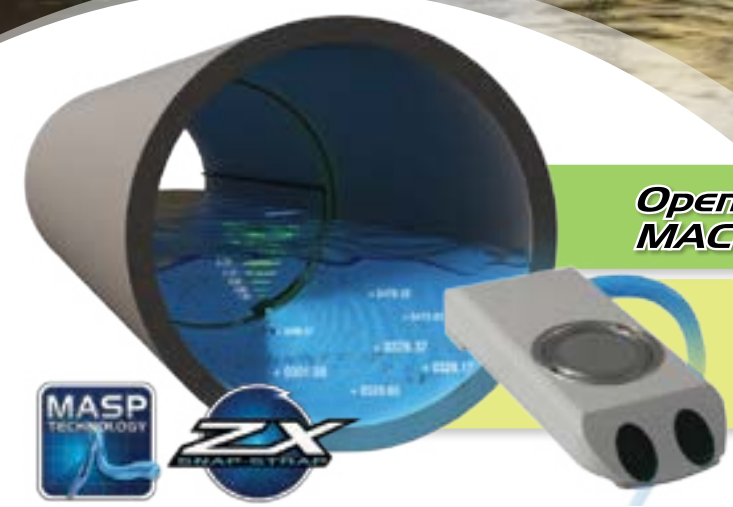
MACE FLOPRO XCI

Flow Monitoring

FloPro® XCi

Monitor wastewater, stormwater and industrial flows in full pipes, partially full pipes and open channels



Open channel flow measurement
MACE Area/Velocity Sensor

- ✔ *Doppler ultrasonic area/velocity sensor with MASP technology*
- ✔ *Easy to install in existing pipe work with a MACE ZX SnapStrap*
- ✔ *Operates in regular and irregular cross-sections*
- ✔ *Reliable under difficult hydraulic conditions*
- ✔ *Replaceable ceramic diaphragm depth sensor*

RICE Earth Sciences

A DIVISION OF RICE RESOURCE TECHNOLOGIES

GENERAL

Weight	Approx. 5 kg (11 lbs)
Dimensions	365 mm (H) x 260 mm (W) x 170 mm (D) 14.4 in. (H) x 10.2 in. (W) x 6.7 in. (D)
Enclosure rating	IP66
Enclosure material	UV stabilized polycarbonate
Operating temperature (with internal battery installed)	-15 to +50° C (5 to 122° F)
Operating temperature (with internal battery removed and external power used)	-20 to +65° C (-4 to 150° F)
Backlit display	16 character x 2 line alphanumeric LCD
Program memory	2 Mb flash (sufficient for 600,000 discrete readings)
Power	Internal 12Volt 7.2Ah battery with external solar panel or mains charger
Units of measure	User definable (metric/US)
Application software	FloCom+ PC software for system configuration, data downloading and velocity profile testing. Minimum system requirements - Windows® XP
Factory backup	24 months - parts and labour guarantee

DEPTH MEASUREMENT

Method	Ceramic pressure transducer with large flat sensing diaphragm which allows straight, undeflected flow over the sensing area to reduce drawdown effects at high stream velocities and provides for self cleaning with an impervious Alumina ceramic surface.
Full scale range	4 m (13 ft.) above the transducer face
Accuracy	0.2% of full scale at constant temperature in a static stream. 1% of full scale over a stream 5 to 55° C (41 to 130° F)
Resolution	1 mm (0.04 in.)
Overrange	60 m (200 ft.) without damage
Min. operating depth	20 mm (0.79 in.)

VELOCITY MEASUREMENT

Method	Submerged Ultrasonic Doppler
Range	±0.025 to ± 8.0 m/s (±0.08 to ± 26 ft/s)
Resolution	1 mm at 1.0 m/s (0.04 in. at 3.3 ft/s)
Accuracy	±1% up to 3.0 m/s (±1% up to 10 ft/s)
Urethane sensor cable	9 mm (D) up to 50 m (L) (0.35 in. (D) up to 164 ft. (L))
Min. operating depth	40 mm (1.57 in.)
Max. operating temperature	60° C (140° F)

DOPPLER INSERT VELOCITY SENSOR

For use in full pipes or partially full pipes (when used in conjunction with an EchoFlo depth sensor)	
Pipe size	0.1 to 2.54 m (4 in. to 100 in.) diameter
Process fitting	2″ BSP or 2″ NPT
Max. process fitting pressure[1]	1034 kPa (150psi)
Max. operating pressure[2]	253kPa (37psi)
Shaft dimensions	330 mm (L) x 20 mm (D) 13 in. (L) x 0.8 in. (D)
Head dimensions	45 mm (D) x 25 mm (H) 1.8 in. (D) x 1 in. (H)
Wetted materials	Nickel plated brass and epoxy
Pipe intrusion area	11.25 cm^2 (1.74 in^2)

*1 The pipe **must be de-pressurized** prior to insertion or removal*

*2 The stream flow may be suitable for Doppler ultrasonic flow measurement in pressures >253kPa (37psi) if it contains **at least** 100 parts per million of suspended solids that are >75 microns in size.*

DOPPLER AREA/VELOCITY SENSOR

ZX SnapStrap mounted, combined velocity and depth sensor for use in partially full pipes or open channels	
Pipe size	0.15 to 2.54 m (6 in. to 100 in.) diameter
Max. channel width *	3 m (10 ft.)
Dimensions	125 mm (L) x 50 mm (W) x 20 mm (H) 5 in. (L) x 2 in. (W) x 0.79 in. (H)
Wetted materials	PVC, Alumina ceramic and epoxy
Pipe intrusion area	8.6 cm^2 (1.33 in^2)

DOPPLER VELOCITY SENSOR

ZX SnapStrap mounted, velocity sensor for use in full pipes or open channels (when used in conjunction with a depth sensor)	
Pipe size	0.15 to 2.54 m (6 in. to 100 in.) diameter
Max. channel width *	3 m (10 ft.)
Dimensions	125 mm (L) x 50 mm (W) x 17 mm (H) 5 in. (L) x 2 in. (W) x 0.67 in. (H)
Wetted materials	PVC and epoxy
Pipe intrusion area	8 cm^2 (1.24 in^2)

** MACE Doppler ultrasonic sensors **will** operate in wider channels, but a reliable stream gauging **must** be performed for best system accuracy.*

Note to end users: These specifications are subject to change at any time without notice. MACE takes no responsibility for the use of these figures. Please consult MACE for the latest specifications before using them in contract submittals or third party quotes etc. MACE reserves the right to change specifications without prior warning. All quoted figures are based on test conditions and are subject to variation due to site conditions.

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