TECHNICAL GUIDANCE

MASSMAX
7400R Series
Coriolis Mass Flowmeter with
Single Straight Measuring Tube

OUTLINE

The **MASSMAX** 7400R Coriolis mass flowmeter series consists of a popular single straight tube with low pressure loss and self-cleaning property, and the newly developed high-performance MMC400R converter.

Innovative sensing technologies have eliminated restrictions on installation, achieving accurate flow measurement with simple mounting.

Titanium is used for the measuring tube (wetted parts) as standard. Hastelloy®C22, Stainless Steel, and Tantalum are available on request.

With 7 connection sizes from 6 mm to 80 mm, the **MASSMAX**7400R covers various applications from small flow to large flow.

FEATURES

❏ Completely straight single measuring tube. Excellent self-cleaning property and low pressure loss

❏ Simple installation eliminates the restrictions of on-site measures such as piping support and vibration shock reduction, saving space and cost

❏ High accuracy: ±0.1% of reading (+zero stability)

❏ Excellent zero stability and high vibration resistance

❏ Duplicated protection with outer cylinder made of Stainless Steel

❏ Simultaneous measurement of mass flow rate (instantaneous and totalized), density, and temperature with one instrument

❏ Compact type and remote type available

❏ Compliant with Japanese standard explosionproof

❏ Titanium is used for wetted parts as standard. Hastelloy®C22, Stainless Steel, and Tantalum are also available, covering a wide variety of applications

STANDARD SPECIFICATIONS

• Measuring principle: Coriolis force
• Meter size: 06, 10, 15, 25, 40, 50, 80 (mm)*
• Measuring range:

Meter size *	kg/h		kg/min	
	Max. flow rate	Min. flow rate	Max. flow rate	Min. flow rate
06	1,230	9.5	20.5	0.158
10	3,500	27	58.3	0.450
15	14,600	112.5	243.3	1.875
25	44,800	345	746.7	5.750
40	120,000	915	2,000	15.25
50	234,000	1,800	3,900	30.00
80	560,000	4,300	9,333	71.66

* The measuring tubes of Hastelloy®C22 are available for sizes 10 to 80 (mm), Tantalum for sizes 10 to 50 (mm) and Stainless Steel for sizes 06 to 50 (mm).

• Enclosure : IP67 (IEC 60529)
• Ambient temperature : −40 to +60°C (compact type)
　　　　　　　　　　　　 −40 to +65°C
　　　　　　　　　　　　 (remote type sensor and converter)
　　　　　　　　　　　　 See [Explosionproof] for the ambient temperature range of Ex types.

Fluid specifications

• Fluid : Liquids
• Fluid temperature and pressure:

	Measuring tube	Temperature *1	Pressure *2
T	Titanium	−40 to +150°C	−0.1 to 10 MPa
H	Hastelloy® C22	0 to +100°C	−0.1 to 5 MPa
S	Stainless steel (S31803)	0 to +100°C	−0.1 to 5 MPa
A	Tantalum	0 to +100°C	−0.1 to 5 MPa

Note: See [Pressure and temperature rating table] for details.
*1 See [Explosionproof] for the ambient temperature range of Ex types.
*2 Pressure in this table means the maximum pressure of the measuring tube. The operating pressure of the process is lower than the maximum operating pressure of the flange (or fitting) or outer cylinder. See [Pressure and temperature rating table] for details.

• Density : 400 to 2000 kg/m³

Sensor specifications

• Process connection:
　Flange; JIS10K/20K or equivalent
　　　　　 ASME Class 150/300 or equivalent, etc.
　Sanitary fitting; ISO 2852 ferrule, etc. (optional)
• Materials:
　Wetted parts:

Measuring tube material	T	H *	S *	A *
Measuring tube	Titanium (ASTM Grade 9)	Hastelloy® C22	Stainless Steel UNS S31803 (Equiv. to JIS SUS329J3L)	Tantalum UNS R05255
Flange gasket sheet	Titanium (ASTM Grade 2)	Hastelloy® C22	Stainless Steel UNS S31803 (Equiv. to JIS SUS329J3L)	Tantalum UNS R05200

* Optional

Non Wetted Part;
Flanges: Stainless Steel 316 / 316L dual certified
Outer cylinder (Protective housing):
Stainless Steel 304 / 304L dual certified
Stainless Steel 316 / 316 L dual certified*
* Optional

• Outer cylinder (Protective housing) allowable pressure:
　10 MPa at 20°C as standard.
　PED qualified version of 6.3 or 10 MPa at 20°C are available as an option. See [Pressure and temperature rating table] for details.

TOKYO KEISO CO., LTD.

Converter

- Housing material : Aluminum alloy, SS316L as an option
- Painting : Siloxane coating
- Color : Gray for converter housing, jade green for converter cover and terminal cover
- Power supply : 100 V to 230 V AC (85 V to 253 V AC)
  Option; 24 V DC (11 to 31 V DC)
  Voltages in parentheses indicate the acceptable voltage range.
- Supply frequency : 48 to 63 Hz
- Power consumption : AC; approx. 22 VA, DC; approx. 12 W
- Grounding : Grounding resistance must be less than 100Ω for Non-ex types (D-type), less than 10Ω for Ex types
- Cable Entry : G1/2 Female adapter × 2 or
  1/2 NPT Female adapter × 2 or
  M20 × 1.5 Female thread × 2 or
  G1/2 Flame proof adapter × 2
  (Japanese standard explosionproof)
  Note: Up to 3 cable entries can be provided.

Indication and outputs

- Display : Blue dot matrix LCD with backlight 128 × 64 pixels (59 × 31 mm) Each of 4 screens shows data in up to 3 lines. Data include instantaneous mass flow rate (bar graph indication available), totalized mass flow, instantaneous volumeflow rate, totalized volume flow rate, density, temperature, and instantaneous flow rate trend graph (percentage indication). Setting parameters and self-diagnosis results are also displayed.

  Units of instantaneous mass flow rate:
  kg/h, kg/min, kg/sec, t/h, and others
  Forward and reverse flow directions are indicated with "+" or "−".

  Units of totalized mass flow rate: kg, t, g, and others
  Totalization of flow rates in forward and reverse directions is possible.

  Units of density : g/cm^3, kg/m^3, and others
  Units of temperature : °C, and others

- Current output : 4 to 20 mA (max. 22 mA)
  *Preparing for HART communication
  Load resistance is less than 1000Ω.
  Select from among instantaneous mass flow rate, density, and temperature.

- Pulse output : Open collector output
  Load rating : 32 V DC
  20 mA or less (100 Hz < f ≤ 10 kHz)
    Residual voltage at close <1.5 V (load current ≤ 1 mA)
                               <2.5 V (load current ≤ 10 mA)
                               <5 V (load current ≤ 20 mA)
  100 mA or less (f ≤ 100 Hz)
    Residual voltage at close <0.2 V (load current ≤ 10 mA)
                               <2 V (load current ≤ 100 mA)

  Output frequency : Max. 10 kHz
  Pulse rate : 36 to 36,000,000 pulse/h
    (0.01 Hz to 10 kHz)
  Pulse width : Selectable from:
    (1) Automatic: Pulse width which makes duty 50% at full scale frequency
    (2) Fixed duty ratio: Always 1:1
    (3) Arbitrary setting: 0.05 to 2000 ms

- Status output : Open collector output
  Load rating : 32 V DC, 100 mA or less
    Residual voltage at close <0.2 V (load current ≤ 10 mA)
                               <2 V (load current ≤ 100 mA)
  Contents : Selectable from:
    (1) No status output (default setting)
    (2) Flow direction identification
    (3) Flow over-range
    (4) Totalization preset
    (5) Range identification
        (when double ranges are used)
    (6) Errors and measurement alarms for flow rate, density, temperature, and others

- Control input
  Input voltage : 8 to 32 V DC (ON)/2.5 V DC, 0.4 mA or less (OFF)
  Max. current : 6.5 mA (input voltage ≤ 24 V DC)
  Max. current : 8.2 mA (input voltage ≤ 32 V DC)
  Control target : Selectable from:
    (1) No control input (default setting)
    (2) Hold output
    (3) Lock output at 0%
    (4) Reset totalization counter
    (5) Reset errors
    (6) Range identification (when double ranges are used)
    (7) Others

- Combination of outputs
  Standard : 4 to 20 mA output × 1, pulse output × 1, status output × 1, control input × 1 (total 4 points)
  Option 1 : 4 to 20 mA output × 2, pulse output × 1 (total 3 points)
  Option 2 : 4 to 20 mA output × 3, pulse output × 1 (total 4 points)
  Option 3 : 4 to 20 mA output × 2, status output or pulse output (selectable) × 2 (total 4 points)
    See "Converter code" on page 14 for details.

- Low cut-off:
  Current output and pulse output (can be set separately for each indication)
  Range : 0 to 20% F.S. (0.1% step)
  Hysteresis : 0 to 5% F.S. (0.1% step)

- Time constant:
  Current output and pulse output (can be set separately for each indication)
  Range : 0.0 to 100.0 sec (0.1 sec step)

Standard functions

- User-defined measuring units
  : Units for mass, volume, and time can be defined (max. 7 letters).
- Bi-directional flow measurement
  : Flow rates in both directions can be measured.
  Flow direction is output as status output.
- Self-diagnosis : Error messages and status messages are displayed.
  Function : CPU, memory, software, hardware, output connection
  Status : Over-range, count-over, power failure
  Application : Oscillating balance of measuring tube, vibration energy, other sensor circuit diagnosis
- Testing : Built-in simulator of current and pulse outputs
  Allows for loop check without calibrator.
- Touch sensor (optical key)
  : Four touch sensors enable data to be set from outside without the need for opening the cover.
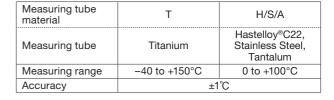 These serve as push buttons while the cover is opened.

Accuracy (calibrated at the factory)

- Mass flow rate (pulse output)

Measuring tube material	T	H/S/A
Measuring tube	Titanium	Hastelloy® C22, Stainless Steel, Tantalum
Accuracy	±0.1% of reading	
Zero stability	±0.004% of max. flow rate	±0.015% of max. flow rate

- Reference conditions: Water at 20°C, 0.1 MPa

Measurement error (accuracy + zero stability)

		Accuracy (±% of reading)	
Measuring tube material		T	H/S/A
Measuring tube		Titanium	Hastelloy®C22, Stainless Steel, Tantalum
% of max. flow rate	100 %	0.104	0.115
	50 %	0.108	0.130
	20 %	0.12	0.175
	10 %	0.14	0.25
	5 %	0.18	0.4
	1 %	0.5	1.6
	0.77 %	0.62	2.04

Note: Accuracy is not assured for flow rates less than 0.77% of max. flow rate (meaning less than min. flow rate).

Effects of changes in process conditions:

Fluid temperature ; ±0.001% (Titanium) / ±0.004% (others) of max. flow rate per 1°C
Example
when the size changes by 1°C with size T06 (Titanium):
1230 kg /h × 0.00001＝0.0123 kg/h

Fluid pressure ; ±0.011% of max. flow rate per 0.1 MPa

These effects should be considered when process conditions change after zero adjustment.

- Density (Indicated value)

Measuring tube material	T	H/S/A
Measuring tube	Titanium	Hastelloy®C22, Stainless Steel, Tantalum
Meter size applicable to density measurement	15, 25, 40, 50, 80 [2]	
Measuring range	400 to 2000 kg/m³	
Accuracy [1]	±2kg/m³	
Accuracy (on-site calibration)	±0.5kg/m³	

*1 Calibration with certification at the factory test to be performed as an option.
*2 Tantalum is not available for size 80.

- Temperature (indicated value)

Measuring tube material	T	H/S/A
Measuring tube	Titanium	Hastelloy®C22, Stainless Steel, Tantalum
Measuring range	−40 to +150°C	0 to +100°C
Accuracy	±1°C	

Explosion Proof

• Japanese standard explosionproof
 Type of protection and class:
 Compact type MMM7400RC-JEx
 (Certificate number: CML21JPN1739X, CML21JPN21175X)
 Ex db ia IIC T6...T1 Ga/Gb
 Ex db eb ia IIC T6...T1 Ga/Gb
 Ex tb IIIC T165°C Db

 Remote type sensor MMS7000RF-JEx
 (Certificate number: CML21JPN2904X, CML21JPN21181X)
 Ex ia IIC T6...T1 Ga
 Ex ia IIIC T165°C Da

 Remote type converter MMC400RF-JEx
 (Certificate number: CML21JPN1740X, CML21JPN21182X)
 Ex db [ia] IIC T6 Gb
 Ex db eb [ia] IIC T6.Gb
 Ex tb IIIC T75°C Db

Compact type MMM7400RC-JEx (Japanese standard explosionproof)
Compact type MMM7400C-Ex (ATEX/IECEx explosionproof)
Aluminum alloy converter housing (standard)

Ambient temperature °C	Fluid temperature °C	Temperature class	Max. surface temperature °C
−40 to +40	65	T6–T1	T80
	80	T5–T1	T95
	100	T4–T1	T115
	115	T4–T1	T130
	150	T3–T1	T165
−40 to +50	100	T4–T1	T115
	115	T4–T1	T130
	150	T3–T1	T165
−40 to +65	65	T4–T1	T80

Stainless Steel converter housing (optional)

Ambient temperature °C	Fluid temperature °C	Temperature class	Max. surface temperature °C
−40 to +40	65	T6–T1	T80
	80	T5–T1	T95
	100	T4–T1	T115
	115	T4–T1	T130
	130	T3–T1	T145
−40 to +50	80	T4–T1	T95
	100	T4–T1	T115
	115	T3–T1	T130
−40 to +65	60	T4–T1	T75

Remote type MMS7000RF-JEx (Japanese standard explosionproof)
Remote type MMS7000F-Ex (ATEX/IECEx explosionproof)
Aluminum alloy housing with heating jacket

Ambient temperature °C	Fluid temperature °C	Temperature class	Max. surface temperature °C
−40 to +40	65	T6–T1	T80
	80	T5–T1	T95
	100	T4–T1	T115
	115	T4–T1	T130
	150	T3–T1	T165
−40 to +50	80	T5–T1	T95
	100	T4–T1	T115
	115	T4–T1	T130
	150	T3–T1	T165
−40 to +65	100	T4–T1	T115
	115	T4–T1	T130
	130	T3–T1	T145

• ATEX explosionproof
 Type of protection and class:
 Compact type MMM7400C-Ex
 (Certificate number: PTB17 ATEX2008 X)
 II 1/2(1)G Ex db ia [ia Ga] IIC T6...T1 Ga/Gb or
 II 1/2(1)G Ex db eb ia [ia Ga] IIC T6...T1 Ga/Gb or
 II 1/2 G Ex db ia IIC T6...T1 Ga/Gb
 II 1/2 G Ex db ea ia IIC T6...T1 Ga/Gb
 II 2(1)D Ex tb [ia Da] IIIC Txxx°C Db or
 II 2D Ex tb IIIC Txxx°C Db

 Remote type sensor MMS7000F-Ex
 (Certificate number: PTB17 ATEX 2007 X)
 II 1 G Ex ia IIC T6...T1 Ga or II 1 D Ex ia IIIC Txxx°C Da

 Remote type converter MMC400F-Ex
 (Certificate number: PTB17 ATEX 2009 X)
 II 2(1) G Ex db [ia Ga] IIC T6 Gb
 II 2(1)G Ex db eb [ia Ga] IIC T6 Gb or
 II 2 G Ex db[ia] IIC T6 Gb or
 II 2 G Ex db eb [ia] IIC T6 Gb or
 II 2(1)D Ex tb [ia Da] IIIC T75°C Db or
 II 2D Ex tb IIIC T75°C Db

• IECEx explosionproof
 Type of protection and class:
 Compact type MMM7400C-Ex
 (Certificate number: IECEx PTB17.0029X)
 Ex db ia [ia Ga] IIC T6...T1 Ga/Gb or
 Ex db eb ia [ia Ga] IIC T6...T1 Ga/Gb or
 Ex ia IIC T6...T1 Ga/Gb or
 Ex eb ia IIC T6...T1 Ga/Gb or
 Ex tb [ia Da] IIIC Txxx°C Db or
 Ex tb IIIC Txxx°C Db

 Remote type sensor MMS7000F-Ex
 (Certificate number: IECEx PTB17.0028X)
 Ex ia IIC T6...T1 Ga or II 1 D Ex ia IIIC Txxx°C Da

 Remote type converter MMC400F-Ex
 (Certificate number: IECEx PTB17.0030X)
 Ex db [ia Ga] IIC T6 Gb
 Ex db eb [ia Ga] IIC T6 Gb or
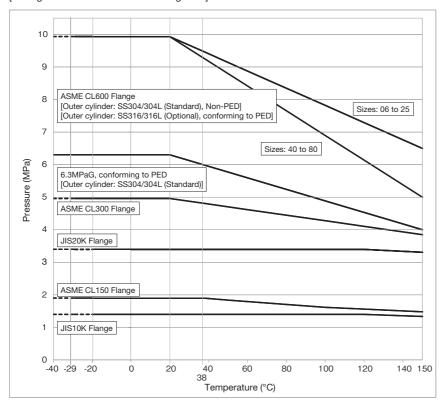 Ex db[ia] IIC T6 Gb or
 Ex db eb [ia] IIC T6 Gb or
 Ex tb [ia Da] IIIC T75°C Db or
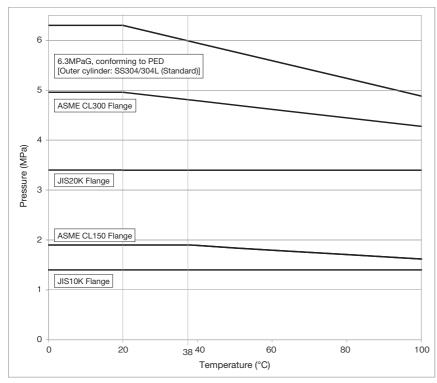 Ex tb IIIC T75°C Db

Pressure and temperature rating table

[Rating table for Titanium measuring tube]

Note: Consult us for other flange standards.

[Rating table for Hastelloy®C22, Stainless Steel, and Tantalum measuring tubes]
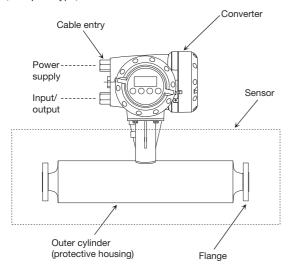

Note: Consult us for other flange standards.

NAMES OF PARTS

〔Compact type〕

FLOW RANGE

Meter size	kg/h		kg/min	
	Max. flow rate	Min. flow rate	Max. flow rate	Min. flow rate
06	1,230	12	20.5	0.205
10	3,500	35	58.3	0.583
15	14,600	146	243.3	2.433
25	44,800	448	746.7	7.467
40	120,000	1,200	2,000	20
50	234,000	2,340	3,900	39
80	560,000	5,600	9,333	93.33

Note: The measuring tubes of Hastelloy®C22 are available for sizes 10 to 80 (mm), Tantalum for sizes 10 to 50 (mm) and Stainless Steel for sizes 06 to 50 (mm).

MEASURING TUBE DIMENSIONS

Meter size	Measuring tube material	Dimensions (mm)	
		Inside diameter	Wall thickness
06	T	5.53	0.41
	H	—	—
	S	5.53	0.41
10	T	8.56	0.60
	H	8.41	0.56
	S	8.40	0.56
15	T	14.8	0.60
	H/A	14.96	0.46
	S	14.96	0.46
25	T	23.98	0.71
	H/A	24.85	0.55/0.56
	S	24.85	0.55
40	T	36.28	0.91
	H/A	36.68	0.71
	S	36.68	0.71
50	T	48.32	1.24
	H/A	48.80	1.00
	S	48.26	1.00
80	T	68.80	2.10
	H	70.95	1.04
	S	—	—

T : Titanium
H : Hastelloy®C22
S : Stainless Steel
A : Tantalum

PROCESS CONNECTION

• Flange connection

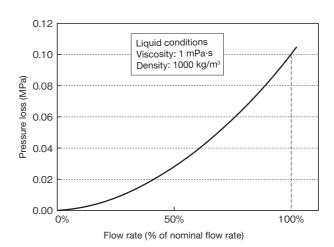| Meter size	Standard		Optional
	Equiv. to JIS [*1]	Equiv. to ASME	Equiv. to JIS/ASME [*2]
06	10A 20K	1/2" class 150	15A 20K 1/2" class 300,600
10			
15	15A 20K	3/4" class 150	25A 20K 3/4" class 300, 600 1" class 150, 300, 600
25	25A 20K	1" class 150	40A 20K 1" class 300, 600 1-1/2" class 150, 300, 600
40	40A 20K	1-1/2" class 150	50A 10K 1-1/2" class 300, 600 2" class 150, 300, 600
50	50A 10K	2" class 150	80A 10K [*3] 2" class 300, 600 3" class 150, 300, 600 [*3]
80	80A 10K	3" class 150	100A 10K [*3] 3" class 300, 600 4" class 150, 300, 600 [*3]

*1 JIS20K flange is commonly used for 10A 10K to 40A 10K flange as standard. (Installation dimensions of JIS20K flange are equal to JIS10K except the flange thickness.)
*2 ASME Class 600 flanges are provided only for material "T" (Titanium tube).
*3 For sizes 50 and 80 mm, one rank larger flange connection is available only for Titanium tubes.
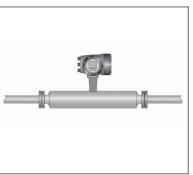
• Sanitary fitting (Optional) [*4]

Meter size	Fittings
06	1/2" Tri-clamp
10	1/2" Tri-clamp
15	1" ISO 2852 ferrule (IDF ferrule compliant) 1" Tri-clamp
25	1-1/2" ISO 2852 ferrule (IDF ferrule compliant) 1-1/2" Tri-clamp
40	2" ISO 2852 ferrule (IDF ferrule compliant) 2" Tri-clamp
50	3" ISO 2852 ferrule (IDF ferrule compliant) 3" Tri-clamp
80	3" ISO 2852 ferrule (IDF ferrule compliant) 3" Tri-clamp

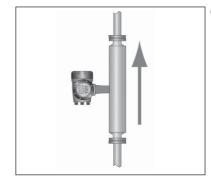*4 Sanitary fitting is provided only for material "T" (Titanium tube) and "S" (Stainless Steel UNS S31803 tube).
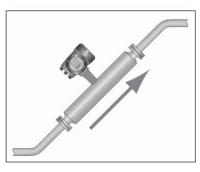
PRESSURE LOSS [TYPICAL VALUE]
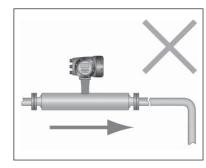
INSTALLATION NOTES

①When installing the flowmeter on the horizontal line, place the converter or the terminal box of remote type above the measuring tube.
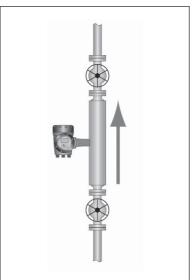

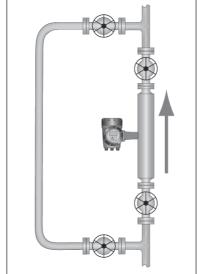②When installing the flowmeter on the vertical line, install it in upward flow direction.

③When installing the flowmeter on the slant line with upward flow, place the converter or the terminal box of remote type above the measuring tube.
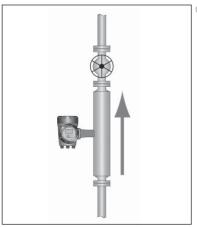

④When installing the flowmeter on the horizontal line, make the upstream and downstream pipings be filled with liquids. Do not bend these pipings downward at the vicinity of flowmeter. To avoid unnecessary accumulation of gasses, do not install the flowmeter on the upper part of associated pipings in such processes containing air or gas.

⑤When installing the flowmeter on the vertical line, provide with stop valves at both upstream and downstream to keep the flowmeter to be filled with liquids, which is necessary to perform zero adjustment.

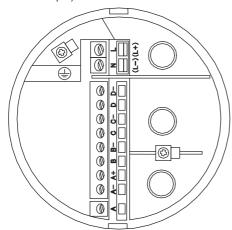⑥It is highly recommended to equip with bypass and stop valves for maintenance purpose.

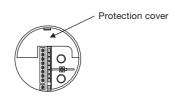⑦Install a control valve downstream if required to avoid the cavitations caused by throttling of valve.

ELECTRICAL CONNECTION

[I/O terminals of MMC400RC/F converters]

• Current output × 1, pulse output × 1, status output × 1, control input × 1 (standard output)

The power supply terminal block has a protection cover.

Protection cover

Terminals	Description
L / L+	L and N for AC power supply
N / L−	L+ and L− for DC power supply
⏚	Grounding

Terminals	Polarity	Description (Standard)
D−	−	Pulse or status output, frequency pulse, alarm output
D	+	
C−	−	Current output (4 to 20 mA/internal power supply)
C	+	
B−		
B		
A+		
A−		
A		

• Terminal type   : Plug-in type screw terminal
• Wire cross section   : 0.5 to 2.5 mm²
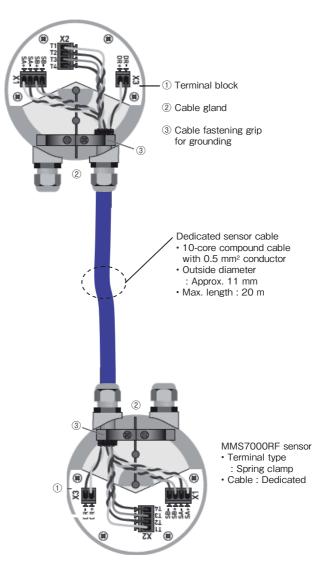• Cable outside diameter : 7 to 12 mm

• Connection diagram for optional outputs (modular I/O print circuit)

Converter specifications	Polarity	Option 1 Current output, pulse or status output, control input (6EK)	Option 2 Current output × 2, pulse or status output (6A8)	Option 3 Current output × 3, pulse or status output (6AA)	Option 4 Current output × 2, pulse or status output× 2 (6AE)
D−	−	Pulse or status output, frequency pulse, alarm output	Pulse or status output	Pulse or status output	Pulse or status output No. 1
D	+				
C−	−	Current output	Current output No. 1	Current output No. 1	Current output No. 1
C	+				
B−	−	Control input		Current output No. 2	Pulse or status output No. 2
B	+				
A+					
A−	−	Status output or pulse, frequency pulse, alarm output	Current output No. 2	Current output No. 3	Current output No. 2
A	+				

(The "Terminal" label spans the terminal rows on the left side of the table.)

Remote type sensor cable MMS7000RF + MMC400RF

MMC400RF converter
• Terminal type: Spring clamp
• Cable: Dedicated

① Terminal block

② Cable gland

③ Cable fastening grip for grounding

Dedicated sensor cable
• 10-core compound cable with 0.5 mm² conductor
• Outside diameter : Approx. 11 mm
• Max. length : 20 m

MMS7000RF sensor
• Terminal type : Spring clamp
• Cable : Dedicated

DIMENSIONS

• MMM7400RC compact type with flange connection

➡️ Flow direction as standard

Meter size	Dimensions (mm)									Approx. mass (kg)	Material Tantalum additional mass (approx. kg)
	L		A		H	H1	H2	H3	φD		
	L1	L2	A1	A2							
06	420	—	335	—	362	51	241	311	102	18.5	—
10	510	557	413	—	362	51	241	311	102	23	1.8
15	548	633	450	525	362	51	241	311	102	26	2.7
25	700	800	598	688	376	58	248	318	115	37	4.5
40	925	1075	796	936	430	85	275	345	170	83	9.2
50	1101	1281	948	1118	480	110	300	370	220	147	15.1
80	1460	—	1274	—	534	137	327	397	274	265	—

1. Face-to-face dimension "L" is for standard flange. "L1" and "A1" are for Titanium, Hastelloy®C22 and Stainless Steel while "L2" and "A2" are for Tantalum.
2. "H" and "H1" are the height from the bottom of the outer cylinder.
3. Length "G":
   26 mm for G1/2 female adapter and 1/2 NPT female adapter.
   85 mm for Japanese standard explosionproof construction.

• MMS7000RF remote type sensor with flange connection

Flow direction as standard

Meter size	Dimensions (mm)								Approx. mass (kg)
	L		A		H	H1	H3	φD	
	L1	L2	A1	A2					
06	420	—	335	—	282	51	231	102	15.7
10	510	557	413	—	282	51	231	102	20.2
15	548	633	450	525	282	51	231	102	23.2
25	700	800	598	688	295	58	237	115	34.2
40	925	1075	796	936	350	85	265	170	80.2
50	1101	1281	948	1118	400	110	290	220	144.2
80	1460	—	1274	—	454	137	317	274	262.2

1. Face-to-face dimension "L" is for standard flange. "L1" and "A1" are for Titanium, Hastelloy®C22 and Stainless Steel while "L2" and "A2" are for Tantalum.
2. "H" and "H1" are the height from the bottom of the outer cylinder.

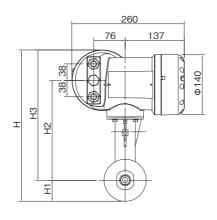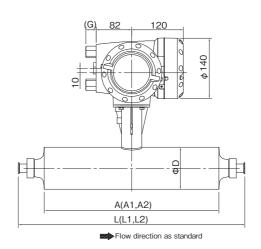• MMC400RF remote type converter

Mass   : Approx. 5.8 kg

Length "G" :
      26 mm for G1/2 female adapter and 1/2 NPT female adapter.
      85 mm for Japanese standard explosionproof construction.

DIMENSIONS

• MMM7400RC compact type with sanitary connection

Flow direction as standard

Meter size	Dimensions (mm)						Approx. mass (kg)
	A	H	H1	H2	H3	φD	
06	335	362	51	241	311	102	18.5
10	413	362	51	241	311	102	23
15	450	362	51	241	311	102	26
25	598	376	58	248	318	115	37
40	796	430	85	275	345	170	83
50	948	480	110	300	370	220	147
80	1274	534	137	327	397	274	265

1. "H" and "H1" are the height from the bottom of the outer cylinder.
2. Length "G":
   26 mm for G1/2 female adapter and 1/2 NPT female adapter.
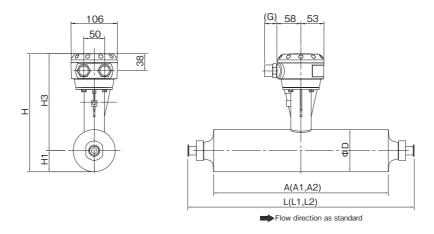   85 mm for Japanese standard explosionproof construction.

Meter size	Model	Fittings	L (mm)
06	KR	1/2" Tri-clamp (welding type)	480
10	KR	1/2" Tri-clamp (welding type)	558
15	MS	1" Tri-clamp (adapter type)	665
	MU	1" ISO 2852 ferrule (adapter type, IDF-compliant)	665
25	NR	1-1/2" Tri-clamp (welding type)	816
	NS	1-1/2" Tri-clamp (adapter type)	855
	NT	1-1/2" ISO 2852 ferrule (welding type, IDF-compliant)	816
	NU	1-1/2" ISO 2852 ferrule (adapter type, IDF-compliant)	855
40	PR	2" Tri-clamp (welding type)	1043
	PS	2" Tri-clamp (adapter type)	1077
	PT	2" ISO 2852 ferrule (welding type, IDF-compliant)	1043
	PU	2" ISO 2852 ferrule (adapter type, IDF-compliant)	1077
50	RR	3" Tri-clamp (welding type)	1305
	RS	3" Tri-clamp (adapter type)	1355
	RT	3" ISO 2852 ferrule (welding type, IDF-compliant)	1305
	RU	3" ISO 2852 ferrule (adapter type, IDF-compliant)	1355
80	RR	3" Tri-clamp (welding type)	1527
	RT	3" ISO 2852 ferrule (welding type, IDF-compliant)	1527

Note: Sanitary fitting is provided only for material "T" (Titanium tube) and "S" (Stainless Steel UNS S31803 tube).

• MMM7400RC remote type with sanitary connection

Flow direction as standard

Meter size	Dimensions (mm)					Approx. mass (kg)
	A	H	H1	H3	φD	
06	335	282	51	231	102	15.7
10	413	282	51	231	102	20.2
15	450	282	51	231	102	23.2
25	598	295	58	237	115	34.2
40	796	350	85	265	170	80.2
50	948	400	110	290	220	144.2
80	1274	454	137	317	274	262.2

1. "H" and "H1" are the height from the bottom of the outer cylinder.

MODEL AND SPECIFICATION CODES

Measuring tube material: "T" Titanium (standard)

[Model code]

Specifications	Compact type (Sensor + Converter)	Remote type	
		Sensor	Converter
General purpose (non explosionproof)	MMM7400RC-T□□	MMS7000RF-T□□	MMC400RF
Japanese standard explosionproof	MMM7400RC-JEx-T□□	MMS7000RF-JEx-T□□	MMC400RF-JEx
ATEX / IECEx explosionproof	MMM7400C-Ex-T□□	MMS7000F-Ex-T□□	MMC400F-Ex

Note: □□: 06 to 80 are assigned as size codes.

[Sensor code]

Sensor Spec. Code	VE	4	T		0						Description								Std.
Sensor Code	VE										MMS 7000R Sensor (Single Straight Measuring Tube)								○
Meter Size	11										Meter Size 06								○
	12										Meter Size 10								○
	13										Meter Size 15								○
	14										Meter Size 25								○
	15										Meter Size 40								○
	16										Meter Size 50								○
	17										Meter Size 80								○
(Fixed code)		4									Always 4		○: Standard						○
Measuring Tube Material			T								Titanium		△: Semi-standard						○
Measuring Tube Surface Finish				0							Standard		▲: Option						○
				1							Polished Ra = 0.5μm (only for sanitary connection)			Meter Size						
				2							Polished Ra = 0.8μm (only for sanitary connection)	06	10	15	25	40	50	80	

Process connection			TH					10A JIS20K	○	○	–	–	–	–	–	○
			UH					15A JIS20K	▲	▲	○	–	–	–	–	○
			VH					25A JIS20K	–	–	○	–	–	–	–	○
			WH					40A JIS20K	–	–	–	▲	○	–	–	○
			XG					50A JIS10K	–	–	–	–	▲	○	–	○
			XH					50A JIS20K	–	–	–	–	▲	▲	–	
			YG					80A JIS10K	–	–	–	–	–	▲	○	○
			YH					80A JIS20K	–	–	–	–	–	▲	▲	
			ZG					100A JIS10K	–	–	–	–	–	–	▲	
			ZH					100A JIS20K	–	–	–	–	–	–	▲	
			KD					1/2" ASME class 150 (min. temperature -20°C for Size 15)	△	△	△	–	–	–	–	
			KE					1/2" ASME class 300 (min. temperature -20°C for Size 15)	▲	▲	▲	–	–	–	–	
			KF					1/2" ASME class 600 (min. temperature -20°C for Size 15)	▲	▲	▲	–	–	–	–	
			LD					3/4" ASME class 150	–	–	△	–	–	–	–	
			LE					3/4" ASME class 300	–	–	▲	–	–	–	–	
			LF					3/4" ASME class 600	–	–	▲	–	–	–	–	
			MD					1" ASME class 150	–	–	▲	△	–	–	–	
			ME					1" ASME class 300	–	–	▲	▲	–	–	–	
			MF					1" ASME class 600	–	–	▲	▲	–	–	–	
			ND					1-1/2" ASME class 150	–	–	–	▲	△	–	–	
			NE					1-1/2" ASME class 300	–	–	–	▲	▲	–	–	
			NF					1-1/2" ASME class 600	–	–	–	▲	▲	–	–	
			PD					2" ASME class 150	–	–	–	–	▲	△	–	
			PE					2" ASME class 300	–	–	–	–	▲	▲	–	
			PF					2" ASME class 600	–	–	–	–	▲	▲	–	
			RD					3" ASME class 150	–	–	–	–	–	▲	△	
			RE					3" ASME class 300	–	–	–	–	–	▲	▲	
			RF					3" ASME class 600	–	–	–	–	–	▲	▲	
			SD					4" ASME class 150	–	–	–	–	–	–	▲	
			SE					4" ASME class 300	–	–	–	–	–	–	▲	
			SF					4" ASME class 600	–	–	–	–	–	–	▲	
			KR					1/2" Tri-clamp (welding type)	▲	▲	–	–	–	–	–	
			LR					3/4" Tri-clamp (welding type)	–	–	▲	–	–	–	–	
			MU					1" ISO 2852 ferrule (adapter type)	–	–	▲	–	–	–	–	
			NR					1-1/2" Tri-clamp (welding type)	–	–	–	▲	–	–	–	
			NS					1-1/2" Tri-clamp (adapter type)	–	–	–	▲	–	–	–	
			NT					1-1/2" ISO 2852 ferrule (welding type)	–	–	–	▲	–	–	–	
			NU					1-1/2" ISO 2852 ferrule (adapter type)	–	–	–	▲	–	–	–	
			PR					2" Tri-clamp (welding type)	–	–	–	–	▲	–	–	
			PS					2" Tri-clamp (adapter type)	–	–	–	–	▲	–	–	
			PT					2" ISO 2852 ferrule (welding type)	–	–	–	–	▲	–	–	
			PU					2" ISO 2852 ferrule (adapter type)	–	–	–	–	▲	–	–	
			RR					3" Tri-clamp (welding type)	–	–	–	–	–	▲	▲	
			RS					3" Tri-clamp (adapter type)	–	–	–	–	–	▲	▲	
			RT					3" ISO 2852 ferrule (welding type)	–	–	–	–	–	▲	▲	
			RU					3" ISO 2852 ferrule (adapter type)	–	–	–	–	–	▲	–	

(Fixed code)	0					Always 0	○
Outer Cylinder Material *	G					SS304/304L dual certified	○
	H					SS304/304L dual certified	
	0					SS304/304L dual certified PED-certified, Max. 6.3 MPa at 20°C	
	A					SS316/316L dual certified PED-certified, Max. 6.3 MPa at 20°C	
	B					SS316/316L dual certified PED-certified, Max. 10 MPa at 20°C	
Heating Jacket		0				Without	○
		2				Heating jacket with 1/2 NPT female (not available for size 06)	
Explosionproof Approvals			0			Without	
			1			ATEX explosionproof (Ex)	○
			R			IECEx explosionproof (Ex)	
			9			Japanese standard explosionproof (JEx)	
Sanitary Approvals *1 "Measuring tube surface finish Ra = 0.8 μm" is mandatory				0		Without	○
				1		EHEDG (European Hygienic Equipment Design Group) [*1]	
				2		3A (American Dairy Approval) [*1]	
Type					0	Compact type	○
					1	Remote type (aluminum alloy wiring terminal housing)	
					2	Remote type (stainless steel wiring terminal housing)	
Calibration						0	Standard 3-point flow calibration	○
						1	5-point fow calibration	
						A	3-point flow calibration + density calibration (water: temperature, 3-point) for Sizes 15 to 80	
						B	5-point flow calibration + density calibration (water: temperature, 3-point) for Sizes 15 to 80	
						D	5-point flow calibration + UKAS-certified calibration (ISO/IEC 17025)	
Degreasing							0	Without	○
							1	Degreasing wetted parts	
Special specifications								00	Without	
								00/Z	Special	

Note: Special requirements not included in the above coding system should be designated by adding "/Z" at the end of the code. Consult us for the availability of such requirements before ordering.
* Outer Cylinder Material:
  Codes "G" and "H" are recommended for services in the food industry and waste water treatment, which do not require pressure resistance.
  Codes "0", "A" and "B" comply with the EU pressure equipment directive (PED).
  These are recommended for services in the oil and chemical industries and high-pressure processes which require pressure resistance and higher safety.

[Converter code]
MMC400RC/RF

Converter spec. code	VE	54	4			2	0	0		2			0	0		Description	Std.
Converter code	VE	54														MMC400R converter	○
(Fixed code)			4													Always 4	○
Type				4												Compact type	○
				H												Remote type (mandatory for ship class, high temperature, and cryogenic models)	
Power supply					A											100 to 230 V AC	○
					1											12 to 24 V DC	
Explosionproof Approval						0										Without	○
						1										ATEX explosionproof (Ex)	
						F										IECEx explosionproof (Ex)	
						9										Japanese standard explosionproof (JEx)	
Cable entries for input, output, and power supply							0									M20 × 1.5 female for ATEX explosionproof	
							4									1/2 NPT female adapter	
							5									G1/2 female adapter	○
							6									M20 × 1.5 with waterproof gland	
							9									G1/2 flameproof gasket adapter for Japanese standard explosionproof	
Language for indication								2								English	○
(Fixed code)									0	0						Always 00	○
Converter housing											1					Aluminum alloy	○
											2					SS316L (compact type)	
											3					SS316L (remote type)	
(Fixed code)												2				Always 2	○
Output													6 0 0			4 to 20 mA × 1, pulse or status × 1, total 2	○
													6 E K			4 to 20 mA × 1, pulse × 1, status × 1, control input × 1	
													6 A 8			4 to 20 mA × 2, pulse or status × 1 (selectable)	
													6 A A			4 to 20 mA × 3, pulse or status × 1 (selectable)	
													6 A E			4 to 20 mA × 2, pulse × 1, pulse or status × 1 (selectable)	
Measurement														0		Mass flow rate, density, temperature as standard	○
(Fixed code)															0	Always 0	○
Sensor cable																0 Without (compact type)	○
																4 5 m cable (only for remote type)	
																1 10 m cable (only for remote type)	
																5 20 m cable (only for remote type)	
Special specifications																00 Without	
																00/Z Special	

Note: Special requirements not included in the above coding system should be designated by adding "/Z" at the end of the code.
Consult us for the availability of such requirements before ordering.

Measuring tube material: "H" Hastelloy®C22 (optional)

[Model code]

Specifications	Compact type (Sensor + Converter)	Remote type	
		Sensor	Converter
General purpose (non explosionproof)	MMM7400RC-H□□	MMS7000RF-H□□	MMC400RF
Japanese standard explosionproof	MMM7400RC-JEx-H□□	MMS7000RF-JEx-H□□	MMC400RF-JEx
ATEX / IECEx explosionproof	MMM7400C-Ex-H□□	MMS7000F-Ex-H□□	MMC400F-Ex

Note: □□: 10 to 80 are assigned as size codes.

[Sensor code]

Sensor Spec. Code: VE — 4 H 0 — 0

Category	Code	Description	Std.
Sensor Code	VE	MMS 7000R Sensor (Single Straight Measuring Tube)	○
Meter Size	32	Meter Size 10	○
	33	Meter Size 15	○
	34	Meter Size 25	○
	35	Meter Size 40	○
	36	Meter Size 50	○
	37	Meter Size 80	○
(Fixed code)	4	Always 4	○
Measuring Tube Material	H	Hastelloy®C22	○
Measuring Tube Surface Finish	0	Standard	○

○ : Standard △ : Semi-standard ▲ : Option

Process connection (Meter Size availability: 10, 15, 25, 40, 50, 80)

Code	Description	10	15	25	40	50	80	Std.
TH	10A JIS20K	○	–	–	–	–	–	○
UH	15A JIS20K	▲	○	–	–	–	–	○
VH	25A JIS20K	–	▲	○	–	–	–	○
WH	40A JIS20K	–	–	▲	○	–	–	○
XG	50A JIS10K	–	–	–	▲	○	–	○
XH	50A JIS20K	–	–	–	▲	▲	–	
YG	80A JIS10K	–	–	–	–	–	○	○
YH	80A JIS20K	–	–	–	–	–	▲	
KD	1/2" ASME class 150	△	△	–	–	–	–	
KE	1/2" ASME class 300	▲	▲	–	–	–	–	
LD	3/4" ASME class 150	–	△	–	–	–	–	
LE	3/4" ASME class 300	–	▲	–	–	–	–	
MD	1" ASME class 150	–	▲	△	–	–	–	
ME	1" ASME class 300	–	▲	▲	–	–	–	
ND	1-1/2" ASME class 150	–	–	▲	△	–	–	
NE	1-1/2" ASME class 300	–	–	▲	▲	–	–	
PD	2" ASME class 150	–	–	–	▲	△	–	
PE	2" ASME class 300	–	–	–	▲	▲	–	
RD	3" ASME class 150	–	–	–	–	–	△	
RE	3" ASME class 300	–	–	–	–	–	▲	

Category	Code	Description	Std.
(Fixed code)	0	Always 0	○
Outer Cylinder Material *	G	SS304/304L dual certified	○
	H	SS316/316L dual certified	
	0	SS304/304L dual certified PED-certified, Max. 6.3 MPa at 20°C	
	A	SS316/316L dual certified PED-certified, Max. 6.3 MPa at 20°C	
Heating Jacket	0	Without	○
	2	Heating jacket with 1/2 NPT female (for Sizes 10 to 80)	
Explosionproof Approvals	0	Without	○
	1	ATEX explosionproof (Ex)	
	R	IECEx explosionproof (Ex)	
	9	Japanese standard explosionproof (JEx)	
Sanitary Approvals	0	Without	○
Type	0	Compact type	○
	1	Remote type (aluminum alloy wiring terminal housing)	
	2	Remote type (stainless steel wiring terminal housing)	
Calibration	0	Standard 3-point flow calibration	○
	1	5-point fow calibration	
	A	3-point flow calibration + density calibration (water: temperature, 3-point) for Sizes 15 to 80	
	B	5-point flow calibration + density calibration (water: temperature, 3-point) for Sizes 15 to 80	
	D	5-point flow calibration + UKAS-certified calibration (ISO/IEC 17025)	
Degreasing	0	Without	○
	1	Degreasing wetted parts	
Special specifications	00	Without	
	00/Z	Special	

Note: Special requirements not included in the above coding system should be designated by adding "/Z" at the end of the code.
 Consult us for the availability of such requirements before ordering.
* Outer Cylinder Material:
 Codes "G" and "H" are recommended for services in the food industry and waste water treatment, which do not require pressure resistance.
 Codes "0" and "A" comply with the EU pressure equipment directive (PED).
 These are recommended for services in the oil and chemical industries and high-pressure processes which require pressure resistance and higher safety.

[Converter code]
See "Converter Code" on page 14.

Measuring tube material: "S" Stainless Steel UNS S31803 (optional)

[Model code]

Specifications	Compact type (Sensor + Converter)	Remote type	
		Sensor	Converter
General purpose (non explosionproof)	MMM7400RC-S□□	MMS7000RF-S□□	MMC400RF
Japanese standard explosionproof	MMM7400RC-JEx-S□□	MMS7000RF-JEx-S□□	MMC400RF-JEx
ATEX/IECEx explosionproof	MMM7400C-Ex-S□□	MMS7000F-Ex-S□□	MMC400F-Ex

Note: □□: 06 to 50 are assigned as size codes.

[Sensor code]

Sensor Spec. Code	VE		4	S			0							Description							Std.
Sensor Code	VE													MMS 7000R Sensor (Single Straight Measuring Tube)							○
Meter Size		21												Meter Size 06							○
		22												Meter Size 10							○
		23												Meter Size 15							○
		24												Meter Size 25							○
		25												Meter Size 40							○
		26												Meter Size 50							○
(Fixed code)			4											Always 4	○ : Standard						○
Measuring Tube Material				S										Stainless Steel UNS S31803	△ : Semi-standard						○
Measuring Tube Surface Finish					0									Standard	▲ : Option						○
					1									Polished Ra = 0.5μm (only for sanitary connection)	Meter Size						
					2									Polished Ra = 0.8μm (only for sanitary connection)	06	10	15	25	40	50	
Process connection						TH								10A JIS20K	○	○	—	—	—	—	○
						UH								15A JIS20K	▲	▲	○	—	—	—	○
						VH								25A JIS20K	—	—	▲	○	—	—	○
						WH								40A JIS20K	—	—	—	▲	○	—	○
						XG								50A JIS10K	—	—	—	—	▲	○	○
						XH								50A JIS20K	—	—	—	—	▲	▲	
						KD								1/2" ASME class 150	△	△	△	—	—	—	
						KE								1/2" ASME class 300	▲	▲	▲	—	—	—	
						LD								3/4" ASME class 150	—	—	△	—	—	—	
						LE								3/4" ASME class 300	—	—	▲	—	—	—	
						MD								1" ASME class 150	—	—	▲	△	—	—	
						ME								1" ASME class 300	—	—	▲	▲	—	—	
						ND								1-1/2" ASME class 150	—	—	—	▲	△	—	
						NE								1-1/2" ASME class 300	—	—	—	▲	▲	—	
						PD								2" ASME class 150	—	—	—	—	▲	△	
						PE								2" ASME class 300	—	—	—	—	▲	▲	
						KR								1/2" Tri-clamp (welding type)	▲	▲	—	—	—	—	
						LR								3/4" Tri-clamp (welding type)	—	—	▲	—	—	—	
						MU								1" ISO 2852 ferrule (adapter type)	—	—	▲	—	—	—	
						NR								1-1/2" Tri-clamp (welding type)	—	—	—	▲	—	—	
						NS								1-1/2" Tri-clamp (adapter type)	—	—	—	▲	—	—	
						NT								1-1/2" ISO 2852 ferrule (welding type)	—	—	—	▲	—	—	
						NU								1-1/2" ISO 2852 ferrule (adapter type)	—	—	—	▲	—	—	
						PR								2" Tri-clamp (welding type)	—	—	—	—	▲	—	
						PS								2" Tri-clamp (adapter type)	—	—	—	—	▲	—	
						PT								2" ISO 2852 ferrule (welding type)	—	—	—	—	▲	—	
						PU								2" ISO 2852 ferrule (adapter type)	—	—	—	—	▲	—	
						RR								3" Tri-clamp (welding type)	—	—	—	—	—	▲	
						RS								3" Tri-clamp (adapter type)	—	—	—	—	—	▲	
						RT								3" ISO 2852 ferrule (welding type)	—	—	—	—	—	▲	
						RU								3" ISO 2852 ferrule (adapter type)	—	—	—	—	—	▲	
(Fixed code)							0							Always 0							○
Outer Cylinder Material *								G						SS304/304L dual certified							○
								H						SS316/316L dual certified							
								0						SS304/304L dual certified PED-certified, Max. 6.3 MPa at 20°C							
								A						SS316/316L dual certified PED-certified, Max. 6.3 MPa at 20°C							
Heating Jacket									0					Without							○
									2					Heating jacket with 1/2 NPT female (for Sizes 15 to 50)							
Explosionproof Approvals										0				Without							○
										1				ATEX explosionproof (Ex)							
										R				IECEx explosionproof (Ex)							
										9				Japanese standard explosionproof (JEx)							
Sanitary Approvals											0			Without							○
*1 "Measuring tube surface finish Ra = 0.8 µm" is mandatory											1			EHEDG (European Hygienic Equipment Design Group) [1]							
*2 "Measuring tube surface finish Ra = 0.5 µm" is mandatory											2			3A (American Dairy Approval) [1]							
											3			ASME Bioprocessing Equipment Standard [2]							
Type												0		Compact type							○
												1		Remote type (aluminum alloy wiring terminal housing)							
												2		Remote type (stainless steel wiring terminal housing)							
Calibration													0	Standard 3-point flow calibration							○
													1	5-point fow calibration							
													A	3-point flow calibration + density calibration (water: temperature, 3-point) for Sizes 15 to 50							
													B	5-point flow calibration + density calibration (water: temperature, 3-point) for Sizes 15 to 50							
													D	5-point flow calibration + UKAS-certified calibration (ISO/IEC 17025)							
Degreasing														0	Without							○
														1	Degreasing wetted parts							
Special specifications															00	Without							
														00/Z	Special							

Note: Special requirements not included in the above coding system should be designated by adding "/Z" at the end of the code.
      Consult us for the availability of such requirements before ordering.
* Outer Cylinder Material:
  Codes "G" and "H" are recommended for services in the food industry and waste water treatment, which do not require pressure resistance.
  Codes "0" and "A" comply with the EU pressure equipment directive (PED).
  These are recommended for services in the oil and chemical industries and high-pressure processes which require pressure resistance and higher safety.

[Converter code]
See "Converter Code" on page 14.

Measuring tube material: "A" Tantalum (optional)

[Model code]

Specifications	Compact type (Sensor + Converter)	Remote type	
		Sensor	Converter
General purpose (non explosionproof)	MMM7400RC-A□□	MMS7000RF-A□□	MMC400RF
Japanese standard explosionproof	MMM7400RC-JEx-A□□	MMS7000RF-JEx-A□□	MMC400RF-JEx
ATEX/IECEx explosionproof	MMM7400C-Ex-A□□	MMS7000F-Ex-A□□	MMC400F-Ex

Note: □□: 10 to 50 are assigned as size codes.

[Sensor code]

Sensor Spec. Code	VE	4	A		0			0					Description						Std.
Sensor Code	VE												MMS 7000R Sensor (Single Straight Measuring Tube)						○
Meter Size	32												Meter Size 10						○
	33												Meter Size 15						○
	34												Meter Size 25						○
	35												Meter Size 40	○ : Standard					○
	36												Meter Size 50	△ : Semi-standard					○
(Fixed code)		4											Always 4	▲ : Option					○
Measuring Tube Material			A										Tantalum		Meter size				○
Measuring Tube Surface Finish				0									Standard	10	15	25	40	50	○
Process connection					TH								10A JIS20K	○	—	—	—	—	○
					UH								15A JIS20K	▲	○	—	—	—	○
					VH								25A JIS20K	—	▲	○	—	—	○
					WH								40A JIS20K	—	—	▲	○	—	○
					XG								50A JIS10K	—	—	—	▲	○	○
					KD								1/2" ASME class 150	△	△	—	—	—	
					KE								1/2" ASME class 300	▲	▲	—	—	—	
					LD								3/4" ASME class 150	—	△	—	—	—	
					LE								3/4" ASME class 300	—	▲	—	—	—	
					MD								1" ASME class 150	—	▲	△	—	—	
					ME								1" ASME class 300	—	▲	▲	—	—	
					ND								1-1/2" ASME class 150	—	—	▲	△	—	
					NE								1-1/2" ASME class 300	—	—	▲	▲	—	
					PD								2" ASME class 150	—	—	—	▲	△	
					PE								2" ASME class 300	—	—	—	▲	▲	
(Fixed code)						0							Always 0						○
Outer Cylinder Material *							H						SS316/316L dual certified						○
							A						SS316/316L dual certified PED-certified, Max. 6.3 MPa at 20°C						
Heating Jacket								0					Without						○
								2					Heating jacket with 1/2 NPT female (for Sizes 15 to 50)						
Explosionproof Approvals									0				Without						○
									1				ATEX explosionproof (Ex)						
									R				IECEx explosionproof (Ex)						
									9				Japanese standard explosionproof (JEx)						
Sanitary Approvals										0			Without						○
Type											0		Compact type						○
											1		Remote type (aluminum alloy wiring terminal housing)						
											2		Remote type (stainless steel wiring terminal housing)						
Calibration												0	Standard 3-point flow calibration						○
												1	5-point fow calibration						
												A	3-point flow calibration + density calibration (water: temperature, 3-point) for Sizes 15 to 50						
												B	5-point flow calibration + density calibration (water: temperature, 3-point) for Sizes 15 to 50						
												D	5-point flow calibration + UKAS-certified calibration (ISO/IEC 17025)						
Degreasing													0 Without						○
													1 Degreasing wetted parts						
Special specifications													00 Without						
													00/Z Special						

Note: Special requirements not included in the above coding system should be designated by adding "/Z" at the end of the code.
　　　Consult us for the availability of such requirements before ordering.
* Outer Cylinder Material:
　Code "H" is recommended for services in the food industry and waste water treatment, which do not require pressure resistance.
　Code "A" complies with the EU pressure equipment directive (PED).
　This is recommended for services in the oil and chemical industries and high-pressure processes which require pressure resistance and higher safety.

[Converter code]
See "Converter Code" on page 14.

STANDARD ACCESSORIES

• Data sheet for setting : 1 set
• Instruction manual　　 : 1 set

OPTIONS

• Waterproof cable gland for G1/2 cable connection (code: WG)
• Number of cable entries for external connection: 3 (code: 3G)
• U bolt for 2" pipe installation (code: PM)

* Specification is subject to change without notice.

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