

VELOCIMETER

Vectrino Profiler



Boundary velocity profile measurements over 30 mm with 1 mm vertical resolution

As the name suggests, this velocimeter is the profiling version of the Vectrino system. The Vectrino Profiler's strength lies in collecting a small profile of up to 30 cells that are only 1 mm in height. It is globally used as the standard flow-measuring tool for hydraulic laboratory applications.

Vectrino Profiler



Highlights

- ✓ Boundary profile measurements
- ✓ 1 mm vertical resolution
- ✓ 100 Hz maximum sampling rate

Applications

- ✓ Projects highlighting the effect of vegetation on near-bed flows
- ✓ Simulated bed changes in flumes
- ✓ Measurements of high-resolution flow profiles in laboratory flumes
- ✓ Turbulence measurements in laboratory flumes

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Technical specifications

→ Water velocity measurements

Maximum profiling range	Up to 30 mm
Distance from probe	40-70 mm from probe
Sampling volume diameter	7 mm
Sampling volume Height (user-selectable)	N/A
Cell size	1-4 mm (user-selectable)
Velocity range	Increments of 0.1 m/s, maximum 3.0 m/s
Adaptive ping interval	Once, or at 1 second to 1 hour interval
Accuracy	±1% of measured value ±1 mm/s
Velocity precision	N/A
Sampling rate (output)	1-100 Hz
Internal sampling rate	N/A

→ Distance measurements

Minimum range	20 mm
Maximum range	Up to 2 meters depending on signal strength
Cell size	1-4 mm (user-selectable)
Accuracy	0.5 mm at 1 mm cell size
Sampling rate	1-10 Hz

→ Echo intensity

Acoustic frequency	10 MHz
Resolution	Linear & Log scale
Dynamic range	60 dB

→ Sensors

Temperature:	Thermistor embedded in probe
Temp. range	-4 to +32 C

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→ Sensors

Temp. accuracy/resolution	1 °C/0.1 °C
Temp. time response	5 min
Compass:	N/A
Accuracy/resolution	N/A
Tilt:	N/A
Accuracy/resolution	N/A
Maximum tilt	N/A
Up or Down	N/A
Pressure:	N/A
Standard range	N/A
Accuracy/precision	N/A

→ Analog inputs

No. of channels	N/A
Supply voltage to analog output devices	N/A

→ Data recording

Capacity (standard)	N/A
Data record	N/A

→ Real-time clock

Accuracy	N/A
Backup in absence of power	N/A

→ Data communications

I/O	RS422
Communication baud rate	Up to 1.25 Mbps
Recorder download baud rate	N/A
User control	Handled via "Vectrino Profiler" configuration and collection software.
Analog outputs	N/A

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→ Data communications

Output range	N/A
Synchronization	RS-485 sync in or sync out

→ Connectors

Bulkhead (Impulse)	MCBH-12-FS, bronze (Impulse)
Cable	PMCIL-12-MP – see also options below

→ Software

Functions	Deployment planning, instrument configuration, data retrieval and conversion (for Windows®)
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→ Multi unit operation

Software	Vectrino Profiler software allows multiple Vectrino Profiler to be run within a single instance of the program
I/O	RS 485–USB support for devices with 1, 2, 4, and 8 serial ports.

→ Power

DC input	12-48 V DC
Maximum peak current	2.5 A at 12 V DC
Max. consumption	4 W at 100 Hz
Typical consumption, 4 Hz	N/A
Sleep consumption	N/A
Transmit power	N/A

→ Batteries

Battery capacity	N/A
New battery voltage	N/A
Data collection capacity	N/A

→ Environmental

Operating temperature	-4 to +32 °C
Storage temperature	-15 to +60 °C
Shock and vibration	IEC 721-3-4

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—> Environmental

Depth rating	20 m
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—> Materials

Standard model	POM housing. Stainless steel (316) probe and fasteners
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—> Dimensions

Maximum diameter	66 mm
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Maximum length	350 mm (housing only), 365 mm (fixed stem)
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—> Weight

Weight in air	1.2 kg
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Weight in water	Neutral
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—> Options

4-beam down-looking probe. Fixed stem or 1 m flexible cable.

10, 20, 30 or 50 m cable with Impulse underwater connector

RS 232–USB converter (one-to-one, four-to-one or eight-to-one)