

# Ultrasonic flow switch FWS-141, FWA-141

## Application

- Monitoring of flowing liquids in pipes
- Flow measurement of flow rates and flow volume
- Suitable for media with viscosity up to 100 cP and particle size up to 100 µm  
e.g. drinking water, juice (soft-drink) with additives, IP-liquids

## Application examples

- Flow monitoring in pipes from DN 15, e.g. for dry run protection or monitoring of blow-off valves
- Because of its non-invasive installation and independence from temperature fluctuations and conductivity, the device is ideally suited for monitoring flow rates in IP-processes

## Hygienic design/Process connection

- Hygienic process connection with CIP/COP design
- Construction in 316L stainless steel with 3000 µm hygienic all-welded joints and IP68 coating
- Device is made entirely of stainless steel, except liquid PEEK material
- Complete overview of process connections can be found here
- The Anderson-Negele CIP/COP design system offers a fully optimized, hygienic and easily maintainable installation solution for sensors.

## Features

- IP68 housing up to 120 °C
- Electromagnetic compatibility
- Not influenced by temperature fluctuations and conductivity
- Very short reaction time
- Medium temperatures up to 120 °C (optional high-temperature version)
- Fully programmable device
- Optional with analog or frequency output (back-holding)
- Indicator switching output with LED

## Options/accessories

- Integration of valve actuators (A, B) with solenoid in cap
- Electrical connection with plug connector
- Cable in factory for PLC plug connection

## Operational principle

A transmitter (1) sends ultrasound waves into the flowing medium. The ultrasound waves impinge on particles (2) such as sediment, dirt particles or air bubbles, that are moving in the direction of flow. These particles reflect the waves. The receiver now detects the reflected frequency, which has a slight shift because the wavelength was changed by the forward motion of the reflecting particles. The frequency difference between the sent and received frequencies is a measure of the speed of the particles and thus also of the flow rate.

## Authorizations



## FWS-141/141A, FWA-141/141A



## Indicator module ICM



## Automatic steering

