

History

- 1910 The Tobata Foundry Co., which later became the Tobata Works, established. This was the first modern malleables manufacturing facility in Japan.
- 1922 Kizugawa Manufacturing, which later became the Kuwana Works, established as a plant specializing in fittings. Purchased in 1926 by the Tobata Foundry Co.
- 1935 Name of the Tobata Foundry Co. changed to Kokusan Industries, Ltd.
- 1937 Kokusan Industries, Ltd. purchased by Hitachi, Ltd.
- 1956 Hitachi Metals Industries, Ltd. established (Capital: ¥1 billion provided by Hitachi, Ltd.).
Hitachi, Ltd., transferred its metals business and five plants to Hitachi Metals Industries, Ltd.
(Tobata, Fukagawa, Kuwana, Wakamatsu, and Yasugi), and business activities began.
- 1965 Hitachi Metals America, Ltd., established in the United States.
- 1967 Merged with Hitachi Metals, Ltd., to change par value of shares and company name.
- 1970 Hitachi Metals Europe GmbH established in Germany.
- 1979 Hitachi Metals Singapore Pte. Ltd. established in Singapore.
- 1991 Recognized as ISO9002 Quality Management System(Kuwana Works).
- 1999 Recognized as ISO14001 Environment Quality Management System(Kuwana Works).
- 2003 Revised as ISO9001 Quality Management System(Kuwana Works).
- 2015 Hitachi Metals Korea Co., Ltd. established.
- 2023 Company name changed from Hitachi Metals, Ltd. to Proterial, Ltd.
- 2024 Kuwana Metals, Ltd. established with the transfer of Proterial's piping components business unit to Okaya & Co., Ltd.

Product Warranty

Within eighteen months of completion inspection or within twelve months of the start of usage, whichever is shortest, Kuwana Metals, Ltd. will repair or replace products or the faulty components of products free of charge in the event of failure under normal usage attributable to inadequate design or manufacturing on the part of Kuwana Metals, Ltd.

However, repairs or replacements will be charged in any of the following cases. Also note that if a separate agreement is in effect, that agreement shall take precedence.

- (1)When the product has been used in an incorrect manner which deviates from the catalog or instruction manual;
- (2)When the product failure is due to careless handling such as jamming with foreign substances or the sticking of excessive water stains;
- (3)When the product has been disassembled, repaired or altered by a third party other than Kuwana Metals, Ltd.;
- (4)When the product has been subject to causes beyond the control of Kuwana Metals, Ltd. including natural disasters such as wind or flood damage, earthquakes and electrical storms, fire, pollution (special environments), salt damage, war or acts of terror;
- (5)When a failure is due to any other factor not deemed to be the responsibility of Kuwana Metals, Ltd.



- The product specifications, performance values and prices listed in this catalog are based on general conditions of use and are intended as guidelines for selecting models. Please confirm product specifications and conditions including fluids, temperatures and pressures before selecting a product.
- The products listed in this catalog are not designed or manufactured for applications that require a special quality level, such as medical equipment, nuclear generation facilities or airplanes.
- Please note that to improve this catalog, the contents may be changed or revised without prior notice. Please be aware that product catalogs published prior to such revisions are not valid.
- The contents of this catalog are copyright of Kuwana Metals, Ltd. Duplication without permission is strictly prohibited.
- When using a product listed in this catalog, please follow the precautions listed in its instruction manual and use it properly.
- The products listed in this catalog are designed to be used within Japan. When exporting the products, the exporter will need to obtain an export license from the Ministry of Economy, Trade and Industry based on the provisions of the Export Control Order under the Foreign Exchange and Foreign Trade Act.

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GOURD BRAND

Malleable/Ductile Iron Valves

FCMB350-10 Malleable iron casting
FCD-S Ductile iron casting

Kuwana Metals, Ltd.

Malleable/Ductile Iron Valve Features

The history of Malleable Iron valves dates back more than half a century.

The history of Malleable Iron valves began in 1942. The first Malleable Iron valve was the so-called “land fuel model” developed in response to a request from the army arsenal at the time to develop valves using Malleable Iron that was proved to be successful with screwed-in malleable cast iron pipe fittings.

Manufacturing of this valve came to a stop with the end of the war, but we first started to produce and sell bronze valves, partly to learn valve technology. Based on our experience of using the land fuel valve, we applied hard facing to sheets, improved valve functions, and started to develop VA proposals for cast iron valves in the 1.96 MPa medium pressure range in 1956. By the time we launched the products in 1958, we had already built an acclaimed track record for 1.96 MPa steam or heat lines and other cast iron valves. Since then, we have responded to the demands of users and expanded our product line to 10K valves and general purpose valves.

A strong valve that uses Malleable Iron for the main body, and stainless steel for the main parts

The main body, i.e. the valve body, and the bonnet are mainly made with tensile iron castings such as Malleable Iron castings and ductile iron castings. Main parts such as the valve disc and the stem are mostly made with 13Cr stainless steel with excellent resistance to abrasion and corrosion.

Malleable Iron materials

Malleable Iron is ferrite (pure iron), but since the carbon agglomerates into clumps or spheroids as indicated in the photograph, it is strong and does not have the notch effect of gray cast iron. Rather, it has a strength that is close to cast steel. The photo at top left shows the microstructure for malleable iron, the one on bottom left for ductile iron. The black clumps are annealed carbon and the white area indicates the ferrite structure.

Free carbon is present in the structure of gray cast iron shown at top right, and the shape of the carbon is thin and broad. Since the tips are also pointed, they cause a notch effect and lower the mechanical properties.

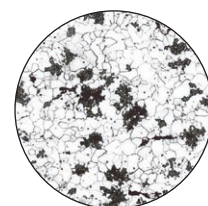
Even though the quality of material for malleable iron is the same cast iron, it is clear that it has excellent properties.

Valve Body Materials, Standards table for JIS and ASTM.

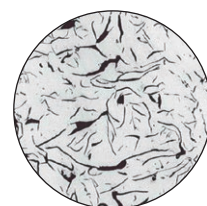
		JIS code	ASTM code
1) Bronze castings		CAC406	B584 / C83600
2) Tensile iron castings	Blackheat malleable iron castings	FCMB340-10	A47M / 22010
	Malleable iron castings	FCMB350-10	(Same as A47)
	Ductile iron castings	FCD-S	A395



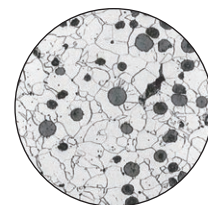
The Gourd mark casted stands for the ideal cast metal that is “more tensile, smoother, and more beautifully curved.” Highly acclaimed and widely known as “Gourd Brand,” the Gourd mark is a familiar brand overseas and in Japan, in fields ranging from industry to daily life.



Malleable iron microstructure



Gray cast iron microstructure



Ductile iron microstructure

CONTENTS

Nominal Pressure	Type	Connection	Feature	Product Code	Page	inch(B) mm(A)	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14	16	18	20
General-purpose	Globe	Screwed	SB:1/4-2B 10-50A BB:2 1/2-3B 65-80A	PTFE Disc	HM10KSG	6																				
		Flanged			HM10KFG	6																				
		Screwed			HM10KSD	7																				
		Flanged			HM10KFD	7																				
		Screwed			HM10KSDG	7																				
		Flanged			HM10KFDG	7																				
	Gate	Screwed		PTFE Disc For LPG	HM10KSS	8																				
		Flanged			HM10KFS	8																				
	Strainer	Screwed			HM10KST	8																				
		Flanged			HM10KSC	9																				
	Check Valve (Lift)	Screwed	SC:1/4-2B 10-50A BC:2 1/2-3B 65-80A	PTFE Disc	HM10KFC	9																				
		Flanged			HM10KSCD	9																				
		Flanged			HM10KFCF	9																				
		Screwed		NBR Disc	HM10KSCR	10																				
		Flanged			HM10KFCR	10																				
	Check Valve (Swing)	Screwed			HM10SCS	10																				
	Check Valve (In-line)	Screwed			BSCI	10																				
	Mini-Ball	Screwed	Lever Handle	2 stage Reduced Bore	MB2	11																				
			T-Handle	Reduced Bore	MBT2	11																				
			Lever Handle	1 stage Reduced Bore	MB1	11																				
			T-Handle	Reduced Bore	MBT1	11																				
			Lever Handle	For LPG	ML1	12																				
			T-Handle	For LPG	MLC1	12																				
			Lever Handle	For City Gas	MG1	13																				
			T-Handle	For City Gas	MGC1	13																				
10K	Globe	Screwed	UB,IS		M10KSG	15																				
		Flanged	BB,IS		M10KFG	15																				
		Flanged	BB,OS		M10KFGI	15																				
		Screwed	UB,IS	PTFE Disc	M10KFGO	15																				
		Flanged	BB,IS		M10KSD	16																				
		Flanged	BB,OS		M10KFD	16																				
	Needle	Screwed	UB,IS		M10KFDI	16																				
		Flanged	BB,OS		M10KFDO	16																				
	Bellows	Screwed	BB,OS	PTFE Disc	M10KFS	17																				
		Flanged	BB,IS		M10KFN	17																				
	Gate	Screwed	BB,IS		M10KFGB	18																				
		Flanged	BB,OS		M10KFDB	18																				
	Lift Check	Screwed	UB,IS	PTFE Disc	M10KSS	19																				
		Flanged	BB,IS		M10KFS	19																				
		Screwed	BB,OS		M10KFSO	19																				
		Flanged	BB,OS		D10KFSO	19																				
		Screwed	UB,IS		M10KSC	20																				
		Flanged	BB,IS		M10KFC	20																				
	Ball	Screwed	UB,IS	PTFE Disc	M10KSCD	20																				
		Flanged	BB,IS		M10KFCF	20																				
		Screwed	BB,OS		M10KSCR	21																				
		Flanged	BB,OS		M10KFCR	21																				
		Screwed	UB,IS		M10KFCF	21																				
		Flanged	BB,OS		M10KFT	21																				
20K	Globe	Screwed	UB,IS	PTFE Disc For Gas	BM10KS2B	22																				
		Flanged	BB,IS		BM10KF2B	22																				
		Screwed	BB,OS		BM10KF0B	23																				
		Flanged	BB,IS		BM10KF1B	23																				
		Screwed	BB,OS		BM10KS2L	24																				
		Flanged	BB,IS		BM10KF2L	24																				
	Gate	Screwed	BB,IS	PTFE Disc For Gas	BM10KF0L	24																				
		Flanged	BB,IS		BM10KS2G	25																				
		Screwed	BB,OS		BM10KF2G	25																				
		Flanged	BB,OS		BM10KF0G	25																				
		Screwed	BB,IS		M20KSG	27																				
		Flanged	BB,IS		M20KFG	27																				
		Screwed	BB,OS		M20KFGI	27																				
		Flanged	BB,OS		M20KFGO	27																				
20K	Gate	Screwed	BB,IS	PTFE Disc For Gas	M20KSD	28																				
		Flanged	BB,IS		M20KFDL	28																				
		Screwed	BB,OS		M20KFDLO	28																				
		Flanged	BB,OS		M20KFS	29																				
		Screwed	BB,OS		M20KFSO	29																				
		Flanged	BB,OS		M20KFSHO	29																				

※ IS=Inside Screw, OS=Outside Screw, SB=Screwed Bonnet, UB=Union Bonnet, BB=Bolted Bonnet, SC=Screwed Cover, UC=Union Cover, BC=Bolted Cover

CONTENTS

※ IS=Inside Screw, OS=Outside Screw, SB=Screwed Bonnet, UB=Union Bonnet, BB=Bolted Bonnet, SC=Screwed Cover, UC=Union Cover, BC=Bolted Cover

GUIDE TO MODEL

GENERAL TYPE VALVE

ECONOMICAL TYPE				
NOMINAL PRESSURE			CODE	
10K	GENERAL TYPE		10K	
	CHECK VALVE	SWING	10	
		IN-LINE	—	
END CONNECTION			CODE	
SCREWED			S	
FLANGED			F	
VALVE TYPE	SEATING MATERIAL		CODE	
GLOBE VALVE	13Cr.S.S.		G	
	Reinforced PTFE		D	
	PTFE		DG	
GATE VALVE	13Cr.S.S.		S	
	13Cr.S.S.		C	
	Reinforced PTFE		CD	
CHECK VALVE	LIFT	NBR	CR	
		13Cr.S.S.	CS	
	SWING	13Cr.S.S.	CS	
	IN-LINE	FPM	CI	
STRAINER			T	

HM 10K S G 3/4B

PRODUCTION
SIZE

STANDARD TYPE			
NOMINAL PRESSURE		CODE	
M	JIS 10K	10K	
	JIS 20K	20K	
	ASME 150lb	150	
	ASME 300lb	300	
END CONNECTION		CODE	
F	SCREWED	S	
	FLANGED	F	
VALVE TYPE	SEATING MATERIAL		CODE
GLOBE VALVE	METAL SEAT		G
	Reinforced PTFE		D
	PTFE (FOR LPG)		DL
	NEEDLE		N
	Y-GLOBE VALVE		GY
GATE VALVE	ANGLE VALVE		A
	13Cr.S.S.		S
	HEATING MEDIUM TYPE		SH
CHECK VALVE	LIFT	METAL SEAT	C
		PTFE	CD
		NBR	CR
	SWING	METAL SEAT	CS
		PTFE	CSD
	SCREW DOWN	STRAIGHT	GC
STRAINER	ANGLE		AC
	FOR GENERAL APPLICATION		T
		EXCLUSIVE APPLICATION FOR LPG	
		TLM	
TYPE OF BONNET			CODE
GLOBE VALVE	INSIDE SCREW	UNION BONNET	—
		BOLTED BONNET	I
	OUTSIDE SCREW	UNION	—
		BOLTED BONNET	O
GATE VALVE	BELLOWS BUILT-IN		B
	INSIDE		—
		OUTSIDE	
		O	

M 10K F G O 50A
PRODUCTION
SIZE

BALL VALVE

► ECONOMETRICAL TYPE (MINI-BALL)					
VALVE SPECIFICATION/CONNECTION			CODE		
ECONOMICAL			B		
FOR LPG	SCREWD		L		
	SINGLE UNION		U		
CITY GAS			G		
HANDLE TYPE			CODE		
STANDARD LEVER			—		
T-LEVER			T		
COCK HANDLE			C		
WITH MULTI-LOCK FUNCTION			R		
BORE DIAMETER			CODE		
FULL BORE			0		
REDUCED	ONE SIZE		1		
	TWO SIZE		2		
SPECIAL SPECIFICATION			CODE		
STANDARD			—		
WITH FLOW CONTROL FUNCTION			S		
STAINLESS STEEL BALL/STEM			U		

M B ☐ **2** ☐ ☐ **3/4B**
PRODUCTION SIZE

STANDARD TYPE		
NOMINAL PRESSURE		CODE
10K	MALLEABLE	10K
	STANDARD	20K
	*HIGH PRESSURE GAS FACILITY TEST PRODUCTS	20
20K	SHORT END-TO-END DIMENSION	
150lb	MALLEABLE	150
END CONNECTION		CODE
SCREWED		S
FLANGED		F
BORE DIAMETER		CODE
FULL-BORE		0
FULL-BORE (WITH FIRE SAFE FUNCTION)		1
REDUCED BORE		2
STRAINER BUILT-IN		—
VALVE SPECIFICATION		CODE
FOR GENERAL APPLICATION		B
FOR GAS	GENERAL PIPING	L
	SHORT END-TO-END DIMENSION	LS
	BURIED PIPING	G
STRAINER BUILT-IN		T

BM 10K F 0 B 50A

PRODUCTION
SIZE

General-purpose

General-purpose

Features

- 1. This is the economical Malleable/ Ductile iron valve. A ready substitute for bronze valves installed with steam piping. A tensile valve.
- 2. The main parts are mostly stainless steel, which is far more resistant to abrasion than bronze valves.
- 3. Perfect for iron pipes and resistant to corrosion because of the contact potential difference.

Product Types

Globe, Gate, Check, Strainer and Mini ball valves

- △Caution: Oil specification
- 1. Can be used with: Heavy oil (A, B, C), lubricant oil, turbine oil (#90 and up), coal tar, pitch
 - 2. Not recommended for use with: Crude oil, naphthalene, gasoline, heating oil (kerosene), light oil, turbine oil (#80 and down), heat transfer oil

Fluid・Temperature・Pressure

Unit: MPa

Product Type		Maximum working pressure by product type MPa			
		Service temperature limit by fluid used (°C)			
Globe	Standard	1.4	—※1	—※1	1.0
	Reinforced PTFE disc	1.4	—※1	1.0	
	For LPG	0.2※2※3			
Check	Gate/Strainer	1.4	—※1	—※1	1.0
	Standard	1.4	—※1	—※1	1.0
	Reinforced PTFE disc	1.4	—※1	1.0	
	NBR disc	1.4※4			
Mini ball	Inline	1.4	1.0		
	Maximum working pressure by product type MPa				
	Service temperature limit by fluid used (°C)				
	600 model※5	4.2	—※1	2.0	1.0
	400 model※5	2.8	—※1	2.0	1.0

※1 Maximum working pressure in the intermediate operating temperature is determined by the proportional method.
※2 LPG ; Minimum operating temperature is -5℃
※3 Air and N₂ gas ; 1.0 MPa
※4 Maximum operating temperature ; 80℃
※5 For Air and N₂ gas, the use of 80℃-1.0MPa or less is recommended. For Steam, the use of 183℃-1.0MPa or less is recommended.

Test Pressure

Unit: MPa

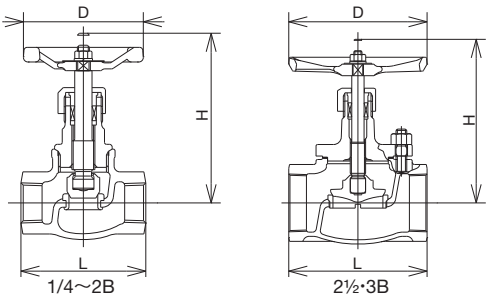
Test description		Valve body pressure resistance		Valve seat leakage	
		Water pressure	Air pressure	Water pressure	Air pressure
Globe, Gate, check valves		2.10		1.54	
Globe valve for LPG		0.80			0.30
Strainer		2.10			
Min ball	MB2・MBT2・UB2・UBT2	6.18			0.59
	MB1・MBT1	4.12			0.59
	ML1・MLC1		0.29		0.29
	MG1・MGC1・MGR0		0.15		0.15

Product Code **HM10KSG**

General-purpose 10K

Globe Screwed

Product Name	Material	Remarks
Body	FCMB350-10	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc	SUS403/SUS410	
Seat ring	SUS403/SUS410	
Handwheel	FCMB340-10	Color: Red / Nominal diameter: 1/4-2B
	FCD450-10	Color: Red/Nominal diameter: 2½, 3B
Gasket	H1215	Nominal diameter: 2½, 3B
Gland Packing	H2200	



Nominal diameter (B)	1/4	3/8	1/2	3/4	1	1¼	1½	2	2½	3
L	50	55	65	80	90	105	120	140	180	200
H	96	96	97	107	125	142	157	182	225	260
D	70	70	70	80	90	100	120	140	180	180

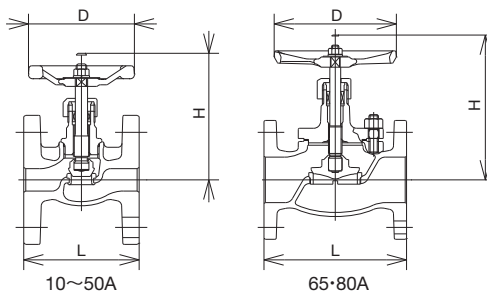
JIS B 0203 Taper pipe threads ; Rc

Product Code **HM10KFG**

General-purpose 10K

Globe Flanged

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc	SUS403/SUS410	
Seat ring	SUS403/SUS410	
Handwheel	FCMB340-10	Color: Red / Nominal diameter: 10-50A
	FCD450-10	Color: Red / Nominal diameter: 65-80A
Gasket	H1215	Nominal diameter: 65-80A
Gland Packing	H2200	



Nominal diameter (A)	10	15	20	25	32	40	50	65	80
L	85	85	95	110	130	150	180	210	240
H	97	97	108	126	144	158	182	225	260
D	70	70	80	90	100	120	140	180	180

JIS B 2239 Cast iron pipe flanges ; 10K FF

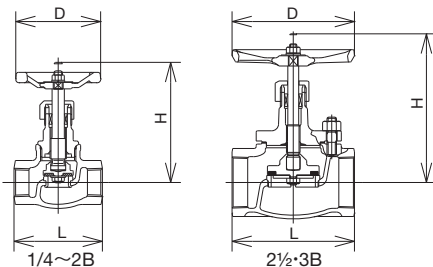
General-purpose

Product Code **HM10KSD**

General-purpose 10K

Globe Screwed Reinforced PTFE disc

Product Name	Material	Remarks
Body	FCMB350-10	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc seat	Reinforced PTFE	
Disc	SUS403/SUS410	
Seat ring	SUS403/SUS410	
Handwheel	FCMB340-10	Color: Orange / Nominal diameter: 1/4-2B
	FCD450-10	Color: Orange / Nominal diameter: 2½, 3B
Gasket	C1100P	Nominal diameter: 1½, 2B
	H1215	Nominal diameter: 2½, 3B
Gland Packing	H2200	



Nominal diameter (B)	1/4	3/8	1/2	3/4	1	1¼	1½	2	2½	3
L	50	55	65	80	90	105	120	140	180	200
H	90	90	91	102	119	137	151	175	222	255
D	70	70	70	70	80	90	100	120	180	180

JIS B 0203 Taper pipe threads ; Rc

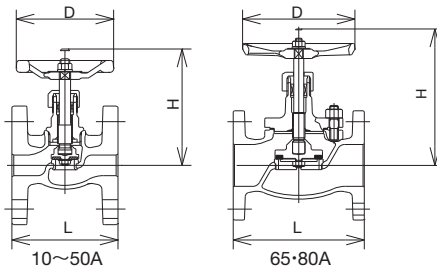
△Name plate: PTFE display

Product Code **HM10KFD**

General-purpose 10K

Globe Flanged Reinforced PTFE disc

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc seat	Reinforced PTFE	
Disc	SUS403/SUS410	
Seat ring	SUS403/SUS410	
Handwheel	FCMB340-10	Color: Orange / Nominal diameter: 10-50A
	FCD450-10	Color: Orange / Nominal diameter: 65-80A
Gasket	C1100P	Nominal diameter: 40-50A
	H1215	Nominal diameter: 65-80A
Gland Packing	H2200	



Nominal diameter (A)	10	15	20	25	32	40	50	65	80
L	85	85	95	110	130	150	180	210	240
H	91	91	102	120	139	152	175	222	255
D	70	70	70	80	90	100	120	180	180

JIS B 2239 Cast iron pipe flanges ; 10K FF

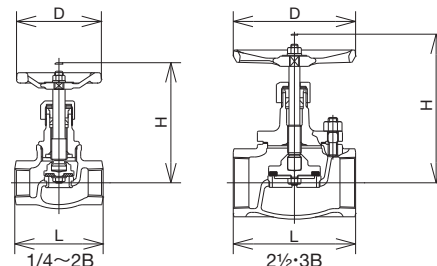
△Name plate: PTFE display

Product Code **HM10KSDG**

General-purpose 10K

Globe PTFE disc for LPG

Product Name	Material	Remarks
Body	FCMB350-10	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc seat	PTFE	
Disc	SUS403/SUS410	
Seat ring	SUS403/SUS410	
Handwheel	FCMB340-10	Color: Green / Nominal diameter: 1/4-2B
	FCD450-10	Color: Green / Nominal diameter: 2½, 3B
Gasket	C1100P	Nominal diameter: 1½, 2B
	H1215	Nominal diameter: 2½, 3B
Gland Packing	PTFE	



Nominal diameter (B)	1/4	3/8	1/2	3/4	1	1¼	1½	2	2½	3
L	50	55	65	80	90	105	120	140	180	200
H	90	90	91	102	119	137	151	175	222	255
D	70	70	70	70	80	90	100	120	180	180

JIS B 0203 Taper pipe threads ; Rc

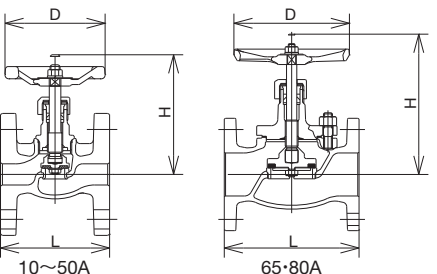
△Name plate: PTFE display

Product Code **HM10KFDG**

General-purpose 10K

Globe PTFE disc for LPG

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc seat	PTFE	
Disc	SUS403/SUS410	
Seat ring	SUS403/SUS410	
Handwheel	FCMB340-10	Color: Green / Nominal diameter: 10-50A
	FCD450-10	Color: Green / Nominal diameter: 65-80A
Gasket	C1100P	Nominal diameter: 40-50A
	H1215	Nominal diameter: 65-80A
Gland Packing	PTFE	



Nominal diameter (A)	10	15	20	25	32	40	50	65	80
L	85	85	95	110	130	150	180	210	240
H	91	91	102	120	139	152	175	222	255
D	70	70	70	80	90	100	120	180	180

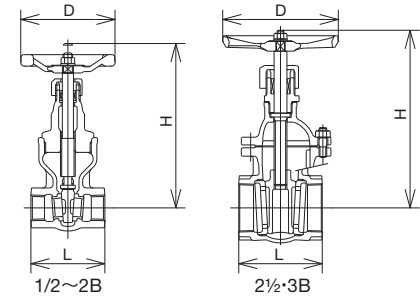
JIS B 2239 Cast iron pipe flanges ; 10K FF

△Name plate: PTFE display

General-purpose

Product Code **HM10KSS** General-purpose 10K Gate Screwed

Product Name	Material	Remarks
Body	FCMB350-10	
Cover	FCD-S	Nominal diameter: 2½, 3B
Stem	SUS403/SUS410	
Wedge	SCS1	Nominal diameter: 2B or less
	CAC406	Nominal diameter: 2½, 3B
Seat ring	SUS403/SUS410	
Handwheel	FCMB340-10	Color: Red / Nominal diameter: ½-2B
	FCD450-10	Color: Red / Nominal diameter: 2½, 3B
Gasket	H1215	Nominal diameter: 2½, 3B
Gland Packing	H2200	

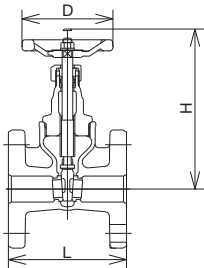


Nominal diameter (B)	1/2	3/4	1	1¼	1½	2	2½	3
L	60	70	75	85	95	105	130	145
H	146	168	199	245	278	323	280	310
D	70	70	90	120	120	140	180	180

JIS B 0203 Taper pipe threads ; Rc

Product Code **HM10KFS** General-purpose 10K Gate Flanged SUS Seat

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Wedge	SCS1	
Seat ring	SUS403/SUS410	
Handwheel	FCMB340-10	Color: Red
Gland Packing	H2200	

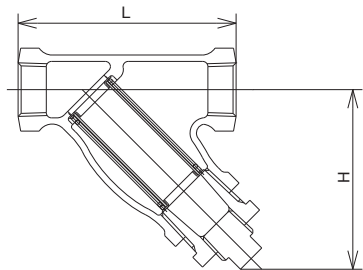


Nominal diameter (A)	15	20	25	32	40	50
L	90	100	110	120	130	140
H	146	146	168	199	245	275
D	80	80	80	90	120	120

JIS B 2239 Cast iron pipe flanges ; 10K FF

Product Code **HM10KST** General-purpose 10K Strainer Screwed

Product Name	Material	Remarks
Body	FCMB350-10	
Cover	FCMB350-10	
Screen	SUS304	20 mesh
L-ring	SUS304	
Spring	SUS304	
Plug	FCMB350-10	



Nominal diameter (B)	1/4	3/8	1/2	3/4	1	1¼	1½	2
L	65	70	85	85	100	120	135	160
H	54	55	70	75	82	94	106	125

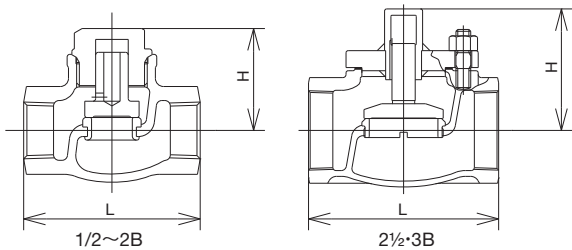
JIS B 0203 Taper pipe threads ; Rc

General-purpose

Product Code **HM10KSC** General-purpose 10K Check valve (Lift) Screwed

Product Name	Material	Remarks
Body	FCMB350-10	
Cover	SUS403/SUS410	Nominal diameter: ½-2B
	SCS1	Nominal diameter: 2½~3B
Disc	SUS403/SUS410	
Seat ring	SUS403/SUS410	
Gasket	H1215	Nominal diameter: 2½-3B

△Cover top: No marks
(Marked with "S" if a spring is contained)



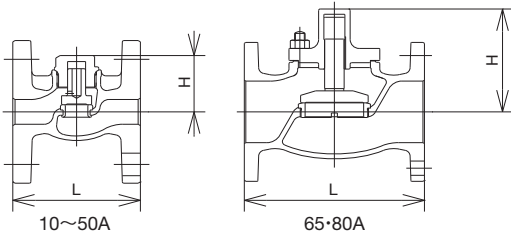
Nominal diameter (B)	1/2	3/4	1	1¼	1½	2	2½	3
L	65	80	90	105	120	140	180	200
H	37.5	43.5	47.5	54	62	70.5	114	137

JIS B 0203 Taper pipe threads ; Rc

Product Code **HM10KFC** General-purpose 10K Check valve (Lift) Flanged

Product Name	Material	Remarks
Body	FCD-S	
Cover	SUS403/SUS410	Nominal diameter: 10-50A
	SCS1	Nominal diameter: 65~80A
Disc	SUS403/SUS410	
Seat ring	SUS403/SUS410	
Gasket	H1215	Nominal diameter: 65~80A

△Cover top: No marks
(Marked with "S" if a spring is contained)



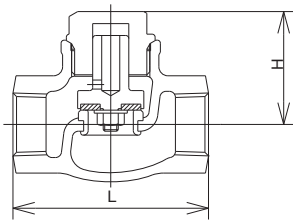
Nominal diameter (A)	10	15	20	25	32	40	50	65	80
L	85	85	95	110	130	150	180	210	240
H	37.5	37.5	43.5	47.5	54	62	70.5	114	137

JIS B 2239 Cast iron pipe flanges ; 10K FF

Product Code **HM10KSCD** General-purpose 10K Check valve (Lift) Screwed Reinforced PTFE disc

Product Name	Material	Remarks
Body	FCMB350-10	
Cover	SUS403/SUS410	
Disc	SUS403/SUS410	
Seat ring	SUS403/SUS410	
Disc seat	Reinforced PTFE	

△Cover top: Marked with "D"
("DS" if a spring is contained)



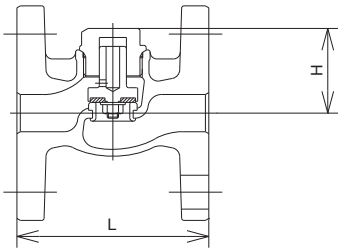
Nominal diameter (B)	1/2	3/4	1	1¼	1½	2
L	65	80	90	105	120	140
H	37.5	43.5	47.5	54	62	70.5

JIS B 0203 Taper pipe threads ; Rc

Product Code **HM10KFCD** General-purpose 10K Check valve (Lift) Flanged Reinforced PTFE disc

Product Name	Material	Remarks
Body	FCD-S	
Cover	SUS403/SUS410	
Disc	SUS403/SUS410	
Seat ring	SUS403/SUS410	
Disc seat	Reinforced PTFE	

△Cover top: Marked with "D"
("DS" if a spring is contained)



Nominal diameter (A)	10	15	20	25	32	40	50
L	85	85	95	110	130	150	180
H	37.5	37.5	43.5	47.5	54	62	70.5

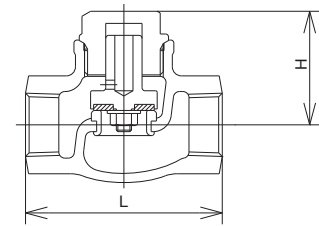
JIS B 2239 Cast iron pipe flanges ; 10K FF

General-purpose

Product Code **HM10KSCR** General-purpose 10K Check valve (Lift) Screwed NBR disc

Product Name	Material	Remarks
Body	FCMB350-10	
Cover	SUS403/SUS410	
Disc	SUS403/SUS410	
Seat ring	SUS403/SUS410	
Disc seat	NBR	

△Cover top: Marked with "R"
("RS" if a spring is contained)



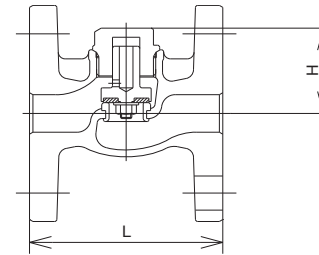
Nominal diameter (B)	1/2	3/4	1	1¼	1½	2
L	65	80	90	105	120	140
H	37.5	43.5	47.5	54	62	70.5

JIS B 0203 Taper pipe threads ; Rc

Product Code **HM10KFCR** General-purpose 10K Check valve (Lift) Flanged NBR disc

Product Name	Material	Remarks
Body	FCD-S	
Cover	SUS403/SUS410	
Disc	SUS403/SUS410	
Seat ring	SUS403/SUS410	
Disc seat	NBR	

△Cover top: Marked with "R"
("RS" if a spring is contained)

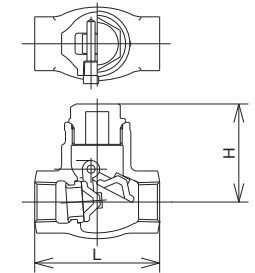


Nominal diameter (A)	10	15	20	25	32	40	50
L	85	85	95	110	130	150	180
H	37.5	37.5	43.5	47.5	54	62	70.5

JIS B 2239 Cast iron pipe flanges ; 10K FF

Product Code **HM10SCS** General-purpose 10K Check valve (Swing) Screwed

Product Name	Material	Remarks
Body	FCMB350-10	
Cover	SUS403/SUS410	
Disc	SCS1	
Seat ring	SUS403/SUS410	
Hinge pin	SUS416	
Plug	SWCH10K	

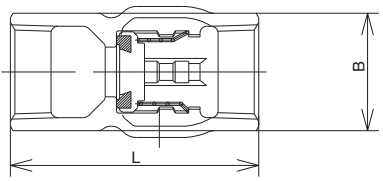


Nominal diameter (B)	1/2	3/4	1	1¼	1½	2
L	65	80	90	105	120	140
H	51	57	61	73	81	92

JIS B 0203 Taper pipe threads ; Rc

Product Code **BSCI** General-purpose 10K Check valve (Inline) Screwed

Product Name	Material	Remarks
Body	CAC406	
Disc	SUS303	
Rubber sheet	FPM	
Spring	SUS304-WPB	



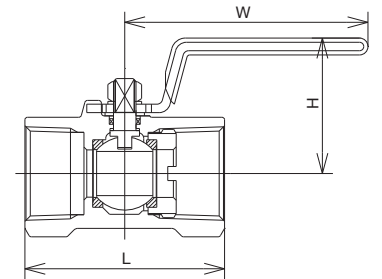
Nominal diameter (B)	1/2	3/4	1
L	55	60	70
B	26	32	40

JIS B 0203 Taper pipe threads ; Rc

General-purpose

Product Code **MB2** General-purpose 10K Mini Ball Valve for General Use Lever Handle, 2-stage Reduced Bore

Product Name	Material	Remarks
Body	FCMB340-10	Hot dip galvanizing Electrogalvanizing
Ball	C3604	Ni-Cr plating
Stem	C3604	Ni-Cr plating
Seat ring	Reinforced PTFE	
Gland Packing	Reinforced PTFE	
Handle	SUS430	PVC coating Color: Orange

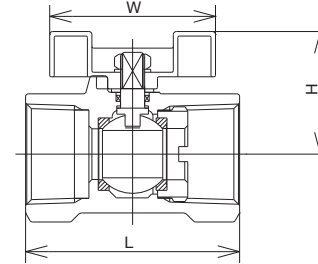


Nominal diameter (B)	1/4	3/8	1/2	3/4	1	1¼	1½	2
L	43	46.5	54	61	71	82	88.5	105
H	32	40	42	47	50	58	62	69
W	62	72	72	87	87	127	127	127

JIS B 0203 Taper pipe threads ; Rc

Product Code **MBT2** General-purpose 10K Mini Ball Valve for General Use T-handle, 2-stage Reduced Bore

Product Name	Material	Remarks
Body	FCMB340-10	Hot dip galvanizing Electrogalvanizing
Ball	C3604	Ni-Cr plating
Stem	C3604	Ni-Cr plating
Seat ring	Reinforced PTFE	
Gland Packing	Reinforced PTFE	
Handle	ADC12	Color: Black

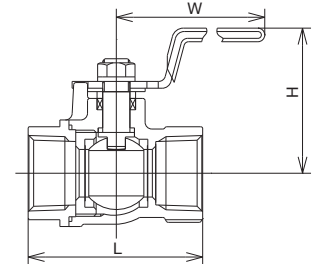


Nominal diameter (B)	1/4	3/8	1/2	3/4	1
L	43	46.5	54	61	71
H	27.5	31	33	40	42
W	45	45	45	55	55

JIS B 0203 Taper pipe threads ; Rc

Product Code **MB1** General-purpose 10K Mini Ball Valve for General Use Lever Handle, 1-stage Reduced Bore

Product Name	Material	Remarks
Body	FCMB340-10	Hot dip galvanizing Electrogalvanizing
Ball	C3604	Ni-Cr plating
Stem	C3604	Ni-Cr plating
Seat ring	Reinforced PTFE	
Gland Packing	Reinforced PTFE	
Handle	SUS430	PVC coating Color: Orange
Gasket	Reinforced PTFE	

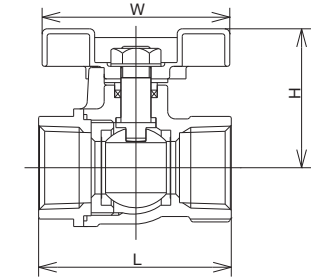


Nominal diameter (B)	1/4	3/8	1/2	3/4	1	1¼	1½	2
L	46	49	57.5	65	77	88	97	116
H	49	49	53	55	63	66	72	79
W	72	72	87	87	127	127	127	152

JIS B 0203 Taper pipe threads ; Rc

Product Code **MBT1** General-purpose 10K Mini Ball Valve for General Use T-handle, 1-stage Reduced Bore

Product Name	Material	Remarks
Body	FCMB340-10	Hot dip galvanizing Electrogalvanizing
Ball	C3604	Ni-Cr plating
Stem	C3604	Ni-Cr plating
Seat ring	Reinforced PTFE	
Gland Packing	Reinforced PTFE	
Handle	ADC12	Color: Black
Gasket	Reinforced PTFE	



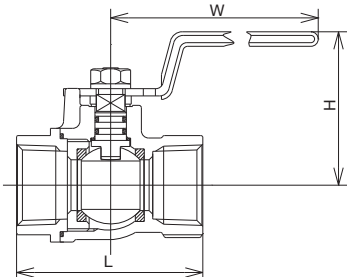
Nominal diameter (B)	1/4	3/8	1/2	3/4	1
L	46	49	57.5	65	77
H	38	38	54	56	64
W	45	45	55	55	75

JIS B 0203 Taper pipe threads ; Rc

General-purpose

Product Code **ML1** General-purpose 10K Mini Ball Valve for LPG Lever Handle, 1-stage Reduced Bore

Product Name	Material	Remarks
Body	FCMB340-10	Hot dip galvanizing Electrogalvanizing
Ball	C3604	Ni-Cr plating
Stem	C3604	Ni-Cr plating
Seat ring	PTFE	
Handle	SUS430	PVC coating Color: Yellow
Gasket	PTFE	

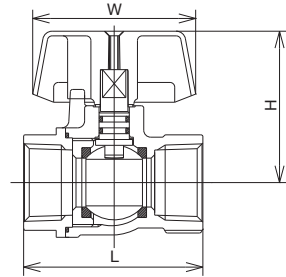


Nominal diameter (B)	1/2	3/4	1	1¼	1½	2
L	57.5	65	77	88	97	116
H	53	55	63	66	72	79
W	87	87	127	127	127	152

JIS B 0203 Taper pipe threads ; Rc

Product Code **MLC1** General-purpose 10K Mini Ball Valve for LPG T-handle, 1-stage Reduced Bore

Product Name	Material	Remarks
Body	FCMB340-10	Hot dip galvanizing Electrogalvanizing
Ball	C3604	Ni-Cr plating
Stem	C3604	
Seat ring	PTFE	
Handle	ADC12	Color: Black
Gasket	PTFE	



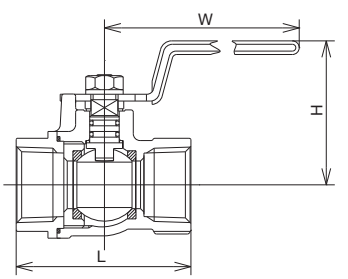
Nominal diameter (B)	1/2	3/4	1
L	57.5	65	77
H	54.5	56.5	65
W	52	52	70

JIS B 0203 Taper pipe threads ; Rc

General-purpose

Product Code **MG1** General-purpose 10K Mini Ball Valve for City Gas Lever Handle, 1-stage Reduced Bore

Product Name	Material	Remarks
Body	FCMB340-10	Hot dip galvanizing Electrogalvanizing
Ball	C3604	Ni-Cr plating
Stem	C3604	Ni-Cr plating
Seat ring	PTFE	
Handle	SUS430	PVC coating Color: Green
Gasket	PTFE	

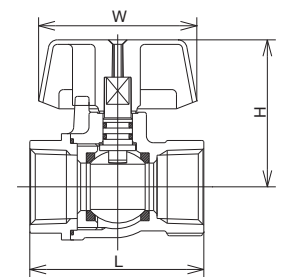


Nominal diameter (B)	1/4	3/8	1/2	3/4	1	1¼	1½	2
L	46	49	57.5	65	77	88	97	116
H	49	49	53	55	63	66	72	79
W	72	72	87	87	127	127	127	152

JIS B 0203 Taper pipe threads ; Rc

Product Code **MGC1** General-purpose 10K Mini Ball Valve for City Gas T-handle, 1-stage Reduced Bore

Product Name	Material	Remarks
Body	FCMB340-10	Hot dip galvanizing Electrogalvanizing
Ball	C3604	Ni-Cr plating
Stem	C3604	
Seat ring	PTFE	
Handle	ADC12	Color: Black
Gasket	PTFE	

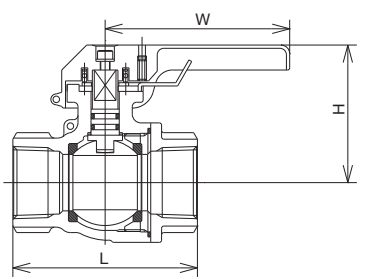


Nominal diameter (B)	1/2	3/4	1
L	57.5	65	77
H	54.5	56.5	65
W	52	52	70

JIS B 0203 Taper pipe threads ; Rc

Product Code **MGR0** General-purpose 10K Mini Ball Valve for City Gas Cock handle, Full bore

Product Name	Material	Remarks
Body	FCD-S	Hot dip galvanizing Electrogalvanizing
Ball	C3604	Ni-Cr plating
Stem	C3604	
Seat ring	PTFE	
Handle	ZDC2	Color: Black
Gasket	PTFE	



Nominal diameter (B)	3/4	1	1¼	1½	2
L	75	85	100	110	130
H	63	66	72	80	87
W	85	85	85	130	130

JIS B 0203 Taper pipe threads ; Rc

Features

- 1. A general valve based on the 20K type. Can be used for a range of specifications.
- 2. Support for special fluids by exchanging the packing, gasket and main parts. Please consult with us separately. – We also undertake maintenance using genuine parts.
- 3. The main parts are made with 13cr stainless steel and can be used up to 300°C.

Product Types

Globe, Gate, Check, Needle, Bellows seal, Ball valves and Strainers

- △Caution:
- A cobalt-base alloy (Co-Cr-W alloy) for the valve seat surface is recommended in case of use in the following conditions.
 - 1. In case of steam piping with a nominal diameter of 150A (6B) or higher.
 - 2. In case of steam piping when the pressure is 0.98 MPa or higher, and the frequency of opening and closing is high.
 - 3. In case of use with fluids in a dry state.
 - 4. In case of piping for chemicals where corrosion resistance is required, and the main parts of the valve are 18Cr-8Ni stainless steel



Fluid・Temperature・Pressure Unit: MPa

Product Type		Maximum working pressure by product type MPa						
		Service temperature limit by fluid used (°C)						
		-10~120	183	185	200	220	250	300
Globe	Standard, needle valve	1.4	—※1	—※1	—※1	1.2	—※1	1.0
	Bellows							
	Reinforced PTFE disc	1.4	1.2					
Check	V-port valve	1.0※2						
	Gate	1.4	—※1	—※1	—※1	1.2	—※1	1.0
	Standard	1.4	—※1	—※1	—※1	1.2	—※1	1.0
Ball	Reinforced PTFE disc	1.4	1.2	—※1	—※1	1.0		
	NBR disc	1.4※2						
	For general use	1.4	—※1	1.27	1.0	—※1	0	
	For gas							
	LPG	1.2※3						
	City gas	1.0						

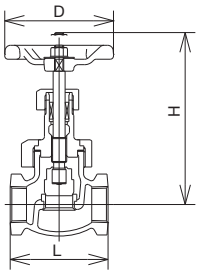
※1 Maximum working pressure in the intermediate operating temperature is determined by the proportional method.
※2 Maximum operating temperature ; 80°C
※3 Minimum operating temperature ; -5°C
Heat-resistant coating is recommended in case the service temperature exceeds 180°C

Test Pressure Unit: MPa

Test description	Body pressure resistance		Valve seat leakage	
	Water pressure	Air pressure	Water pressure	Air pressure
Globe, needle, V-port, gate, check, ball valves	2.10		1.54	
Bellows seal valve		1.4		1.4
Ball valve for gas		1.80		1.32

Product Code M10KSG 10K Globe Screwed

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc	SUS403/SUS410	
Seat ring	SUS403/SUS410	
Handwheel	FCMB340-10	Color: Blue
Gasket	H1215	
Gland Packing	H350+H2200	

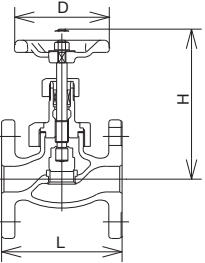


Nominal diameter (B)	3/8	1/2	3/4	1	1¼	1½	2
L	64	70	80	90	110	120	140
H	115	130	135	155	175	190	215
D	80	80	80	100	120	120	140

JIS B 0203 Taper pipe threads ; Rc

Product Code M10KFG 10K Globe Flanged

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc	SUS403/SUS410	
Seat ring	SUS403/SUS410	
Handwheel	FCMB340-10	Color: Blue
Gasket	H1215	
Gland Packing	H350+H2200	

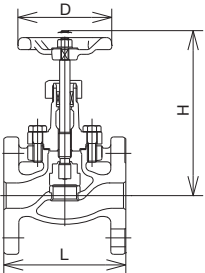


Nominal diameter (A)	10	15	20	25	32	40	50
L	108	108	117	127	140	165	203
H	130	130	135	155	175	190	215
D	80	80	80	100	120	120	140

JIS B 2239 Cast iron pipe flanges ; 10K FF

Product Code M10KFGI 10K Globe Flanged BB type

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc	SUS403/SUS410	Hard facing
Seat ring	SUS403/SUS410	Hard facing
Handwheel	FCMB340-10	Color: Blue / Nominal diameter: 15-40A
	FCD450-10	Color: Blue / Nominal diameter: 50A
Gasket	H1215	
Gland Packing	H350+H2200	

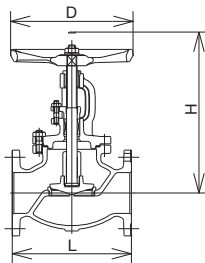


Nominal diameter (A)	15	20	25	32	40	50
L	108	117	127	140	165	203
H	154	156	178	203	231	261
D	80	80	100	120	140	180

JIS B 2239 Cast iron pipe flanges ; 10K FF

Product Code M10KFGO 10K Globe Flanged OS and BB type

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc	SUS403/SUS410	Nominal diameter: 50-150A
	S25C	Nominal diameter: 200~300A
Seat ring	SUS403/SUS410	Nominal diameter: 50-150A
	S28C/S25C/STKM13A	Nominal diameter: 200~300A Hard facing
Handwheel	FCD450-10	Color: Blue
Gasket	H1215	
Gland Packing	H350+H2200	



Nominal diameter (A)	50	65	80	100	125	150	200	250	300
L	203	216	241	292	356	406	495	622	698
H	295	325	355	390	435	505	595	690	779
D	224	224	250	300	315	355	400	450	560

JIS B 2239 Cast iron pipe flanges ; 10K FF

Product Code

M10KSD

10K

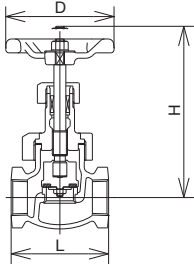
Globe

Screwed

Reinforced PTFE disc

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc seat	Reinforced PTFE	
Disc	SUS403/SUS410	
Seat ring	SUS403/SUS410	
Handwheel	FCMB340-10	Color: Orange
Gasket	H1215	
Gland Packing	H350+H2200	

△Name plate: PTFE display



Nominal diameter (B)	3/8	1/2	3/4	1	1¼	1½	2
L	64	70	80	90	110	120	140
H	116	131	133	153	176	192	216
D	80	80	80	100	120	120	140

JIS B 0203 Taper pipe threads ; Rc

Product Code

M10KFD

10K

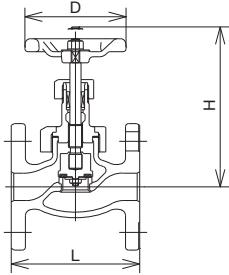
Globe

Flanged

Reinforced PTFE disc

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc seat	Reinforced PTFE	
Disc	SUS403/SUS410	
Seat ring	SUS403/SUS410	
Handwheel	FCMB340-10	Color: Orange
Gasket	H1215	
Gland Packing	H350+H2200	

△Name plate: PTFE display



Nominal diameter (A)	10	15	20	25	32	40	50
L	108	108	117	127	140	165	203
H	131	131	133	153	176	192	216
D	80	80	80	100	120	120	140

JIS B 2239 Cast iron pipe flanges ; 10K FF

Product Code

M10KFDI

10K

Globe

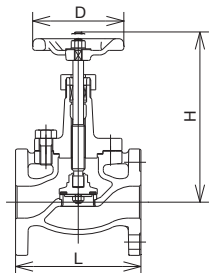
Flanged

Reinforced PTFE disc

BB type

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc seat	Reinforced PTFE	
Disc	SUS403/SUS410	
Seat ring	SUS403/SUS410	
Handwheel	FCMB340-10	Color: Orange / Nominal diameter: 15-40A
	FCD450-10	Color: Orange / Nominal diameter: 50A
Gasket	H1215	
Gland Packing	H350+H2200	

△Name plate: PTFE display



Nominal diameter (A)	15	20	25	32	40	50
L	108	117	127	140	165	203
H	152	154	178	203	231	262
D	80	80	100	120	140	180

JIS B 2239 Cast iron pipe flanges ; 10K FF

Product Code

M10KFDO

10K

Globe

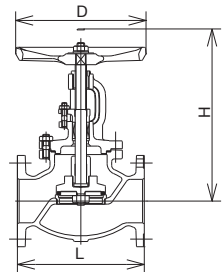
Flanged

Reinforced PTFE disc

OS and BB type

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc seat	Reinforced PTFE	
Disc	SUS403/SUS410	
Seat ring	SUS403/SUS410	
Handwheel	FCD450-10	Color: Orange
Gasket	H1215	
Gland Packing	H350+H2200	

△Name plate: PTFE display



Nominal diameter (A)	50	65	80	100	125	150	200	250
L	203	216	241	292	356	406	495	622
H	295	335	365	405	455	530	630	732
D	224	224	250	300	315	355	400	450

JIS B 2239 Cast iron pipe flanges ; 10K FF

Product Code

M10KSN

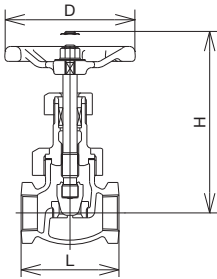
10K

Needle Valve

Screwed

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc	SUS403/SUS410	Hard facing
Seat ring	SUS403/SUS410	Hard facing
Handwheel	FCMB340-10	Color: Blue / Nominal diameter: ¾-1½B
	FCD450-10	Color: Blue / Nominal diameter: 2B
Gasket	H1215	
Gland Packing	H350+H2200	

△Valve stem tips:
Marked "N"/The cover is clearly marked
"Needle valve"



Nominal diameter (B)	3/8	1/2	3/4	1	1¼	1½	2
L	64	70	80	90	110	120	140
H	125	135	145	170	180	200	230
D	80	80	100	120	120	140	180

JIS B 0203 Taper pipe threads ; Rc

Product Code

M10KFN

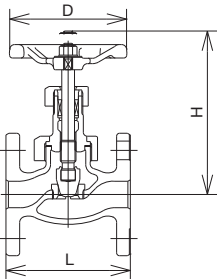
10K

Needle Valve

Flanged

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc	SUS403/SUS410	Hard facing
Seat ring	SUS403/SUS410	Hard facing
Handwheel	FCMB340-10	Color: Blue / Nominal diameter: 10-40A
	FCD450-10	Color: Blue / Nominal diameter: 50A
Gasket	H1215	
Gland Packing	H350+H2200	

△Valve stem tips:
Marked "N"/The cover is clearly marked
"Needle valve"



Nominal diameter (A)	10	15	20	25	32	40	50
L	108	108	117	127	140	165	203
H	125	135	145	170	180	200	230
D	80	80	100	120	120	140	180

JIS B 2239 Cast iron pipe flanges ; 10K FF

Product Code

M10KFGB

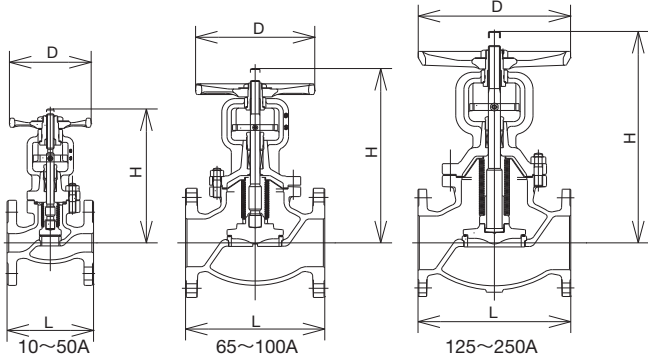
10K

Bellows Seal Valve

Flanged

OS and BB type

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS410	
Seat ring	SUS410	Hard facing
Disc	SUS304	Hard facing (Nominal diameter: 50A or less)
	ASTM A182-F304	Hard facing (Nominal diameter: 65-100A)
	SUS410/SCS1	Hard facing (Nominal diameter: 125A or more)
Bellows	SUS316L	
Handwheel	FCMB340-10	Color: Black
Gasket	H1215	
Gland Packing	H350+H2200	



△The glands of the bellows seal valve are maintenance-free, but since the cover bolts may loosen due to vibrations and heat stress, they will need regular maintenance.

Nominal diameter (A)	10	15	20	25	32	40	50	65	80	100	125	150	200	250
L	108	108	117	127	140	165	203	216	241	292	356	406	495	622
H	181	181	191	196	208	243	253	278	328	365	421	487	609	754
D	100	100	100	120	120	160	180	224	224	250	300	355	400	450

JIS B 2239 Cast iron pipe flanges ; 10K FF

Product Code

M10KFDB

10K

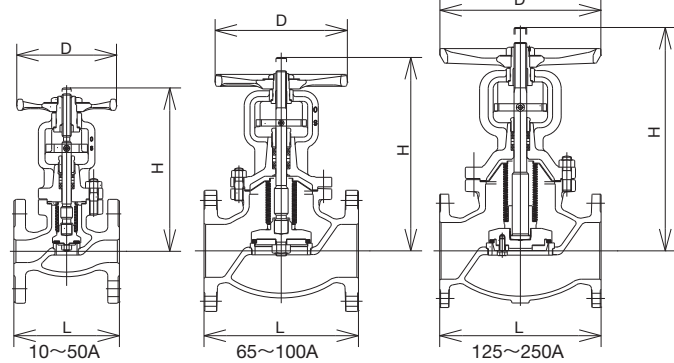
Bellows Seal Valve

Flanged

Reinforced PTFE disc

OS and BB type

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS410	
Seat ring	SUS410	
Disc seat	Reinforced PTFE	
Disc	SUS304	Nominal diameter: 50A or less・125A or more
	ASTM A276-304	Nominal diameter: 65-100A
Bellows	SUS316L	
Handwheel	FCMB340-10	Color: Black
Gasket	H1215	
Gland Packing	H350+H2200	



△The glands of the bellows seal valve are maintenance-free, but since the cover bolts may loosen due to vibrations and heat stress, they will need regular maintenance.

Nominal diameter (A)	10	15	20	25	32	40	50	65	80	100	125	150	200	250
L	108	108	117	127	140	165	203	216	241	292	356	406	495	622
H	181	181	191	196	208	243	253	278	328	365	421	487	609	754
D	100	100	100	120	120	160	180	224	224	250	300	355	400	450

JIS B 2239 Cast iron pipe flanges ; 10K FF

Product Code

M10KSS

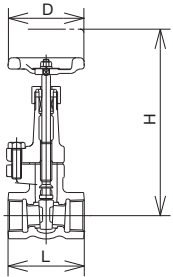
10K

Gate Valve

Screwed

BB type

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Wedge	SCS1	
Seat ring	SUS403/SUS410	
Handwheel	FCMB340-10	Color: Blue
Gasket	H1215	
Gland Packing	H350+H2200	



Nominal diameter (B)	1/2	3/4	1	1¼	1½	2
L	65	75	80	90	100	110
H	165	165	190	224	258	290
D	80	80	80	100	120	120

JIS B 0203 Taper pipe threads ; Rc

Product Code

M10KFS

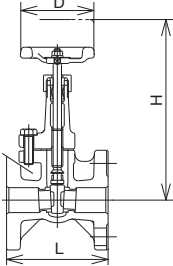
10K

Gate Valve

Flanged

BB type

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Wedge	SCS1	
Seat ring	SUS403/SUS410	
Handwheel	FCMB340-10	Color: Blue
Gasket	H1215	
Gland Packing	H350+H2200	



Nominal diameter (A)	10	15	20	25	32	40	50
L	90	90	100	110	120	130	140
H	165	165	170	190	224	258	290
D	80	80	80	80	100	120	120

JIS B 2239 Cast iron pipe flanges ; 10K FF

Product Code

M10KFSSO

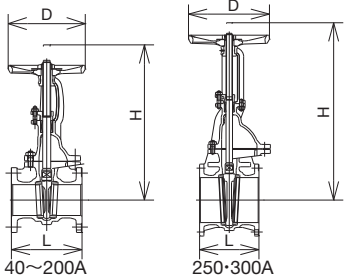
10K

Gate Valve

Flanged

OS and BB type

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Wedge	SCS1	Nominal diameter: 40-65A
	SUS403/SUS410	Nominal diameter: 80-200A
	S25C/A105	13Cr stainless deposit Nominal diameter: 250-300A
Seat ring	SUS403/SUS410	
Handwheel	FCD450-10	Color: Blue
Gasket	H1215	
Gland Packing	H350+H2200	



Nominal diameter (A)	40	50	65	80	100	125	150	200	250	300
L	165	178	190	203	229	254	267	292	330	356
H	315	360	425	480	580	675	780	985	1195	1410
D	160	180	180	224	250	300	300	315	450	560

JIS B 2239 Cast iron pipe flanges ; 10K FF

Product Code

D10KFSSO

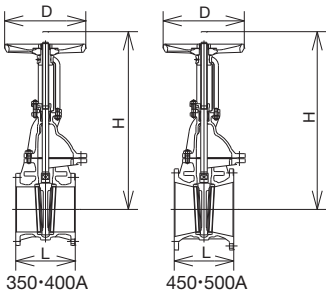
10K

Gate Valve

Flanged

OS and BB type

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Wedge	SCPH2	13Cr stainless deposit
Seat ring	S28C/STKM13A	Hard facing
Handwheel	FCD450-10	Color: Blue
Gasket	H1215	
Gland Packing	H350+H2200	



Nominal diameter (A)	350	400	450	500
L	381	406	432	457
H	1610	1855	1610	1855
D	630	710	630	710

JIS B 2239 Cast iron pipe flanges ; 10K FF 450, 500 ; Reduced Bore

Product Code

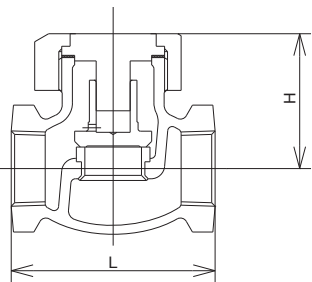
M10KSC

10K

Check Valve (Lift) Screwed

Product Name	Material	Remarks
Body	FCD-S	
Cover	SCS1	
Disc	SUS403/SUS410	
Seat ring	SUS403/SUS410	
Gasket	H1215	

△Cover top: No marks
(Marked with "S" if a spring is contained)



Nominal diameter (B)	1/2	3/4	1	1¼	1½	2
L	70	80	90	110	120	140
H	51	54	61	69	77	89

JIS B 0203 Taper pipe threads ; Rc

Product Code

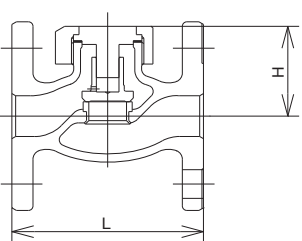
M10KFC

10K

Check Valve (Lift) Flanged

Product Name	Material	Remarks
Body	FCD-S	
Cover	SCS1	
Disc	SUS403/SUS410	
Seat ring	SUS403/SUS410	
Gasket	H1215	

△Cover top: No marks
(Marked with "S" if a spring is contained)



Nominal diameter (A)	10	15	20	25	32	40	50
L	108	108	117	127	140	165	203
H	51	51	54	61	69	77	89

JIS B 2239 Cast iron pipe flanges ; 10K FF

Product Code

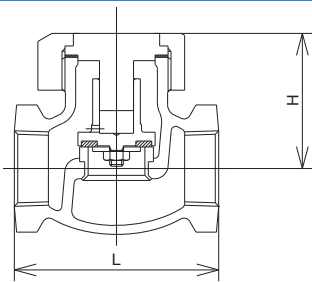
M10KSCD

10K

Check Valve (Lift) Screwed Reinforced PTFE disc

Product Name	Material	Remarks
Body	FCD-S	
Cover	SCS1	
Disc	SUS403/SUS410	
Seat ring	SUS403/SUS410	
Disc seat	Reinforced PTFE	
Gasket	H1215	

△Cover top: Marked with "D"
(“DS” if a spring is contained)



Nominal diameter (B)	1/2	3/4	1	1¼	1½	2
L	70	80	90	110	120	140
H	51	54	61	69	77	89

JIS B 0203 Taper pipe threads ; Rc

Product Code

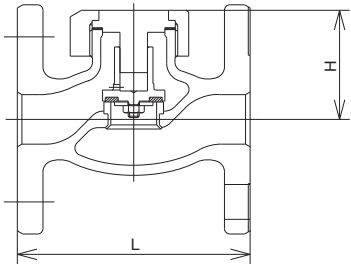
M10KFCD

10K

Check Valve (Lift) Flanged Reinforced PTFE disc

Product Name	Material	Remarks
Body	FCD-S	
Cover	SCS1	
Disc	SUS403/SUS410	
Seat ring	SUS403/SUS410	
Disc seat	Reinforced PTFE	
Gasket	H1215	

△Cover top: Marked with "D"
(“DS” if a spring is contained)



Nominal diameter (A)	10	15	20	25	32	40	50
L	108	108	117	127	140	165	203
H	51	51	54	61	69	77	89

JIS B 2239 Cast iron pipe flanges ; 10K FF

Product Code

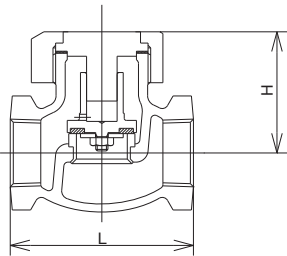
M10KSCR

10K

Check Valve (Lift) Screwed NBR disc

Product Name	Material	Remarks
Body	FCD-S	
Cover	SCS1	
Disc	SUS403/SUS410	
Seat ring	SUS403/SUS410	
Disc seat	NBR	
Gasket	H1215	

△Cover top: Marked with "R"
(“RS” if a spring is contained)
* NBR disc installed on request.



Nominal diameter (B)	1/2	3/4	1	1¼	1½	2
L	70	80	90	110	120	140
H	51	54	61	69	77	89

JIS B 0203 Taper pipe threads ; Rc

Product Code

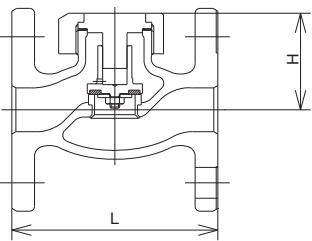
M10KFCR

10K

Check Valve (Lift) Flanged NBR disc

Product Name	Material	Remarks
Body	FCD-S	
Cover	SCS1	
Disc	SUS403/SUS410	
Seat ring	SUS403/SUS410	
Disc seat	NBR	
Gasket	H1215	

△Cover top: Marked with "R"
(“RS” if a spring is contained)
* NBR disc installed on request.



Nominal diameter (A)	10	15	20	25	32	40	50
L	108	108	117	127	140	165	203
H	51	51	54	61	69	77	89

JIS B 2239 Cast iron pipe flanges ; 10K FF

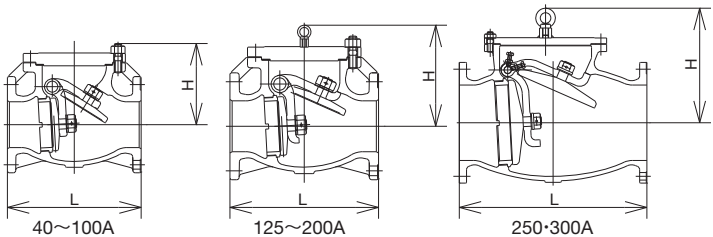
Product Code

M10KFCS

10K

Check Valve (Swing) Flanged

Product Name	Material	Remarks
Body	FCD-S	
Cover	SS400	
Disc	SUS403/SUS410	Nominal diameter: 40-100A
	S25C	13Cr stainless deposit / Nominal diameter: 125-300A
Seat ring	SUS403/SUS410	
Hinge pin	SUS403/SUS410	
Gasket	H1215	
Plug	S25C	Nominal diameter: 40-200A
	SUS403/SUS410	Nominal diameter: 250-300A



Nominal diameter (A)	40	50	65	80	100	125	150	200	250	300
L	165	203	216	241	292	330	356	495	622	698
H	118	140	150	161	176	250	270	330	390	450

JIS B 2239 Cast iron pipe flanges ; 10K FF

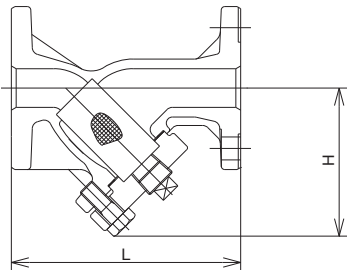
Product Code

M10KFT

10K

Strainer Flanged

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Screen	SUS304	50 mesh / Nominal diameter: 15-50A 40mesh / Nominal diameter: 65-300A
Gasket	H1215	
Plug	SWCH	Nominal diameter: 15-20A
	FCMB275-5	Nominal diameter: 25-300A



Nominal diameter (A)	15	20	25	32	40	50	65	80	100	125	150	200	250	300
L	130	140	160	190	210	250	290	310	350	400	480	600	730	850
H	68	77	91	137	154	170	190	231	279	310	370	441	510	565

JIS B 2239 Cast iron pipe flanges ; 10K FF

Product Code

BM10KS2B

10K

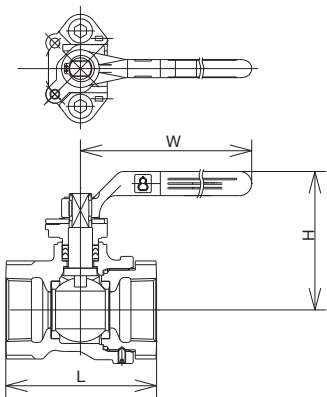
Ball Valve for General Use

Screwed

1-stage Reduced Bore

Product Name	Material	Remarks
Body	FCD-S	
Ball	SCS13A	
Stem	SUS403/SUS410	
Seat ring	FT seat	
Handle	FCMB340-10	Color: Blue
Gasket	SUS304	
Gland Packing	PTFE	

△ Indicator: Blue
External stopper/ Valve stem: widths across flats



Nominal diameter (B)	1/2	3/4	1	1¼	1½	2
L	66	75	87	100	115	130
H	69	73	76	92	96	104
W	120	120	120	150	150	220

JIS B 0203 Taper pipe threads ; Rc

Product Code

BM10KF2B

10K

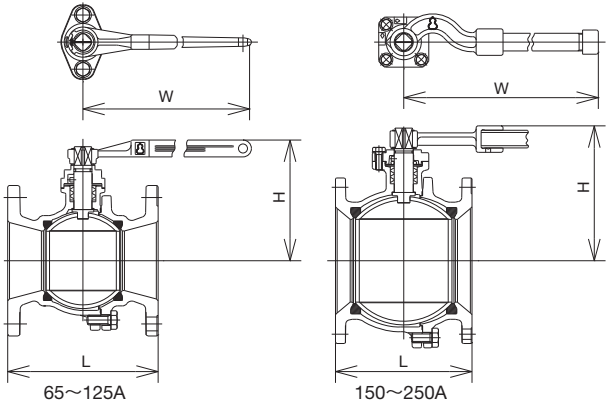
Ball Valve for General Use

Flanged

1-stage Reduced Bore

Product Name	Material	Remarks
Body	FCD-S	
Ball	SCS13A	
Stem	SUS403/SUS410	
Seat ring	FT seat	
Handle	FCMB340-10	Color: Blue / Nominal diameter: 65-125A
Handle boss + pipe	FCMB340-10 +STPG	Color: Blue / Nominal diameter: 150-250A
Gasket	H1215	
Gland Packing	Reinforced PTFE	

△ Indicator: Blue
Valve stem angle: widths across flats



Nominal diameter (A)	65	80	100	125	150	200	250
L	190	203	229	254	267	292	330
H	139	151	186	202	243	262	321
W	220	220	320	400	800	1000	1200

JIS B 2239 Cast iron pipe flanges ; 10K FF

Product Code

BM10KF0B

10K

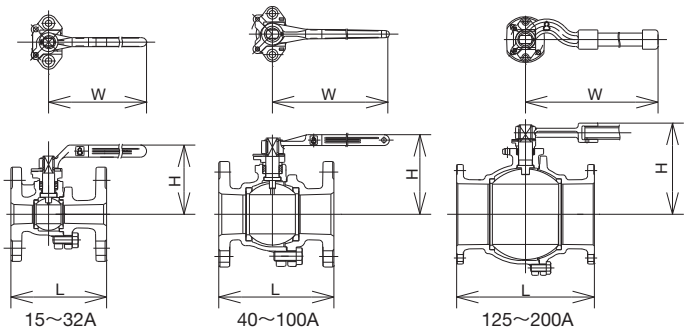
Ball Valve for General Use

Flanged

Full bore

Product Name	Material	Remarks
Body	FCD-S	
Ball	SCS13A	
Stem	SUS403/SUS410	
Seat ring	FT seat	
Handle	FCMB340-10	Color: Blue / Nominal diameter: 15-100A
Handle boss + pipe	FCMB340-10 +STPG	Color: Blue / Nominal diameter: 125-200A
Gasket	Reinforced PTFE	
Gland Packing	PTFE	

△ Indicator: Blue
External stopper/
Valve stem: widths across flats



Nominal diameter (A)	15	20	25	32	40	50	65	80	100	125	150	200
L	108	117	127	140	165	178	190	203	229	292	394	457
H	73	76	92	98	110	117	132	170	186	225	245	301
W	120	120	150	150	220	220	220	320	400	800	1000	1200

JIS B 2239 Cast iron pipe flanges ; 10K FF

Product Code

BM10KF1B

10K

Ball Valve for General Use

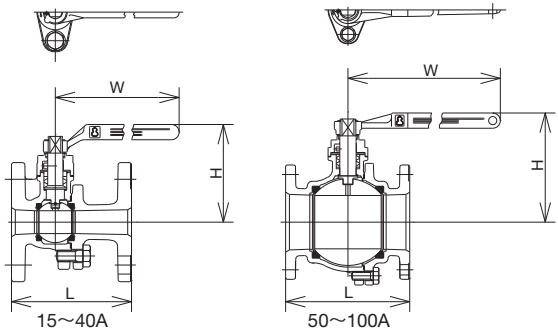
Flanged

Full bore

Fire-safe mechanism

Product Name	Material	Remarks
Body	FCD-S	
Ball	SCS13A	
Stem	SUS403/SUS410	
Seat ring	FT seat	
Stainless steel sheet	SUS304	
Handle	FCMB340-10	Color: Blue
Gasket	H1215	
Gland Packing	Reinforced PTFE	

△ Indicator: Black
Valve stem: widths across flats, marked "1"



Nominal diameter (A)	15	20	25	32	40	50	65	80	100
L	108	117	127	140	165	178	190	203	229
H	81	85	103	108	129	139	151	186	202
W	120	120	150	150	220	220	220	320	400

JIS B 2239 Cast iron pipe flanges ; 10K FF

Product Code

BM10KS2L

10K

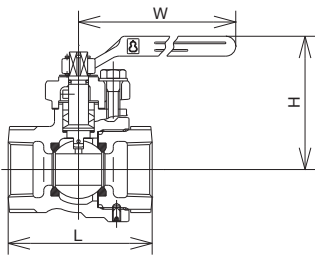
Ball Valve for Gas

Screwed

1-stage Reduced Bore

Product Name	Material	Remarks
Body	FCD-S	
Ball	SCS13A	
Stem	SUS403/SUS410	
Seat ring	PTFE	
Handle	FCMB340-10	Color: Blue
Gasket	SUS304	Nominal diameter: ½-2B
	H1215	Nominal diameter: 3B
Gland Packing	PTFE	

△Indicator: Green/Valve stem angle: square



Nominal diameter (B)	1/2	3/4	1	1¼	1½	2	3
L	66	75	87	100	115	130	180
H	70	77	81	102	107	129	151
W	120	120	120	150	150	220	220

JIS B 0203 Taper pipe threads ; Rc

Product Code

BM10KF2L

10K

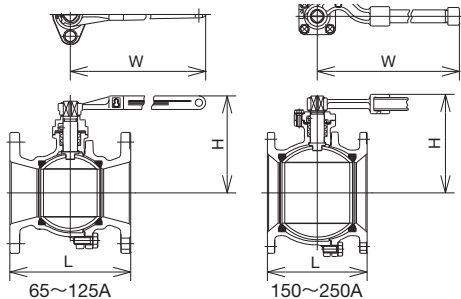
Ball Valve for Gas

Flanged

1-stage Reduced Bore

Product Name	Material	Remarks
Body	FCD-S	
Ball	SCS13A	Nominal diameter: 65-80A
	SCS13A+ SUS304	Nominal diameter: 100-250A
Stem	SUS403/SUS410	
Seat ring	PTFE	
Handle	FCMB340-10	Color: Blue / Nominal diameter: 60-125A
Handle boss + pipe	FCMB340-10 +STPG	Color: Blue / Nominal diameter: 150-250A
Gasket	H1215	
Gland Packing	PTFE	

△Indicator: Green/Valve stem angle: square



Nominal diameter (A)	65	80	100	125	150	200	250
L	190	203	229	254	267	292	330
H	139	151	186	202	243	262	321
W	220	220	320	400	800	1000	1200

JIS B 2239 Cast iron pipe flanges ; 10K FF

Product Code

BM10KF0L

10K

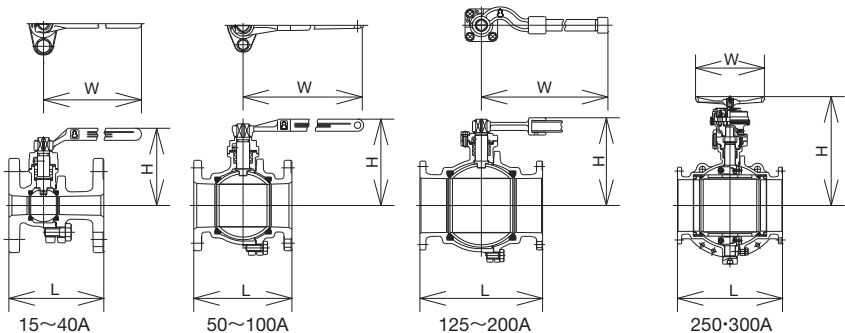
Ball Valve for Gas

Flanged

Full bore

Product Name	Material	Remarks
Body	FCD-S	
Ball	SCS13A	Nominal diameter: 15-65A
	SCS13A+ SUS304	Nominal diameter: 80-200A
	SCS13+ SUS304	Nominal diameter: 250-300A
Stem	SUS403/SUS410	
Seat ring	PTFE	
Seat retainer	SUS403/SUS410	Nominal diameter: 250-300A
Handle	FCMB340-10	Color: Blue / Nominal diameter: 15-100A
Handle boss + pipe	FCMB340-10 +STPG	Color: Blue / Nominal diameter: 125-200A
Handwheel	FCD450-10	Color: Blue / Nominal diameter: 250-300A
Gasket	H1215	Nominal diameter: 15-200A
O ring	NBR	Nominal diameter: 250-300A
Gland Packing	PTFE	

△Indicator: Green/Valve stem angle: square



Nominal diameter (A)	15	20	25	32	40	50	65	80	100	125	150	200	250	300
L	108	117	127	140	165	178	190	203	229	292	394	457	533	610
H	81	85	103	108	129	139	151	186	202	243	262	321	565	619
W	120	120	150	150	220	220	220	320	400	800	1000	1200	400	400

JIS B 2239 Cast iron pipe flanges ; 10K FF

*1: Usable for LPG to -5°C.
*2: Full bore 250A-300A (BM10KF0L 250-300A) maximum operating temperature for ball valves is 80°C.

Product Code

BM10KS2G

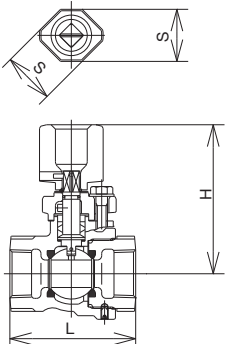
10K

Ball Valve for Gas (buried pipe)

Screwed

1-stage Reduced Bore

Product Name	Material	Remarks
Body	FCD-S	
Ball	SCS13A	
Stem	SUS403/SUS410	
Seat ring	PTFE	
Handle boss	FCD450-10	
Gasket	SUS304	Nominal diameter: ½-2B
	H1215	Nominal diameter: 3B
Gland Packing	PTFE	



Nominal diameter (B)	1/2	3/4	1	1¼	1½	2	3
L	66	75	87	100	115	130	180
H	90	97	101	114	119	142	164
S	36	36	36	36	36	36	50

JIS B 0203 Taper pipe threads ; Rc

Product Code

BM10KF2G

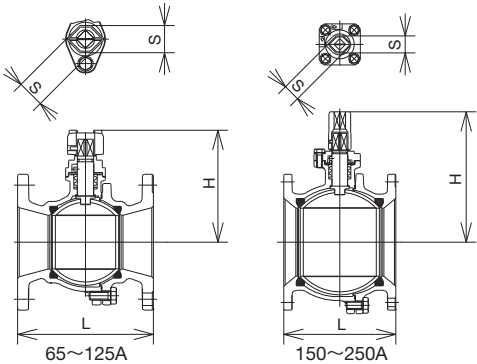
10K

Ball Valve for Gas (buried pipe)

Flanged

1-stage Reduced Bore

Product Name	Material	Remarks
Body	FCD-S	
Ball	SCS13A	Nominal diameter: 65-80A
	SCS13A+ SUS304	Nominal diameter: 100-250A
Stem	SUS403/SUS410	
Seat ring	PTFE	
Handle boss	FCD450-10	Nominal diameter: 65-200A
	FCMB340-10	Nominal diameter: 250A
Gasket	H1215	
Gland Packing	PTFE	



Nominal diameter (A)	65	80	100	125	150	200	250
L	190	203	229	254	267	292	330
H	152	164	186	202	244	263	384
S	50	50	50	50	50	50	50

JIS B 2239 Cast iron pipe flanges ; 10K FF

Product Code

BM10KF0G

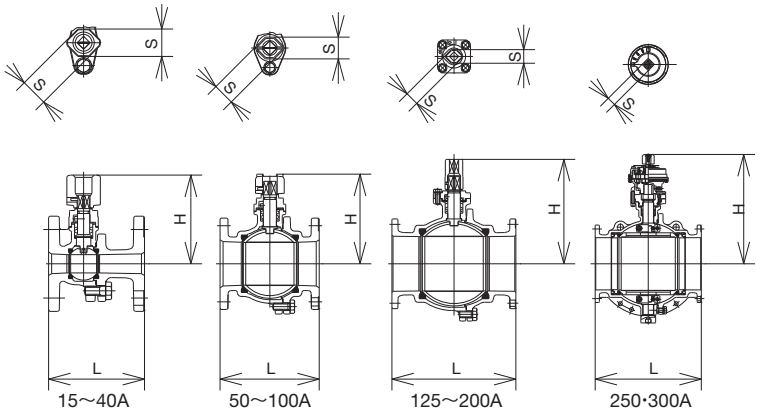
10K

Ball Valve for Gas (buried pipe)

Flanged

Full bore

Product Name	Material	Remarks
Body	FCD-S	
Ball	SCS13A	Nominal diameter: 15-65A
	SCS13A+ SUS304	Nominal diameter: 80-200A
	SCS13+ SUS304	Nominal diameter: 250-300A
Stem	SUS403/SUS410	
Seat ring	PTFE	
Seat retainer	SUS403/SUS410	Nominal diameter: 250-300A
Handle boss	FCD450-10	Nominal diameter: 15-150A
	FCMB340-10	Nominal diameter: 200A
SS400		Nominal diameter: 250-300A
Gasket	H1215	Nominal diameter: 15-200A
O ring	NBR	Nominal diameter: 250-300A
Gland Packing	PTFE	



Nominal diameter (A)	15	20	25	32	40	50	65	80	100	125	150	200	250	300
L	108	117	127	140	165	178	190	203	229	292	394	457	533	610
H	99	103	114	119	142	152	164	186	202	244	263	384	576	630
S	36	36	36	36	36	36	50	50	50	50	50	50	50	50

JIS B 2239 Cast iron pipe flanges ; 10K FF

*1: Usable for LPG to -5°C.
*2: Full bore 250A-300A (BM10KF0L 250-300A) maximum operating temperature for ball valves is 80°C.

Features

1. The main parts are mostly made with 13Cr stainless steel. Usable for hot fluids up to 350°C.

2. Support for special fluids by exchanging the packing, gasket and main parts. We also undertake maintenance using genuine parts at any time.

Product Types

Globe, Gate, Check, Needle, Y Globe, Bellows seal, Angle, Strainer, Ball, Strainer ball valves



Fluid・Temperature・Pressure						
Product Type		Maximum working pressure by product type MPa				
		Service temperature limit by fluid (°C)				
		－10～120	220	250	300	350
Globe	Standard, needle, Y, angle	2.8	2.5	—※1	2.3	2.0
	PTFE disc	2.4※2				
	Bellows	2.5	2.5	—※1	2.3	2.0
Gate	Standard, high temperature specification	2.8	2.5	—※1	2.3	2.0
Check	Standard, screw-down stop check	2.8	2.5	—※1	2.3	2.0
	PTFE disc	2.4				
Strainer	Standard	2.8	2.5	—※1	2.3	2.0
	For LPG	2.4※2,3				
	Strainer ball	2.4※2,3				
Ball	For LPG	2.4※3				
	For general use	2.8※4	1.0※5	0		

Heat-resistant coating is recommended in case the service temperature exceeds 120°C.

※1 Maximum working pressure in the intermediate operating temperature is determined by the proportional method.

※2 Maximum operating temperature ; 80°C

※3 Minimum operating temperature ; -5°C

※4 Maximum allowable pressure temperature is 106°C

※5 Maximum operating temperature ; 200°C

Test Pressure					
Test description		Body pressure resistance		Valve seat leakage	
		Water pressure	Air pressure	Water pressure	Back seat leakage
Product Type					Air pressure
Globe, gate, check, angle, Y Globe valves		4.20		3.08	
Bellows seal valve			2.50		2.50
Globe valve for LPG		3.60	2.64		2.64
Check valve for LPG		3.60	2.64		2.64
Ball valve for LPG/Strainer ball valve			3.60		2.64
Strainer		4.20			
Ball valve for general use		4.20		3.08	

Product Code

M20KSG

20K

Globe Screwed

Product Name

Material

Remarks

Body

FCD-S

Cover

FCD-S

Stem

SUS403/SUS410

Disc

SUS403/SUS410

Hard facing

Seat ring

SUS403/SUS410

Hard facing

Handwheel

FCMB340-10

Color: Brown / Nominal diameter: ⅜-1½B

FCD450-10

Color: Brown / Nominal diameter: 2B

Gasket

H1215

Gland Packing

H350+H2200

D

H

L

Nominal diameter (B)	3/8	1/2	3/4	1	1¼	1½	2
L	70	75	90	105	120	135	160
H	125	135	145	170	180	195	225
D	80	80	100	120	120	140	180

JIS B 0203 Taper pipe threads ; Rc

Product Code

M20KFG

20K

Globe Flanged

Product Name

Material

Remarks

Body

FCD-S

Cover

FCD-S

Stem

SUS403/SUS410

Disc

SUS403/SUS410

Hard facing

Seat ring

SUS403/SUS410

Hard facing

Handwheel

FCMB340-10

Color: Brown / Nominal diameter: 10-40A

FCD450-10

Color: Brown / Nominal diameter: 50A

Gasket

H1215

Gland Packing

H350+H2200

D

H

L

Nominal diameter (A)	10	15	20	25	32	40	50
L	100	110	120	130	160	180	230
H	125	135	145	170	180	195	225
D	80	80	100	120	120	140	180

JIS B 2239 Cast iron pipe flanges ; 20K RF

Product Code

M20KFGI

20K

Globe Flanged BB type

Product Name

Material

Remarks

Body

FCD-S

Cover

FCD-S

Stem

SUS403/SUS410

Disc

SUS403/SUS410

Hard facing

Seat ring

SUS403/SUS410

Hard facing

Handwheel

FCMB340-10

Color: Brown / Nominal diameter: 15-40A

FCD450-10

Color: Brown / Nominal diameter: 50A

Gasket

H1215

Gland Packing

H350+H2200

D

H

L

Nominal diameter (A)	15	20	25	32	40	50
L	110	120	130	160	180	230
H	152	154	180	202	231	261
D	80	80	100	120	140	180

JIS B 2239 Cast iron pipe flanges ; 20K RF

Product Code

M20KFGO

20K

Globe Flanged OS and BB type

Product Name

Material

Remarks

Body

FCD-S

Cover

FCD-S

Stem

SUS403/SUS410

Disc

SUS403/SUS410

Hard facing / Nominal diameter : 50A

S25C

Hard facing / Nominal diameter : 65～250A

Seat ring

SUS403/SUS410

Hard facing / Nominal diameter : 50A

S28C/STKM13A

Hard facing / Nominal diameter : 65～250A

Handwheel

FCMB340-10

Nominal diameter : 50-65A

FCD450-10

Nominal diameter : 80A or larger

Gasket

H1215

Gland Packing

H350+H2200

D

H

L

Nominal diameter (A)	50	65	80	100	125	150	200	250
L	267	292	318	356	400	444	559	622
H	329	355	390	445	515	595	685	820
D	224	250	300	315	355	400	450	560

JIS B 2239 Cast iron pipe flanges ; 20K RF

Product Code

M20KSDL

20K

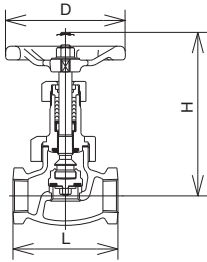
Globe

Screwed

Reinforced PTFE disc

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	Nominal diameter: ½B:FCD-S
Stem	SUS403/SUS410	
Disc seat	PTFE	
Disc	SUS403/SUS410	
Seat ring	SUS403/SUS410	
Handwheel	FCMB340-10	Color: Green / Nominal diameter: ⅜-1½B
	FCD450-10	Color: Green / Nominal diameter: 2B
Gasket	H1215	
Gland Packing	H2661-V	

△Name plate: PTFE display



Nominal diameter (B)	3/8	1/2	3/4	1	1¼	1½	2
L	70	75	90	105	120	135	160
H	125	135	145	170	180	200	230
D	80	80	100	120	120	140	180

JIS B 0203 Taper pipe threads ; Rc

Product Code

M20KFDL

20K

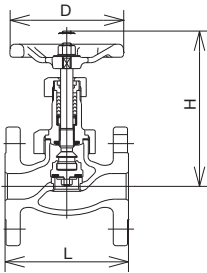
Globe

Flanged

Reinforced PTFE disc

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc seat	PTFE	
Disc	SUS403/SUS410	
Seat ring	SUS403/SUS410	
Handwheel	FCMB340-10	Color: Green / Nominal diameter: 10-40A
	FCD450-10	Color: Green / Nominal diameter: 50A
Gasket	H1215	
Gland Packing	H2661-V	

△Name plate: PTFE display



Nominal diameter (A)	10	15	20	25	32	40	50
L	100	110	120	130	160	180	230
H	125	135	145	170	180	200	230
D	80	80	100	120	120	140	180

JIS B 2239 Cast iron pipe flanges ; 20K RF

Product Code

M20KFDLO

20K

Globe

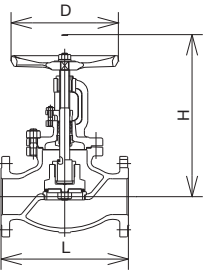
Flanged

Reinforced PTFE disc

OS and BB type

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc seat	PTFE	
Disc	SUS403/SUS410	
Seat ring	SUS403/SUS410	
Handwheel	FCMB340-10	Nominal diameter: 50-80A
	FCD450-10	Nominal diameter: 100A or lager
Gasket	H1215	
Gland Packing	H2661-V	

△Name plate: PTFE display



Nominal diameter (A)	50	65	80	100	125	150	200	250
L	267	292	318	356	400	444	559	622
H	325	365	395	440	515	580	685	815
D	224	224	250	300	315	400	450	560

JIS B 2239 Cast iron pipe flanges ; 20K RF

Product Code

M20KSS

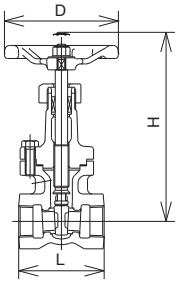
20K

Gate Valve

Screwed

BB type

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Wedge	SCS1	
Seat ring	SUS403/SUS410	
Handwheel	FCMB340-10	Color: Brown
Gasket	H1215	
Gland Packing	H350+H2200	



Nominal diameter (B)	1/2	3/4	1	1¼	1½	2
L	70	80	90	100	110	120
H	172	184	213	232	264	298
D	80	100	120	120	140	140

JIS B 0203 Taper pipe threads ; Rc

Product Code

M20KFS

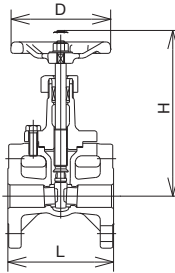
20K

Gate Valve

Flanged

BB type

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Wedge	SCS1	
Seat ring	SUS403/SUS410	
Handwheel	FCMB340-10	Color: Brown
Gasket	H1215	
Gland Packing	H350+H2200	



Nominal diameter (A)	15	20	25	32	40	50
L	108	117	127	140	165	178
H	172	184	213	232	264	298
D	80	100	120	120	140	140

JIS B 2239 Cast iron pipe flanges ; 20K RF

Product Code

M20KFSO

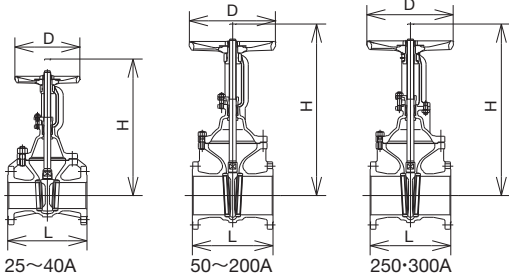
20K

Gate Valve

Flanged

OS and BB type

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Wedge	SCS1	Nominal diameter: 25-65・125-200A
	SUS403/SUS410	Nominal diameter: 80・100A
	SCPH2	13Cr stainless deposit 13Cr stainless deposit 250・300A
Seat ring	SUS403/SUS410	
Handwheel	FCD450-10	Color: Brown
Gasket	H1215	
Gland Packing	H350+H2200	



Nominal diameter (A)	25	32	40	50	65	80	100	125	150	200	250	300
L	160	170	190	216	241	283	305	381	403	419	457	502
H	281	300	328	383	442	502	591	698	819	1026	1238	1440
D	160	160	160	180	180	224	250	300	315	450	560	630

JIS B 2239 Cast iron pipe flanges ; 20K RF

Product Code

M20KFSHO

20K

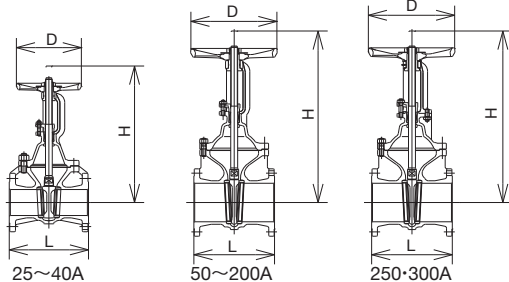
Gate Valve

Flanged

OS and BB type

Heating Medium type

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Wedge	SCS1	Hard facing / Nominal diameter: 25-65・125-200A
	SUS403/SUS410	Hard facing / Nominal diameter: 80・100A
	SCPH2	Hard facing / Nominal diameter: 250・300A
Seat ring	SUS403/SUS410	Hard facing / Nominal diameter: 25-100A
	S28C/STKM13A	Hard facing / Nominal diameter: 125-300A
Handwheel	FCD450-10	Color: Brown
Gasket	H1215	
Gland Packing	H350+H2200	



Nominal diameter (A)	25	32	40	50	65	80	100	125	150	200	250	300
L	160	170	190	216	241	283	305	381	403	419	457	502
H	281	300	328	383	442	502	591	698	819	1026	1238	1440
D	160	160	160	180	180	224	250	300	315	450	560	630

JIS B 2239 Cast iron pipe flanges ; 20K RF

△Name plate: FSHO display

Product Code

M20KSN

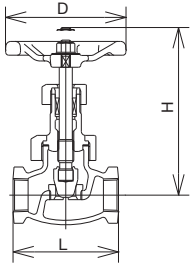
20K

Needle Valve

Screwed

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc	SUS403/SUS410	Hard facing
Seat ring	SUS403/SUS410	Hard facing
Handwheel	FCMB340-10	Color: Brown / Nominal diameter: ¾-1½B
	FCD450-10	Color: Brown / Nominal diameter: 2B
Gasket	H1215	
Gland Packing	H350+H2200	

△Valve stem tips:
Marked "N"/Fitted with metal tag clearly marked "Needle valve"



Nominal diameter (B)	3/8	1/2	3/4	1	1¼	1½	2
L	70	75	90	105	120	135	160
H	125	135	145	170	180	200	230
D	80	80	100	120	120	140	180

JIS B 0203 Taper pipe threads ; Rc

Product Code

M20KFN

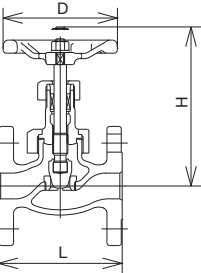
20K

Needle Valve

Flanged

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc	SUS403/SUS410	Hard facing
Seat ring	SUS403/SUS410	Hard facing
Handwheel	FCMB340-10	Color: Brown / Nominal diameter: 10-40A
	FCD450-10	Color: Brown / Nominal diameter: 50A
Gasket	H1215	
Gland Packing	H350+H2200	

△Valve stem tips:
Marked "N"/Fitted with metal tag clearly marked "Needle valve"



Nominal diameter (A)	10	15	20	25	32	40	50
L	100	110	120	130	160	180	230
H	125	135	145	170	180	200	230
D	80	80	100	120	120	140	180

JIS B 2239 Cast iron pipe flanges ; 20K RF

Product Code

M20KFNI

20K

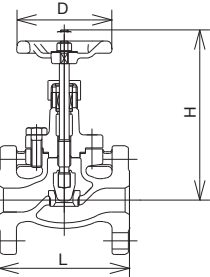
Needle Valve

Flanged

BB type

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc	SUS403/SUS410	Hard facing
Seat ring	SUS403/SUS410	Hard facing
Handwheel	FCMB340-10	Color: Brown / Nominal diameter: 10-40A
	FCD450-10	Color: Brown / Nominal diameter: 50A
Gasket	H1215	
Gland Packing	H350+H2200	

△Valve stem tips:
Marked "N"/Fitted with metal tag clearly marked "Needle valve"



Nominal diameter (A)	15	20	25	32	40	50
L	110	120	130	160	180	230
H	154	159.5	183	208	236.5	264.5
D	80	80	100	120	140	180

JIS B 2239 Cast iron pipe flanges ; 20K RF

Product Code

M20KFNO

20K

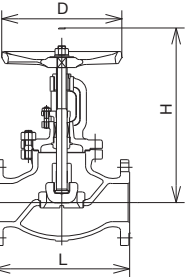
Needle Valve

Flanged

OS and BB type

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc	SUS403/SUS410	Hard facing
Seat ring	SUS403/SUS410	Hard facing
Handwheel	FCD450-10	Color: Brown
Gasket	H1215	
Gland Packing	H350+H2200	

△Valve stem tips:
Marked "N"/Fitted with metal tag clearly marked "Needle valve"



Nominal diameter (A)	50	65	80	100	125	150
L	267	292	318	356	400	444
H	335	365	405	445	515	595
D	224	224	250	300	315	355

JIS B 2239 Cast iron pipe flanges ; 20K RF

Product Code

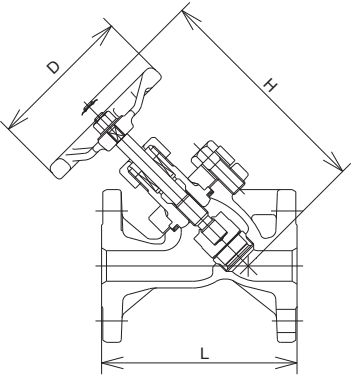
M20KFGY

20K

Y Globe Valve

Flanged

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc	SUS403/SUS410	Hard facing
Seat ring	SUS403/SUS410	Hard facing
Handwheel	FCMB340-10	Color: Brown / Nominal diameter: 25-40A
	FCD450-10	Color: Brown / Nominal diameter: 50A
Gasket	H1804GR	
Gland Packing	H350+H2200	



Nominal diameter (A)	25	40	50
L	160	210	250
H	208	246	293
D	120	140	180

JIS B 2239 Cast iron pipe flanges ; 20K RF

Product Code

M20KFGYO

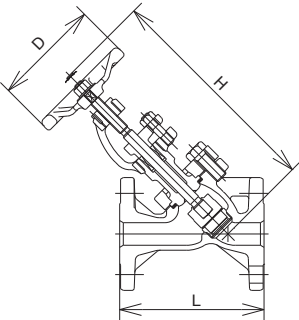
20K

Y Globe Valve

Flanged

OS and BB type

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc	SUS403/SUS410	Hard facing
Seat ring	SUS403/SUS410	Hard facing
Handwheel	FCMB340-10	Color: Brown / Nominal diameter: 25-40A
	FCD450-10	Color: Brown / Nominal diameter: 50A
Gasket	H1804GR	
Gland Packing	H350+H2200	



Nominal diameter (A)	25	40	50
L	160	210	250
H	250	286	331
D	120	140	180

JIS B 2239 Cast iron pipe flanges ; 20K RF

△When M20KFGY (O) is used as a blow-down valve (blow-off valve) on the bottom of the tin can boiler, the maximum allowable working pressure should be limited to 1.86 MPa (19 kgf/cm²) or less.

Product Code

M20KFGB

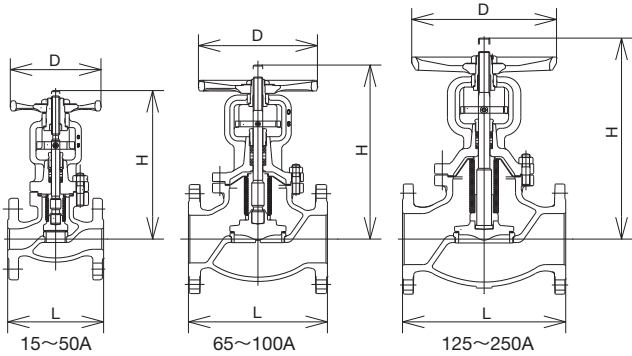
20K

Bellows Seal Valve

Flanged

OS and BB type

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS410	
Seat ring	SUS410	Hard facing
Disc	SUS304	Hard facing (Nominal diameter: 50A or less)
	ASTM A182-F304	Hard facing (Nominal diameter: 65-100A)
	SUS410/SCS1	Hard facing (Nominal diameter: 125A or more)
Bellows	SUS316L	
Handwheel	FCMB340-10	Color: Black
Gasket	H1215	
Gland Packing	H350+H2200	



△The glands of the bellows seal valve are maintenance-free, but since the cover bolts may loosen due to vibrations and heat stress, they will need regular maintenance.

Nominal diameter (A)	15	20	25	32	40	50	65	80	100	125	150	200	250
L	110	120	130	160	180	230	292	318	356	400	444	559	622
H	181	191	196	208	243	253	309	377	402	491	562	713	869
D	100	100	120	120	160	180	224	250	300	355	400	450	560

JIS B 2239 Cast iron pipe flanges ; 20K RF

Product Code

M20KFDB

20K

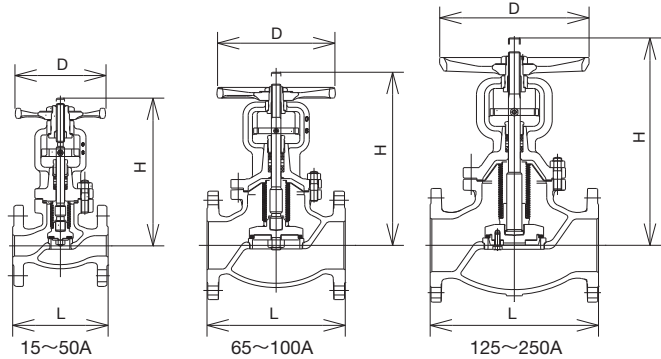
Bellows Seal Valve

Flanged

Reinforced PTFE disc

OS and BB type

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS410	
Seat ring	SUS410	
Disc seat	Reinforced PTFE	
Disc	SUS304	Nominal diameter: 50A or less・125A or more
	ASTM A276-304	Nominal diameter: 65-100A
Bellows	SUS316L	
Handwheel	FCMB340-10	Color: Black
Gasket	H1215	
Gland Packing	H350+H2200	



△The glands of the bellows seal valve are maintenance-free, but since the cover bolts may loosen due to vibrations and heat stress, they will need regular maintenance.

Nominal diameter (A)	15	20	25	32	40	50	65	80	100	125	150	200	250
L	110	120	130	160	180	230	292	318	356	400	444	559	622
H	181	191	196	208	243	253	309	377	402	491	562	713	869
D	100	100	120	120	160	180	224	250	300	355	400	450	560

JIS B 2239 Cast iron pipe flanges ; 20K RF

Product Code

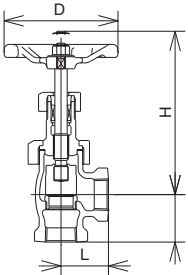
M20KSA

20K

Angle Valve

Screwed

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc	SUS403/SUS410	Hard facing
Seat ring	SUS403/SUS410	Hard facing
Handwheel	FCMB340-10	Color: Brown / Nominal diameter: ¾-1½B
	FCD450-10	Color: Brown / Nominal diameter: 2B
Gasket	H1215	
Gland Packing	H350+H2200	



Nominal diameter (B)	3/8	1/2	3/4	1	1¼	1½	2
L	32	37	42	50	55	60	75
H	115	125	145	160	170	190	210
D	80	80	100	120	120	140	180

JIS B 0203 Taper pipe threads ; Rc

Product Code

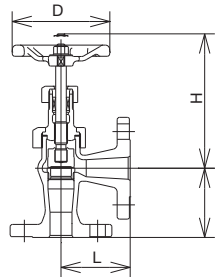
M20KFA

20K

Angle Valve

Flanged

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc	SUS403/SUS410	Hard facing
Seat ring	SUS403/SUS410	Hard facing
Handwheel	FCMB340-10	Color: Brown / Nominal diameter: 10-40A
	FCD450-10	Color: Brown / Nominal diameter: 50A
Gasket	H1215	
Gland Packing	H350+H2200	



Nominal diameter (A)	10	15	20	25	32	40	50
L	70	70	75	85	95	100	120
H	115	125	140	160	165	185	205
D	80	80	100	120	120	140	180

JIS B 2239 Cast iron pipe flanges ; 20K RF

Product Code

M20KFAO

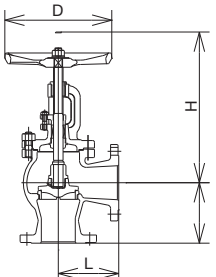
20K

Angle Valve

Flanged

OS and BB type

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc	S25C	Hard facing
Seat ring	S28C/STKM13A	Hard facing
Handwheel	FCMB340-10	Nominal diameter: 65A
	FCD450-10	Nominal diameter: 80A or larger
Gasket	H1215	
Gland Packing	H350+H2200	



Nominal diameter (A)	65	80	100
L	146	159	178
H	325	360	405
D	250	300	315

JIS B 2239 Cast iron pipe flanges ; 20K RF

Product Code

M20KSGC

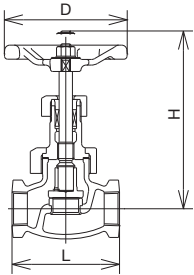
20K

(Screw-down) Stop Check Valve

Screwed

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc	SUS403/SUS410	Hard facing
Seat ring	SUS403/SUS410	Hard facing
Handwheel	FCMB340-10	Color: Brown / Nominal diameter: ¾-1½B
	FCD450-10	Color: Brown / Nominal diameter: 2B
Gasket	H1215	
Gland Packing	H350+H2200	

△Valve stem tips:
Marked "C"/The cover is clearly marked
"Screw-down Stop Check Valve"



Nominal diameter (B)	3/8	1/2	3/4	1	1¼	1½	2
L	70	75	90	105	120	135	160
H	125	135	145	170	180	195	225
D	80	80	100	120	120	140	180

JIS B 0203 Taper pipe threads ; Rc

Product Code

M20KFGC

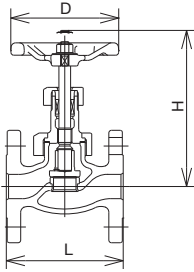
20K

(Screw-down) Stop Check Valve

Flanged

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc	SUS403/SUS410	Hard facing
Seat ring	SUS403/SUS410	Hard facing
Handwheel	FCMB340-10	Color: Brown / Nominal diameter: 10-40A
	FCD450-10	Color: Brown / Nominal diameter: 50A
Gasket	H1215	
Gland Packing	H350+H2200	

△Valve stem tips:
Marked "C"/The cover is clearly marked
"Screw-down Stop Check Valve"



Nominal diameter (A)	10	15	20	25	32	40	50
L	100	110	120	130	160	180	230
H	125	135	145	170	180	195	225
D	80	80	100	120	120	140	180

JIS B 2239 Cast iron pipe flanges ; 20K RF

Product Code

M20KFGCO

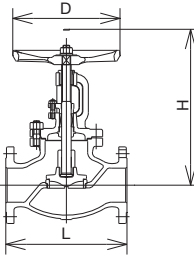
20K

(Screw-down) Stop Check Valve

Flanged OS and BB type

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc	S25C	Hard facing
Seat ring	S28C/STKM13A	Hard facing
Handwheel	FCMB340-10	Nominal diameter: 50-65A
	FCD450-10	Nominal diameter: 80A or larger
Gasket	H1215	
Gland Packing	H350+H2200	

△Valve stem tips:
Marked "C"/The cover is clearly marked
"Screw-down Stop Check Valve"



Nominal diameter (A)	50	65	80	100	125
L	267	292	318	356	400
H	333	365	400	455	520
D	224	250	300	315	355

JIS B 2239 Cast iron pipe flanges ; 20K RF

Product Code

M20KSAC

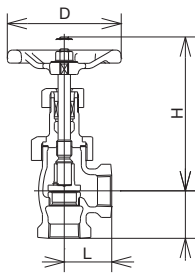
20K

Angle (Screw-down) Stop Check Valve

Screwed

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc	SUS403/SUS410	Hard facing
Seat ring	SUS403/SUS410	Hard facing
Handwheel	FCMB340-10	Color: Brown / Nominal diameter: ½-1½B
	FCD450-10	Color: Brown / Nominal diameter: 2B
Gasket	H1215	
Gland Packing	H350+H2200	

△Valve stem tips:
Marked "C"/The cover is clearly marked
"Screw-down Stop Check Valve"



Nominal diameter (B)	1/2	3/4	1	1¼	1½	2
L	37	42	50	55	60	75
H	130	145	160	175	190	215
D	80	100	120	120	140	180

JIS B 0203 Taper pipe threads ; Rc

Product Code

M20KFAC

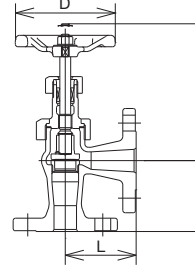
20K

Angle (Screw-down) Stop Check Valve

Flanged

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc	SUS403/SUS410	Hard facing
Seat ring	SUS403/SUS410	Hard facing
Handwheel	FCMB340-10	Color: Brown / Nominal diameter: 15-40A
	FCD450-10	Color: Brown / Nominal diameter: 50A
Gasket	H1215	
Gland Packing	H350+H2200	

△Valve stem tips:
Marked "C"/The cover is clearly marked
"Screw-down Stop Check Valve"



Nominal diameter (A)	15	20	25	32	40	50
L	70	75	85	95	100	120
H	125	140	160	165	185	205
D	80	100	120	120	140	180

JIS B 2239 Cast iron pipe flanges ; 20K RF

Product Code

M20KFACO

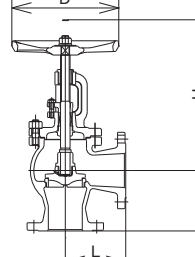
20K

Angle (Screw-down) Stop Check Valve

Flanged OS and BB type

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc	S25C	Hard facing
Seat ring	S28C/STKM13A	Hard facing
Handwheel	FCMB340-10	Nominal diameter: 65A
	FCD450-10	Nominal diameter: 80A or larger
Gasket	H1215	
Gland Packing	H350+H2200	

△Valve stem tips:
Marked "C"/The cover is clearly marked
"Screw-down Stop Check Valve"



Nominal diameter (A)	65	80	100
L	146	159	178
H	325	355	405
D	250	300	315

JIS B 2239 Cast iron pipe flanges ; 20K RF

Product Code

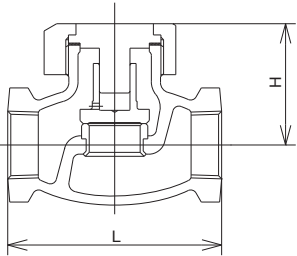
M20KSC

20K

Check Valve (Lift) Screwed

Product Name	Material	Remarks
Body	FCD-S	
Cover	SCS1	
Disc	SUS403/SUS410	Hard facing
Seat ring	SUS403/SUS410	Hard facing
Gasket	H1215	
Spring	SUS304WPB	Nominal diameter: ⅔B

△Cover top: No marks
(Marked with "S" if a spring is contained)



Nominal diameter (B)	3/8	1/2	3/4	1	1¼	1½	2
L	70	75	90	105	120	135	160
H	44	49	51	58	66	75	86

JIS B 0203 Taper pipe threads ; Rc

Product Code

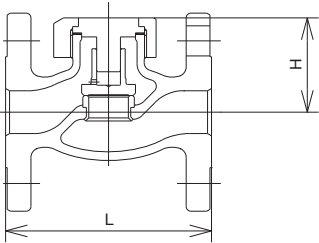
M20KFC

20K

Check Valve (Lift) Flanged

Product Name	Material	Remarks
Body	FCD-S	
Cover	SCS1	
Disc	SUS403/SUS410	Hard facing
Seat ring	SUS403/SUS410	Hard facing
Gasket	H1215	
Spring	SUS304WPB	Nominal diameter: 10A

△Cover top: No marks
(Marked with "S" if a spring is contained)



Nominal diameter (A)	10	15	20	25	32	40	50
L	100	110	120	130	160	180	230
H	44	49	51	58	66	75	86

JIS B 2239 Cast iron pipe flanges ; 20K RF

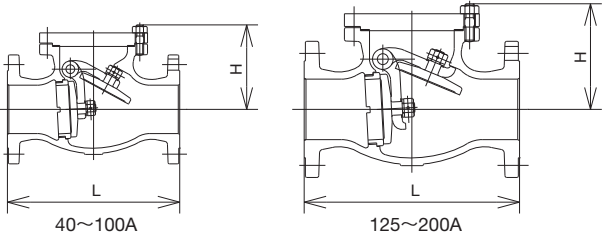
Product Code

M20KFCS

20K

Check Valve (Swing) Flanged

Product Name	Material	Remarks
Body	FCD-S	
Cover	SS400	
Disc	S25C	Hard facing
Seat ring	S28C/STKM13A	Hard facing
Hinge pin	SUS403/SUS410	
Gasket	H1215	
Plug	S25C S45C	40~200A 250~300A



Nominal diameter (A)	40	50	65	80	100	125	150	200	250	300
L	241	267	292	318	356	400	444	533	622	711
H	120	140	150	160	175	215	235	275	420	494

JIS B 2239 Cast iron pipe flanges ; 20K RF

Product Code

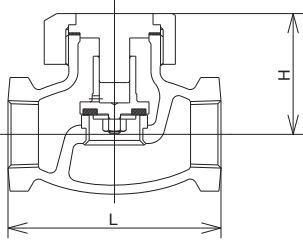
M20KSCD

20K

Check Valve (Lift) Screwed Reinforced PTFE disc

Product Name	Material	Remarks
Body	FCD-S	
Cover	SCS1	
Disc seat	PTFE	
Disc	SUS403/SUS410	
Seat ring	SUS403/SUS410	
Gasket	H1215	
Spring	SUS304WPB	Nominal diameter: ⅔B

△Cover top: Marked with "D"
("DS" if a spring is contained)



Nominal diameter (B)	3/8	1/2	3/4	1	1¼	1½	2
L	70	75	90	105	120	135	160
H	44	49	51	58	66	75	86

JIS B 0203 Taper pipe threads ; Rc

Product Code

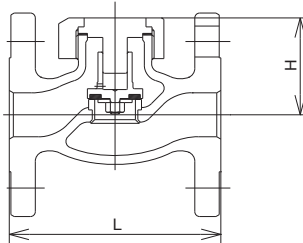
M20KFCD

20K

Check Valve (Lift) Flanged Reinforced PTFE disc

Product Name	Material	Remarks
Body	FCD-S	
Cover	SCS1	
Disc seat	PTFE	
Disc	SUS403/SUS410	
Seat ring	SUS403/SUS410	
Gasket	H1215	
Spring	SUS304WPB	Nominal diameter: 10A

△Cover top: Marked with "D"
("DS" if a spring is contained)



Nominal diameter (A)	10	15	20	25	32	40	50
L	100	110	120	130	160	180	230
H	44	49	51	58	66	75	86

JIS B 2239 Cast iron pipe flanges ; 20K RF

Product Code

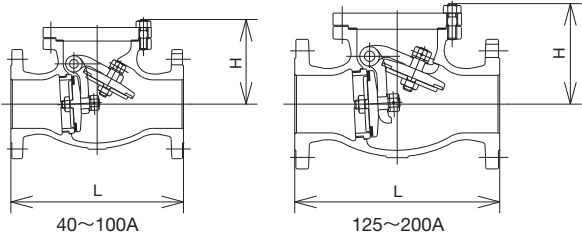
M20KFCDSD

20K

Check Valve (Swing) Flanged Reinforced PTFE disc

Product Name	Material	Remarks
Body	FCD-S	
Cover	S25C	
Disc seat	PTFE	
Disc	SUS403/SUS410	
Seat ring	SUS403/SUS410	
Hinge pin	SUS403/SUS410	
Gasket	H1215	
Plug	S25C	

△Cover top: Marked with "D"



Nominal diameter (A)	40	50	65	80	100	125	150	200
L	241	267	292	318	356	400	444	533
H	120	140	150	160	175	215	235	275

JIS B 2239 Cast iron pipe flanges ; 20K RF

Product Code

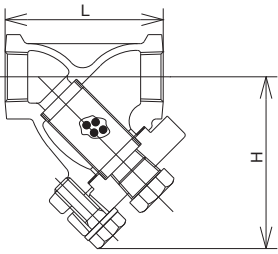
M20KST

20K

Strainer

Screwed

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Screen	SUS304	50 mesh
Gasket	H1215	
Plug	S25C	



Nominal diameter (B)	3/8	1/2	3/4	1	1¼	1½	2
L	70	75	90	105	120	135	160
H	60	70	85	100	145	160	175

JIS B 0203 Taper pipe threads ; Rc

Product Code

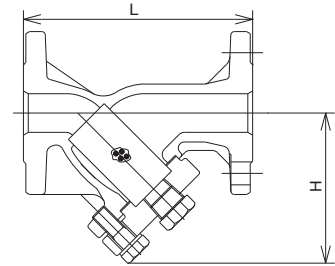
M20KFT

20K

Strainer

Flanged

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Screen	SUS304	50 mesh
Gasket	H1215	
Plug	S25C	



Nominal diameter (A)	10	15	20	25	32	40	50
L	120	130	140	160	190	210	250
H	57	68	77	91	137	154	170

JIS B 2239 Cast iron pipe flanges ; 20K RF

Product Code

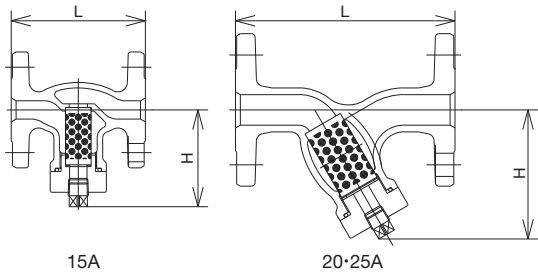
M20KFTLM

20K

Strainer for LPG

Flanged

Product Name	Material	Remarks
Body	FCD-S	
Cover	S45C	
Screen	SUS304	150 mesh
Plug	S25C	



Nominal diameter (A)	15	20	25
L	110	160	180
H	78	100	109

JIS B 2239 Cast iron pipe flanges ; 20K RF

Product Code

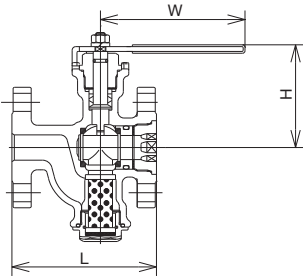
BM20KFT

20K

Strainer Ball Valve for LPG

Flanged

Product Name	Material	Remarks
Body	FCD-S	
Ball	SUS304	
Stem	SUS403/SUS410	
Seat ring	PTFE	
Screen	SUS304	150 mesh
Handle	SUS430	PVC coating Color: Yellow
Gasket	Reinforced PTFE	
Gland Packing	PTFE	



Nominal diameter (A)	15	20	25
L	110	120	130
H	90	94.5	108
W	120	120	120

JIS B 2239 Cast iron pipe flanges ; 20K RF

Product Code

BM20KFOLS

20K

Ball Valve for LPG

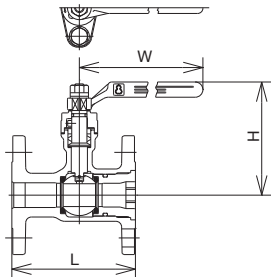
Flanged

Short end-to-end dimension

Full bore

Product Name	Material	Remarks
Body	FCD-S	
Ball	SCS13A	
Stem	SUS403/SUS410	
Seat ring	PTFE	
Seat retainer	SUS304	
Handle	FCMB340-10	Color: Green
O ring	NBR	
Gland Packing	PTFE	

△Indicator: Green/ Valve stem angle: square



Nominal diameter (A)	15	20	25
L	110	120	130
H	97	101	119
W	120	120	150

JIS B 2239 Cast iron pipe flanges ; 20K RF

Product Code

BM20KFOL

20K

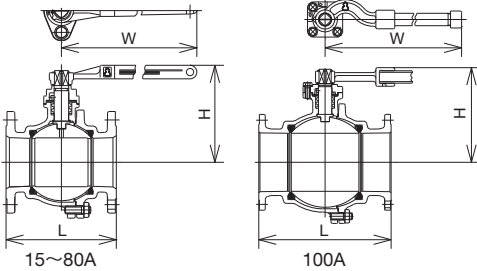
Ball Valve for LPG

Flanged

Full bore

Product Name	Material	Remarks
Body	FCD-S	
Ball	SCS13A	
Stem	SUS403/SUS410	
Seat ring	PTFE	
Seat retainer	SUS304	
Handle	FCMB340-10	Color: Green / Nominal diameter: 15-80A
Handle boss + pipe	FCMB340-10 +STPG	Color: Green / Nominal diameter: 100A
Gasket	H1215	
Gland Packing	PTFE	

△Indicator: Green/ Valve stem angle: square



Nominal diameter (A)	15	20	25	32	40	50	65	80	100
L	140	152	165	178	190	216	241	283	305
H	76	80	103	108	125	133	145	185	226
W	120	120	150	150	220	220	220	400	800

JIS B 2239 Cast iron pipe flanges ; 20K RF

Product Code

BM20KF0B

20K

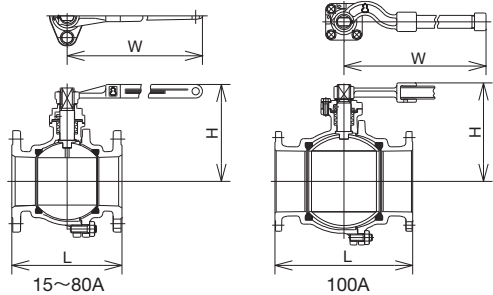
Ball Valve

Flanged

Full bore

Product Name	Material	Remarks
Body	FCD-S	
Ball	SCS13A	
Stem	SUS403/SUS410	
Seat ring	FTシート	
Handle	FCMB340-10	Color: Blue / Nominal diameter: 15-80A
Handle boss + pipe	FCMB340-10 +STPG	Color: Blue / Nominal diameter: 100A
Gasket	H1215	
Gland Packing	Reinforced PTFE	

△ Indicator:
Blue/ Valve stem angle: widths across flats



Nominal diameter (A)	15	20	25	32	40	50	65	80	100
L	140	152	165	178	190	216	241	283	305
H	76	80	103	108	125	133	145	185	226
W	120	120	150	150	220	220	220	400	800

JIS B 2239 Cast iron pipe flanges ; 20K RF

- Features
- 1. Can be used for a range of specifications since it is a general valve based on the 20K type.
 - 2. Support for special fluids by exchanging the packing, gasket and main parts. Please consult with us separately. – We also undertake maintenance using genuine parts.
 - 3. The main parts are made with 13cr stainless steel and can be used up to max. 650°F (343°C).
 - 4. The 150lb type also supports threaded ends. Please refer to the ANSI B 1.20.1 (1983) American pipe thread specifications for dimensions of joints.

Product Types

Globe, Gate, Check, Bellows seal, Ball valves



Fluid・Temperature・Pressure														Unit: MPa	
Product Type			Maximum working pressure by product type MPa												
			Service temperature limit by fluid (°C)												
			－10～38 (14～100)	80 (176)	120 (248)	149 (300)	177 (351)	183 (361)	200 (392)	204 (400)	220 (428)	250 (482)	260 (500)	343 (650)	
Globe	Standard, needle		1.73 (250)	—※1	—※1	1.48 (215)	—※1	—※1	—※1	1.38 (200)	—※1	—※1	1.18 (170)	0.86 (125)	
	Reinforced PTFE disc		1.73 (250)	—※1	—※1	1.48 (215)	—※1	—※1	1.42 (206)						
	Bellows		1.37 (198)	—※1	—※1	—※1	—※1	—※1	—※1	1.37 (198)	—※1	—※1	1.18 (170)	0.86 (125)	
Gate			1.73 (250)	—※1	—※1	1.48 (215)	—※1	—※1	—※1	1.38 (200)	—※1	—※1	1.18 (170)	0.86 (125)	
Check	Standard		1.73 (250)	—※1	—※1	1.48 (215)	—※1	—※1	—※1	1.38 (200)	—※1	—※1	1.18 (170)	0.86 (125)	
	Reinforced PTFE disc		1.73 (250)	—※1	—※1	1.48 (215)	—※1	—※1	—※1	1.38 (200)	1.32 (192)				
	NBR disc		1.73 (250)	1.38 (200)											
Ball	For general use		1.73 (250)	—※1	—※1	1.48 (215)	1.42 (206)	—※1	1.00 (145)	—※1	—※1	0 (0)			
	For gas	LPG	1.2※2 (174)	—※1	1.18 (171)										
		City gas	1.0 (145)	—※1	0.98 (142)										

※1 Maximum working pressure in the intermediate operating temperature is determined by the proportional method.
※2 Minimum operating temperature ; -5℃

※1 Maximum working pressure in the intermediate operating temperature is determined by the proportional method.
※2 Minimum operating temperature ; -5°C

△Caution:

- A cobalt-base alloy (Co-Cr-W alloy) for the valve seat surface is recommended in case of use in the following conditions.

1. For steam piping with a nominal diameter of 150A (6B) or higher.
2. For steam piping when the pressure is 0.98 MPa (10kgf/cm2) or higher, and the frequency of opening and closing is high.
3. For use with fluids in a dry state.
4. For piping for chemicals where corrosion resistance is required, and the main parts of the valve are 18Cr-8Ni stainless steel

* Heat-resistant coating is recommended if the service temperature exceeds 180°C.
* Please consult with us separately for use below 14°F (-10°C).

Test Pressure						Unit: MPa
Test description	Body pressure resistance		Valve seat leakage		Back seat leakage	
	Water pressure	Air pressure	Water pressure	Air pressure	Water pressure	
Product Type						
Globe, needle, gate (inside thread) (14B or higher), check, ball valves	3.10 (450)		2.16 (314)			
Gate, globe valve (outside thread/ 12B or lower)	3.10 (450)		2.16 (314)		2.16 (314)	
Bellows seal valve		1.37 (250)		1.37 (250)		
Ball valve for gas	1.80 (261)			1.32 (191)		

Product Code	M150FG	150lb	Globe	Flanged
Product Name	Material	Remarks		
Body	FCD-S			
Cover	FCD-S			
Stem	SUS403/SUS410			
Disc	SUS403/SUS410			
Seat ring	SUS403/SUS410			
Handwheel	FCMB340-10	Color: Blue		
Gasket	H1215			
Gland Packing	H350+H2200			

Nominal diameter (B)	1/2	3/4	1	1¼	1½	2
L	108	117	127	140	165	203
H	130	135	155	175	190	215
D	80	80	100	120	120	140

ASME B 16.5-1996

Product Code		M150FGO	150lb	Globe Flanged OS and BB type				
Product Name	Material	Remarks						
Body	FCD-S							
Cover	FCD-S							
Stem	SUS403/SUS410							
Disc	SUS403/SUS410	Nominal diameter: 2B-6B						
	S25C	13Cr stainless deposit / Nominal diameter: 8B-10B						
Seat ring	SUS403/SUS410	Nominal diameter: 2B-6B						
	S28C/S25C/ STKM13A	Hard facing / Nominal diameter: 8-10B						
Handwheel	FCD450-10	Color: Blue						
Gasket	H1215							
Gland Packing	H350+H2200							

Nominal diameter (B)	2	2½	3	4	5	6	8	10
L	203	216	241	292	356	406	495	622
H	295	325	355	390	435	505	595	690
D	224	224	250	300	315	355	400	450

ASME B 16.5-1996

Product Code

M150FD

150lb

Globe

Flanged

Reinforced PTFE disc

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc	SUS403/SUS410	
Disc seat	Reinforced PTFE	
Seat ring	SUS403/SUS410	
Handwheel	FCMB340-10	Color: Orange
Gasket	H1215	
Gland Packing	H350+H2200	

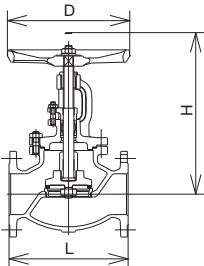
△Name plate: PTFE display

Nominal diameter (B)	1/2	3/4	1	1¼	1½	2
L	108	117	127	140	165	203
H	131	133	153	176	192	216
D	80	80	100	120	120	140

ASME B 16.5-1996

Product Code		M150FDO	150lb	Globe	Flanged	Reinforced PTFE disc	OS and BB type
Product Name	Material	Remarks					
Body	FCD-S						
Cover	FCD-S						
Stem	SUS403/SUS410						
Disc	SUS403/SUS410						
Disc seat	Reinforced PTFE						
Seat ring	SUS403/SUS410						
Handwheel	FCD450-10	Color: Orange					
Gasket	H1215						
Gland Packing	H350+H2200						

△Name plate: PTFE display



Nominal diameter (B)	2	2½	3	4	5	6	8	10
L	203	216	241	292	356	406	495	622
H	295	335	365	405	455	530	630	732
D	224	224	250	300	315	355	400	450

ASME B 16.5-1996

Product Code

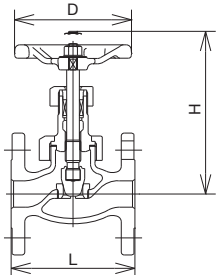
M150FN

150lb

Needle Valve Flanged

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc	SUS403/SUS410	Hard facing
Seat ring	SUS403/SUS410	Hard facing
Handwheel	FCMB340-10	Color: Blue / Nominal diameter: ½-1½B
	FCD450-10	Color: Blue / Nominal diameter: 2B
Gasket	H1215	
Gland Packing	H350+H2200	

△Valve stem tips: Marked "N"/
The cover is clearly marked "Needle valve"



Nominal diameter (B)	1/2	3/4	1	1¼	1½	2
L	108	117	127	140	165	203
H	135	145	170	180	200	230
D	80	100	120	120	140	180

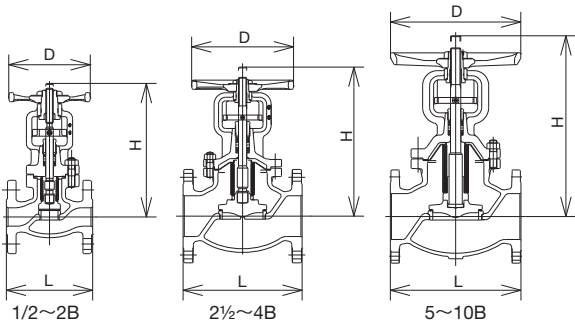
ASME B 16.5-1996

M150FGB

150lb

Bellows Seal Valve Flanged OS and BB type

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS410	
Seat ring	SUS410	Hard facing
Disc	SUS304	Hard facing (Nominal diameter: 2B or less)
	ASTM A182-F304	Hard facing (Nominal diameter: 2½-4B)
	SUS410/SCS1	Hard facing (Nominal diameter: 5B or more)
Bellows	SUS316L	
Handwheel	FCMB340-10	Color: Black
Gasket	H1215	
Gland Packing	H350+H2200	



△The glands of the bellows seal valve are maintenance-free,
but since the cover bolts may loosen due to vibrations and heat stress,
they will need regular maintenance.

Nominal diameter (B)	1/2	3/4	1	1¼	1½	2	2½	3	4	5	6	8	10
L	108	117	127	140	165	203	216	241	292	356	406	495	622
H	181	191	196	208	243	253	278	328	365	421	487	609	754
D	100	100	120	120	160	180	224	224	250	300	355	400	450

ASME B 16.5-1996

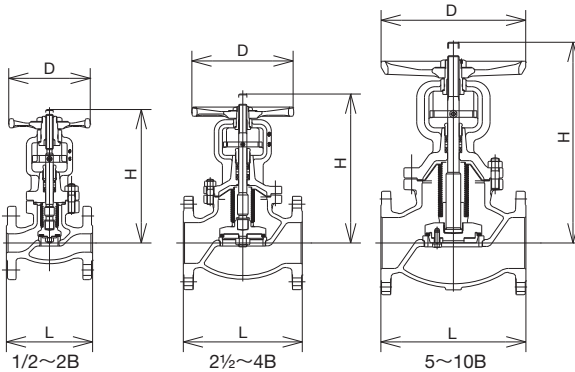
Product Code

M150FDB

150lb

Bellows Seal Valve Flanged Reinforced PTFE disc OS and BB type

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS410	
Seat ring	SUS410	
Disc seat	Reinforced PTFE	
Disc	SUS304	Nominal diameter: 2B or less·5B or more
	ASTM A276-304	Nominal diameter: 2½-4B
Bellows	SUS316L	
Handwheel	FCMB340-10	Color: Black
Gasket	H1215	
Gland Packing	H350+H2200	



△The glands of the bellows seal valve are maintenance-free,
but since the cover bolts may loosen due to vibrations and heat stress,
they will need regular maintenance.

Nominal diameter (B)	1/2	3/4	1	1¼	1½	2	2½	3	4	5	6	8	10
L	108	117	127	140	165	203	216	241	292	356	406	495	622
H	181	191	196	208	243	253	278	328	365	421	487	609	754
D	100	100	120	120	160	180	224	224	250	300	355	400	450

ASME B 16.5-1996

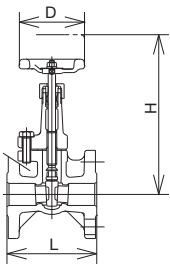
Product Code

M150FS

150lb

Gate Valve Flanged BB type

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Wedge	SCS1	
Seat ring	SUS403/SUS410	
Handwheel	FCMB340-10	Color: Blue
Gasket	H1215	
Gland Packing	H350+H2200	



Nominal diameter (B)	1/2	3/4	1	1½
L	90	100	110	130
H	165	170	190	258
D	80	80	80	120

ASME B 16.5-1996

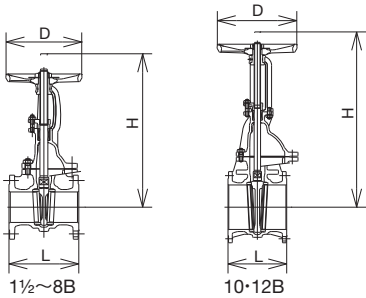
Product Code

M150FSO

150lb

Gate Valve Flanged OS and BB type

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Wedge	SCS1	Nominal diameter: 1½-2½B
	SUS403/SUS410	Nominal diameter: 3-8B
	S25C/A105	13Cr stainless deposit / Nominal diameter: 10-12B
Seat ring	SUS403/SUS410	
Handwheel	FCD450-10	Color: Blue
Gasket	H1215	
Gland Packing	H350+H2200	



Nominal diameter (B)	1½	2	2½	3	4	5	6	8	10	12
L	165	178	190	203	229	254	267	292	330	356
H	315	360	425	480	580	675	780	985	1195	1410
D	160	180	180	224	250	300	300	315	450	560

ASME B 16.5-1996

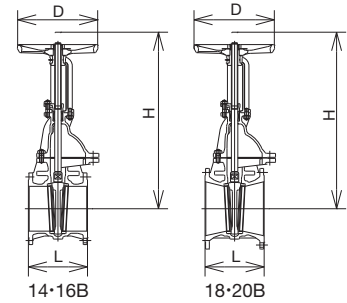
Product Code

D150FSO

150lb

Gate Valve Flanged OS and BB type

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Wedge	SCPH2	13Cr stainless deposit
Seat ring	S28C/STKM13A	Hard facing
Handwheel	FCD450-10	Color: Blue
Gasket	H1215	
Gland Packing	H350+H2200	



Nominal diameter (B)	14	16	18	20
L	381	406	432	457
H	1610	1855	1610	1855
D	630	710	630	710

ASME B 16.5-1996

Product Code

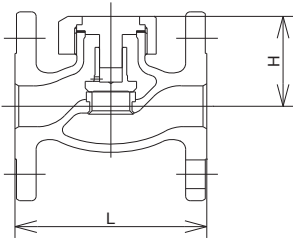
M150FC

150lb

Check Valve (Lift) Flanged

Product Name	Material	Remarks
Body	FCD-S	
Cover	SCS1	
Disc	SUS403/SUS410	
Seat ring	SUS403/SUS410	
Gasket	H1215	

△Cover top: No marks
(Marked with "S" if a spring is contained)



Nominal diameter (B)	1/2	3/4	1	1¼	1½	2
L	108	117	127	140	165	203
H	51	54	61	69	77	89

ASME B 16.5-1996

Product Code

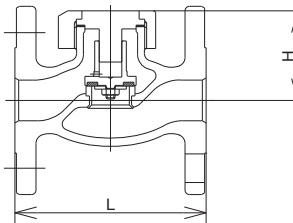
M150FCD

150lb

Check Valve (Lift) Flanged Reinforced PTFE disc

Product Name	Material	Remarks
Body	FCD-S	
Cover	SCS1	
Disc	SUS403/SUS410	
Seat ring	SUS403/SUS410	
Disc seat	Reinforced PTFE	
Gasket	H1215	

△Cover top: Marked with "D"
("DS" if a spring is contained)



Nominal diameter (B)	1/2	3/4	1	1¼	1½	2
L	108	117	127	140	165	203
H	51	54	61	69	77	89

ASME B 16.5-1996

Product Code

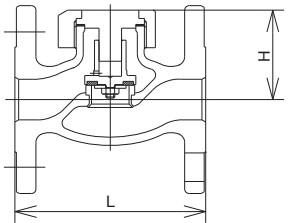
M150FCR

150lb

Check Valve (Lift) Flanged NBR disc seat

Product Name	Material	Remarks
Body	FCD-S	
Cover	SCS1	
Disc	SUS403/SUS410	
Seat ring	SUS403/SUS410	
Disc seat	NBR	
Gasket	H1215	

△Cover top: Marked with "R"
("RS" if a spring is contained)



Nominal diameter (B)	1/2	3/4	1	1¼	1½	2
L	108	117	127	140	165	203
H	51	54	61	69	77	89

ASME B 16.5-1996

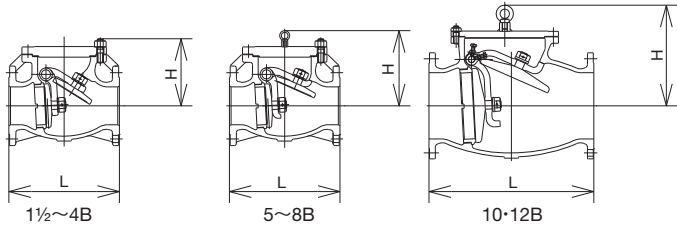
Product Code

M150FCS

150lb

Check Valve (Swing) Flanged

Product Name	Material	Remarks
Body	FCD-S	
Cover	SS400	
Disc	SUS403/SUS410	Nominal diameter: 1½-4B
	S25C	13Cr stainless deposit / Nominal diameter: 5-12B
Seat ring	SUS403/SUS410	
Hinge pin	SUS403/SUS410	
Gasket	H1215	
Plug	S25C	Nominal diameter: 1½-8B
	SUS403/SUS410	Nominal diameter: 10-12B



Nominal diameter (B)	1½	2	2½	3	4	5	6	8	10	12
L	165	203	216	241	292	330	356	495	622	698
H	118	140	150	161	176	250	270	330	390	450

ASME B 16.5-1996

Product Code

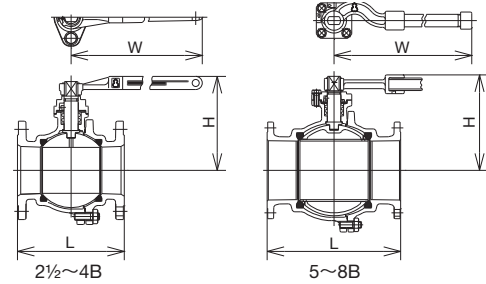
BM150F0B

150lb

Ball Valve for General Use Flanged Full bore

Product Name	Material	Remarks
Body	FCD-S	
Ball	SCS13A	
Stem	SUS403/SUS410	
Seat ring	FT seat	
Handle	FCMB340-10	Color: Blue / Nominal diameter: 2½-4B
Handle boss + pipe	FCMB340-10 +STPG	Color: Blue / Nominal diameter: 5-8B
Gasket	H1215	
Gland Packing	Reinforced PTFE	

△Indicator:
Blue/ Valve stem: widths across flats



Nominal diameter (B)	2½	3	4	5	6	8
L	190	203	229	292	394	457
H	151	186	202	243	262	321
W	220	320	400	800	1000	1200

ASME B 16.5-1996

Product Code

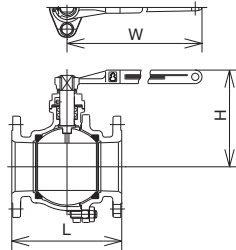
BM150F1B

150lb

Ball Valve for General Use Flanged Full bore Fire-safe Mechanism

Product Name	Material	Remarks
Body	FCD-S	
Ball	SCS13A	
Stem	SUS403/SUS410	
Seat ring	FT seat	
Stainless steel sheet	SUS304	
Handle	FCMB340-10	Color: Blue
Gasket	H1215	
Gland Packing	Reinforced PTFE	

△Indicator:
Black/ Valve stem: widths across flats,
Marked with "1"



Nominal diameter (B)	2½	3	4
L	190	203	229
H	151	186	202
W	220	320	400

ASME B 16.5-1996

Product Code

BM150F0L

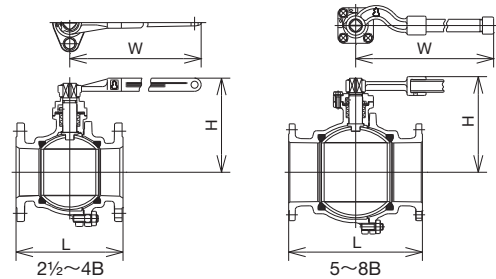
150lb

Ball Valve for Gas Flanged Full bore

Product Name	Material	Remarks
Body	FCD-S	
Ball	SCS13A	2½B
	SCS13A+ SUS304	3~8B
Stem	SUS403/SUS410	
Seat ring	PTFE	
Handle	FCMB340-10	Color: Blue Nominal diameter: 2½-4B
Handle boss + pipe	FCMB340-10 +STPG	Color: Blue / Nominal diameter: 5-8B
Gasket	H1215	
Gland Packing	PTFE	

△Indicator: Green/ Valve stem angle: square

* Usable for LPG to -5°C.



Nominal diameter (B)	2½	3	4	5	6	8
L	190	203	229	292	394	457
H	151	186	202	243	262	321
W	220	320	400	800	1000	1200

ASME B 16.5-1996

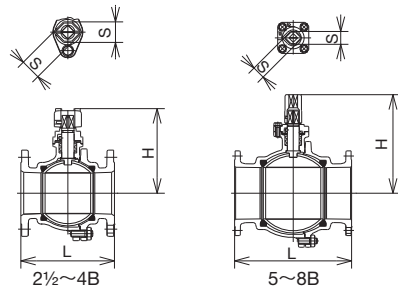
Product Code

BM150F0G

150lb

Ball Valve for Gas (buried pipe) Flanged Full bore

Product Name	Material	Remarks
Body	FCD-S	
Ball	SCS13A	2½B
	SCS13A+ SUS304	3~8B
Stem	SUS403/SUS410	
Seat ring	PTFE	
Handle boss	FCD450-10	Nominal diameter: 2½-6B
	FCMB340-10	Nominal diameter: 8B
Gasket	H1215	
Gland Packing	PTFE	



Nominal diameter (B)	2½	3	4	5	6	8
L	190	203	229	292	394	457
H	164	186	202	244	263	384
S	50	50	50	50	50	50

ASME B 16.5-1996

* Usable for LPG to -5°C.

Features

1. The main parts are made with 13cr stainless steel and can be used for hot fluids up to max. 650°F (344°C).

2. Support for special fluids by exchanging the packing, gasket and main parts. We also undertake maintenance using genuine parts at any time.

Product Types

Globe, Gate, Check, Needle, Bellows seal valves

Fluid•Temperature•Pressure

Unit: MPa (psi)

Product Type		Maximum working pressure by product type MPa					
		Service temperature limit by fluid (°C)					
		-10~38 (14~100)	80 (176)	121 (250)	232 (450)	288 (550)	343 (650)
Globe	Standard, needle	2.90 (420)	—*	2.76 (400)	2.62 (380)	2.38 (345)	2.07 (300)
	PTFE disc	2.90 (420)	2.83 (410)				
	Bellows	2.50 (363)	—*	—*	2.50 (363)	2.38 (345)	2.07 (300)
Gate	Standard, for high temperatures	2.90 (420)	—*	2.76 (400)	2.62 (380)	2.38 (345)	2.07 (300)
Check	Standard, Screw-down stop check	2.90 (420)	—*	2.76 (400)	2.62 (380)	2.38 (345)	2.07 (300)
	PTFE disc	2.90 (420)	2.83 (410)				

※ Maximum working pressure in the intermediate operating temperature is determined by the proportional method.

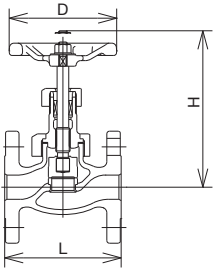
Test Pressure

Unit: MPa (psi)

Test description Product Type	Body pressure resistance		Valve seat leakage		Back seat leakage
	Water pressure	Air pressure	Water pressure	Air pressure	Air pressure
Globe, needle, gate, check valve	4.31 (626)		3.14 (456)		
Bellows sael valve		2.50 (363)		2.50 (363)	
Globe valve for LPG	4.31 (625)	2.75 (400)		2.75 (400)	2.75 (400)
Check valve for LPG	4.31 (625)	2.75 (400)		2.75 (400)	

Product Code **M300FG** 300lb Globe Valve Flanged

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc	SUS403/SUS410	Hard facing
Seat ring	SUS403/SUS410	Hard facing
Handwheel	FCMB340-10	Color: Brown / Nominal diameter: ½-1½B
	FCD450-10	Color: Brown / Nominal diameter: 2B
Gasket	H1215	
Gland Packing	H350+H2200	

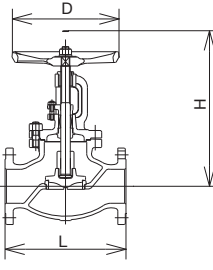


Nominal diameter (B)	1/2	3/4	1	1¼	1½	2
L	110	120	130	160	180	230
H	135	145	170	180	195	225
D	80	100	120	120	140	180

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Product Code **M300FGO** 300lb Globe Valve Flanged OS and BB type

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc	S25C	Hard facing
Seat ring	S28C/STKM13A	Hard facing
Handwheel	FCMB340-10	Nominal diameter: 2½B
	FCD450-10	Nominal diameter: 3B or larger
Gasket	H1215	
Gland Packing	H350+H2200	



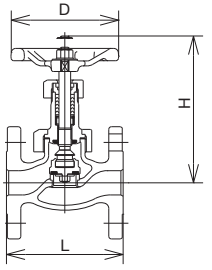
Nominal diameter (B)	2½	3	4	5	6	8
L	292	318	356	400	444	559
H	355	390	445	515	595	685
D	250	300	315	355	400	450

ASME B 16.5-1996

Product Code **M300FDL** 300lb Globe Valve for LPG Flanged Reinforced PTFE disc

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc	SUS403/SUS410	
Disc seat	PTFE	
Seat ring	SUS403/SUS410	
Handwheel	FCMB340-10	Color: Green / Nominal diameter: ½-1½B
	FCD450-10	Color: Green / Nominal diameter: 2B
Gasket	H1215	
Gland Packing	H2661-V	

△Name plate: PTFE display



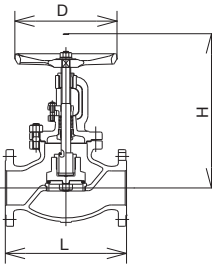
Nominal diameter (B)	1/2	3/4	1	1¼	1½	2
L	110	120	130	160	180	230
H	135	145	170	180	200	230
D	80	100	120	120	140	180

ASME B 16.5-1996

Product Code **M300FDLO** 300lb Globe Valve for LPG Flanged Reinforced PTFE disc OS and BB type

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc	SUS403/SUS410	
Disc seat	PTFE	
Seat ring	SUS403/SUS410	
Handwheel	FCMB340-10	Nominal diameter: 2½B
	FCD450-10	Nominal diameter: 3B or larger
Gasket	H1215	
Gland Packing	H2661-V	

△Name plate: PTFE display



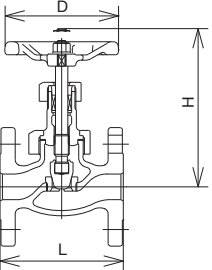
Nominal diameter (B)	2½	3	4	5	6	8
L	292	318	356	400	444	559
H	365	395	440	515	580	685
D	224	250	300	315	400	450

ASME B 16.5-1996

Product Code **M300FN** 300lb Needle Valve Flanged

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc	SUS403/SUS410	Hard facing
Seat ring	SUS403/SUS410	Hard facing
Handwheel	FCMB340-10	Color: Brown / Nominal diameter: ½-1½B
	FCD450-10	Color: Brown / Nominal diameter: 2B
Gasket	H1215	
Gland Packing	H350+H2200	

△Valve stem tips: Marked "N"/Fitted with metal tag clearly marked "Needle valve"



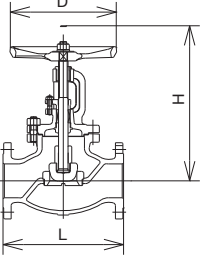
Nominal diameter (B)	1/2	3/4	1	1¼	1½	2
L	110	120	130	160	180	230
H	135	145	170	180	200	230
D	80	100	120	120	140	180

ASME B 16.5-1996

Product Code **M300FNO** 300lb Needle Valve Flanged OS and BB type

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc	SUS403/SUS410	Hard facing
Seat ring	SUS403/SUS410	Hard facing
Handwheel	FCMB340-10	Nominal diameter: 2½-3B
	FCD450-10	Nominal diameter: 4B or larger
Gasket	H1215	
Gland Packing	H350+H2200	

△Valve stem tips: Marked "N"/The cover is clearly marked "Needle valve"



Nominal diameter (B)	2½	3	4	5	6
L	292	318	356	400	444
H	365	405	445	515	595
D	224	250	300	315	355

ASME B 16.5-1996

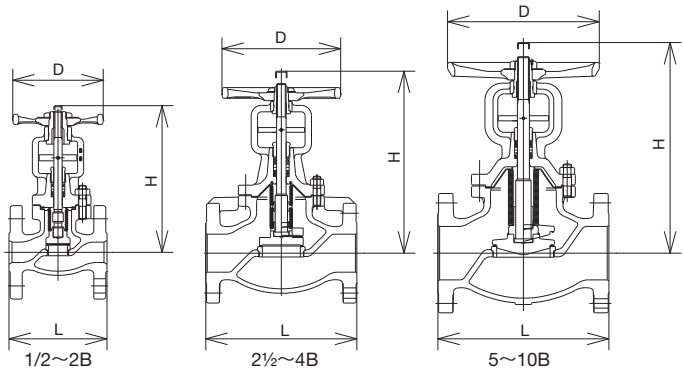
Product Code

M300FGB

300lb

Bellows Seal Valve Flanged OS and BB type

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS410	
Seat ring	SUS410	Hard facing
Disc	SUS304	Hard facing (Nominal diameter: 2B or less)
	ASTM A182-F304	Hard facing (Nominal diameter: 2½-4B)
	SUS410/SCS1	Hard facing (Nominal diameter: 5B)
Bellows	SUS316L	
Handwheel	FCMB340-10	Color: Black
Gasket	H1215	
Gland Packing	H350+H2200	



△The glands of the bellows seal valve are maintenance-free, but since the cover bolts may loosen due to vibrations and heat stress, they will need regular maintenance.

Nominal diameter (B)	1/2	3/4	1	1¼	1½	2	2½	3	4	5	6	8	10
L	110	120	130	160	180	230	292	318	356	400	444	559	622
H	181	191	196	208	243	253	309	377	402	491	562	713	869
D	100	100	120	120	160	180	224	250	300	355	400	450	560

ASME B 16.5-1996

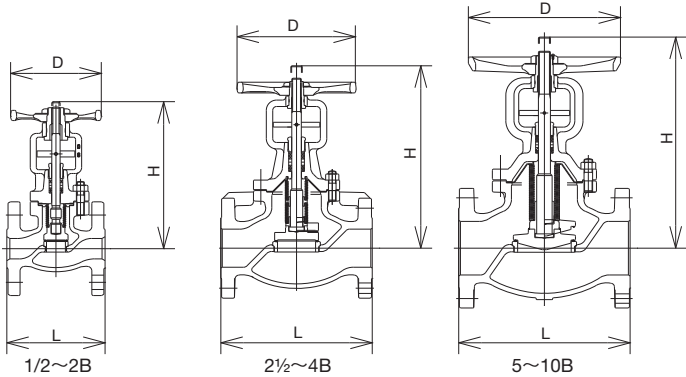
Product Code

M300FDB

300lb

Bellows Seal Valve Flanged Reinforced PTFE disc OS and BB type

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS410	
Seat ring	SUS410	
Disc seat	Reinforced PTFE	
Disc	SUS304	Nominal diameter: 2B or less·5B or more
	ASTM A276-304	Nominal diameter: 2½-4B
Bellows	SUS316L	
Handwheel	FCMB340-10	Color: Black
Gasket	H1215	
Gland Packing	H350+H2200	



△The glands of the bellows seal valve are maintenance-free, but since the cover bolts may loosen due to vibrations and heat stress, they will need regular maintenance.

Nominal diameter (B)	1/2	3/4	1	1¼	1½	2	2½	3	4	5	6	8	10
L	110	120	130	160	180	230	292	318	356	400	444	559	622
H	181	191	196	208	243	253	309	377	402	491	562	713	869
D	100	100	120	120	160	180	224	250	300	355	400	450	560

ASME B 16.5-1996

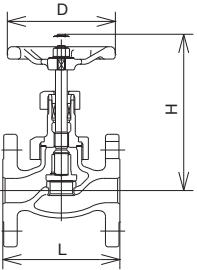
Product Code

M300FGC

300lb

(Screw-down) Stop Check Valve Flanged

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc	SUS403/SUS410	Hard facing
Seat ring	SUS403/SUS410	Hard facing
Handwheel	FCMB340-10	Color: Brown / Nominal diameter: ½-1½B
	FCD450-10	Color: Brown / Nominal diameter: 2B
Gasket	H1215	
Gland Packing	H350+H2200	



△Valve stem tips:
Marked "C"/Fitted with metal tag clearly marked "Screw-down stop check valve"

Nominal diameter (B)	1/2	3/4	1	1¼	1½	2
L	110	120	130	160	180	230
H	135	145	170	180	195	225
D	80	100	120	120	140	180

ASME B 16.5-1996

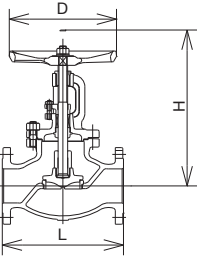
Product Code

M300FGCO

300lb

(Screw-down) Stop Check Valve Flanged OS and BB type

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Disc	S25C	Hard facing
Seat ring	S28C/STKM13A	Hard facing
Handwheel	FCMB340-10	Nominal diameter: 2B-2½B
	FCD450-10	Nominal diameter: 3B or larger
Gasket	H1215	
Gland Packing	H350+H2200	



△Valve stem tips:
Marked "C"/Fitted with metal tag clearly marked "Screw-down stop check valve"

Nominal diameter (B)	2½	3	4	5
L	292	318	356	400
H	365	400	455	520
D	250	300	315	355

ASME B 16.5-1996

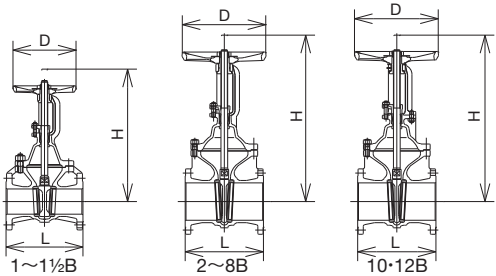
Product Code

M300FSO

300lb

Gate Valve Flanged OS and BB type

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Wedge	SCS1	Nominal diameter: 1·1½-2½·5-8B
	SUS403/SUS410	Nominal diameter: 1¼·3·4B
	SCPH2	13Cr stainless deposit / Nominal diameter: 10·12B
Seat ring	SUS403/SUS410	
Handwheel	FCD450-10	Color: Brown
Gasket	H1215	
Gland Packing	H350+H2200	



Nominal diameter (B)	1	1¼	1½	2	2½	3	4	5	6	8	10	12
L	165	178	190	216	241	283	305	381	403	419	457	502
H	281	300	328	383	442	502	591	698	819	1026	1238	1440
D	160	160	160	180	180	224	250	300	315	450	560	630

ASME B 16.5-1996

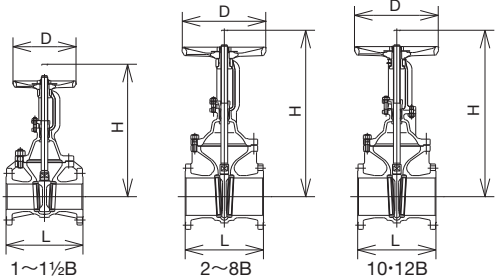
Product Code

M300FSHO

300lb

Gate Valve Flanged OS and BB type Heating Medium type

Product Name	Material	Remarks
Body	FCD-S	
Cover	FCD-S	
Stem	SUS403/SUS410	
Wedge	SCS1	Hard facing / Nominal diameter: 1-2½·5-8B
	SUS403/SUS410	Hard facing / Nominal diameter: 3·4B
	SCPH2	Hard facing / Nominal diameter: 10·12B
Seat ring	SUS403/SUS410	Hard facing / Nominal diameter: 1-4B
	S28C/STKM13A	Hard facing / Nominal diameter: 5-12B
Handwheel	FCD450-10	Color: Brown
Gasket	H1215	
Gland Packing	H350+H2200	



Nominal diameter (B)	1	1¼	1½	2	2½	3	4	5	6	8	10	12
L	165	178	190	216	241	283	305	381	403	419	457	502
H	281	300	328	383	442	502	591	698	819	1026	1238	1440
D	160	160	160	180	180	224	250	300	315	450	560	630

ASME B 16.5-1996

△Instructions: FSHO display

Product Code

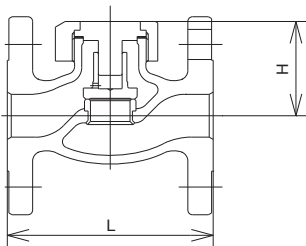
M300FC

300lb

Check Valve (Lift) Flanged

Product Name	Material	Remarks
Body	FCD-S	
Cover	SCS1	
Disc	SUS403/SUS410	Hard facing
Seat ring	SUS403/SUS410	Hard facing
Gasket	H1215	

△Cover top: No marks
(Marked with "S" if a spring is contained)



Nominal diameter (B)	1/2	3/4	1	1¼	1½	2
L	110	120	130	160	180	230
H	49	51	58	66	75	86

ASME B 16.5-1996

Product Code

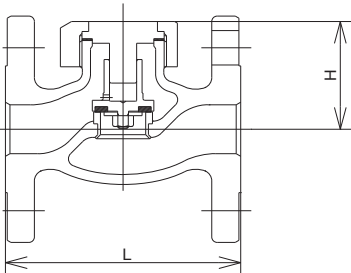
M300FCD

300lb

Check Valve (Lift) Flanged Reinforced PTFE disc

Product Name	Material	Remarks
Body	FCD-S	
Cover	SCS1	
Disc seat	PTFE	
Disc	SUS403/SUS410	
Seat ring	SUS403/SUS410	
Gasket	H1215	

△Cover top: Marked with "D"
("DS" if a spring is contained)



Nominal diameter (B)	1/2	3/4	1	1¼	1½	2
L	110	120	130	160	180	230
H	49	51	58	66	75	86

ASME B 16.5-1996

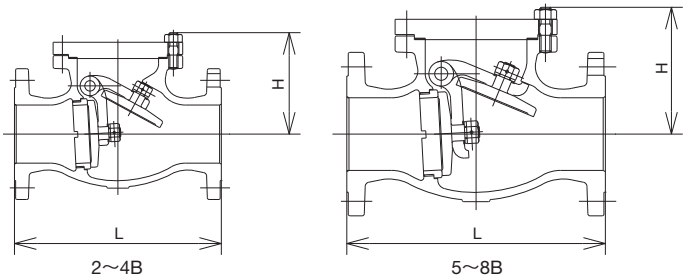
Product Code

M300FCS

300lb

Check Valve (Swing) Flanged

Product Name	Material	Remarks
Body	FCD-S	
Cover	SS400	
Disc	S25C	Hard facing
Seat ring	S28C/STKM13A	Hard facing
Hinge pin	SUS403/SUS410	
Gasket	H1215	
Plug	S25C	Nominal diameter: 2-4B
	SUS403/SUS410	Nominal diameter: 5-8B



Nominal diameter (B)	2	2½	3	4	5	6	8
L	267	292	318	356	400	444	533
H	145	155	175	200	235	265	295

ASME B 16.5-1996

Product Code

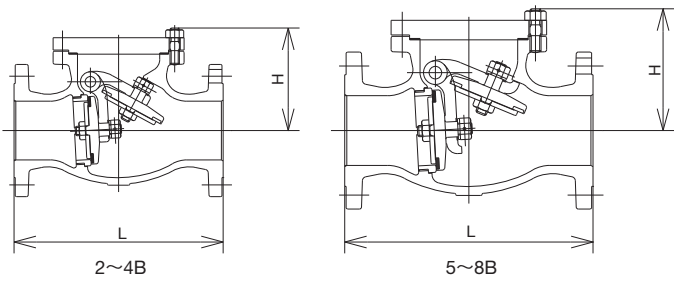
M300FCSD

300lb

Check Valve (Swing) Flanged Reinforced PTFE disc

Product Name	Material	Remarks
Body	FCD-S	
Cover	S25C	
Disc seat	PTFE	
Disc	SUS403/SUS410	
Seat ring	SUS403/SUS410	
Hinge pin	SUS403/SUS410	
Gasket	H1215	
Plug	S25C	Nominal diameter: 2-4B
	SUS403/SUS410	Nominal diameter: 5-8B

△Cover top: Marked with "D"



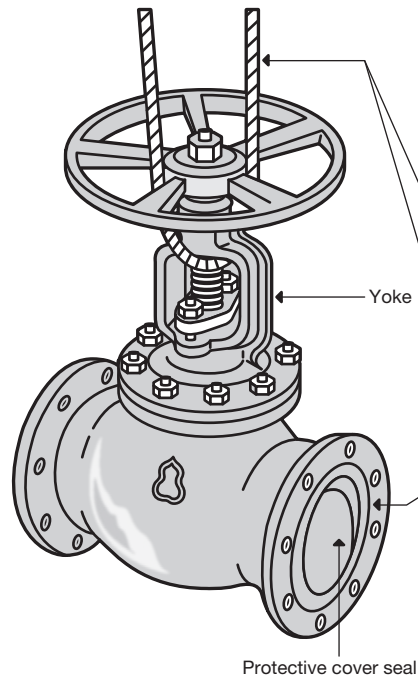
Nominal diameter (B)	2	2½	3	4	5	6	8
L	267	292	318	356	400	444	533
H	145	155	175	200	235	265	295

ASME B 16.5-1996

For correct usage

Classification	Definition of indication	Contents
Caution	Caution	Please follow the instructions, as failure to do so could result in physical injury or property damage.
Prohibition	Prohibition	Please follow the instructions.
Instruction	Compulsion	Please follow the instructions.

1 Before usage



⚠ To start with, confirm that the product is the correct one for the place of use. If there has been an exchange of specifications for delivery, confirm that the product complies with the specifications.

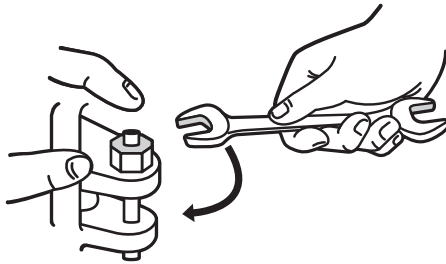
⚠ When moving a valve with a large diameter, loop a rope around the valve body or the yoke to lift it.

⊘ Do not attach the rope to the handwheel. Make sure the valve does not topple and bash the handwheel. The valve stem may bend making it impossible to open and close the valve.

⚠ Please keep the valve in its original packaging until use. To prevent foreign matter from entering the valve, the protective plugs or seals at either end of the valve must not be removed until immediately before installation. The valve must not be stored in the open air even for short periods of time, but indoors in a place with low humidity and little dust.

* The interior of the valve on swing check valves is filled with packing material to fix the valve disc in place. Please remove the packing before installation.

⚠ When unpacking the valve, only retighten the packing and gaskets before use. Do not take the valve apart or exchange any parts.

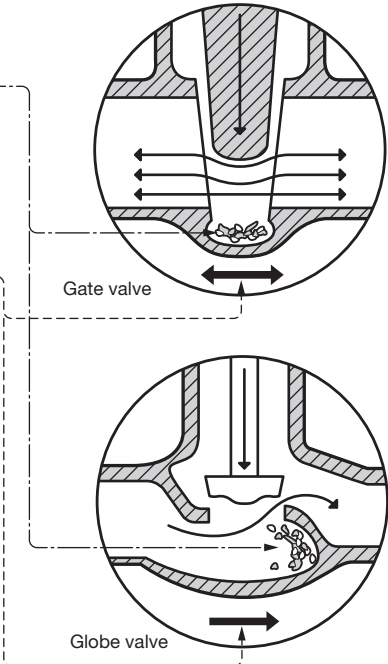
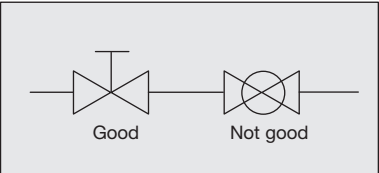


2 Installation

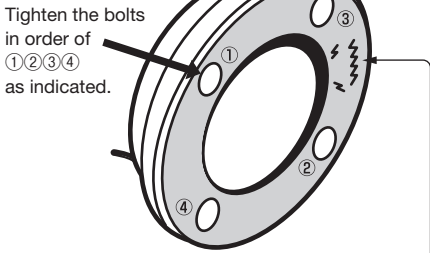
⚠ Please clean the piping thoroughly to remove welding spatter, pipe chips, scale, sand or other foreign matter since they may cause the valve seat to leak.

⚠ Globe valves, check valves or other valves with an arrow on the valve body indicating flow direction must comply with the flow direction of the fluid when installed.
As a rule, there are no restrictions on flow direction for gate valves and ball valves.

⚠ In case of horizontal piping, gate valves should be installed in a vertical position as indicated in the diagram below.



⊘ In case of screwed valves also, avoid applying excess sealant to the threads. Be sure to always screw the valve into place by applying a wrench to the hexagonal ends of the valve body. Do not apply the wrench to the body of the valve body, or hold the handwheel when screwing the valve into place as this may cause leaks or other faults.



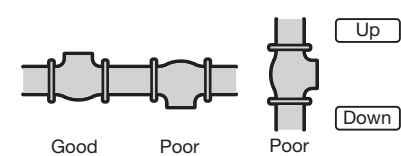
⚠ In case of flanged valves, confirm that there are no harmful defects on the gasket contact surface of the valve body pipe flange. In case of coating the gasket with sealant, please be aware that excess coating may cause the valve seat to leak. When installing the valve, tighten the flange evenly while making sure the gasket does not protrude into the aperture.

For correct usage

! Since the installation position is normally specified for check valves, screw-down stop check valves, strainers etc., please install these valves as specified.

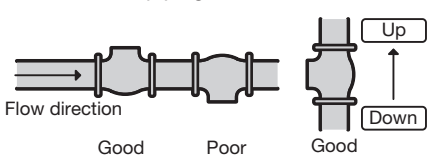
●Lift check valve, screw-down stop check valve

Install the valve in a vertical position on horizontal piping.

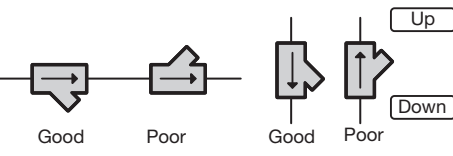


●Swing check valve

Can be used for both vertical and horizontal piping.

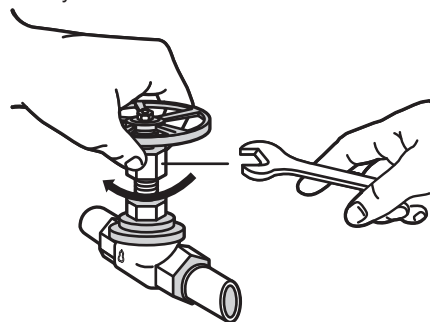


●Strainer



3 When starting use

! With the exception of the 20K globe valve for LPG, please retighten the gland packing of all valves before allowing fluids to pass. The valves are inspected at the factory before shipping and appropriate compression is applied to the gland packing, but the compression decreases due to stress relaxation in the time before actual use. As a result, retightening is necessary as the valves are more susceptible to leakage compared to factory default.

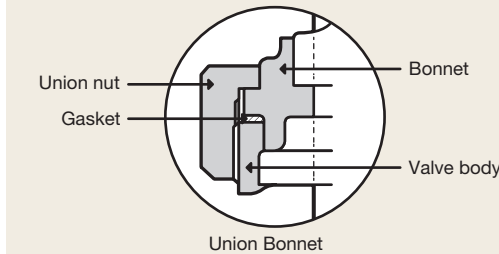


Simply tightening the packing gland nut makes the handwheel heavier to turn, but does not tighten the packing. For a good result, tighten the nuts several times and in stages, while rotating the handwheel and maintaining a snug fit with the valve stem.

! In case the fittings between the valve body and the bonnet (the gasket) leak when fluid passes through, be sure to retighten this part.

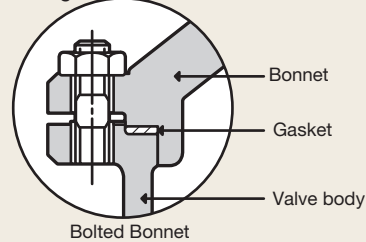
If neglected, leak paths will form and retightening will no longer stop the leaks.

! In case of a union bonnet, there is risk of damage to the gasket if the union nut and the bonnet rotate together, so any tightening should be done as smoothly as possible and no more than 1/8 of a rotation at a time.



! Retighten with the valve in an intermediate position, or fully open. (Retightening when the valve is fully closed, may damage the valve seat or other parts.)

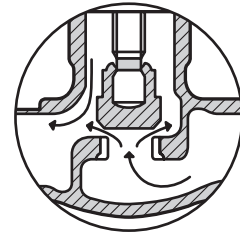
! In case of a bolted bonnet, be sure to evenly tighten each nut to avoid uneven tightening.



Tightening torque table for bonnet nuts in the M20K inside screw globe valve

Nominal diameter (A)	10	150N·m
15	200	
20	250	
25	300	
32	400	
40	600	
50	750	

! Do not tighten the handwheel abruptly and hard when fully closing the valve, but close the valve gently at first, then open it slightly to allow the moving fluid to flush away any foreign matter around the seat before tightening the handwheel. This will have the effect of preventing leaks caused by foreign matter.



! When shipping globe valves, gate valves or bellows Seal valves, the disc is fixed in place by gently closing the valve to keep the disc from rattling.

In case of pressure inspection after plumbing, or in case of actual use, be sure to turn the handwheel a little to open the valve before closing it again.

If pressure is applied to the valve as shipped, there may be seat leakage as the valve is not tightly closed. Using the valve as is will cause leak paths to form at the seat, and closing the valve tightly will no longer stop the leaks.

For correct usage

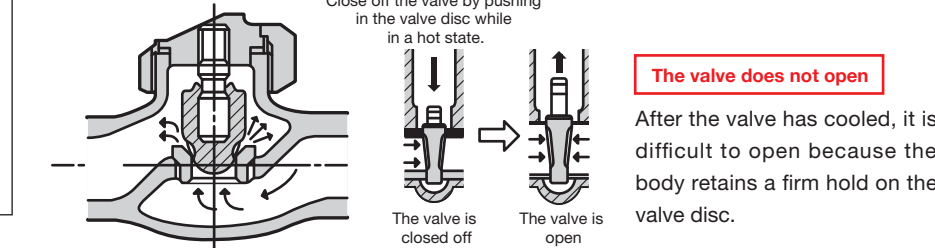
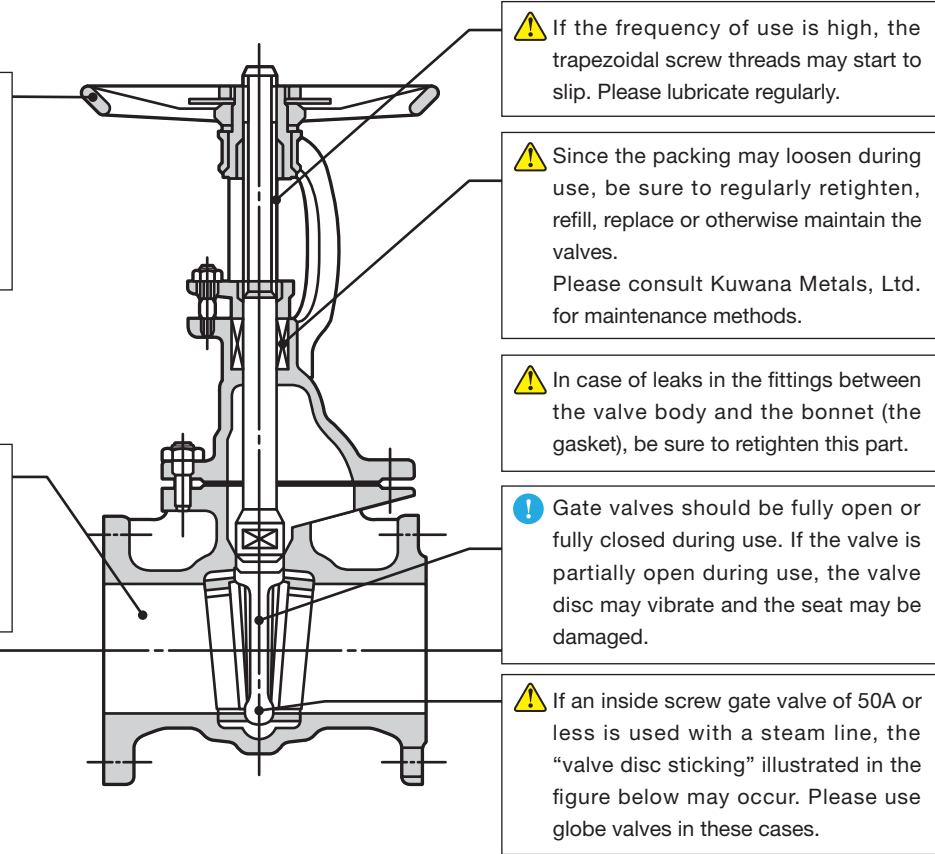
! : Compulsion : Prohibition ! : Caution

4 Caution when operating the valve

! Do not apply excessive force with auxiliary handles etc. The valve stem may bend, or the valve disc may get stuck, making it difficult to open and close the valve. Please request the limit torque chart separately.

! In case leaks do not stop after tightening at the specified torque, the likely cause is foreign matter in the valve, or galling. Please check the interior of the valve.

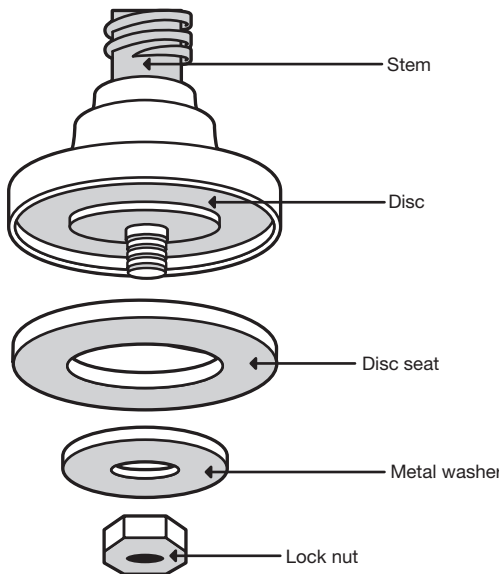
! If globe valves and angle valves are extremely throttled, the high velocity fluid will hit the seat or the valve body, and may cause mechanical corrosion (erosion). If throttling is required, we recommend using needle valves.



5 How to replace discs

! Replacement discs are available from Kuwana Metals, Ltd. Please follow these guidelines when replacing discs.

- (1) Open the valve and completely release the internal fluid pressure before dismantling the valve by using a wrench to undo the hexagonal nuts on the bonnet.
- (2) The valve disc assembly is shown in the figure on the right, so replacing the disc is simple. It is important not to scratch the disc at this time.
- (3) Clean the valve seat in the body before assembling the valve.
- (4) When assembling the valve, be sure to apply liquid packing to the connecting thread on the bonnet.



6 Changing the packing on a 20K globe valve for LPG

Replacing the packing

- (1) Clean the stem where packing slides.
- (2) Release any residual pressure in the valve.
- (3) Dismantle the valve from the bonnet.
- (4) Clean the packing box and valve stem.
- (5) Install the packing in the packing box.
- (6) Assemble the valve.

Assembly guidelines

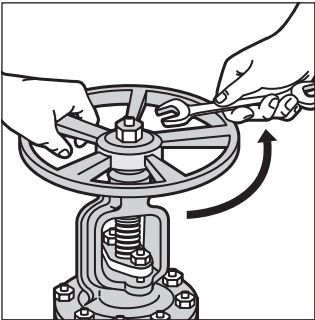
- (1) Install the packing in the packing box.
- (2) Insert the valve stem with the valve disc in the bonnet, and close fully. Take care not to scratch the V packing.
- (3) Install the bonnet with the valve stem in the body.
- (4) Tighten the bonnet gland nuts with the specified torque.
- (5) Attach the handwheel to finish.

⊘ Be absolutely sure not to scratch the valve stem or the inside of the valve disc packing box during disassembly.

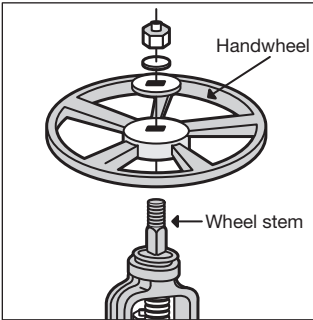
- Coat the packing seat and the V packing with silicon oil or grease.
- Refer to the diagram in Fig. 7 and use your fingers to carefully and evenly assemble the packing box. (To avoid scratching the V packing at insertion.)
- Apply even more pressure with the packing gland ring and after everything has settled in place, evenly tighten the nut. Refer to the retightening guidelines for outside thread models. With inside thread models, the packing gland ring touches the bonnet and the nut is tightened as far as it goes.

⊘ Take care not to scratch the V packing when inserting the valve stem from below

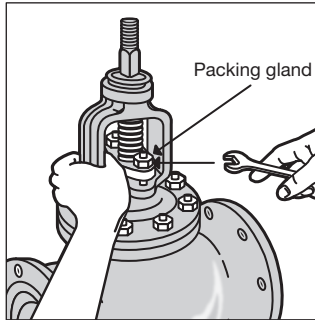
1 Remove the handwheel



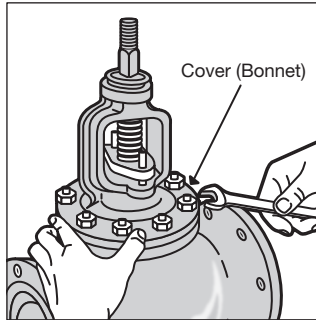
2



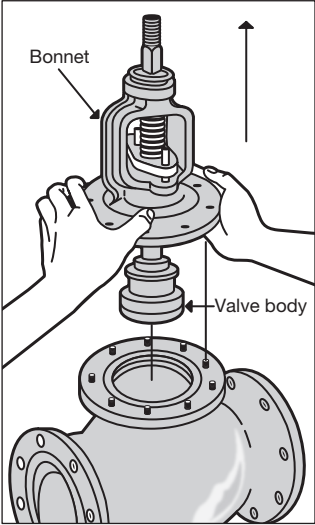
3 Remove the packing gland



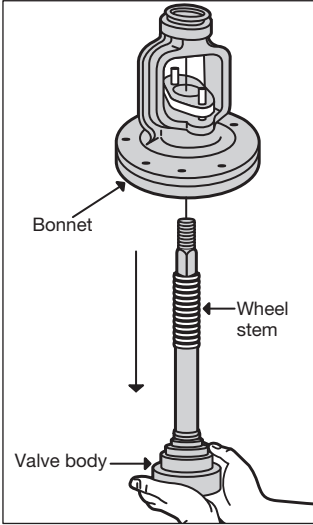
4



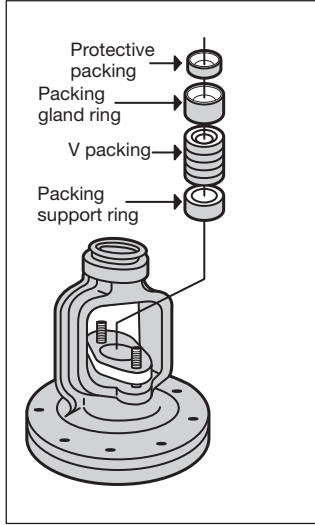
5



6 From the bonnet



7 Outside screw model



Inside screw model

