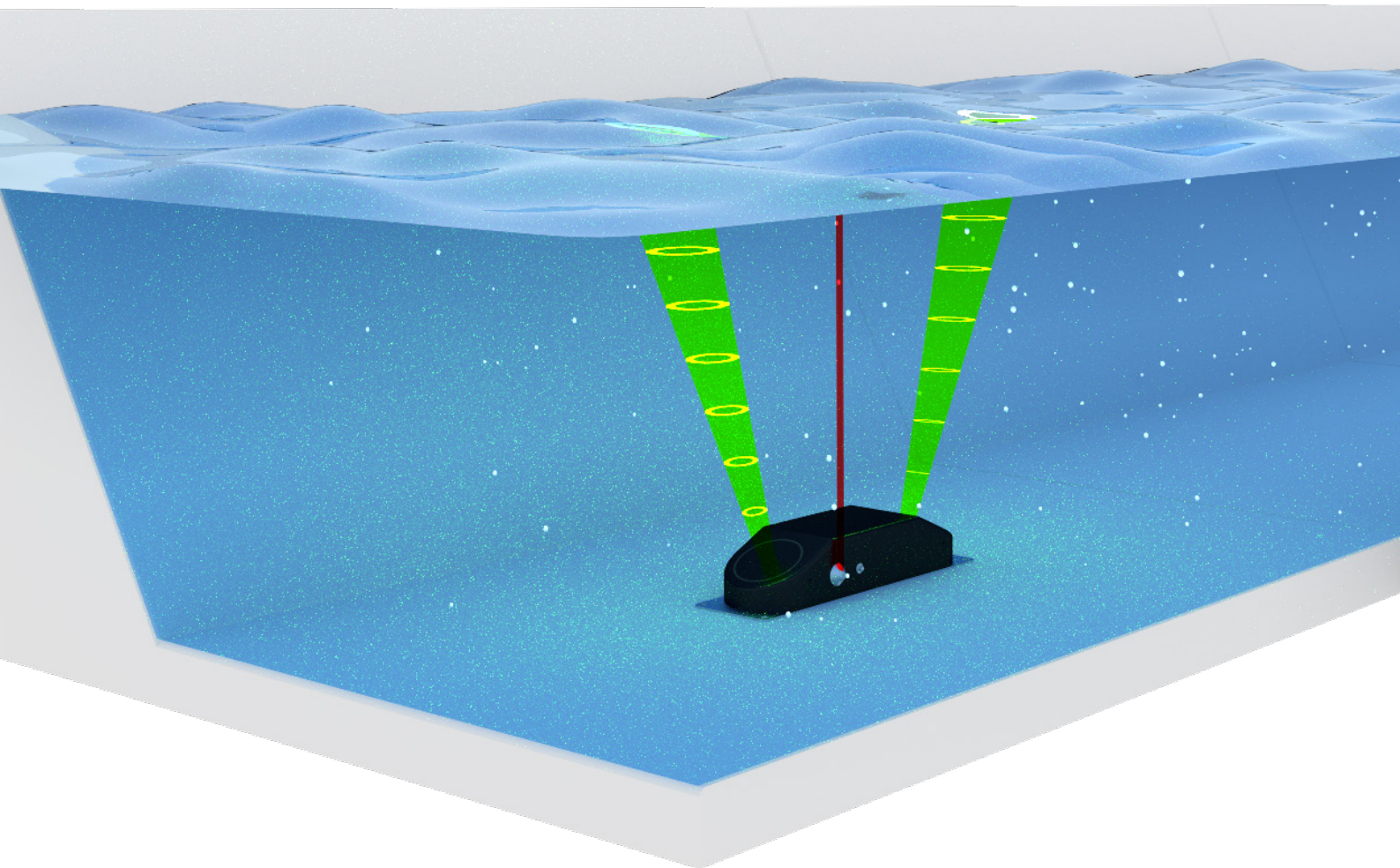




**Acoustic
Flow Profiler
for Open Channels**

AquaProfiler[®] MT



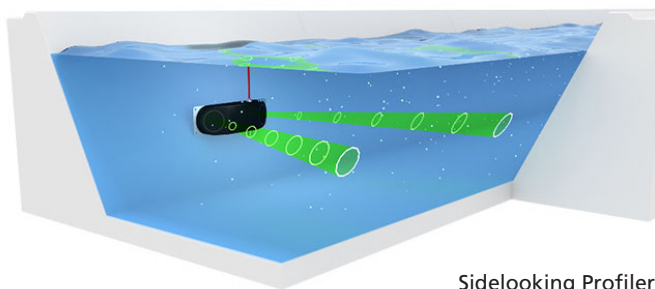


AquaProfiler® MT

Flow Monitoring

The **product line of AquaProfiler®** is designed for measuring discharge in open channels as well as partially filled and full-filled pipes.

For the different applications, a variety of sensors (mouse type and insertion type) are available. The system consists of a transmitter and a sensor.



Sidelooking Profiler

Velocity Index Rating

A velocity-index rating represents the relation between the velocity-index and concurrent mean velocity of discharge in the standard cross section.

A number of discharge measurements throughout the expected range in stage are required to develop a velocity-index rating. This rating provides the method for computing mean velocities from the index velocities recorded at a station.

Various types of a velocity index rating can be entered in the graphical user interface of the **AquaProfiler® MT**. For example, a single coefficient rating where the range in stage at the station is not large. Or a more complex rating for stations with bi-directional flow or a large range of stage.

AquaProfiler® makes monitoring flow in natural streams, concrete lined channels and pipes very easy. It is able to measure flow in harsh environments and difficult (less than ideal hydraulic) conditions very accurately. This compact system uses HydroVision's proven Acoustic **Profiling** Technology, in a single transducer assembly, to measure the flow, velocity and water level.

The system is designed to measure both, the vector and the magnitude (using twin velocity beams) of individual velocity cells (up to 64) to account for velocity variations within the flow and obtain the flow profile. An integrated pressure sensor is used to measure water level and combined with the velocity profile, calculates flow most accurately.

Typical Applications

- » Pipes - partially and full-filled
- » Open Channels
- » Irrigation Channels
- » Natural streams & canals
- » HydroPower plants (low heads, short intake)

Key Features

- » Accurate flow measurements
- » Up to 64 individual measuring cells
- » No on-site calibration
- » 2-D velocity measurement
- » Bi-directional velocity measurement
- » Velocity profiling gives detailed information about the velocity distribution and hydraulic conditions
- » Accurate even under harsh conditions (backwater, surcharging, variable flow conditions, varying roughness, pipe bends or intercepting flows etc.)
- » Mobile version for rod-mounting available (pls. request separate brochure)

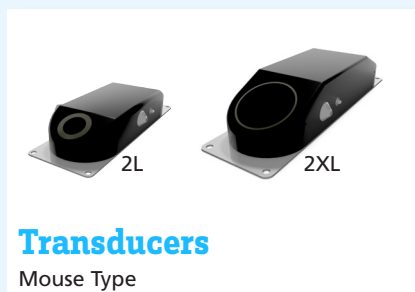
System Components



AquaProfiler® MT is a major improvement in open channel flow measurement. This flow computer incorporates all of the required algorithms and software to ensure accuracy and repeatability. The IP65 (NEMA 4X) compact flow display computer has a 4x20 alphanumeric LCD display and a 4 button keypad. All configuration data and measured and calculated data are stored inside an 16GB Micro-SD card. It controls the measurements, calculates the flow rate and provides freely programmable current outputs, status alarm, frequency outputs and totalizer readings. The unit can be mounted up to 80 m (660 feet) far away from the velocity and water level sensor. The unit is available with AC and DC power supply options.



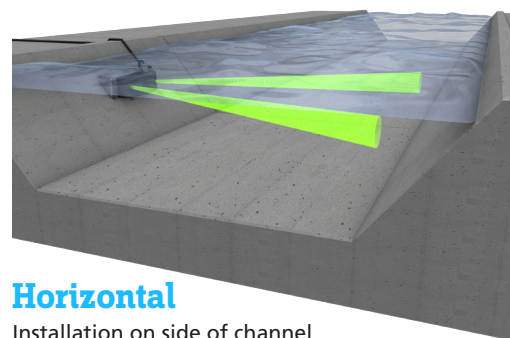
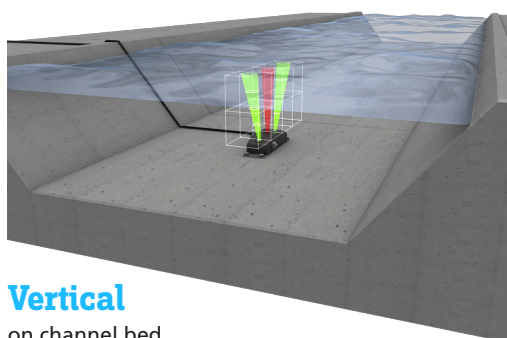
Parameterization of the measurement site and data visualization is easily possible using the standard web-browser of your already existing smartphone, tablet PC or notebook – there is no need for any additional software or App. The interface is graphical and menu-driven for rapid commissioning. This allows for your flow meter to be accessed from anywhere - anytime 24/7.



Mouse Type

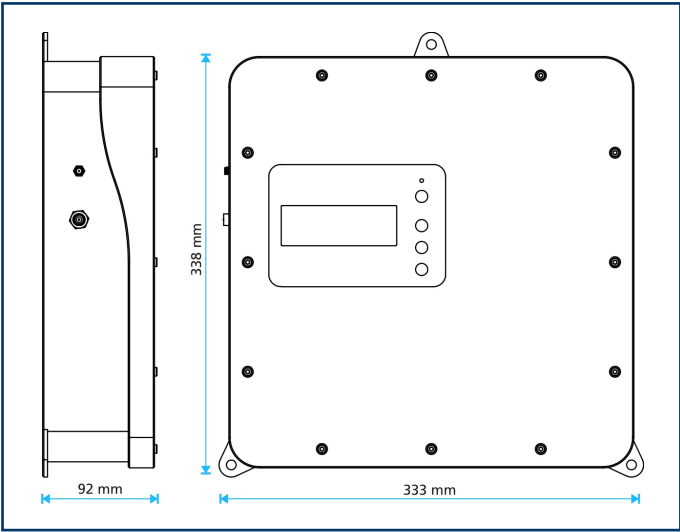
Different sizes of transducers are available, depending on the application. They allow both vertical and horizontal installations in channels and partially filled pipes. Type 2L is suitable for channel widths up to 20 meters, whereas type 2XL is used for channels of up to 120 meters width.

Application possibilities

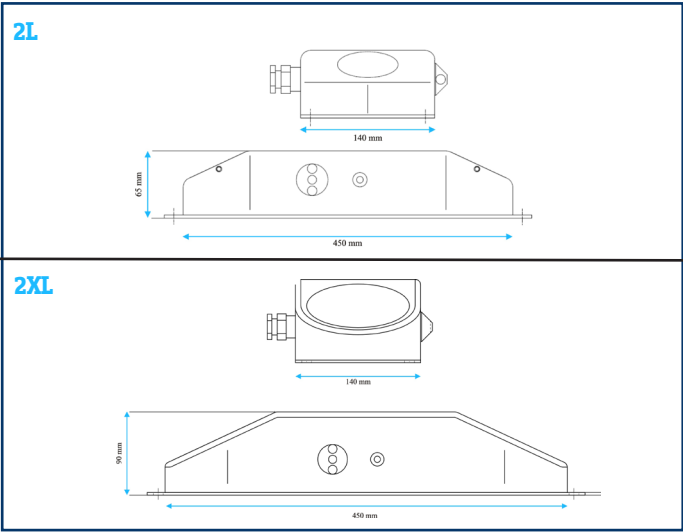


Technical Data

Transmitter



Sensor - Mouse Type



AquaProfiler® MT

Specifications Transmitter	
Display:	4 lines, 20 characters
Keyboard:	4 keys
Datalogger:	16GB MicroSD Card
Communication:	RS485 MODBUS (RS232 or RS485) WLAN GPRS Ethernet 10/100 Mbps
Inputs:	max. 4 x 4-20 mA 2x digital
Outputs:	max. 4 x 4-20 mA 2x digital 4x Relay
Power Supply:	85-260 V _{AC} (48-60 Hz) or 9-36 V _{DC}
Protection Class:	IP 65
Enclosure:	ABS, wall mounted
Dimensions:	338 x 333 x 92 mm

Sensor

Specifications	2L	2XL
Frequency:	2 MHz	600 kHz
Max. number of cells:	64	64
Max. profiling range:	0,25 to 20m *)	0,5 to 120 m *)
Min. cell size:	0,25 m	0,5 m
Max. blanking:	0,25 m	0,5 m
Range:	velocity: ± 8 m/s water level hydrostatic: 0-10m	
Temperature sensor:	-5°C to 40°C	
Accuracy:	for value v: 0,5% FS ± 0,25 cm/s for value h: 0,1% FS for value t: ± 0,1°C	
Max. cable length:	80 m	80 m
Dimensions:	350 x 140 x 65 mm	450 x 140 x 90 mm

*) for particle concentration of 50 to 1500 ppm

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