

Bronze & Brass Valves

JIS 5K/10K, ASME Class 125/150/300, KITZ Type 100/125/150/300/400/600





As a world leading manufacturer of general service valves, KITZ Corporation is glad to present you a broad range of our KITZ bronze/brass valves for your commercial and industrial applications.

KITZ bronze/brass valves are produced in modern factories used exclusively for valve manufacturing. Each phase of the manufacturing process, from selection of raw materials to casting, forging, machining, assembly and testing, has been improved with automated production facilities and unparalleled production technology. Standardization and automation yield KITZ bronze/brass valves of superior quality and higher uniformity at competitive prices supported by incomparably prompt delivery.

KITZ bronze/brass valves are all designed by the state-of-the-art computers, built by automation and inspected by the people who care the quality.

Presenting Design Features of KITZ Bronze/Brass Valves

Human Engineering in Handwheel Design

Computer designed handwheels of all KITZ bronze/brass valves, the product of KITZ human engineering, are featured with an ideal combination of an operational efficiency and high mechanical strength for reliability.

Asbestos-free Gland Packings

All KITZ bronze/brass gate and globe valves employ Aramid Fiber PTFE as the material of asbestos-free gland packing, meeting the latest industrial demand to minimize pollutional concerns. With its leak-free sealing performance and reduced valve operating torque, Aramid Fiber PTFE is considered a reliable substitution for conventional asbestos sheet for service of water, oil, gas and saturated steam pressure of maximum 300psi within the temperature range up to 300°C.

Pressure Rating

The pressure rating designation of KITZ valves follows the accepted practice of the valve and pipe fitting industry today. Each product is rated for W.O.G. (Non-shock cold water, oil, and gas*) and Saturated steam pressure service.

Inspection and Testing

KITZ valves are manufactured under strict quality control throughout all stages of production, beginning with inspection of chemical composition and mechanical properties of materials. Extra care is given to inspection and testing at all machine shops and assembly plants, utilizing up-to-date precision equipment. All KITZ valves are subjected to strict pressure testing of body and seat sealing to assure long-life service and quality performance.

*The valves introduced in this catalog are not designed to handle toxic gases. Use specially designed or certified valves for flammable gas service.

KITZ Corporation, Chino Plant, Japan (ISO 9001)



KITZ (Thailand) Ltd, Bangkok Plant, Thailand (ISO 9001)




This catalog use MPa, a SI unit, for indication of pressures. For readers' convenience, however psi is also used for ASME and JIS related products respectively. The products introduced in this catalog are all covered by the ISO 9001 Certification.

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 **CAUTION** The valves introduced in this catalog are not designed to handle toxic gases. Use specially designed or certified valves for flammable gas service.

KITZ "K-Metal": Unique Dezincification Resistant Brass (UNS No. C35350)

Water pollution and employment of new piping material have amplified valve dezincification problems.

What is dezincification?

The copper alloy used in bronze valves contains zinc, tin, and lead with copper as a base. When bronze valves are subjected to unfavorable service conditions, the zinc component contained in the copper alloy separates from the copper base, and the metal corrodes. This is called dezincification.

In case of bronze valve, the body, bonnet, and other cast bronze parts hardly corrode due to the small percent of zinc contained in the alloy. But brass valve parts such as stems, which contain 40% zinc, often corrodes due to extreme dezincification.

What causes dezincification?

The following factors cause dezincification. These factors are generally believed to occur together, rather than independently.

- 1 Excessive aqueous solution in acidity.
- 2 Warm water containing excessive free carbonic acid with high electric conductivity.
- 3 High electric conductivity with excessive presence of chlorides and sulfides.
- 4 Copper or vinyl chloride pipes.
- 5 Excessive dissolved oxygen.

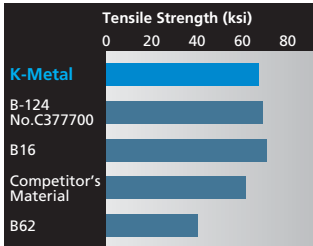


Fig. 1 Compared tensile strength

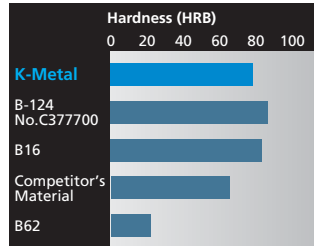


Fig. 2 Compared hardness

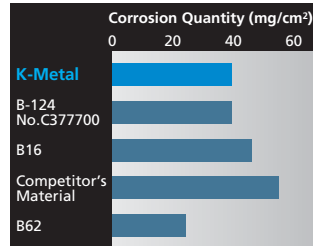


Fig. 3 Compared corrosion (1mg/cm²=0.014mlb/in²)

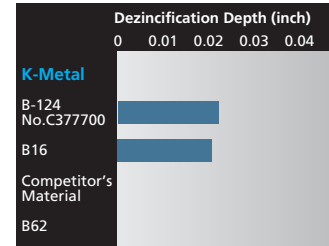


Fig. 4 Compared dezincification (to AS C316)

Bronze/Brass Valve Solder Joints

Copper tubing is widely used with bronze/brass valves in steam and water-line applications in schools, hospitals, hotels, and private houses because of excellent physical characteristics. It resists corrosion, meets sanitation requirements, and is easy to install.

Copper Tubes: There are three types of copper tubing for complying with ASTM B88 shown below.

Each type is provided with a different wall thickness to meet application requirements.

Type K	For use in steam, oil and gas lines for underground installation and/or severe conditions.
Type L	For general cooling and heating systems and related water piping and ventilation systems.
Type M	For home air-conditioning and heating applications.

CAUTION	Solder joint end valves should not be used in service where the temperature of the line fluid is higher than the softening point of solder.
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Soldering Leak-free Joints

Use solder of 95-5 tin-antimony or 96-4 tin-silver, and an open-flame torch. Keep torch temperature relatively low to assure a firmly soldered joint. Because the solder melting point ranges 500°F (260°C) solder jointed valves cannot be used for high temperature service.

Solder P-T Rating

Solder	Max. temp. (°C)	Max. working pressure					
		size 1/4"~1"		size 1/4"~2"		size 2 1/4"~4"	
		MPa	psi	MPa	psi	MPa	psi
95-5 tin-antimony [H95 Sb-5A]	38	3.45	500	2.76	400	2.07	300
	66	2.76	400	2.41	350	1.90	275
96-4 tin-silver [H96 Ag-3.5A]	93	2.07	300	1.72	250	1.38	200
	121	1.38	200	1.21	175	1.03	150

KITZ Bronze and Brass Materials to JIS Standards

JIS H5120 (Copper & Copper Alloy Castings)

Cast bronze Class 6	Designation	Chemical composition (%)										Mechanical property	
		Cu	Sn	Zn	Pb	Ni	Fe	P	Sb	Al	Si	Tensile strength 195 Min. (N/mm ²)	Elongation (%) 15 Min.
	CAC406 (BC6)	83.0-87.0	4.0-6.0	4.0-6.0	4.0-6.0	1.0 Max.	0.3 Max.	0.05 Max.	0.2 Max.	0.01 Max.	0.01 Max.		

JIS H3250 (Copper & Copper Alloy Rods and Bars)

Forged brass Alloy No.3771	Designation		Chemical composition (%)				Mechanical property	
	Extruded	Drawn	Cu	Pb	Fe + Sn	Zn	Tensile strength 315 Min. (N/mm ²)	Elongation (%) 15 Min.
	C3771BE	C3771BD	57.0-61.0	1.0-2.5	1.0 Max.	Remainder		

JIS H3250 (Copper & Copper Alloy Rods and Bars)

Free-cutting brass Alloy No.3604	Designation		Chemical composition (%)					Mechanical property	
	Extruded	Drawn	Cu	Pb	Fe	Fe + Sn	Zn	Tensile strength 335 Min. (N/mm ²)	Elongation (%) —
	C3604BE	C3604BD	57.0-61.0	1.8-3.7	0.5 Max.	1.0 Max.	Remainder		

KITZ Bronze and Brass Materials to ASTM Standards

ASTM B62

Chemical composition (%)											Mechanical properties		
Copper	Tin	Lead	Zinc	Nickel & cobalt	Iron	Sulfur	Phosphorus	Antimony	Aluminum	Silicon	Minimum		
84.0-86.0	4.0-6.0	4.0-6.0	4.0-6.0	1.0 Max.	0.30 Max.	0.08 Max.	0.05 Max.	0.25 Max.	0.005 Max.	0.005 Max.	Tensile strength 30 ksi	Yield strength 14 ksi	Elongation in 2 in. 20%

ASTM B584 C84400

Chemical composition (%)											Mechanical properties		
Copper	Tin	Lead	Zinc	Nickel & cobalt	Iron	Sulfur	Phosphorus	Antimony	Aluminum	Silicon	Minimum		
78.0-82.0	2.3-3.5	6.0-8.0	7.0-10.0	1.0 Max.	0.40 Max.	0.08 Max.	0.02 Max.	0.25 Max.	0.005 Max.	0.005 Max.	Tensile strength 29 ksi	Yield strength 13 ksi	Elongation in 2 in. 18%

ASTM B283 C37700

Chemical composition (%)				Mechanical properties		
Copper	Lead	Iron	Zinc	Minimum		
58.0-61.0	1.5-2.5	0.30 Max.	Remainder	Tensile strength 50 ksi	Yield strength 18 ksi	Elongation in 4x thickness 25%

Compliance with RoHS Requirements.

Aiming to reduce the negative environmental health impact, KITZ CORPORATION can offer products which meet the restriction of the use of six hazardous substances imposed by RoHS* directive of EU, namely mercury, lead, cadmium, hexavalent chromium, PBB and PBDE, to the market. The products meeting this requirement bear the symbol shown below. Please consult KITZ for more details on these products.



*The Restriction of the use of certain Hazardous Substances in electrical and electronic equipment

CLASS 100 BRONZE GLOBE VALVE

Screwed Bonnet, Rising Stem
Threaded ends to BS21 (JIS B0203) or NPT

W.O.G. non-shock 1.03 MPa (150 psi), Saturated steam pressure 0.7 MPa (100 psi)

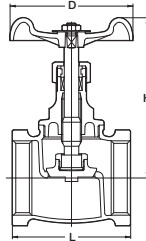


Fig. A

• Threaded end to BS21 (JIS B0203)

Fig. AKA

• Threaded end to ASME B1.20.1



Materials

Parts	Material
Body	Bronze
Bonnet	Brass/Bronze*
Stem	Dezincification Resistant Brass
Disc	Bronze
Gland Packing	Aramid Fibers Graphite

*Size 4 only

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

Nominal Size	inch	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
	mm	8	10	15	20	25	32	40	50	65	80	100
L	40	42	48	53	63	73	81	94	115	131	171	
H valve open	66	67	69	80	94	104	127	147	179	200	250	
D	50	50	55	60	70	80	90	100	115	135	180	

BRONZE GLOBE VALVE

Screwed Bonnet, Rising Stem, Soft seated disc
Threaded ends to BS21 (JIS B0203)

W.O.G. non-shock 0.86 MPa (125 psi)



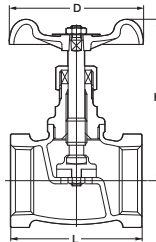
Fig. Q

• Rubber Disc



Fig. QA

• PTFE Disc (for oil service)



Materials

Parts	Material
Body	Bronze
Bonnet	Brass
Stem	Dezincification Resistant Brass
Disc	Urethane rubber/PTFE
Gland Packing	Aramid Fibers Graphite

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

Nominal Size	inch	1/2	3/4	1	1 1/4	1 1/2	2
	mm	15	20	25	32	40	50
L	44	50	63	73	81	94	
H valve open	70	73	86	108	132	150	
D	50	55	60	80	90	100	

*Size 1 1/4 & larger = QA only

CLASS 150 BRONZE GLOBE VALVE

Screwed Bonnet, Rising Stem
Threaded ends to BS21 (JIS B0203) or NPT

W.O.G. non-shock 2.07 MPa (300 psi), Saturated steam pressure 1.03 MPa (150 psi)

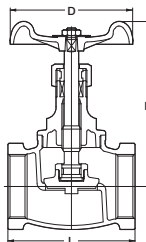


Fig. C

• Threaded end to BS21 (JIS B0203)

Fig. AKC

• Threaded end to ASME B1.20.1



Materials

Parts	Material
Body	Bronze
Bonnet	Brass/Bronze*
Stem	Dezincification Resistant Brass
Disc	Bronze
Gland Packing	Aramid Fibers Graphite

*Size 3 only

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

Nominal Size	inch	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	mm	8	10	15	20	25	32	40	50	65	80
L	44	44	53	65	77	85	100	119	139	158	
H valve open	66	68	79	93	104	127	145	174	199	215	
D	50	50	60	70	80	90	100	115	135	155	

CLASS 150 BRONZE GLOBE VALVE

Screwed Bonnet, Angle type body, Rising Stem
Threaded ends to BS21 (JIS B0203) or NPT

W.O.G. non-shock 2.07 MPa (300 psi), Saturated steam pressure 1.03 MPa (150 psi)

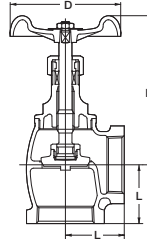


Fig. CA

- Threaded end to BS21 (JIS B0203)

Fig. AKCA

- Threaded end to ASME B1.20.1



Materials

Parts	Material
Body	Bronze
Bonnet	Brass/Bronze*
Stem	Dezincification Resistant Brass
Disc	Bronze
Gland Packing	Aramid Fibers Graphite

*Size 3 only

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

Nominal Size	inch	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	mm
L	21	24	28	34	40	47	52	61	74	85		
H valve open	66	68	79	93	104	127	145	174	199	215		
D	50	50	60	70	80	90	100	115	135	155		

CLASS 150 BRONZE GLOBE VALVE

Screwed Bonnet, Rising Stem
Flanged ends drilled or undrilled optionally.

W.O.G. non-shock 1.55 MPa (225 psi), Saturated steam pressure 1.03 MPa (150 psi)

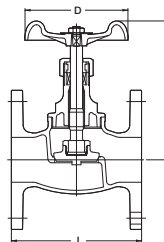


Fig. B

- Undrilled unless drilling is specified as an option

Fig. BH

- Drilled according to JIS 10K



Materials

Parts	Material
Body	Bronze
Bonnet	Brass/Bronze*
Stem	Dezincification Resistant Brass
Disc	Bronze
Gland Packing	Aramid Fibers Graphite

*Size 3 and 4

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

Nominal Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	mm
L	83	88	100	113	120	145	165	177	220		
H valve open	79	94	105	127	145	174	198	215	250		
D	60	70	80	90	100	115	135	155	180		

*Shall not be in accordance with JIS B 2240

CLASS 125 BRONZE GLOBE VALVE

Union Bonnet*, Rising Stem, Soft seated disc
Threaded ends to BS21 (JIS B0203) or NPT

W.O.G. non-shock 1.38 MPa (200 psi), Saturated steam pressure 0.86 MPa (125 psi)

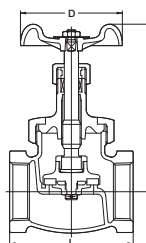


Fig. G

- Threaded end to BS21 (JIS B0203)

Fig. AGK

- Threaded end to ASME B1.20.1



Materials

Parts	Material
Body	Bronze
Bonnet	Brass/Bronze*
Stem	Dezincification Resistant Brass
Disc	G/F PTFE
Gland Packing	Aramid Fibers Graphite

*Size 2 1/2 and 3

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

Nominal Size	inch	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	mm
L	47	53	57	66	76	88	100	120	147	162		
H valve open	68	88	100	110	120	140	156	185	210	229		
D	50	55	60	70	80	90	100	115	135	155		

CLASS 150 BRONZE GLOBE VALVE

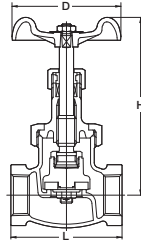
Union Bonnet, Rising Stem, Soft seated disc
Threaded ends to BS21 (JIS B0203)

W.O.G. non-shock 2.07 MPa (300 psi), Saturated steam pressure 1.03 MPa (150 psi)



Fig. D

• Threaded end to BS21 (JIS B0203)



Materials

Parts	Material
Body	Bronze
Bonnet	Brass/Bronze*
Stem	Dezincification Resistant Brass
Disc	G/F PTFE
Gland Packing	Aramid Fibers Graphite

*Size 1½ & 2

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

Nominal Size	inch	1/2	3/4	1	1¼	1½	2	mm	
	mm	15	20	25	32	40	50		
L		64	78	90	105	120	145		
H valve open		113	138	156	184	187	212		
D		60	90	100	115	115	135		

CLASS 150 BRONZE GLOBE VALVE

Union Bonnet*, Rising Stem, Soft seated disc
Flanged ends drilled or undrilled optionally.

W.O.G. non-shock 1.55 MPa (225 psi), Saturated steam pressure 1.03 MPa (150 psi)

*Size 2½ and larger : Bolted bonnet

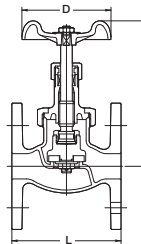


Fig. DB

• Undrilled unless drilling is specified as an option

Fig. DBH

• Drilled according to JIS 10K



Materials

Parts	Material
Body	Bronze
Bonnet	Brass/Bronze*
Stem	Dezincification Resistant Brass
Disc	G/F PTFE
Gland Packing	Aramid Fibers Graphite/ PTFE Fiber Braid**

*Size 1½ & larger
**Size 4 only

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

Nominal Size	inch	1/2	3/4	1	1¼	1½	2	2½	3	4	mm
	mm	15	20	25	32	40	50	65	80	100	
L		82	95	108	120	140	165	190	220	270	
H valve open		113	138	156	184	187	212	244	281	321	
D		60	90	100	115	115	135	155	180	225	

*Shall not be in accordance with JIS B 2240

CLASS 125 BRASS GATE VALVE

Screwed Bonnet, Non-rising Stem
Threaded ends to BS21 (JIS B0203) or NPT,
or solder joint ends.

W.O.G. non-shock 1.38 MPa (200 psi), Saturated steam pressure 0.86 MPa (125 psi)



Fig. FR

• Threaded end to BS21 (JIS B0203)

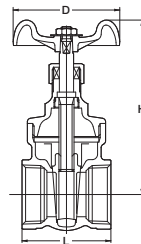
Fig. AKFS

• Threaded end to ASME B1.20.1



Fig. CFS

• Solder joint ends to ASME B16.18



Materials

Parts	Material
Body	Brass
Bonnet	Brass
Stem	Dezincification Resistant Brass
Disc	Brass
Gland Packing	Aramid Fibers Graphite

⚠ Solder joint end valves should not be used in service where the temperature of line fluid is higher than the softening point of solder.

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

Nominal Size	inch	3/8	1/2	3/4	1	1¼	1½	2	2½	3	mm
	mm	10	15	20	25	32	40	50	65	80	
L		38	42	47	50	60	63	72	80	90	
L1 Solder			45	60	70	77	86	102			
H		73	73	87	97	117	126	154	167	200	
D		50	50	55	60	70	80	90	100	115	

*2½ and 3 = AKFS only

CLASS 125 BRASS GATE VALVE

Screwed Bonnet, Non-rising Stem
Threaded ends to BS21 (JIS B0203) or NPT,
or solder joint ends.

W.O.G. non-shock 1.38 MPa (200 psi), Saturated steam pressure 0.86 MPa (125 psi)



Fig. FH

• Threaded end to BS21 (JIS B0203)

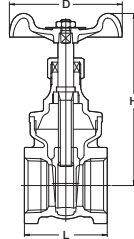


Fig. CFH

• Solder joint ends to ASME B16.18

Fig. AKFH

• Threaded end to ASME B1.20.1



Materials

Parts	Material
Body	Brass
Bonnet	Brass
Stem	Dezincification Resistant Brass
Disc	Brass
Gland Packing	Aramid Fibers Graphite

⚠ Solder joint end valves should not be used in service where the temperature of line fluid is higher than the softening point of solder.

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

Nominal Size	inch	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	mm
L		8	10	15	20	25	32	40	50	65	80	
L1 Solder			37	45	60	70	77	86	104	115	127	
H		70	73	73	87	97	118	126	154	187	205	
D		50	50	50	55	60	70	80	90	100	115	

CLASS 125 BRONZE GATE VALVE

Screwed Bonnet, Non-rising Stem
Threaded ends to BS21 (JIS B0203) or NPT,
or solder joint ends.

W.O.G. non-shock 1.38 MPa (200 psi), Saturated steam pressure 0.86 MPa (125 psi)

3/8 to 2 Screwed-over-bonnet



Fig. H

• Threaded end to BS21 (JIS B0203)

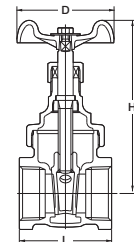
Fig. AKH

• Threaded end to ASME B1.20.1



Fig. CH

• Solder joint ends to ASME B16.18



Materials

Parts	Material
Body	Bronze
Bonnet	Bronze
Stem	Dezincification Resistant Brass
Disc	Dezincification Resistant Brass/Bronze*
Gland Packing	Aramid Fibers Graphite

*Size 3/4 & larger

⚠ Solder joint end valves should not be used in service where the temperature of line fluid is higher than the softening point of solder.

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

Nominal Size	inch	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	mm
L		10	15	20	25	32	40	50	65	80	100	
L1 Solder			39	46	61	72	78	87	102	115	130	173
H		74	80	90	105	118	135	159	202	223	280	
D		50	50	55	60	70	80	90	115	135	155	

CLASS 125 BRONZE GATE VALVE

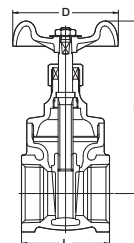
Screwed Bonnet, Non-rising Stem,
Threaded ends to BS21 (JIS B0203)

W.O.G. non-shock 1.38 MPa (200 psi), Saturated steam pressure 0.86 MPa (125 psi)



Fig. S

• Threaded end to BS21 (JIS B0203)



Materials

Parts	Material
Body	Bronze
Bonnet	Brass
Stem	Dezincification Resistant Brass
Disc	Brass
Gland Packing	Aramid Fibers Graphite

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

Nominal Size	inch	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	mm
L		10	15	20	25	32	40	50	65	80	
H		75	75	86	97	117	126	154	164	200	
D		50	50	55	60	70	80	90	100	115	

CLASS 150 BRONZE GATE VALVE

Screwed Bonnet, Non-rising Stem
Threaded ends to BS21 (JIS B0203) or NPT

W.O.G. non-shock 2.07 MPa (300 psi), Saturated steam pressure 1.03 MPa (150 psi)

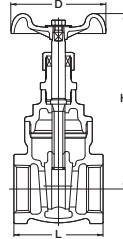


Fig. E

- Threaded end to BS21 (JIS B0203)

Fig. AKE

- Threaded end to ASME B1.20.1



Materials

Parts	Material
Body	Bronze
Bonnet	Brass/Bronze*
Stem	Dezincification Resistant Brass
Disc	Bronze
Gland Packing	Aramid Fibers Graphite

*Size 2½ & 3

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

Nominal Size	mm									
	inch	¾	1/2	¾	1	1¼	1½	2	2½	3
L	43	48	53	62	69	75	86	105	116	
H	86	96	111	122	141	164	197	225	261	
D	50	55	60	70	80	90	100	115	135	

CLASS 150 BRONZE GATE VALVE

Screwed Bonnet, Non-rising Stem
Flanged ends drilled or undrilled optionally.

W.O.G. non-shock 2.07 MPa (300 psi), Saturated steam pressure 1.03 MPa (150 psi)

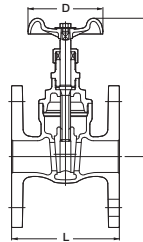


Fig. EB

- Undrilled unless drilling is specified as an option

Fig. EBH

- Drilled according to JIS 10K



Materials

Parts	Material
Body	Bronze
Bonnet	Brass/Bronze*
Stem	Dezincification Resistant Brass
Disc	Bronze
Gland Packing	Aramid Fibers Graphite

*Size 2½ & larger

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

Nominal Size	mm									
	inch	1/2	¾	1	1¼	1½	2	2½	3	4
L	75	80	95	110	120	140	165	190	230	
H	96	111	122	142	165	197	225	264	309	
D	55	60	70	80	90	100	115	155	225	

*Shall not be in accordance with JIS B 2240

CLASS 150 BRONZE LIFT CHECK VALVE

Screwed cap, Lift type disc
Threaded ends to BS21 (JIS B0203) or NPT

W.O.G. non-shock 2.07 MPa (300 psi), Saturated steam pressure 1.03 MPa (150 psi)

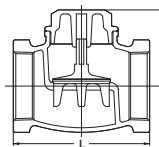


Fig. F

- Threaded end to BS21 (JIS B0203)

Fig. AKF

- Threaded end to ASME B1.20.1



Materials

Parts	Material
Body	Bronze
Cap	Brass/Bronze*
Disc	Bronze

*Size 2½ & 3

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

Nominal Size	mm									
	inch	¾	1/2	¾	1	1¼	1½	2	2½	3
L	44	53	65	77	85	100	119	139	158	
H	26	28	34	42	50	56	67	79	91	

CLASS 125

BRONZE SWING CHECK VALVE

Screwed Cap, Swing type disc
Threaded ends to BS21 (JIS B0203) or NPT, or solder joint ends.

W.O.G. non-shock 1.38 MPa (200 psi), Saturated steam pressure 0.86 MPa (125 psi)



Fig. R

- Threaded end to BS21 (JIS B0203)

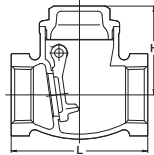


Fig. CR

- Solder joint ends to JIS B2011 / ASME B16.18 (2 1/2 & 3)

Fig. AKR

- Threaded end to ASME B1.20.1



Materials

Parts	Material
Body	Bronze
Cap	Brass/Bronze*
Hinge pin	Brass
Disc	Brass/Bronze*

*Size 4 only

⚠ Solder joint end valves should not be used in service where the temperature of line fluid is higher than the softening point of solder.

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

Nominal Size	inch	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	mm
L	53	60	70	80	92	102	122	150	165	195		
L1 Solder	56	67	89	104	120	134	164	193	213			
H	39	39	45	52	62	67	79	91	102	119		

CLASS 125

BRONZE Y-PATTERN SWING CHECK VALVE

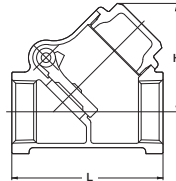
Screwed cap, Swing type disc
Threaded ends to BS21 (JIS B0203)

W.O.G. non-shock 1.38 MPa (200 psi), Saturated steam pressure 0.86 MPa (125 psi)



Fig. YR

- Threaded end to BS21 (JIS B0203)



Materials

Parts	Material
Body	Bronze
Cap	Brass
Hinge pin	Copper
Disc	Bronze

⚠ Solder joint end valves should not be used in service where the temperature of line fluid is higher than the softening point of solder.

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

Nominal Size	inch	3/8	1/2	3/4	1	1 1/4	1 1/2	2	mm
L	54	56	70	80	95	110	128		
H	40	40	49	58	71	80	95		

CLASS 150

BRONZE LIFT CHECK VALVE

Screwed Cap, Lift type disc
Threaded ends to BS21 (JIS B0203) or NPT, or solder joint ends.

W.O.G. non-shock 1.72 MPa (250 psi)



Fig. RF

- Threaded end to BS21 (JIS B0203)
- NBR Disc

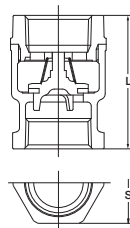
Fig. AKAF

- Threaded end to ASME B1.20.1
- FKM Disc



Fig. CAF

- Solder joint ends to ASME B16.18
- FKM Disc



Materials

Parts	Material
Body	Bronze
Cap	Bronze
Disc	NBR/FKM*

*AKAF & CAF

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

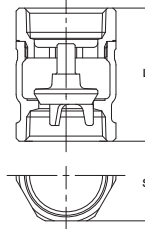
Nominal Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	mm
L	53	59	67	78	84	98		
L1 Solder	61	76	89	97	110	132		
S (AKAF)	26	32	39	48	54	67		
S (RF)	28	34	41	50	57	70		

5K

BRONZE LIFT CHECK VALVE

Screwed cap, Lift type disc
Threaded ends to BS21 (JIS B0203)

W.O.G. non-shock 120°C (0.5 MPa)



Materials

Parts	Material
Body	Bronze
Cap	Brass (Size 1/2 & 3/4) Bronze (Size 1 to 2)
Disc	Dezincification Resistant Brass (Size 1/2 & 3/4) Bronze (Size 1 to 2)

⚠ Don't use for Flammable gas or Toxic gas.

Fig. VF

• Threaded end to BS21 (JIS B0203)

Dimensions

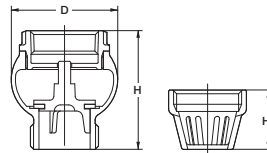
Nominal Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	mm
	mm	15	20	25	32	40	50	
L		37	44	51	62	69	82	
S		24	30	36	45	52	63	

5K

BRONZE LIFT CHECK VALVE

Screwed cap, Lift type disc
Threaded ends to BS21 (JIS B0203) and parallel

Water 80°C (0.5 MPa)



Materials

Parts	Material
Body	Bronze
Cap	Bronze
Disc	NBR

⚠ Don't use for Flammable gas or Toxic gas.

Fig. FT

• Threaded end to BS21 (JIS B0203) and parallel

Fig. FTS

(Screen)
Threaded end to parallel

Dimensions

Nominal Size	inch	3/4	1	1 1/4	1 1/2	2	2 1/2	3	mm
	mm	20	25	32	40	50	65	80	
H		48	58	62	70	80	90	100	
D		41	52	62	70	83	102	116	
H1		25	29	32	35	43	50	51	

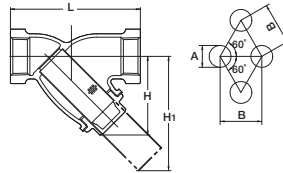
CLASS 150

Y-PATTERN STRAINER

Y-Pattern body, Screwed cap, 304 stainless steel screen
Threaded ends to BS21 (JIS B0203) or NPT, or solder joint ends.

W.O.G. non-shock 2.07 MPa (300 psi), Saturated steam pressure 1.03 MPa (150 psi) up to size 2*

*Contact KITZ for larger sizes



Materials

Parts	Material
Body	Bronze
Body cap	Brass
Screen	Type304 Stainless Steel

	A	B
3/8 to 2	1.4	2.4
2 1/2 to 3	1.5	2.5

⚠ Solder joint end valves should not be used in service where the temperature of line fluid is higher than the softening point of solder.

⚠ Don't use for Flammable gas or Toxic gas.

Fig. Y

• Threaded end to BS21 (JIS B0203)

Fig. AKY

• Threaded end to ASME B1.20.1

Fig. CY

• Solder joint ends to JIS B2011 / ASME B16.18 (2 1/2 & 3)

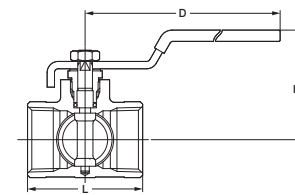
Dimensions

Nominal Size	inch	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	mm
	mm	10	15	20	25	32	40	50	65	80	
L		70	80	100	115	135	160	195	230	240	
L1 Solder			80	105	125	145	170	210	250	280	
H		44	49	57	70	82	98	121	148	180	
H1		61	68	83	105	124	149	188	216	267	

CLASS 175 BRASS BUTTERFLY VALVE

NBR lined disc, Balancing stop hand lever
Threaded ends to BS21 (JIS B0203)

W.O.G. non-shock 1.21 MPa (175 psi)



Materials

Parts	Material
Body	Brass
Stem	Type 304 stainless steel
Disc	Type 304 stainless steel + White-NBR
O-ring	NBR

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

Nominal Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	mm
	mm	15	20	25	32	40	50	
L		47	51	58	67	73	82	
H		45	47	50	60	64	70	
D		85	85	85	110	110	110	

Fig. FV

• Threaded end to BS21 (JIS B0203)



10K

JIS 10K BRONZE GLOBE VALVE

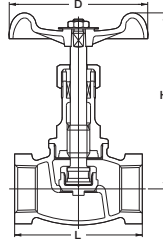
Screwed Bonnet*, Rising Stem
Designed to JIS B2011
Threaded end to JIS B0203 (also to BS21)

W.O.G -29°C to +120°C (Not Freezing) 1.4 MPa, Saturated steam pressure 1.0 MPa (See P.17)

*Size 3 : Bolted Bonnet



Fig. J



Materials

Parts	Material
Body	Bronze
Bonnet	Brass/Bronze*
Stem	Dezincification Resistant Brass
Disc	Bronze
Gland Packing	Non-Asbestos Packing

*Size 1 & larger

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

Nominal Size	inch	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	mm
	mm	8	10	15	20	25	32	40	50	65	80	
L		50	55	65	80	90	105	120	140	180	200	
H valve open		86	87	93	122	135	157	171	196	232	268	
D		50	55	60	80	90	100	115	135	155	180	

10K

10K BRONZE GLOBE VALVE

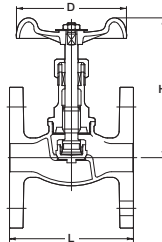
Screwed Bonnet*, Rising Stem,
Designed to JIS B2011
Flanged end to JIS B2011

Water, non-shock 120°C (1.4 MPa), Oil & water 120°C (1.0 MPa), Saturated steam pressure 1.0 MPa

*Size 3 & larger : Bolted Bonnet



Fig. JB



Materials

Parts	Material
Body	Bronze
Bonnet	Brass/Bronze*
Stem	Dezincification Resistant Brass
Disc	Bronze
Gland Packing	Non-Asbestos Packing

*Size 1 & larger

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

Nominal Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	mm
	mm	15	20	25	32	40	50	65	80	100	
L		85	95	110	130	150	180	210	240	280	
H valve open		93	122	135	157	171	196	232	268	323	
D		60	80	90	100	115	135	155	180	225	
t*		10	10	12	12	14	14	16	16	18	

*Shall not be in accordance with JIS B 2011

5K

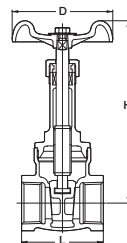
JIS 5K BRONZE GATE VALVE

Screwed Bonnet, Rising Stem
Designed to JIS B2011
Threaded end to JIS B0203 (also to BS21)

W.O.G -29°C to +120°C (Not Freezing) 0.7 MPa, Saturated steam pressure 0.5 MPa (See P.17)



Fig. M



Materials

Parts	Material
Body	Bronze
Bonnet	Bronze
Stem	Dezincification Resistant Brass
Disc	Bronze
Gland Packing	Non-Asbestos Packing

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

Nominal Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	mm
	mm	15	20	25	32	40	50	65	80	
L		50	60	65	75	85	95	115	130	
H valve open		126	145	170	213	244	294	366	428	
D		60	60	70	90	100	115	135	155	

10K

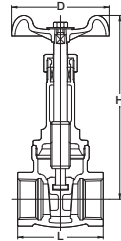
JIS 10K BRONZE GATE VALVE

Screwed Bonnet, Rising Stem
Designed to JIS B2011
Threaded ends to JIS B0203 (also to BS21)

W.O.G -29°C to +120°C (Not Freezing) 1.4 MPa, Saturated steam pressure 1.0 MPa (See P.17)



Fig. L



Materials

Parts	Material
Body	Bronze
Bonnet	Bronze
Stem	Dezincification Resistant Brass
Disc	Bronze
Gland Packing	Non-Asbestos Packing

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

Nominal Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	mm
	mm	15	20	25	32	40	50	65	80	
L		55	65	70	80	90	100	120	140	
H valve open		126	153	178	223	254	302	376	436	
D		60	70	80	90	100	115	155	180	

10K

10K BRONZE GATE VALVE

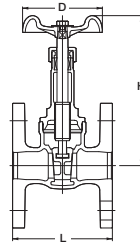
Screwed Bonnet*, Rising Stem,
Designed to JIS B2011
Flanged ends to JIS B2011

Water, non-shock 120°C (1.4 MPa), Oil & water 120°C (1.0 MPa), Saturated steam pressure 0.7 MPa

*Size 4 : Bolted Bonnet



Fig. LB



Materials

Parts	Material
Body	Bronze
Bonnet	Bronze
Stem	Dezincification Resistant Brass
Disc	Bronze
Gland Packing	Non-Asbestos Packing

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

Nominal Size	inch	3/4**	1	1 1/4	1 1/2	2	2 1/2	3	4**	mm
	mm	20**	25	32	40	50	65	80	100**	
L		90	100	110	125	140	170	190	220	
H valve open		153	178	223	254	302	376	436	327	
D		70	80	90	100	115	155	180	225	
t*		10	12	12	14	14	16	16	18	

t Shall not be in accordance with JIS B 2011 **3/4 & 4 shall not be in accordance with JIS B2011

10K

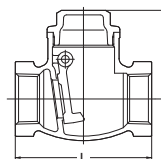
JIS 10K BRONZE SWING CHECK VALVE

Screwed Bonnet, Swing type disc
Designed to JIS B2011, Threaded ends to JIS B0203 (also to BS21)

W.O.G -29°C to +120°C (Not Freezing) 1.4 MPa, Saturated steam pressure 1.0 MPa (See P.17)



Fig. O



Materials

Parts	Material
Body	Bronze
Cap	Brass
Hinge pin	Brass
Disc	Bronze

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

Nominal Size	inch	1/4	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	mm
	mm	10	15	20	25	32	40	50	65	80	
L		55	65	80	90	105	120	140	180	200	
H		38.5	43	51.5	58.5	67	73.5	86	97	108	

10K

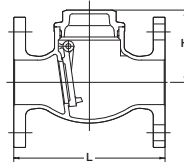
10K BRONZE SWING CHECK VALVE

Screwed Bonnet,
Swing type disc,
Flanged end to JIS B2240

Water, non-shock 120°C (1.4 MPa), Oil & water 120°C (1.0 MPa), Saturated steam pressure 0.7MPa



Fig. OB



Materials

Parts	Material
Body	Bronze
Bonnet	Brass/Bronze*
Hinge pin	Brass
Disc	Bronze

*Size 4 only

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

Nominal Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	mm
	mm	15	20	25	32	40	50	65	80	100	
L		85	95	110	130	150	180	210	240	280	
H		43	52	59	67	74	86	97	108	127	
t*		10	10	12	12	14	14	16	16	18	

*t" Shall not be in accordance with JIS B2240

10K

BRONZE WAFER TYPE CHECK VALVE

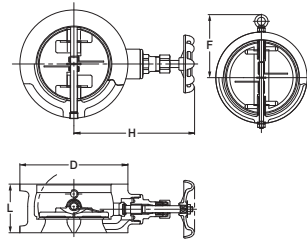
Double plate
Wafer connection JIS 10K

Water, Oil, Gas 80°C (1.4 MPa)



Fig. 10BWZ

• With by-pass



Materials

Parts	Material
Body	Bronze + NBR
Bonnet	Brass
Stem	Dezincification Resistant Brass
Disc A	Bronze
Disc B	Dezincification Resistant Brass

Dimensions

Nominal Size	inch	1 1/2	2	2 1/2	3	4	5	6	8	10	12	mm
	mm	40	50	65	80	100	125	150	200	250	300	
L		54	56	56	59	66	72	78	96	109	145	
H		132	139	146	152	165	183	208	237	289	316	
D		86	101	121	131	156	187	217	267	330	375	
F									187	231	256	

Technical Data Pressure and temperature rating of JIS standard bronze valves.

1. Fluid

Water, oil, gas, air and steam.

However, combustible gas and toxic gas are excluded.

2. The relationship between the temperature of fluid and the maximum permissible pressure (hereinafter, referred to as the “pressure-temperature criteria”) shall be in accordance with table 1. However, the fluid shall not be frozen.

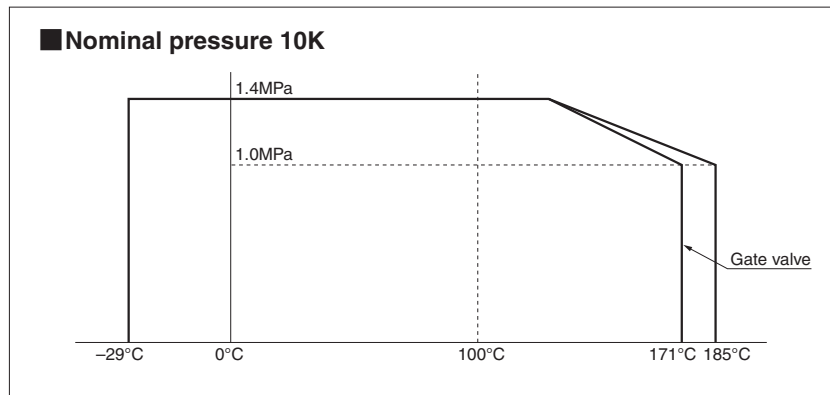
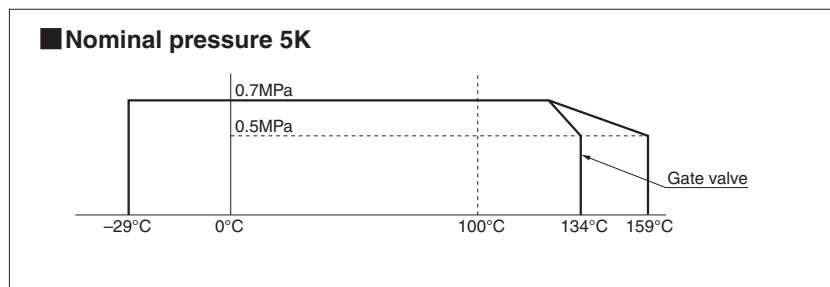
3. In the case where the use is prohibited or restricted by the High Pressure Gas Safety Act and other regulations, the user shall use the valves within the range of laws and ordinances.

Table 1 Pressure-temperature criteria

Nominal pressure	Temperature of fluid °C	Maximum permissible working pressure ^{c)} MPa
5K	-29 to 120	0.7
	159 ^{a)}	0.5
10K	-29 to 120	1.4
	185 ^{b)}	1.0

Notes

- a) It shall be the maximum service temperature, and in the case of gate valve, it shall be 134°C.
 b) It shall be the maximum service temperature, and in the case of gate valve, it shall be 171°C.
 c) The maximum permissible pressure at the intermediate temperature between over 120°C and the maximum service temperature shall be obtained by proportional interpolation.



CLASS 125 BRONZE GATE VALVE

Screwed Bonnet, Rising Stem, Designed to MSS SP-80 Type 2 Threaded ends to NPT or solder joint ends.

W.O.G. non-shock 1.38 MPa (200 psi), Saturated steam pressure 0.86 MPa (125 psi)



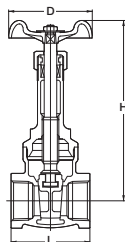
Fig. AK125M

• Threaded end to ASME B1.20.1



Fig. C125M

• Solder joint end to ASME B16.18



Materials

Parts	Material
Body	Bronze
Bonnet	Bronze
Stem	Bronze
Disc	Bronze
Gland Packing	Aramid Fibers Graphite

⚠ Solder joint end valves should not be used in service where the temperature of line fluid is higher than the softening point of solder.

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

Nominal Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	mm
	mm	15	20	25	32	40	50	65	80	
L		51	56	66	68	74	84	115	130	
L1 Solder		49	64	76	82	86	109			
H valve open		129	155	180	216	257	296	371	432	
D		55	60	70	80	90	100	135	155	

CLASS 125 BRONZE GATE VALVE

Screwed Bonnet, Non-rising Stem, Designed to MSS SP-80 Type 1A Threaded ends to NPT or solder joint ends.

W.O.G. non-shock 1.38 MPa (200 psi), Saturated steam pressure 0.86 MPa (125 psi)

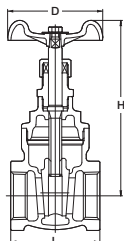


Fig. AK125E

• Threaded end to ASME B1.20.1

Fig. C125E

• Solder joint end to ASME B16.18



Materials

Parts	Material
Body	Bronze
Bonnet	Bronze
Stem	Bronze
Disc	Bronze
Gland Packing	Aramid Fibers Graphite

⚠ Solder joint end valves should not be used in service where the temperature of line fluid is higher than the softening point of solder.

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

Nominal Size	inch	3/8	1/2	3/4	1	1 1/4	1 1/2	2	mm
	mm	10	15	20	25	32	40	50	
L		43	49	53	61	64	68	74	
L1 Solder		39	46	60	71	79	88	108	
H		86	93	110	126	145	170	189	
D		50	55	60	70	80	90	100	

CLASS 150 BRONZE GATE VALVE

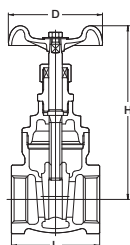
Screwed Bonnet, Non-rising Stem, Designed to MSS SP-80 Type 1A Threaded ends to NPT

W.O.G. non-shock 2.07 MPa (300 psi), Saturated steam pressure 1.03 MPa (150 psi)



Fig. AK150E

• Threaded end to ASME B1.20.1



Materials

Parts	Material
Body	Bronze
Bonnet	Bronze
Stem	Bronze
Disc	Bronze
Gland Packing	Aramid Fibers Graphite

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

Nominal Size	inch	3/8	1/2	3/4	1	1 1/4	1 1/2	2	mm
	mm	10	15	20	25	32	40	50	
L		43	49	53	61	68	74	84	
H		86	98	114	126	145	176	201	
D		50	55	70	70	80	90	100	

CLASS 150 BRONZE GATE VALVE

Screwed Bonnet, Rising Stem, Designed to MSS SP-80 Type 2 Threaded ends to NPT or solder joint ends.

W.O.G. non-shock 2.07 MPa (300 psi), Saturated steam pressure 1.03 MPa (150 psi)



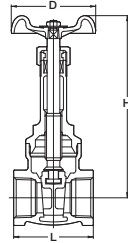
Fig. AK150L

• Threaded end to ASME B1.20.1



Fig. C150L

• Solder joint end to ASME B16.18



Materials

Parts	Material
Body	Bronze
Bonnet	Bronze
Stem	Bronze
Disc	Bronze
Gland Packing	Aramid Fibers Graphite

⚠ Solder joint end valves should not be used in service where the temperature of line fluid is higher than the softening point of solder.

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

Nominal Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	mm
	mm	15	20	25	32	40	50	65	80	
L		51	56	66	68	74	84	120	140	
L1 Solder		49	64	76	82	86	109			
H valve open		137	157	180	216	257	296	385	432	
D		55	70	70	80	90	100	155	155	

CLASS 150 BRONZE GATE VALVE

Union Bonnet, Rising Stem, Designed to MSS SP-80 Type 2 Threaded ends to NPT or solder joint ends.

W.O.G. non-shock 2.07 MPa (300 psi), Saturated steam pressure 1.03 MPa (150 psi)



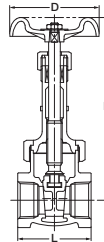
Fig. AK150LU

• Threaded end to ASME B1.20.1



Fig. C150LU

• Solder joint end to ASME B16.18



Materials

Parts	Material
Body	Bronze
Bonnet	Bronze
Stem	Bronze
Disc	Bronze
Gland Packing	Flexible Graphite & Aluminum

⚠ Solder joint end valves should not be used in service where the temperature of line fluid is higher than the softening point of solder.

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

Nominal Size	inch	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	mm
	mm	15	15	15	20	25	32	40	50	
L		45	46	51	56	66	68	74	84	
L1 Solder				49	64	76	82	86	109	
H valve open		108	108	137	157	180	216	257	297	
D		50	50	55	70	70	80	90	100	

CLASS 300 BRONZE GATE VALVE

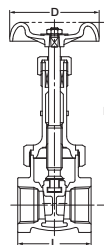
Union Bonnet, Rising Stem, Designed to MSS SP-80 Type 2 Threaded ends to NPT

W.O.G. non-shock 6.89 MPa (1000 psi), Saturated steam pressure 2.07 MPa (300 psi)



Fig. AK300LU

• Threaded end to ASME B1.20.1



Materials

Parts	Material
Body	Bronze
Bonnet	Bronze
Stem	Bronze
Disc	Copper-Nickel Alloy
Gland Packing	Flexible Graphite & Aluminum

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

Nominal Size	inch	3/8	1/2	3/4	1	1 1/4	1 1/2	2	mm
	mm	10	15	20	25	32	40	50	
L		46	51	56	66	74	84	98	
H valve open		125	149	173	194	228	274	313	
D		60	70	80	80	100	115	135	

CLASS 125

BRONZE GLOBE VALVE

Screwed Bonnet, Rising Stem, Designed to MSS SP-80 Type 1 Threaded ends to NPT or solder joint ends.

W.O.G. non-shock 1.38 MPa (200 psi), Saturated steam pressure 0.86 MPa (125 psi)



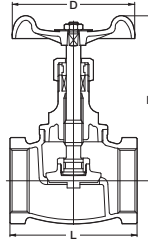
Fig. AK125C

• Threaded end to ASME B1.20.1



Fig. C125C

• Solder joint end to ASME B16.18



Materials

Parts	Material
Body	Bronze
Bonnet	Brass/Bronze*
Stem	Bronze
Disc	Bronze
Gland Packing	Aramid Fibers Graphite

*Size 2 1/2 & 3

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

Nominal Size	inch		mm		mm								
	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3	3	3	3	
L	53	65	77	85	100	119	150	178					
L1 Solder	64	84	100	115	130	155	192	232					
H valve open	76	98	108	137	160	180	202	246					
D	60	70	80	90	100	115	135	155					

CLASS 150

BRONZE GLOBE VALVE

Union Bonnet*, Rising Stem, Designed to MSS SP-80 Type 2 Threaded end to NPT or solder joint ends.

W.O.G. non-shock 2.07 MPa (300 psi), Saturated steam pressure 1.03 MPa (150 psi)

*Size 2 1/2 and larger = Bolted bonnet



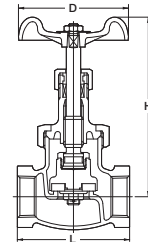
Fig. AK150D

• Threaded end to ASME B1.20.1



Fig. C150D

• Solder joint end to ASME B16.18



Materials

Parts	Material
Body	Bronze
Bonnet	Bronze
Stem	Bronze
Disc	G/F PTFE
Gland Packing	Aramid Fibers Graphite PTFE Braided Packing**

**Size 3 & 4

⚠ Solder joint end valves should not be used in service where the temperature of line fluid is higher than the softening point of solder.

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

Nominal Size	inch		mm		mm								
	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	4	
L	53	55	64	78	90	105	120	145	170	200	245		
L1 Solder	58	61	72	95	112	126	145	180	205	244	312		
H valve open	109	109	116	136	149	173	182	209	247	275	298		
D	60	60	70	90	100	115	115	135	155	180	225		

CLASS 300

BRONZE GLOBE VALVE

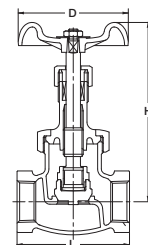
Union Bonnet, Rising Stem, Designed to MSS SP-80 Type 1 Threaded ends to NPT

W.O.G. non-shock 4.14 MPa (600 psi), Saturated steam pressure 2.07 MPa (300 psi)



Fig. AK300J

• Threaded end to ASME B1.20.1



Materials

Parts	Material
Body	Bronze
Bonnet	Bronze
Stem	Bronze
Disc	Bronze
Gland Packing	Flexible Graphite & Aluminum

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

Nominal Size	inch		mm		mm								
	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2	2	2	2	
L	53	55	64	78	90	105	120	145					
H valve open	113	113	126	139	159	187	195	224					
D	60	60	80	90	100	115	135	155					

CLASS 300

BRONZE GLOBE VALVE

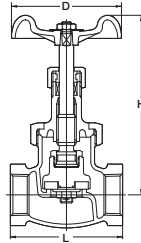
Union Bonnet, Rising Stem, Designed to MSS SP-80 Type 2 Threaded end to NPT

W.O.G. non-shock 4.14 MPa (600 psi), Saturated steam pressure 2.07 MPa (300 psi)



Fig. AK300D

• Threaded end to ASME B1.20.1



Materials

Parts	Material
Body	Bronze
Bonnet	Bronze
Stem	Bronze
Disc	G/F PTFE
Gland Packing	Flexible Graphite & Aluminum

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

Nominal Size	inch	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	mm
	mm	8	10	15	20	25	32	40	50	
L		53	55	64	78	90	105	120	145	
H valve open		113	113	126	139	157	187	192	221	
D		60	60	80	90	100	115	135	155	

CLASS 125

BRONZE Y-PATTERN SWING CHECK VALVE

Screwed cap, Swing type disc, Designed to MSS SP-80 Type 3 Threaded ends to NPT or solder joint ends.

W.O.G. non-shock 1.38 MPa (200 psi), Saturated steam pressure 0.86 MPa (125 psi)



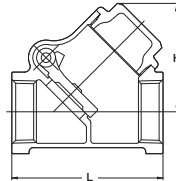
Fig. AKYR

• Threaded end to ASME B1.20.1



Fig. CYR

• Solder joint end to ASME B16.18



Materials

Parts	Material
Body	Bronze
Cap	Brass
Hinge pin	Copper
Disc	Bronze

⚠ Solder joint end valves should not be used in service where the temperature of line fluid is higher than the softening point of solder.

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

Nominal Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	mm
	mm	15	20	25	32	40	50	65	80	
L		56	70	80	95	110	128	156	184	
L1 Solder		67	86	105	121	137	170	194	222	
H		40	49	58	71	80	95	114	131	
H1 Solder		38	47	56	69	77	92	111	127	

CLASS 150

BRONZE Y-PATTERN SWING CHECK VALVE

Screwed cap, Swing type disc, Designed to MSS SP-80 Type 3 Threaded ends to NPT or solder joint ends.

W.O.G. non-shock 2.07 MPa (300 psi), Saturated steam pressure 1.03 MPa (150 psi)



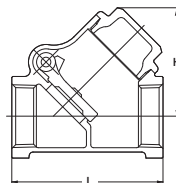
Fig. AK150YR

• Threaded end to ASME B1.20.1



Fig. C150YR

• Solder joint end to ASME B16.18



Materials

Parts	Material
Body	Bronze
Cap	Brass
Hinge pin	Copper
Disc	Bronze

⚠ Solder joint end valves should not be used in service where the temperature of line fluid is higher than the softening point of solder.

⚠ Don't use for Flammable gas or Toxic gas.

Dimensions

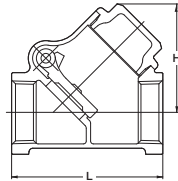
Nominal Size	inch	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	mm
	mm	10	15	20	25	32	40	50	65	80	
L		54	60	72	84	99	113	131	162	186	
L1 Solder		61	67	86	105	121	137	170	194	222	
H		39	39	49	58	70	79	95	114	132	

CLASS 300

BRONZE Y-PATTERN SWING CHECK VALVE

Screwed cap, Swing type disc,
Designed to MSS SP-80 Type 3
Threaded ends to NPT

W.O.G. non-shock 4.14 MPa (600 psi), Saturated steam pressure 2.07 MPa (300 psi)



Materials

Parts	Material
Body	Bronze
Cap	Bronze
Hinge pin	Copper
Disc	Bronze

⚠ Don't use for Flammable gas or Toxic gas.

Fig. AK300YR

• Solder joint end to ASME B1.20.1

Dimensions

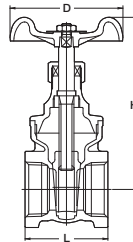
Nominal Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	mm
	mm	15	20	25	32	40	50	
L		60	72	84	99	113	131	
H		42	51	61	74	83	98	

PN16

BRASS GATE VALVE AS 1628

Screwed Bonnet, Non-rising Stem,
Designed to AS 1628-2001
Threaded ends to AS 1722.1

Working temperature and pressure, non-shock 99°C /1.6 MPa



Materials

Parts	Material	AS Designation
Body	Brass	AS 2345
Bonnet	Brass	AS 2345
Stem	Brass	AS 2345
Disc	Brass	AS 2345
Gland Packing	Aramid Fibers Graphite	Asbestos Free Packing

Fig. AS-FH

• Australian Standard AS 1628 Lic No WMKA02054

Dimensions

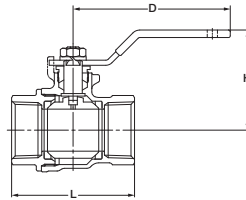
Nominal Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	mm
	mm	15	20	25	32	40	50	
L		55	60	68	78	81	94	
H		74	86	94	116	128	158	
D		55	55	60	70	80	90	

TYPE 600

BRASS BALL VALVE, FULL PORT

Screwed body cap, Blowout-proof Stem
Threaded ends to ASME B1.20.1

W.O.G. non-shock 4.14 MPa (600 psi), Saturated steam pressure 1.03 MPa (150 psi)



Materials

Parts	Material
Body	Brass
Body cap	Brass
Stem	Dezincification Resistant Brass
Ball	Brass (TEA Plating)
Ball seat	PTFE
Gland Packing	PTFE

Fig. AKTAF

• Threaded end to ASME B1.20.1



Dimensions

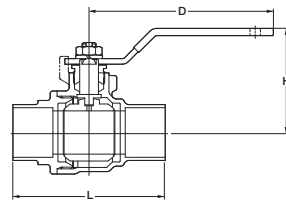
Nominal Size	inch	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	mm
L	41	42	53	60	72	82	92	105		
H	39	39	42	51	59	64	73	80		
D	82	82	82	100	130	130	150	150		

TYPE 600

BRASS BALL VALVE, FULL PORT

Screwed body cap, Blowout-proof Stem
Solder joint ends to ASME B16.18

W.O.G. non-shock 4.14 MPa (600 psi), Saturated steam pressure 1.03 MPa (150 psi)



Materials

*Size 2 1/2 & 3

Parts	Material
Body	Brass/Bronze*
Body cap	Brass/Bronze*
Stem	Dezincification Resistant Brass
Ball	Brass: TEA Plating (Size 3/8 to 2) Brass: Nickel-Chrome Plating (Size 2 1/2 & 3)
Ball seat	PTFE
Gland Packing	PTFE

⚠ Solder joint end valves should not be used in service where the temperature of line fluid is higher than the softening point of solder.

Fig. CTAF

• Solder joint end to ASME B16.18



Dimensions

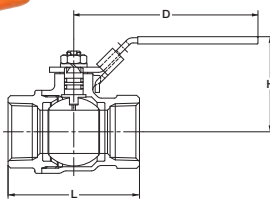
Nominal Size	inch	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	mm
L	46	54	73	88	100	115	140	163	187		
H	39	42	51	59	64	73	80	108	122		
D	82	82	100	130	130	150	150	200	300		

TYPE 600

BRASS BALL VALVE, FULL PORT

Screwed body cap, Blowout-proof stem.
Double O-ring stem seals
Threaded ends to NPT or solder joint ends.

W.O.G. non-shock 4.14 MPa (600 psi), Saturated steam pressure 1.03 MPa (150 psi)
Maximum pressure temperature limitation: 150 psi at 300°F



Materials

Parts	Material
Body	Brass
Body cap	Brass
Stem	Dezincification Resistant Brass
Ball	Brass: Nickel-Chrome Plating
Ball seat	PTFE
O-ring	NBR, FKM: CTFL only

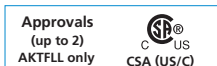
⚠ Solder joint end valves should not be used in service where the temperature of line fluid is higher than the softening point of solder.

Fig. AKTFLL

• Threaded end to ASME B1.20.1

Fig. CTFLL

• Solder joint end to ASME B16.18



Dimensions

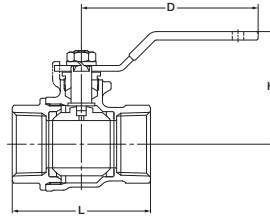
Nominal Size	inch	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	mm
L	41	42	53	60	72	82	92	105		
L1 Solder				54	73	88	100	115	140	
H	35	35	39	47	55	59	67	75		
D	82	82	82	100	130	130	150	150		

TYPE 600

BRASS BALL VALVE, FULL PORT

Stainless steel trim
Screwed body cap, Blowout-proof Stem
Threaded ends to NPT or solder joint ends.

W.O.G. non-shock 4.14 MPa (600 psi), Saturated steam pressure 1.03 MPa (150 psi)



Materials

Parts	Material
Body	Brass
Body cap	Brass
Stem	Stainless Steel (Type 316)
Ball	Stainless Steel (Type 316 or Gr. CF8M)
Ball seat	PTFE
Gland Packing	PTFE

⚠ Solder joint end valves should not be used in service where the temperature of line fluid is higher than the softening point of solder.

Fig. AKTAFM

- Threaded end to ASME B1.20.1

Fig. CTAFM

- Solder joint end to ASME B16.18

Approvals (up to 2)	NSF	SP	UL
*AKTAFM only	NSF/ANSI61-8	CSA (US/C)	UL

Dimensions

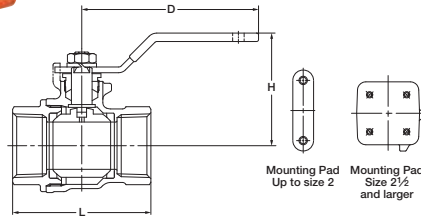
Nominal Size	inch	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	mm
	mm	8	10	15	20	25	32	40	50	
L		41	42	53	60	72	82	92	105	
L1 Solder			46	54	73	88	100	115	140	
H		39	39	42	51	59	64	73	80	
D		82	82	82	100	130	130	150	150	

TYPE 600

BRASS BALL VALVE, FULL PORT

Mounting pad
Screwed body cap, Blowout-proof Stem
Threaded ends to ASME B1.20.1

W.O.G. non-shock 4.14 MPa (600 psi), Saturated steam pressure 1.03 MPa (150 psi)



Materials

Parts	Material
Body	Brass/Bronze*
Body cap	Brass/Bronze*
Stem	Dezincification Resistant Brass
Ball	Brass: Nickel-Chrome Plating
Ball seat	PTFE
Gland Packing	PTFE

*Size 2 1/2 and larger

Fig. AKTAFP

- Threaded end to ASME B1.20.1

Approvals (up to 2)	UL
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Dimensions

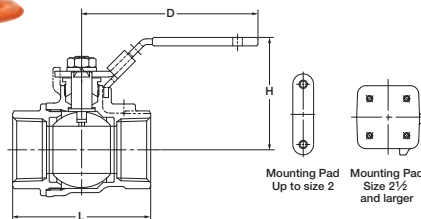
Nominal Size	inch	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	mm
	mm	8	10	15	20	25	32	40	50	65	80	100	
L		41	42	53	60	72	82	92	105	135	156	192	
H		39	39	42	51	59	64	73	80	108	122	140	
D		82	82	82	100	130	130	150	150	200	300	300	

TYPE 600

BRASS BALL VALVE, FULL PORT

250 WSP Steam trim, Mounting pad
Screwed body cap, Blowout-proof stem.
Threaded ends to ASME B1.20.1

W.O.G. non-shock 4.14 MPa (600 psi), Saturated steam pressure 1.72 MPa (250 psi)



Materials

Parts	Material
Body	Brass/Bronze*
Body cap	Brass/Bronze*
Stem	Stainless Steel (Type 316)
Ball	Stainless Steel (Type 316 or Gr. CF8M)
Ball seat	Reinforced PTFE
Gland Packing	Reinforced PTFE

*Size 2 1/2 and larger

Fig. AKTAFPM

- Threaded end to ASME B1.20.1

Approvals (up to 2)	UL
---------------------	----

Dimensions

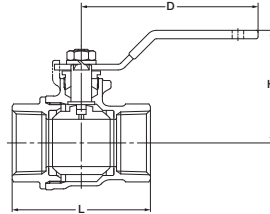
Nominal Size	inch	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	mm
	mm	8	10	15	20	25	32	40	50	65	80	100	
L		41	42	53	60	72	82	92	105	135	156	192	
H		39	39	42	51	59	64	73	80	108	122	140	
D		82	82	82	100	130	130	150	150	200	300	300	

TYPE 600

BRASS BALL VALVE, FULL PORT

Drainable, Screwed body cap, Blowout-proof Stem, Drain port Threaded ends to ASME B1.20.1

W.O.G. non-shock 4.14 MPa (600 psi), Saturated steam pressure 1.03 MPa (150 psi)



Materials

Parts	Material
Body	Brass
Body cap	Brass
Stem	Dezincification Resistant Brass
Ball	Brass: Nickel-Chrome Plating
Ball seat	PTFE
Gland Packing	PTFE

Dimensions

Nominal Size	inch	1/2	3/4	1	mm
	mm	15	20	25	
L		55	62	73	
L1 Solder		54	73	88	
H		42	51	59	
D		82	100	130	

Fig. AKTAFD

• Threaded end to ASME B1.20.1

Fig. CTAFD

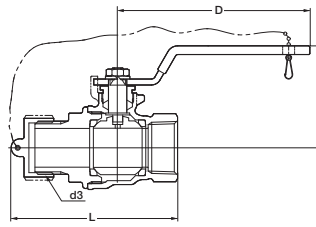
• Solder joint end to ASME B16.18

TYPE 600

BRASS BALL VALVE, FULL PORT

Threaded end 3/4 Hose connection with cap & chain, Blowout-proof stem, Threaded/Hose connection (ASME B1.20.1/ASME B1.20.7 3/4 11.5NHR)

W.O.G. non-shock 4.14 MPa (600 psi), Saturated steam pressure 1.03 MPa (150 psi)



Materials

Parts	Material
Body	Brass
Body cap	Brass
Stem	Dezincification Resistant Brass
Ball	Brass: Nickel-Chrome Plating
Ball seat	PTFE
Gland Packing	PTFE

Dimensions

Nominal Size	inch	1/2	3/4	mm
	mm	15	20	
L		74	84	
L1 Solder		75	90	
H		42	51	
D		82	100	
d3		3/4-11.5 NHR	3/4-11.5 NHR	

Fig. AKTAFD

• Threaded end to ASME B1.20.1

Fig. CTAFD

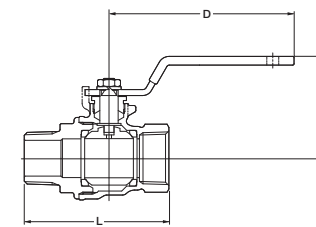
• Solder joint end to ASME B16.18

TYPE 600

BRASS BALL VALVE, FULL PORT

Screwed body cap, Blowout-proof Stem, Male & Female, Threaded ends to ASME B1.20.1

W.O.G. non-shock 4.14 MPa (600 psi), Saturated steam pressure 1.03 MPa (150 psi)



Materials

Parts	Material
Body	Brass
Body cap	Brass
Stem	Dezincification Resistant Brass
Ball	Brass: Nickel-Chrome Plating
Ball seat	PTFE
Gland Packing	PTFE

Dimensions

Nominal Size	inch	1/4	3/8	1/2	3/4	1	mm
	mm	8	10	15	20	25	
L		52	53	66	73	88	
H		39	39	42	51	59	
D		82	82	82	100	130	

Fig. AKTAFO

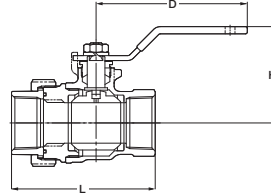
• Threaded end to ASME B1.20.1

TYPE 600

BRASS BALL VALVE, FULL PORT

Single union, Screwed body cap, Blowout-proof Stem, Threaded ends to ASME B1.20.1

W.O.G. non-shock 4.14 MPa (600 psi), Saturated steam pressure 1.03 MPa (150 psi)



Materials

Parts	Material
Body	Brass
Body cap	Brass
Stem	Dezincification Resistant Brass
Ball	Brass: Nickel-Chrome Plating
Ball seat	PTFE
Gland Packing	PTFE

Fig. AKTAFU

• Threaded end to ASME B1.20.1

Dimensions

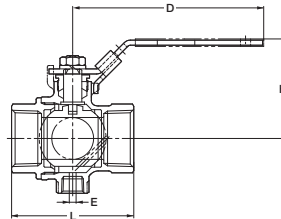
Nominal Size	inch	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	mm
	mm	8	10	15	20	25	32	40	50	
L		52	52	63	75	88	98	113	126	
H		39	39	42	51	59	64	73	80	
D		82	82	82	100	130	130	150	150	

TYPE 200

BRASS BALL VALVE, FULL PORT

Safety exhaust, Screwed body cap, Blowout-proof stem, Latch lock handle Threaded ends to ASME B1.20.1

W.O.G. non-shock 1.38 MPa (200 psi), -18°C to + 93°C (Not Freezing)



Materials

Parts	Material
Body	Brass
Body cap	Brass
Stem	Dezincification Resistant Brass
Ball	Brass: Nickel-Chrome Plating
Ball seat	PTFE
Gland Packing	PTFE

Fig. AKTAFS

• Threaded end to ASME B1.20.1

Dimensions

Nominal Size	inch	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	mm
	mm	8	10	15	20	25	32	40	50	
L		41	42	53	60	72	82	92	105	
H		39	39	42	51	59	64	73	80	
E		4	4	4	4	4	4	4	4	
D		82	82	82	100	130	130	150	150	

• Exhaust hole diameter : 4 mm (all nominal size)

TYPE 400/600 BRASS BALL VALVE

Screwed body cap, Blowout-proof Stem, Double O-ring stem seals
Threaded ends to BS21 or solder joint ends.

CTH W.O.G. non-shock 4.14 MPa (600 psi), W.O.G. 150°C non-shock 0.69 MPa (100 psi)
TH W.O.G. non-shock 2.76 MPa (400 psi), W.O.G. 150°C non-shock 0.69 MPa (100 psi)

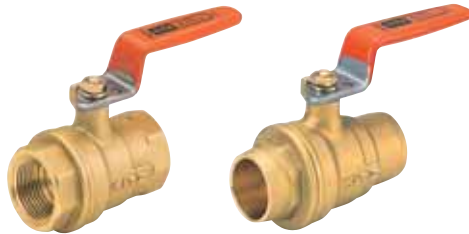
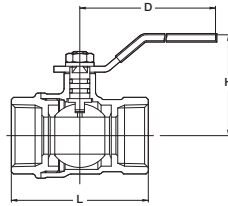


Fig. TH

• Threaded end to BS21

Fig. CTH

• Solder joint end to ASME B16.18



Materials

Parts	Material
Body	Brass
Body cap	Brass
Stem	Dezincification Resistant Brass
Ball	Brass*
Ball seat	PTFE
O-ring	FKM

*Nickel-Chrome Plated

⚠ Solder joint end valves should not be used in service where the temperature of line fluid is higher than the softening point of solder.

Dimensions

Nominal Size	inch		mm									
	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3	
L	8	10	15	20	25	32	40	50	65	80	103	127
L1 Solder	44	45	56	63	74	82	91	104	—	—	—	—
H	47	47	54	73	88	98	113	135	147	177	—	—
D	41	41	45	48	54	58	63	74	89	103	—	—
H	60	60	80	80	110	110	110	140	200	300	—	—

*TH: 1/4 to 2

TYPE 400 BRASS BALL VALVE

Screwed body cap, Blowout-proof Stem, Double O-ring stem seals
Threaded ends to BS21 or NPT

W.O.G. non-shock 2.76 MPa (400 psi), W.O.G. 150°C 0.69 MPa (100 psi)



Fig. T

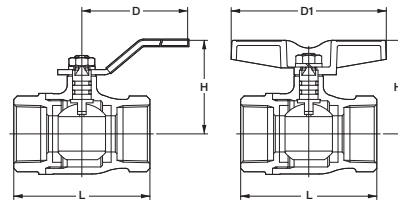
• Threaded end to BS21

Fig. TT

• Threaded end to BS21

Fig. AKT

• Threaded end to ASME B1.20.1



Materials

Parts	Material
Body	Brass/Bronze*
Body cap	Brass/Bronze*
Stem	Dezincification Resistant Brass
Ball	Brass**
Ball seat	PTFE
O-ring	FKM

*Size 4 only

**Nickel-chrome plated

Dimensions

Nominal Size	inch		mm									
	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	
L	8	10	15	20	25	32	40	50	65	80	100	
H	50	50	65	68	79	86	96	109	127	153	179	
H1	45	45	45	50	55	60	65	75	91	105	124	
D	41	41	44	48	55	61	66	80	—	—	—	
D	60	60	80	80	110	110	110	140	200	300	400	
D1	65	65	80	80	90	105	105	120	—	—	—	

*TT: 1/4 to 2

TYPE 400 BRASS BALL VALVE

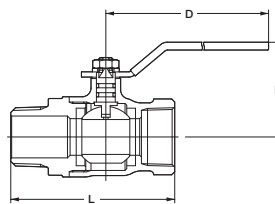
Screwed body cap, Blowout-proof Stem, Double O-ring stem seals
Male & Female Threaded ends to BS21

W.O.G. non-shock 2.76 MPa (400 psi), W.O.G. 150°C 0.69 MPa (100 psi)



Fig. TO

• Threaded end to BS21



Materials

Parts	Material
Body	Brass
Body cap	Brass
Stem	Dezincification Resistant Brass
Ball	Brass*
Ball seat	PTFE
O-ring	FKM

*Nickel-chrome plated

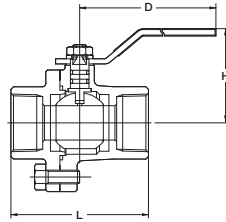
Dimensions

Nominal Size	inch		mm			
	1/4	3/8	1/2	3/4	1	
L	8	10	15	20	25	
L	59	60	74	80	94	
H	45	45	45	50	55	
D	60	60	80	80	110	

TYPE 400 BRASS BALL VALVE

Bolted body and cap, Blowout-proof Stem, Double O-ring stem seals, Threaded ends to BS21

W.O.G. non-shock 2.76 MPa (400 psi), W.O.G. 150°C 0.69 MPa (100 psi)



Materials

Parts	Material
Body	Brass
Body cap	Brass
Stem	Dezincification Resistant Brass
Ball	Brass*
Ball seat	PTFE
O-ring	FKM

*Chrome or Nickel-chrome plated

Fig. TM

• Threaded end to BS21

Dimensions

Nominal Size	inch mm	mm								
		3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
L	56	60	68	80	86	101	117	136	160	
H	45	45	49	55	60	65	75	91	105	
D	60	80	80	110	110	110	140	200	300	

TYPE 600 BRASS BALL VALVE

One-piece body, Blowout-proof Stem, Threaded ends to BS21 or NPT

W.O.G. non-shock 4.14 MPa (600 psi), W.O.G. 150°C 1.03 MPa (150 psi)



Fig. TK

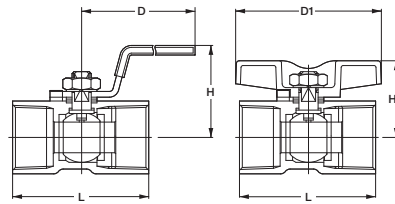
• Threaded end to BS21

Fig. TKT

• Threaded end to BS21

Fig. AKTK

• Threaded end to ASME B1.20.1
• AKTK 1/4 to 2



Materials

Parts	Material
Body	Brass
Body cap	Brass
Stem	Dezincification Resistant Brass
Ball	Brass*
Ball seat	G/F PTFE
Grand packing	G/F PTFE

*Chrome or Nickel-chrome plated

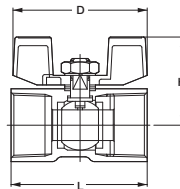
Dimensions

Nominal Size	inch mm	mm								
		1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
L	32	39	44	56.5	59	71	78	83	100	
H	31	31	36	41	44	48	54	65	72	
H1	23	23	27	31	34	42	48	53	60	
D	60	60	70	85	85	100	100	125	125	
D1	35	35	40	60	60	76	76	100	100	

TYPE 600 BRASS BALL VALVE

One-piece body, Blowout-proof Stem, with Wing handle Threaded ends to BS21

W.O.G. non-shock 4.14 MPa (600 psi), W.O.G. 150°C 1.03 MPa (150 psi)



Materials

Parts	Material
Body	Brass
Body cap	Brass
Stem	Dezincification Resistant Brass
Ball	Brass*
Ball seat	G/F PTFE
Grand packing	G/F PTFE

*Chrome or Nickel-chrome plated

Dimensions

Nominal Size	inch mm	mm					
		1/8	1/4	3/8	1/2	3/4	1
L	32	39	44	56.5	59	71	
H	25	25	29	35	39	41	
D	35	35	40	55	55	69	

Fig. TKW

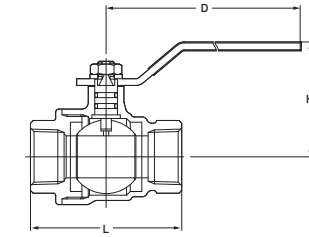
• Threaded end to BS21

TYPE 400

BRASS BALL VALVE, FULL PORT

Screwed body cap, Blowout-proof Stem, Double O-ring stem seals Threaded ends to BS21

W.O.G. non-shock 2.76 MPa (400 psi), W.O.G. 150°C 0.69 MPa (100 psi)



Materials

Parts	Material
Body	Brass/Bronze*
Body cap	Brass/Bronze*
Stem	Dezincification Resistant Brass
Ball	Brass**
Ball seat	PTFE
O-ring	FKM

*Size 2 only
**Nickel-chrome plated

Dimensions

Nominal Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	mm
	mm	15	20	25	32	40	50	
L		62	73	85	98	108	124	
H		48	54	58	64	75	84	
D		80	110	110	110	140	150	

Fig. TF

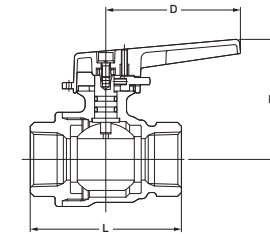
• Threaded end to BS21

TYPE 150

BRASS BALL VALVE, FULL PORT

Locking device, Screwed body cap, Blowout-proof Stem, Double O-ring stem seals Threaded ends to BS21

W.O.G. non-shock 1.03 MPa (150 psi), W.O.G. 150°C 0.69 MPa (100 psi)



Materials

Parts	Material
Body	Brass/Bronze*
Body cap	Brass/Bronze*
Stem	Dezincification Resistant Brass
Ball	Brass**
Ball seat	PTFE
O-ring	FKM

*Size 2 only
**Nickel-chrome plated

Dimensions

Nominal Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	mm
	mm	15	20	25	32	40	50	
L		62	73	85	98	108	124	
H		53	58	67	72	90	98.5	
D		65	65	90	90	110	110	

Fig. TFJ

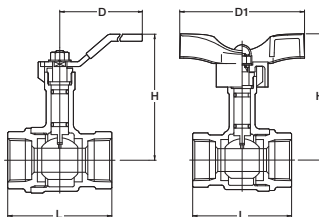
• Threaded end to BS21

TYPE 400

BRONZE BALL VALVE

Screwed body cap, Blowout-proof Stem, Double O-ring stem seals Threaded ends to BS21 or solder joint ends

TL, CTL W.O.G. non-shock 2.76 MPa (400 psi), W.O.G. 150°C 0.69 MPa (100 psi),
TLT W.O.G. non-shock 2.76 MPa (400 psi), W.O.G. 80°C 1.96 MPa (286 psi)



Materials

Parts	Material
Body	Bronze
Body cap	Bronze
Stem	Dezincification Resistant Brass
Ball	Stainless Steel (Type 304)
Ball seat	PTFE
O-ring	FKM

⚠ Solder joint end valves should not be used in service where the temperature of line fluid is higher than the softening point of solder.

Dimensions

Nominal Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	mm
	mm	15	20	25	32	40	50	
L		56	65	78	86	96	109	
L1 Solder		58	73	88	99	114	135	
H		75	79	83	98	102	109	
H1		79	83	90	105	109	124	
D		80	80	110	110	110	140	
D1		82	82	94	94	94	120	

Fig. TL

• Threaded end to BS21

Fig. CTL

• Solder joint end to ASME B16.18

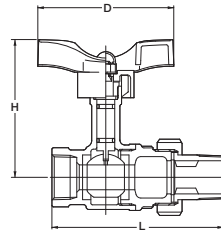
Fig. TLT

• Threaded end to BS21

TYPE 400 BRONZE BALL VALVE

Single union, Screwed body and cap, Blowout-proof stem, Double O-ring stem seals, Threaded ends to BS21 or solder joint ends

W.O.G. non-shock 2.76 MPa (400 psi), W.O.G. 80°C 1.96 MPa (286 psi)



Materials

Parts	Material
Body	Bronze
Body cap	Bronze
Stem	Dezincification Resistant Brass
Ball	Stainless Steel (Type 304)
Ball seat	PTFE
O-ring	FKM

Dimensions

Nominal Size	inch	1/2	3/4	1	mm
	mm	15	20	25	
L		90.5	103.5	119	
L1 Solder		89.5	107.5	124	
H		79	83	90	
D		82	82	94	

Fig. TLTU

• Threaded end to BS21

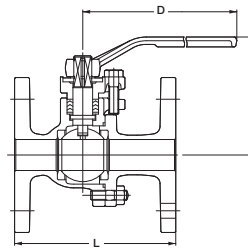
Fig. CTLTU

• Solder joint end to ASME B16.18

10K BRONZE BALL VALVE

Bolted body cap, Full bore Fringed ends to JIS B2240 10K

W.O.G. non-shock 1.4 MPa (14kgf/cm²), W.O.G. 150°C 0.69 MPa (7kgf/cm²)



Materials

Parts	Material
Body	Bronze
Body cap	Bronze
Stem	Dezincification Resistant Brass
Ball	Brass**/ Stainless Steel*
Ball seat	PTFE
Grand packing	PTFE

*Size 4 only

**Chrome or Nickel-chrome plated

Dimensions

Nominal Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	mm
	mm	15	20	25	32	40	50	65	80	100	
L		110	120	130	140	165	180	190	200	230	
H		85	88	95	100	115	122	153	162	190	
D		130	130	160	160	230	230	400	400	460	

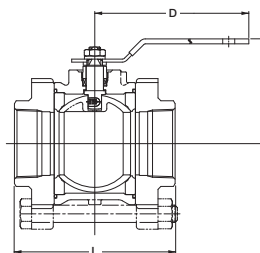
Fig. TB

• Flanged ends to JIS 10K

TYPE 600 BRASS BALL VALVE, FULL PORT

Three piece body with Mounting pad Threaded end to ASME B1.20.1 Solder jointed to ASME B16.18

W.O.G. non-shock 2.76 MPa (600 psi), W.O.G. 150°C 1.03 MPa (150 psi)



Materials

Parts	Material
Body	Brass/Bronze*
Body cap	Brass
Stem	Dezincification Resistant Brass
Ball	Brass (chrome free plated)
Ball seat	PTFE
Grand packing	PTFE

*Size 2 1/2 only



Solder joint end valves should not be used in service where the temperature of line fluid is higher than the softening point of solder.

Dimensions

Nominal Size	inch	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	mm
	mm	8	10	15	20	25	32	40	50	65	
L		49	49	61	70	83	99	117	139	167	
L1 Solder			49	61	73	88	99	117	139	167	
H		39	39	48	55	63	69	78	85	108	
D		82	82	82	100	130	130	150	150	200	

Fig. AK3TM

• Threaded end to ASME B1.20.1

Fig. C3TM*

• Solder joint end to ASME B16.18
*C3TM 3/8 to 2 1/2

Approvals
(up to 2)



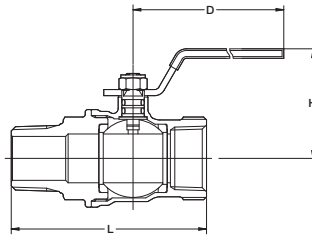
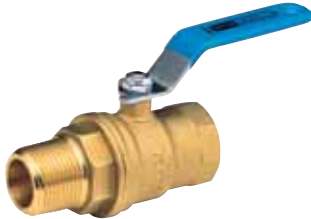
NSF/ANSI61-8

TYPE 600

BRASS BALL VALVE, FULL PORT

Screwed body cap, Blowout-proof Stem,
Double O-ring stem seals
Male & Female Threaded ends to BS21

W.O.G. non-shock 4.14 MPa (600 psi), W.O.G. 150°C 1.03 MPa (150 psi)



Materials

Parts	Material
Body	Brass
Body cap	Brass
Stem	Brass: Nickel plated
Ball	Brass*
Ball seat	PTFE
O-ring	FKM

*Chrome or Nickel-chrome plated

Fig. ZO

• Threaded end to BS21

Dimensions

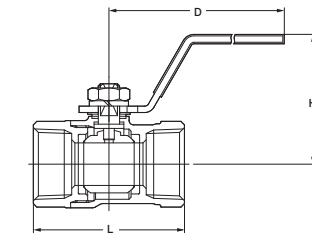
Nominal Size	inch	1/4	3/8	1/2	3/4	1	mm
	mm	8	10	15	20	25	
L		59	60	74	80	94	
H		37	37	40	44	50	
D		70	70	80	80	110	

TYPE 400

BRASS BALL VALVE

Screwed body cap, Blowout-proof Stem,
Threaded ends to BS21

W.O.G. non-shock 2.76 MPa (400 psi), W.O.G. 150°C 0.69 MPa (100 psi), Saturated steam pressure 0.98 MPa (142 psi)



Materials

Parts	Material
Body	Brass
Body cap	Brass
Stem	Dezincification Resistant Brass
Ball	Brass*
Ball seat	PTFE
Grand packing	G/F PTFE

*Chrome or Nickel-chrome plated

Fig. ZS

• Threaded end to BS21

Dimensions

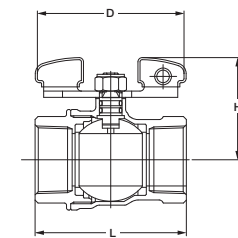
Nominal Size	inch	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	mm
	mm	8	10	15	20	25	32	40	50	
L		42	43	51	59	71	78	88	99	
H		44	44	45	49	63	67	71	76	
D		72	72	87	87	116	116	117	117	

TYPE 600

BRASS BALL VALVE, FULL PORT

Screwed body cap, Blowout-proof Stem,
Double O-ring stem seals
Threaded ends to BS21

W.O.G. non-shock 4.14 MPa (600 psi), W.O.G. 150°C 1.03 MPa (150 psi)



Materials

Parts	Material
Body	Brass
Body cap	Brass
Stem	Brass: Nickel plated
Ball	Brass*
Ball seat	PTFE
O-ring	FKM

*Chrome or Nickel-chrome plated

Fig. ZET

• Threaded end to BS21

Dimensions

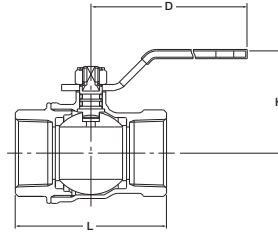
Nominal Size	inch	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	mm
	mm	8	10	15	20	25	32	40	50	
L		42	42	52	60	72	84	92	110	
H		35	35	41	45	54	59	75	82	
D		55	55	70	70	100	100	130	130	

TYPE 600

BRASS BALL VALVE, FULL PORT

Bolted body and cap, Blowout-proof Stem, Double O-ring stem seals, Threaded ends to ASME B1.20.1 or solder joint ends.

W.O.G. non-shock 4.14 MPa (600 psi)*, W.O.G. 150°C 1.03 MPa (150 psi)



*Size 4 : W.O.G. non-shock 2.76MPa (400psi), W.O.G. 150°C 0.69MPa (100psi)

Materials

Parts	Material
Body	Brass/Bronze*
Body cap	Brass/Bronze*
Stem	Brass: Nickel plated
Ball	Brass: chrome free plated (Size 1/4 to 3) Brass: Nickel-chrome plated (Size 4)
Ball seat	PTFE
O-ring	FKM

*Size 4 only

⚠ Solder joint end valves should not be used in service where the temperature of line fluid is higher than the softening point of solder.

Fig. AKSZA

Fig. CSZA

• Threaded end to ASME B1. 20. 1 • Solder joint to ASMB 16.18



*AKSZA: Size 1/4 to 3, **AKSZA only

Dimensions

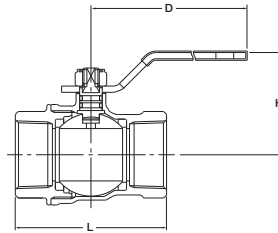
Nominal Size	inch	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
	mm	8	10	15	20	25	32	40	50	65	80	100
L		42	42	53	60	72	84	92	110	138	167	193
L1 Solder			46	54	73	88	100	115	140	164	187	
H		37	37	40	43	50	55	65	72	100	112	131
D		70	70	80	80	110	110	150	150	200	300	300

TYPE 600

BRASS BALL VALVE, FULL PORT

Bolted body and cap, Blowout-proof Stem, Double O-ring stem seals, Threaded ends to BS21

W.O.G. non-shock 4.14 MPa (600 psi), W.O.G. 150°C 1.03 MPa (150 psi)



*Size 4 : W.O.G. non-shock 2.76MPa (400psi), W.O.G. 150°C 0.69MPa (100psi)

Materials

Parts	Material
Body	Brass/Bronze*
Body cap	Brass/Bronze*
Stem	Brass: Nickel plated
Ball	Brass: chrome free plated (Size 1/4 to 3) Brass: Nickel-chrome plated (Size 4)
Ball seat	PTFE
O-ring	FKM

*Size 4 only

Fig. SZA

• Threaded end to BS21

Dimensions

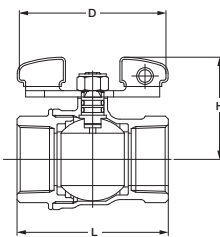
Nominal Size	inch	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
	mm	8	10	15	20	25	32	40	50	65	80	100
L		42	42	53	60	72	84	92	110	138	167	193
H		37	37	40	43	50	55	65	72	101	113	131
D		70	70	80	80	110	110	150	150	200	300	300

TYPE 600

BRASS BALL VALVE, FULL PORT

Bolted body and cap, Blowout-proof Stem, Double O-ring stem seals, Threaded ends to ASME B1.20.1 or solder joint ends.

W.O.G. non-shock 4.14 MPa (600 psi), W.O.G. 150°C 1.03 MPa (150 psi)



Materials

Parts	Material
Body	Brass
Body cap	Brass
Stem	Brass: Nickel plated
Ball	Brass: Chrome free plated
Ball seat	PTFE
O-ring	FKM

Fig. AKSZAW

Fig. CSZAW

• Threaded end to ASME B1. 20. 1 • Solder joint to ASME B16.18



*AKSZAW only

Dimensions

Nominal Size	inch	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
	mm	8	10	15	20	25	32	40	50
L		42	42	53	60	72	84	92	110
L1 Solder			46	54	73	88	100	115	140
H		35	35	41	45	54	59	75	82
D		55	55	70	70	100	100	130	130

TYPE 400

3-WAY BRASS BALL VALVE

Screwed body cap, 2-seat, L-port design, Blowout-proof Stem, Double O-ring stem seals* Threaded ends to BS21 or NPT, or solder joint ends.

W.O.G. non-shock 2.76 MPa (400 psi), W.O.G. 150°C 0.69 MPa (100 psi)

*Size 1/2 and larger



Fig. TN

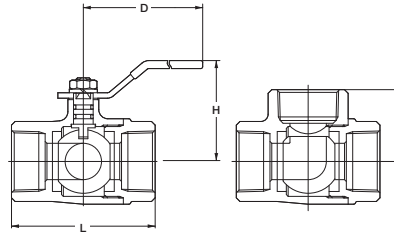
- Threaded end to BS21

Fig. AKTN

- Threaded end to ASME B1.20.1

Fig. CTN

- Solder joint end to ASME B16.18
- CTN 1/2 to 2



Materials

*Size 2 1/2 and 3

Parts	Material
Body	Brass/Bronze*
Body cap	Brass
Stem	Dezincification Resistant Brass
Ball	Brass**
Ball seat	PTFE
O-ring	FKM

**Chrome or Nickel-chrome plated

⚠ Solder joint end valves should not be used in service where the temperature of line fluid is higher than the softening point of solder.

Dimensions (TN/AKTN)

Nominal Size	inch	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	mm
L		8	10	15	20	25	32	40	50	65	80	
L1		20	23	33.5	34	39.5	44.5	50	57.5	69	83	
H		30	35	45	48	55	60	65	75	91	105	
D		60	70	80	80	110	110	110	140	200	300	

Port position fig: Position 1 & 2

TYPE 400

3-WAY BRONZE BALL VALVE

Screwed body cap, 4-seat, L or T-port design, Blowout-proof Stem, Double O-ring stem seals Threaded ends to BS21 or NPT

W.O.G. non-shock 2.76 MPa (400 psi), W.O.G. 150°C 0.69 MPa (100 psi)



Fig. T4T

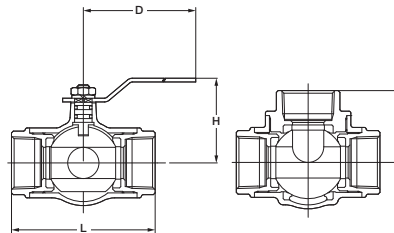
- Threaded end to BS21

Fig. AKT4T

- Threaded end to ASME B1.20.1

Fig. T4L

- Threaded end to BS21



Materials

Parts	Material
Body	Bronze
Body cap	Brass
Stem	Dezincification Resistant Brass
Ball	Brass*
Ball seat	PTFE
O-ring	FKM

*Chrome or Nickel-chrome plated

Dimensions

Nominal Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	mm
L		70	85	100	115	130	150	
L1		35	42.5	50	57.5	65	75	
H		52	56	63	68	94.5	102	
D		130	130	150	150	230	230	

T4T/AKT4T: Port position fig: Position 1,2,3 & 4 T4L: Port position fig: Position 1 & 2

TYPE 400

3-WAY BRONZE BALL VALVE, with MOUNTING PAD

Screwed body cap, 2-seat, L-port design, Blowout-proof Stem, Double O-ring stem seals Threaded ends to BS21 or NPT

W.O.G. non-shock 2.76 MPa (400 psi), W.O.G. 150°C 0.69 MPa (100 psi)

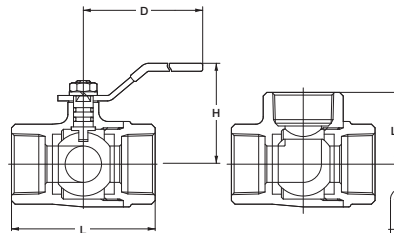


Fig. AKTNP

- Threaded end to ASME B1.20.1

Fig. CTNP

- Solder joint end to ASME B16.18



Materials

Parts	Material
Body	Brass
Body cap	Brass
Stem	Dezincification Resistant Brass
Ball	Brass*
Ball seat	PTFE
O-ring	FKM

*Chrome or Nickel-chrome plated

Mounting Pad

Dimensions (AKTNP)

Nominal Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	mm
L		67	68	79	89	100	115	
L1		33.5	34	40	44.5	50	57.5	
H		45	48	55	60	65	75	
D		80	80	110	110	130	140	

Port position fig: Position 1 & 2

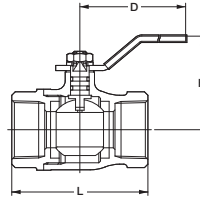
ALLOWABLE PORT ORIENTATION

Valve Design	Form	Fluid Passage
3-Way 2-seat L-port ball valve	<p>Top View</p> <p>Form 1 Form 2</p>	<p>1 Flow is between Ports "A" and "C" in Form 1. Flow is between Ports "B" and "C" in Form 2. Flow paths in Form 1 and Form 2 can be changed each other.</p> <p>2 When the fluid pressure P2 in the closed path is higher than P1 in the open path, a little fluid leakage may occur to P1 through the ball seat of the closed path.</p>
	<p>Top View</p> <p>Form 1 Form 2</p>	<p>1 Flow is between Ports "A" and "C" in Form 1. Flow is between Ports "B" and "C" in Form 2. Flow paths in Form 1 and Form 2 can be changed each other.</p> <p>2 When the fluid pressure P2 in the closed path is higher than P1 in the open path, a little fluid leakage may occur to P1 through the ball seat of the closed path.</p>
3-Way 2-seat T-port ball valve	<p>Top View</p> <p>Form 1 Form 2</p>	<p>1 All ports are open in Form 1. Flow is between Ports "B" and "C" in Form 2. Flow is between Ports "A" and "C" in Form 4. Flow can be switched from Form 1 to Form 2, (Standard operation pattern) or from Form 1 to Form 4 in either direction. The stopper is assembled for the standard operation pattern.</p> <p>2 When the fluid pressure P2 in the closed path is higher than P1 in the open path, a little fluid leakage may occur to P1 through the ball seat of the closed path.</p> <p>■ Operation patterns available</p> <ul style="list-style-type: none"> • Pattern 1 : From Form 1 to Form 4 • Pattern 2 : From Form 1 to Form 2 (Standard) <p>Please select one of the above operation patterns at time of order.</p>
	<p>Top View</p> <p>Form 3 Not Available Form 4</p>	
3-Way 4-seat T-port ball valve	<p>Top View</p> <p>Form 1 Form 2</p>	<p>1 All ports are open in Form 1. Flow is between Ports "B" and "C" in Form 2. Flow is between Ports "A" and "B" in Form 3. Flow is between Ports "A" and "C" in Form 4. All forms are available for switching, diverging or mixing of flows. The stopper is assembled for standard operation pattern to switch flow from Form 1 to Form 2.</p> <p>2 When the fluid pressure P2 in the closed path is higher than P1 in the open path, a little fluid leakage may occur to P1 through the ball seat of the closed path.</p> <p>■ Operation patterns available</p> <ul style="list-style-type: none"> • Pattern 1 : From Form 1 to Form 4 • Pattern 2 : From Form 1 to Form 2 (Standard) • Pattern 3 : From Form 3 to Form 4 • Pattern 4 : From Form 2 to Form 3 <p>Please select one of the above operation patterns at time of order.</p>
	<p>Top View</p> <p>Form 3 Form 4</p>	

BRASS BALL VALVE, DESIGNED FOR GAS SERVICE

Screwed body cap,
Blowout-proof Stem, Double O-ring stem seals
Threaded ends to BS21

Gas service 40°C 0.98 MPa (142 psi)



Materials

Parts	Material
Body	Brass
Body cap	Brass
Stem	Dezincification Resistant Brass
Ball	Brass*
Ball seat	PTFE
O-ring	NBR

*Nickel-chrome plated

Dimensions

Nominal Size	inch	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	mm	8	10	15	20	25	32	40	50	65	80
L	50	50	65	68	79	86	96	109	127	153	
H	45	45	45	50	55	60	65	75	91	105	
D	60	60	80	80	110	110	110	140	200	300	

Fig. TG



CLASS 200

FANCOIL VALVES, BRONZE, FLOW CONTROL, ANGLE TYPE

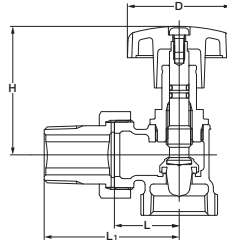
Female & Male Threaded ends to BS21

W.O.G. 60°C 1.57 MPa, W.O.G. 120°C 1.37 MPa



Fig. NAH

• Flow Control Valves



Dimensions

Nominal Size	inch	1/2	3/4	1	mm
	mm	15	20	25	
L		27	30	35	
L1		57	62.5	70.5	
H Valve open		68	68	77	
D		47.5	47.5	47.5	

Materials

Parts	Material
Body	Bronze
Bonnet	Brass
Stem	Dezincification Resistant Brass
Disc	PTFE
O-ring	FKM

CLASS 200

FANCOIL VALVES, BRONZE, FLOW CONTROL, GLOBE TYPE

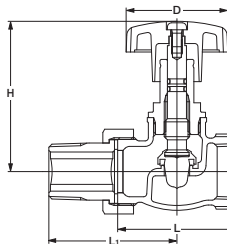
Female & Male Threaded ends to BS21

W.O.G. 60°C 1.57 MPa, W.O.G. 120°C 1.37 MPa



Fig. NSH

• Flow Control Valves



Dimensions

Nominal Size	inch	1/2	3/4	1	mm
	mm	15	20	25	
L		52	56	63	
L1		56	60.5	67	
H Valve open		77	79	90	
D		47.5	47.5	47.5	

Materials

Parts	Material
Body	Bronze
Bonnet	Brass
Stem	Dezincification Resistant Brass
Disc	PTFE
O-ring	FKM

CLASS 200

FANCOIL VALVES, BRONZE, FLOW CONTROL, ANGLE TYPE

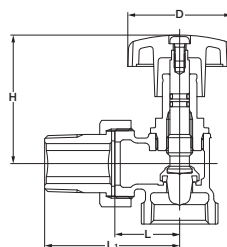
Indicator Female & Male Threaded ends to BS21

W.O.G. 60°C 1.57 MPa, W.O.G. 120°C 1.37 MPa



Fig. INAH

• Flow Control Valves with Indicators



Dimensions

Nominal Size	inch	1/2	3/4	1	1 1/4	mm
	mm	15	20	25	32	
L		27	30	35	41	
L1		57	62.5	70.5	81	
H Valve open		68	68	77	88	
D		47.5	47.5	47.5	47.5	

Materials

Parts	Material
Body	Bronze
Bonnet	Brass
Stem	Dezincification Resistant Brass
Disc	PTFE
O-ring	FKM

CLASS 200

FANCOIL VALVES, BRONZE, FLOW CONTROL, GLOBE TYPE

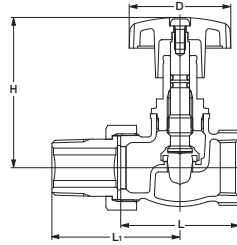
Indicator
Female & Male Threaded ends to BS21

W.O.G. 60°C 1.57 MPa, W.O.G. 120°C 1.37 MPa



Fig. INSH

• Flow Control Valves with Indicators



Materials

Parts	Material
Body	Bronze
Bonnet	Brass
Stem	Dezincification Resistant Brass
Disc	PTFE
O-ring	FKM

Dimensions

Nominal Size	inch	1/2	3/4	1	1 1/4
	mm	15	20	25	32
L		52	56	63	70
L1		56	60.5	67	75
H Valve open		77	79	90	96
D		47.5	47.5	47.5	47.5

CLASS 200

FANCOIL VALVES, BRONZE, ON-OFF, ANGLE TYPE

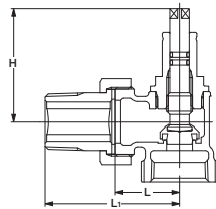
Female & Male Threaded ends to BS21

W.O.G. 60°C 1.57 MPa, W.O.G. 120°C 1.37 MPa



Fig. RAH

• On-off Valves



Materials

Parts	Material
Body	Bronze
Bonnet	Brass
Stem	Dezincification Resistant Brass
Disc	PTFE
O-ring	FKM

Dimensions

Nominal Size	inch	1/2	3/4	1	1 1/4
	mm	15	20	25	32
L		27	30	35	41
L1		57	62.5	70.5	81
H Valve open		61	61	70	81

CLASS 200

FANCOIL VALVES, BRONZE, ON-OFF, GLOBE TYPE

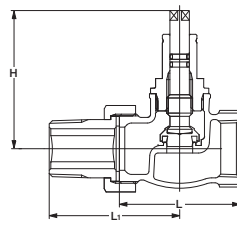
Female & Male Threaded ends to BS21

W.O.G. 60°C 1.57 MPa, W.O.G. 120°C 1.37 MPa



Fig. RSH

• On-off Valves



Materials

Parts	Material
Body	Bronze
Bonnet	Brass
Stem	Dezincification Resistant Brass
Disc	PTFE
O-ring	FKM

Dimensions

Nominal Size	inch	1/2	3/4	1	1 1/4
	mm	15	20	25	32
L		52	56	63	70
L1		56	60.5	67	75
H Valve open		70	72	83	89

CLASS 200

FANCOIL VALVES, BRONZE, FLOW CONTROL, ANGLE TYPE

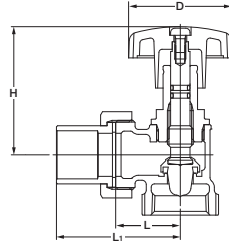
Solder joint end & Female Threaded end to BS21

W.O.G. 60°C 1.57 MPa, W.O.G. 120°C 1.37 MPa



Fig. CNAH

• Flow Control Valves



Dimensions

Nominal Size	inch	1/2	3/4	1	mm
	mm	15	20	25	
L		27	30	35	
L1		48.5	57.5	67.5	
H Valve open		68	68	77	
D		47.5	47.5	47.5	

Materials

Parts	Material
Body	Bronze
Bonnet	Brass
Stem	Dezincification Resistant Brass
Disc	PTFE
O-ring	FKM

CLASS 200

FANCOIL VALVES, BRONZE, FLOW CONTROL, GLOBE TYPE

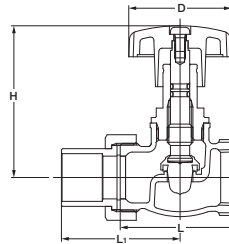
Solder joint end & Female Threaded end to BS21

W.O.G. 60°C 1.57 MPa, W.O.G. 120°C 1.37 MPa



Fig. CNSH

• Flow Control Valves



Dimensions

Nominal Size	inch	1/2	3/4	1	mm
	mm	15	20	25	
L		52	56	63	
L1		47.5	55.5	63	
H Valve open		77	79	90	
D		47.5	47.5	47.5	

Materials

Parts	Material
Body	Bronze
Bonnet	Brass
Stem	Dezincification Resistant Brass
Disc	PTFE
O-ring	FKM

CLASS 200

FANCOIL VALVES, BRONZE, ON-OFF, ANGLE TYPE

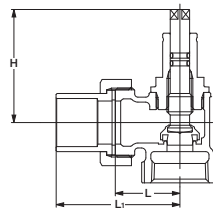
Solder joint end & Female Threaded end to BS21

W.O.G. 60°C 1.57 MPa, W.O.G. 120°C 1.37 MPa



Fig. CRAH

• On-off Valves



Dimensions

Nominal Size	inch	1/2	3/4	1	1 1/4	mm
	mm	15	20	25	32	
L		27	30	35	41	
L1		48.5	57.5	67.5	76	
H Valve open		61	61	70	81	

Materials

Parts	Material
Body	Bronze
Bonnet	Brass
Stem	Dezincification Resistant Brass
Disc	PTFE
O-ring	FKM

CLASS 200

FANCOIL VALVES, BRONZE, ON-OFF, GLOBE TYPE

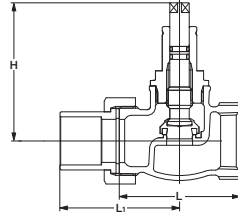
Solder joint end & Female Threaded end to BS21

W.O.G. 60°C 1.57 MPa, W.O.G. 120°C 1.37 MPa



Fig. CRSH

• On-off Valves



Materials

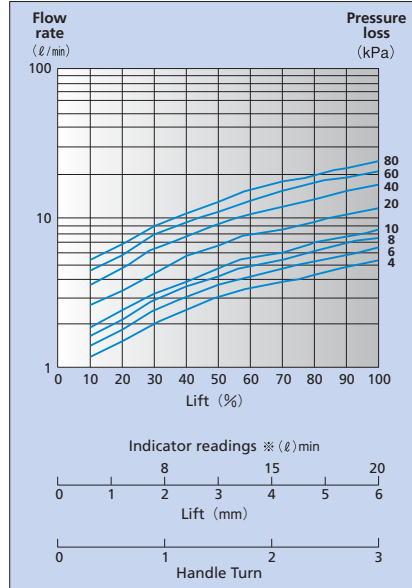
Parts	Material
Body	Bronze
Bonnet	Brass
Stem	Dezincification Resistant Brass
Disc	PTFE
O-ring	FKM

Dimensions

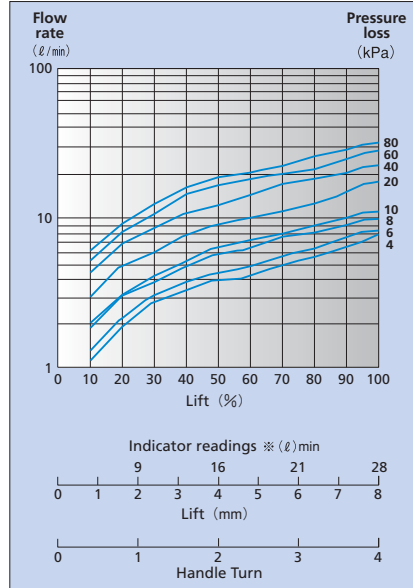
Nominal Size	inch	1/2	3/4	1	1 1/4	mm
	mm	15	20	25	32	
L		52	56	63	70	
L1		47.5	55.5	69	70	
H Valve open		70	72	83	89	

FLOW CHARACTERISTICS

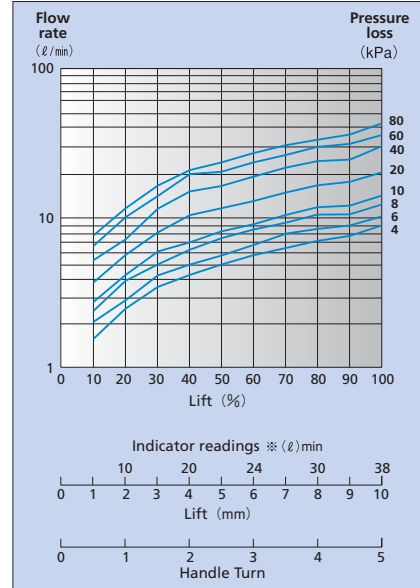
Nominal size: 1/2 Cv=1.8



Nominal size: 3/4 Cv=2.6



Nominal size: 1, 1 1/4 Cv=3.3



※ Indicator readings refer to flow rates when the pressure loss is 60 kPa.

10K

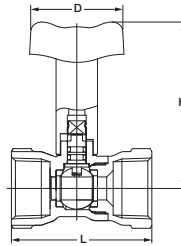
BRONZE BALL VALVES with DETACHABLE HANDLE FOR FANCOIL UNIT

Screwed body cap, Blowout-proof Stem, Double O-ring stem seals Threaded ends to BS21

Water 0°C to 90°C 1.0 MPa (Not Freezing)



Fig. RTRM



Materials

Parts	Material
Body	Bronze
Body cap	Bronze
Stem	Dezincification Resistant Brass
Ball	Brass: Nickel-chrome plated
Ball seat	PTFE
O-ring	EPDM

Dimensions

Nominal Size	inch	1/2	3/4	1	mm
	mm	15	20	25	
L		56	61	70.5	
H		72	72	75.5	
D		40	40	40	

10K

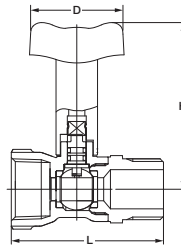
BRONZE BALL VALVES with DETACHABLE HANDLE FOR FANCOIL UNIT

Screwed body cap, Blowout-proof Stem, Double O-ring stem seals Male (parallel) & Female Threaded ends to BS21

Water 0°C to 90°C 1.0 MPa (Not Freezing)



Fig. RTRQ



Materials

Parts	Material
Body	Bronze
Body cap	Bronze
Stem	Dezincification Resistant Brass
Ball	Brass: Nickel-chrome plated
Ball seat	PTFE
O-ring	EPDM

Dimensions

Nominal Size	inch	1/2	3/4	1	mm
	mm	15	20	25	
L		62	66	75.5	
H		72	72	75.5	
D		40	40	40	

10K

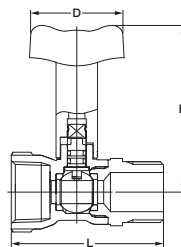
BRONZE BALL VALVES with DETACHABLE HANDLE FOR FANCOIL UNIT

Screwed body cap, Blowout-proof Stem, Double O-ring stem seals Male & Female Threaded ends to BS21

Water 0°C to 90°C 1.0 MPa (Not Freezing)



Fig. RTRR



Materials

Parts	Material
Body	Bronze
Body cap	Bronze
Stem	Dezincification Resistant Brass
Ball	Brass: Nickel-chrome plated
Ball seat	PTFE
O-ring	EPDM

Dimensions

Nominal Size	inch	1/2	3/4	1	mm
	mm	15	20	25	
L		62	66	75.5	
H		72	72	75.5	
D		40	40	40	

10K

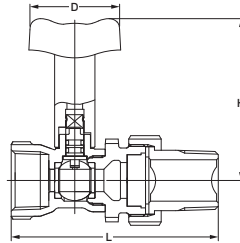
BRONZE BALL VALVES with DETACHABLE HANDLE FOR FANCOIL UNIT

Screwed body cap, Blowout-proof Stem, Double O-ring stem seals Female & Male (union) Threaded ends to BS21

Water 0°C to 90°C 1.0 MPa (Not Freezing)



Fig. RTRU



Materials

Parts	Material
Body	Bronze
Body cap	Bronze
Stem	Dezincification Resistant Brass
Ball	Brass: Nickel-chrome plated
Ball seat	PTFE
O-ring	EPDM

Dimensions

Nominal Size	inch	1/2	3/4	1	mm
	mm	15	20	25	
L		88	92.5	104	
H		72	72	75.5	
D		40	40	40	

10K

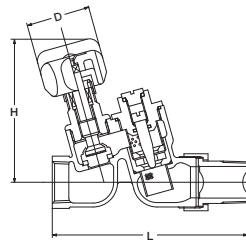
BRONZE BALANCING VALVES with BUILT-IN SCREEN

Constant flow control valve Female & Male (union nipple) Threaded ends to BS21

Max working pressure 1.0 MPa, Working temperature Water 0°C to 80°C, Control range 0.05 MPa to 0.49 MPa, Flow rate 3 to 30 l/min



Fig. BS



Materials

Parts	Material
Body	Bronze
Bonnet	Brass
Cap	Brass
Stem	Dezincification Resistant Brass
Disc	Reinforced PTFE

Dimensions

Nominal Size	inch	1/2	3/4	mm
	mm	15	20	
L		118.5	121.5	
H Valve open		89	89	
D		40	40	

10K

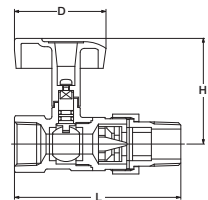
BRONZE BALANCING VALVES LOW-NOISE TYPE

Constant flow control valve, Ball valve type Female & Male (union nipple) Threaded ends to BS21

Max working pressure 1.0 MPa, Working temperature Water 0°C to 80°C, Control range 0.05 MPa to 0.49 MPa, Flow rate 3 to 40 l/min



Fig. BSS



Materials

Parts	Material
Body	Bronze
Cap	Bronze
Stem	Dezincification Resistant Brass
Ball	Brass: Chrome plated
Ball seats	PTFE
O-ring	FKM

Dimensions

Nominal Size	inch	1/2	3/4	1	mm
	mm	15	20	25	
L		94.5	100.5	115.5	
H		63.5	63.5	66.5	
D		55	55	55	

10K

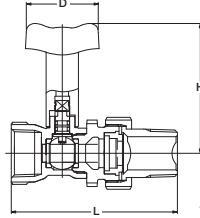
**"SADAMARU"
CONSTANT FLOW CONTROL**

Ball Valve
Female & Male (union nipple)
Threaded ends to BS21

Max working pressure 1.0 MPa, Working temperature Water 0°C to 60°C,
Control range 0.15 MPa to 0.49 MPa, Flow rate 5 to 30 ℓ/min



Fig. RTUC



Materials

Parts	Material
Body	Bronze
Cap	Bronze
Stem	Dezincification Resistant Brass
Ball	Brass: Nickel-chrome plated
Ball seats	PTFE
O-ring	EPDM

Dimensions

Nominal Size	inch	1/2	3/4	1	mm
	mm	15	20	25	
L		88	92.5	104	
H		72	72	75.5	
D		40	40	40	

**Predetermined Flow Rates and Product Coding for
Balancing Valves and Balancers "SADAMARU"**

● **Predetermined Flow Rate**

Product Code: BS [Controllable flow rate ±10%]

Nominal Size (mm)	3	4	5	6	7.5	8	10	12	12.5	15	16	17.5	20	25	30	(ℓ/min)
15	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
20	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	

Product Code: BSS [Controllable flow rate ±10%]

Nominal Size (mm)	3	4	5	6	7.5	8	10	12	12.5	15	16	17.5	20	25	30	35	40	(ℓ/min)
15	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
20	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●			
25	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	

Product Code: RTUC [Controllable flow rate ±15%, ±20% (5 ℓ/min only)]

Nominal Size (mm)	5	6	7.5	8	10	12.5	15	17.5	20	25	30	(ℓ/min)
15	●	●	●	●	●	●	●	●				
20	●	●	●	●	●	●	●	●	●	●	●	
25										●	●	

Note: Flow rates marked with ● are available.

Product Coding

BS
BSS
RTUC



— Predetermined Flow Rate
— Nominal Size
— Constant Flow Valve Product Code

Example : RTUC, Nominal size 20, Predetermined flow rate: 10 ℓ/min
RTUC20-10

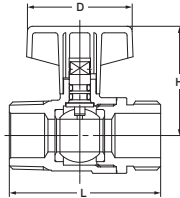
UTILITY BALL VALVES, STRAIGHT TYPE

Male (parallel) & Male Threaded ends to BS21

1.0 MPa water, -20°C to +100°C (Not Freezing)



Fig. S1



Materials

Parts	Material
Body	Brass
Stem	Dezincification Resistant Brass
Ball	Brass*
Ball seats	G/F PTFE
O-ring	EPDM

*Chrome or Nickel-chrome plated

Dimensions

Nominal Size	inch	1/2	3/4	mm
	mm	15	20	
L		52.5	58	
H		39	42	
D		40	40	

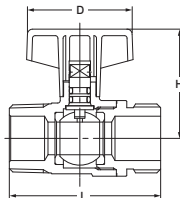
UTILITY BALL VALVES, STRAIGHT TYPE

Nickel-Chrome plated body
Male (parallel) & Male Threaded ends to BS21

1.0 MPa water, -20°C to +100°C (Not Freezing)



Fig. S2



Materials

Parts	Material
Body	Brass (Nickel-chrome plated)
Stem	Dezincification Resistant Brass
Ball	Brass*
Ball seats	G/F PTFE
O-ring	EPDM

*Chrome or Nickel-chrome plated

Dimensions

Nominal Size	inch	1/2	3/4	mm
	mm	15	20	
L		52.5	58	
H		39	42	
D		40	40	

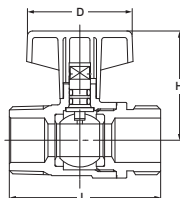
UTILITY BALL VALVES, STRAIGHT TYPE

Nickel-Chrome plated body, For kerosene service
Male (parallel) & Male Threaded ends to BS21

1.0 MPa water, -20°C to +100°C (Not Freezing)



Fig. S22



Materials

Parts	Material
Body	Brass (Nickel-chrome plated)
Stem	Dezincification Resistant Brass
Ball	Brass*
Ball seats	G/F PTFE
O-ring	NBR

*Chrome or Nickel-chrome plated

Dimensions

Nominal Size	inch	1/2	3/4	mm
	mm	15	20	
L		52.5	58	
H		39	42	
D		40	40	

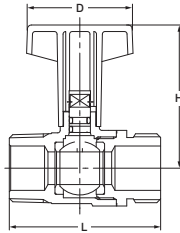
UTILITY BALL VALVES, STRAIGHT TYPE

Long Handle
Male (parallel) & Male Threaded ends to BS21

1.0 MPa water, -20°C to +100°C (Not Freezing)



Fig. S3



Materials

Parts	Material
Body	Brass
Stem	Dezincification Resistant Brass
Ball	Brass*
Ball seats	G/F PTFE
O-ring	EPDM

*Chrome or Nickel-chrome plated

Dimensions

Nominal Size	mm	
	inch	mm
	1/2	3/4
	15	20
L	52.5	58
H	52	55
D	40	40

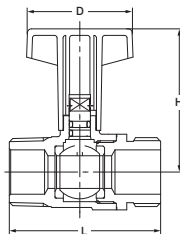
UTILITY BALL VALVES, STRAIGHT TYPE

Nickel-Chrome plated body, Long Handle
Male (parallel) & Male Threaded ends to BS21

1.0 MPa water, -20°C to +100°C (Not Freezing)



Fig. S4



Materials

Parts	Material
Body	Brass (Nickel-chrome plated)
Stem	Dezincification Resistant Brass
Ball	Brass*
Ball seats	G/F PTFE
O-ring	EPDM

*Chrome or Nickel-chrome plated

Dimensions

Nominal Size	mm	
	inch	mm
	1/2	3/4
	15	20
L	52.5	58
H	52	55
D	40	40

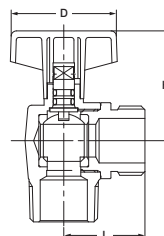
UTILITY BALL VALVES, ANGLE TYPE

Nickel-Chrome plated body
Male (parallel) & Male Threaded ends to BS21

1.0 MPa water, -20°C to +100°C (Not Freezing)



Fig. S5



Materials

Parts	Material
Body	Brass (Nickel-chrome plated)
Stem	Dezincification Resistant Brass
Ball	Brass*
Ball seats	G/F PTFE
O-ring	EPDM

*Chrome or Nickel-chrome plated

Dimensions

Nominal Size	mm	
	inch	mm
	1/2	3/4
	15	20
L	28.5	31
H	39	42
D	40	40

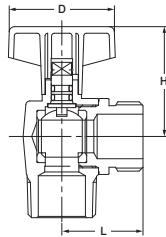
UTILITY BALL VALVES, ANGLE TYPE

Nickel-Chrome plated body, For kerosene service
Male (parallel) & Male Threaded ends to BS21

1.0 MPa water, -20°C to +100°C (Not Freezing)



Fig. S52



Materials

Parts	Material
Body	Brass (Nickel-chrome plated)
Stem	Dezincification Resistant Brass
Ball	Brass*
Ball seats	G/F PTFE
O-ring	NBR

*Chrome or Nickel-chrome plated

Dimensions

Nominal Size	mm	
	inch	mm
	1/2	3/4
	15	20
L	28.5	31
H	39	42
D	40	40

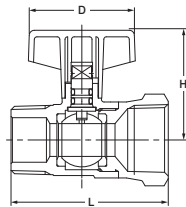
UTILITY BALL VALVES, STRAIGHT TYPE

Male & Female Threaded ends to BS21

1.0 MPa water, -20°C to +100°C (Not Freezing)



Fig. S6



Materials

Parts	Material
Body	Brass
Stem	Dezincification Resistant Brass
Ball	Brass*
Ball seats	G/F PTFE
O-ring	EPDM

*Chrome or Nickel-chrome plated

Dimensions

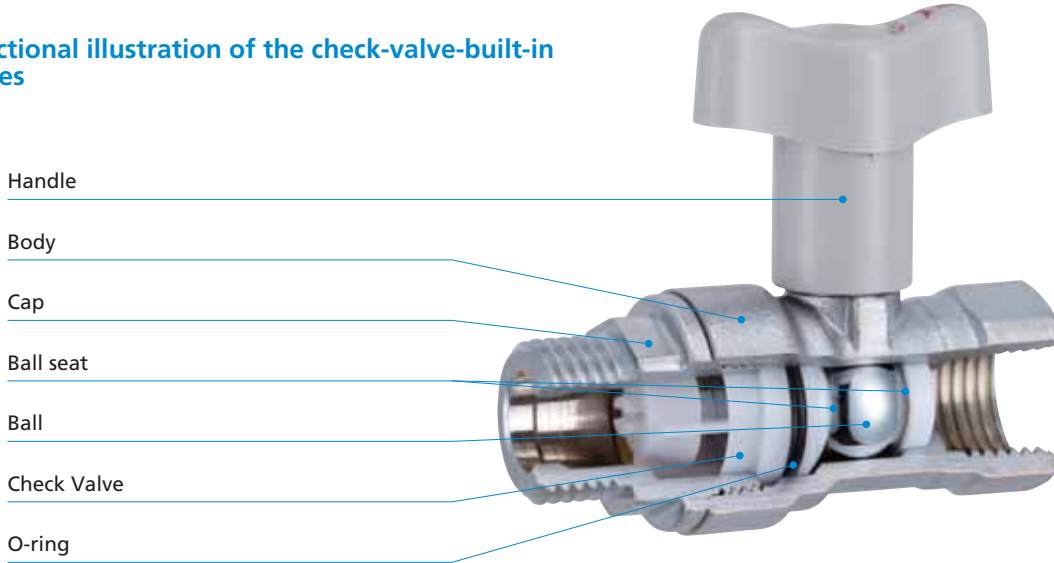
Nominal Size	mm	
	inch	mm
	1/2	3/4
	15	20
L	54	59
H	39	42
D	40	40



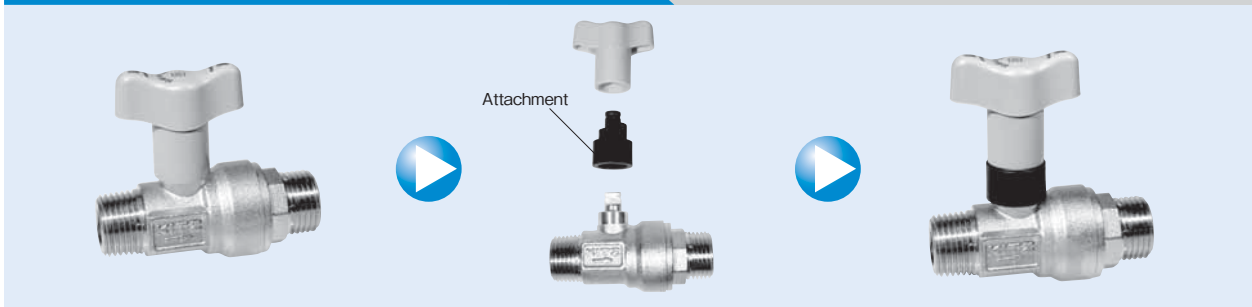
Design feature of KITZ S Ball Valve, check valve built-in ball valves body.

Compact design with a check valve built in the ball valve body.
Prevention of reverse flow by automatic closing of the spring-loaded built-in check valve (Water hammer proof).
Quarter turn operation with detachable handle for easy valve mounting or maintenance, and piping insulation.
Direct installation of the valves to flexible pipes on the downstream side.

Cross-sectional illustration of the check-valve-built-in ball valves



2 Way Handle



UTILITY BALL VALVES, STRAIGHT TYPE

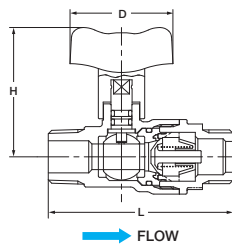
A Check Valve Built-in Ball Valve
Male (parallel) & Male Threaded ends to BS21

1.0 MPa water, 0°C to +40°C (Not Freezing)

Direct flow 40°C MAX, Reverse flow 80°C MAX



Fig. S23N



Materials

Parts	Material
Body	Brass
Stem	Dezincification Resistant Brass
Ball	Brass*
Ball seats	PTFE
Check valve	Polyacetal + NBR
O-ring	EPDM

*Chrome or Nickel-chrome plated

Dimensions

Nominal Size	inch	1/2	3/4	mm
	mm	15	20	
L		72	74	
H		51	51	
H Add Attachment		63	63	
D		40	40	

UTILITY BALL VALVES, STRAIGHT TYPE

A Check Valve Built-in Ball Valve
Male (parallel) & Male Threaded ends to BS21

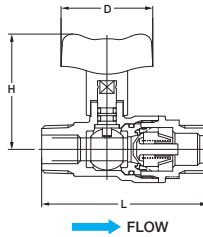
1.0 MPa clean water, 0°C to +40°C (Not Freezing)

Direct flow 40°C MAX, Reverse flow 80°C MAX



Fig. S24N

• Nickel-Chrome plated body



Materials

Parts	Material
Body	Brass: Nickel-chrome plated
Stem	Dezincification Resistant Brass
Ball	Brass*
Ball seats	PTFE
Check valve	Polyacetal + NBR
O-ring	EPDM

*Chrome or Nickel-chrome plated

Dimensions

Nominal Size	inch	1/2	3/4	mm
	mm	15	20	
L		72	74	
H		51	51	
H Add Attachment		63	63	
D		40	40	

UTILITY BALL VALVES, STRAIGHT TYPE

A Check Valve Built-in Ball Valve
Female & Female Threaded ends to BS21

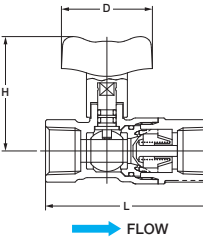
1.0 MPa clean water, 0°C to +40°C (Not Freezing)

Direct flow 40°C MAX, Reverse flow 80°C MAX



Fig. S25N

• Nickel-Chrome plated body



Materials

Parts	Material
Body	Brass: Nickel-chrome plated
Stem	Dezincification Resistant Brass
Ball	Brass*
Ball seats	PTFE
Check valve	Polyacetal + NBR
O-ring	EPDM

*Chrome or Nickel-chrome plated

Dimensions

Nominal Size	inch	1/2	3/4	mm
	mm	15	20	
L		73	75	
H		51	51	
H Add Attachment		63	63	
D		40	40	

UTILITY BALL VALVES, STRAIGHT TYPE

A Check Valve Built-in Ball Valve
Male (parallel) & Female Threaded ends to BS21

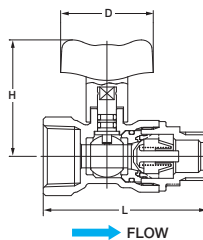
1.0 MPa clean water, 0°C to +40°C (Not Freezing)

Direct flow 40°C MAX, Reverse flow 80°C MAX



Fig. S28N

• Nickel-Chrome plated body



Materials

Parts	Material
Body	Brass: Nickel-chrome plated
Stem	Dezincification Resistant Brass
Ball	Brass*
Ball seats	PTFE
Check valve	Polyacetal + NBR
O-ring	EPDM

*Chrome or Nickel-chrome plated

Dimensions

Nominal Size	inch	1/2	3/4	mm
	mm	15	20	
L		70.5	72.5	
H		51	51	
H Add Attachment		63	63	
D		40	40	

UTILITY BALL VALVES, STRAIGHT TYPE

A Check Valve Built-in Ball Valve
Male (parallel) & Male Threaded ends to BS21

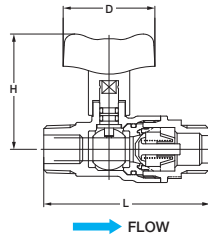
1.0 MPa clean water, 0°C to +40°C (Not Freezing)

Direct flow 40°C MAX, Reverse flow 80°C MAX



Fig. S24N - 3/4 x

• Nickel-Chrome plated body



Dimensions

Nominal Size	inch	mm
	3/4 x 1/2	20 x 15
L		73
H		51
H Add Attachment		63
D		40

Materials

Parts	Material
Body	Brass: Nickel-chrome plated
Stem	Dezincification Resistant Brass
Ball	Brass*
Ball seats	PTFE
Check valve	Polyacetal + NBR
O-ring	EPDM

*Chrome or Nickel-chrome plated

UTILITY BALL VALVES, STRAIGHT TYPE

A Check Valve Built-in Ball Valve
Male (parallel) & Female Threaded ends to BS21

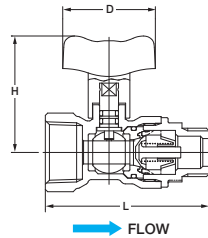
1.0 MPa clean water, 0°C to +40°C (Not Freezing)

Direct flow 40°C MAX, Reverse flow 80°C MAX



Fig. S28N - 3/4 x

• Nickel-Chrome plated body



Dimensions

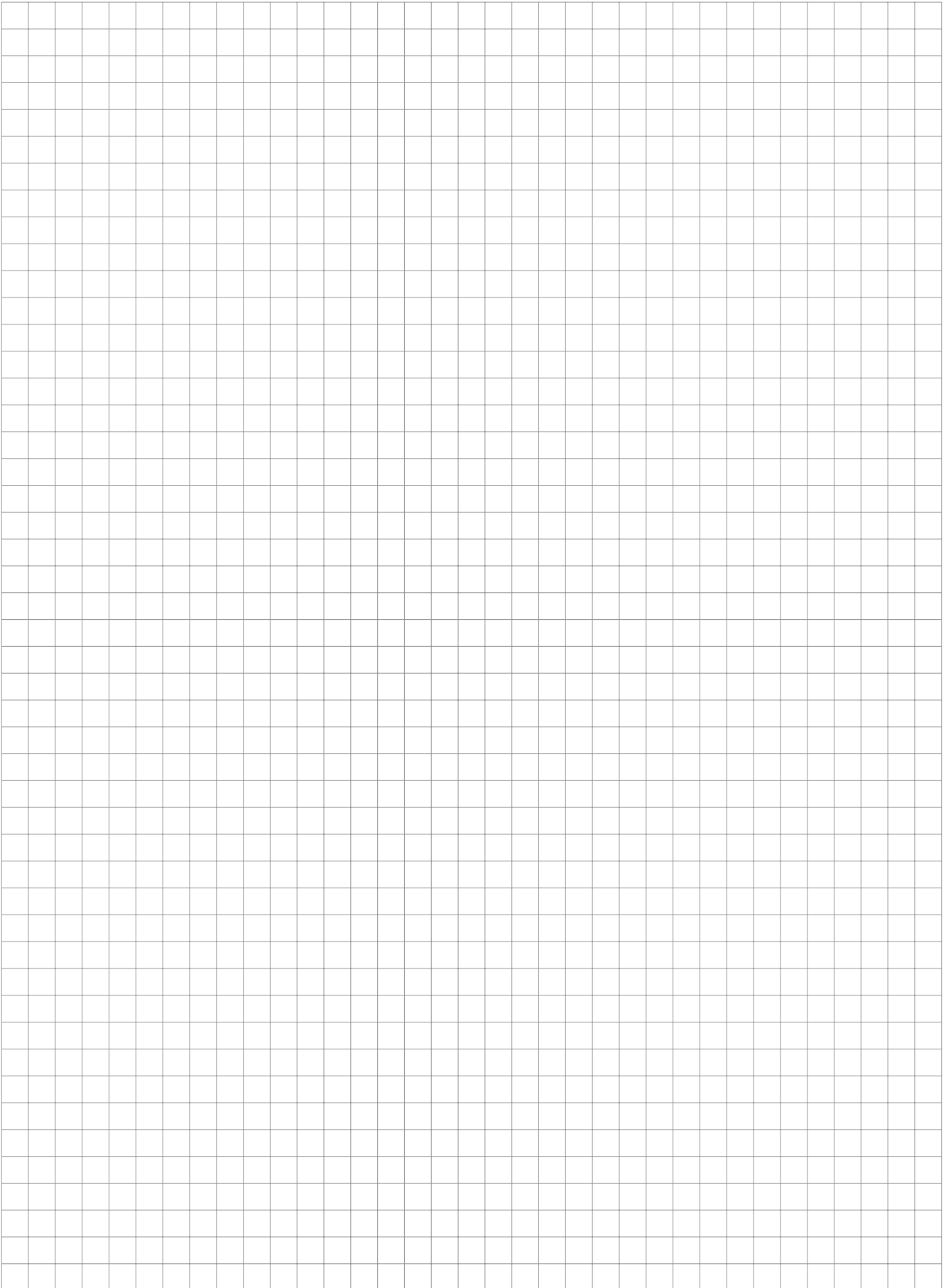
Nominal Size	inch	mm
	3/4 x 1/2	20 x 15
L		71.5
H		51
H Add Attachment		63
D		40

Materials

Parts	Material
Body	Brass: Nickel-chrome plated
Stem	Dezincification Resistant Brass
Ball	Brass*
Ball seats	PTFE
Check valve	Polyacetal + NBR
O-ring	EPDM

*Chrome or Nickel-chrome plated





CAUTION

Pressure-temperature ratings and other performance data published in this catalog have been developed from our design calculation, in-house testing, field reports provided by our customers and / or published official standards or specifications. They are good only to cover typical applications as a general guideline to users of KITZ products introduced in this catalog.

For any specific application, users are kindly requested to contact KITZ Corporation for technical advice, or to carry out their own study and evaluation for proving suitability of these products to such an application. Failure to follow this request could result in property damage and / or personal injury, for which we shall not be liable.

While this catalog has been compiled with the utmost care, we assume no responsibility for errors, impropriety or inadequacy. Any information provided in this catalog is subject to from-time-to-time change without notice for error rectification, product discontinuation, design modification, new product introduction or any other cause that KITZ Corporation considers necessary. This edition cancels all previous issues.

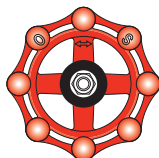
Read instruction manual carefully before use.

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If any products designated as strategic material in the Foreign Exchange and Foreign Trade Law, Cabinet Order Concerning Control of Export Trade, Cabinet order Concerning Control of Foreign Exchange and other related laws and ordinances ("Foreign Exchange Laws") are exported to any foreign country or countries, an export license issued by the Japanese Government will be required under the Foreign Exchange Laws.

Further, there may be cases where an export license issued by the government of the United States or other country will be required under the applicable export-related laws and ordinances in such relevant countries.

The contract shall become effective subject to that a relevant export license is obtained from the Japanese Government.



*A chrysanthemum-handle is a symbol of KITZ,
the brand of valve reliability*

ISO 9001 certified since 1989

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