



Flow Meter RQ-30 stainless steel

Non-contact discharge measurement for open wastewater channels

With the RQ-30 Niro - same as with the RQ-30 - a continuous measurement of the discharge of open rivers and channels is determined. A high quality stainless-steel housing allows the usage even in aggressive waters and wastewater, as for example in sewage, canal systems or industrial facilities.

Features and advantages

- Non-contact measurement, maintenance free system
- High quality stainless-steel housing
- No structural work is necessary in the water
- No threat to the system through flooding
- Measuring range 0.08 ... 16 m/s (depending on the flow conditions)
- Recognition of flow direction
- Recognition of hysteresis effects
- Measurement in backwater situations
- Measures even where weed growth prevails
- Automatic angle measurement
- Optional: analogue output 4 to 20 mA

Fields of application

The RQ-30 Niro allows a discharge measurement for rivers, streams, open channels and canals where a continuous monitoring is wanted. Due to the non-contact radar technology, the sensor is not threatened by dirt or flotsam in the water. Therefore, the RQ-30 Niro is especially applied for sewage, wastewater or technical canals. The high quality stainless-steel housing protects the sensor from corrosion through dirty and aggressive water.

Implementation

The sensor is easily installed on bridges, roofs of open channels or other superstructures of the water body. The bed of the

water should be as stable as possible in order to warrant consistent measurement, usually this is the case in technical waters. A visible swell must be evident on the surface of the water.

Technical details

General

- **Dimensions** 338 x 333 x 154 mm
- **Total weight** 5.4 kg
- **Protection** IP 67
- **Power supply** 6 ... 30 V
- **Power consumption** at 12V standby approx. 1 mA; active operation approx. 140 mA
- **Operating temperature** -35 ... 60°C
- **Miscellaneous** integrated lightning protection

Water level measurement

- **Water level measuring range** 0 ... 15 m standard version / 0 ... 35m extended version
- **Resolution** 1 mm
- **Accuracy** +/- 2mm
- **Radar frequency** 26 GHz (K-Band)
- **Radar opening angle** 10°

Velocity measurement

- **Detectable measuring range** 0.08 ... 16 m/s (depending on the flow conditions)
- **Accuracy** +/- 0.01 m/s; +/- 1 % FS
- **Resolution** 1 mm/s
- **Direction recognition** +/-
- **Measurement duration** 5 ... 240 sec.
- **Measurement interval** 8 sec. ... 5 h
- **Measuring frequency** 24 GHz (K-Band)
- **Radar opening angle** 12°
- **Distance to water surface** 0.50 ... 35 m
- **Necessary minimum swell** 3 mm

Automatic vertical angle compensation

- **Accuracy** +/- 1°
- **Resolution** +/- 0.1°

Interfaces

- **Analogue output** 3 x output 4 - 20 mA for water level, velocity and discharge
- **Digital interface** 1 x SDI-12; 1 x RS 485 or Modbus
 - transfer rate: 1.2 to 19.2 kBd
 - protocol: diverse ASCII-protocols
 - output: discharge, velocity, water level, quality parameter