OpreX™ Field Instruments

YOKOGAWA
Co-innovating tomorrow™

ROTA*MASS* Supreme

Coriolis Mass Flow and Density Meter



ROTA*MASS* Total Insight

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The Rotamass Supreme is engineered for demanding process conditions, delivering superior accuracy, wide operating ranges, and robust performance in high-temperature, high-pressure, and multiphase applications. Applications include Oil & gas (including multiphase flow), refining and petrochemical processes, cryogenic and high-temperature fluids, heavy oils and viscous fluids, custody transfer and net oil measurement, chemical and process industries.

Performance

- Wide temperature capability from cryogenic (-321°F) to high-temperature (+662°F)
- Robust dual-tube design for vibration and stress resistance
- Handles multiphase flow with gas entrainment
- Thick-walled tubes for pressure and abrasion resistance
- Supports insulation and heat tracing for demanding services

Features on Demand

- Predictive maintenance with Total Health Check
- Tube Health for in-line verification that can be individually adapted to your process conditions
- Benefit from Viscosity function and capability to handle high viscous process fluids
- Advanced concentration measurement function for complex applications
- Net Oil Computing function provides real-time measurements of net oil and water cut based on API standards
- Gas content handling and slug detection
- Batching function
- Dynamic Pressure Compensation
- NTEP for custody transfer applications

Technical Data

Measuring Range Full Scale (for liquids)

Size	Full range (lb/min)
Supreme 34	0 – 180
Supreme 36	0 – 620
Supreme 38	0 – 1800
Supreme 39	0 – 6200

Zero Point Stability

Model	Zero Point Stability (lb/min)
Supreme 34	0.0055
Supreme 36	0.018
Supreme 38	0.058
Supreme 39	0.18

Materials of Wetted Parts

Sensor
Stainless steel 1.4404/316L Nickel alloy C-22/2.4602

Accuracy

Liquids:
±0.1% of measured value (Ultimate transmitter)
±0.15% of measured value (Essential transmitter)

Gases:
±0.35% of measured value (Ultimate transmitter)
±0.75% of measured value (Essential transmitter)

Density:
0.0005 g/cm³ (Ultimate transmitter)
0.004 g/cm³ (Essential transmitter)

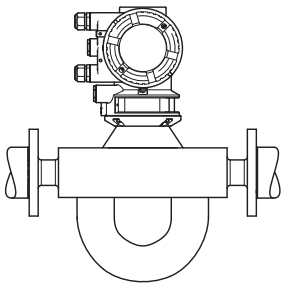
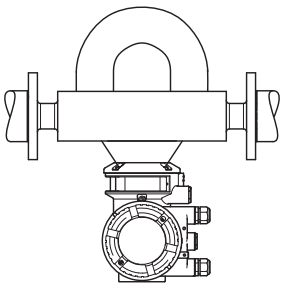
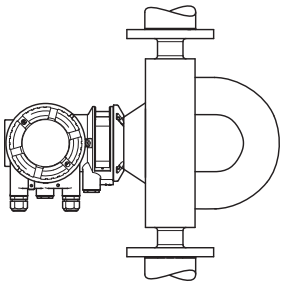
Process Conditions

Temperature -321°F up to 662°F (-196°C up to 350°C)

Pressure 1,450 psi (100 bar)

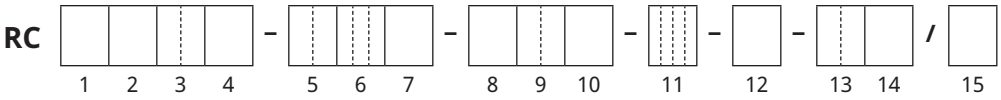
Ambient -58 to 176°F (-50 to 80°C)

Installation

Fluid	Installation Position
Liquid	Horizontal, measuring tubes at bottom 
Gas	Horizontal, measuring tubes at top 
Liquid/Gas	Vertical, direction of flow towards the top (recommended) 

Catalog Code

The model code of the Rotamass Total Insight is explained below. Items 1 through 14 are mandatory entries and must be specified at the time of ordering. Device options (item 15) can be selected and specified individually by separating them with slashes. Additional options available / please consult factory for all certificate and testing options. Access our free online configurator tool at: www.flowconfigurator.com.



Position 1	Transmitter
E	Essential (basic function)
U	Ultimate (high function)

Position 2	Sensor
S	Supreme

Position 3	Meter size
34	Maximum mass flow: 180 lb/min
36	Maximum mass flow: 620 lb/min
38	Maximum mass flow: 1800 lb/min
39	Maximum mass flow: 6200 lb/min

Position 4	Material wetted parts
S	Stainless steel 1.4404/316L
H	Nickel alloy C-22/2.4602

Position 5	Process connection size
08	DN08, ⅜ inch
15	DN15, ½ inch
20	DN20, ¾ inch
25	DN25, 1 inch
40	DN40, 1½ inch
50	DN50, 2 inch
80	DN80, 3 inch
1H	DN100, 4 inch

Position 6	Process connection type
BA1	CL150 ASME B16.5, raised face (RF)
BA2	CL300 ASME B16.5, raised face (RF)
BA4	CL600 ASME B16.5, raised face (RF)
TT9	Process connection with internal thread NPT

Position 7	Sensor housing material
0	Stainless steel 1.4301/304, 1.4404/316
1	Stainless steel 1.4404/316L

Position 8	Process temperature range
0	Standard temperature range
1	Low temperature range
2	Medium temperature range
3	High temperature range

Position 9	Mass flow & density accuracy
C6	Liquid: 0.1% mass flow + 0.003 g/cm3
D7	Liquid: 0.15% mass flow + 0.004 g/cm3
E7	Liquid: 0.2% mass flow + 0.004 g/cm3
50	Gas: 0.5% mass flow

Position 10	Design and housing
0	Integral type; Aluminum coated
A	Remote type; Aluminum coated
J	Remote type; Stainless steel

Position 11	Ex Approvals
NN00	Non Ex proof
FF11	FM XP + IS; Gr. A-G (USA & CAN)
FF12	FM XP + IS; Gr. C-G (USA & CAN)

Position 12	Cable entries
2	ANSI ½ in NPT

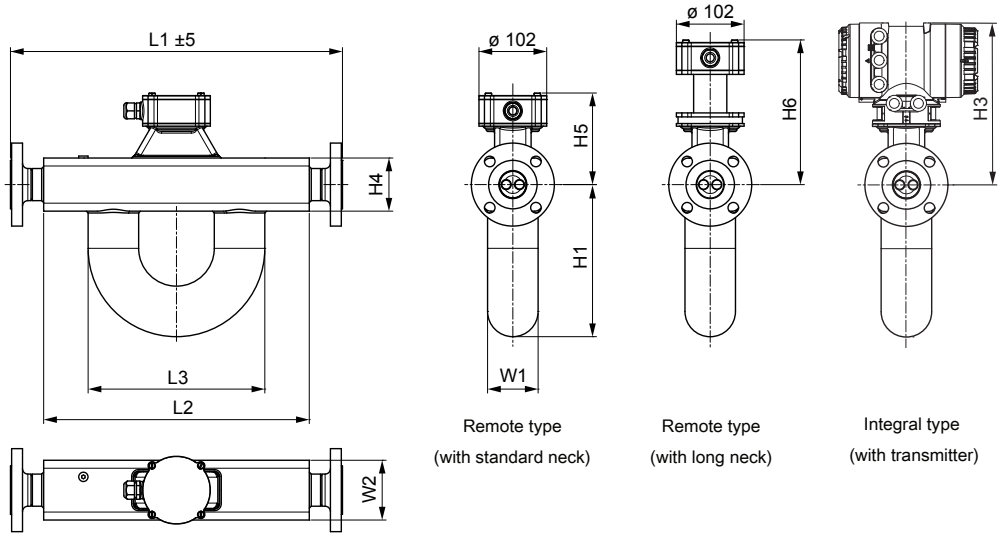
Position 13	Communication type and I/O
JA	1 active current output HART, 1 passive pulse or status output
JB	2 active current outputs one with HART, 2 passive pulse or status outputs
M6	Modbus output, 1 passive pulse or status output, 1 active current output
T3	PROFINET over APL, intrinsically safe, 1 passive pulse output

Position 14	Display
1	with display

Position 15	Additional options
BG	Tag number on nameplate
CL	Customer-specific installation length
CS	CRN Canadian Registration Number
C52	Net Oil Computing per API standard
CST	Concentration
TC	Tube health check
VM	Viscosity function liquids
Q20	NTEP approval
L005	5m/16.4ft standard remote sensor cable
L010	10m/32.8ft standard remote sensor cable

Dimensions Inches (millimeters)

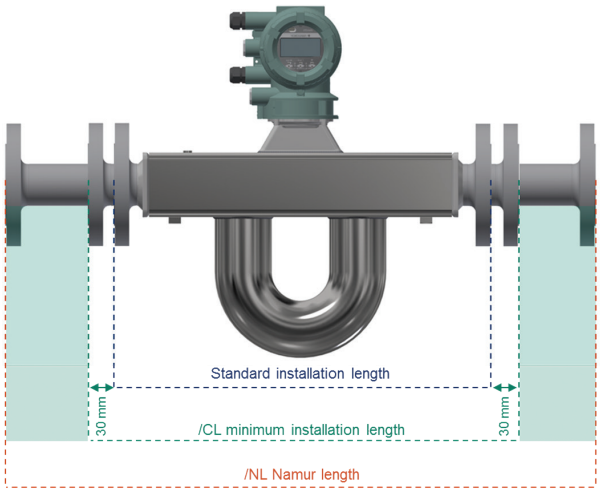
Note: Dimensions—Inches to the nearest tenth (millimeters to the nearest whole mm), each independently dimensioned from respective engineering drawings.



*The overall length (L1) of the sensor depends on the selected process connection (type and size).

Model	L2	L3	W1	W2	H1	H3	H4	H5	H6
Supreme 34	10.7 (272)	8.3 (212)	2.4 (60)	3.1 (80)	7 (177)	10.5 (267)	3.1 (80)	5.4 (138)	8.6 (218)
Supreme 36	15.7 (400)	10.5 (266)	3 (76)	3.5 (90)	9.1 (230)	10.5 (267)	3.1 (80)	5.4 (138)	8.6 (218)
Supreme 38	19.3 (490)	10.5 (267)	3.5 (89)	4.3 (110)	10.6 (268)	10.9 (277)	3.9 (100)	5.8 (148)	9 (228)
Supreme 39	33.5 (850)	14.9 (379)	5.1 (129)	6.3 (160)	14.6 (370)	11.6 (294.5)	5.3 (135)	6.5 (165)	9.7 (246)

Custom Length (/CL)



Allows customers to specify a custom face-to-face or overall installation length for the meter instead of using standard manufacturer (NAMUR or catalog) lengths. This is helpful as a drop-in replacement when retrofitting existing piping without cutting or re-welding lines, thus minimizing downtime and reducing rework cost.

ROTAMASS Total Insight

ROTAMASS supreme



Superior performance under demanding conditions

ROTAMASS intense



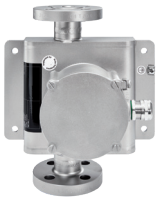
For high pressure applications

ROTAMASS prime



Versatility with superior turndown and low pressure loss

ROTAMASS nano



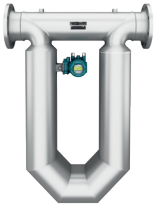
For low flow applications

ROTAMASS hygienic



For food & beverage, biotech-nology and pharmaceutical utility applications

ROTAMASS giga



Flexible installation for high flow applications

Essential



For general purpose application

Ultimate



For demanding & critical application

Scan to learn more about ROTA*MASS* Total Insight Coriolis Mass Flow and Density Meters

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YOKOGAWA CORPORATION OF AMERICA
12530 West Airport Blvd
Sugar Land, TX 77478
www.yokogawa.com/us

YOKOGAWA CANADA, INC.
Bay 4, 11133 40th Street SE
Calgary, AB T2C 2Z4
www.yokogawa.com/ca

YOKOGAWA DE MÉXICO, SA DE CV
Cervantes 251, Piso 14, Col. Amp. Granada,
Miguel Hidalgo CDMX 11520, Mexico
www.yokogawa.com/mx

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