

# Bronze & Brass Valves

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







밸브 제조업체의 세계적인 리더로서, KITZ Corporation에서 다양한 상업용 및 산업용 동밸브(Bronze & Brass Valves)를 제공하게 되어 기쁘게 생각합니다.

KITZ사 Bronze & Brass 밸브는 자사 공장에서만 생산됩니다. 원자재 선택부터 주조(Casting), 단조(Forging), 가공(Machining), 조립(Assembly) 및 테스트(Testing) 과정 까지 각 제조과정들은 자동화된 생산 설비와 독보적인 생산 기술과 함께 성장해 왔습니다. 규격화(Standardization) 및 자동화(Automation)는 비교할 수 없는 신속한 배송과 더불어 경쟁력 있는 가격으로 우수한 품질과 높은 균일성을 가진 KITZ 동밸브를 생산합니다.

KITZ 동밸브는 최신기술 컴퓨터로 디자인되며, 자동화를 통해 제작되고 품질관리사에 의해 철저한 검수과정을 거칩니다.

## Design Features of KITZ Bronze/Brass Valves

### Human Engineering in Hand wheel Design

모든 KITZ 동밸브 손잡이(hand wheel)는 컴퓨터로 디자인되며, KITZ사의 인간공학(Human Engineering)을 통해 작동의 효율성(operational efficiency)과 고강도(mechanical strength)가 결합한 이상적인 형태를 나타냅니다.

### Asbestos-free Gland Packing

KITZ의 모든 동밸브는 최근 산업시설에 요구되는 환경오염 최소화화를 위해 Asbestos-free Gland Packing의 주 재료로서, Aramid Fiber PTFE를 사용합니다. Aramid Fiber PTFE가 가진 Leak-free Sealing(누수없는 밀봉기능)과 밸브작동 토크(Valve Operating Torque)감소 기능 덕분에 물, 기름, 가스 뿐만 아니라 최대 300psi 압력과 300°C의 온도를 가진 포화증기(Saturated Steam) 분야에서 사용되는 기존의 Asbestos Sheet의 주력 대체상품으로 떠오르고 있습니다.

### Pressure Rating

KITZ 밸브의 지정압력등급(The pressure rating designation)은 현재 밸브와 배관 피팅산업(Valve and Pipe fitting Industry)의 관례를 따릅니다. 각 생산품은 W.O.G(Non-shock cold water, oil, and gas\*)와 포화증기(Saturated Steam) 압력 서비스 등급을 따릅니다.

### Inspection and Testing

KITZ 밸브는 재료의 화학성분(Chemical composition) 및 기계적성분(Mechanical properties)의 검수부터 생산의 모든 과정을 통틀어 엄격한 품질관리 하에 제조됩니다. 추가적인 관리는 최신의 정확한 장비를 사용하여 판매사 및 제조공장에서 검수(Inspection)와 시험(Testing)을 통하여 이루어 집니다. 밸브의 장기적인 사용수명과 품질을 보장하기 위하여 모든 KITZ밸브의 Body와 Seat seal의 검수는 정확한 압력시험을 통하여 이루어 집니다.

\*해당 카탈로그에 소개된 밸브는 유독가스용으로 사용할 수 없습니다.  
\*폭발성 가스용 밸브는 특수 제작되거나 증명서받 받은 밸브만 사용하십시오.

KITZ Corporation, Chino Plant, Japan (ISO 9001)



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

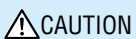


해당 카탈로그에서는 압력단위를 MPa와 SI를 사용합니다. 그러나 독자들의 편의성을 위해, psi 또한 각 ASME와 JIS 규격 제품에도 사용됩니다. 해당 카탈로그에 소개된 제품들은 ISO 9001의 인증서에 따라 제공됩니다.

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해당 카탈로그에 소개된 밸브는 유독가스 용으로 사용할 수 없습니다. 폭발성 가스용 밸브는 특수 제작 되거나 증명서를 받은 밸브만 사용하십시오.

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

수질오염 및 새로운 배관재의 사용은 밸브의 탈(脫)아연(Dezincification) 현상을 발생시킵니다.

### 탈(脫)아연(Dezincification)현상이란 무엇인가?

청동밸브(Bronze Valve)에 사용되는 합금구리(Alloy Copper)는 기본성분인 구리 및 아연(zinc), 주석(tin), 납(lead) 성분을 포함합니다. 동밸브가 알맞지 않은 환경에서 사용될 경우, 합금구리에 포함된 아연이 서서히 분리되어 밸브를 부식시킵니다. 이러한 현상을 탈(脫)아연(Dezincification)현상 이라고 합니다.  
청동밸브의 경우 본체(Body), 보닛(Bonnet), 및 청동(Cast Bronze)으로 이루어진 부분들은 적은양의 아연이 함유되어 있어 거의 부식되지 않습니다. 하지만 황동밸브(Brass Valve)의 경우 아연성분 40%로 이루어진 스템(Stem)과 같은 부분들이 종종 극심한 탈(脫)아연(Dezincification) 현상을 일으키며 밸브가 침식되기도 합니다.

### 탈(脫)아연(Dezincification)현상의 원인은 무엇인가?

아래의 요인들이 탈(脫)아연(Dezincification) 현상을 일으키는 원인입니다. 일반적으로 이러한 요인들은 독립적으로 발생하는것이 아닌 동시다발적으로 발생합니다.

- 1 과도한 산성질(Acidity)의 수용액
- 2 전도율이 높은 Free Carbonic Acid가 과도하게 포함된 온수
- 3 전도율이 높은 염화물(Chlorides) 및 황화물(Sulfides)
- 4 구리배관(Copper Pipe)또는 염화비닐배관(Vinyl Chloride Pipe)
- 5 유체 속 과도하게 용해된 산소(Oxygen)

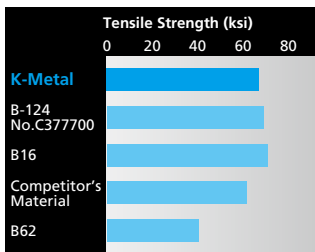


Fig. 1 Comparison of tensile strength

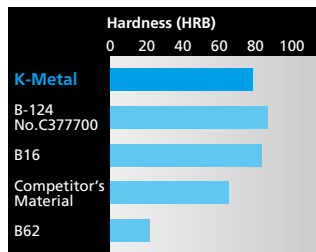


Fig. 2 Comparison of hardness

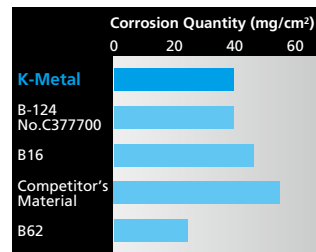


Fig. 3 Comparison of corrosion (1 mg/cm²=0.014 mlb/in²)

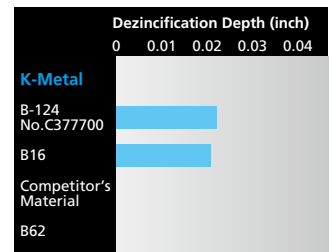


Fig. 4 Comparison of dezincification (to AS C316)

### Bronze/Brass Valve Solder Joints

구리관(Copper tubing)과 동 밸브는 우수한 물리적 특성 때문에 학교, 병원, 호텔 또는 주택의 스팀관(Steam line) 및 수도관(Water-line)에 다양하게 사용됩니다. 부식성이 적고 위생적이며 설치하기에 용이합니다.

**Copper Tubes:** 아래 표에 열거 된 세가지의 구리관(Copper tubing)은 ASTM B88기준에 부합하여 제작되었습니다. 각 관의 두께는 사용조건에 따라 차이가 발생합니다.

Type	Application
Type K	지하 및 설치가 힘든 환경에서 증기(steam), 유류 또는가스 설비를 위해 사용
Type L	일반 냉·난방 시스템 및 상수도관 또는 통풍설비에 사용
Type M	가정용 에어컨 및 난방시설에 사용

<b>CAUTION</b>	용접결합(Solder-jointed)된 밸브는 용접의 연화 지점보다 유체의 온도가 더 높을 경우 사용할 수 없습니다.
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### Soldering of Leak Free Joints

이음새를 용접할 때 95-5 tin-antimony 또는 96-4 tin-silver가 사용되며 화염불꽃(open-flame torch)이 사용됩니다. 이음새용접(Soldered Joint)을 단단하게 하기 위해서 불꽃의 온도를 상대적으로 낮게 유지해야 합니다.

용접을 하는 부분의 온도가 500°F정도 이기 때문에 용접결합(Solder-joint)된 밸브는 고온에서 사용할수 없습니다.

### Solder P-T Rating

Solder	Max. temp. (°C)	Max. working pressure					
		size 1/4 <sup>B</sup> -1 <sup>B</sup>		size 1 1/4 <sup>B</sup> -2 <sup>B</sup>		size 2 1/4 <sup>B</sup> -4 <sup>B</sup>	
		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 properties	
		Cu	Sn	Zn	Pb	Ni	Fe	P	Sb	Al	Si	Tensile strength 195 Min. (N/mm <sup>2</sup> )	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 properties	
	Extruded	Drawn	Cu	Pb	Fe + Sn	Zn	Tensile strength 315 Min. (N/mm <sup>2</sup> )	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 properties	
	Extruded	Drawn	Cu	Pb	Fe	Fe + Sn	Zn	Tensile strength 335 Min. (N/mm <sup>2</sup> )	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 Restricted Hazardous Substances

환경오염에 미치는 영향을 줄이기 위하여, KITZ Corporation은 산업시장에 지시된 EU의 RoHS\* 지침에 따라 6종류의 위험 물질(수은, 납, 카드뮴, 6가크롬, PBB 및 PBDE) 사용을 줄이는데 기여하고 있습니다. 해당 조건을 충족하는 제품들은 아래에서 확인할 수 있으며 자세한 정보 문의는 KITZ에 문의하여 주십시오.



\*전기 및 전자기기에서의 위험물질 사용 제한

# 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)

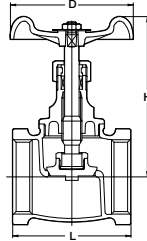


Fig. A\*

• Threaded end to BS21 (JIS B0203) • Threaded end to ASME B1.20.1

Fig. AKA

\*연결용 Taper Pipe Thread는 JIS B0203 표준을 참조해야 하며, 유류 나사부의 길이와 게이지 평면의 위치는 KITZ 기준에 의해 제작됩니다.



**Materials**

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

\*Size 4 only

△인화성 및 유독가스용으로 사용하지 마십시오.

**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	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	

# CLASS 100 BRONZE GLOBE VALVE

Screwed bonnet, Rising stem, Soft seated disc,  
Threaded ends to BS21 (JIS B0203)

W.O.G. non-shock 0.78 MPa (125 psi)

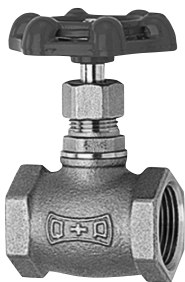


Fig. Q\*

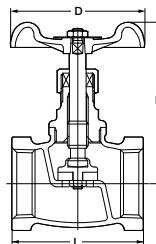
• Rubber disc



Fig. QA\*

• PTFE disc (for oil service)

\*연결용 Taper Pipe Thread는 JIS B0203 표준을 참조해야 하며, 유류 나사부의 길이와 게이지 평면의 위치는 KITZ 기준에 의해 제작됩니다.



**Materials**

Parts	Material
Body	Cast Bronze
Bonnet	Forged Brass
Stem	Dezincification Resistant Brass
Disc	Urethane rubber/PTFE
Gland packing	Non-Asbestos Packing

△인화성 및 유독가스용으로 사용하지 마십시오.

**Dimensions**

Nominal Size	inch		mm			
	1/2	3/4	1	1 1/4	1 1/2	2
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)

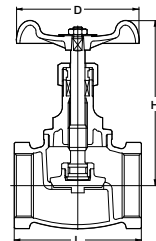


Fig. C

• Threaded end to BS21 (JIS B0203)

Fig. AKC

• Threaded end to ASME B1.20.1



**Materials**

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

\*Size 3 only

△인화성 및 유독가스용으로 사용하지 마십시오.

**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	
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)

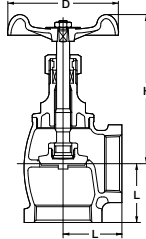


Fig. CA

• Threaded end to BS21 (JIS B0203)

Fig. AKCA

• Threaded end to ASME B1.20.1



**Materials**

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

\*Size 3 only

△인화성 및 유독가스용으로 사용하지 마십시오.

**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	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)

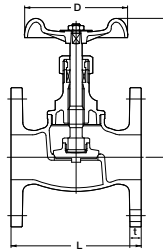


Fig. B

• Undrilled unless drilling is specified as an option

Fig. BH

• Drilled according to JIS 10K



**Materials**

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

\*Size 3 and 4

△인화성 및 유독가스용으로 사용하지 마십시오.

**Dimensions**

Nominal Size	inch		mm									
	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4			
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			

\*"t" 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)

\*Size 1/4: Screwed bonnet

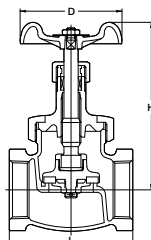


Fig. G

• Threaded end to BS21 (JIS B0203)

Fig. AGK

• Threaded end to ASME B1.20.1



**Materials**

Parts	Material
Body	Cast Bronze
Bonnet	Forged Brass / Cast Bronze*
Stem	Dezincification Resistant Brass
Disc	G/F PTFE
Gland packing	Non-Asbestos Packing

\*Size 2 1/2 and 3

△인화성 및 유독가스용으로 사용하지 마십시오.

**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	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

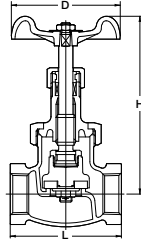
Union bonnet, Rising stem, Soft seated disc, Threaded ends to BS21 (JIS B0203)

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	Cast Bronze
Bonnet	Forged Brass / Cast Bronze*
Stem	Dezincification Resistant Brass
Disc	G/F PTFE
Gland packing	Non-Asbestos Packing

\*Size 1½ & 2

△인화성 및 유독가스용으로 사용하지 마십시오.

### Dimensions

Nominal Size	inch		mm		mm						
	1/2	3/4	1	1¼	1½	2	2½	3	4		
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

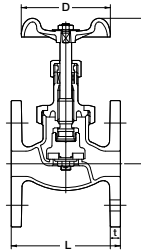


Fig. DB

• Undrilled unless drilling is specified as an option

Fig. DBH

• Drilled according to JIS 10K



### Materials

Parts	Material
Body	Cast Bronze
Bonnet	Forged Brass / Cast Bronze*
Stem	Dezincification Resistant Brass
Disc	G/F PTFE
Gland packing	Non-Asbestos Packing/ PTFE Fiber Braid**

\*Size 1½ & larger

\*\*Size 4 only

△인화성 및 유독가스용으로 사용하지 마십시오.

### Dimensions

Nominal Size	inch		mm		mm									
	1/2	3/4	1	1¼	1½	2	2½	3	4					
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					

\*\*t\* 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

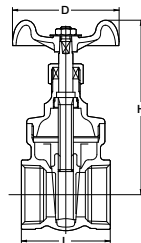
• Threaded end to ASME B1.20.1



Fig. CFS

• Solder joint ends to ASME B16.18

\*연결용 Taper Pipe Thread는 JIS B0203 표준을 참조해야 하며, 유출 나사부의 길이와 게이지 평면의 위치는 KITZ 기준에 의해 제작됩니다.



### Materials

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

△인화성 및 유독가스용으로 사용하지 마십시오.

### Dimensions

Nominal Size	inch		mm		mm									
	3/8	1/2	3/4	1	1¼	1½	2	2½	3					
L	38	42	47	50	60	63	72	80	90					
L1 Solder		45	60	70	77	86	104							
H		73	73	87	97	117/118**	126	154	167	200				
H Solder		75	86	97	117	126	154							
D	50	50	55	60	70	80	90	100	115					

\*2½ and 3 = AKFS only \*\*AKFS

# 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)



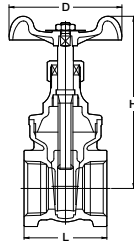
Fig. CFH

- Solder joint ends to ASME B16.18

Fig. AKFH

- Threaded end to ASME B1.20.1

\*연결용 Taper Pipe Thread는 JIS B0203 표준을 참조해야 하며, 유효 나사부의 길이와 게이지 평면의 위치는 KITZ 기준에 의해 제작됩니다.



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		35	38	42	47	50	60	63	72	82	92	
L1 Solder			37	45	60	70	77	86	104	115	127	
H		70	73	73	87	97	118	126	154	187	205	
H Solder			77	77	87	97	118	126	154	187	205	
D		50	50	50	55	60	70	80	90	100	115	

Materials

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

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

⚠ 인화성 및 유독가스용으로 사용하지 마십시오.

# 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)

\*Size 3/8 to 2: Screwed-over-bonnet



Fig. H\*

- Threaded end to BS21 (JIS B0203)



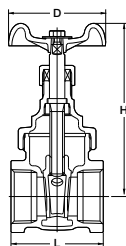
Fig. CH

- Solder joint ends to ASME B16.18

Fig. AKH

- Threaded end to ASME B1.20.1

\*연결용 Taper Pipe Thread는 JIS B0203 표준을 참조해야 하며, 유효 나사부의 길이와 게이지 평면의 위치는 KITZ 기준에 의해 제작됩니다. (size 2" 부터 4" 까지)



Dimensions

Nominal Size	inch	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	mm
	mm	10	15	20	25	32	40	50	65	80	100	
L		42	45	50	57	61	67	74	90	100	121	
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	

Materials

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

\*Size 3/4 & larger

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

⚠ 인화성 및 유독가스용으로 사용하지 마십시오.

# CLASS 125 BRONZE GATE VALVE

Screwed bonnet, Non-rising stem, Threaded ends to BS21 (JIS B0203)

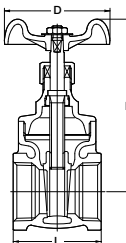
W.O.G. non-shock 1.38 MPa (200 psi), Saturated steam pressure 0.86 MPa (125 psi)



Fig. S\*

- Threaded end to BS21 (JIS B0203)

\*연결용 Taper Pipe Thread는 JIS B0203 표준을 참조해야 하며, 유효 나사부의 길이와 게이지 평면의 위치는 KITZ 기준에 의해 제작됩니다.



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		38	42	47	50	60	63	72	80	90	
H		75	75	86	97	117	126	154	167	200	
D		50	50	55	60	70	80	90	100	115	

Materials

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

⚠ 인화성 및 유독가스용으로 사용하지 마십시오.

# 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)

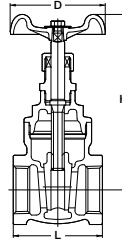


Fig. E

- Threaded end to BS21 (JIS B0203)

Fig. AKE

- Threaded end to ASME B1.20.1



### Materials

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

\*Size 2½ & 3

△인화성 및 유독가스용으로 사용하지 마십시오.

### 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		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)

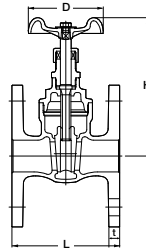


Fig. EB

- Undrilled unless drilling is specified as an option

Fig. EBH

- Drilled according to JIS 10K



### Materials

Parts	Material
Body	Cast Bronze
Bonnet	Forged Brass / Cast Bronze*
Stem	Dezincification Resistant Brass/Forged Brass**
Disc	Cast Bronze
Gland packing	Non-Asbestos Packing/PTFE Braided**

\*Size 2½ & larger

\*\*Size 5.6

△인화성 및 유독가스용으로 사용하지 마십시오.

### Dimensions

Nominal Size	inch	1/2	3/4	1	1¼	1½	2	2½	3	4	5	6	mm
	mm	15	20	25	32	40	50	65	80	100	125	150	
L		75	80	95	110	120	140	165	190	230	190	210	
H		96	111	122	142	165	197	225	264	309	381	427	
D		55	60	70	80	90	100	115	155	225	225	250	
t*		8	9	9.5	10.5	11.5	13	14.5	16	19.5	20	22	

\*\*\*t\* 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)

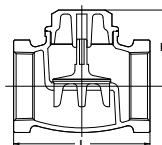


Fig. F

- Threaded end to BS21 (JIS B0203)

Fig. AKF

- Threaded end to ASME B1.20.1



### Materials

Parts	Material
Body	Cast Bronze
Cap	Forged Brass / Cast Bronze*
Disc	Cast Bronze

\*Size 2½ & 3

△인화성 및 유독가스용으로 사용하지 마십시오.

### 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		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

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

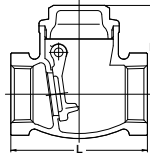


Fig. R

- Threaded end to BS21 (JIS B0203)

Fig. AKR

- Threaded end to ASME B1.20.1



### Materials

Parts	Material
Body	Cast Bronze
Cap	Forged Brass / Cast Bronze*
Hinge pin	Brass Rod
Disc	Forged Brass / Cast Bronze*

\*Size 4 only

△ 인화성 및 유독가스용으로 사용하지 마십시오.

### Dimensions

Nominal Size	inch	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
	mm	10	15	20	25	32	40	50	65	80	100
L		53	60	70	80	92	102	122	150	165	195
H		39	39	45	52	62	67	79	91	102	

# CLASS 125 BRONZE Y-PATTERN SWING CHECK VALVE

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

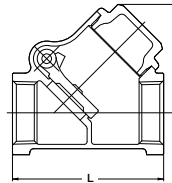
W.O.G. non-shock 1.38 MPa (200 psi), Saturated steam pressure 0.86 MPa (125 psi)



Fig. YR\*

- Threaded end to BS21 (JIS B0203)

\*연결용 Taper Pipe Thread는 JIS B0203 표준을 참조해야 하며, 유효 나사부의 길이와 게이지 평면의 위치는 KITZ 기준에 의해 제작됩니다. (size 1/2 이상)



### Materials

Parts	Material
Body	Cast Bronze
Cap	Forged Brass
Hinge pin	Tough Pitch Copper
Disc	Cast Bronze

△ 인화성 및 유독가스용으로 사용하지 마십시오.

### Dimensions

Nominal Size	inch	3/8	1/2	3/4	1	1 1/4	1 1/2	2
	mm	10	15	20	25	32	40	50
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

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

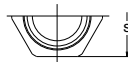
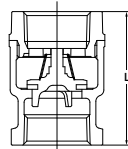


Fig. RF

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

Fig. AKAF

- Threaded end to ASME B1.20.1
- FKM Disc



### Materials

Parts	Material
Body	Cast Bronze
Cap	Cast Bronze
Disc	NBR/FKM*

\*AKAF & CAF

△ 인화성 및 유독가스용으로 사용하지 마십시오.

### Dimensions

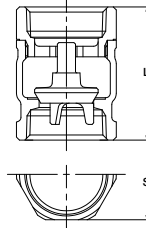
Nominal Size	inch	1/2	3/4	1	1 1/4	1 1/2	2
	mm	15	20	25	32	40	50
L		53	59	67	78	84	98
S (AKAF)		26	32	39	48	54	67
S (RF)		28	34	41	50	57	70

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	Cast Bronze
Cap	Forged Brass / Cast Bronze*
Disc	Dezincification Resistant Brass / Cast Bronze*

\*Size 1 to 2

△인화성 및 유독가스용으로 사용하지 마십시오.

Fig. VF

• Threaded end to BS21 (JIS B0203)

Dimensions

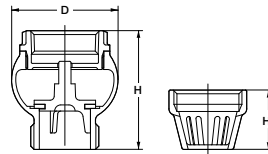
Nominal Size	inch	1/2	3/4	1	1 1/4	1 1/2	2	mm
	mm	15	20	25	32	40	50	
L		37	44	51	62	69	82	
S		24	30	36	45	52	63	

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	Cast Bronze
Cap	Cast Bronze
Disc	NBR

△인화성 및 유독가스용으로 사용하지 마십시오.

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	

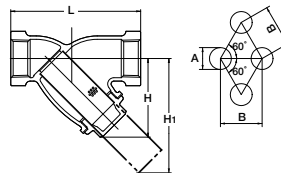
CLASS 150

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	Cast Bronze
Body cap	Forged Brass
Screen	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 the line fluid is higher than the softening point of the solder.

△인화성 및 유독가스용으로 사용하지 마십시오.

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)

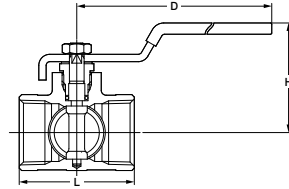
Dimensions

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	150	183	
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	Forged Brass
Stem	Stainless Steel
Disc	Stainless Steel + White-NBR
O-ring	NBR

△인화성 및 유독가스용으로 사용하지 마십시오.

**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		44	47	50	60	63	70	
D		85	85	85	110	110	110	

**Fig. FV**

• Threaded end to BS21 (JIS B0203)



10K

JIS 10K BRONZE GLOBE VALVE

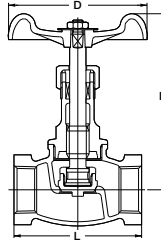
Screwed bonnet\* Rising stem,  
Designed to JIS B2011,  
Threaded end to JIS B0203 (also to BS21)

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	Cast Bronze
Bonnet	Forged Brass / Cast Bronze*
Stem	Dezincification Resistant Brass
Disc	Cast Bronze
Gland packing	Non-asbestos Packing

\*Size 1 & larger

△ 인화성 및 유독가스용으로 사용하지 마십시오.

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

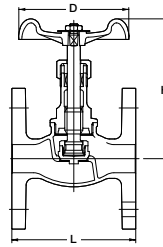
Screwed bonnet\* Rising stem,  
Designed to JIS B2011,  
Flanged end to JIS B2011

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	Cast Bronze
Bonnet	Forged Brass / Cast Bronze*
Stem	Dezincification Resistant Brass
Disc	Cast Bronze
Gland packing	Non-asbestos Packing

\*Size 1 & larger

△ 인화성 및 유독가스용으로 사용하지 마십시오.

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 B2011

5K

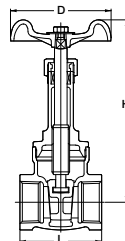
JIS 5K BRONZE GATE VALVE

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	Cast Bronze
Bonnet	Cast Bronze
Stem	Dezincification Resistant Brass
Disc	Cast Bronze
Gland packing	Non-asbestos Packing

△ 인화성 및 유독가스용으로 사용하지 마십시오.

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	169	209	239	285	366	428	
D		60	60	70	90	100	115	135	155	



10K

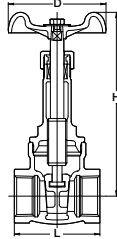
JIS 10K BRONZE GATE VALVE

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	Cast Bronze
Bonnet	Cast Bronze
Stem	Dezincification Resistant Brass
Disc	Cast Bronze
Gland packing	Non-asbestos Packing

△인화성 및 유독가스용으로 사용하지 마십시오.

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	151	176	219	250	292	376	436	
D		60	70	80	90	100	115	155	180	

10K

10K BRONZE GATE VALVE

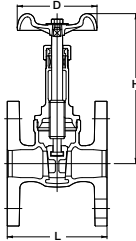
Screwed bonnet\*, Rising stem,  
Designed to JIS B2011,  
Flanged ends to JIS B2011

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	Cast Bronze
Bonnet	Cast Bronze
Stem	Dezincification Resistant Brass
Disc	Cast Bronze
Gland packing	Non-asbestos Packing

△인화성 및 유독가스용으로 사용하지 마십시오.

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 B2011 \*\*3/4 & 4 shall not be in accordance with JIS B2011

10K

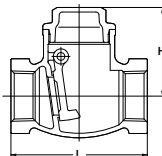
JIS 10K BRONZE SWING CHECK VALVE

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	Cast Bronze
Cap	Forged Brass
Hinge pin	Brass Rod
Disc	Cast Bronze

△인화성 및 유독가스용으로 사용하지 마십시오.

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		55	65	80	90	105	120	140	180	200	
H		38.5	43	51.5	58.5	67	73.5	86	97	108	

\*Size 2 1/2 & 3 shall not be in accordance with JIS B2011

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 0.7 MPa

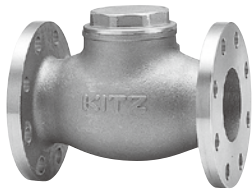
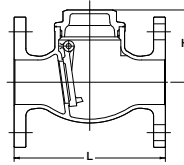


Fig. OB



Materials

Parts	Material
Body	Cast Bronze
Bonnet	Forged Brass / Cast Bronze*
Hinge pin	Brass Rod
Disc	Cast Bronze

\*Size 4 only

△인화성 및 유독가스용으로 사용하지 마십시오.

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)

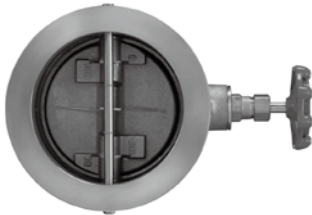
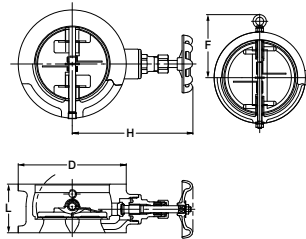


Fig. 10BWZ

• With by-pass



Materials

Parts	Material
Body	Cast Bronze + NBR
Bonnet	Forged Brass / Cast Bronze*
Stem	Dezincification Resistant Brass
Disc A	Cast Bronze
Disc B	Dezincification Resistant Brass

\*Size 6 and larger

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	

## JIS 표준 청동 밸브의 압력 및 온도 등급 기술 데이터

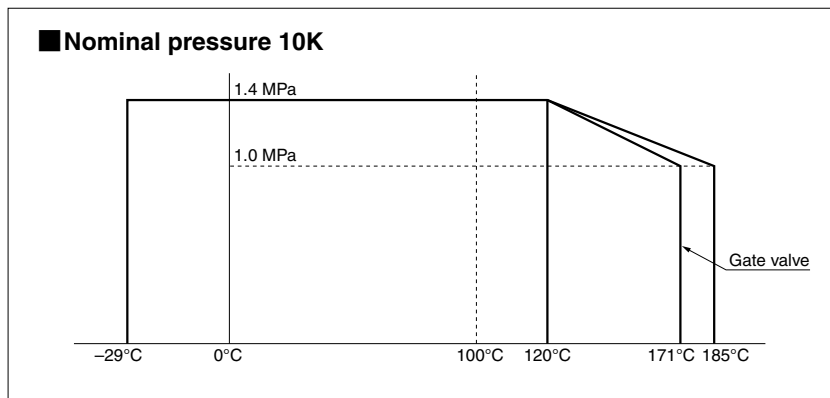
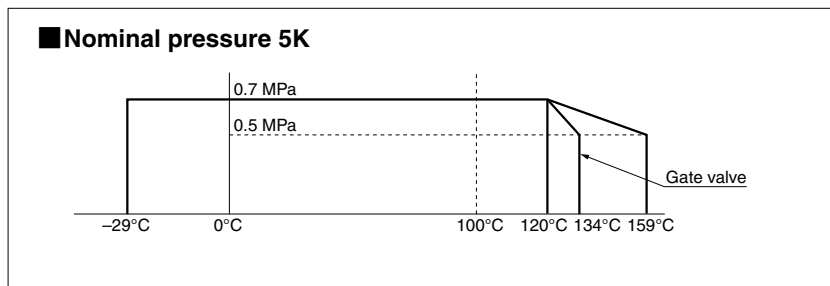
- 유체  
물, 기름, 가스, 공기 및 증기(Steam)  
화염성 가스 및 유독가스는 제외.
- 유체온도와 최대허용압력(아래에 "Pressure-temperature criteria" 라고 설명되어있음)의 상관관계는 Table 1 에 따릅니다.  
유체는 얼지 않아야 합니다.
- High Pressure Gas Safety Act 및 기타 규제에 의해 사용이 금지되거나 제한된 밸브를 사용하는 경우, 법률 및 법령의 규제를 벗어나지 않도록 해야합니다.

Table 1 Pressure-temperature criteria

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

## Notes

- 최대 허용 온도이며 게이트밸브의 경우 134°C 입니다.
- 최대 허용 온도이며 게이트밸브의 경우 171°C 입니다.
- 120°C 이상의 온도에서 최대 사용온도 사이의 중간 온도에서 허용되는 최대 압력은 비례보간법 (Proportional Interpolation)을 통해 얻을 수 있습니다.



## CLASS 125 BRONZE GATE VALVE

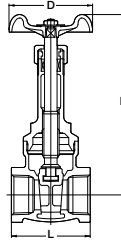
Screwed bonnet, Rising stem, Designed to MSS SP-80 type 2, Threaded ends to NPT

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



### Materials

Parts	Material
Body	Cast Bronze
Bonnet	Cast Bronze
Stem	Cast Bronze
Disc	Cast Bronze
Gland packing	Non-Asbestos Packing

△인화성 및 유독가스용으로 사용하지 마십시오.

### Dimensions

Nominal Size	inch		mm						
	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	
L	51	56	66	68	74	84	115	130	
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

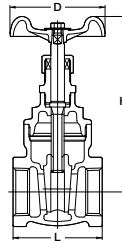
Screwed bonnet, Non-rising stem, Designed to MSS SP-80 type 1A, Threaded ends to NPT

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



### Materials

Parts	Material
Body	Cast Bronze
Bonnet	Cast Bronze
Stem	Cast Bronze
Disc	Cast Bronze
Gland packing	Non-Asbestos Packing

△인화성 및 유독가스용으로 사용하지 마십시오.

### Dimensions

Nominal Size	inch		mm						
	3/8	1/2	3/4	1	1 1/4	1 1/2	2		
L	43	49	53	61	64	68	74		
H	86	93	110	126	145	170/176*	189/201*		
D	50	55	60/70*	70	80	90	100		

## CLASS 150 BRONZE GATE VALVE

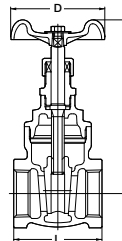
Screwed bonnet, Non-rising stem, Designed to MSS SP-80 type 1A, Threaded ends to NPT

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	Cast Bronze
Bonnet	Cast Bronze
Stem	Cast Bronze
Disc	Cast Bronze
Gland packing	Non-Asbestos Packing

△인화성 및 유독가스용으로 사용하지 마십시오.

### Dimensions

Nominal Size	inch		mm						
	3/8	1/2	3/4	1	1 1/4	1 1/2	2		
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)



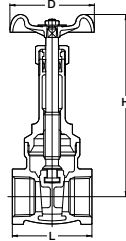
**Fig. AK150L**

• Threaded end to ASME B1.20.1



**Fig. C150L**

• Solder joint end to ASME B16.18



**Materials**

Parts	Material
Body	Cast Bronze
Bonnet	Cast Bronze
Stem	Cast Bronze
Disc	Cast Bronze
Gland packing	Non-Asbestos Packing

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

⚠ 인화성 및 유독가스용으로 사용하지 마십시오.

**Dimensions**

Nominal Size	mm									
	inch	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	
L	51	56	66	68	74	84	109	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**

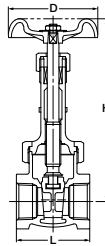
Union bonnet, Rising stem, Designed to MSS SP-80 type 2, Threaded ends to NPT

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



**Materials**

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

⚠ 인화성 및 유독가스용으로 사용하지 마십시오.

**Dimensions**

Nominal Size	mm									
	inch	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	
L	45	46	51	56	66	68	74	84		
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**

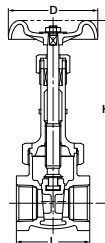
Union bonnet, Rising stem, Designed to MSS SP-80 type 2, Threaded ends to NPT

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	Cast Bronze
Bonnet	Cast Bronze
Stem	Cast Bronze
Disc	Cast Bronze
Gland packing	Flexible Graphite & Aluminum

⚠ 인화성 및 유독가스용으로 사용하지 마십시오.

**Dimensions**

Nominal Size	mm							
	inch	3/8	1/2	3/4	1	1 1/4	1 1/2	2
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**

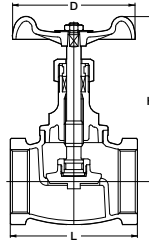
Screwed bonnet, Rising stem, Designed to MSS SP-80 type 1, Threaded ends to NPT

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



**Materials**

Parts	Material
Body	Cast Bronze
Bonnet	Forged Brass / Cast Bronze*
Stem	Cast Bronze
Disc	Cast Bronze
Gland packing	Non-Asbestos Packing

\*Size 2 1/2 & 3

⚠ 인화성 및 유독가스용으로 사용하지 마십시오.

**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		53	65	77	85	100	119	150	178	
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



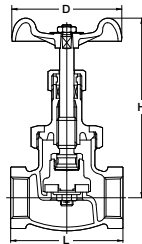
**Fig. AK150D**

• Threaded end to ASME B1.20.1



**Fig. C150D**

• Solder joint end to ASME B16.18



**Materials**

Parts	Material
Body	Cast Bronze
Bonnet	Cast Bronze
Stem	Cast Bronze
Disc	G/F PTFE
Gland packing	Non-Asbestos Packing PTFE Braided Packing**

\*\*Size 3 & 4

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

⚠ 인화성 및 유독가스용으로 사용하지 마십시오..

**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		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**

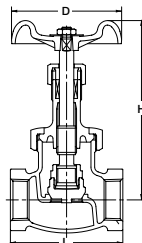
Union bonnet, Rising stem, Designed to MSS SP-80 type 1, Threaded ends to NPT

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	Cast Bronze
Bonnet	Cast Bronze
Stem	Cast Bronze
Disc	Cast Bronze
Gland packing	Flexible Graphite & Aluminum

⚠ 인화성 및 유독가스용으로 사용하지 마십시오..

**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	159	187	195	224	
D		60	60	80	90	100	115	135	155	

**CLASS 300**

**BRONZE GLOBE VALVE**

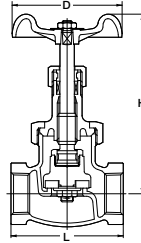
Union bonnet, Rising stem, Designed to MSS SP-80 type 2, Threaded end to NPT

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	Cast Bronze
Bonnet	Cast Bronze
Stem	Cast Bronze
Disc	G/F PTFE
Gland packing	Flexible Graphite & Aluminum

△ 인화성 및 유독가스용으로 사용하지 마십시오.

**Dimensions**

Nominal Size	inch		mm						
	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	
	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)



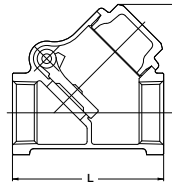
Fig. AKYR

• Threaded end to ASME B1.20.1



Fig. CYR

• Solder joint end to ASME B16.18



**Materials**

Parts	Material
Body	Cast Bronze
Cap	Forged Brass
Hinge pin	Copper
Disc	Cast Bronze

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

△ 인화성 및 유독가스용으로 사용하지 마십시오.

**Dimensions**

Nominal Size	inch		mm						
	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	
	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**

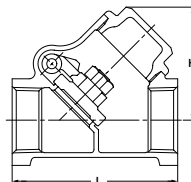
Screwed cap, Swing type disc, Designed to MSS SP-80 type 3, Threaded ends to NPT

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



**Materials**

Parts	Material
Body	Cast Bronze
Cap	Forged Brass
Hinge pin	Copper
Disc	Cast Bronze

△ 인화성 및 유독가스용으로 사용하지 마십시오.

**Dimensions**

Nominal Size	inch		mm						
	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	10	15	20	25	32	40	50	65	80
L	54	60	72	84	99	113	131	162	186
H	39	39	49	58	70	79	95	114	132

**CLASS 300**

**BRONZE Y-PATTERN SWING CHECK VALVE**

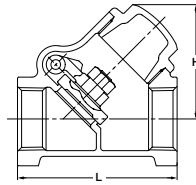
Screwed cap, Swing type disc,  
Designed to MSS SP-80 type 3,  
Threaded ends to NPT

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



**Fig. AK300YR**

• Solder joint end to ASME B1.20.1



**Materials**

Parts	Material
Body	Cast Bronze
Cap	Cast Bronze
Hinge pin	Copper
Disc	Cast Bronze

△인화성 및 유독가스용으로 사용하지 마십시오..

**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**

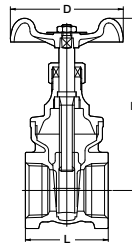
Screwed bonnet, Non-rising stem,  
Designed to AS 1628-2001,  
Threaded ends to AS 1722.1

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



**Fig. AS-FH**

• Australian Standard AS 1628 Lic. No. WMKA02054



**Materials**

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

**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	

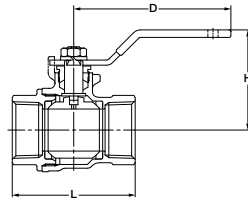


**TYPE 600**

**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	Forged Brass
Body cap	Forged Brass
Stem	Dezincification Resistant Brass
Ball	Forged Brass (SiNi plated)
Ball seat	PTFE
Gland packing	PTFE

**Fig. AKTAF**

• Threaded end to ASME B1.20.1



**Dimensions**

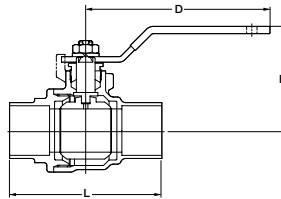
Nominal Size	inch	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	mm
	mm	8	10	15	20	25	32	40	50
L		41	42	53	60	72	82	92	105
H		39	39	42	51	59	64	73	80
D		82	82	82	100	130	130	150	150

**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**

Parts	Material
Body	Forged Brass / Cast Bronze*
Body cap	Forged Brass / Cast Bronze*
Stem	Dezincification Resistant Brass
Ball	Forged Brass (SiNi plated) / Stainless Steel*
Ball seat	PTFE
Gland packing	PTFE

\*Size 2 1/2 & 3

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

**Fig. CTAF**

• Solder joint end to ASME B16.18



**Dimensions**

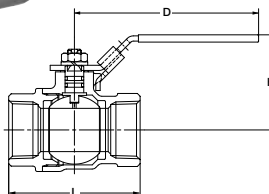
Nominal Size	inch	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	mm
	mm	10	15	20	25	32	40	50	65	80	
L		46	54	73	88	100	115	140	163	187	
H		39	42	51	59	64	73	80	108	122	
D		82	82	100	130	130	150	150	200	300	

**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	Forged Brass
Body cap	Forged Brass
Stem	Dezincification Resistant Brass
Ball	Forged Brass: Cr plated
Ball seat	PTFE
O-ring	NBR, FKM: CTFLL only

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

**Fig. AKTFLL**

• Threaded end to ASME B1.20.1

**Fig. CTFLL**

• Solder joint end to ASME B16.18



\*AKTFLL only \*\*CTFLL only

**Dimensions**

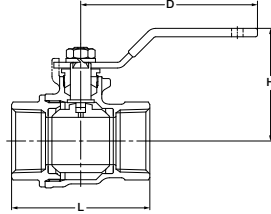
Nominal Size	inch	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	mm
	mm	8	10	15	20	25	32	40	50
L		41	42	53	60	72	82	92	105
L1 Solder				54	73	88	100	115	140
H		35	35	39	47	55	59	67	75
D		82	82	82	100	130	130	150	150

**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)



**Fig. AKTAFM**

- Threaded end to ASME B1.20.1

**Fig. CTAFM**

- Solder joint end to ASME B16.18



**Materials**

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

**Dimensions**

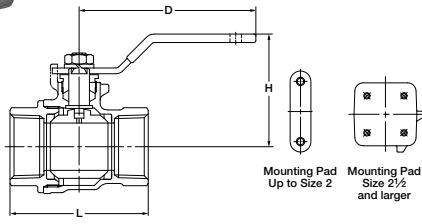
Nominal Size	mm									
	inch	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2
L	41	42	53	60	72	82	92	105	115	140
L1 Solder			46	54	73	88	100	115	140	
H	39	39	42	51	59	64	73	80		
D	82	82	82	100	130	130	150	150		

**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)



**Fig. AKTAFP**

- Threaded end to ASME B1.20.1



**Materials**

Parts	Material
Body	Forged Brass / Cast Bronze*
Body cap	Forged Brass / Cast Bronze*
Stem	Dezincification Resistant Brass
Ball	Forged Brass: Cr plated
Ball seat	PTFE
Gland packing	PTFE

\*Size 2 1/2 and larger

**Dimensions**

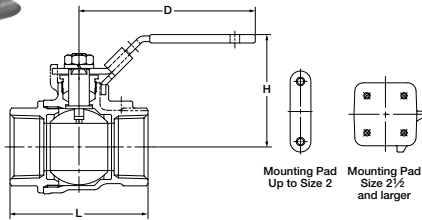
Nominal Size	mm											
	inch	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
L	41	42	53	60	72	82	92	105	135	156	192	
H	39	39	42	51	59	64	73	80	108	122	140	
D	82	82	82	100	130	130	150	150	200	300	300	

**TYPE 600**

**BRASS BALL VALVE, FULL PORT**

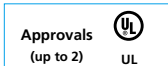
250 WSP steam trim, Mounting pad, Screwed body cap, Blowout-proof stem, Threaded ends to ASME B1.20.1

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



**Fig. AKTAFPM**

- Threaded end to ASME B1.20.1



**Materials**

Parts	Material
Body	Forged Brass / Cast Bronze*
Body cap	Forged Brass / Cast 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

**Dimensions**

Nominal Size	mm											
	inch	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
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**

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)

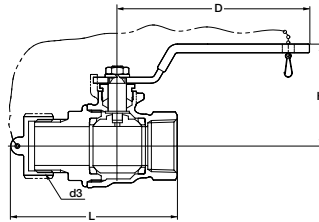


**Fig. AKTAFB**

• Threaded end to ASME B1.20.1

**Fig. CTAFC**

• Solder joint end to ASME B16.18



**Materials**

Parts	Material
Body	Forged Brass
Body cap	Brass Rod* / Forged Brass
Stem	Dezincification Resistant Brass
Ball	Forged Brass: Cr plated
Ball seat	PTFE
Gland packing	PTFE

\*Size 1/2 only



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

**Dimensions**

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

**TYPE 600**

**BRASS BALL VALVE, FULL PORT**

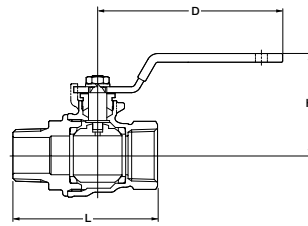
Screwed body cap, Blowout-proof stem, Male & female threaded ends to ASME B1.20.1

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



**Fig. AKTAFO**

• Threaded end to ASME B1.20.1



**Materials**

Parts	Material
Body	Forged Brass
Body cap	Brass Rod* / Forged Brass
Stem	Dezincification Resistant Brass
Ball	Forged Brass: Cr plated
Ball seat	PTFE
Gland packing	PTFE

\*Size 1/4 and 3/8

**Dimensions**

Nominal Size	inch		mm	
	1/4	3/8	1/2	3/4
L	52	53	66	73
H	39	39	42	51
D	82	82	82	100

**TYPE 600**

**BRASS BALL VALVE, FULL PORT**

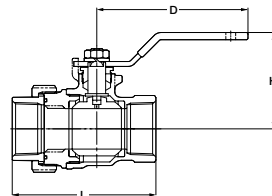
Single union, Screwed body cap, Blowout-proof stem, Threaded ends to ASME B1.20.1

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



**Fig. AKTAFU**

• Threaded end to ASME B1.20.1



**Materials**

Parts	Material
Body	Forged Brass
Body cap	Forged Brass
Stem	Dezincification Resistant Brass
Ball	Forged Brass: Cr plated
Ball seat	PTFE
Gland packing	PTFE

**Dimensions**

Nominal Size	inch		mm	
	1/4	3/8	1/2	3/4
L	52	52	63	75
H	39	39	42	51
D	82	82	82	100

**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

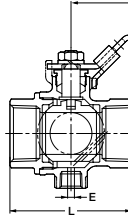
W.O.G. non-shock 1.38 MPa (200 psi), -18°C to + 93°C (not freezing)



※ This photo shows 3/4 inch.

**Fig. AKTAFS**

• Threaded end to ASME B1.20.1



**Materials**

Parts	Material
Body	Forged Brass
Body cap	Forged Brass
Stem	Dezincification Resistant Brass
Ball	Forged Brass: Cr plated
Ball seat	PTFE
Gland packing	PTFE

**Dimensions**

Nominal Size	mm								
	inch	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
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**

**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

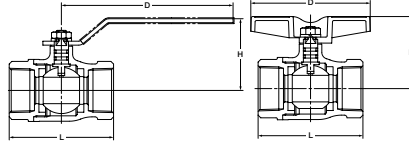
Fig. AKT

• Threaded end to ASME B1.20.1

Fig. TT\*

• Threaded end to BS21

\*연결용 Taper Pipe Thread는 JIS B0203 표준을 참조해야 하며, 유효 나사부의 길이와 게이지 평면의 위치는 KITZ 기준에 의해 제작됩니다. (size 1¼" 이상)



**Materials**

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

\*Size 4 only  
\*\*Nickel-chrome plated  
\*\*\*Size 1½, 2, 3, 4

**Dimensions**

Nominal Size	mm											
	inch	1/4	3/8	1/2	3/4	1	1¼	1½	2	2½	3	4
L	50	50	65	68	79	86	96	109	127	153	179	
H	39	39	39	42	46	51	56	65	85	105	126	
H1	34	34	37	40	46	52	57	71				
D	60	60	80	80	110	110	110	140	200	300	400	
D1	65	65	80	80	90	105	105	120				

\*TT: ¼ to 2

**TYPE 400**

**BRASS BALL VALVE**

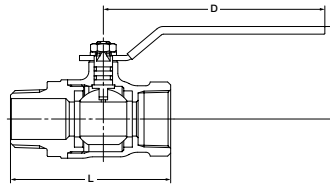
Screwed body cap, Blowout-proof stem, Double O-ring stem seals, Male & female threaded ends to BS21

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

\*Nickel-chrome plated

**Dimensions**

Nominal Size	mm					
	inch	1/4	3/8	1/2	3/4	1
L	59	60	74	80	94	
H	39	39	39	42	46	
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

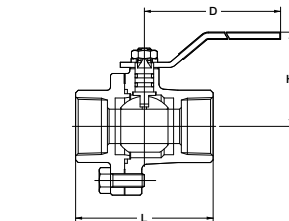
W.O.G. non-shock 2.76 MPa (400 psi), W.O.G. 150°C 0.69 MPa (100 psi)



Fig. TM\*

• Threaded end to BS21

\*연결용 Taper Pipe Thread는 JIS B0203 표준을 참조해야 하며, 유효 나사부의 길이와 게이지 평면의 위치는 KITZ 기준에 의해 제작됩니다. (size 1¼", 2" 이상)



**Materials**

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

\*Cr plated  
\*\*Size 2½ and 3

**Dimensions**

Nominal Size	mm									
	inch	3/8	1/2	3/4	1	1¼	1½	2	2½	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

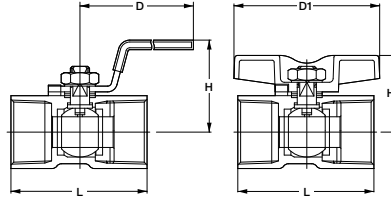
• Threaded end to BS21

Fig. AKTK

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

Fig. TKT

• Threaded end to BS21



### Materials

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

\*Cr plated

### Dimensions

Nominal Size	inch	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	mm
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

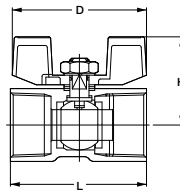
One-piece body, Blowout-proof stem, with wing handle, Threaded ends to BS21

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



Fig. TKW

• Threaded end to BS21



### Materials

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

\*Cr plated

### Dimensions

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

## TYPE 150 BRASS BALL VALVE, FULL PORT

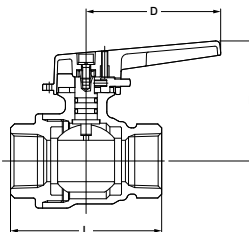
Locking device, Screwed body cap, Blowout-proof Stem, Double O-ring stem seals, Threaded ends to BS21

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



Fig. TFJ

• Threaded end to BS21



### Materials

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

\*Size 2 only

\*\*Nickel-chrome plated

\*\*\*Size 2

### Dimensions

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

**TYPE 400**

**BRONZE BALL VALVE**

Screwed body cap, Blowout-proof stem, Double O-ring stem seals

TL 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)

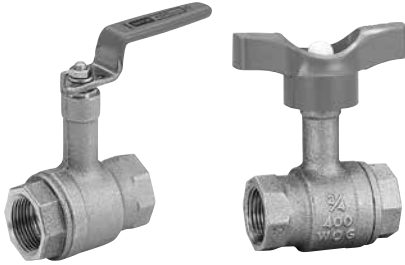
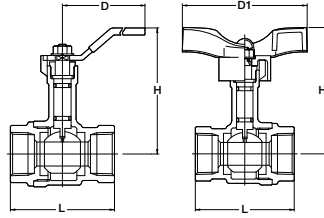


Fig. TL

• Threaded end to BS21

Fig. TLT

• Threaded end to BS21



**Materials**

Parts	Material
Body	Cast Bronze
Body cap	Cast 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	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	

**10K**

**BRONZE BALL VALVE**

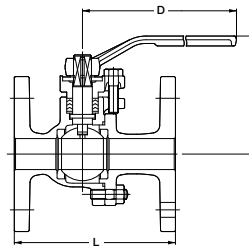
Bolted body cap, Full bore, Fringed ends to JIS B2240 10K

W.O.G. non-shock 1.4 MPa (14 kgf/cm<sup>2</sup>), W.O.G. 150°C 0.69 MPa (7 kgf/cm<sup>2</sup>)



Fig. TB

• Flanged ends to JIS 10K



**Materials**

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

\*Size 2 and larger  
\*\*Cr 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	

**TYPE 600**

**BRASS BALL VALVE, FULL PORT**

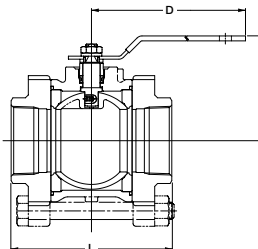
Three piece body with mounting pad, Threaded end to ASME B1.20.1

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



Fig. AK3TM

• Threaded end to ASME B1.20.1



**Materials**

Parts	Material
Body	Forged Brass
Body cap	Forged Brass
Stem	Dezincification Resistant Brass
Ball	Forged Brass (SiNi plated)
Ball seat	PTFE
Grand packing	PTFE

**Dimensions**

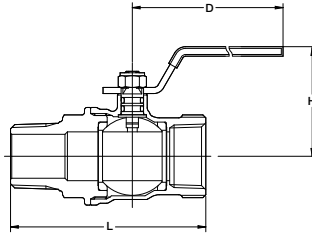
Nominal Size	inch	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	mm
	mm	8	10	15	20	25	32	40	50	
L		49	49	61	70	83	99	117	139	
H		39	39	48	55	63	69	78	85	
D		82	82	82	100	130	130	150	150	

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

\*Chrome plated or Nickel-chrome plated

**Fig. ZO**  
• Threaded end to BS21

**Dimensions**

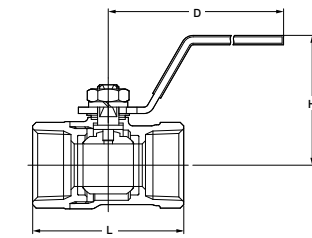
Nominal Size	inch	1/4	3/8	1/2	3/4	1	mm
	mm	8	10	15	20	25	
L		59	60	74	80	94	
H		37	37	40	44	50	
D		70	70	80	80	110	

**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	Forged Brass
Body cap	Forged Brass
Stem	Dezincification Resistant Brass
Ball	Forged Brass* / Stainless Steel**
Ball seat	PTFE
Grand packing	G/F PTFE

\*Cr plated  
\*\*Size 1 1/2

**Fig. ZS\***  
• Threaded end to BS21

\*연결용 Taper Pipe Thread는 JIS B0203 표준을 참조해야 하며, 유효 나사부의 길이와 게이지 평면의 위치는 KITZ 기준에 의해 제작 됩니다. (size 1 1/4" 이상)

**Dimensions**

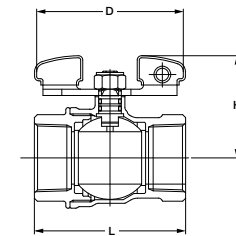
Nominal Size	inch	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	mm
	mm	8	10	15	20	25	32	40	50	
L		42	43	51	59	71	78	88	99	
H		44	44	45	49	63	67	71	76	
D		72	72	87	87	116	116	117	117	

**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	Forged Brass
Body cap	Forged Brass
Stem	Brass: Nickel plated
Ball	Forged Brass* / Stainless Steel**
Ball seat	PTFE
O-ring	FKM

\*Nickel-chrome plated  
\*\*Size 1 1/4 and larger

**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	53	60	72	84	92	110	
H		34	34	40	44	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 2.76 MPa (400 psi), W.O.G. 150°C 0.69 MPa (100 psi)



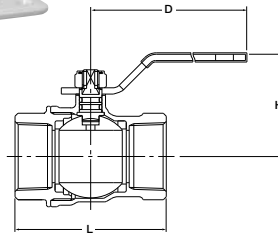
Fig. AKSZA

Fig. CSZA

• Threaded end to ASME B1.20.1 • Solder joint to ASMB 16.18



\*AKSZA only



**Materials**

Parts	Material
Body	Forged Brass / Cast Bronze*
Body cap	Forged Brass / Cast Bronze*
Stem	Brass: Nickel plated
Ball	Forged Brass: SiNi plated (Size 1/4 to 4) Stainless Steel**
Ball seat	PTFE
O-ring	FKM

\*Size 4 only \*\*Size 3 only

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

**Dimensions**

Nominal Size	mm											
	inch	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	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

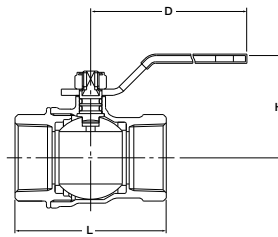
W.O.G. non-shock 4.14 MPa (600 psi), W.O.G. 150°C 1.03 MPa (150 psi)

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



Fig. SZA

• Threaded end to BS21



**Materials**

Parts	Material
Body	Forged Brass / Cast Bronze*
Body cap	Forged Brass / Cast Bronze*
Stem	Brass: Nickel plated
Ball	Forged Brass: NiCr plated (Size 1/4 to 4) Stainless Steel**
Ball seat	PTFE
O-ring	FKM

\*Size 4 only \*\*Size 3 only

**Dimensions**

Nominal Size	mm											
	inch	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	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)



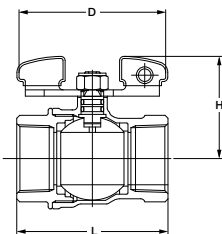
Fig. AKSAW

Fig. CSAW

• Threaded end to ASME B1.20.1 • Solder joint to ASME B16.18



\*AKSAW only



**Materials**

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

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

**Dimensions**

Nominal Size	mm							
	inch	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
L	8	10	15	20	25	32	40	50
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

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



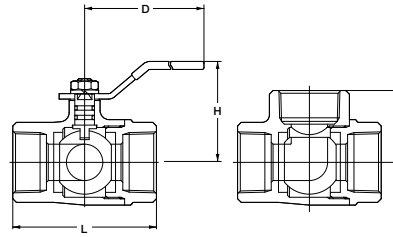
Fig. TN\*

• Threaded end to BS21

Fig. AKTN

• Threaded end to ASME B1.20.1

\*연결용 Taper Pipe Thread는 JIS B0203 표준을 참조해야 하며, 유출 나사부의 길이와 개지 평면의 위치는 KITZ 기준에 의해 제작됩니다. (size 1/2 & larger)



### Materials

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

\*\*Size 2 1/2 and 3 \*\*\*Cr 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	40	46	67	68	79	89	100	115	138	166	
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)

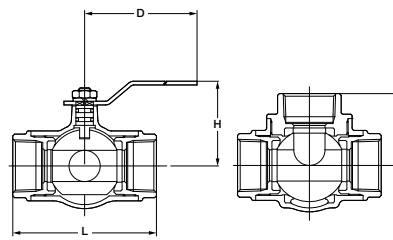


Fig. T4T

• Threaded end to BS21

Fig. T4L

• Threaded end to BS21



### Materials

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

\*Cr plated

### Dimensions

Nominal Size	inch	1/2	3/4	1	1 1/4	1 1/2	2
	mm	15	20	25	32	40	50
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 BRASS BALL VALVE with MOUNTING PAD

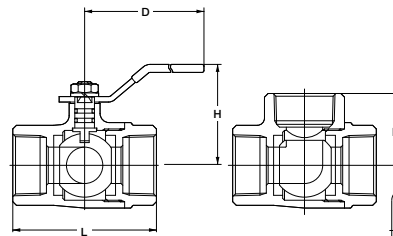
Screwed body cap, 2-seat, L-port design,  
Blowout-proof stem, Double O-ring stem seals,  
Threaded ends to BS21 or NPT

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



### Materials

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

\*Cr plated

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

Mounting Pad

### Dimensions (AKTNP)

Nominal Size	inch	1/2	3/4	1	1 1/4	1 1/2	2
	mm	15	20	25	32	40	50
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

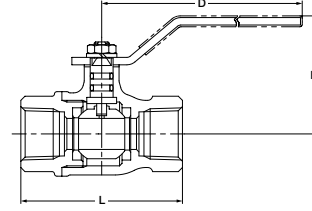
Valve Design	Form	Fluid Passage
3-Way 2-Seat L-port ball valve	<p>Top View</p> <p>Form 1      Form 2</p>	<p>1 Form 1의 유로방향은 포트 A와 C사이로 흐릅니다. 포트 B와 C사이의 유로방향은 Form 2입니다. Form 1과 2의 유로방향은 Form 1에서 2로 변경이 가능합니다.</p> <p>2 닫힌 통로의 유체압력인 P2가 열린 통로의 유체압력인 P1보다 높을경우 닫힌 통로의 볼 Seat를 통해 P1에서 약간의 누수가 생길 수 있습니다.</p>
	<p>Top View</p> <p>Form 1      Form 2</p>	<p>1 Form 1의 유로방향은 포트 A와 C사이로 흐릅니다. 포트 B와 C사이의 유로방향은 Form 2입니다. Form 1과 2의 유로방향은 Form 1에서 2로 변경이 가능합니다.</p> <p>2 닫힌 통로의 유체압력인 P2가 열린 통로의 유체압력인 P1보다 높을경우 닫힌 통로의 볼 Seat를 통해 P1에서 약간의 누수가 생길 수 있습니다.</p>
3-Way 2-Seat T-port ball valve	<p>Top View</p> <p>Form 1      Form 2</p> <p>Form 3      Form 4</p> <p>Not Available</p>	<p>1 Form 1에서 모든 포트들은 개방되어 있습니다. Form 2에서 유체는 포트 B와 C사이로 흐릅니다. Form 4의 유로방향은 포트 A와 C사이입니다. 유로방향은 Form 1에서 2로 변경이 가능하며(표준 작동유형) Form 1에서 4로도 변경이 가능합니다. Stopper는 표준 작동 유형으로 조립됩니다.</p> <p>2 닫힌 통로의 유체압력인 P2가 열린 통로의 유체압력인 P1보다 높을경우 닫힌 통로의 볼 seat를 통해 P1에서 약간의 누수가 생길 수 있습니다.</p> <p>■ 작동 가능한 유형</p> <ul style="list-style-type: none"> <li>• Pattern 1: From Form 1 to Form 4</li> <li>• Pattern 2: From Form 1 to Form 2 (Standard)</li> </ul> <p>주문서 작성 시 밸브의 작동유형에 대한 명시를 해주시기 바랍니다.</p>
	<p>Top View</p> <p>Form 1      Form 2</p> <p>Form 3      Form 4</p>	<p>1 Form 1에서 모든 포트들은 개방되어 있습니다. Form 2에서 유체는 포트 B와 C사이로 흐릅니다. Form 4의 유로방향은 포트 A와 C사이입니다. 유로방향은 모든 Form으로 전환되거나 나눠어지거나 혹은 선택될 수 있습니다. Stopper는 유로방향이 Form 1에서 2로 바뀌는 표준작동 유형으로 조립됩니다.</p> <p>2 닫힌 통로의 유체압력인 P2가 열린통로의 유체압력인 P1보다 높을 경우 닫힌 통로의 볼 Seat를 통해서 P1에서 약간의 누수가 생길 수 있습니다.</p> <p>■ 작동 가능한 유형</p> <ul style="list-style-type: none"> <li>• Pattern 1: From Form 1 to Form 4</li> <li>• Pattern 2: From Form 1 to Form 2 (Standard)</li> <li>• Pattern 3: From Form 3 to Form 4</li> <li>• Pattern 4: From Form 2 to Form 3</li> </ul> <p>주문서 작성 시 밸브의 작동유형에 대한 명시를 해주시기 바랍니다.</p>

10K

**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	Forged Brass
Body cap	Forged Brass
Stem	Dezincification Resistant Brass
Ball	Forged Brass* / Stainless Steel**
Ball seat	PTFE
O-ring	NBR

\*Nickel-chrome plated  
\*\*Size 1½, 2

**Dimensions**

Nominal Size	inch	1/4	3/8	1/2	3/4	1	1¼	1½	2	2½	3	mm
	mm	8	10	15	20	25	32	40	50	65	80	
L		50	50	65	68	79	86	96	109	127	153	
H		39	39	39	42	46	51	56	65	85	105	
D		60	60	80	80	110	110	110	140	200	300	

Fig. TG



**CLASS 200**

**FANCOIL VALVES, BRONZE, FLOW CONTROL, GLOBE TYPE**

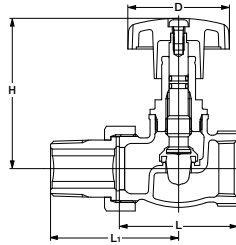
Female & male threaded ends to BS21

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



**Fig. NSH**

• Flow Control Valves



**Materials**

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

**Dimensions**

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

**CLASS 200**

**FANCOIL VALVES, BRONZE, FLOW CONTROL, ANGLE TYPE**

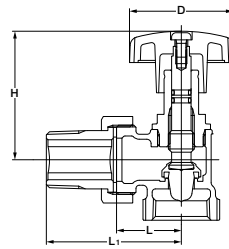
Indicator  
Female & male threaded ends to BS21

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



**Fig. INAH**

• Flow Control Valves with Indicators



**Materials**

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

**Dimensions**

Nominal Size	mm				
	inch	1/2	3/4	1	1 1/4
L	15	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

**CLASS 200**

**FANCOIL VALVES, BRONZE, FLOW CONTROL, GLOBE TYPE**

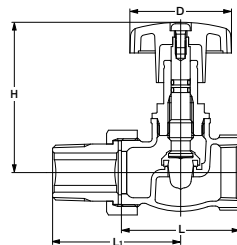
Indicator  
Female & male threaded ends to BS21

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	Cast Bronze
Bonnet	Forged Brass
Stem	Dezincification Resistant Brass
Disc	PTFE
O-ring	FKM

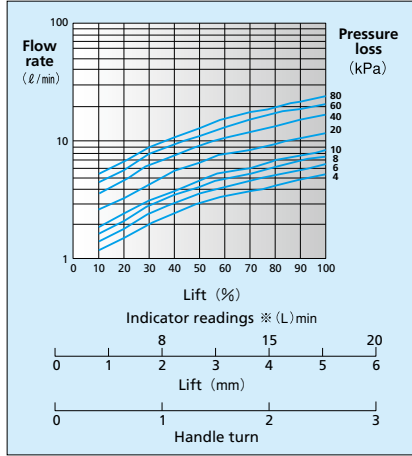
**Dimensions**

Nominal Size	mm				
	inch	1/2	3/4	1	1 1/4
L	15	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

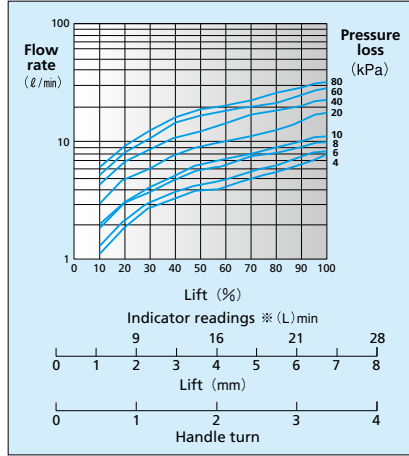
# FLOW CHARACTERISTICS

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

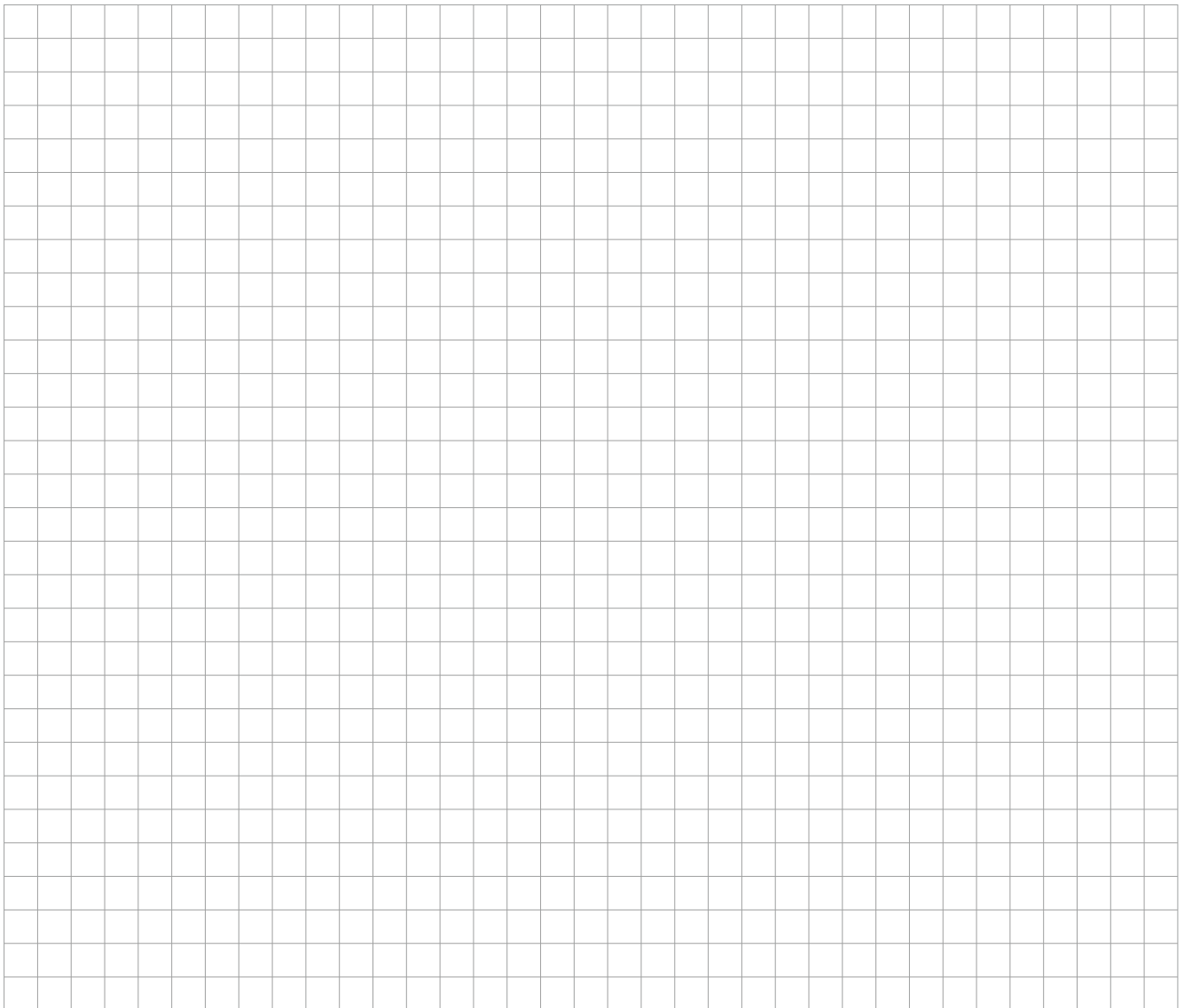
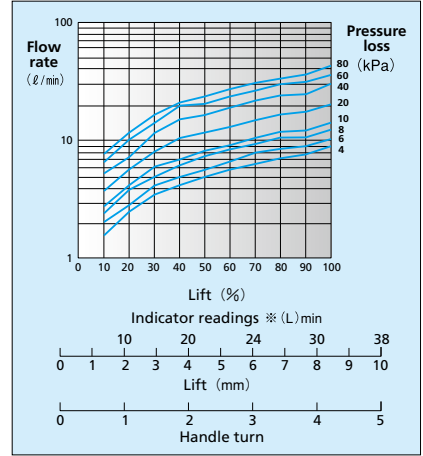
■ Nominal size: 1/2 Cv=1.8



■ Nominal size: 3/4 Cv=2.6



■ Nominal size: 1, 1 1/4 Cv=3.3



10K

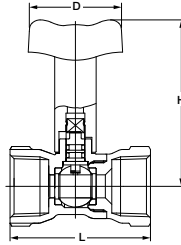
**BRONZE BALL VALVES with DETACHABLE HANDLE FOR FANCOIL UNIT**

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

**Dimensions**

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

10K

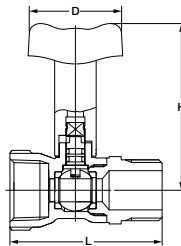
**BRONZE BALL VALVES with DETACHABLE HANDLE FOR FANCOIL UNIT**

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

**Dimensions**

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

10K

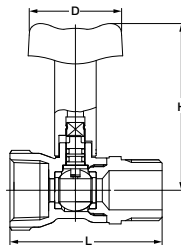
**BRONZE BALL VALVES with DETACHABLE HANDLE FOR FANCOIL UNIT**

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

**Dimensions**

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

10K

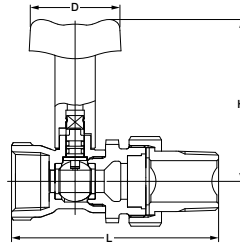
**BRONZE BALL VALVES with DETACHABLE HANDLE FOR FANCOIL UNIT**

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

**Dimensions**

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

10K

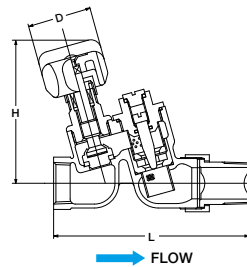
**BRONZE BALANCING VALVES with BUILT-IN SCREEN**

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	Cast Bronze
Bonnet	Forged Brass
Cap	Brass
Stem	Dezincification Resistant Brass
Disc	Reinforced PTFE

**Dimensions**

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

10K

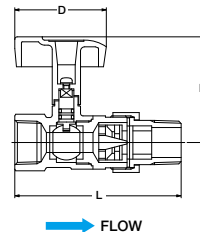
**BRONZE BALANCING VALVES LOW-NOISE TYPE**

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	Cast Bronze
Cap	Cast 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	15	20	25
L		94.5	100.5	115.5
H		63.5	63.5	66.5
D		55	55	55



10K

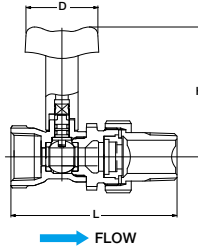
**"SADAMARU" CONSTANT FLOW CONTROL**

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	Cast Bronze
Cap	Cast Bronze
Stem	Dezincification Resistant Brass
Ball	Forged 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  
— Product Code of Constant Flow Control Valve

Example : RTUC, Nominal size 20, Predetermined flow rate: 10 L/min

**RTUC20-10**

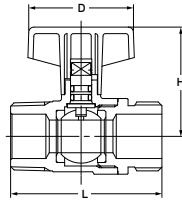
## UTILITY BALL VALVES, STRAIGHT TYPE

Male (parallel) & male threaded ends to BS21

1.0 MPa water, -20°C to +100°C (not freezing)



Fig. S1 -



### Materials

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

\*SiNi Plated

### Dimensions

Nominal Size	inch	1/2	3/4	mm
	mm	15	20	
L		52.5	58	
H		39	42	
H Add Attachment		52	55	
D		40	40	

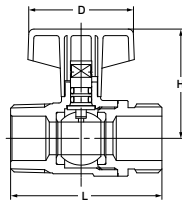
## UTILITY BALL VALVES, STRAIGHT TYPE

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

\*SiNi Plated

### Dimensions

Nominal Size	inch	1/2	3/4	mm
	mm	15	20	
L		52.5	58	
H		39	42	
H Add Attachment		52	55	
D		40	40	

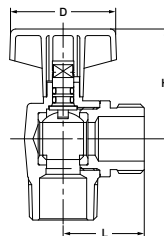
## UTILITY BALL VALVES, ANGLE TYPE

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

\*SiNi Plated

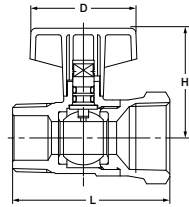
### Dimensions

Nominal Size	inch	1/2	3/4	mm
	mm	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)



### Materials

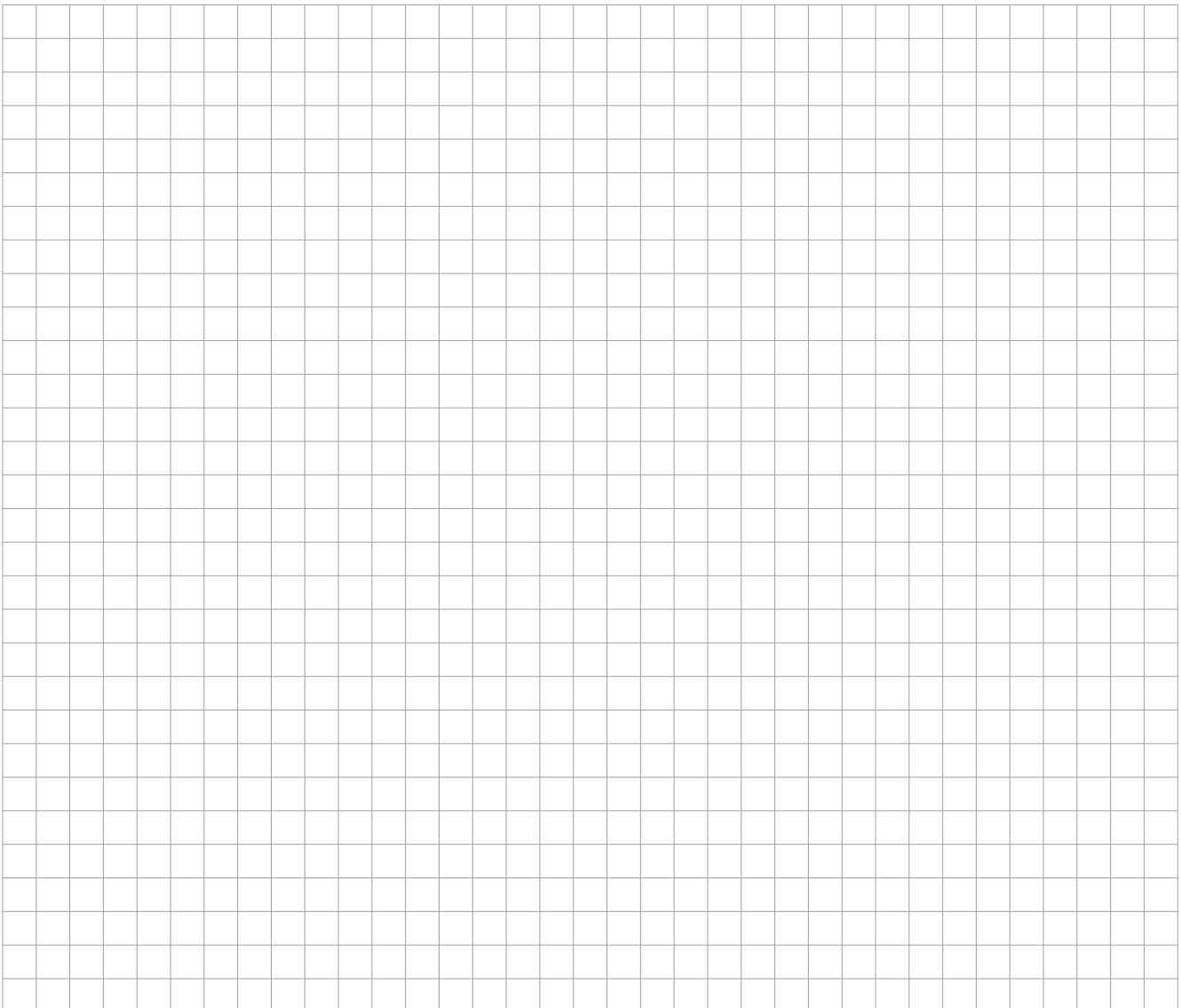
Parts	Material
Body	Forged Brass
Stem	Dezincification Resistant Brass
Ball	Forged Brass*
Ball seats	G/F PTFE
O-ring	EPDM

\*SINi Plated

### Dimensions

Nominal Size	inch	1/2	3/4	mm
	mm	15	20	
L		52.5	58	
H		39	42	
H Add Attachment		52	55	
D		40	40	

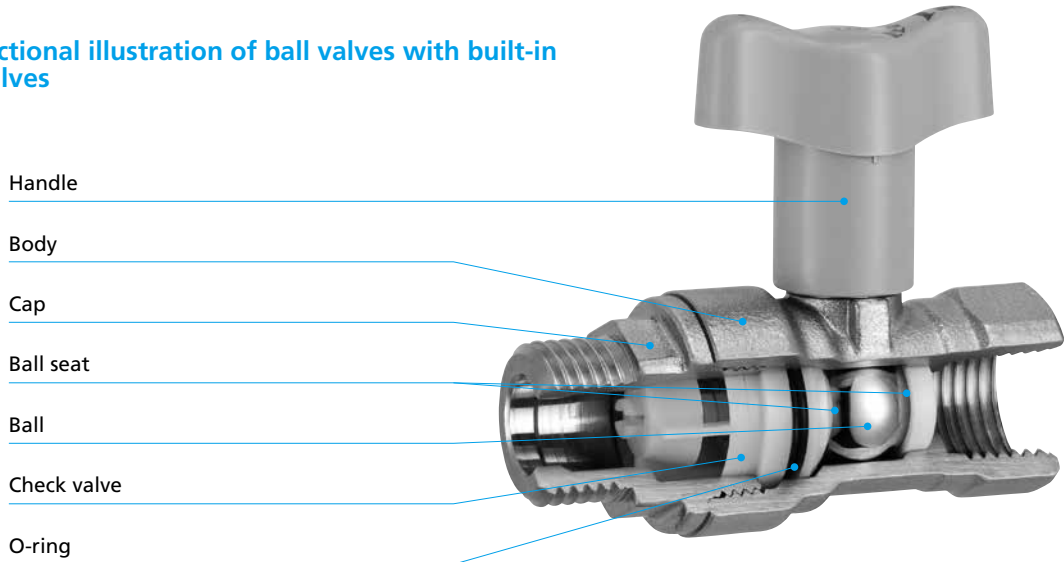
Fig. S6 -



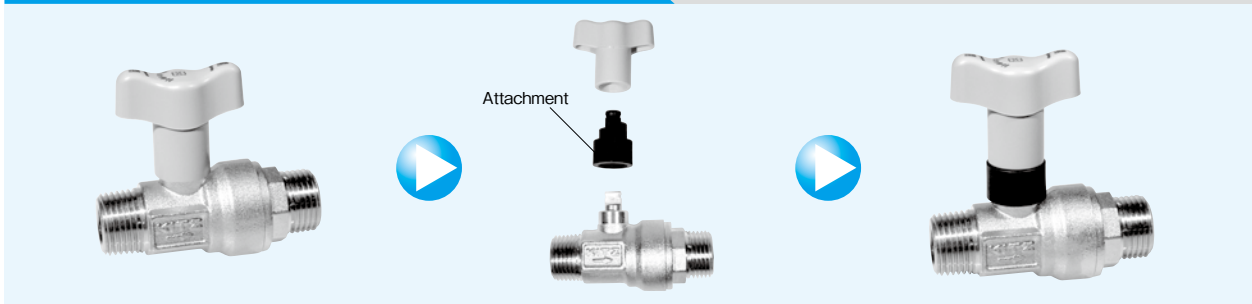
## KITZ S 볼밸브 디자인의 특징 : 체크밸브(Check Valve)가 내장된 볼밸브(Ball Valve)

소형 체크밸브가 볼밸브의 body 안에 내장된 형태의 디자인. 체크밸브에 내장된 스프링을 이용한 자동폐쇄기능을 통한 유체의 역류방지 (Water Hammer Proof :수격 작용 방지) 손쉬운 장착, 유지보수 및 배관과의 절연을 위해 장착된 1/4 회전만 가능하며 분리가 가능한 핸들. 유연한배관(Flexible pipe) 하부에 직접 설치가 가능한 구조

### Cross-sectional illustration of ball valves with built-in check valves



### 2-Way Handle



## UTILITY BALL VALVES, STRAIGHT TYPE

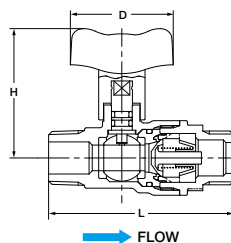
Ball valve with built-in check valve, Male (parallel) & male threaded ends to BS21

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

\*SiNi 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

Ball valve with built-in check valve,  
Male (parallel) & male threaded ends to BS21

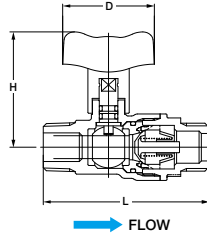
1.0 MPa clean water, 0°C to +40°C (not freezing)

Direct flow 40°C max, Reverse flow 80°C max.



Fig. S24N-

• Nickel-chrome plated body



### Materials

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

\*SINi Plated

### Dimensions

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

## UTILITY BALL VALVES, STRAIGHT TYPE

Ball valve with built-in check valve,  
Female & female threaded ends to BS21

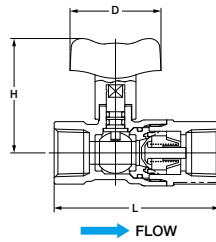
1.0 MPa clean water, 0°C to +40°C (not freezing)

Direct flow 40°C max, Reverse flow 80°C max.



Fig. S25N-

• Nickel-chrome plated body



### Materials

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

\*SINi Plated

### Dimensions

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

## UTILITY BALL VALVES, STRAIGHT TYPE

Ball valve with built-in check valve,  
Male (parallel) & female threaded ends to BS21

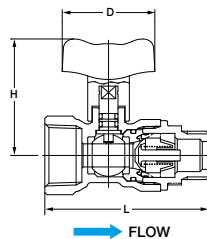
1.0 MPa clean water, 0°C to +40°C (not freezing)

Direct flow 40°C max, Reverse flow 80°C max.



Fig. S28N-

• Nickel-chrome plated body



### Materials

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

\*SINi Plated

### Dimensions

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

## UTILITY BALL VALVES, STRAIGHT TYPE

Ball valve with built-in check valve,  
Male (parallel) & male threaded ends to BS21

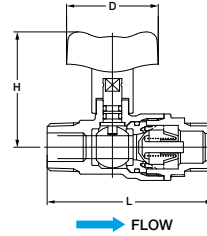
1.0 MPa clean water, 0°C to +40°C (not freezing)

Direct flow 40°C max, Reverse flow 80°C max.



Fig. S24N-3/4X

• Nickel-chrome plated body



### Materials

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

\*SiNi Plated

### Dimensions

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

## UTILITY BALL VALVES, STRAIGHT TYPE

Ball valve with built-in check valve,  
Male (parallel) & female threaded ends to BS21

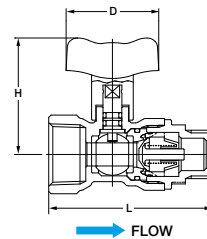
1.0 MPa clean water, 0°C to +40°C (not freezing)

Direct flow 40°C max, Reverse flow 80°C max.



Fig. S28N-3/4X

• Nickel-chrome plated body



### Materials

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

\*SiNi Plated

### Dimensions

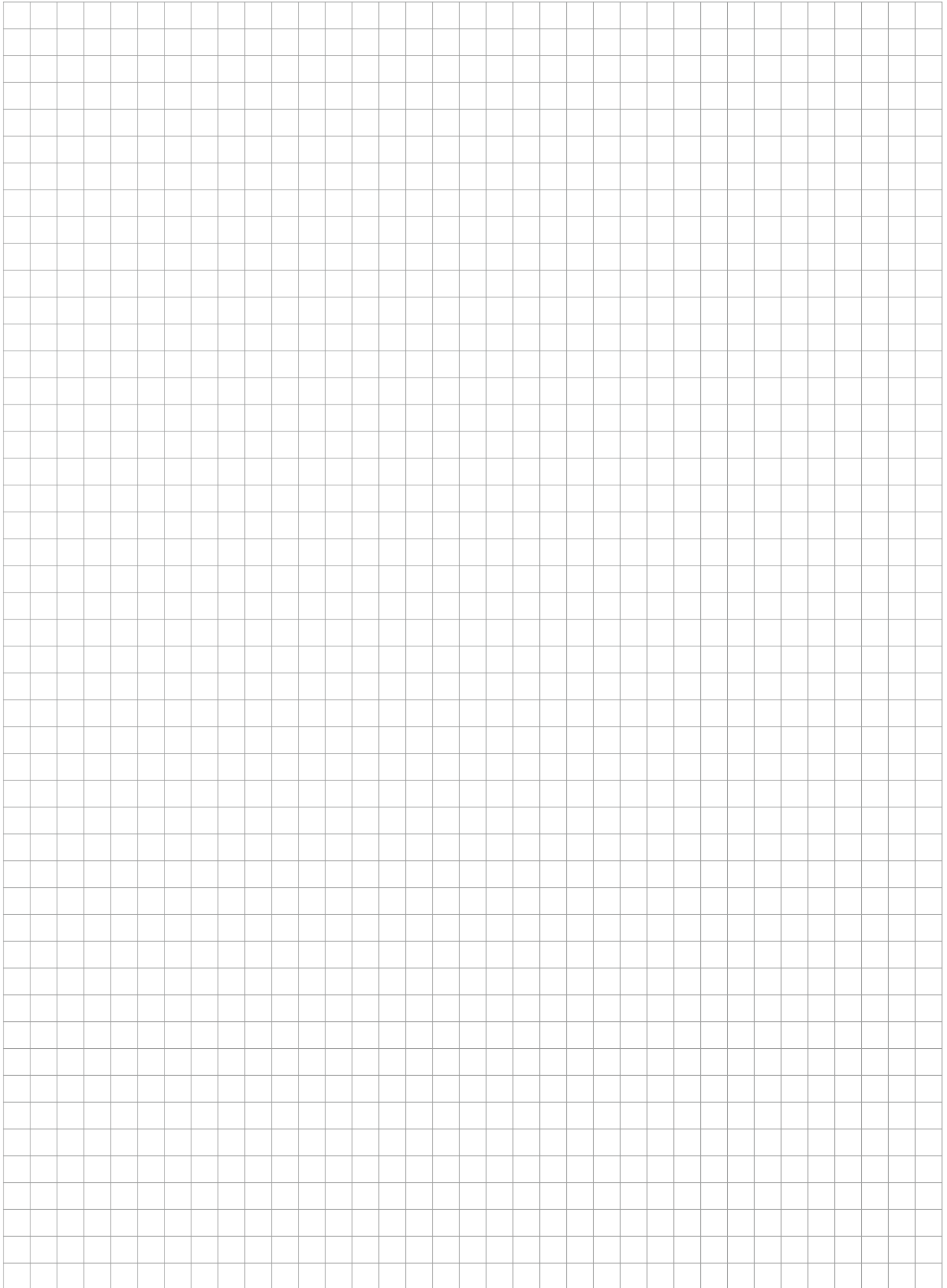
Nominal Size	inch	mm	mm
			3/4 x 1/2
			20 x 15
L			71.5
H			51
H Add Attachment			63
D			40



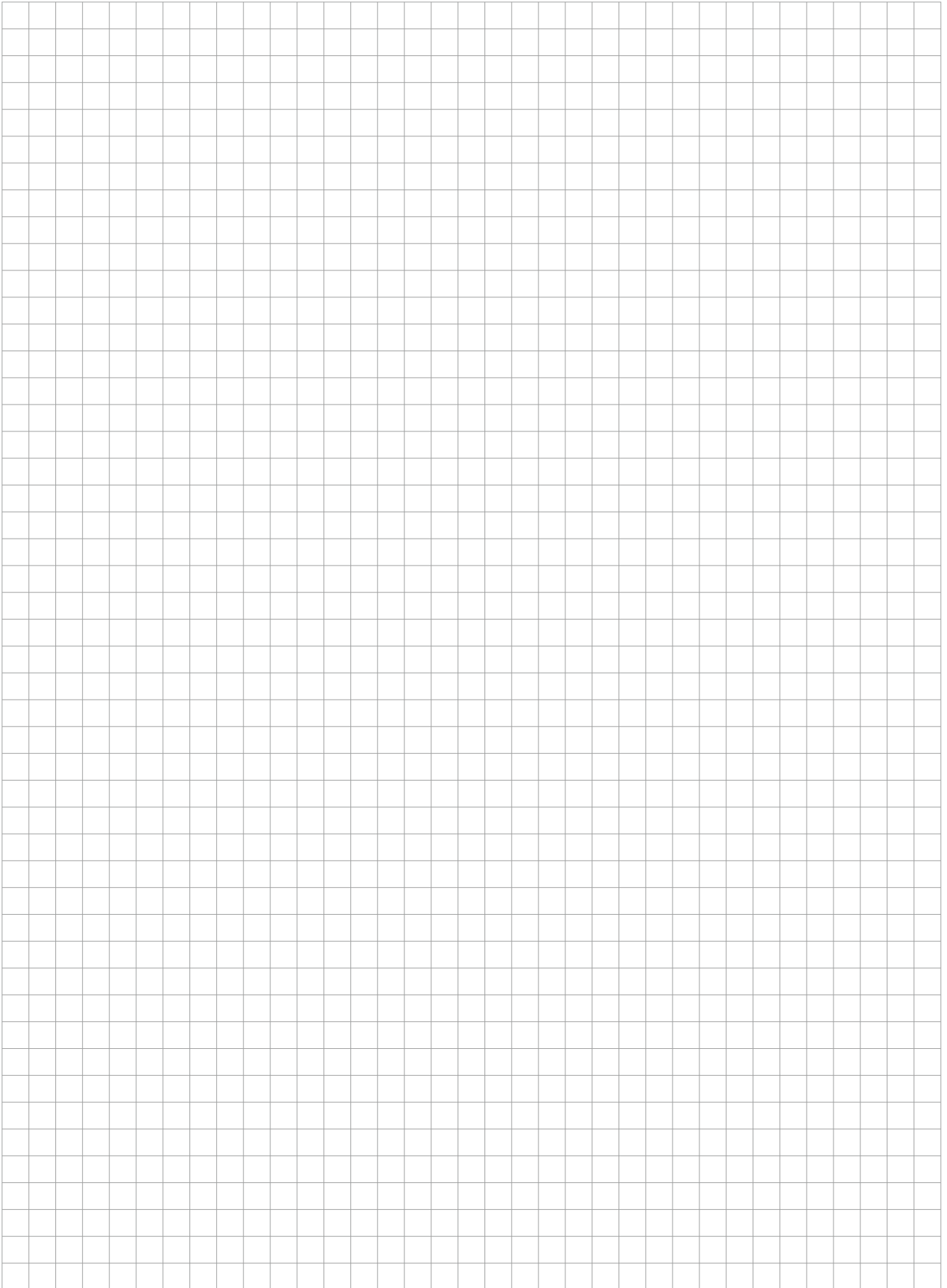
## DISCLAIMER

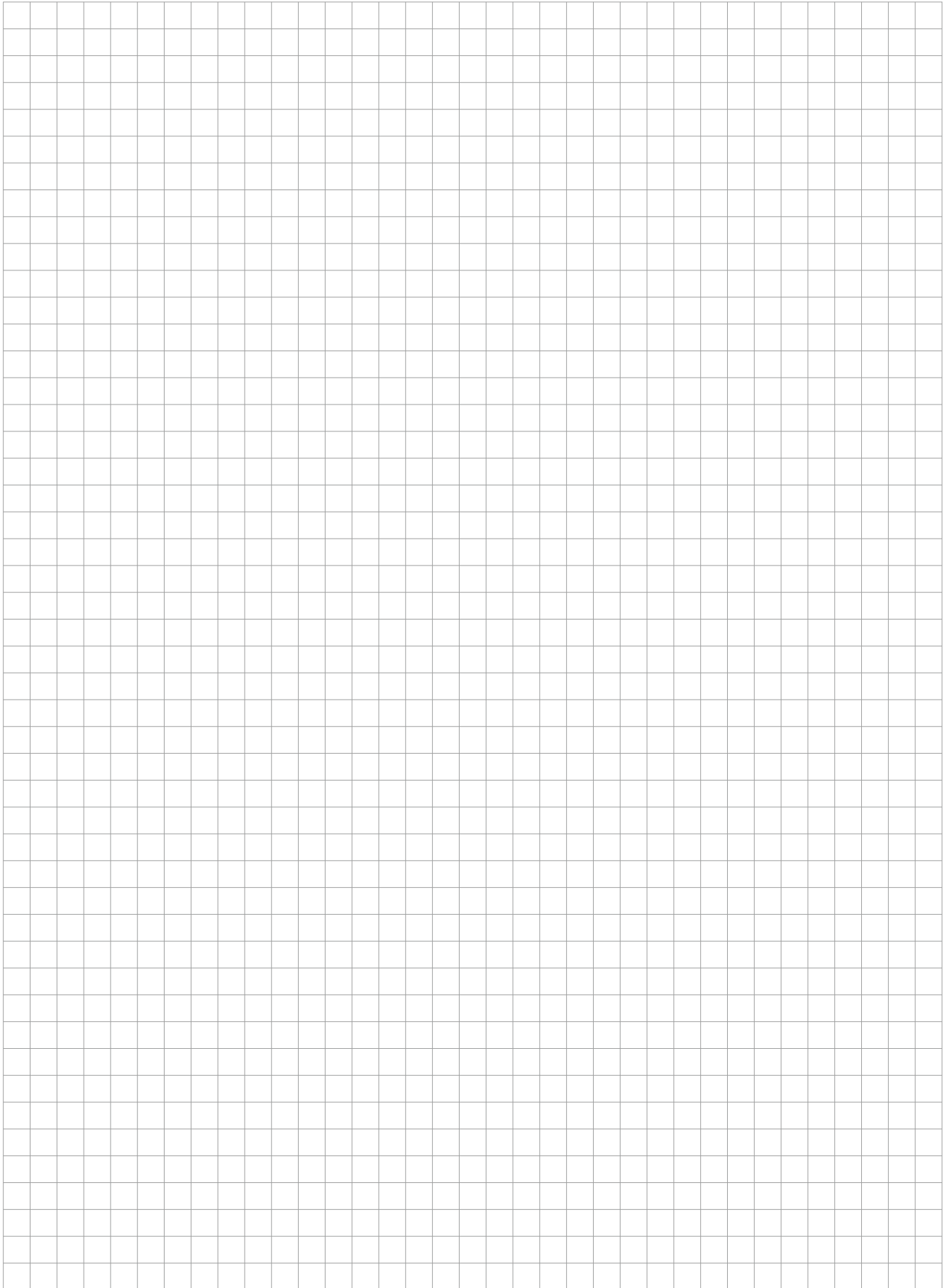
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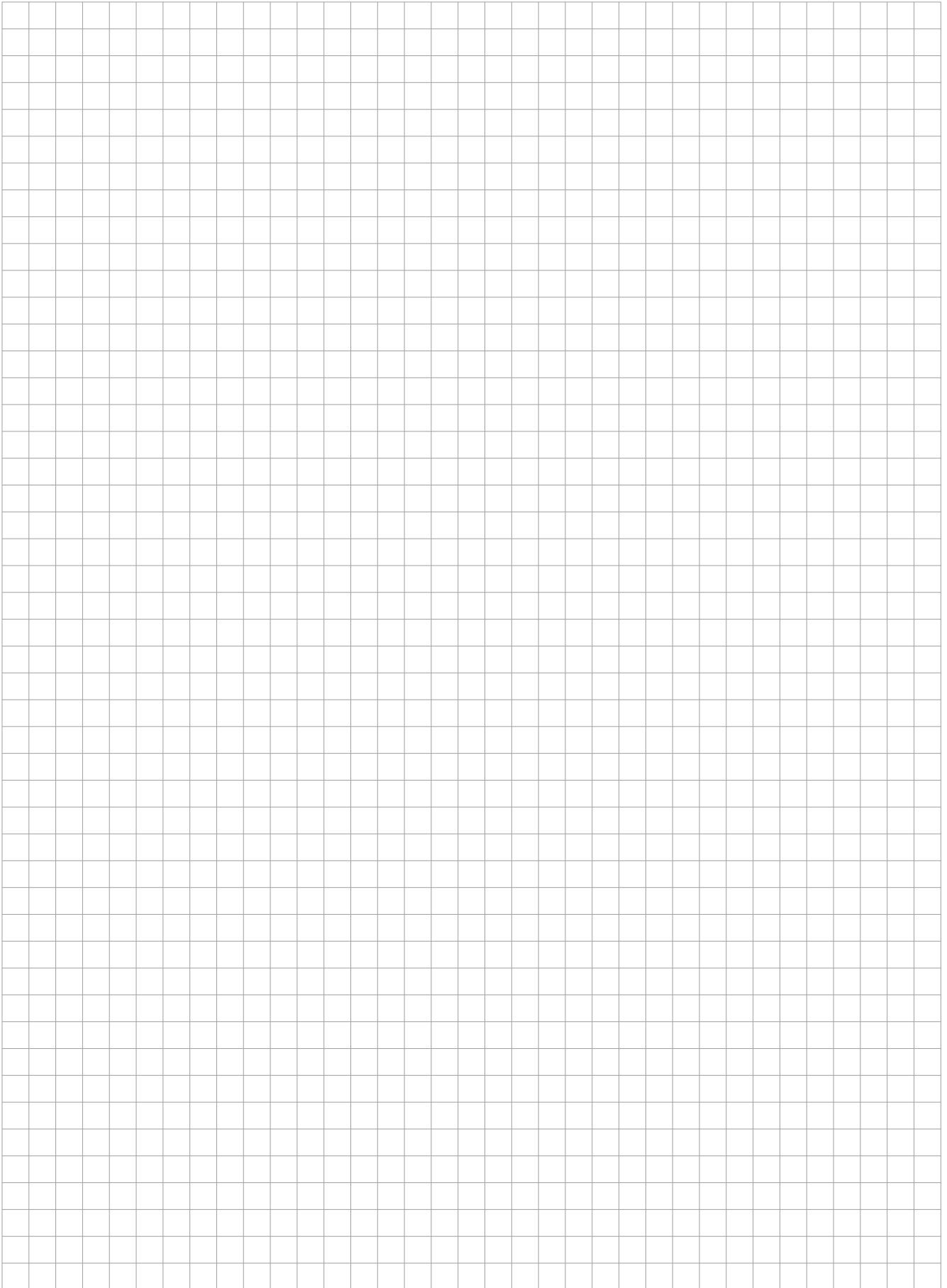












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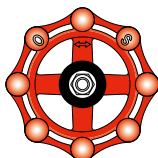
Read the instruction manual carefully before use.

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

ISO 9001 certified since 1989

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