OpreX™ Field Instruments

YOKOGAWA
Co-innovating tomorrow™

ROTA*MASS* Intense

Coriolis Mass Flow and Density Meter



ROTA*MASS* Total Insight

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The Rotamass Intense offers the most robust design for high pressure applications and engineered for gas handling in multiphase applications. Applications include high-pressure oil & gas production, multiphase / wet gas flow measurement, chemical injection and dosing systems, high-pressure processing (refining / petrochemical), and harsh or corrosive fluid measurement.

Performance

- High pressure design rated up to 10,008 psig (690 bar)
- 0-100% Gas Void Fraction capability to maintain measurement stability with entrained gas
- Robust sensor construction including thick-walled tubes with corrosion-resistant alloys (i.e. C-22)
- Dynamic pressure compensation to maintain accuracy under fluctuating pressure conditions

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)
Intense 08	0 – 3.5
Intense 10	0 – 11
Intense 34	0 – 180
Intense 36	0 – 620
Intense 38	0 – 1800

Zero Point Stability

Model	Zero Point Stability (lb/min)
Intense 08	0.00018
Intense 10	0.00067
Intense 34	0.0055
Intense 36	0.018
Intense 38	0.058

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)

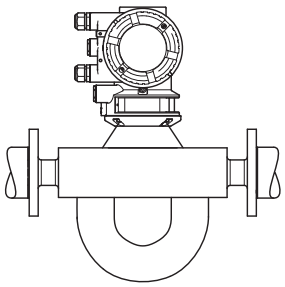
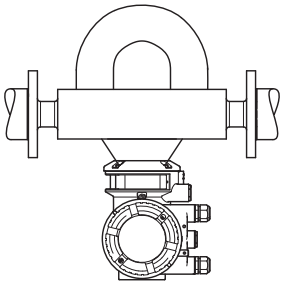
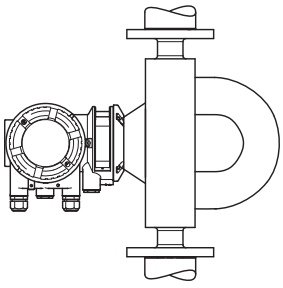
Gases:
±0.35% of measured value (Ultimate transmitter)
±0.75% of measured value (Essential transmitter)

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

Process Conditions

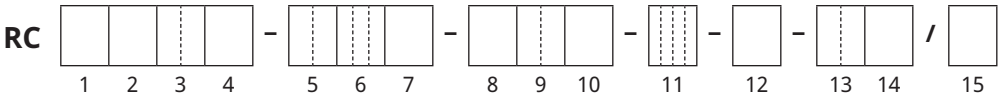
Temperature	-94°F to 302°F (-70°C to 150°C)
Pressure	10,008 psi (690 bar)
Ambient	-58 to 176°F (-50 to 80°C)

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
T	Intense

Position 3	Meter size
08	Maximum mass flow: 3.5 lb/min
10	Maximum mass flow: 11 lb/min
34	Maximum mass flow: 180 lb/min
36	Maximum mass flow: 620 lb/min
38	Maximum mass flow: 1800 lb/min

Position 4	Material wetted parts
S	Stainless steel 1.4404/316L
H	Nickel alloy C-22/2.4602
K	Measuring tubes: Nickel alloy C-22/2.4602; Process connections: Stainless steel 1.4404/316L

Position 5	Process connection size
08	DN08, ⅜ inch
15	DN15, ½ inch
16	9/16 inch
25	DN25, 1 inch
50	DN50, 2 inch

Position 6	Process connection type
BA5	CL900 ASME B16.5, raised face (RF)
BA6	CL1500 ASME B16.5, raised face (RF)
TT9	Process connection with internal thread NPT
TA9	Medium pressure autoclave compatible connection

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
2	Medium temperature range
3	High temperature range

Position 9	Mass flow & density accuracy
C7	Liquid: 0.1% mass flow + 0.004 g/cm3
D7	Liquid: 0.15% mass flow + 0.004 g/cm3
E7	Liquid: 0.2% mass flow + 0.004 g/cm3
30	Gas: 0.35% 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

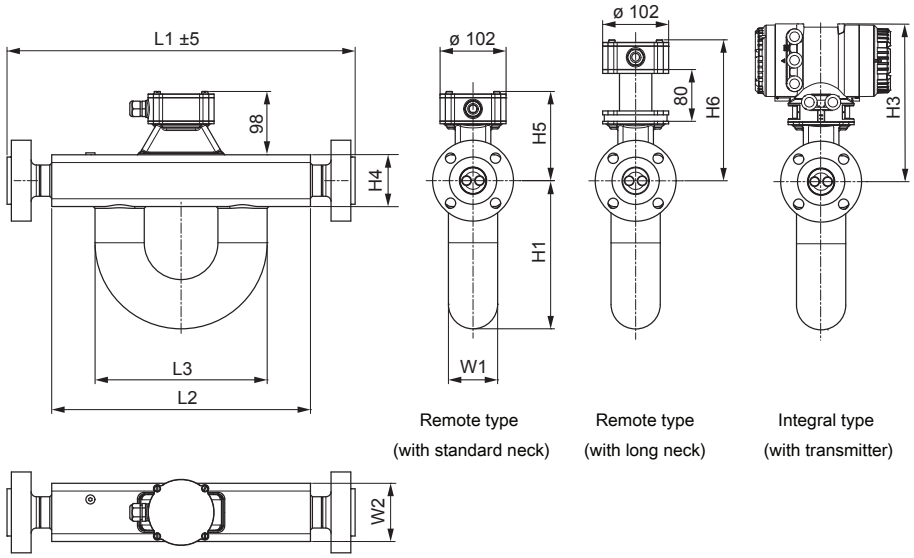
Position 13	Communication type and I/O
JA	1 active current output HART, 1 passive pulse or status output
JB	2 active current outputs one with HART, 2 passive pulse or status outputs
M6	Modbus output, 1 passive pulse or status output, 1 active current output
T3	PROFINET over APL, intrinsically safe, 1 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
Intense 08	9.5 (240)	7.7 (195)	2.0 (50)		5.4 (138)		2.3 (59)	5.5 (140)	
Intense 10	9.5 (240)	7.7 (195)	2.0 (50)		5.4 (138)		2.3 (59)	5.5 (140)	
Intense 34	10.7 (272)	8.3 (212)	2.4 (60)	3.1 (80)	7.0 (177)	10.5 (267)	3.1 (80)	5.4 (138)	8.6 (218)
Intense 36	15.7 (400)	10.5 (266)	3.0 (76)	3.5 (90)	9.1 (230)	10.5 (267)	3.1 (80)	5.4 (138)	8.6 (218)
Intense 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)	9.0 (228)

ROTAMASS Total Insight

ROTAMASS supreme



Superior performance under demanding conditions

ROTAMASS intense



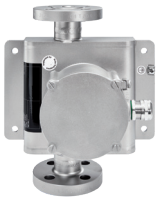
For high pressure applications

ROTAMASS prime



Versatility with superior turndown and low pressure loss

ROTAMASS nano



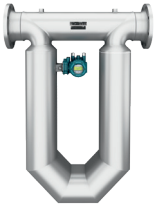
For low flow applications

ROTAMASS hygienic



For food & beverage, biotechnology 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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