

Product Information

RRI

Flow Transmitter RRI



- Uncomplicated measurement of flow rates
- No magnets; uses inductive sensor
- Long working life thanks to high quality ceramic axis and special plastic bearing
- Run-in and run-out sections are not necessary.
- Modular construction with various connection systems
- Plug-in and rotatable connections
- Output signal PNP or NPN
- Intrinsically safe behaviour
- Optionally, non-return valve, filter, constant flow rate device in the connections

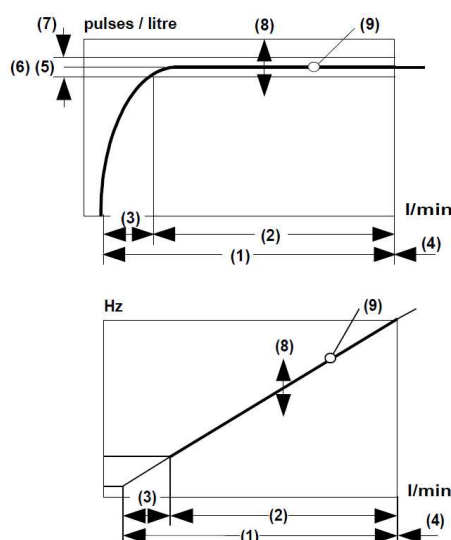
Characteristics

The flow meter consists of a spinner which is rotated by the flowing medium. The rotor's rotational speed is proportional to the flow volume per unit time. The rotor is fitted with stainless steel clamps (optionally titanium or Hastelloy®). An inductive proximity switch records the rotational speed, which is proportional to the flow rate.

Technical data

Sensor	inductive	
Nominal width	DN 10 (RRI-010) DN 25 (RRI-025)	
Mechanical Connection	female thread G 3/8, G 1 male thread G 3/8 A, G 1 A hose nozzle Ø11, Ø30 (other threaded, crimped, and plug-in connections, connections with constant flow rate device or limiters available on request)	
Pressure resistance	PN 16 bar	
Medium temperature	0..60 °C	
Materials medium-contact	Housing	PPS (Fortron 1140L4)
	Rotor	PVDF
	Clamps	1.4310 optionally: titanium or Hastelloy®
	Bearing	Igildur X
	Axis	ceramic ZrO ₂ -TZP
	Seal	FKM

Materials, non-medium-contact	PVC cable, 1.4305, 1.4301, CW614N nickelled	
Current consumption at rest	10 mA / NAMUR max. 7 mA	
Output current max.	200 mA / NAMUR max. 7 mA	
Electrical connection Sensor	cable 2 m or for round plug connector M12x1, 4-pole	
Resistant to short circuits	yes	
Reversal polarity protected	yes	
Ingress protection	IP 67	
Weight	RRI-010	approx. 0.2 kg
	RRI-025	approx. 0.5 kg
Conformity	CE	



- (1) Complete metering range
- (2) Specific metering range
- (3) Start-up range
- (4) Extended operating range, increased wear, $D_p > 0.5$ bar
- (5) Pulses / litre (details on label)
- (6) Average pulses / litre
- (7) Tolerance $\pm 3\%$ of the measured value
- (8) Scatter $\pm 10\%$ of the pulses / litre value (5) in the batch
- (9) Reproducibility ($\pm 1\%$ of the full scale value) is the repeat accuracy of a frequency, relative to l/min
- (10) Max. frequency, related to the relevant metering range up to approx. 0.5 bar pressure drop across the flow meter

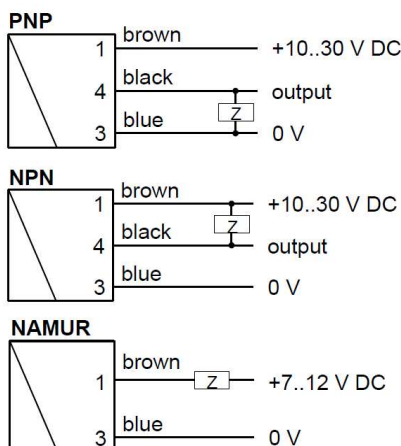
Types	Q _{max}	Metering range			pulses / litre	frequency
RRI-	l/min H ₂ O	l/min H ₂ O				Hz EW
		(1)	(2)	(3)	(6)	(10)
010...020	1.8	0.1.. 1.5	0.5.. 1.5	0.1..0.5	10200	255
010...050	12.0	0.2.. 10.0	2.0.. 10.0	0.2..2.0	3345	558
010...070	14.4	0.4.. 12.0	2.0.. 12.0	0.4..2.0	1755	351
025...080	36.0	2.0.. 30.0	3.0.. 30.0	2.0..3.0	1216	608
025...120	72.0	3.0.. 60.0	5.0.. 60.0	3.0..5.0	607	607
025...160	120.0	4.0..100.0	6.0..100.0	4.0..6.0	252	420

The measured values were determined using a standing sensor in a horizontal flow of water at 25 °C.

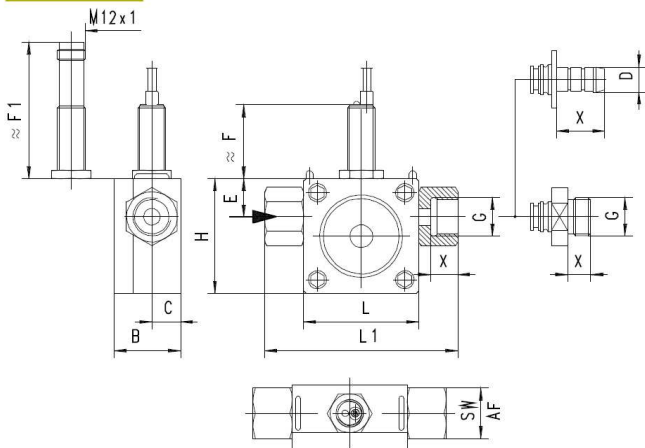
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Product Information

Wiring



Dimensions



Threaded connection

G	DN	Types	H/L	L1	B	C	E	F	F1	X	SW
G 3/8	10	RRI-010G	50	84	29	12.5	16.5	32	60	12	22
G 3/8 A		RRI-010A								14	
G 1	25	RRI-025G	70	110	53	23.0	27.5	27	55	18	38
G 1 A		RRI-025A		122							

Hose nozzle connection

D	DN	Types	H/L	L1	B	C	E	F	F1	X
Ø11	10	RRI-010T	50	96	11	12.5	16.5	32	60	21
Ø30	25	RRI-025T	70	176	30	23.0	27.5	27	55	45

Handling and operation

The Rotatron device is installed in the pipework with the aid of the rotatable adapter pieces. If necessary, the adapters can be removed from the body of the housing after the stainless steel clips have been removed from the housing. Before reinstalling, it should be ensured that both the adapter with the O-ring and the sealing surface in the body are clean and undamaged. The adapters should be fitted carefully in the housing (it is best to turn them), so that the O-ring is not damaged.

With this flow sensor, there is no need for run-in and run-out sections. However, it should be ensured that the flow sensor is at all times filled with medium. Any preferred installation position is possible, but the best possible venting position should be chosen (rotor axis horizontal, flow horizontal or from bottom to top). Air bubbles affect the measurement results. For filling processes,

the valve should be installed behind the sensor. A running up time of approx. 0.5 seconds and a running down time of approx. 3 seconds should be noted.

Ordering code

1. 2. 3. 4. 5. 6. 7. 8. 9. 10.
RRI-

○=Option

1. Nominal width		
010	DN 10	
025	DN 25	
2. Mechanical connection		
G	female thread	
A	male thread	
T	hose nozzle	
3. Connection material		
V	PVDF	
M	○ CW614N nickelled	
K	○ 1.4305	
4. Housing material		
Q	PPS	
V	○ PVDF	
A	○ PPS with transparent cover PSU	
5. Inwards flow drilling		
020	Ø 2	•
050	Ø 5	•
070	Ø 7	•
080	Ø 8	•
120	Ø12	•
160	Ø16	•
6. Seal material		
V	FKM	
E	○ EPDM	
N	○ NBR	
7. Rotor		
10	with 10 clamps	
02	○ with 2 clamps	
05	○ with 5 clamps	
8. Material for clamps		
K	1.4310	
T	○ titanium	
H	○ Hastelloy®	
9. Signal output		
P	PNP	
N	NPN	
A	○ NAMUR	
10. Electrical connection		
K	2 m cable	
S	○ for round plug connector M12x1, 4-pole	

Options

- Rotor with titanium clamps

Accessories

- Cable/round plug connector (KB...) see additional information "Accessories"
- Evaluation electronics OMNI-TA
- Mechanical connection pieces with non-return valve, filter, constant flow device or customer-specific requirements available on request

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