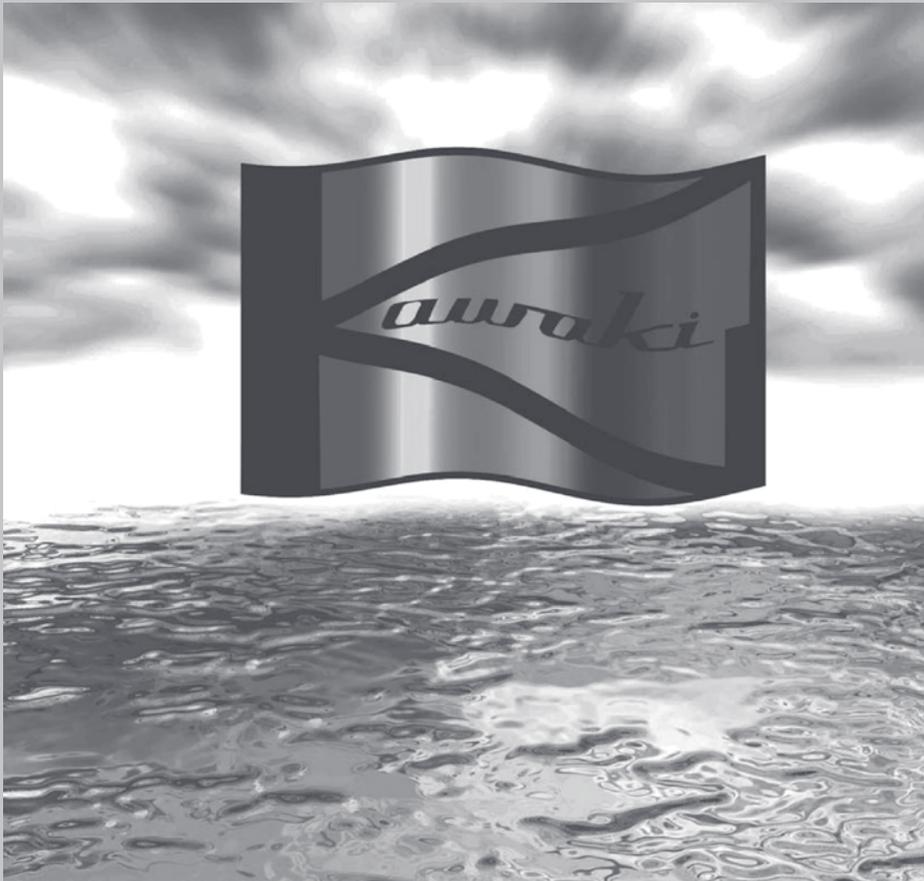




*Kawraki*



*Kawraki*

## SF FLOW METER & FLOW SWITCH



SF-MA



SF-MA  
(water proof type)

- Types: SF-M: Instantaneous flow indicator  
 SF-MA: Instantaneous flow indicator + lower (or upper) microswitch  
 SF-MAA: Instantaneous flow indicator + lower & upper microswitches

Diameter: 3/8B-12B flanged type  
 Rc 3/8-Rc 1-1/2 screwed type  
 Withstanding Pressure: Standard: 1.0 MPa  
 Special order: 30 MPa  
 Temperature: Standard: 80°C or less  
 Special order: 300°C or less

Accuracy: ±3% of readings

Contact Capacity:

Microswitches used for contacts are classified into the following three types according to diameter and flow rate:

- 15A: 125, 250 or 480 VAC
- 0.5A: 125 VDC    0.25A: 250 VDC
- 5A: 125 or 250 VAC
- 0.5A: 125 VDC    0.25A: 250 VDC
- 10A: 125 or 250 VAC

Characteristics:

- Most suitable for opaque liquids (oils, etc), high-temperature and high-pressure fluids. No restrictions on flow direction.
- The contact of the SF-MA-MAA standard flow switch is internally variable, but an external variable type can also be manufactured for frequent variations.
- Complete waterproof type (IEC IP67) is also manufactured for outdoor or severe-atmosphere use.

Construction: Body: FC250. CAC406  
 SS400. SUS304. SUS316. SUS316L  
 Main parts: C3604B  
 SUS304. SUS316. SUS316L

Note

- For use in high vibration places, use vibration-proof type.

## SA FLOW METER & FLOW SWITCH

(Proximity switches are used for small flow rate)



SA-M



SA-MA  
(external variable type)

- Types: SA-M: Instantaneous flow indicator  
 SA-MA: Instantaneous flow indicator + lower (or upper) proximity switch contact  
 SA-MAA: Instantaneous flow indicator + lower & upper proximity switch contacts

Diameter: 3/8B-1B flanged type  
 Rc 3/8-Rc 1 screwed type  
 Withstanding Pressure: Standard: 1.0 MPa  
 Temperature: Standard: 80°C or less  
 Special order: 300°C or less

Accuracy: ±3% of readings

Contact Capacity: 50 W: 0.5A, 125 VAC  
 Self-holding proximity switch

Characteristics:

- Most suitable for relatively small flow rates (0-15 L/min in water) of opaque liquids (oils, etc.), high-temperature and high-pressure fluids.
- No restrictions on the flow direction.

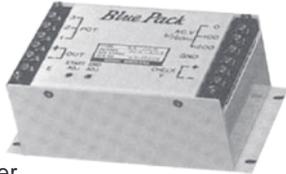
Construction: Body: FC250. CAC406  
 SS400. SUS304. SUS316. SUS316L  
 Main parts: C3604B  
 SUS304. SUS316. SUS316L

Note

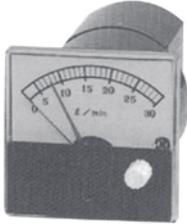
- For use in high vibration places, use vibration-proof type.

**SH FLOW METER** (SF Type with Electronic Transmitter)

Transmitter



Converter



Indicator

This flow meter is an SF type incorporating a transmitter that transmits instantaneous flow rates. Characteristics etc., are the same as those of the SF type.

Diameter: 3/8B-12B flanged type  
Rc 3/8-Rc 1/2 screwed type

Withstanding Pressure: 1.0 MPa

Accuracy:  $\pm 3\%$  of readings

Power Source: 100 V / 200 VAC, 12 V / 24 VDC

Output: 4-20 mA DC, 1-5 V DC

Structure of Transmitter:

Body: FC250. CAC406. SUS304. SUS316. SUS316L

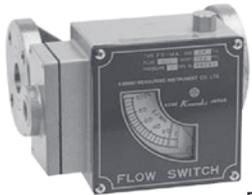
Main parts: C3604B. SUS304. SUS316. SUS316L

**FY FLOW METER & FLOW SWITCH** (Compact SF Type)

FY-M



FY-MA

FA-MA  
(external variable type)

Types: FY-M: Instantaneous flow indicator

FY-MA: Instantaneous flow indicator + lower (or upper) microswitch

Diameter: 3/8B-5B flanged type  
Rc 3/8-Rc 1-1/2 screwed type

Withstanding Pressure: 1.0 MPa

Temperature: Standard: 80°C or less

Accuracy:  $\pm 3\%$  of readings

Contact Capacity: 5A: 125 or 250 VAC

0.5A: 125 VDC 0.25A: 250 VDC

Characteristics:

- Most suitable for opaque liquids (oils, etc), high-temperature and high-pressure fluids. No restrictions on flow direction.
- Available with external contact variable type.

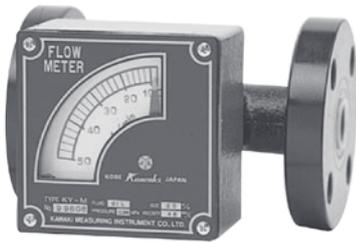
Construction: Body: FC250. CAC406. SUS304

Main parts: C3604B. SUS304

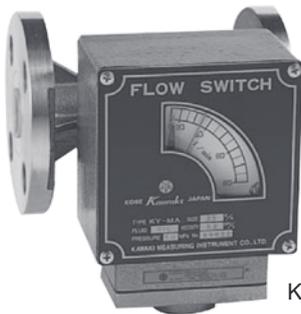
Note

- For use in high vibration places, use vibration-proof SF type.
- For 1.0 MPa or higher operating pressure, use the SF type designed for high pressure.
- Complete waterproof type (IEC IP67) is also manufactured for outdoor or severe-atmosphere use.

## KY FLOW METER & FLOW SWITCH



KY-M



KY-MA

Types: KY-M: Instantaneous flow indicator

KY-MA: Instantaneous flow indicator + lower (or upper) microswitch

Diameter: 3/8B-5B flanged type

Rc 3/8-Rc 1-1/2 screwed type

Withstanding Pressure: 1.0 MPa

Temperature: 80°C or less

Accuracy: ±5% of reading

Contact Capacity: 15A: 125, 250 or 480 VAC

0.5A: 125 VDC 0.25A: 250 VDC

Applications:

Most suitable for flow rate indications and alarms for lubricating oil and fluids containing iron powder.

Characteristics:

- Most suitable for opaque liquids because the indicating section is mechanically sealed from fluid.
- No restrictions on the flow direction.
- The contact position is variable.

Construction:

Body: FC250. CAC406. SUS304

Main parts: C3604B. SUS304

Note

- For use in high vibration places, use vibration-proof SF type.
- For 1.0 MPa or greater operating pressure, use the SF type designed for high pressure.
- The scale range is 0-30 L/min in water terms, and 0-20 L/min in oil terms.

## FLOW KILLER (Thermistor Flow Meter)



FK

Type: FK

This flow meter, using thermistor characteristics, has no movable parts structurally. Fluids to be measured include water or aqueous solutions.

Diameter: 1B-12B flanged type

Operating Pressure: 1.0 MPa

Withstanding Pressure: 1.5 MPa

Liquid Temperature: 0-80°C

Ambient Temperature: -20°C to +60°C

Accuracy: ±3% FS

Indication: LED

Output: 4-20 mA DC, two switching points: S<sub>1</sub> and S<sub>2</sub> can be set independently.

Power Source: 100, 200 VAC

Characteristics:

- Little or no trouble and no pressure loss because there are no movable parts.
- No restrictions on installation of piping, allowing horizontal and vertical piping (in a full condition).
- This flow meter can be used in magnetic fields because of LED indication, and can be used for pure water measurement.
- The waterproof class is IEC IP67 and can be used outdoors.

**RIVER FLOW** (Gear Type Flow Meter)

## ●RF- I : Field Indication Type (Instantaneous + Integrated Indication)

This compact high-precision flow meter measures not only water and oils, but also chemicals. The rotations of two three-lobe elliptic gears output signals directly proportional to flow rates. Receiving the signals, the indicator provides field indication of instantaneous flow rates or integrated flow rates.



RF-I



G36-301



RF-S

RF-I-S

Diameter: Rc 1/8-Rc 3/8

Operating Pressure: 1.0 MPa

Withstanding Pressure: 1.5 MPa

Liquid Viscosity: 1,000 mm<sup>2</sup>/s or less

Ambient Temperature: -5°C to +40°C

Liquid Temperature: 0-80°C

Operating Humidity: 45-85% RH

Accuracy: ±1%

Indication: Instantaneous flow rate indication: 4 digits  
Integrated flow rate indication: 8 digits

## ●RF- II : Electronic Transmission Type

Field indication type (integrated type)

Remote transmission type (separate type)

(instantaneous + integrated  
indication + analog output + high/  
low alarm contact)

Pulse (contact) signals from the transmitter (RF-S) can be output variously by using a converter in accordance with the application. Available with integrated type (RF- II) in which the transmitter (sensor section), converter and indicating section are integrated, and separate type (RF- II-S).



RF-II



KSP-582



RF-S

RF-II-S

Power Source: AC 100 V / 200 V ±10%

DC 12 V / 24 V (option)

Output Signals: Current Output: 4-20 m ADC

Voltage Output: 0-1 V, 0-5 V, 0-10 V, 1-5 V

Relay Output: Instantaneous high/low alarm contact

## RFH for High-Viscosity and High-Pressure Fluids

(Instantaneous + Integrated Indication)



RFH

This RIVER FLOW is modified for high-viscosity and high-pressure fluids, which is most suitable for measuring the flow rates of greases, and in hydraulic circuits of construction equipment, earthmoving equipment, etc.

Diameter: Rc 1/4-Rc 1/2  
 Operating Pressure: 21 MPa  
 Withstanding Pressure: 31 MPa  
 Operating NLGL No. and Consistency: NLGL: NLGL NO. 066-6  
 Consistency range: 85-475  
 Ambient Temperature: -5°C to +40°C  
 Liquid Temperature: 0°C to 80°C  
 Accuracy: ±1%  
 Indication: Instantaneous flow rate indication: 4 digits  
 Integrated flow rate indication: 8 digits

Characteristics:

- No restrictions on the installation location in piping lines as it can be used in 21 MPa oil pressure lines.
- Can be used for grease of any consistency.
- Can also be used as a stroke gauge on construction equipment, earthmoving equipment, etc.

## FS-C / FS-N SIGHT FLOW INDICATORS WITH NEEDLE VALVE



FS-C



FS-N

Types: FS-C: The capped needle valve prevents access by unauthorized personnel after setting the oil level.  
 FS-N: The needle valve is a vibration-proof 2.0 MPa type, allowing high-precision adjustment of trace amounts.

Diameter: FS-C: Rc 1/4 to Rc 1-1/2  
 FS-N: Rc 1/4 to Rc 1

Withstanding Pressure: 1.0 MPa

Temperature: 80°C or less

Construction:	FS-C: Flow sight body	FCD450
	main parts	C2801P
	Needle valve body	CAC406
	main parts	C3604B
	FS-N: Flow sight body	FCD450
	main parts	C2801P
	Needle valve body	C3771B
	main parts	C3604B

Note

- In order to prevent damage to window glass, the FS-K type, complying with fire laws, with a steel protective cover and with no window glass, is also available. For small flow rates and for measuring deep-black oils, use the FS-O type.

## FI SIGHT FEED INDICATOR



FI

Types: FI-1 to FI-12

The flow direction is from side to bottom, and the inlet side is provided with a needle valve so that oil amounts can be controlled.

Diameter:	Inlet	Outlet
FI-1:	Rc 1/4 × Rc 1/2	max. flow rate 3 L/min.
FI-2:	Rc 3/8 × Rc 1/2	max. flow rate 3 L/min.
FI-3:	Rc 1/2 × Rc 1/2	max. flow rate 3 L/min.
FI-4:	Rc 1/4 × Rc 3/4	max. flow rate 5 L/min.
FI-5:	Rc 3/8 × Rc 3/4	max. flow rate 5 L/min.
FI-6:	Rc 1/2 × Rc 3/4	max. flow rate 5 L/min.
FI-7:	Rc 3/4 × Rc 3/4	max. flow rate 5 L/min.
FI-8:	Rc 1/4 × Rc 1	max. flow rate 5 L/min.
FI-9:	Rc 3/8 × Rc 1	max. flow rate 5 L/min.
FI-10:	Rc 1/2 × Rc 1	max. flow rate 5 L/min.
FI-11:	Rc 3/4 × Rc 1	max. flow rate 5 L/min.
FI-12:	Rc 1 × Rc 1	max. flow rate 10 L/min.

Withstanding Pressure: 1.0 MPa

Temperature: 80°C or less

Construction: Body: AC-8BT6  
Main parts: C3604B  
Needle valve: SUS304

Note

- In order to prevent damage to the window glass, a steel-protective-cover-equipped type, complying with fire laws, is also manufactured.

## KFS FLOWING INDICATOR



KFS

Types: KFS

The flow direction is from bottom to top, and the inlet side is provided with a needle valve so that oil amounts can be controlled. Rough flow rates can be known from the float moving up and down according to changes in oil level.

Diameter: Inlet Rc 3/8 × Outlet Rc 3/8

Flow rate: 0-0.5 L/min. at 150 mm<sup>2</sup>/s & 0.2 MPa

Withstanding Pressure: 0.5 MPa

Temperature: 80°C or less

Construction: Body: SS400  
Main parts: S25C  
Float: C3604B

Note

- A 3-4 point flow rate scale is optionally available.

## MFI MULTIPLE SIGHT FLOW INDICATORS



MFI-6-15

Types: MFI-1 to MFI-10 (1-10 Sights)

Diameter: Inlet Rc 3/8-Rc 3/4

Outlet Rc 3/8

Flow rate: 0-6 L/min. at 220 mm<sup>2</sup>/s & 0.2 MPa

Withstanding Pressure: 0.5 MPa

Temperature: 80°C or less

Construction: Body: SS400. C3604B. SUS304

Main parts: S25C. C3604B. SUS304

Float: C3604B. SUS304

Note

· A 3-4 point flow rate scale is optionally available.

## B-MFI BLACK MULTIPLE SIGHT FLOW INDICATORS

The multiple sight flow indicators of this type are for black lubricating oils.

The flow rates of oils, the indications of which are difficult to see for the MFI type, can clearly be seen because of indications out of contact with liquids.



B-MFI-3-15

Types: B-MFI-1 to B-MFI-10 (1-10 Sights)

Diameter: Inlet Rc 1/2, Rc 3/4

Outlet Rc 3/8

Flow rate: Inlet Rc 1/2

0-3 L/min at 320 mm<sup>2</sup>/s & 0.2 MPa

Inlet Rc3/4

0-5 L/min at 320 mm<sup>2</sup>/s & 0.2 MPa

Withstanding Pressure: 0.1 MPa

Temperature: 80°C or less

Construction: Block: body: SS400. C3604B

Flow sight: body: CAC406

main parts: C2801P

Needle valve: body: CAC406

main parts: C3604B

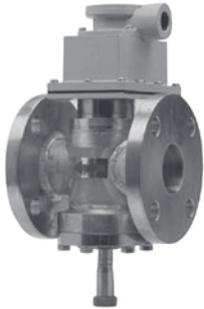
Note

· A 3-4 point flow rate scale is optionally available.

## NF FLOW SWITCH



NF- I



NF- II (waterproof Type)

This flow switch, working as a water (oil) failure/reduction relay, is used for detection and check of flow rates of cooling water, oils, etc.

Types: NF- I (fixed contact type)  
The set point cannot be moved.  
NF- II (variable contact type)  
The set point can be moved.

Diameter: 3/8B-3B flanged type  
Rc 3/8-Rc 2 screwed type

Withstanding Pressure: 1.0 MPa

Temperature: 80°C or less

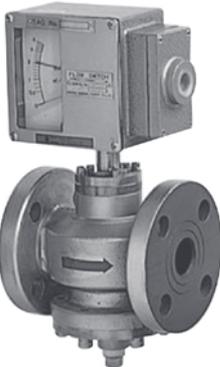
Contact Capacity: 15A: 125, 250 or 480 VAC

0.5A: 125 VDC 0.25A: 250 VDC

Construction: Body: FC250. CAC406. SS400. SUS304.  
SUS316. SUS316L

Main parts: C3604B. SUS304. SUS316. SUS316L

## INF FLOW METER & FLOW SWITCH



INF-MA

This flow meter & flow switch is an NF flow switch equipped with an indicator.

Though an area flow meter, it is a compact flow meter that can measure the flow rates of liquids and gases in horizontal piping.

Type: INF-M: Instantaneous flow rate indicator  
INF-MA: Instantaneous flow rate indicator +1 contact

Diameter: 3/8B-3B flanged type  
Rc 3/8-Rc 2 screwed type

Withstanding Pressure: 1.0 MPa

Temperature: 80°C or less

Contact Capacity: 5A: 125 or 250VAC

0.5A: 125 VDC 0.25A: 250VDC

Construction: Body: FC250. CAC406. SS400. SUS304.  
SUS316. SUS316L

Main parts: C3604B. SUS304. SUS316. SUS316L

## CY FLOW SWITCH (Flow Switch for Unfilled Conditions)



CY- I

This flow switch is most suitable for unfilled return oil (water) piping in which the piping is not filled with oil (water). This includes a needle for variable contact, the adjustment of which allows variations of the set flow rate.

Type: CY- I Standard type

Direction of flow: Side → bottom

Diameter: 3/8B-6B flanged type

Withstanding Pressure: 0.5 MPa

Temperature: 80°C or less

Contact Specifications: For 220 VAC as standard.

Max. contact capacity: 50 VAAC, 50 WDC

Max. operating current: 0.5 AAC, 0.5 ADC

Max. operating voltage: 300 VAC, 300 VDC

Max. contact resistance: 0.1Ω

Construction: Body: SS400. SUS304. SUS316

Main parts: C3604B. SUS304. SUS316

## SR FLOW METER



SR- I



SR- III



SR- II

Types: SR- I : Ribbed Pyrex glass tapered tube flow meter

SR- II : Inorganic glass tapered tube flow meter

SR- III : Methacrylic resin tapered tube flow meter

Diameter: SR- I : 3/8B-2B flanged type

SR- II : 3/8B-2B flanged type

SR- III : 3/8B-3B flanged type

Withstanding Pressure: SR- I : 3/8B-3/4B 1.0 MPa

1B-2B 0.7 MPa

SR- II : 3/8B-3/4B 1.0 MPa

1B-3B 0.7 MPa

SR- III : 3/8B-3/4B 1.0 MPa

1B-3B 0.7 MPa

Temperature: SR- I : 80°C or less

SR- II : 60°C or less

SR- III : 50°C or less

Accuracy: ±2% FS

Construction: Body: FC250. SS400. SUS304. SUS316. SUS316L. PVC

Float: SUS304. SUS316. SUS316L. PTFE. PVC. Ti

Stay: SS400. SUS304. SUS316

**TR FLOW METER** (Simple Type)

TR- I



TR- III

Types: TR- I : Pyrex glass tapered tube flow meter  
 TR- III: Methacrylic resin tapered tube flow meter

Diameter: TR- I : Rc 1/4-Rc 3/4  
 TR- III: Rc 1/4-Rc 3/4

Withstanding Pressure: TR- I : 1.0 MPa  
 TR- III: 1.0 MPa

Temperature: TR- I : 80°C or less  
 TR- III: 50°C or less

Accuracy: ±2% FS

Construction: Body: C3604B. SS400. SUS304. SUS316  
 Float: SUS304. SUS316. PTFE. PVC. Ti  
 Outer casing: SGP. SUS304TPA. SUS316TPA

**SR-II-P FLOW METER** (Panel Type)

SR- II -P-N

This SR flow meter for relatively small flow rates is modified for panel mounting or a stand type.

The outlet side or inlet side can also be equipped with a flow control needle valve.

Diameter: Rc 1/4-Rc 1/2

Flow rates:	Gas (air) max.	Liquid (water) max.
Rc 1/4	1 L/min-10 L/min	30 cc/min-300 cc/min
Rc 3/8	3 L/min-30 L/min	0.1 L/min-1 L/min
Rc 1/2	10 L/min-100 L/min	0.3 L/min-3 L/min

Withstanding Pressure: 1.0 MPa

Temperature: 60°C or less

Accuracy: ±2% FS

Construction: Body: C3604B. SUS304. SUS316. PVC  
 Float: SUS304. SUS316. PTFE. PVC. Glass

## KNR FLOW METER (Purge Meter)

This glass tapered tube flow meter measures micro flow rates of gases and liquids as it is mounted on a panel, directly mounted to piping, or mounted on a stand to monitor the flow rates of analytical instruments and measuring instruments.



KNR-3200



KNR-4000

	Without valve	With valve
Types:	KNR-100	KNR-100V
	KNR-1125	KNR-1225
	KNR-1150	KNR-1250
	KNR-1175	KNR-1275
	KNR-3100	KNR-3200
	KNR-4000	
	KNR-5000	

Diameter: Rc 1/8, Rc 1/4, Rc 1/2

Flow rates:	Rc 1/8	Gas	Liquid
	KNR-100	30-300 cc/min	
	KNR-1125	150-1,500 cc/min	5-50 cc/min
	KNR-1150	150-1,500 cc/min	5-50 cc/min
	KNR-1175	0.5-5 L/min	20-200 cc/min
	Rc 1/4		
	KNR-3100	10-100 L/min	0.3-3 L/min
	KNR-4000	10-100 L/min	0.3-3 L/min
	Rc 1/2		
	KNR-5000	30-300 L/min	2.5-25 L/min

Withstanding Pressure: 1.0 MPa

Temperature: 60°C or less

Accuracy: ±2% FS

Construction: KNR-100. KNR-1125 KNR-3100. KNR-4000  
KNR-1150. KNR-1175 KNR-5000

Body: C3604B Jurakon, PVC

Float: Carbon ball, SUS304 Glass, SUS304

Tapered tube: Hard glass Pyrex

## PMF/MMF FLOW METER



PMF



MMF

Types: PMF: Panel-mounted type

MMF: Metal-tube area mini flow meter

Diameter: 1/2B-1B flanged type

Rc 1/2-Rc 1 screwed type

Flow rates:	Gas	Liquid
1/2B	10 L/h-100 L/h	0.3-3 L/h
3/4B	0.2 m <sup>3</sup> /h-2 m <sup>3</sup> /h	10-100 L/h
1B	2.5 m <sup>3</sup> /h-25 m <sup>3</sup> /h	120-1,200 L/h

Withstanding Pressure: 1.0 MPa

Special specifications up to 30 MPa can be manufactured.

Temperature: 100°C or less

Special specifications up to 300°C can be manufactured.

Accuracy: ±3% FS

Construction: Body: SUS304. SIS316

Main parts: SUS316. Ti

## SMF FLOW METER (Metal-tube Area Type)



SMF-V

Types: SMF-B: Flow direction: Bottom → Side

SMF-V: Flow direction: Bottom → Top

SMF-H: Flow direction: Horizontal

Diameter: 1/2B-8B flange type

Withstanding Pressure: 1.0 MPa

Special specifications up to 50 MPa can be manufactured.

Temperature: 100°C or less

Special specifications up to 400°C can be manufactured.

Accuracy: ±2% FS

Construction: Body: SS400. SUS304. SUS316. PVC

Main parts: SUS304. SUS316. PVC

## SMC FLOW METER (Compact Type)



SMC-V

Types: SMC-B: Flow direction: Bottom → Side

SMC-V: Flow direction: Bottom → Top

SMC-H: Flow direction: Horizontal

Diameter: 1/2B-2B flanged type

Withstanding Pressure: 1.0 MPa

Temperature: 100°C or less

Accuracy: ±2% FS

Construction: Body: SS400. SUS304. SUS316

Main parts: SUS304. SUS316. Ti

## STF FLOW METER



STF

This area flow meter using a metal tapered tube, was developed specifically for measuring slurry fluids. This flow meter, using a ribbed glass tube for the indicating section, can also measure opaque liquids such as sludge, and does not cause a condition where the indication is difficult to read due to adhesion of scales, etc.

Diameter: 1/2B-8B flanged type  
 Withstanding Pressure: 0.7 MPa  
 Temperature: 80°C or less  
 Accuracy:  $\pm 2\%$  FS  
 Construction: Body: SS400. SUS304. SUS316. SUS316L  
 Main parts: SUS304. SUS316. SUS316L  
 Liquid-contact lining: Rubber  
 Epoxy resin  
 PVC

## STF-T FLOW METER



STF-T

This STF flow meter provided with an air chamber between the connecting section and indicating section, was manufactured specifically for slurry fluids. Structurally, slurries have difficulty entering the indicating section even if large amounts of sand, dust, etc. are mixed in fluids.

Diameter: 1/2B-8B flanged type  
 Withstanding Pressure: 0.7 MPa  
 Temperature: 80°C or less  
 Accuracy:  $\pm 2\%$  FS  
 Construction: Body: SS400. SUS304. SUS316. SUS316L  
 Main parts: SUS304. SUS316. SUS316L  
 Liquid-contact lining: Rubber  
 Epoxy resin  
 PVC

## STF-S FLOW METER



This flow meter uses a metal tapered tube with the indicating section magnet-coupled out of liquids to be measured. There are two types: STF-S- I transmitting from remote locations through conversion into linear analog pneumatic signals between 0.02 and 0.098 MPa by pneumatic transmitter incorporated in the indication case, and STF-S- II transmitting electric signals.

Types: STF-S(A): Instantaneous field indication (with contact)  
 STF-S-T: Instantaneous field indication +field integration  
 STF-S- I : Instantaneous field indication +pneumatic transmission  
 STF-S- II : Instantaneous field indication +electric transmission

Diameter: 1/2B-8B flanged type

Withstanding Pressure: 1.0 MPa

\* Those for high pressure are also available.

Temperature: 80°C or less

Accuracy: ±2% FS

Construction: Body: SS400  
 SUS304. SUS316. SUS316L  
 Main parts: SUS304. SUS316. SUS316L

## STF-H FLOW METER



The measurement principles of this flow meter use the same as that of the SR flow meters, except that the tapered tube section is made of metal for high-temperature and high-pressure opaque liquids with the indicating section taken at the top.

Diameter: 1/2B-6B flanged type

Withstanding Pressure: 0.7 MPa

Temperature: 80°C or less

Accuracy: ±2% FS

Construction: Body: SS400  
 SUS304. SUS316. SUS316L  
 Main parts: SUS304. SUS316. SUS316L



## FR AUTOMATIC FLOW CONTROL VALVE



FR-S

This constant flow control valve maintains the outlet flow rate constant even if the inlet pressure fluctuates.

Applications: For maintaining feed oil (water) constant.  
For protection including prevention of excessive flow rates, and functioning as a safety valve when hydraulic piping or the like bursts.  
For uniform water supply equipment, and maintain flow rates constant in other cases.

Diameter: 3/8B to 2-1/2 flanged type  
Rc 3/8-RC 1-1/2 screwed type

Withstanding Pressure: 2.0 MPa-25 MPa

Temperature: 80°C or less

Construction: SS400. C3604B. SUS304

## SV SAFETY VALVE (for High Pressure)



SV- II

Types: SV- I : Diameter Rc 3/4  
 Maximum pressure 21 MPa  
 SV- II : Diameter Rc 1  
 Maximum pressure 11 MPa

Withstanding Pressure: 31.5 MPa

Operating Fluids: Oils

Characteristics:

- Its special valve structure has good response characteristics to severe blowouts.
- The high quality material of the spring assures excellent reproducibility of the set pressure.
- Through designed to resist high pressure, it is compact and low-priced.

Construction: Body: SS400  
 Main Parts: SUS304  
 Spring: SWOCV-V

## CV RUGGED CHECK VALVE (for High Pressure)



CV- I

Types: CV- I : Diameter 2B  
 CV- II : Diameter 4B  
 CV- III : Diameter 6B

Operating Pressrue: 11 MPa

Withstanding Pressure: 18 MPa

Characteristics:

- Reliable and quiet operation.
- Lightweight compared with other products.
- Low-priced and quick delivery.

Construction: Body: SS400  
 Main parts: SUS304

**MS-FLOW METER OF NON-SPRING DYNAMIC PRESSURE PLATE TYPE**

(Japanese Utility Model No.2004042)



Standard flow meter



High-pressure flow meter



Magnetic shielding flow meter

This flow meter has been developed for the purpose of measuring corrosive fluids (plating liquids, etc.)

Conventionally, spring-incorporated or metal tapered tube flow meters would be used for measuring this kind of liquid, but the main parts of the flow meters would seriously deteriorate over time, and their service lives are extremely short due to corrosive fluids. This flow meter, having been then developed, operated on an absolutely physical principle, and it is highly durable, and its performance will not deteriorate when used with corrosive fluids.

Diameter: 2B-8B flanged type

Temperature: 80°C or less (non-freezing)

Acid Resistance: PH1-7

Withstanding Pressrue: 0.3 MPa

\* 0.5 MPa can also be ordered specially.

Characteristics:

- Most suitable for measuring corrosive fluids (plating liquids, etc.)
- Contaminated liquids can clearly be measured because of the indicating section out of contact with the liquid.
- The scale is relatively linear because it is balanced by using a special toggle link mechanism relative to the fluid energy.
- The absolutely physical flow meter hardly deteriorates over time.
- The flow meter is compact and lightweight.
- There are three flow directions: horizontal; left ⇔ right, and from bottom to top. The flow direction from top to bottom is not available.
- Can also be used in magnetic fields by using a magnetic shielding case.

Construction: Body: HTPVC (FRP lining)

Main parts: Ti. SUS16. SUS316L