

# Area Velocity Flow Sensors

The Sigma AV Flow Sensor provides reliable, accurate data with minimal maintenance and greater life expectancy.



*The Hach Sigma AV Flow Sensor is a robust sensor specially developed to withstand harsh environments typical of collection systems. It provides reliable, accurate data with minimal maintenance and greater life expectancy.*

## Specifications\*

### AV SENSORS VELOCITY MEASUREMENT

#### Method

Doppler ultrasound; twin 1 MHz piezoelectric crystals

#### Operating Depth

2 cm (0.8 in.) minimum, typical  
Recommended Range  
-1.52 to 6.10 m/s (-5 to 20 ft./s)

*For velocity performance specifications, please refer to individual Hach Sigma Flow Meter specifications.*

### AV SENSORS DEPTH MEASUREMENT

#### Method

Pressure transducer with stainless steel diaphragm

#### Accuracy

±0.16% full scale ±1.5% of reading at constant temp ±2.5°C (±36.5°F)  
±0.20% full scale ±1.75% of reading from 0 to 30°C (32 to 86°F)  
±0.25% full scale ±2.1% of reading from 0 to 70°C (32 to 160°F)

#### Velocity-Induced Depth Error

Compensated based on pipe geometry and flow velocity

#### Depth Range

Standard: 0 to 3 m (0 to 10 ft.)  
Extended: 0 to 9 m (0 to 30 ft.)

#### Maximum Allowable Depth

Standard: 10.5 m (34.5 ft.)  
Extended: 31.5 m (103.5 ft.)

### AV SENSORS GENERAL ATTRIBUTES

#### Air Intake

Atmospheric pressure transducer is desiccant protected

#### Body Material

Noryl® plastic outer shell with epoxy potting

#### Power Consumption

Less than or equal to 1.2 W at 12 Vdc

#### Cable

Urethane cable with air vent

#### Connector

Hard anodized; satisfies Military Spec 5015

#### Cable Lengths

Standard: 9, 15, 23 and 30.5 m (30, 50, 75 and 100 ft.)  
Custom: Greater than 30.5 m (100 ft.); maximum: 76 m (250 ft.)

#### Cable Diameter

0.91 cm (0.36 in.)

#### Dimensions

2.3 x 3.8 x 13.5 cm (0.9 x 1.5 x 5.31 in.)

#### Operating Temperature

0 to 70°C (32 to 158°F)

*\*Subject to change without notice. Specifications will vary depending on channel size, channel. See pages 479-480 for flow meter specs.*

## Less Maintenance and Troubleshooting

Two interchangeable level sensor cover plates are available to adapt the sensor to a variety of site conditions.

- **Oil-filled Cover Plate**—designed for sites susceptible to extreme fouling. The cavity is filled with a high-viscosity silicon oil that prevents fouling for as much as one year. The silicon oil is easily replenished, if needed, with a hand tool provided by Hach.
- **Non oil-filled Cover Plate**—designed to minimize fouling and can be used for most applications or in pipes that could run dry.

## Designed for Harsh Environments

- Uses Noryl® plastic in the outer shell to protect the sensor against highly abrasive environments
- Cable is rigidly clamped inside the shell, then potted for strength
- Connectors are hard-anodized to the meter to prevent lost connection due to corrosion

## Easy to Install

A single point calibration can be performed on-site without the need of a bucket of water.

## Superior Sensor

- Stable and consistent
- Accurate and repeatable
- Versatile to meet many applications

## Ideal for:

- Capacity Studies
- Infiltration and Inflow (I&I) Studies
- Sanitary Sewer Evaluation Studies (SSES)
- Billing or Custody Transfer
- CSO and SSO Monitoring
- Stormwater Monitoring and Compliance
- Industrial Wastewater Monitoring – Municipal Pretreatment

For more information, call to request Literature #3469, or visit [www.hach.com](http://www.hach.com)