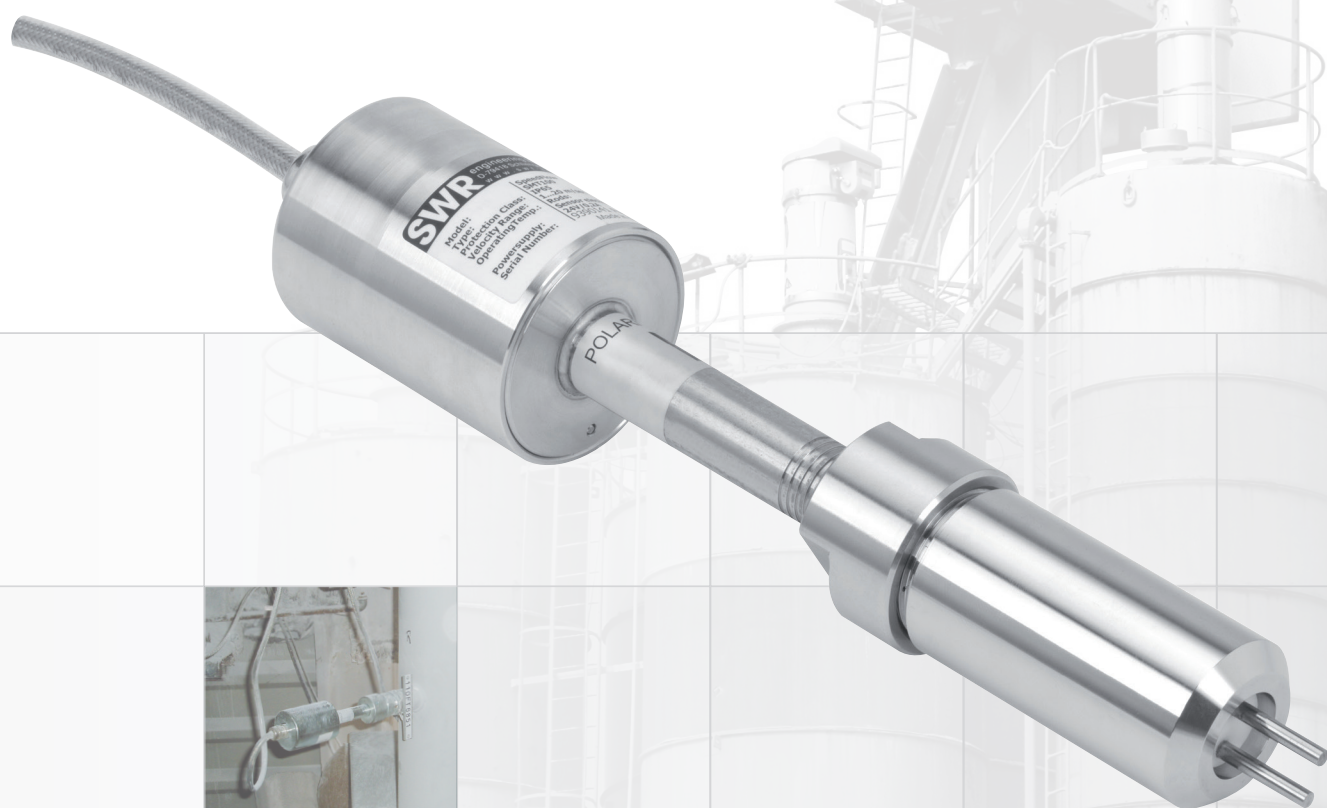




Manufactured by  
Superior  
with  
Solids  
**SWR**

# SpeedFlow

Measurement of velocity  
for solids



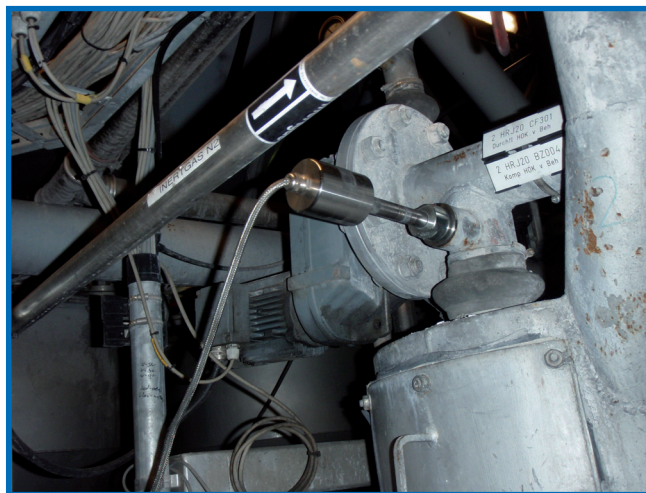
## Use

SpeedFlow has been specifically developed for the continuous speed measurement of solids such as granules, powder and dust in metal pipelines.

The material can be measured during free fall or while transported on pneumatic conveyors.

The measurement is completely independent of the material itself.

It can successfully measure velocities from 2 ... 114 ft/sec.



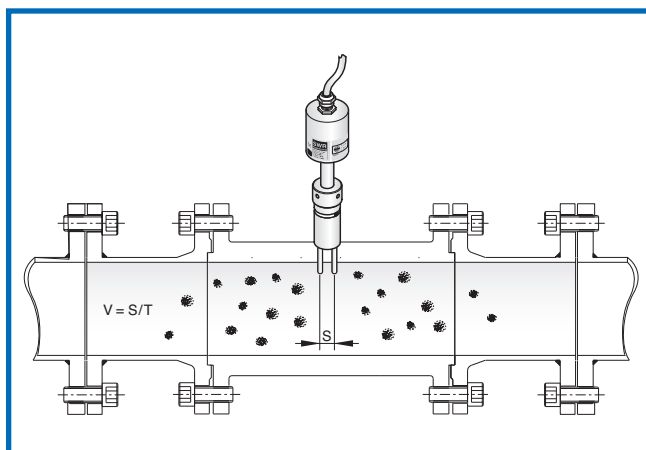
## Function

SpeedFlow is based on triboelectric charging. Solid particles fly past, impacting the 2 sensor rods and causing a charge transfer (induced voltage).

These electric signals are fed to the correlator which precisely calculates the transit time between the two rods. The speed can thus be determined using the defined distance of 8 mm between the two rods.

Once installed, the system is started by help of the supplied software.

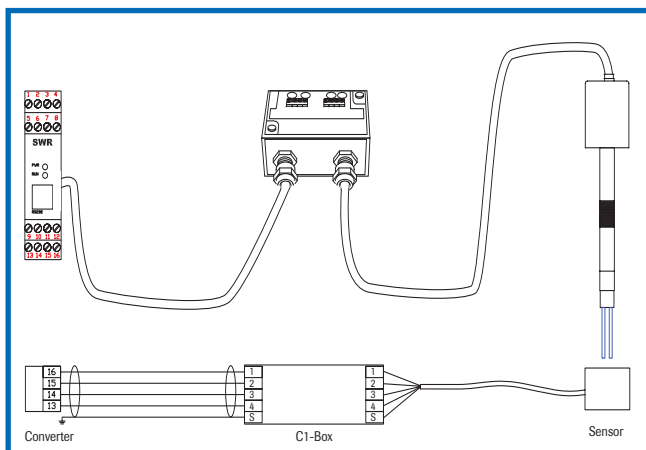
The speed is displayed as a 4 ... 20 mA-signal.



## System

A complete system consists of the following components:

- Weld-on socket for mounting the sensor, including plugs
- Sensor with a 6.5 ft connection cable
- Transmitter (including start-up software)
- C-box for longer cable runs



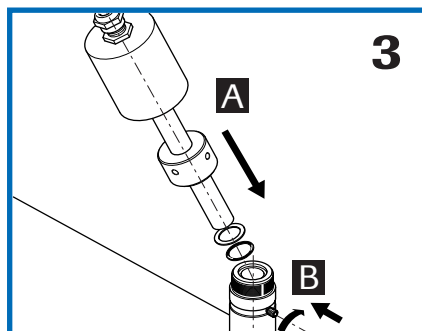
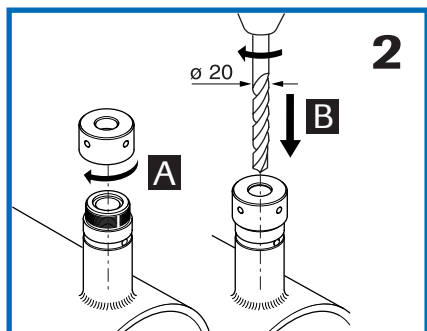
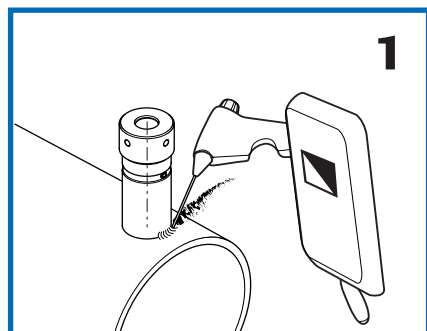
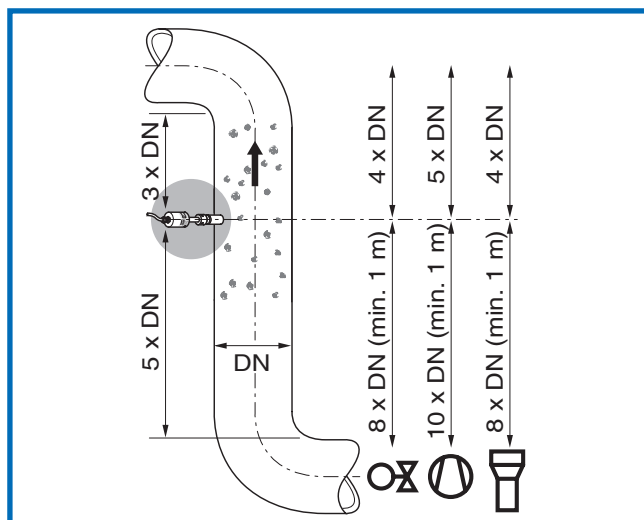
## Mounting and installation

To install the sensor, the installation location must be determined according to the required inlet and outlet areas.

At the specified installation location, the socket is welded on and a borehole is drilled through the socket and through the pipe wall.

The sensor is then adjusted to the wall thickness, inserted and fixed with the aid of union nuts.

The distance between the sensor and the transmitter can be up to 1,000 ft.



## Start-up procedure

The measuring device is started by the DIN-rail transmitter. This PC software enables convenient menu-guided input of parameters such as measuring range, required physical units or measuring signal attenuation.

A current output of 4 ... 20 mA is available. The menu language options are German, English or French.



## Technical data

Sensor	
Socket	Stainless steel 1.4571 or 303
Rod	Tungsten Carbide (abrasion-resistant)
Housing	Stainless steel 1.4571
Protection category	IP 65 to E 60529/10.91 (NEMA 4X)
Rod length	0.59 in (15 mm)
Velocity range	2 ... 114 ft/s
Temperature inside the pipe	-4 ... 176 °F (higher temperatures available on request)
Temperature outside the pipe	32 ... 140 °F
Weight	approx. 1.5 kg
Dimensions	Ø 60, Ø 20, L 12.6 in (including rod length)
Measuring accuracy	± 1 % (in the calibrated measuring range)

C1-Box	
Dimensions	98 x 64 x 35 mm (W x H x D)

Transmitter	
Power supply	24 V DC ± 10 %
Power consumption	20 W / 24 VA
Protection type	IP 40 to EN 60 529
Ambient operating temperature	14 ... 113 °F
Dimensions	23 x 90 x 118 mm (W x H x D)
Weight	Approx. 6.1 oz
DIN rail fastening	DIN 60715 TH35
Connection terminals cable cross-section	0.2 - 2.5 mm <sup>2</sup> [AWG 24-14]
Current output	4-20 mA (0- 20 mA), Load < 500 Ω
Switch output measurement alarm	Relay with switchover contact Max. 250 V AC at 1 A
Data backup	Flash memory

