

Electromagnetic Water Velocity Meter

Flow Velocity Measurement | Discharge Measurement | Quantitative Hydrology

General Description

The **FLUVIA RC3 Electromagnetic Water Velocity Meter** is a portable instrument designed for accurate measurement of water velocity and flow in natural and engineered hydraulic systems. Its intuitive user interface enables **fast and reliable field measurements** with minimal operator training. The hydrodynamic probe design and compact sensor size allow **precise measurements close to the water surface, near the channel bed, or along pipe walls**. As the sensor contains no moving parts, it is immune to debris accumulation, ensuring **long-term accuracy and operational reliability**.

The system is fully configurable to user requirements, including measurement units, date and time, language, and data logging methods. An optional GPS module automatically synchronizes time and records precise geolocation for each measurement point.

Configuration

All system functions are quickly and easily configured via a menu-driven interface. Users can define unit systems, time-averaging filters, and recording preferences.

Readings, Logging and Visualisation

The instrument delivers **real-time water velocity measurements with integrated time stamps** for full traceability. Data acquisition supports both manual and automatic recording modes, enabling adaptation to specific field conditions. An adjustable **zero offset optimizes accuracy and compensates for site-specific effects**. Measurements are displayed graphically, with velocity trends shown over a user-defined time window to allow **immediate assessment of flow stability and measurement quality** in the field.

River Profiling and Discharge Calculation

The system **automatically calculates flow and discharge** from channel geometry, water level, and multiple velocity points, delivering **reliable results across diverse hydraulic conditions**. Discharge calculations **comply with ISO 748 standards**. For river profiling, surveys support **up to 30 verticals with up to 6 velocity points** each, with **all profiles stored internally and available for export** for further analysis.

Applications

Ideal for use in:

- Rivers and streams
- Irrigation canals
- Water conveyance channels
- Open channels

Key Features

- Electromagnetic velocity sensor independent of temperature variations, water density changes, sediment load, and turbidity
- IP67-rated housing for field deployment
- Data logging capacity of up to 12,000 measurement points
- Multilingual interface (English, French, German, Dutch, Danish, Spanish, Turkish)
- Optional modules: see accessories on p. 2.



Technical Specification

Probe RV4	Sensor technology	Hydrodynamically shaped electromagnetic submersible probe w/ stainless steel electrodes.
	Accuracy	1 % max reading + zero stability
	Long-term stability	Typically, ± 0.01 m/s, max ± 0.03 m/s
	Range	0 ... 3 m/s
	Measurement cycle	0.5 seconds
	Calibration	Control on 14 points, calibrated for life if maintained correctly
	Probe housing	Probe body yellow epoxy resin cast probe tail end stainless steel
	Dimensions/weight	158 x 50 x 19 mm ~ 6.220 x ~ 1.969 x ~ 0.748 inch/0.1 kg ~ 0.221 lbs (no cable)
	Cable length	3 m ~ 9.84 ft, 6 m ~ 19.69 ft polyurethane-sheathed cable. Additional lengths available upon request.
Controller/handheld unit	Environmental rating	IP67
	Dimensions/weight	191 x 126 x 60 mm ~ 7.519 x ~ 4.961 x ~ 2.362 in/ 1.2 kg ~ 2.645 lbs with batteries
	Operating temperature	$-20 \dots +60$ °C $-4 \dots +140$ °F
	Battery type	Lithium-ion, rechargeable
	Battery life	Standard 20hrs continuous usage (30hrs with reduced backlight) Note: battery life depends on usage and screen brightness
	Battery charger	AC wall outlet charger, 230 V AC / 110 V AC
	PC interface	RS-232, optional USB-to-RS232 interface adapter
	Display	Colour, LCD, touchscreen, 5"
	User interface navigation	Waterproof, 25 mm (~ 0.984 in) diameter dial/push button
	Data storage	Manual or automatic 12000 data points + 32 river profiles + 30 vertical sections
	Units of measurement	Velocity m/s, mm/s, ft/s Discharge m^3/s , m^3/h , m^3/d , l/s, l/h, l/d
Wading rod	Sections	Stainless steel 3x or 6x modular cylindrical sections + 1x disc at the base + 1x adjustable probe holder, 1x synthetic handle Note: can be extended in increments of 50 cm using additional optional sections.
	Dimensions/Weight	3 x 500 mm = 1.5 m, 3 kg 3 x ~ 19.685 in = ~ 59.055 in, ~ 6.614 lbs 6 x 500 mm = 3 m, 6 kg 6 x ~ 19.685 in = ~ 118.110 in, ~ 13.228 lbs
	Complimentary accessory	Canvas carrying bag
Other	Compliance	CE, RoHS
	Case dimensions	464 x 366 x 176 mm ~ 18.268 x ~ 14.409 x ~ 6.929 in
	Net weight complete case	5 kg ~ 11.023 lbs with FLUVIA and its probe, without wading rod

Accessories and add-ons

RS232-to-USB Converter: USB serial download cable
GPS location module
GPRS/GSM: texting, mobile telemetry



Bluetooth® Interface: wireless data download.
Adaptors to KISTERS MAG Top Setting Wading Rods (MAG/TSR)
Relocating device



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