# Insert Meter, Small Diameter Impeller (SDI)

## Ideal For Pipe Sizes 1-1/2" To Over 36"

*SDI1D1N20-0200*

*SDI0H1N20-0200*

**FLOW**

## DESCRIPTION

The Veris direct insert style liquid flow sensor with stainless steel/PPS plastic or PEEK plastic tip combines flow sensing with a built-in transmitter for an all-in-one flow measuring system. This device fits all 1-1/2" to over 36" (38 to 915 mm) pipes, and it is intended for direct installation into the pipe through a 1" NPT hole.

This sensor is available with or without hot tap capability. In the hot tap installation, the sensor is mounted in the pipe under pressure by attaching a service saddle or weld-on fitting to the pipe. Then the sensor assembly is attached to an isolation valve and extended into the pipeline to measure flow. Hot tap installations are often required in retrofit projects, but even in new construction, a hot tap sensor can be desirable for service considerations.

Software and programming cable are required to operate these meters. If the meter will be used for hot tap installation, the A1027 tool is also needed (see Ordering Information).

## APPLICATIONS

● Flow measuring projects
● True hot tap installations
● BTU applications (requires temperature sensors and transmitter/monitor)

## FEATURES

● NEMA 4 electronics housing...rugged and weather-proof
● Scaled pulse and 4-20mA output available
● Viton® O-ring seal...no leaks
● Stainless steel impeller, tungsten carbide shaft and polyamide-imide bearing... highly durable
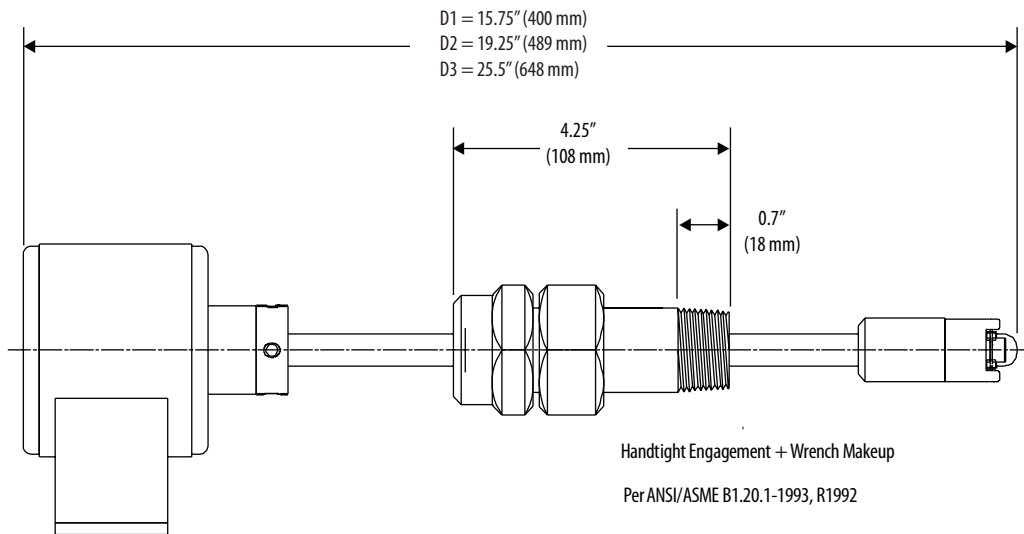
## SPECIFICATIONS

**1 Year Warranty**

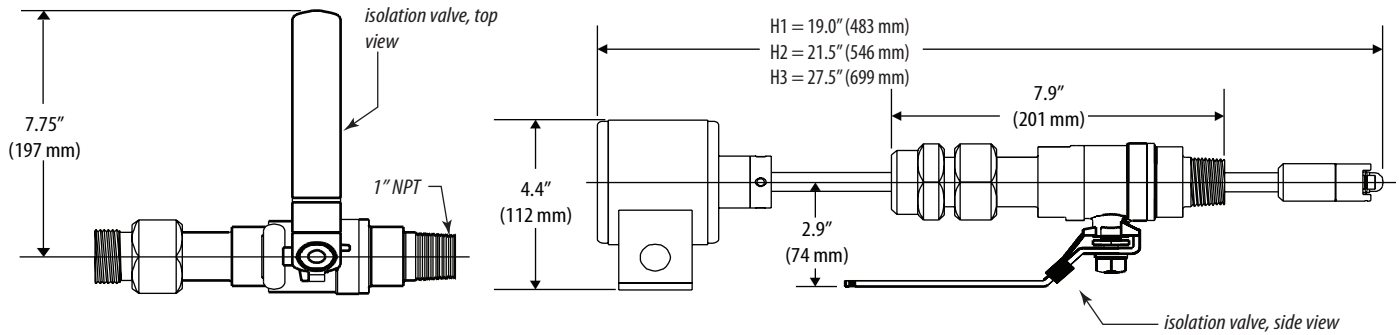| Recommended Design Flow Range | 0.3 to 20 ft./sec |
|---|---|
| Pressure Rating | 1000 psi @ 21°C (70°F) |
| Maximum Temperature Rating | 135°C (300°F) |
| Operating Temperature | Electronics: 20° to 65°C (14° to 150°F) |
| Pressure Drop | 0.5 psi or less @ 10 ft/sec for all pipe sizes 1.5" dia and up |
| Accuracy | ±1% of rate over optimum flow range* |
| Repeatability | ±0.5% |

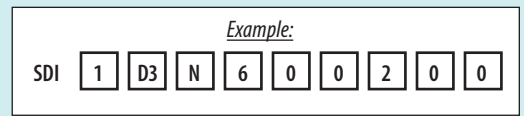* ≥10 upstream and ≥5 downstream straight pipe diameters, uninterrupted flow.

**VERIS INDUSTRIES**

# DIMENSIONAL DRAWINGS

### SDI1D1N20-0200



D1 = 15.75" (400 mm)
D2 = 19.25" (489 mm)
D3 = 25.5" (648 mm)

4.25"
(108 mm)

0.7"
(18 mm)

Handtight Engagement + Wrench Makeup

Per ANSI/ASME B1.20.1-1993, R1992

### SDI0H1N20-0200



isolation valve, top view

7.75"
(197 mm)

1" NPT

H1 = 19.0" (483 mm)
H2 = 21.5" (546 mm)
H3 = 27.5" (699 mm)

7.9"
(201 mm)

4.4"
(112 mm)

2.9"
(74 mm)

isolation valve, side view

**FLOW**

# ORDERING INFORMATION

| MODEL | MANUF. PART # | DESCRIPTION |
|---|---|---|
| U001-0020 | A301-20* | Flow, Programming Cable with CD for Badger/DI prod |
| U001-0021 | SDI0D1N10-0200 | Flow, SDI, SS, 1.5 to 10, 4-20mA, No Display |
| U001-0022 | SDI0H1N10-0200 | Flow, SDI, Hot Tap, SS, 1.5 to 10, 4-20mA, No Display |
| U001-0050 | A1027** | Flow, Tool, Hot Tap Adapter, 1" machine to 1"NPT |
| U001-0063 | SD10D1N00-0200 | Flow, SDI, SS, 1.5 to 10, Frequency, No Display |
| U001-0064 | SD10H1N00-0200 | Flow, SDI, SS, 1.5 to 10, Hot Tap,  Frequency, No Display |
| U001-0149 | 40134-0002* | Flow, Programming Data Converter with Cable and CD |

*\* Software and programming cable are required for analog, Modbus, LonWorks, BACnet transmitter and meter products.*
*\*\* A1027 required to adapt SDI hot tap sensor 1" machine thread to 1" NPT for hot tap drilling tools.*

*Example:*

SDI  | 1 | D3 | N | 6 | 0 | 0 | 2 | 0 | 0 |

### *Other models available:*

| Material | Type | Electronic Housing | Output | Display | | O-Ring | Shaft | Impeller | Bearing |
|---|---|---|---|---|---|---|---|---|---|
| SDI [ ] | [ ] | N | [ ] | [ ] | — | [ ] | [ ] | 0 | 0 |

**Material**
**0** = Stainless Steel/ PPS plastic Tip
**1** = Brass/PPS plastic Tip (no Hot Tap)
**2** = Stainless Steel/ PEEK plastic Tip

**Type**
**D1** = Direct Insert for Pipe 1½ - 10"
**D2** = Direct Insert for Pipe 12 - 36"
**D3** = Direct Insert 36" and up
**H1** = Hot Tap for Pipe 1½ - 10"
**H2** = Hot Tap for Pipe 12 - 36"
**H3** = Hot Tap 36" and up

**Electronic Housing**
= NEMA 4X

**Output**
**0** = Frequency (standard)
**1** = Analog 4-20mA
**2** = Scaled Pulse
**5** = Bidirectional, analog, 4-20mA (hot tap SS only)
**6** = Bidirectional, scaled pulse (hot tap SS only)

**Display**
**0** = No Display
**1** = LCD Option (requires output option 1 or 2)

**O-Ring**
**0** = Viton® (standard)
**1** = EDPM
**2** = AFLAS®

**Shaft**
**0** = Zirconia Ceramic (optional)
**1** = Hastelloy® C-276 (optional)
**2** = Tungsten Carbide (standard)

**Impeller**
= Stainless Steel

**Bearing**
= Torion®