

Product Information

RR.-032

**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

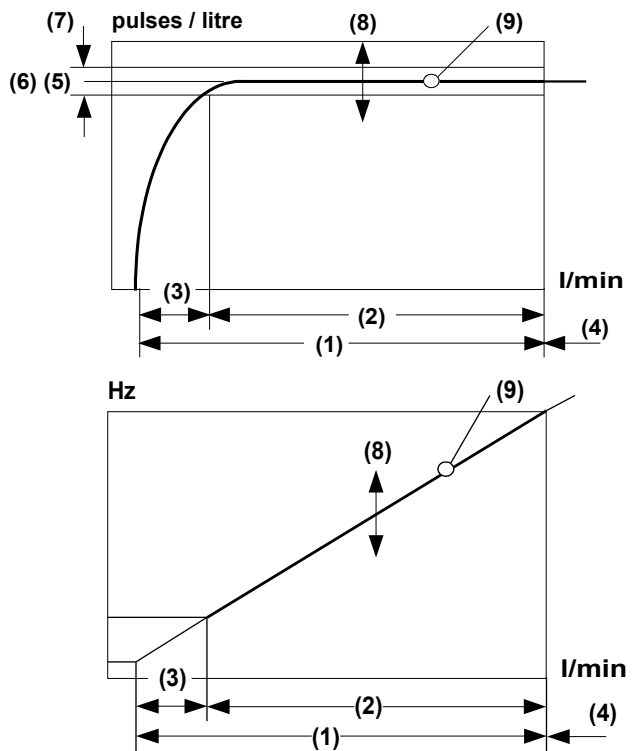
| | RRi (inductive sensor) | RRH (Hall sensor) |
|-----------------------------|--|--------------------------|
| Nominal widths | DN 32..150 | |
| Mechanical Connection | welded-on nozzle, DN 50..150 tapping sleeve, DN 32..150 glue socket, crew-in probe | |
| Metering range | 30..1000 l/min for details, 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 ZrO2-TZP | Ceramic ZrO2-TZP |
| Seal | FKM | FKM |
| Materials, non- | PVC cable, CW614N nickelled | |

| | |
|--------------------|-------|
| medium-contact | |
| Ingress protection | IP 67 |
| Conformity | CE |

Ranges

| DN | Q _{max} recom- mended l/min | Metering range l/min H ₂ O | | | pulses/ litre (6) | frequency Hz at full sca- le value (10) |
|-----|---|--|-----------|---------|-------------------------|---|
| | | (1) | (2) | (3) | | |
| 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 |

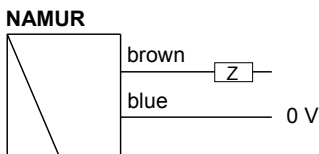
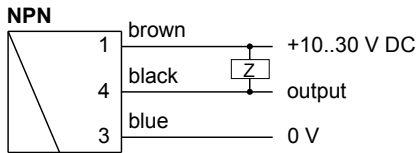
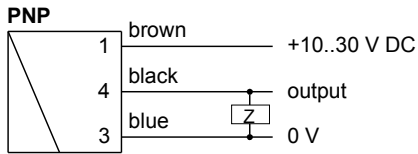
The measured values were determined using a standing sensor in a horizontal flow of water at 25 °C and with 10 x D run-in and run-out sections.



- (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

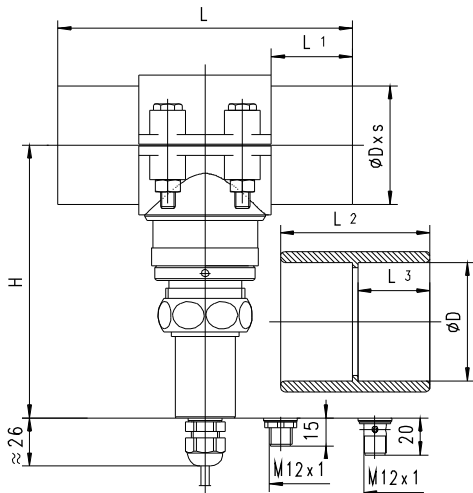
Product Information

Wiring



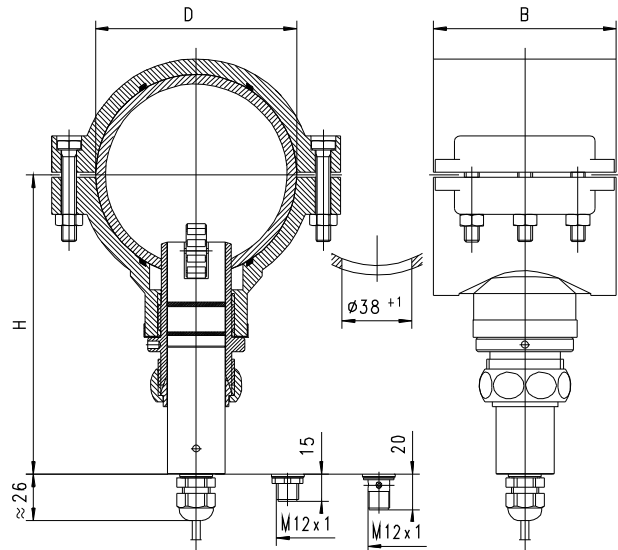
Dimensions

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



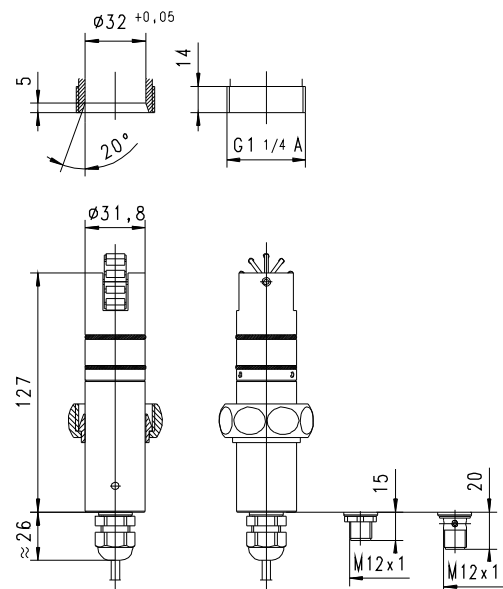
| Nominal width | Type | ØD | s | H | L | L1 | L2 | L3 |
|---------------|---------------|-----|-----|-------|-----|----|-----|----|
| DN 32 | RR.-032MH032. | 40 | 1.9 | 145.0 | 132 | 31 | 55 | 26 |
| DN 40 | RR.-032MH040. | 50 | 2.4 | | 142 | 36 | 65 | 31 |
| DN 50 | RR.-032MH050. | 63 | 3.0 | | 156 | 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)



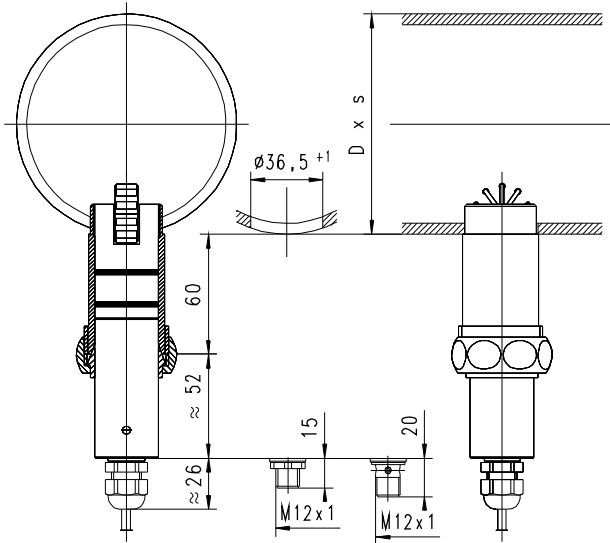
| Nominal width | Type | D | B | H |
|---------------|---------------|-----|-----|-------|
| DN 50 | RR.-032BB050. | 63 | 70 | 145.0 |
| DN 65 | RR.-032BB065. | 75 | 80 | 153.5 |
| DN 80 | RR.-032BB080. | 90 | 90 | 156.0 |
| DN 100 | RR.-032BB100. | 110 | 100 | 166.0 |
| DN 125 | RR.-032BB125. | 140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

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



Product Information

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

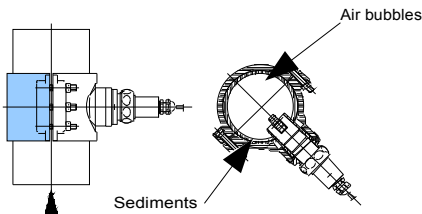


Handling and operation

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 $\pm 3^\circ$ has no effect on the measurement.

The sensor must be installed with run-in and run-out sections of $10 \times D$ 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.
 -

○=Option

| | | | | | | | | |
|---------------------------------|---|--|--|--|--|--|--|-----|
| 1. Flow meter | | | | | | | | |
| RRI | with inductive sensor | | | | | | | |
| RRH | with Hall sensor | | | | | | | |
| 2. Union nut | | | | | | | | |
| 032 | G 1 1/4 | | | | | | | |
| 3. Mechanical connection | | | | | | | | |
| MH | tapping sleeve with piping section and PVC glue sockets | | | | | | | |
| BB | ○ PP tapping sleeve | | | | | | | |
| RM | screw-in probe G 1 1/4 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