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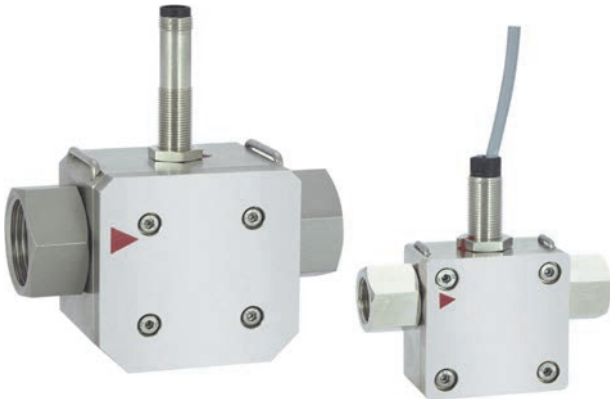
Flow Transmitter RRH



- **Uncomplicated measurement of flow rates**
- **Metal housing with Hall sensor**
- **Working pressure up to 100 bar**
- **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**

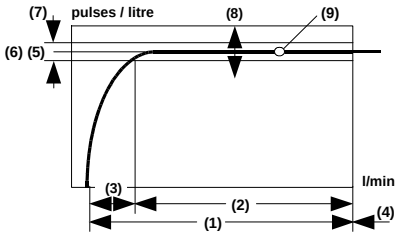
Characteristics

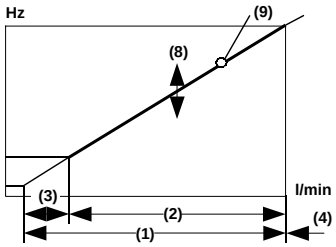
The flow meter consists of a spinner which is rotated by the flowing medium. The rotor's rotational speed is proportional to the flow volume per unit time. The rotor is fitted with magnets. A Hall sensor records the rotational speed, which is proportional to the flow rate.

Technical data

Sensor	hall element	
Nominal width	DN 10 (RRH-010) DN 25 (RRH-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 100 bar	
Metering ranges	see table "Ranges"	
Medium temperature	0..100 °C	
Materials medium-contact	Housing	CW614N nickelled or 1.4305
	Rotor	PVDF with magnets, glued with epoxy resin
	Bearing	Iglidur X
	Axis	ceramic $Zr0_2$-TZP
	Seal	FKM

Materials non-medium-contact	PVC cable 1.4305, 1.4301, CW614N nickelled	
Current consumption	30 mA	
Output current	max. 100 mA	
Electrical connection	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	RRH-010	approx. 0.6 kg
	RRH-025	approx. 1.9 kg
Conformity	CE	





(1) Complete metering range
(2) Specific metering range
(3) Start-up range
(4) Extended operating range, increased wear, Dp > 0.5 bar
(5) Pulses / litre (details on label)
(6) Average pulses / litre
(7) Tolerance ±3 % of the measured value
(8) Scatter ±10 % of the pulses / litre value (5) in the batch
(9) Reproducibility (±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

Ranges

Types	Q_{max}	Metering range			Pulses / litre	frequency
RRH-	l/min H_2O	l/min H_2O				Hz EW
		(1)	(2)	(3)	(6)	(10)
010...020	1.8	0.1.. 1.5	0.5.. 1.5	0.1..0.5	4955	124
010...050	12.0	0.2..10.0	2.0.. 10	0.2..2.0	1632	272
010...070	14.4	0.4..12.0	2.0.. 12	0.4..2.0	860	172
025...080	36.0	2.0..30.0	3.0.. 30	2.0..3.0	544	272
025...120	72.0	3.0..60.0	5.0.. 60	3.0..5.0	295	295
025...160	120.0	4.0.. 100	6.0..100	4.0..6.0	126	210

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

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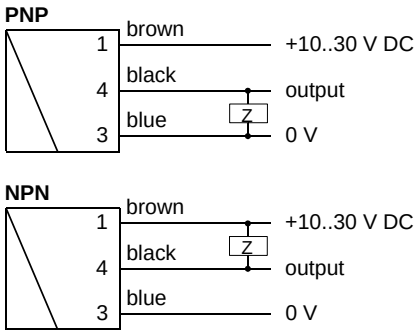
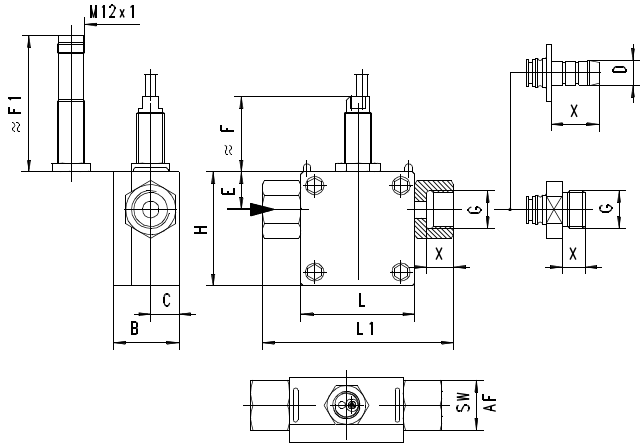
Wiring



Dimensions



Threaded connection

G	DN	Types	H/L	L1	B	C	E	F	F1	X	SW
G 3/8	10	RRH-010G	50	84	29	12.5	16.5	33	60	12	22
G 3/8 A		RRH-010A								14	
G 1	25	RRH-025G	70	110	53	23.0	27.5	28	55	18	38
G 1 A		RRH-025A		122							

Hose nozzle connection

D	DN	Types	H/L	L1	B	C	E	F	F1	X
Ø 11	10	RRH-010T	50	96	29	12.5	16.5	33	60	21
Ø30	25	RRH-025T	70	176	53	23.0	27.5	28	55	45

Handling and operation

Installation

The Rototron 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.
RRH-								**V**		

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**			
	M		CW614N nickelled	
	K		1.4305	
4.	**Housing material**			
	M		CW614N	
	K		1.4305	
5.	**Inwards flow drilling**			
	020		Ø 2.0	●
	050		Ø 5.0	●
	070		Ø 7.0	●
	080		Ø 8.0	●
	120		Ø12.0	●
	160		Ø16.0	●
6.	**Seal material**			
	V		FKM	
	E	❍	EPDM	
	N	❍	NBR	
	K	❍	Kemraz	
7.	**Rotor**			
	05		with 5 magnets	
	02	❍	with 2 magnets	
8.	**Rotor material**			
	V		PVDF	
9.	**Signal output**			
	P		PNP	
	N		NPN	
10.	**Electrical connection**			
	K		2 m cable	
	S	❍	for round plug connector M12x1, 4-pole	

Options

- Transparent cover DN 10
- Air or gas model

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