

# MicroFlow

Non-contacting Microwave Liquid  
Velocity Sensor





# MicroFlow

## Non-contacting microwave liquid velocity sensor

### Features

- Non-contacting
- Cost-effective
- Lightweight, compact design
- Minimal installation costs
- No interruption to service
- Maintenance-free
- RS485 Modbus
- IP68

Pulsar's MicroFlow delivers accurate, repeatable velocity measurement for liquid flow, either as a stand-alone device or as part of a complete measurement system.

MicroFlow builds on Pulsar's award-winning pipe flow technology and world-leading open channel flow measurement systems.

MicroFlow can be installed as a stand-alone velocity sensor delivering data via RS485 Modbus or integrated within a complete system when combined with FlowCERT or Ultimate controller and dB series transducer.

Velocity x area calculation using MicroFlow provides a cost-effective flow measurement option compared to the installation of a primary measurement device such as a flume, and provides a viable alternative where the hydraulics of the site do not allow for a restriction in the channel.



EASY TO INSTALL  
MICROFLOW  
BRACKET



MICROFLOW AND dBMACH3



VELOCITY MEASUREMENT IN  
WIDE CHANNELS



FIELD MOUNTING  
OF MICROFLOW  
AND LEVEL  
MEASUREMENT



BUILT-IN WEATHER SHIELD AS  
STANDARD



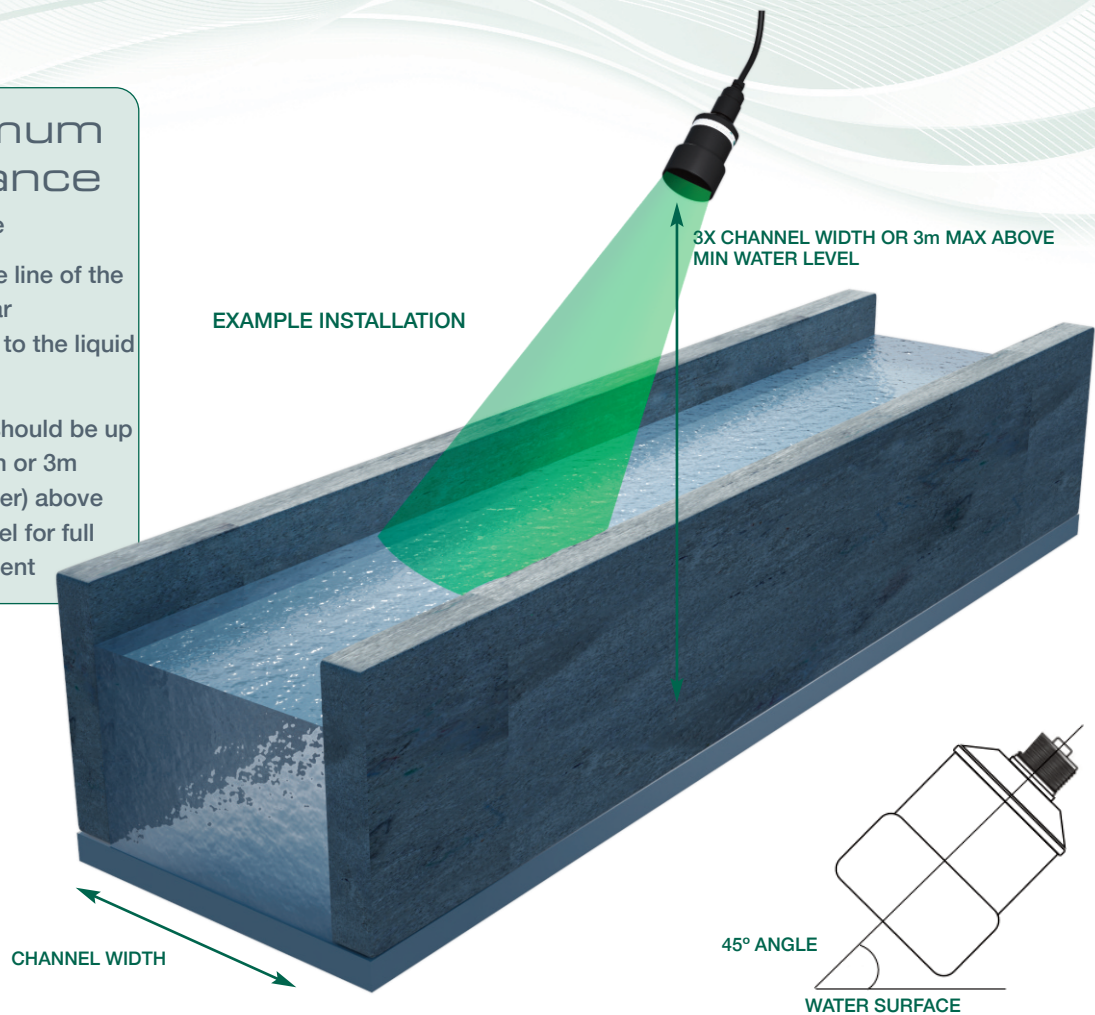
FLOW MEASUREMENT IN NARROW  
UNDERGROUND U-SHAPED  
CHANNEL

# Easy installation

No service interruption, maintenance-free

## For optimum performance

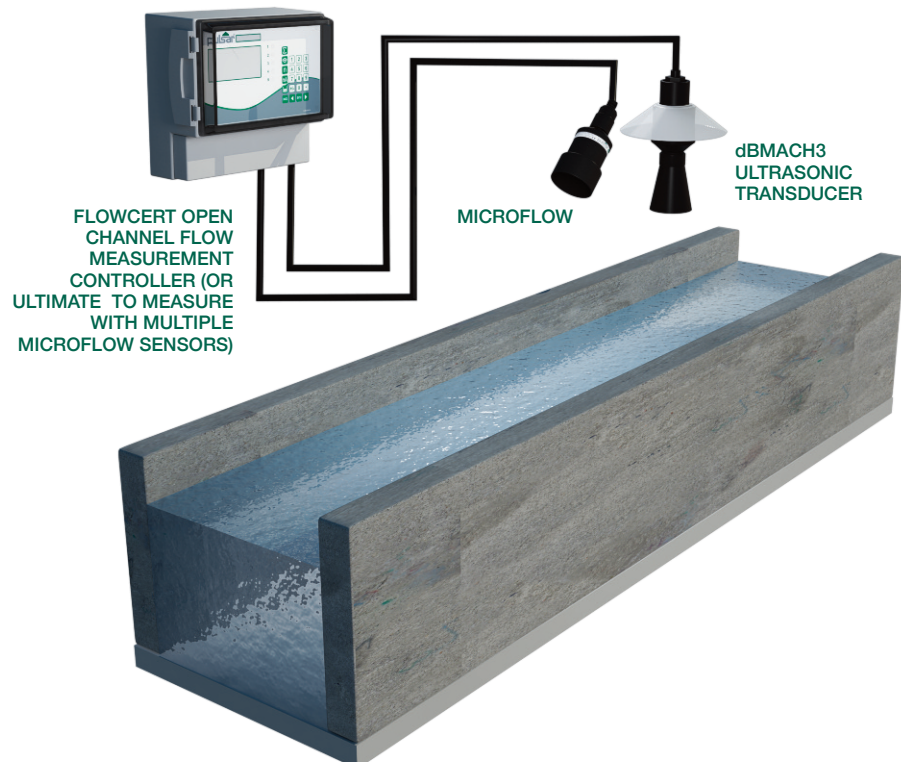
- 45° mounting angle
- Mount at the centre line of the channel with a clear uninterrupted view to the liquid surface
- MicroFlow height should be up to 3x channel width or 3m (whichever is smaller) above minimum water level for full channel measurement



For a complete open channel measurement system  
Add FlowCERT and dBMACH3 transducer

## Expandable

- 1 With FlowCERT and dBMACH3 to convert velocity measurement to flow, or:
- 2 Use with Pulsar Ultimate Controller and dBMACH3:
  - For channels wider than 1.5m
  - Multiple MicroFlow sensors
  - Pulsar Speedy velocity sensor (submerged, doppler) can be included to add underwater velocity measurement





# Technical Specification

## PHYSICAL

Sensor body material:	Valox 357
Mounting connection:	Mounting bracket with 45° bend (optional)
Sensor body dimensions:	Diameter 86mm x Height 156mm
Sensor weight:	Nominal 1kg
Transducer cable extensions:	Maximum 100m

## ENVIRONMENTAL

Enclosure protection:	IP68
Maximum and minimum temperature:	-20°C to +70°C (-4°F to +158°F)
Flammable atmosphere approval:	Safe area (Hazardous area pending)

## APPROVALS

CE approval:	Complies with BS EN61326-1:2013 for emissions and immunity
RADAR approvals:	EN 300-440-1 EN 300-440-2 FCC 15.245

## PERFORMANCE

Operating voltage:	10-28Vdc
Velocity range:	0.2 - 6.0m/s
Accuracy:	The greater of $\pm 0.5\%$ or 0.03m/s
Optimum installation:	45° optimum and mounted in the centre line of the channel with clear uninterrupted view of the liquid surface.
Level measurement:	Compatible with up to dB6 transducer
RADAR:	K Band (ISM)
Transmitter power:	<15dBm
Beam width:	20° inclusive

## OUTPUTS

Communication:	RS485 and Modbus RTU
Compatibility with Pulsar controllers:	Integrates with FlowCERT or Ultimate

## PROGRAMMING

PC Programming:	Via RS485 Modbus
Programming security:	Via passcode
Programming data integrity:	Via non-volatile memory
PC setup and monitoring software:	MicroFlow PC

## SUPPLY

Power consumption:	0.5W maximum
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## UK AWARDS/CERTIFICATIONS



Patents apply to this product

Pulsar® is a registered trademark of Pulsar Process Measurement Ltd. in the UK, USA and China.

Pulsar Process Measurement Limited operates a policy of constant development and improvement and reserves the right to amend technical details as necessary

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