



ISO 9001 Certified
JQA-2172

GENERAL GUIDANCE

THIRD EDITION

Flowmeters and Levelmeters

Flow Measurement Instruments

Level Measurement Instruments

Other Instruments

Contents

For making the best choice

In this General Guidance, Tokyo Keiso's products are categorized into standard products and semi-standard products. Please first consider choosing standard products. If none are suitable for your purposes, then select semi-standard products. Detailed specifications can be found in respective product catalogs. Please contact us.

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FLOW MEASUREMENT AND CONTROL INSTRUMENTS

A wide variety of instruments are available for various flow measurement applications.

The following symbols are applicable to flow measurement and control instruments on Page 2 to 20.

Applicable fluids



: For liquid measurement



: For gas measurement



: For steam measurement

Explosion-proof

Exd : Flameproof types available

Exi : Intrinsically safe types available

Nominal flow rate of variable area flowmeters

In this catalog, the following fluids are used for the measuring range of each model.

Liquid: Water with a density of 1.0 g/cm³ and a viscosity of 1.0 mPa·s

Gas: Air at 0°C, 0 MPa (1 atm)

If actual operating conditions differ from the above, correct the values with the formulas given below.

For gas measurement

Correct the value considering the density, pressure, and temperature of the measuring gas.

1. When the flow rate is indicated in the normal condition 2. When the flow rate is indicated in operating conditions

$$Q_{sc} = Q_s \times \sqrt{\frac{Y_s}{1.293}} \times \sqrt{\frac{273+T_s}{273}} \times \sqrt{\frac{0.1013}{0.1013+P_s}}$$

Q_{sc} : Corrected flow rate

Q_s : Flow rate of the measuring gas in actual conditions

(Flow rate in normal conditions: 0°C, 0 MPa)

Y_s : Density of the measuring gas (kg/m³ (norm))

T_s : Operating temperature (°C)

P_s : Operating pressure (MPa)

$$Q_{sc} = Q_s \times \sqrt{\frac{Y_s}{1.293}} \times \sqrt{\frac{273}{273+T_s}} \times \sqrt{\frac{0.1013+P_s}{0.1013}}$$

Q_{sc} : Corrected flow rate

Q_s : Flow rate of the measuring gas in actual conditions

(Flow rate in operating conditions: T_s °C, P_s MPa)

Y_s : Density of the measuring gas (kg/m³ (norm))

T_s : Operating temperature (°C)

P_s : Operating pressure (MPa)

For liquid measurement

When the density of the measuring liquid is not 1.0 g/cm³

$$Q_{sc} = Q_s \times \sqrt{\frac{Y_s(Y_f-1)}{(Y_f-Y_s)}}$$

Q_{sc} : Corrected flow rate

Q_s : Flow rate of the measuring liquid

Y_s : Density of the measuring liquid (g/cm³)

Y_f : Density of the float (g/cm³)

Table of float density

Float material	Fluorocarbon resin	Glass	Ruby	PVC	Stainless steel	Titanium	MA270 (equivalent to Hastelloy C)	Stainless steel AM7000
Density (g/cm ³)	2.2	2.67	4	1.45	7.9	4.5	8.94	7.7
Flowmeter	Glass tube flowmeter						Metal tube flowmeter	

Note: 1. Some models have weights in the float, which increases the density.

2. Some models will be affected by fluids with a density of 1 mPa·s or larger. See the respective product catalogs.

Properties of gases

	Gas	Molecular formula	Density (kg/m ³) (norm)		Viscosity (mPa·s)		Gas	Molecular formula	Density (kg/m ³) (norm)		Viscosity (mPa·s)	
			at 0°C, 0 MPa	at 20°C	at 0°C	at 20°C			at 0°C, 0 MPa	at 20°C	at 0°C	at 20°C
Inert gases	Ammonia	NH ₃	0.7713	0.0093	0.0100		Common gases	Acetylene	C ₂ H ₂	1.171	0.0096	0.0102
	Argon	Ar	1.783	0.0212	0.0222			Acetone	C ₃ H ₆ O	2.593	0.0066	—
	Nitrous oxide	N ₂ O	1.988	0.0137	0.0146			Isobutane	C ₄ H ₁₀	2.595	0.0069	0.0074
	Nitrogen oxide	NO	1.340	0.0179	0.0188			Isopropyl alcohol	C ₃ H ₈ O	2.683	0.0070	—
	Carbon monoxide	CO	1.250	0.0166	0.0177			Ethanol	C ₂ H ₆ O	2.057	0.0075	—
	Carbon dioxide	CO ₂	1.977	0.0138	0.0147			Ethane	C ₂ H ₆	1.356	0.0086	0.0092
	Sulfurous acid gas	SO ₂	2.927	0.0116	0.0126			Ethyl ether	C ₂ H ₅ O	3.309	0.0068	—
	Hydrogen chloride	HCl	1.639	0.0131	0.0143			Ethylene	C ₂ H ₄	1.260	0.0094	0.0101
	Chloride	Cl ₂	3.214	0.0123	0.0132			Ethyl chloride	C ₂ H ₅ Cl	2.880	0.0094	—
	Air	(AIR)	1.293	0.0171	0.0181			Methyl chloride	CH ₃ Cl	2.308	0.0098	0.0106
	Oxygen	O ₂	1.429	0.0192	0.0203			Methylene chloride	CH ₂ Cl ₂	3.792	0.0091	0.0099
	Cyanogen	C ₂ N ₂	2.335	0.0093	—			Chloroform	CHCl ₃	5.329	0.0093	0.0100
	Hydrogen bromide	HBr	3.645	0.0170	—			Butane	C ₄ H ₁₀	2.703	0.0069	0.0074
	Bromine	Br ₂	7.139	0.0146	0.0153			Propane	C ₃ H ₈	2.020	0.0075	0.0080
	Hydrogen	H ₂	0.08994	0.0084	0.0088			Propyl alcohol	C ₃ H ₇ O	2.683	0.0068	—
	Nitrogen	N ₂	1.251	0.0166	0.0175			Propylene	C ₃ H ₆	1.879	0.0078	0.0084
	Fluorine	F ₂	1.696	—	—			Hexane	C ₆ H ₁₄	3.847	0.0059	—
Other gases	Hydrogen sulfide	H ₂ S	1.539	0.0117	0.0124			Benzene	C ₆ H ₆	3.488	0.0068	0.0074
	Helium	He	0.1785	0.0186	0.0196			Pentane	C ₅ H ₁₂	3.221	0.0062	—
								Methanol	CH ₃ O	1.430	0.0087	—
								Methane	CH ₄	0.7168	0.0102	0.0108
								Methyl ether	C ₂ H ₆ O	2.057	0.0085	0.0091
								Utility gas	13A	0.8405	—	0.0130

AM series Metal Tube Flowmeter



AM3000 series

Micro flowmeter with current output



Model		AM3000/E1	AM3000/H1
Fluid		Liquid, gas	
Function		Local indication + Current output	Local indication + Current output + HART communication
Measuring range (water)	Min.	0 to 2 L/h	
	Max.	0 to 600 L/h	
Measuring range (air)	Min.	0 to 60 L/h (nor)	
	Max.	0 to 17000 L/h (nor)	
Transmitter construction		-Dust-tight, immersion-proof -Intrinsically safe -Flameproof	
Connection size		-Rc 1/4 to 3/4 -10 mm to 25 mm flange	
Standard material		SUS304, SUS316, SUS316L	
Available material		MA276, titanium	

AM7000 series

Metal tube flowmeter for general purposes



Model		AM7000	AM7000/T	AM7000/R/N/M	AM7000/E/H/P
Fluid		Liquid, gas, steam			
Function		·Local indication	·Local indication ·Local totalization ·Totalized pulse output ·Alarm output	·Local indication ·Alarm output R: Reed switch N: Proximity switch M: Micro switch	·Local indication E: Current output H: Current output + HART communication P: PROFIBUS PA
Measuring range (water)	Min.	0 to 0.1 m³/h			
	Max.	0 to 150 m³/h			
Measuring range (air)	Min.	0 to 2.92 m³/h (nor)			
	Max.	0 to 1233.8 m³/h (nor)			
Connection size		15 mm to 150 mm			
Standard material		SUS304, SUS316, SUS316L			
Available lining		Rubber lining, fluorocarbon resin lining, PVC lining, glass lining			

AM9100 series

250 mm unified installation length



Model		AM9100	AM9100/T	AM9100/R/N/M	AM9100/E/H/P
Fluid		Liquid, gas, steam			
Function		-Local indication	-Local indication -Current output -Local totalization -Totalized pulse output -Alarm output	-Local indication -Alarm output R: Reed switch N: Proximity switch M: Micro switch	-Local indication E: Current output H: Current output + HART communication P: PROFIBUS PA
Measuring range (water)	Min.	0 to 0.035 m³/h			
	Max.	0 to 200 m³/h			
Measuring range (air)	Min.	0 to 1 m³/h (nor)			
	Max.	0 to 1723 m³/h (nor)			
Face-to-face dimension		250 mm for 125 mm connection size, 300 mm for 150 mm connection size			
Connection size		Liquid: 15 mm to 150 mm, Gas: 15 mm to 100 mm			
Standard material		SCS16/316LSS			

M-900 series Micro Flowmeter

Metal tube flowmeter for micro flow measurement



Exi

Model		M-900	M-910	M-950
Function		Local indication	Local indication + Pneumatic output	Local indication + Alarm output
Fluid		Liquid, gas		
Measuring range (water)	Min.	0 to 2 L/h	0 to 2 L/h	0 to 2 L/h
	Max.	0 to 600 L/h	0 to 300 L/h	0 to 600 L/h
Measuring range (air)	Min.	0 to 60 L/h (nor)	0 to 60 L/h (nor)	0 to 60 L/h (nor)
	Max.	0 to 17000 L/h (nor)	0 to 8500 L/h (nor)	0 to 17000 L/h (nor)
Connection size		·Rc 1/4 to Rc 1/2 ·10 mm to 25 mm flange	·Rc 1/4 to Rc 1/2 ·10 mm to 25 mm flange	·Rc 1/4 to Rc 1/2 ·10 mm to 25 mm flange
Output		—	20 to 100 kPa	Alarm: Reed switch
Operating pressure		10 MPa	10 MPa	10 MPa
Operating temperature		0 to 149°C	0 to 80°C	0 to 80°C
Indication accuracy		±3% F.S.	±5% F.S.	±3% F.S.
Standard material		SUS304		
Available material		SUS304, SUS316, SUS316L, titanium, MA276		

AC series Resin Flowmeter



With alarm

Model		AC-□□□
Fluid		Liquid
Measuring range (liquid)	Min.	0 to 3 L/min
	Max.	0 to 20 m³/h
Connection size		15 mm to 50 mm
Connection		·RC screw ·TS socket ·Flange
Function		·Local indication ·Alarm
Material	Body	PVC
	Tapered tube	Acryl

R series Glass Tube Flowmeter



Model		R-101	R-101-E
Fluid		Gas, liquid	
Measuring range (water)	Min.	0 to 9 L/h	0 to 250 L/h
	Max.	0 to 52 m³/h	0 to 100 m³/h
Measuring range (air)	Min.	0 to 150 L/h (nor)	0 to 4.5 m³/h (nor)
	Max.	0 to 1000 m³/h (nor)	0 to 1100 m³/h (nor)
Connection size		10 mm to 100 mm	15 mm to 100 mm
Additional function		Alarm output	Alarm output
Standard body material		FC200	SS400
Available body material		SUS304, SUS316, SUS316L	SUS304, PVC, HT-PVC
Available lining		·Rubber lining ·Glass lining ·PVC lining	·PVC lining

AM series Slurry Flowmeter

Smooth path and high wear-resistance



Exd
Exi

Model		AM7000/SL
Fluid		Liquid
Measuring range (liquid)	Min.	0 to 0.1 m³/h
	Max.	0 to 150 m³/h
Connection size		15 mm to 150 mm
Standard material		SUS304
Available material		SUS316, SUS316L, PVC

For detailed specifications, see the AM7000 series.

SR series Sanitary Flowmeter

Suitable for food and pharmaceutical processes



Exd
Exi

Model	R-101-SR	R-101-SRE	AM7000/SR
Fluid	Liquid		
Measuring range (liquid)	0 to 50 L/h	0 to 0.25 m³/h	0 to 0.1 m³/h
Min.	0 to 7600 L/h	0 to 23 m³/h	0 to 70 m³/h
Max.			
Size	10 mm to 50 mm	15 mm to 65 mm	20 mm to 100 mm
Connection size	1S to 2-1/2S	1S to 3S	1S to 4-1/2S
Buff polishing	#320 to #400		
Standard material	SUS304		
Available material	SUS316, SUS316L		

For detailed specifications, see the AM7000 series.

P series Purgemeter



Model	P-100	P-200	P-400	P-510
Fluid	Liquid, gas			
Measuring range (water)	0 to 50 mL/min	0 to 2 L/min		0 to 1 L/min
Min.				0 to 30 L/min
Max.				
Measuring range (air)	0 to 20 mL/min (nor)	0 to 50 mL/min (nor)	0 to 800 mL/min (nor)	0 to 25 L/min (nor)
Min.	0 to 50 L/min (nor)	0 to 60 L/min (nor)		0 to 600 L/min (nor)
Max.				
Face-to-face dimension	115 mm		200 mm	
Alarm		·Reed switch ·Optical alarm	-	·Reed switch ·Optical alarm
Available body material	SUS304/SUS316			
Standard connection size	1/4"			



Model	P-530	P-810	P-820	P-830
Fluid	Liquid, gas			
Measuring range (water)	0 to 2 L/min	0 to 50 mL/min		0 to 1 L/min
Min.	0 to 10 L/min	0 to 2 L/min		0 to 7 L/min
Max.				
Measuring range (air)	0 to 50 L/min (nor)	0 to 50 mL/min (nor)	0 to 20 mL/min (nor)	-
Min.	0 to 250 L/min (nor)	0 to 60 L/min (nor)		-
Max.				
Face-to-face dimension	150 mm	·145 mm ·224 mm	·115 mm ·224 mm	76 mm
Alarm	Reed switch	Optical alarm	·Reed switch ·Optical alarm	Reed switch
Available body material	SUS304/SUS316	SCS14		SCS14
Standard connection size	3/8"	1/4"		3/8"

P series Purgemeter



Model		P-850	P-880	P-010	P-060	XP
Fluid		Liquid, gas	Gas	Liquid, gas		
Measuring range (water)	Min.	0 to 100 mL/min	–	0 to 50 mL/min	0 to 100 mL/min	0 to 0.1 L/min
	Max.	0 to 1 L/min	–	0 to 2 L/min	0 to 10 L/min	0 to 1 L/min
Measuring range (air)	Min.	0 to 1 L/min (nor)	0 to 1.5 mL/min (nor)	0 to 1 L/min (nor)	0 to 2 L/min (nor)	0 to 1 L/min (nor)
	Max.	0 to 15 L/min (nor)	0 to 60 L/min (nor)	0 to 50 L/min (nor)	0 to 300 L/min (nor)	0 to 20 L/min (nor)
Face-to-face dimension		80 mm	•115 mm •130 mm •145 mm	115 mm	84 mm	80 mm
Alarm		–	–	–	Reed switch	Optical alarm
Available body material		SCS14			Acryl	Polycetal
Standard connection size		1/8"	1/4"		1/8" to 3/8"	1/4"

P-700 series All Fluorocarbon Resin Purgemeter



Model		P-710	P-771	P-772
Fluid		Liquid	Liquid	Liquid
Measuring range (water)	Min.	0 to 30 mL/min	0 to 15 mL/min	0 to 0.6 L/min
	Max.	0 to 2 L/min	0 to 2 L/min	0 to 45 L/min
Measuring range (air)	Min.	0 to 500 mL/min (nor)	–	–
	Max.	0 to 20 L/min (nor)	–	–
Face-to-face dimension		79 mm	80 mm	150 mm
Alarm		Optical alarm		•Reed switch •Optical alarm
Available body material		ETFE (tapered tube: heat-resistant glass)	PFA	PFA
Standard connection size		Rc 1/8"	Ø6.35 × 1 t	Ø19 × 1.6 t

Note: Depending on specifications, Model P-772-U (with a valve) falls in "Valves or components thereof" listed in (i) -7 of row 3 of Appended Table 1 of the Export Trade Control Order. Consult us for details.

Purgemeters with Alarm Contact

Various switches are available for alarms.



Model		P-510	P-771
Fluid		Liquid, gas	Liquid
Measuring range (water)	Min.	0 to 1 L/min	0 to 15 mL/min
	Max.	0 to 30 L/min	0 to 2 L/min
Measuring range (air)	Min.	0 to 25 L/min (nor)	–
	Max.	0 to 600 L/min (nor)	–
Face-to-face dimension		200 mm	80 mm
Alarm		•Reed switch •Optical alarm	Optical alarm
Available body material		SCS14	PFA
Standard connection size		3/8"	Ø6.35 × 1 t

CP series Purge Set

Maintains a constant flow regardless of changes in the process pressure.



Model	CP-11 (primary pressure) CP-12 (secondary pressure)	CP-21 (primary pressure) CP-22 (secondary pressure)	CP-31 (primary pressure) CP-32 (secondary pressure)	CP-41 (primary pressure) CP-42 (secondary pressure)
Fluid	Liquid, gas			
Measuring range (water)	Min. — Max. —	0 to 50 mL/min 0 to 1 L/min	0 to 2 L/min 0 to 5 L/min	0 to 5 L/min 0 to 10 L/min
Measuring range (air)	Min. 0 to 100 mL/min (nor) Max. 0 to 3 L/min (nor)	Min. 0 to 1 L/min (nor) Max. 0 to 50 L/min (nor)	Min. 0 to 50 L/min (nor) Max. 0 to 150 L/min (nor)	Min. 0 to 150 L/min (nor) Max. 0 to 300 L/min (nor)
Controllable Dp range	0.03 to 0.3 MPa	0.06 to 0.4 MPa	0.1 to 0.5 MPa	0.1 to 0.6 MPa
Standard material	SUS304	SCS14	SUS304	
Available material	SUS316, aluminum	—	SUS316	

For CM series Purge Set, see the catalog of C series (CR, CM, CAM).

O/HDT series Differential Pressure Flowmeter



Model	O-180			O-780
Fluid	Liquid, gas			
Connection size	·Screw: Rc 3/8 to Rc 4 ·Flange: 10 mm to 500 mm ·Wafer: 10 mm to 500 mm			
Standard differential pressure (liquid)	10 kPa	15 kPa	50 kPa	
Measuring range	Min. 0 to 0.14 m³/h Max. 0 to 1200 m³/h	Min. 0 to 0.15 m³/h Max. 0 to 1500 m³/h	Min. 0 to 0.3 m³/h Max. 0 to 2600 m³/h	
Standard differential pressure (gas)	5 kPa	10 kPa	20 kPa	
Measuring range	Min. 0 to 2.3 m³/h (nor) Max. 0 to 23000 m³/h (nor)	Min. 0 to 3.5 m³/h (nor) Max. 0 to 33000 m³/h (nor)	Min. 0 to 4.5 m³/h (nor) Max. 0 to 45000 m³/h (nor)	
Function	Local indication			Local indication + Alarm output
Available material	SGP, SUS304, SUS316, PVC, HT-PVC			
Measuring pipe Indicator	SCS14, PVC, HT-PVC			

O/HDT series Differential Pressure Flowmeter

VD/VM series V-cone Differential Pressure Flowmeter



Short straight runs
(Required straight runs are not more than 1/5 of those for orifice plates and vortex flowmeters.)



Model	HDT1000
Fluid	Liquid, gas
Connection size	·Screw: Rc 1/2 to Rc 4 ·Flange: 15 mm to 300 mm ·Wafer: 15 mm to 300 mm
Measuring range (water)	Min. 0 to 0.23 m³/h Max. 0 to 1060 m³/h
Measuring range (air)	Min. 0 to 3.4 m³/h (nor) Max. 0 to 17200 m³/h (nor)
Indication	·Flow rate ·Total flow
Indicator type	·Battery type ·Current output type ·Alarm output type ·LonWorks type
Standard material	SS400, SUS304, SUS316
Measuring pipe Indicator	SUS316

Model	VD	VM
Fluid	·Steam ·Liquid ·Gas	·Gas ·Saturated steam
Function	Flow rate measurement of liquid, gas, steam	Mass flow measurement of saturated steam and gas
Connection size	15 mm to 300 mm	
Power supply	10.5 to 45 V DC	11.4 to 50.4 V DC
Output	4 to 20 mA DC	
Indication	Flow rate	
Optional unit	—	
Standard material	SS304	

EDB500M multifunctional converter
·Power supply: 100/110 V AC
·Input: 4 to 20 mA DC
·Flow rate output 1 to 5 V DC
·Pressure output 1 to 5 V DC
·Temperature output 1 to 5 V DC
·Resistance temperature detector
·Class: Pt100

Wafer-Cone® Differential Pressure Flowmeter



Short straight runs
(Required straight runs are
not more than 1/5 of those
for orifice plates and vortex
flowmeters.)



Exd



Model	VT	VNT
Fluid	Liquid, gas, saturated steam	
Measuring range	See respective product catalogs.	
Connection size	25 mm to 100 mm	
Power supply	VTF: 16.1 to 45 V DC VTM: 11.4 to 42 V DC	24 V DC
Output	4 to 20 mA DC	
	Current output	Open collector
	Pulse output	Open collector
Installation	Flow rate	Flow rate Total flow
Standard material	SCS14A	

CFW/CDT series Pitot Tube Flowmeter



Model	CFW1000	CFW2000	CDT1000
Fluid	Water, cold water, hot water		
Connection size	20 mm to 450 mm		
Function	Direct local indication		
Installation	Fixed	Detachable	Fixed
Standard material	SUS316		

Calorie Monitor



Model	CDT3000
Fluid	Water, cold water, hot water
Fluid temperature	-10 to 70°C
Power supply	24 V DC
Temperature sensor	Pt100Ω
Indication	Flow rate Temperature difference Return line temperature Total volume Thermal flow Feed line temperature Differential pressure Total calorie
Output	4 to 20 mA Pulse output Alarm output
Pipe size	20 mm to 450 mm
Connection size	Rc 3/8
Wetted parts material	SUS316/NBR

TF series Thermal Mass Flowmeter



Model		TF-600D/600V	TF-1000P/S	TF-2000N	TF-4000
Fluid		Air, N ₂	Gases excluding H ₂ and He		Air, N ₂ , O ₂
Measuring range (air)	Min.	0 to 5 L/min (nor)	0 to 2 L/min (nor)		0 to 1000 L/min (nor)
	Max.	0 to 1000 L/min (nor)	0 to 120 L/min (nor)	0 to 750 m ³ /n (nor)	
Connection size		Rc 1/4 to Rc 3/4	Rc 1/4, 1/4SWL	Rc 1/4 to Rc 2 1/4" to 3/4"SWL 15 mm to 80 mm flange	Rc 1/4 to Rc 3/4
Indication		·Flow rate ·Total flow ·Alarm		·Flow rate ·Total flow ·Alarm	
Power supply		24 V DC	±12 V DC or ±15 V DC	24 V DC	12 to 24 V DC
Output		·0 to 5 V DC ·Totalized pulse ·Alarm ·Digital (RS485)	·0 to 5 V DC	·4 to 20 mA DC ·Totalized pulse ·Flow rate alarm	·4 to 20 mA DC or 0 to 5 V DC ·RS485 ·Totalized pulse ·Alarm
Available body material		SCS14	P: Polyacetal S: SCS14	SUS304, SUS316	SCS14

HM/NM series Mass Flowmeter/Controller



Model	HM1000	HM5000	HM9700A
Fluid		Gas	
Function	·Mass flowmeter ·Mass flow controller		·Mass flowmeter
Measuring range (N ₂)	Min.	0 to 5 mL/min (nor)	
	Max.	0 to 1 L/min (nor)	
Connection size	1/4"SWL	1/4" to 1/2"SWL	1/4" to 1/2"SWL/VCR
Indication	—	—	·Flow rate ·Alarm setting point
Power supply unit	PU1501B power supply unit	·PU1001B Power supply unit ·PU1501B Power supply unit	24 V DC
Output	0 to 5 V DC	0 to 5 V DC (1 to 5 V)	·4 to 20 mA DC ·Alarm output
Accuracy	±2% F.S. ±1.5% F.S.	±2% F.S. ±1% F.S.	±2% F.S.
Gas parts material		SUS316, FPM	



Model	NM-1500AM/DM/AC/DC	EP-TF-5300	EP-TC-1000/2000V
Fluid		Gas	
Function	·Mass flowmeter ·Mass flow controller	Flameproof high-pressure mass flowmeter	Flameproof high-pressure mass flowmeter
Measuring range (N ₂)	Min.	0 to 5 mL/min (nor)	
	Max.	0 to 100 L/min (nor)	
Connection size	1/4", 3/8"SWL/VCR	Rc 1/4" to 3/4"NPT/VCR/flange	Rc 3/8"SWL
Indication	—	—	—
Power supply unit	±15 V DC (ARP Power supply unit) ·24 V DC	±15 V DC (TM-2000 Power supply unit)	±15 V DC (TM-1400 Power supply unit)
Output	0 to 5 V DC	—	—
Accuracy	·Analog: ±2% F.S. ·Digital: ±1.5/1.0% F.S.	±1% F.S.	—
Gas parts material	SUS316, FPM	SUS316, FPM	SUS316, SHOMAC, FPM

TM/HS/ARP Converter Unit

With functions of flow indication, analog output, total flow indication, and totalized pulse output



Model	TM-1400	TM-2000	HS1000A	ARP100
Applicable instrument	·TC-1000 ·TC-2000 ·TC-3000 ·EP-TC-1000/2000V	·TF-1000 ·Other TF series	·HM1000 ·HM5000 ·HM9700A	·NM-1500AM ·NM-1500DM ·NM-1500AC ·NM-1500DC
Function	·Flow rate indication ·Analog output ·Totalized pulse output ·Flow rate setting	·Flow rate indication ·Total flow indication ·Analog output ·Totalized pulse output	·Flow rate indication ·Flow rate setting	·Flow rate indication ·Flow rate setting

TH series Thermal Flowmeter

Detector



Model		TH-1100	TH-1200	TH-1700	TH-1800
Fluid		Gas			
Measuring range (air)	Min.	0 to 0.5 m/sec (nor)			
	Max.	0 to 130 m/sec (nor)			0 to 45 m/sec (nor)
Max. operating temperature		240°C	180°C		
Connection size		50 mm to 350 mm	50 mm to 150 mm	15 mm to 50 mm	
Standard sensor material		SUS304			
Available sensor material		SUS316, SUS316L			

TH series Converter



Model	TRX-600	TRX-700	TRX-900
Indication	·Flow rate ·Total flow ·Temperature	·Flow rate ·Temperature ·Alarm	·Total flow ·Pressure ·Bar graph
Power supply	100, 110, 115, 200, 220, 240 V AC	96 to 264 V AC	
Output	·4 to 20 mA DC ·Pulse output ·Digital output (RS-485)	·4 to 20 mA DC ·Pulse output ·Temperature and pressure compensation	·Alarm output ·Digital output RS485
Function	·Temperature correction ·Purge control	·Temperature correction	
Ambient temperature	-10 to 60°C	0 to 50°C	
Cable length	50 m (max.)	100 m (max.)	
Construction	Waterproof (for outdoor)	Panel mount (for indoor)	Waterproof (for outdoor)

SRT series Thermal Flowmeter



Model	SRT1100		SRT1200	SRT1300
Fluid	50 mm to 1500 mm		Air, N ₂	
Size	40 mm to 150 mm		10 mm to 25 mm	
Measuring range (air)	Min.	0 to 51 m ³ /h (nor)	0 to 31 m ³ /h (nor)	0 to 2.4 m ³ /h (nor)
	Max.	0 to 891700 m ³ /h (nor)	0 to 10600 m ³ /h (nor)	0 to 330 m ³ /h (nor)
Rangeability	1:25			
Function	·Flow indication ·Analog output ·Pulse output ·Alarm output ·RS-485			
Accuracy	±1% R.D. (10 to 100%) ±0.5% F.S. (less than 10%)			
Standard material	SUS316		SCS14	
Available material	SUS316L		-	

MAGMAX Electromagnetic Flowmeter



Model	EGM1100C		EGM2100C	EGM4100C
Fluid	0 to 0.085 m ³ /h		Liquid	
Measuring range	Min.	0 to 0.53 m ³ /h	0 to 0.53 m ³ /h	0 to 0.085 m ³ /h
	Max.	0 to 763 m ³ /h	0 to 33928 m ³ /h	0 to 33928.8 m ³ /h
Fluid temperature	-25 to 120°C		·Polypropylene: -5 to 90°C ·Hard rubber: -5 to 80°C	-40 to 140°C
Conductivity	10 µS/cm or more (20 µS/cm or more for water)		20 µS/cm or more	Size (10 mm to 150 mm): 10 µS/cm or more; Size (200 mm to 1000 mm): 5 µS/cm or more (20 µS/cm or more for water)
Connection size	10 mm to 150 mm		25 mm to 1000 mm	10 mm to 1000 mm
Power supply	100 to 230 V AC			
Output	·Flow rate, Total flow, Velocity, Conductivity, Coil temperature ·4 to 20 mA DC ·Pulse output ·Status output			
Wetted parts material	PFA		Polypropylene: 25 mm to 150 mm Hard rubber: 200 mm to 1000 mm	PTFE: 10 mm to 20 mm PFA: 25 mm to 150 mm ETFE: 200 mm to 1000 mm
Accuracy	±0.5% R.D. (with a velocity of 1 m/s or more)			



Model	EGM5100C		EGM4300C	EGM5300C
Fluid	0 to 0.0054 m ³ /h		Liquid	
Measuring range	Min.	0 to 0.85 m ³ /h	0 to 0.85 m ³ /h	0 to 0.0054 m ³ /h
	Max.	0 to 339 m ³ /h	0 to 33928.8 m ³ /h	0 to 339 m ³ /h
Fluid temperature	-40 to 140°C		-40 to 140°C	
Conductivity	10 µS/cm or more (20 µS/cm or more for water)		1 µS/cm or more (20 µS/cm or more for water)	Size (25 mm to 100 mm): 1 µS/cm or more Size (4 mm to 15 mm): 5 µS/cm or more Size 2.5 mm: 10 µS/cm or more (20 µS/cm or more for water)
Connection size	2.5 mm to 100 mm		10 mm to 1000 mm	2.5 mm to 100 mm
Power supply	100 to 230 V AC			
Output	·Flow rate, Total flow, Velocity, Conductivity, Coil temperature ·4 to 20 mA DC ·Pulse output ·Status output			
Wetted parts material	Zirconia ceramic: 2.5 mm to 15 mm Alumina ceramic: 25 mm to 100 mm		PTFE, PFA, ETFE	Zirconia ceramic: 2.5 mm to 15 mm Alumina ceramic: 25 mm to 100 mm
Accuracy	±0.5% R.D. (See product catalogs)			

Electromagnetic Flowmeter for Fillers

High-speed batch system

Coriolis Mass Flowmeter



Electromagnetic Flowmeter



Model	MMM4011C	EGM5500C
Fluid	Liquid	
Filling flow rate	Recommended	10 mm: 60 to 200 mL/min 15 mm: 150 to 600 mL/min
	Min. filling volume	10 mm: 23 g 15 mm: 75 g
	Min. filling time	10 mm: 1.5 sec 15 mm: 1.5 sec
Fluid temperature	0 to 100°C	-20 to 140°C
Conductivity	—	5 µS/cm or more (20 µS/cm or more for water)
Connection size	10 mm to 15 mm	
Power supply	24 V DC	
Output	Pulse output	
Wetted parts material	SS316L	Zirconia ceramics/Pt CERMET
Accuracy	±0.15 R.D.	±0.2 R.D. + 1 mm/sec

Battery-powered Electromagnetic Flowmeter



Model	ETM3070
Fluid	Water
Measuring range	Min. 0.04 m³/h
	Max. 1017 m³/h
Fluid temperature	0 to 70°C
Conductivity	50 µS/cm or more
Connection size	25 mm to 200 mm
Power supply	Dedicated lithium battery (Battery life: about 15 years)
Output	Open collector
Indication	Flow rate or total flow
Wetted parts material	Polyimide coating
Accuracy	±0.15 R.D.

MASSMAX Coriolis Mass Flowmeters



Exd



Exd



Exd



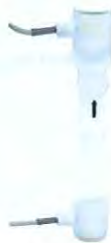
Exd

Model	MMM1300C	MMM3300C	MMM7300C	MMM2300C
Fluid	Liquid			
Measuring range	Min. 48 kg/h	0.3 kg/h	12 kg/h	1,560 kg
	Max. 125,000 kg/h	450 kg/h	560,000 kg/h	2,300,000 kg
Fluid temperature	·Flange type: -40 to 130°C ·Sanitary ferrule: -20 to 130°C	-40 to 150°C	·Titanium: -40 to 150°C ·Hastelloy C-22: 0 to 100°C ·S31803: 0 to 100°C ·Tantalum: 0 to 100°C	-40 to 130°C
Connection size	15 mm to 50 mm	1/4"NPT male screw	10 mm to 80 mm	100 mm to 250 mm
Power supply	100 to 230 V AC			
Output	·Mass flow rate ·Total mass flow ·4 to 20 mA DC ·Pulse output ·Status output	·Mass flow rate ·Total mass flow ·4 to 20 mA DC ·Pulse output ·Status output		
Material	Equivalent to SUS329J3L	SS316L	·Titanium ·Hastelloy C-22 (10 mm to 80 mm) ·S31803 ·Tantalum (15 mm to 50 mm)	ASTM S31803
Sensor tube	Straight twin tube	Single tube	Straight single tube	Straight twin tube

Ultrasonic Flowmeter

UCUF series Detector

Ultrasonic flowmeter for small line applications



Model	UCUF-□□M	UCUF-04MT
Fluid	Liquid	
Measuring range	Min. 0 to 0.01 L/min	0.1 to 0.8 L/min for a flow velocity of less than 1 m/s
	Max. 0 to 80 L/min	0.8 to 3 L/min for a flow velocity of 1 m/s or larger
Fluid temperature	10 to 90°C	10 to 180°C
Fluid pressure	0 to 0.5 MPa	
Process connection	1/4" to 1" tube	1/4" tube
Face-to-face dimension	80 mm	
Wetted parts material	PFA	
Converter	·SFC-900 ·SFC2000 ·SHC-010 ·SFC-010L	SFC-010T

SFC series Converter

Ultrasonic flowmeter for
small line applications



Model		SFC-720	SFC-780/900	SFC2000
Power supply		24 V DC		
Consumption current		About 110 mA		
Output	Flow rate	-4 to 20 mA DC -0 to 10 V DC	4 to 20 mA DC	
	Pulse output	Open collector pulse	Frequency pulse ·FAULT output	Frequency pulse
	Alarm	Open collector x 2	Open collector x 2	-
Input		Sensor signal		
		Totalization reset	-	-
Communication function		-	·RS485 ·Protocol: MODBUS	



UCM series

Converter-integrated type



Model		SFC-010L	SFC-010T
Power supply		24 V DC	
Consumption current		Approx. 150 mA	Approx. 155 mA
Output	Flow rate	-4 to 20 mA DC -0 to 20 mA DC	-4 to 20 mA DC ·0 to 20 mA DC -1 to 5 V DC ·0 to 5 V DC -0 to 10 V DC
	Pulse output	Frequency pulse	
	Alarm	Open collector x 2	
Input		Sensor signal	
		-	-
Communication function		·RS485	·RS485 ·Protocol: MODBUS ·Baud Rate ·Data size ·Parity ·Stop bits ·Address Switch

Model		UCM-04A/06A
Function		Flow rate indication + Analog output
Measuring range	Min.	0 to 200 mL/min
	Max.	0 to 8000 mL/min
Fluid temperature		10 to 60°C
Fluid pressure		0 to 0.4 MPa
Power supply		24 V DC
Output	Current output	-4 to 20 mA DC -0 to 20 mA DC
	Alarm	Open collector
Process connection		Tube end
Wetted parts material		PFA

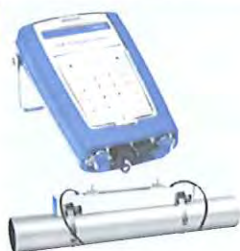
UL series



Model	UL330		UL350	UL6300
Fluid	Liquid			
	Clamp-on type			
Size	25 mm to 400 mm		25 mm to 1000 mm	15 mm to 4000 mm
Measuring range or velocity range	0 to 10 m/s			Min.: 0 to 0.319 m³/h Max.: 0 to 904778 m³/h
Function	·Flow rate indication ·Total flow indication ·Current output ·Pulse output ·Status output		·Flow rate indication ·Total flow indication ·Current output ·Pulse output ·Status output ·Serial output	·Flow rate indication ·Total flow indication ·Velocity indication ·Bar graph ·Current output ·Pulse output ·Status output ·HART communication
Applicable pipe material	Consult us for details.			



UL series



Exd



Model	UL6400	UL3030K	Model	CLFC-200
Fluid	Liquid		Measuring range	Pinch tube Needle
	·Clamp-on type ·Portable	·In-line type ·3 beams ·Integral type		5 to 50 mL/min 5 to 50 mL/min to 200 to 2000 mL/min
Size	15 mm to 1500 mm	25 mm to 2000 mm	Control accuracy	±1.5 R.D. for set flow rates
Measuring range or velocity range	0.5 to 20 m/s	Min.: 0 to 0.89 m ³ /h Max.: 0 to 226194 m ³ /h	Controllable Dp range	For slurry: 0.05 to 0.2 MPa For pure water and chemical liquids: 0.05 to 0.3 MPa
Function	·Flow rate indication ·Total flow indication ·Velocity indication ·Bar graph	·Flow rate indication ·Current output ·Pulse output ·Status output ·HART communication	Valve type	Needle, pinch tube
Pipe material	Consult us for details.	Equivalent to SS316	Installation	Horizontal or vertical
			Power supply	24 V DC
			Wetted parts material	PFA, PTFE

FC series Liquid Flow Controller for Small Flow Rates

FCV-3000 series
FCV-7000 series
(Control valve)

Model		FCV-3000	FCV-3000T	FCV-1000S
Application		Pure water, chemicals or like with small flow rates	Slurry	Pure water, chemicals or like with large flow rates
Flow control range (equivalent to pure water)	Min.	2.5 to 25 mL/min	50 to 500 mL/min	0.2 to 2 L/min
	Max.	200 to 2000 mL/min		1 to 10 L/min
Controllable Dp range		0.05 to 0.2 MPa		
Process connection		Ø6.35 x Ø4.35 tube	Ø4 x Ø2.8 tube	Ø9.53 x Ø6.35 tube Ø12.7 x Ø9.53 tube
Wetted parts material		PTFE, PFA	THV	PCTFE, PTFE, PFA

FCA-3000 series
(Controller)

Model	FCA-3100 Current input type	FCA-3200 Voltage input type	FCA-3300 Voltage input type
Power supply voltage	24 V DC		
Input signal	Flow rate 4 to 20 mA DC	0 to 10 V DC	0 to 5 V DC
	Set point 1 to 5 V DC	0 to 10 V DC	0 to 5 V DC
Output signal	Current flow rate 1 to 5 V DC	0 to 10 V DC	0 to 5 V DC
	Alarm Pulse	Valve error alarm: Photo coupler output (open collector)	

FCA-7000 series (Controller)



Model	FCA-7200 Voltage Input type	FCA-7300 Current Input type	FCA-7100 Voltage Input type
Power supply	24 V DC		
Input signal	Current flow rate	–	–
	Set point	0 to 10 V DC	1 to 5 V DC
Output signal	Current flow rate	0 to 10 V DC	4 to 20 mA DC
	Alarm	Flow rate alarm: Open collector output	
	Pulse	Open collector output	

VF series Vortex Flowmeter



Model	VF-2000	VF-3000
Fluid	Liquid	
Measuring range	Min.	0 to 4 L/min
	Max.	0 to 40 L/min
Function	Min.	0 to 2.5 L/min
	Max.	0 to 150 L/min
Power supply	10.8 to 26.4 V DC	
Size	3/8", 1/2"	3/8" to 1"
Connection	Tapered screw (male)	-PFA tube (standard)
Body material	PPS resin	New PFA

VFM series Vortex Flowmeter



Model		VFM4070C
Fluid		Gas, steam, liquid
Function		-Local indication -Current output -Pulse output
Measurable velocity (liquid)	Min.	0.3 m/s
	Max.	10 m/s
Measurable velocity (air, steam)	Min.	3 m/s
	Max.	80 m/s
Connection size	Flange	15 mm to 300 mm
	Wafer	15 mm to 100 mm
Additional function	Standard	Built-in temperature sensor
	Option	Built-in pressure sensor
Standard material		Equivalent to SUS316L

W series Mag-wheel Flowmeter



Compact design suitable for package units and devices



Model	W-200	W-500	W-800
Fluid	Liquid		
Measuring range	Min.	0.3 to 1 L/min	0.04 to 0.2 L/min
	Max.	5 to 50 L/min	5 to 50 L/min
Fluid temperature	0 to 80°C (polypropylene) 0 to 60°C (U-PVC)		0 to 50°C
Connection size	Rc 1/4 to Rc 1/2		1/4 to 3/4 tube end
Power supply	Min.	5 to 18 V DC (pulse output type)	12 to 24 V DC
	Max.	24 V DC (Current/voltage output type)	
Output	Min.	-W-521: 4 to 20 mA DC -W-551, 552: Flow rate indication -W-553: Pulse output	-Pulse output
	Max.	-W-210: Pulse output -W-220: 0 to 10 V DC -W-230: 4 to 20 mA DC	
Available body material	-Polypropylene -U-PVC -SUS316		PFA



Model		W-2000	W-2000N	W-3000
Fluid		Liquid		
Measuring range	Min.	0.5 to 3 L/min		
	Max.	6 to 60 L/min		
Fluid temperature		5 to 80°C (Pulse output type) 5 to 60°C (Current output type)	-20°C to 100°C	150°C
Connection size		Rc 3/8 to Rc 3/4		
Power supply		-5 to 18 V DC (Pulse output type) -24 V DC (Current output type)	5 to 12 V DC	
Output		-4 to 20 mA DC ·Pulse	·Pulse	
Available body material		SCS14		

TW series Axial-flow Turbine Flowmeter



Model	TW-080	TW-090
Fluid	Liquid	
Measuring range	0.2 to 2 L/min	
	2 to 20 L/min	
Fluid temperature	0 to 60°C	
Connection size	Rc 1/4 to Rc 3/8	
Power supply	12 to 24 V DC	
Output	0 to 5 V DC	NPN open collector
Standard body material	SCS14	

FA series Flow Monitor

Flowmeters with an alarm contact. Suitable for monitoring flow rates of cooling water and easy to install in package units and devices. Both flow directions are acceptable.



Model	FA-3000	FA4000	FA-6000
Fluid	Liquid		
Measuring range	0 to 3 L/min	0 to 1 L/min	0 to 30 L/min
	0 to 50 L/min	0 to 130 L/min	0 to 100 L/min
Fluid temperature	0 to 60°C	0 to 100°C	0 to 60°C
Size	10 mm to 25 mm	15 mm to 40 mm	15 mm to 25 mm
Connection	Rc, NPT screw	Rc, NPT screw, flange	Rc screw
Standard material	Acryl	SUS316	Acryl
	SUS304	SCS14A	SUS304

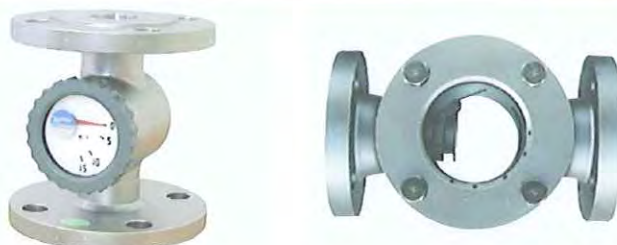
Flow Switch

Flow cut-off alarm



Model		R-751	R-751-E	F-740	K-740
Function		Indication + Alarm		Alarm	Indication + Low alarm
Fluid		Liquid, gas		Liquid	
Measuring range (liquid)	Min.	0 to 0.065 m ³ /h	0 to 3 m ³ /h	0.1 m ³ /h	0 to 0.6 m ³ /h
	Max.	50 m ³ /h	0 to 80 m ³ /h	70 m ³ /h	0 to 300 m ³ /h
Measuring range (gas)	Min.	0 to 2.1 m ³ /h (nor)	—	—	—
	Max. (size 50 mm)	0 to 160 m ³ /h (nor)	—	—	—
Size		10 mm to 100 mm	25 mm to 100 mm	15 mm to 150 mm	15 mm to 300 mm
Alarm switch		·Reed switch ·Photo-electric switch		Micro switch	
Standard material		FC200		FC200	
Available material		SUS304, SUS316, SUS316L, glass lining, rubber lining, PVC lining	SUS304, SUS316, PVC, HT-PVC	SCS13, SCS14	

K series Sight Glass



Model		K-200	K-400
Function		Pointer indication	Flapper indication
Fluid		Liquid	
Measuring range (liquid)	Min.	0 to 1 m ³ /h	0 to 0.3 m ³ /h
	Max.	0 to 300 m ³ /h	0 to 150 m ³ /h
Operating pressure	Up to 50 mm	0.7 MPa	
	65 mm or larger	0.5 MPa	
Size		20 mm to 300 mm	10 mm to 150 mm
Standard body material		FC200, SS400/SGP	
Available body material		SUS304, SUS316	

Semi-standard Instrument

Consult us for detailed specifications of semi-standard instruments; individual product catalogs are available.

AM series Metal Tube Flowmeter



AM-1310
·Pneumatic output



AM-1400
·Local indication



AM-1520
·Current output

Exd



AM-1690
·Local integration
·Pulse output

Exd



AM-1740
·Alarm output

Exd
Exi

MX/NMX series 250 mm Metal Tube Flowmeter



MX-400
·Local indication



MX-52E
·Current output

Exd



MX-52D
·Digital indication
·Current output

Exd



MX-710
·Alarm output

Exd
Exi



NMX1000
·Current output
·Alarm output



NMX1LFF
·PFA lining
·Current output
·Alarm output



NMX2000
·Flameproof current output

Exd

M series Metal Tube Flowmeter



M-300
·Pneumatic output



M-400
·Local indication



M-500
·Current output

Exd



M-700
·Alarm output

Exd
Exi

MA-900 series Micro Flowmeter



MA-900
·Local indication



MA-920
·Current output

Exd



MA-950
·Alarm output

M-900 series Micro Flowmeter



M-920
·Current output

Exd



M-960
·Photo-electric switch type
alarm output

AC series Resin Flowmeter



AC-T
·Fluorocarbon resin
·Alarm output

R series Glass Flowmeter



R-105-RK
·Panel mounting
·Detachable

A series Direct Indication Flowmeter



A-101
·Glass direct indication
·Alarm output



A-102
·Glass direct indication
·Alarm output

P series Purgemeter



P-300
·Straight type
·Face-to-face: 200 mm



P-520
·Resin
·Face-to-face: 150 mm



P-620
·Resin
·Face-to-face: 76 mm



P-900
·General purpose
·Face-to-face: 114 mm



YP
·Compact type
·Face-to-face: 60 mm



P-773
·All fluorocarbon resin
·Face-to-face: 115 mm



P-774
·All fluorocarbon resin
·Face-to-face: 100 mm

Note: Depending on specifications, Model P-520-L (with a fluorocarbon resin valve) falls in "Valves or components thereof" listed in (i) -7 of row 3 of Appended Table 1 of the Export Trade Control Order. Consult us for details.

CR/CAM series Purge Set



CR series
·With a glass tube indicator
·For small to large flows



CM-21-900
·With a metal tube indicator
·For small flows



CAM series
·With a metal tube indicator
·For large flows

O series



O-100
·With a glass tube indicator
·Alarm output



O-1000
·With a metal tube indicator
·Current output /Total flow/
Totalized pulse output/Alarm output



V-cone Differential Pressure Flowmeter



VC
·Liquid, gas, steam
·Differential pressure type

Wafer-Cone® Differential Pressure Flowmeter



VDT
·Digital indication
·Battery-powered
·Current output (24 V DC)



VTW
·Glass direct indication

CDT series Pitot Tube Flowmeter



CDT2000
·Battery-powered
·Detachable



Flow Set Valve



CX-1101

- For liquids
- Fixed flow setting
- Size: 15 mm to 40 mm



CX-1500

- For liquids and gases
- Fixed flow setting
- Size: 15 mm to 150 mm



CX-2000

- For liquids
- Variable flow setting
- Size: 15 mm to 100 mm



FPC

- For liquids
- Fixed flow setting
- Size: 8 mm to 20 mm



RSP

- For liquids
- Fixed flow setting
- Size: 10 mm to 15 mm



NSPW/NFFW/NFF-S

- For liquids
- Fixed flow setting
- Size: 10 mm to 100 mm

TF series Thermal Mass Flowmeter



TF-600

- Small and light



TF-900

- Small and light



TF-1100

- Stainless steel



TF-1200

- Watertight



TF-1300

- Low pressure loss



TF-1400

- Watertight
- Low pressure loss



TF-1500

- With a digital indicator
- Watertight



TF-4100

- With a digital indicator



TF-5000/6000

- General purpose
- High pressure use

TC series Mass Flow Controller



TC-1000/2000

- General purpose
- High pressure use



TC-3000

- For large flows

TH series Thermal Flowmeters



TH-1400

- Variable insertion type



TH-1100-HQ

- Electropolished



TH-1500-HQ

- Electropolished



TH-1100-SP/3200-SP

- With a purge function



TH-3100/3200/3300

- For low to high temperatures
- 196°C to +550°C

MAGMAX Electromagnetic Flowmeter



EGM1300C
·PFA lining
·Size: 10 mm to 150 mm



EGM2300C
·Polypropylene lining
·Size: 25 mm to 1000 mm



EGS1000
·General purpose
·Size: 10 mm to 150 mm



EGS2000
·Flange type
·Size: 25 mm to 1000 mm



EGS4000
·Flange type
·Size: 10 mm to 1000 mm



EGS5000
·Ceramic tube
·Size: 2.5 mm to 100 mm



EGC100W
·Converter for electromagnetic flowmeters
·General purpose



EGC300F/W
·Converter for electromagnetic flowmeters
·Full-featured type



EGM7300C
·Capacitance detection
·Non-wetted electrode
·Size: 25 mm to 100 mm

FC series Liquid Flow Controller (for very low flow)



FCA-100/FCV-100
·For liquids
·SUS

VF series Vortex Flowmeter



VF-4000
·PFA
·Flow rate indication
·Total flow
·Current output
·Pulse output
·Alarm output

W series



W-100
·SUS
·Pulse output
·0 to 5 V DC

W-300
·For various measuring liquids
·Pulse output
·Alarm
·0 to 5 V DC
·1 to 5 V DC
·0 to 10 V DC

Manifold Mini-wheel Flowmeter



MU-1000
·SUS316, SCS14
·Pressure: 1 MPa
·Temperature: 0 to 120°C
·Connection: Rc 3/4

TW series



TW-070
·Metal-free
·Open collector pulse

FA series



FA-1000
·SUS
·Flow rate: Up to 100 L/min
·For any flow directions



FA-5000
·Simple type
·SUS

K series



K-500
·Direct flow monitoring
·Glass lining available



K-600
·Direct flow monitoring

LEVEL MEASUREMENT AND CONTROL INSTRUMENTS

Various level instruments and monitoring systems are available for small to large tanks, vessels, tankers, etc. that contain crude oil, chemicals, powders, granules and others.

The following symbols are applicable to level measurement and control instruments on Page 22 to 29.

Explosion-proof

Exd : Flameproof types available

Exi : Intrinsically safe types available

Spring-balanced Tank Gauge



[Exd]



[Exd]

Model		FT-1000	FP-1000
		Float type	
Measuring range	Min.	0 to 3 m	0 to 3 m
	Max.	0 to 25 m	0 to 10 m
Temperature range		-196 to +400°C	0 to 150°C
Pressure range		For low pressures	For high pressures
Indication accuracy		±3 mm	±10 mm
Transmission function		·Local indication ·Alarm contact (max. 6) ·Current output ·Pneumatic output	·Digital output
Standard float material		SUS304	
Available float material		SUS316, SUS316L, PVC (except for floating tanks)	

Servo-balancing Type Tank Gauge

Tank-top type



[Exd]
[Exi]

Model		FW-9000N
		For bonded tanks
Measuring range	Min.	0 to 5 m
	Max.	0 to 60 m
Pressure		·Low pressure (atmospheric) ·High pressure (up to 3 MPa)
Liquid temperature		-200 to +300°C
Function		·Liquid level measurement ·Interface measurement ·Density measurement
Pressurized parts material	For low pressures	AC2A, SCS13, SCS14
	For high pressures	SCS13, SCS14

Density Meter for LNG and LPG Tanks



[Exd]

Model	01146 density meter
Liquid temperature	-200 to 65°C
Max. operating pressure	350 mbar G
Output signal	RS485/20 mA loop (Modbus protocol)
Function	·Density measurement: 400 to 1000 kg/m³ ·Liquid level measurement: 0 to 100 m ·Temperature measurement: -200 to +100°C
Connection	6"ANSI 150 # FF
Sensor head material	SUS316L

Transmitter for Tank Gauges

Analog output type

Can be mounted on the FT-1000, FP-1000, FT-2000, and FW-2000 tank gauges to transmit signals for remote monitoring and control.



[Exd]



[Exd]

Model	TR-100	AT-101W	TR-200
Output	·Alarm: 4 points	·Pneumatic: 20 to 100 kPa	·4 to 20 mA DC ·4 to 20 mA DC + Alarm (6 points)
Construction	·Watertight ·Flameproof ·Intrinsically safe	—	·Watertight ·Flameproof ·Intrinsically safe

Digital output type

Can be mounted on the FT-1000, FP-1000, FT-2000, and FW-2000 tank gauges to transmit signals for remote monitoring and control.



Model	DM4N-1	DM4N-2	DM4N-3
Communication type	1-way	2-way	1-way
Measuring range	0 to 40 m, 0 to 60 m		
Applicable level gauges	·FT-1000 ·FT-2000 ·FT-2200 ·FP-1000 ·Other tank-side level gauges		

Peripheral Instruments for the Tank Gauging System

Tank-side indicator

Indicates the liquid level, temperature and status data. Can also control tank-top tank gauges and set their parameters.



Model	DIR-110N
Applicable tank gauge	FW-9000N
Output	·4 to 20 mA DC ·Liquid level ·Temperature ·Relay (4 points)
Indication	·Liquid level ·Temperature ·Other statuses

Temperature sensor for tanks



Model	TS	ATS
	Spot type temperature sensor	Multispot type averaging temperature sensor
Measuring range	0 to 100°C	
Measuring length	—	Max. 30 m
Number of elements	1	Max. 16 elements
Construction	·Flameproof ·Intrinsically safe	

Receiver for the Digital Tank Gauging System



Model	CATAMS Windows
	Tank data monitoring software
Main display mode	·Calibration with 12 different screens ·Real-time tank data ·Data after loading/unloading ·Data of all tanks ·Liquid level in the bar graph ·Data history ·Error codes and details ·Alarm record ·Others



Model	NMR-4000
	Tank data receiver
Main display mode	·Menu ·1 tank ·Tank data list ·Alarm status confirmation ·Block list ·Bar graph ·Alarm record ·System data change
Host interface	·RS-232C (1 or 2 ports) ·Parallel I/O ·RS-232C (1 port) + Parallel I/O ·RS-232C (2 ports) + Parallel I/O ·LAN port
Number of transmitters	Up to 160



Model	Series X
	Interface unit
Number of transmitters	Max. 32 transmitters per unit (up to 8 units)
Communication function	RS-232C or LAN 2 ch
Communication type	-1 way -2 way -Communication with third-party products

Level Switch



Exi



Exd
Exi



Exd
Exi



Exd
Exi

Model	FP-4000	FP-4100	FP-4200	FR-6000
	Float type			
Number of alarm points	5 (common return)	-6 (independent) -6 (common return)		2
Contact switch	Reed switch			Micro switch
Max. length of guide pipe	·SUS: 4.9 m (Explosion-proof 3.9 m) ·Resin: 3.9 m			-
Available float material	SUS304, SUS316, SUS316L, PVC HT-PVC, PP, PFA	SUS304, SUS316, SUS316L, PVC HT-PVC, PP, PFA	SUS304, SUS316, SUS316L, PVC HT-PVC, PP, PTFE, PFA	SUS316, SUS316L, TP35



Exd
Exi



Exd
Exi



Exd
Exi

Model	FS-100	FB-5000	FB-7000
	Spring-balanced displacer type	Float type	
Number of alarm points	1, 2, 3, or 4	1	
Contact switch	Micro switch	Reed switch	Micro switch
Max. length of guide pipe	-		
Available float material	SUS304, SUS316, SUS316L	SUS316	SUS316L

FM MAG GAUGE Metal Tube Level Gauge

Flameproof, rugged, easy-to-read level gauges superior to fragile glass gauges. Can accommodate an analog electric transmitter and alarm output. A version approved under Japan's High Pressure Gas Safety Law is available.



Exd
Exi



Exd
Exi

Model		FM-1000	FM-3100
Measuring range	Min.	0 to 250 mm	
	Max.	0 to 4380 mm (depending on chamber materials)	0 to 2000 mm
Temperature range		-10 to 120°C (depending on materials) -121 to 300°C (for high temperatures)	-10 to 120°C
Pressure range	Max.	-7.3 MPa (depending on models)	1 MPa
Available chamber material		·Stainless steel ·PVC (HT-PVC) ·SUS+PVC lining ·SUS+ETFE lining ·SUS+PFA lining ·SUS+PTFE lining ·SUS+Glass lining	Float: SUS316L Chamber: SUS304, SUS316, SUS316L
Function		·Local indication ·Local indication + Alarm output ·Local indication + 4 to 20 mA DC ·Local indication + Alarm output + 4 to 20 mA DC	·Local indication ·Local indication + Alarm output

Displacer Type Level Transmitter



Exd
Exi

Model		FS series
Measuring range	Min.	0 to 300 mm
	Max.	0 to 3000 mm
Pressure range	Low pressure	1 MPa
	Medium pressure	2 MPa
	High pressure	9.8 MPa
Temperature range	Standard	-10 to 150°C
	Low temperature	-40 to -10°C
	High temperature	150 to 300°C
Function	FS-110	·Local indication
	FS-115	·Local indication + Alarm output
	FS-313	·Local indication + 20 to 100 kPa
	FS-512	·Local indication + 4 to 20 mA DC
	FS-517	·Local indication + Current output + Alarm output
Available displacer material		SUS304, SUS316, SUS316L, MA276, PVC

Magnetostrictive Level Transmitter



Exd

Model	LT-321
Measuring range	25 to 3700 mm
Pressure range	2 MPa
Liquid temperature	·SUS: -40 to 125°C
	·PVC: 0 to 60°C
	·PFA: 0 to 100°C
Power supply	24 V DC
Output	4 to 20 mA DC
Available wetted parts material	SUS304, SUS316, SUS316L, PVC, PFA

Torque Tube Type Level Meter



Exd
Exi

Model		FST4000
Measuring range	Min.	0 to 300 mm
	Max.	0 to 3000 mm
Liquid temperature		-196°C to +450°C
Power supply/Output		8 to 40 V DC/4 to 20 mA DC, HART 10 to 32 V DC/FOUNDATION Fieldbus
Accuracy		±0.5% F.S.
Available displacer material		SUS304, SUS316, SUS316L, NW0276, MONEL, PVC

Microwave Level Meter

Microwave allows non-contact level measurement of liquids, pastes and slurries.



Exi

Model	TLR3000	
Measuring object	Liquid, slurry	
Measuring range	Min.	0.5 m
	Max.	40 m
Output	4 to 20 mA DC	
Pressure	·Horn antenna: 0 kPa (abs) to 4 MPa ·Drop antenna: 0 kPa (abs) to 1.6 MPa	
Accuracy	±3 mm R.D.	
Liquid temperature	-40 to 200°C	
Available gas parts material	Standard: SS316L Hasteloy C-22 PTFE, PP (drop antenna)	



Exi



Exi



Exi



Exi

Model	RTG3900			
	RTG3920	RTG3930	RTG3950	RTG3960
Measuring object	Various petroleum and chemical products	Various liquids, sticky liquids	Crude oil, gasoline, various liquids	LPG, LNG
Measuring range	0.8 to 20 m	0.8 to 40 m		1 to 40 m
Output	-4 to 20 mA DC -Relay output x 2			
Pressure	-0.02 to 0.02 MPa		Atmospheric	Max. 2.5 MPa
Accuracy	±0.5 mm [2σ], max.±0.8 mm			
Liquid temperature	Max. 230°C			
Available gas parts material	SUS316, PTFE, FPM		SUS316, aluminum, PTFE, FPM	SUS316, quartz

Micropulse Level Meter



Exi



Exi

Model	TGR3000	TGR4500
Measuring object	Liquid, slurry, granules	Liquid
Max. probe length	·Single rod: 3 m ·Twin rod: 3 m ·Single cable: 35 m ·Twin cable: 8 m ·Coaxial probe: 3 m	·Single rod: 3 m ·Twin cable: 24 m ·Single cable: 24 m ·Coaxial probe: 3 m
Pressure	0 kPa (abs) to 4 MPa	1.6 MPa
Temperature	-40 to 200°C (at the process connection)	·Single rod, twin cable: -30 to 200°C (of the process liquid) ·Twin cable: -30 to 150°C (of the process liquid)
Output	4 to 20 mA DC	
Accuracy	·Liquid: ±3 mm ·Granules: ±20 mm ·Interface: ±10 mm	15 m or less: ±15 mm + 0.01% F.S. 15 m or more: 0.1% R.D. + 0.01% F.S.
Standard probe material	SS316L	SS316

Back Pressure Level Meter

Determines the level by measuring the back pressure of the purge gas introduced into the tank. Can measure density. Remote measurement is also possible in combination with differential pressure transmitters.



Model	PGT purging pipe
Measuring object	Liquid
Max. measuring length	·Stainless steel: 16000 mm ·PVC: 4000 mm
Connection size	·10 mm to 25 mm, JIS10K (fixed flange) ·15 mm to 40 mm, JIS10K (sliding flange)
Purge connection	Rc 1/4
Available material	SUS304, SUS316, PVC



Model	CP constant flow valve (Secondary pressure variation control type)
Supply fluid	Air, N ₂
Supply pressure	0.3 to 0.99 MPa
Standard measuring range	0 to 1.2 L/min (std) (20°C, 1 atm)
Installation type	·Panel mount type ·U-bolt installation type ·Box type ·Dual type
Available body material	SUS304, SUS316

Marine Cargo Monitoring System Consult us for detailed product catalogs.

Various types of instruments are available. For monitoring the level and temperature of cargo of oil tankers and product and chemical carriers. High level/overflow monitoring systems are also available.

Cargo Level, Temperature and Pressure Measurement



Exi



Exi

Separate-type indicator



Exi

Model	SPT-3500S	SPT-7200
Measuring object	Level, temperature, and pressure of liquid cargo	Level and temperature of liquid cargo
Measuring method	·Level: Magnetic float (Hall IC) ·Temperature: Pt 1000 Ω RTD ·Pressure: Ceramic sensor	·Level: Magnetic float (Reed switch) ·Temperature: Pt 100 Ω RTD
Measuring range	·Level: Max. 20 m ·Temperature: -50 to 150°C Temperature in tanks: -25 to 85°C ·Pressure: 800 to 2000 hPa	·Level: Max. 25 m ·Temperature: -25 to 105°C
Measuring accuracy	·Level: ±20 mm (Precision type: ±10 mm) ·Temperature: ±2°C ·Pressure: ±0.5% F.S.	·Level: ±1% F.S. ·Temperature: ±2°C
Standard material	·Float: SUS316 ·Guide pipe: SUS304 Pressure sensor: SUS316	·Guide pipe: SUS304 ·Flange: SUS304 ·Float: SUS316L
Available material	·Float: SUS316L, titanium ·Guide pipe: SUS316, SUS316L	·Guide pipe: SUS316, SUS316L ·Flange: SUS316, SUS316L
Indication	·6-digit LCD ·Level and temperature selectable ·Separable (up to 10 m)	·Level: Analog, analog + digital ·Temperature: Digital
Output	2-core cable for power supply and serial pulse signal	
Explosion-proof	Ex ia II CT6	Ex ia II CT5 Temperature: i3nG5

Instrument for the Control Room



Model	Super DIR-M3200	Super DIR-M8000	CALTIS Windows
LCD display	10.4" touch panel	10.4" touch panel 19" touch panel	Delivery: Pre-installed PC (or CD-ROM for software only) System requirement: PC with WindowsXP Professional Basic software: Microsoft WindowsXP Professional Microsoft Office 2003 RAM: 1 GB or more HDD: 40 GB or more (80 GB is recommended)
Max. number of input sensors	32 (16 sets of SPT-3500 + 16 sets of 4 to 20 mA sensors)	80 (32 sets of SPT-3500 + 48 sets of other sensors)	
Connecting instrument (input)	SPT-3500 Others: Level, temperature, and pressure sensors, etc.	Super DIR-M8000-IF interface unit (SPT-3500, level, temperature, and pressure sensors, etc.)	
Connecting instrument (output)	RS232C LAN RS232C/RS485/LAN	Super DIR-M8000-IF interface unit LAN RS232C RS232C/RS485/LAN	

High-level Alarming Device



Model	FP-7000	MIA-LIDEC
Sensor	Float type level switch	Acoustic wave type level switch
Contact signal	Reed switch	Piezo-electric element
Accuracy	2 points detection (High level and overflow)	Current signal (18 mA in normal conditions/6 mA in alarm conditions)
Standard material	±10 mm	±10 mm
Application	-Float: SUS316 -Guide pipe: SUS304, SUS316, SUS316L	-Sensor: SUS316L -Support: SUS304, SUS316, SUS316L
Power supply	-FP-7091S-T: Cargo, slop and fuel tanks -FP-7091S: Bilge alarm -FP-7091S-T: Cargo and slop tanks, washproof	-Liquid level detection: High alarm Overflow alarm -Type: High alarm alone High alarm and overflow alarm combined
Explosion-proof	-Non-flameproof (IP65) -Intrinsically safe (Ex ia II CT6)	18 to 28 V DC (2-wire system) -Watertight (IP66 equivalent) -Intrinsically safe (Ex ia II CT6)



Model	TAN-M1600-RP	DIR-M1600-ALG	DIR-M1600-SPT-II	DIR-700-DBII
Number of inputs	Annunciator unit	Multimonitor for current input	Multimonitor for cargo tanks	Multimonitor for cargo tanks
Input signal	16	16	16	-
Output /Indication	-Non-voltage contact -Open collector contact	-Current (4 to 20 mA DC) level, pressure signal	2-wire BCD serial -Level signal -Temperature signal (max. 3 points) -Pressure signal	RS-232C (from DIR-M1600 multimonitor)
Power supply	Output -Contact output for buzzers -CPU trouble self-diagnosis contact output -Contact output for external alarm lamps	Indication -Tank number: 3 digits -Level : 5 digits -Pressure : 5 digits -Status : 2 digits -Alarm/error status	Indication -Tank number: 3 digits -Level : 5 digits -Pressure : 5 digits -Temperature: 4 digits -Status : 2 digits -Alarm/error status	Indication -Bar graph of level -Cargo data digital (selectable): 5 digits -Alarm status: 2 digits -Error -Selected function -2-color LEDs for identifying alarm locations
	24 V DC	24 V DC	24 V DC	24 V DC

Semi-standard Instrument

Consult us for detailed specifications of semi-standard instruments; individual product catalogs are available.

Servo-balancing Type Tank Gauge



FW-2000
-All wire type



Exd

FT-2000
-Tape type
-2-pointer dial indication, counter indication
-High-pressure type available
-4 to 20 mA DC
-Alarm output (1 to 6)
-Pneumatic output
-Digital output

Peripheral Instrument for Tank Gauge Systems



Exd

DIR-110
-Tank-side indicator
-Transmitter to be connected: FW-9000
-Indication: Temperature, level, status



FDC-1000
-Field device controller
-Contact output: Max. 8 points
-4 to 20 mA DC: Max. 2 points
-Contact input: Max. 8 points
-Indication: Contact input status, contact output status, 4 to 20 mA DC status



CSR-30005
-Oil leak detector
-Capacitance type

Receiver for Digital Tank Gauge Systems



DIR-530
-For moderate size tank yards with a few tanks
-Output signal: 4 to 20 mA DC, alarm relay, serial, parallel

Fiber-optic Tank Gauge System



Exd

FW-9000N (for optical fiber)
-Optical pulse output



Exd

DM4N-2/3
-Optical tank data transmitter



Ø-FDC-1000
-Optical field device controller

Level Switch



FB-9000
-Bellows type
-Pressure: 0.2 MPa (option: 2 MPa)
-Temperature range: -19 to 150°C
-Material: Stainless steel
-Switch: Microswitch, air microswitch

Relay Driver



RD-1000
-Increasing the number of contacts
-1100 VA AC (resistance load)
-120 W DC (resistance load)

Float Type Level Transmitter



Exd

FP-7100
-Magnet float type
-Measuring object: Liquid
-Measuring range: 250 to 3810 mm, 250 to 5000 mm

Microwave Level Meter



TLR2000
-Measuring object: Liquid, paste, slurry
-Measuring range: Max. 20 m
-Output: 4 to 20 mA DC

CAPATIC Capacitance Type Level Switch



CA-1000
-Measuring object: Liquid, powder, granule
-Construction: Watertight



CA-1000S
-Measuring object: Liquid, powder, granule
-Construction: Intrinsically safe

UW series Ultrasonic Level Monitor



UW-2000
-Body: Clean construction
-Measuring range: Max. 4 m (UW-2100)
Max. 9.99 m (UW-2200)
-Output: 4 to 20 mA DC, high and low alarm output, RS232C output



UW5000
-Measuring object: Liquid, slurry, powder, granule, gravel
-Output: 4 to 20 mA DC, alarm output, digital output

MICROCELL Level System



SVS2000
-Direct measurement of product mass in vessels
-Measuring object: Silo, hopper, etc.



The background of the page is an abstract, fluid design featuring a palette of warm colors: bright yellow, light orange, and soft peach. The colors blend into each other, creating a sense of movement and depth, reminiscent of liquid or smoke. The overall effect is a vibrant, organic texture that frames the central text.

OTHER INSTRUMENTS



Model	RR930N	RR940N	IR1600
Input	·Open collector pulse ·Voltage pulse		
Indication	·Flow rate ·Frequency ·Alarm		·Flow rate ·Total flow
Output (re-output)	·Re-output of pulse ·Alarm output	·4 to 20 mA DC ·0 to 5 V DC, 5 to 10 V DC ·Alarm output	·Pulse output ·4 to 20 mA DC ·Alarm output
Power supply	10 to 27 V DC		
Power supply for the sensor	12 V DC, 25 mA		
Dimension (HxWxD)	24x48x80 mm		
Panel cut (HxW)	22x45 mm		



Model	IR4600	IR-6000
Input	·Open collector pulse ·Voltage pulse	·Open collector pulse ·Voltage pulse ·4 to 20 mA DC ·Square signal
Indication	·Flow rate ·Total flow	
Output (re-output)	·Pulse output ·4 to 20 mA DC ·Alarm output	
Power supply	·85 to 264 V AC ·12 to 24 V DC	·24 V DC ·85 V to 264 V AC
Power supply for the sensor	24 V DC, 100 mA	24 V DC, 30 mA
Dimension (HxWxD)	48x96x130 mm	48x48x107 mm
Panel cut (HxW)	45x92 mm	45x45 mm

Flow Measurement System for Automobile Engine Tests

Consult us for detailed product catalogs.

Engine Blow-by Gas Measurement System

Measures blow-by gas flow of various engines. Ideal for evaluating cylinders, pistons, piston rings, and engine oil.



Model	BF-2000S	BF-4000S
Fluid	Gas (blow-by gas)	
Measuring range (air)	Standard	Standard
	Max.	Max.
Fluid temperature	0 to 60°C	
Pressure loss	200 Pa at 200 L/min (nor)	200 Pa at 100 L/min (nor)
Power supply	·Standard: 100 V AC ·Overseas specification: 110 V to 240 V AC ·4 to 20 mA DC ·1 to 5 V DC ·Integrated pulse ·Serial signal (RS485) ·Flow alarm ·Differential pressure alarm	
Connection size	Rc 11/2	Rc 1
Accuracy	·1.5% R.D. (20 L/min (nor) or more) ·1.5% F.S. (less than 20 L/min (nor))	·1.5% R.D. (10 L/min (nor) or more) ·1.5% F.S. (less than 10 L/min (nor))

CNG Flow Measurement System

Measures CNG, an alternative fuel for engines, over a wide range and with high accuracy.



Model	TH-1500/1600-CNG	
Fluid	CNG	
	Local indication + Current output	
Measuring range	Min.	0 to 0.2 L/min (nor)
	Max.	0 to 4050 L/min (nor)
Construction	Watertight (IP65 or equivalent)	
Size	15 mm to 50 mm	
Accuracy	±1% R.D.	
Standard material	SUS304/FPM	
Available material	SUS316/FPM	
Converter	TR-7000-CNG	

Model	TR-7000-CNG	
	Flow signal converter	
Power supply	100 V AC	
Output	·4 to 20 mA DC	·Pulse output
	·RS232C	·Flow alarm
Cable length	10 m (max. 100 m)	



Measurement System for Air Flow of Radiators

Small and thin wind turbine flow sensors measure a wide range of wind velocity. Suitable for determining wind velocity distribution in cooling facilities and wind tunnels.



Model	RR-5000B
	Converter
Power supply	12 V DC
Number of measuring channels	8 ch
Output	-5 to +5 V DC
Accuracy	Frequency conversion accuracy: ±1 Hz Analog output accuracy: ±0.6% R.D. ±0.01 V
Communication	RS-485

Model	RS-1038/1050
	Propeller sensor
Measuring range	·RS-1038: 0.5 to 30 m/s ·RS-1050: 0.4 to 30 m/s
Accuracy	±1.5% R.D. ±0.05 m/s
Temperature range	0 to 120°C (continuous operating temperature: max. 100°C)
Dimension	·RS-1038: approx. 40 mm (8 vanes) ·RS-1050: approx. 64 mm (5 vanes)

RS-2000/RS-3000
Fiber-optic cable
Core diameter
·RS-2000: Ø 2
·RS-3000: Ø 0.3
Cable length
·RS-2000: 5 m
·RS-3000: 6 m

Cooling Water Flowmeter

Measures cooling water flow in engines. Can be easily installed in the engine room.



Model	EF-AUTO
	Detector and converter
Fluid	Liquid
Measuring range	Min.: 0 to 1 L/h Max.: 0 to 1400 L/h
Fluid temperature	-20 to 180°C
Fluid pressure	0 to 1.0 MPa
Size	6 mm to 50 mm
Power supply	100 to 230 V AC
Output	4 to 20 mA DC
Construction	Waterproof (IP65 or equivalent)
Body material	Al ₂ O ₃ or ZrO ₂

Semi-standard Instrument

Consult us for detailed specifications of semi-standard instruments; individual product catalogs are available.

Differential Pressure/ Pressure transmitter

FCX-AⅢ series



DT series

·Digital differential pressure transmitter



FKE/FKY

·Level transmitter



FKC

·Differential pressure
(flow) transmitter

FKG

·Pressure transmitter

"BATCH AUTOBOY" Movable Batch Control System



BD-1100

·External pump control type



BD-1200

·Pump-integrated type

Individual catalogues or technical guidances are available for all the products introduced in this general guidance.
Contact your agent or TOKYO KEISO.

* Specification is subject to change without notice.

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