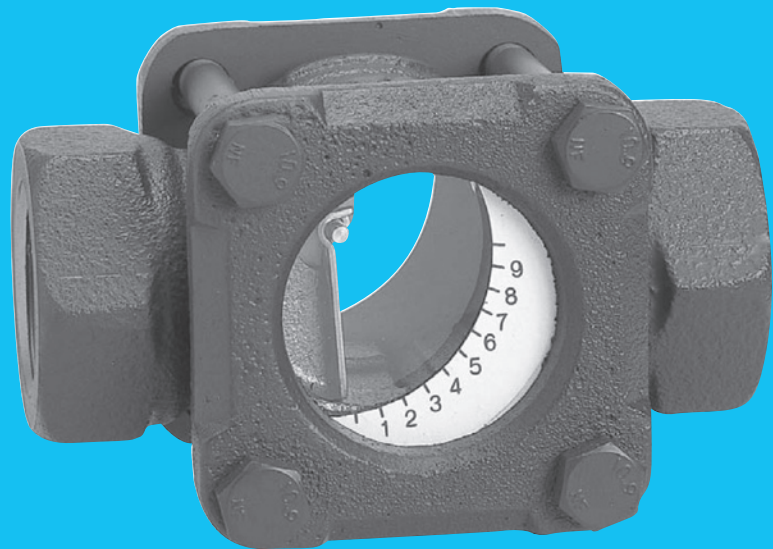


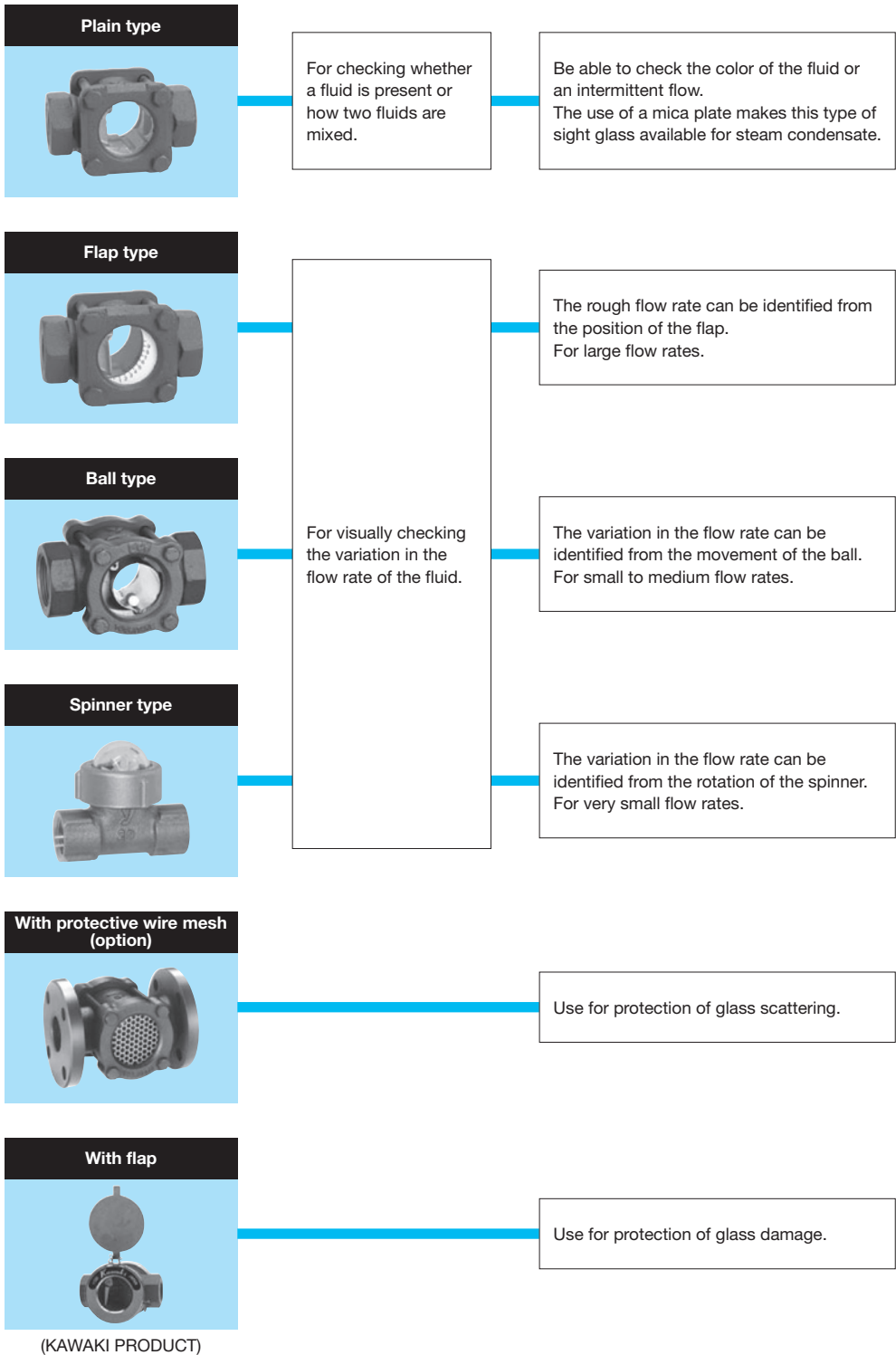
# Sight Glass

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## Selection of Sight Glasses

Sight glasses are used as components for visually checking the flow of the fluid inside piping from outside.



## Guidelines for the Installation of a Sight Glass



### Minimum flow rate of sight glasses

Water: (m<sup>3</sup>/h)

Nominal size	150F	SF	SB	400
	Flap type		Ball type	Spinner type
10A	—	—	—	0.048
15A	1	1	0.6	0.060
20A	1	1	0.7	0.090
25A	1	1	0.8	0.138
32A	1.3	1.3	1.6	—
40A	1.3	1.3	2.0	—
50A	2	2	2.5	—
65A	4.4	—	—	—
80A	4.4	—	—	—
100A	10	—	—	—
125A	10	—	—	—
150A	13	—	—	—

- Use flap type, ball type, and spinner type sight glasses at a flow rate equal to or higher than the minimum flow rate.
- The flow rate shown by the scale on the scale plate for a flap type sight glass is just for reference. It is not available as a flowmeter.
- Sight glasses can be installed in any posture.

### Minimum flow rate of sight flow

Water: (m<sup>3</sup>/h)

Nominal size	FS-B		F SJ-B	FS-II-P	
	Ball Type			Flap Type	
	screwed	flanged	screwed	screwed	flanged
10A	0.18	0.18	0.36	0.36	0.36
15A	0.18	0.18	0.36	0.36	0.36
20A	0.3	0.3	0.36	0.36	0.36
25A	0.6	0.6	0.36	0.6	0.6
32A	0.9	1.8	—	1.5	1.8
40A	2.4	1.8	—	1.5	1.8
50A	3.6	3	—	1.8	3
65A	—	6	—	—	6
80A	—	9	—	—	9
100A	—	—	—	—	12
125A	—	—	—	—	18
150A	—	—	—	—	30

- The maximum flow rate is 2 m/s.



Glass part is consumable supply. Please check the condition of glass carefully such as corrosion or damage on glass. Please replace when the glass is abnormal.



Normal glass



Corrosion glass

### ■ What is heat resistance glass?

Resistance to rapid temperature change of glass.

# SF-1S, SF-1F

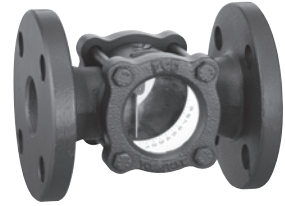
Plain	<b>Flap</b>	Ball	Spinner
Stainless	<b>Mica plate</b>	Protective wire mesh	With protective cover

## ■ Features

- Variation in flow rate can be checked easily with flap and scale plates.
- Can be connected to horizontal/vertical piping.
- Mica plate is used for this type of sight glass for steam condensate.



SF-1S



SF-1F

## ■ Specifications

Model	SF-1S	SF-1F
Application	Cold and hot water, Oil, Other non-dangerous fluids	
Maximum working pressure	1.0 MPa	
Max. temperature	150°C	
Max. thermal shock	100°C	
Material	Body	Ductile cast iron
	Glass	Hardened glass
	Flap	Stainless steel
Connection	JIS Rc screwed	JIS 10K FF flanged

- Available with mica plate for steam condensate (SFM-1S · 1F). However, maximum allowable working pressure is 0.6 MPa.
- Glass part is consumable supply.

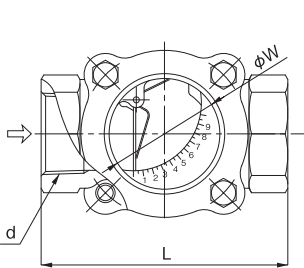
## ■ Dimensions (mm) and Weights (kg)

### • SF-1S

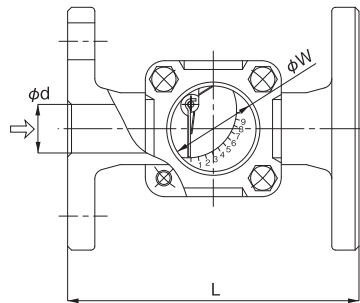
Nominal size	d	L	W	Weight
15A	Rc 1/2	80	35	0.7
20A	Rc 3/4	90	35	0.8
25A	Rc 1	115	44	1.4
32A	Rc 1-1/4	127	57	2.5
40A	Rc 1-1/2	140	57	2.8
50A	Rc 2	162	73	5.4

### • SF-1F

Nominal size	d	L	W	Weight
15A	15	130	35	2.2
20A	20	130	35	2.6
25A	25	150	44	4.1
32A	32	160	57	5.9
40A	40	170	57	6.2
50A	50	200	73	9.5



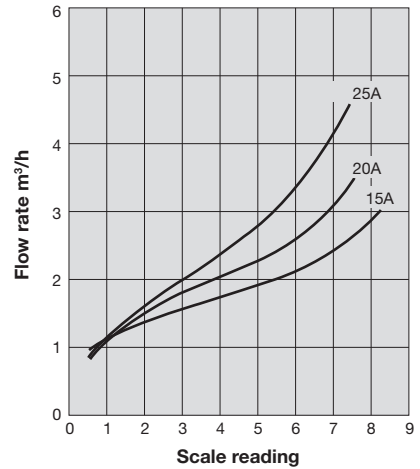
SF-1S



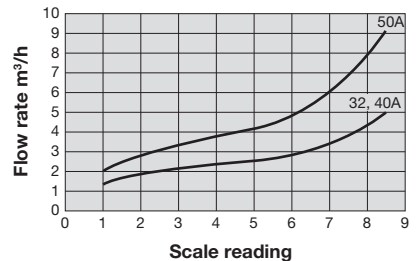
SF-1F

## ■ Flow Rate Characteristics Chart (For Water, Horizontal Piping)

### • 15A-25A



### • 32A-50A



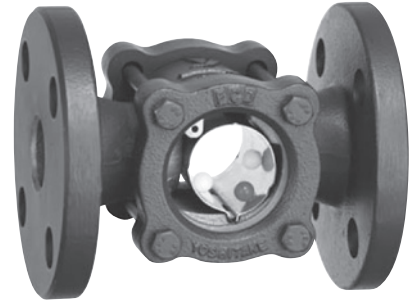
- The flow characteristics shown in the charts above are just for reference and cannot be used for actual measurement.

# SB-1S, SB-1F

- Plain
- Flap
- Ball
- Spinner
- Stainless
- Mica plate
- Protective wire mesh
- With protective cover



SB-1S



SB-1F



## ■Features

1. Flowing state of fluid can be checked with the movement of the balls inside the sight glass.
2. Inside glass surface is less liable to water scale since the balls roll and contact the surface.
3. Compact, lightweight and space saving.
4. Can be connected to horizontal/vertical piping (but glass part should face sideways).

## ■Specifications

Model		SB-1S	SB-1F
Application		Cold and hot water	
Maximum working pressure		1.0 MPa	
Max. temperature		85°C	
Material	Body	Ductile cast iron	
	Glass	Hardened glass	
	Ball	Synthetic resin	
Connection		JIS Rc screwed	JIS 10K FF flanged

· Glass part and balls are consumable supply.

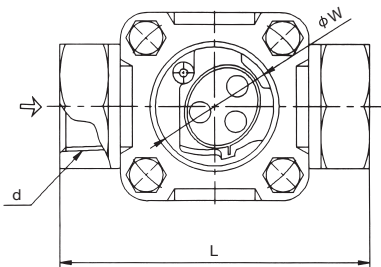
## ■Dimensions (mm) and Weights (kg)

### · SB-1S

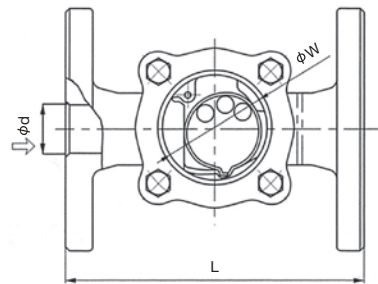
Nominal size	d	L	W	Weight
15A	Rc 1/2	80	35	0.7
20A	Rc 3/4	90	35	0.8
25A	Rc 1	115	44	1.4
32A	Rc 1-1/4	127	57	2.5
40A	Rc 1-1/2	140	57	2.8
50A	Rc 2	162	73	8.4

### · SB-1F

Nominal size	d	L	W	Weight
15A	15	130	35	2.2
20A	20	130	35	2.6
25A	25	150	44	4.1
32A	32	160	57	5.9
40A	40	170	57	6.2
50A	50	200	73	9.5



SB-1S



SB-1F

# 150F

Plain	<b>Flap</b>	Ball	Spinner
Stainless	Mica plate	Protective wire mesh	With protective cover

## ■Features

1. Variation in flow rate can be checked easily with flap and scale plates.
2. Pressure loss caused by the fluid flow is as low as 0.01 MPa even when the flap shows the maximum flow rate, and does not affect the pressure of the fluid.
3. Can be connected to horizontal/vertical piping.
4. Mica plate is used for this type of sight glass for steam condensate.
5. The 150F Series sight glass come in a variety of materials, including ductile cast iron and cast stainless steel, which are available to choose from.

## ■Specifications

Model		150F-F	150F-13S	150F-13F
Application		Cold and hot water, Oil, Other non-dangerous fluids		
Nominal size		65A-150A	15A-50A	15A-100A
Maximum working pressure		1.0 MPa		
Max. temperature		150°C		
Max. thermal shock		100°C		
Material	Body	Ductile cast iron	Cast stainless steel	
	Glass	Hardened glass		
	Flap	Stainless steel		
Connection		JIS 10K FF flanged	JIS Rc screwed	JIS 10K FF flanged

- Available with mica plate for steam condensate (150FM-□□S-□□F). However, maximum allowable working pressure is 0.6 MPa.
- Available with protector (150FP-□□S-□□F).
- Glass part is consumable supply.

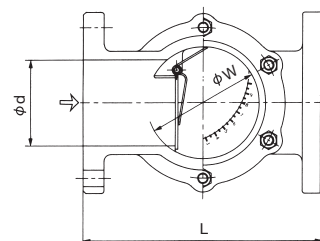
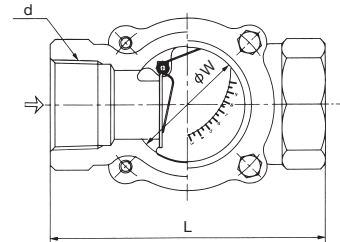
## ■Dimensions (mm) and Weights (kg)

### · 150F-13S

Nominal size	d	L	W	Weight
15A	Rc 1/2	76	35	0.75
20A	Rc 3/4	89	35	0.84
25A	Rc 1	114	44	1.6
32A	Rc 1-1/4	127	53	2.4
40A	Rc 1-1/2	140	57	3.0
50A	Rc 2	162	73	5.9

### · 150F-F-150F-13F

Nominal size	d	L	W	Weight	
				150F-F	150F-13F
15A	15	130	35	-	2.14
20A	20	130	35	-	2.49
25A	25	150	44	-	4.2
32A	32	160	53	-	5.5
40A	40	170	57	-	5.7
50A	50	200	73	-	9.8
65A	65	235	97	15.1	16.4
80A	73	235	97	15.5	16.9
100A	100	277	130	27.0	29.7
125A	125	336	155	37.3	-
150A	140	380	165	62.0	-



\* For 150F-F, it is available from 65A to 150A. For 150F-13F, it is available from 15A to 100A.

# 400

Plain	Flap	Ball	Spinner
Stainless	Mica plate	Protective wire mesh	With protective cover

## ■Features

1. No need for cleaning of the dome since rotating spinner keeps the inside of the dome clean.
2. Fluid flow can be detected from the rotation of the spinner, and flow rate change is identified by its rotating speed.
3. Easy to assemble and disassemble due to simple design. Can be connected to horizontal/vertical piping.



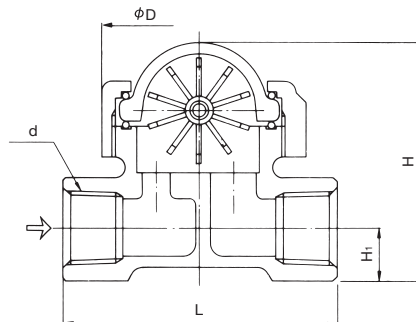
## ■Specifications

Application		Cold and hot water
Maximum working pressure		0.7 MPa
Max. temperature		100°C
Max. thermal shock		40°C
Material	Body	Cast bronze
	Glass	Heat-resistant glass
	Spinner	Special heat-resistant resin
Connection		JIS Rc screwed

- When using this sight glass at a temperature difference of 40°C or more, note that the glass may get damaged if the temperature rapidly rises or the glass is cooled from outside.
- Glass part and spinner are consumable supply.

## ■Dimensions (mm) and Weights (kg)

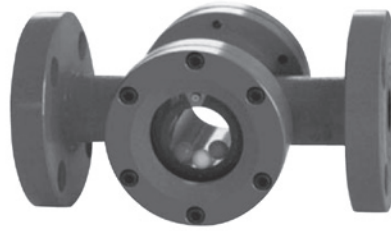
Nominal size	d	L	H <sub>1</sub>	H	D	Weight
10A	Rc 3/8	76	12	67	54	0.45
15A	Rc 1/2	76	14.5	69.5	54	0.50
20A	Rc 3/4	83	17	76	54	0.60
25A	Rc 1	89	21.5	93.5	66.5	0.95



- Plain
- Flap
- Ball
- Spinner
- Stainless
- Mica plate
- Protective wire mesh
- With protective cover

**■Features**

Fluid flow can be checked by the movement of the ball inside the product.



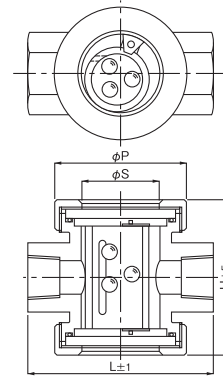
**■Specifications**

Application		Cold and hot water			
Maximum working pressure		0.7 MPa			
Max. temperature		60°C			
Material	Body	Ductile cast iron	Cast iron	Stainless steel	
	Glass	Hardened glass			
	Ball	Polypropylene			
Nominal size		10-50A	10-80A	10-40A	10-80A
Connection		JIS Rc screwed	JIS 10K FF flanged	JIS Rc screwed	JIS 10K FF flanged

**■Dimensions (mm) and Weights (kg)**

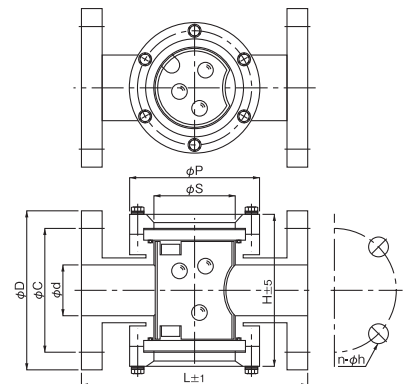
**· Screwed type**

Nominal size	L	H	S	P	Weight
10A	100	74	40	71	0.9
15A	100	74	40	71	1.0
20A	110	92	46	78	1.4
25A	120	94	52	84	1.8
32A	150	132	70	110	4.0
40A	150	132	70	110	4.0
50A	160	142	70	110	7.5



**· Flanged type**

Nominal size	C	D	H	S	P	L	Weight
10A	65	90	80 (82)	40	80	160	3.0
15A	70	95	80 (82)	40	80	160	3.0
20A	75	100	100	46	88	180	3.9
25A	90	125	102	52	96	180	5.4
32A	100	135	140	75	120	180	8.0
40A	105	140	140	75	120	180 (200)	8.0
50A	120	155	150	80	128	220 (200)	11.0
65A	140	175	200	120	180	270	19.0
80A	150	185	200	120	180	270	21.0



\* The values in parentheses are the dimensions of stainless steel made.

For special specifications or high-precision flow measurement, please contact to us.



Plain	<b>Flap</b>	Ball	Spinner
Stainless	Mica plate	Protective wire mesh	<b>With protective cover</b>

■Features

Design with a protective cover attached to the glass window for risk prevention.

■Specifications

Application	Cold and hot water, Oil			
Maximum working pressure	0.7 MPa			
Max. temperature	60°C		80°C	
Material	Body	Ductile cast iron	Cast iron	Stainless steel
	Glass	Hardened glass		
	Ball	Brass		Stainless steel
Nominal size	10-50A	10-150A	10-40A	10-25A
Connection	JIS Rc screwed	JIS 10K FF flanged	JIS Rc screwed	JIS 10K FF flanged

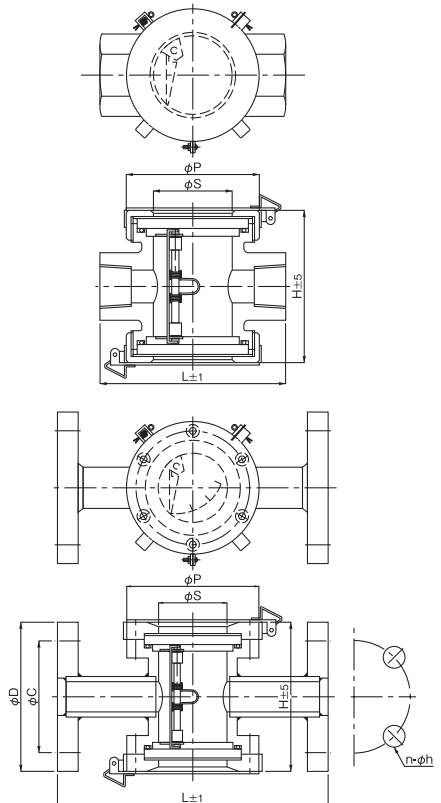
■Dimensions (mm) and Weights (kg)

· Screwed type

Nominal size	L	H	S	P	Weight
10A	100	74	40	71	0.9
15A	100	74	40	71	1.0
20A	110	92	46	78	1.4
25A	120	94	52	84	1.8
32A	150	132	70	110	4.0
40A	150	132	70	110	4.0
50A	160	142	70	110	7.5

· Flanged type

Nominal size	C	D	H	S	P	L	Weight
10A	65	90	80	40	80	160	3.0
15A	70	95	80	40	80	160	3.0
20A	75	100	100	46	88	180	3.9
25A	90	125	102	52	96	180	5.4
32A	100	135	140	75	120	180	8.0
40A	105	140	140	75	120	180	8.0
50A	120	155	150	80	128	220	11.0
65A	140	175	200	120	180	270	19.0
80A	150	185	200	120	180	270	21.0
100A	175	210	230	160	240	320	33.0
125A	210	250	270	180	260	380	43.0
150A	240	280	300	200	300	420	69.0



For special specifications or high-precision flow measurement, please contact to us.

# FS-M (Magnet following type)

- Plain
- Flap
- Ball
- Spinner
- Stainless
- Mica plate
- Protective wire mesh
- With protective cover

## ■Features

1. Seen clearly the flap opening even in the opaque fluid.  
One side is magnetic coupling and indicators are instructed by the outside of the contact body. The other side is the normal flow site and it can be checked the fluid state.
2. It can be used for low pressure piping of small pressure loss due to the main parts are only flap.
3. It can record the flow rate scale to the guide version.

## ■Specifications

Application		Cold and hot water, Oil			
Maximum working pressure		0.7 MPa			
Max. temperature		60°C		80°C	
Material	Body	Ductile cast iron	Cast iron	Stainless steel	
	Glass	Hardened glass			
	Flap	Brass		Stainless steel	
Nominal size		10-50A	10-150A	10-25A	10-150A
Connection		JIS Rc screwed	JIS 10K FF flanged	JIS Rc screwed	JIS 10K FF flanged



**KASKO DEMİRÇELİK MAKİNE VE İNŞAAT SANAYİ TİCARET LİMİTED ŞİRKETİ**

**Güzelyurt Mah. Mehmet Akif Ersoy Cad. No: 38 Gökdemir Plaza Kat: 3 Ofis: 24 Zip Code:  
34524 Esenyurt / İSTANBUL**

Tel: +90 850 441 25 67

Cell: +90 541 699 01 34

info@kaskomakine.com

kaskomakine.com