | 19 | 2 | 4 | M16 |
| 1 1/2 | 40 | 140 | 105 | 81 | 20 | 19 | 2 | 4 | M16 |
| 2 | 50 | 155 | 120 | 96 | 20 | 19 | 2 | 4 | M16 |
| 2 1/2 | 65 | 175 | 140 | 116 | 22 | 19 | 2 | 4 | M16 |
| 3 | 80 | 185 | 150 | 126 | 22 | 19 | 2 | 8 | M16 |
| 4 | 100 | 210 | 175 | 151 | 24 | 19 | 2 | 8 | M16 |
| 5 | 125 | 250 | 210 | 182 | 24 | 23 | 2 | 8 | M20 |
| 6 | 150 | 280 | 240 | 212 | 26 | 23 | 2 | 8 | M20 |
| 8 | 200 | 330 | 290 | 262 | 26 | 23 | 2 | 12 | M20 |
| 10 | 250 | 400 | 355 | 324 | 30 | 25 | 2 | 12 | M22 |
| 12 | 300 | 445 | 400 | 368 | 32 | 25 | 3 | 16 | M22 |
| 14 | 350 | 490 | 445 | 413 | 34 | 25 | 3 | 16 | M22 |
| 16 | 400 | 560 | 510 | 475 | 36 | 27 | 3 | 16 | M24 |
| 18 | 450 | 620 | 565 | 530 | 38 | 27 | 3 | 20 | M24 |
| 20 | 500 | 675 | 620 | 585 | 40 | 27 | 3 | 20 | M24 |
| 24 | 600 | 795 | 730 | 690 | 44 | 33 | 3 | 24 | M30 |

TEMPERATURE-PRESSURE TABLE FOR SATURATED-VAPOR

| Temperature | | | Pressure (abs.) | | | Pressure (G) | | |
|----------------|------------------------|---------------------|------------------------|---------------------|------------------------------|---------------------|------------------------|------------------------------|
| Temperature °C | Pressure (abs.) MPa | Pressure (G) MPa | Pressure (abs.) MPa | Pressure (G) MPa | Saturation Temperature °C | Pressure (G) MPa | Pressure (abs.) MPa | Saturation Temperature °C |
| 70 | 0.03 | -0.07 | 0.09 | -0.01 | 99.1 | 0 | 0.10 | 100.0 |
| 80 | 0.05 | -0.05 | 0.19 | 0.09 | 119.6 | 0.09 | 0.19 | 120.1 |
| 90 | 0.07 | -0.03 | 0.29 | 0.19 | 132.9 | 0.19 | 0.29 | 133.2 |
| 100 | 0.10 | 0 | 0.39 | 0.29 | 142.9 | 0.29 | 0.39 | 143.2 |
| 110 | 0.14 | 0.04 | 0.49 | 0.39 | 151.1 | 0.39 | 0.49 | 151.3 |
| 120 | 0.19 | 0.09 | 0.58 | 0.48 | 158.1 | 0.49 | 0.59 | 158.3 |
| 130 | 0.26 | 0.16 | 0.68 | 0.58 | 164.2 | 0.58 | 0.68 | 164.3 |
| 140 | 0.36 | 0.26 | 0.78 | 0.68 | 169.6 | 0.68 | 0.78 | 169.8 |
| 150 | 0.47 | 0.37 | 0.88 | 0.78 | 174.5 | 0.78 | 0.88 | 174.7 |
| 160 | 0.61 | 0.51 | 0.98 | 0.88 | 179.0 | 0.88 | 0.98 | 179.3 |
| 170 | 0.79 | 0.69 | 1.17 | 1.07 | 187.1 | 0.98 | 1.08 | 183.2 |
| 180 | 1.00 | 0.90 | 1.37 | 1.27 | 194.1 | 1.17 | 1.27 | 190.0 |
| 190 | 1.25 | 1.15 | 1.56 | 1.46 | 200.4 | 1.37 | 1.47 | 197.4 |
| 200 | 1.55 | 1.45 | 1.76 | 1.66 | 206.2 | 1.56 | 1.66 | 203.4 |
| 210 | 1.90 | 1.80 | 1.96 | 1.86 | 211.4 | 1.78 | 1.88 | 208.9 |
| 220 | 2.32 | 2.21 | 2.45 | 2.35 | 222.9 | 1.96 | 2.06 | 213.8 |
| 230 | 2.79 | 2.69 | 2.94 | 2.84 | 232.8 | 2.45 | 2.55 | 223.8 |
| 240 | 3.34 | 3.24 | 3.43 | 3.33 | 241.4 | 2.94 | 3.04 | 234.5 |
| 250 | 3.97 | 3.87 | 3.92 | 3.82 | 249.2 | 3.92 | 4.02 | 250.6 |
| 260 | 4.66 | 4.56 | 4.90 | 4.80 | 262.7 | 4.90 | 5.00 | 263.9 |
| 270 | 5.50 | 5.40 | 5.88 | 5.78 | 274.3 | 5.88 | 5.98 | 275.3 |
| 280 | 6.41 | 6.31 | 6.86 | 6.76 | 284.5 | 6.86 | 6.96 | 285.4 |
| 290 | 7.44 | 7.34 | 7.84 | 7.74 | 293.6 | 7.84 | 7.94 | 294.5 |
| 300 | 8.59 | 8.49 | 8.82 | 8.72 | 301.9 | 8.82 | 8.92 | 302.7 |
| 310 | 9.87 | 9.77 | 9.80 | 9.70 | 309.5 | 9.80 | 9.90 | 310.9 |
| 320 | 11.28 | 11.18 | 11.76 | 11.66 | 323.1 | 11.76 | 11.86 | 323.8 |
| 330 | 12.86 | 12.76 | 13.72 | 13.62 | 335.1 | 13.72 | 13.82 | 335.6 |
| 340 | 14.61 | 14.51 | 15.69 | 15.59 | 345.7 | 15.69 | 15.79 | 346.2 |
| 350 | 16.47 | 16.37 | 17.65 | 17.55 | 355.4 | 17.65 | 17.75 | 355.8 |
| 360 | 18.77 | 18.67 | 19.61 | 19.51 | 364.1 | 19.61 | 19.71 | 364.5 |
| 370 | 21.15 | 21.05 | 21.57 | 21.47 | 372.0 | 21.57 | 21.67 | 372.5 |

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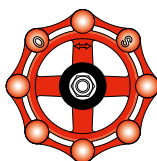
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KITZ
KITZ CORPORATION

1-10-1, Nakase, Mihama-ku, Chiba 261-8577, Japan
International Sales Dept.
Phone : 81-43-299-1730
Fax : 81-43-299-0121

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