

Internet_Variants

| Dimension range | PN | Temperature range | Material |
|-----------------|----|-------------------|-----------|
| DN 50-150 | 16 | +10°C to +130 °C | Cast iron |

Range of application

Flow meter for volume measuring of water as heat carrier with registration of consumed amount. Suitable as flow meter for energy measuring in combination with integrator and temperature sensor.

Program text

UGE.35 Meter for flow, pipe mounted with digital display, accumulated value

Flow sensor for energy gauging AT 7169A...R100, with pulse numbers 100 liter/pulse as standard in DN 50-150. q_n m³/h, DN with flanges PN 16. Provided with pulse sensors.

Quality assurance

Performance according to SWEDAC, STAFS 2006:4. MID type approval, accuracy class 3, environment class C.

Detail specification

| | | |
|---|---------------------|-----------------------|
| 1 | Body and lid flange | cast iron |
| 2 | Insert | polymer |
| 3 | Turbine wheel | polymer |
| 4 | Other materials | brass/stainless steel |

Dimensions and weight

| Connection DN | 50 | 65 | 80 | 100 | 125 | 150 |
|---------------|-----|------|------|------|------|------|
| L | 200 | 200 | 225 | 250 | 250 | 300 |
| H | 115 | 114 | 124 | 124 | 137 | 222 |
| h | 72 | 83 | 95 | 105 | 120 | 135 |
| Weight | 9,9 | 10,6 | 13,3 | 15,6 | 18,1 | 40,1 |

Measurements in mm, weight in kg

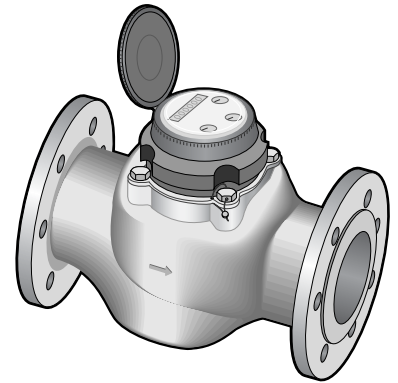
Function and design

The flow sensor is of the type Woltman WS volume meter, where the turbine is works vertically and its movement is transferred with a magnetic connection. The turbine wheel is the only movable part in the wet part, which in combination with the vertically working turbine wheel gives low start values. The dry section is hermetically sealed (IP 68) and has a pulse slot for connection to the integrator for energy gauging. The dry section is also turnable 360° so the dial can be placed in the appropriate position. For DN 150 the counter shows the consumption of 10's in m³..

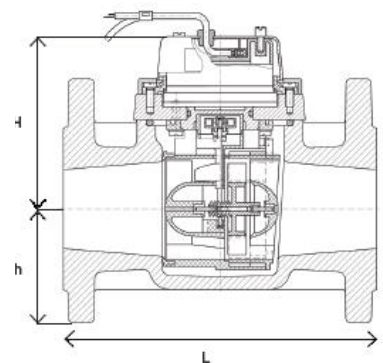
The meter has a pre mounted reed pulse with a 3 meter cable and preconfigured pulse number of 100 l/pulse. Standard when ordering the meter a pulse output of 100 l/pulse. The reed pulse emits varying pulse lengths depending on the water meter's flow speed. When the counter isn't moving, it may be because there is continuous contact, which all connected units has to be able to manage.

If the cable length is longer than 100 m and there is no signal booster, it is recommended to use twisted and shielded cable.

The pulse transfer can be interfered between sensor and receiver, for example if



AT 7169A



the cable is close connection to another power source. If this is the case it is recommended to use twisted and shielded cable.

Technical data

| Flow data | | | | | | |
|--|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| DN | 50 | 65 | 80 | 100 | 125 | 150 |
| Nominal flow, q_p , m ³ /h | 15 | 25 | 40 | 60 | 100 | 150 |
| Max flow, q_s | 30 | 50 | 80 | 120 | 200 | 300 |
| Minimum flow, q_i , m ³ /h | 0,6 | 1,0 | 1,6 | 2,4 | 4 | 6 |
| Start flow, m ³ /h | 0,25 | 0,3 | 0,35 | 0,6 | 1,1 | 2 |
| Minimum detectable (l) | 0,5 | 0,5 | 0,5 | 0,5 | 0,5 | 5 |
| Max registration reading (m ³) | 10 ⁶ | 10 ⁶ | 10 ⁶ | 10 ⁶ | 10 ⁶ | 10 ⁷ |
| Measuring range | 1:25 | 1:25 | 1:25 | 1:25 | 1:25 | 1:25 |
| | | | | | | I |
| | | | | | | P |
| | | | | | | 6 |
| Protection class | | IP 66 | IP 66 | IP 66 | IP 66 | IP 66 |
| | | | | | | 6 |
| PULSE DATA | | | | | | |
| Pulse number standard l/pulse (reed typ) | 100 | 100 | 100 | 100 | 100 | 100 |
| Breaking voltage (U_{max}) | 24V DC | 24V DC | 24V DC | 24V DC | 24V DC | 24V DC |
| Breaking current (I_{max}) | 50mA | 50mA | 50mA | 50mA | 50mA | 50mA |
| Breaking effect (P_{max}) | 1,2W | 1,2W | 1,2W | 1,2W | 1,2W | 1,2W |
| Resistor (R) | 10 Ohm | 10 Ohm | 10 Ohm | 10 Ohm | 10 Ohm | 10 Ohm |
| Conducting cross section | 0,14 mm ² | 0,14 mm ² | 0,14 mm ² | 0,14 mm ² | 0,14 mm ² | 0,14 mm ² |

Largest allowed margin of error

| | | |
|------------|-----------------|-----|
| Flow range | $q_{min}-q_t$: | ±5% |
| | q_t-q_{max} : | ±3% |

Dimensions

The smallest meter that can handle the given flow is selected. Do not over dimension, in boundary cases, select the smaller size, but control that the pressure drop isn't too large. Short term overload is considered to be less than 1 hour per day and at most 200 hours per year.

Accessories and options

Meter precombined with pulse sensor is available with 100 liter/pulse as a standard. Can be ordered as an option with 250 liter/pulse.

Installation

Flow sensor can be installed in a horizontal and vertical pipe line and with the counter upwards or sideways, maximal 90°. For energy measuring the meter should always be installed on the lower temperature, i.e. the return pipe line for heating facilities and the inlet pipe line on recycling and cooling facilities.

No straight line is required, but the meter should not be installed in the direct vicinity of any throttling or pipe bend that could affect the flow profile. A dirt filter should always be placed before the meter to protect the flow sensor's turbine wheels. During commissioning pressure surges should be avoided.

Maintenance and spare parts

The flow sensor is according to Boverket's regulation 1998:25 subject to recurring control (meter revision) with an interval of 5 years, when the accredited control body revises and controls the meter. During this revision the worn out pieces will be replaced, spare parts for this are available in the separate spare parts section.

Marking

The flow sensor is red with a gray plastic lid. The type plate is marked with DN, PN, flow data and manufacturing year.

How to order

| Example: AT 7169A150R100 (standard) | | | |
|-------------------------------------|---|--------------------|--------------|
| q_n (m ³ /h) | D | Pulse tal (l/puls) | .Art.no |
| 150 | 1 | | |
| | 5 | | AT |
| | 0 | 100 | 7169A150R100 |

How to order

| Example AT 7169-65R | | | |
|---------------------------|-----|---------------------|-----------------|
| q_n (m ³ /h) | DN | Pulse tal (l/pulse) | Art.no. |
| 150 | 150 | 100 liter/pulse | AT 7169A150R100 |

