



# PULSAR

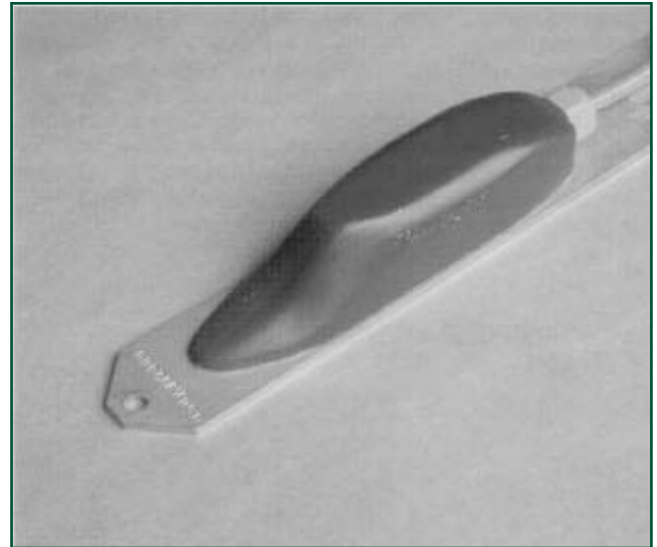
## Speedy Velocity Input



Oracle 160  
Speedy Velocity Input

### New product for open channel/pipe flow measurement

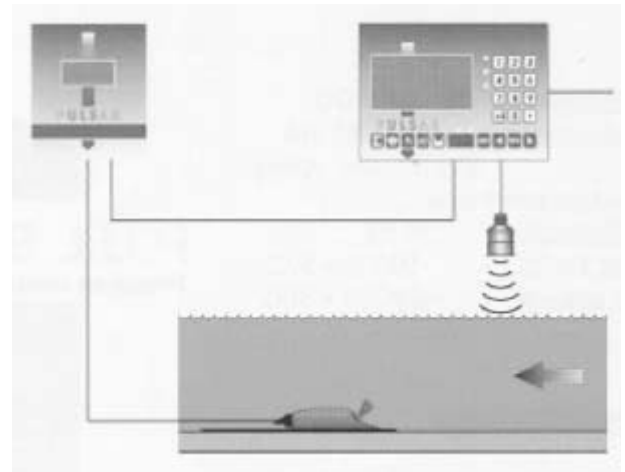
An option to suit flow applications where no primary measurement device (PMD) is present is now available offering some unique advantages. This offers an alternative solution to expensive civil work to install a flume or weir. The Speedy velocity sensor and converter provides a 4-20mA velocity input to the Flow Oracle 160 unit which then integrates this into the flow calculation thus providing 'flow rate' in the pipe or channel. The velocity sensor uses the suspended solids or air particles in the liquid stream to reflect a sound wave in the liquid. The reflected Doppler signal is directly proportional to the liquid flow velocity. This velocity is then converted into a 4-20mA output in the Speedy electronics and fed into the analog input feature on the flow integrator Oracle 160 - Speedy version. A display on the fascia of the Speedy electronics provides velocity in ft/second. The unique physical profile of the sensor prevents material build up on the face of the unit.



**Speedy Pipe Mount**



**Schematic of 'velocity x area'**



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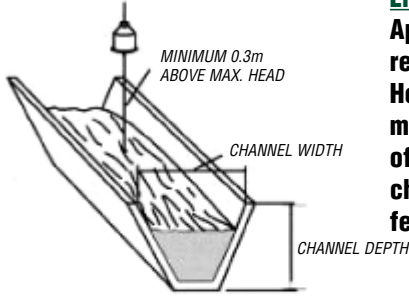
Web site:  
<http://www.pulsar-us.com>

*Specifying information and wiring diagrams are available on request from Pulsar*

# Typical Applications: Oracle 160 - Speedy Velocity Input

## Liquid Flow measurement without a Primary Measurement Device (PMD)

Applications such as flow in a pipe and channels of various shapes need a reliable liquid velocity be taken into the flow measurement calculation. Here are some examples of sections of channel where a velocity sensor may be used. Other dynamic factors are to be considered such as location of velocity sensor before or after a bend in the pipe/channel. Unusual channel sections can also be accommodated using the 32 point curve-fit feature in the Flow Oracle 160 unit.



RECTANGULAR OR TRAPEZOIDIAL CHANNELS

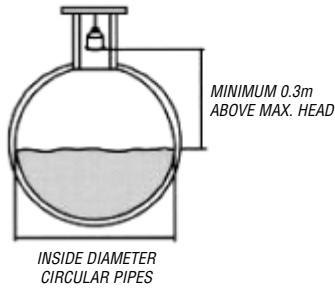
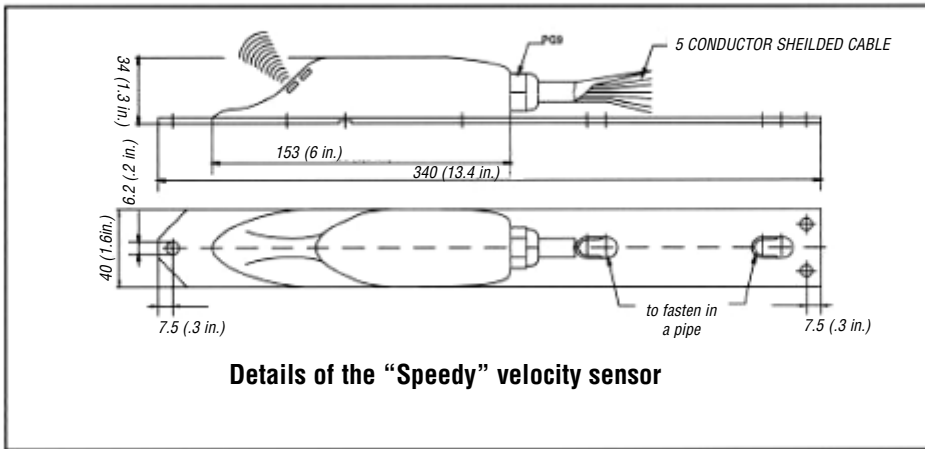
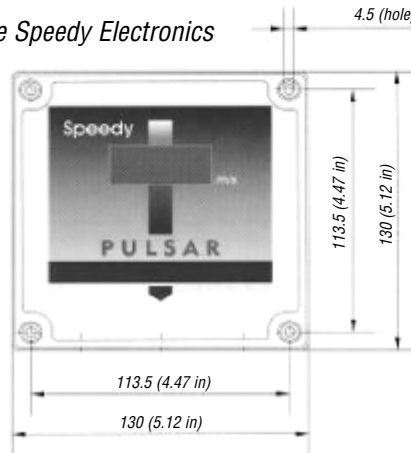


Illustration of the Speedy Electronics



Details of the "Speedy" velocity sensor

- Transmission frequency : 750 kHz
- Channel liquid velocity: -3m/s to+3 m/s
- Accuracy: In water at 16C, having a depth of 100mm, the accuracy of the velocity is +/-1% or 4-0.03mls.
- Minimum particle size: 100ppm with a particle size of 0.6m or greater
- Transducer Range: 2' projection from sensor.
- Channel width: 1 sensor for every 1.5m width

- Supply voltage: 18 - 24 V DC
  - Current consumption: Max 60mA
  - Material: 316 S.Steel. epoxy resin, and polyurethane
  - Ingress Protection: IP 68 (submersible)
  - Operating Temp: - 10C to+ 50C
  - Temp for storage: -20C to + 60C
- Velocity sensor technical specifications

Represented by

Our policy is one of constant development and improvement. Pulsar reserves the right to amend details as necessary.

