Flow Transmitter RR.-032

- **Simple and economical flow transmitter for piping diameters from 32 mm to 150 mm**
- **Made from plastic (optionally stainless steel)**
- **With tapping sleeve fixing for very rapid installation Retro-fitting also easily possible**

Characteristics

The flow meter consists of a spinner which is rotated by the flow speed. The rotational speed is proportional to the flow rate. The rotational speed can be recorded using various sensor systems, depending on the different materials for the housing.

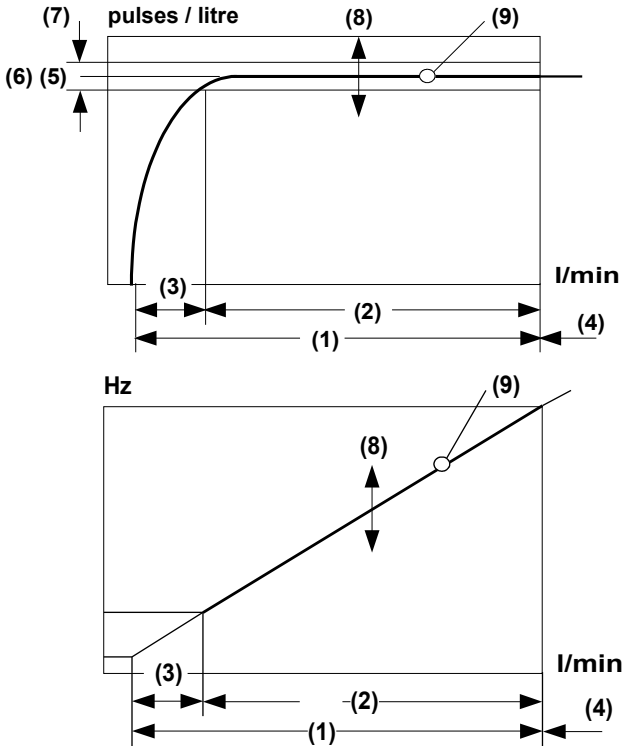
Technical data

	RRI (inductive sensor)	RRH (Hall sensor)
Nominal widths	DN 32..150	
Mechanical Connection	welded-on nozzle, DN 50..150 tapping sleeve, DN 32..150 glue socket, crew-in probe	
Metering range	30..1000 l/min for details, see table "Ranges"	
Measurement accuracy	±5 % of full scale value	
Repeatability	±1 % measured value	
Medium temperature	0..60 °C, type RRH as screw-in probe or with welded-on nozzle 0..95 °C	
Pressure resistance	PN 10 bar	
Supply voltage	PNP / NPN 5..30 V DC NAMUR 7..12 V DC	PNP / NPN 10..30 V DC
Current consumption at rest	10 mA / NAMUR max. 7 mA	30 mA
Output current max.	200 mA / NAMUR max. 7 mA	100 mA
Electrical connection	cable 2 m or for round plug connector M12x1, 4-pole	
Resistant to short circuits	yes	
Reversal polarity protected	yes	
Materials medium-contact		
Housing	PVC	1.4305
Tapping sleeve	PP	PP
Rotor	PVDF / 1.4310 or Titanium	PVDF / Magnets
Bearing	Iglidur X	Iglidur X
Axis	Ceramic Zr02-TZP	Ceramic Zr02-TZP
Seal	FKM	FKM
Materials, non-medium-contact	PVC cable, CW614N nickelled	
Ingress protection	IP 67	
Conformity	CE	

Ranges

DN	Q_{max} recommended l/min	Metering range l/min H2O (1)	(2)	(3)	pulses/litre (6)	frequency Hz at full scale value (10)
32	220	15.. 200	30.. 200	15.. 30	90.0	300
40	360	15.. 300	60.. 300	15.. 60	48.0	240
50	480	25.. 400	80.. 400	25.. 80	34.0	227
65	600	40.. 500	100.. 500	40..100	24.0	200
80	840	50.. 700	100.. 700	50..100	17.5	204
100	1200	85..1000	100..1000	85..100	10.5	175

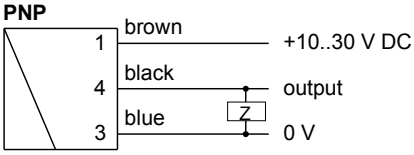
The measured values were determined using a standing sensor in a horizontal flow of water at 25 °C and with 10 x D run-in and run-out sections.



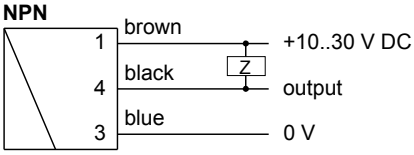
(1) Complete metering range
(2) Specific metering range
(3) Start-up range
(4) Extended operating range, increased wear, Dp > 0.5 bar
(5) pulses / litre (details on label)
(6) Average pulses / litre
(7) Tolerance ±5 % of the full scale value
(8) Scatter ±10 % of the pulses / litre value (5) in the batch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

Wiring

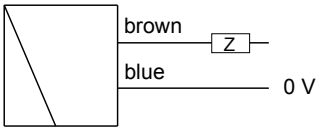
PNP



NPN

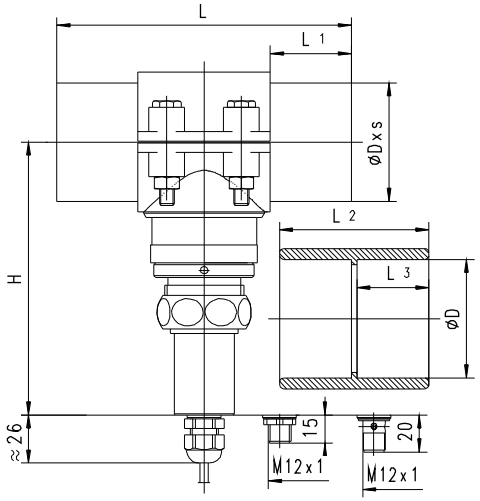


NAMUR



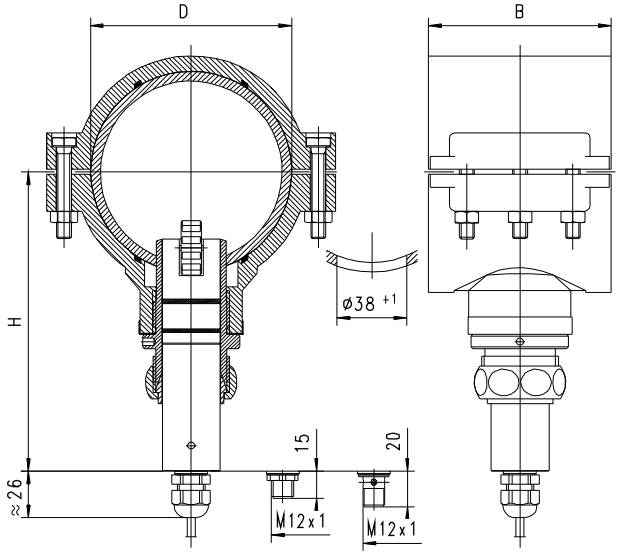
Dimensions

Connection: tapping sleeve with piping section and glue socket(s) RR.-032MH...



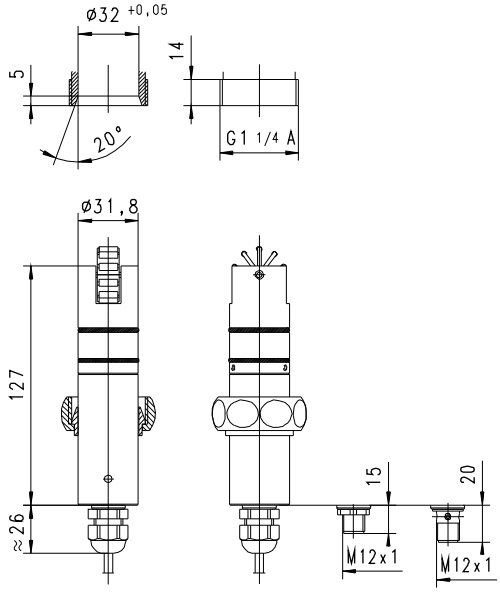
Nominal width	Type	ØD	s	H	L	L1	L2	L3
DN 32	RR.-032MH032.	40	1.9	145.0	132	31	55	26
DN 40	RR.-032MH040.	50	2.4		142	36	65	31
DN 50	RR.-032MH050.	63	3.0		156	43	79	38
DN 65	RR.-032MH065.	75	3.6	153.5	178	49	92	44
DN 80	RR.-032MH080.	90	4.3	156.0	202	56	107	51
DN 100	RR.-032MH100.	110	5.3	166.0	232	66	128	61
DN 125	RR.-032MH125.	140	6.7	172.0	287	81	159	76
DN 150	RR.-032MH150.	160	7.7	180.0	312	91	180	86

Connection: tapping sleeve RR.-032BB...(optional)

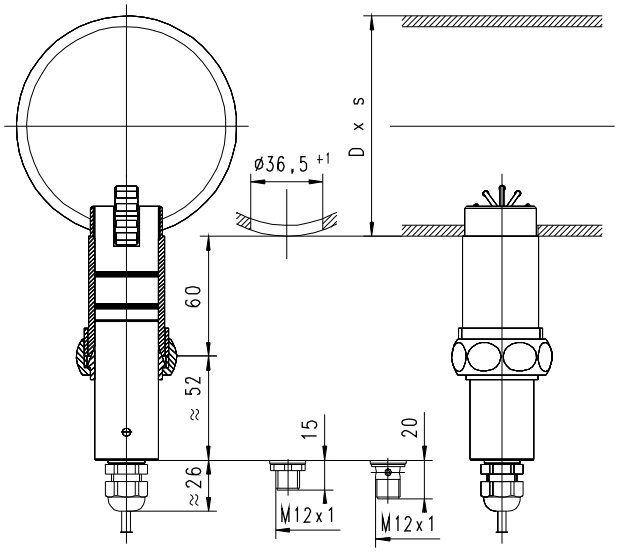


Nominal width	Type	D	B	H
DN 50	RR.-032BB050.	63	70	145.0
DN 65	RR.-032BB065.	75	80	153.5
DN 80	RR.-032BB080.	90	90	156.0
DN 100	RR.-032BB100.	110	100	166.0
DN 125	RR.-032BB125.	140	125	172.0
DN 150	RR.-032BB150.	160	130	180.0

Connection: screw-in probe RR.-032RM000.
Provided by customer



Connection: welded-on nozzle RR.-032VK000. (optionally)

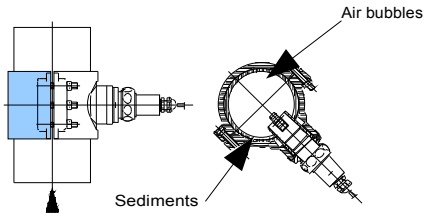


Handling and operation

Installation

The flow meters are inserted in probe form in a tapping sleeve, and are marked with the correct insertion depth. The installation direction of the probe is lengthways to the spinner, and is indicated with arrows on the front of the flow meter. An angular deviation of ±3 ° has no effect on the measurement.

The sensor must be installed with run-in and run-out sections of 10 x D of the pipe diameter, in order to prevent vortices and turbulence.



The best installation position (low contamination, good venting) is with the direction of flow from bottom to top, or in horizontal piping with the sensor at an angle of 45 ° downwards.
The union nut must be tightened to a torque of 30 Nm.

Ordering code

1.		2.	3.	4.	5.	6.	7.	8.	9.
	-	032							

❍=Option

1.	**Flow meter**								
	RRI	with inductive sensor							
	RRH	with Hall sensor							
2.	**Union nut**								
	032	G 1¹/₄							
3.	**Mechanical connection**								
	MH	tapping sleeve with piping section and PVC glue sockets							
	BB ❍	PP tapping sleeve							
	RM	screw-in probe G 1¹/₄ with clamping ring and union nut							
	VK ❍	welded-on nozzle 1.4305							
4.	**Material for probe**								
	H	PVC							●
	K	stainless steel 1.4305						●	
5.	**Nominal width**								
	000	screw-in probe / welded-on nozzle	●	●					
	032	DN 32					●		
	040	DN 40					●		
	050	DN 50				●	●		
	065	DN 65				●	●		
	080	DN 80				●	●		
	100	DN 100				●	●		
	125	DN 125				●	●		
	150	DN 150				●	●		
6.	**Seal material**								
	V	FKM							
	E ❍	EPDM							
	N ❍	NBR							
7.	**Rotor**								
	10K	with 10 stainless steel clamps (RRI)							●
	10T ❍	with 10 titanium clamps (RRI)							●
	05M	with 5 magnets (RRH)						●	
8.	**Switching output**								
	P	PNP							
	N	NPN							
	A ❍	NAMUR							
9.	**Electrical connection**								
	K	2 m cable							
	S ❍	for round plug connector M12x1, 4-pole							

Accessories

- Cable/round plug connector (KB...)
  see additional information “Accessories”
- Evaluation electronics OMNI-TA

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