

MODEL 2100

Current Velocity Meter

Product Description Sheet

Exclusively Distributed By:
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Telescoping Wands

2100-STDX



2100-STDX
2 to 9½' reach
(shown folded for
storage)

8" boom

2½' to 9½' telescoping extension wand with no graduations. Sensor is mounted on an 8" boom to reach into side sewers. A 2" boom is also available for stability in higher flows and easier access through small openings in pipes. A two foot adjustable depth probe is provided and attaches to the fully extended lower section. The depth probe allows repeated accurate sensor placement indexed from the stream bed. The 2100-STDX includes the Model 2100 Indicator, two propeller rotor assemblies, spare propeller, operating instructions and a storage tube for sensor wand. Cable is 5' longer than the maximum extension.



2100-LX at work

2100-LX

4½' to 19½' extension. Same as the 3000-STDX except each telescoping section is 4 feet in length. A three foot adjustable depth probe is provided. Telescoping sections are secured by readily available stainless steel hose clamps for maximum reliability and ease of maintenance. The Model 2100-LX includes the 2100 Indicator, two propeller rotor assemblies, spare propeller, instruction manual and storage tube for the sensor wand.

2100-LX, 4½' to 19 ½' extension

Wading Wands

2100-12, -13, -14, -C80, -C140

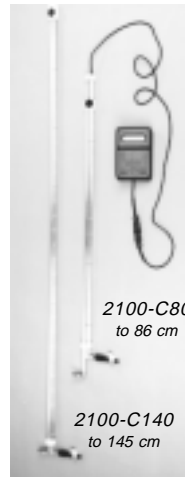


2100-12
to 2.7 ft

2100-13
to 3.7 ft

2100-14
to 4.7 ft.

6/10 Depth Method Model 2100's are designed to be used while wading in streams and waterways. Use the rods to measure the stream depth then automatically place the sensor at 6/10 of the depth from the stream surface, the best place to determine the average velocity of a water column in relatively shallow water. All models include the 2100 Indicator, two propeller rotor assemblies, a spare propeller, operating manual and a storage tube for the sensor wand. Indicator-to-wand connection cable length is five feet longer than the wading rod. Wading rods for Models 2100-12, -13, -14 are in feet & tenths and Models 2100-C80 and 2100-C140 have 5cm graduations.



2100-C80
to 86 cm

2100-C140
to 145 cm

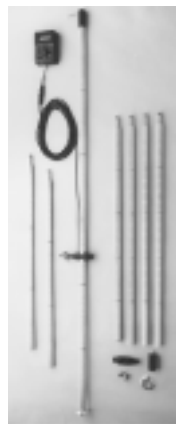


2100-12, quick profiling of shallow streams

Combination Wands

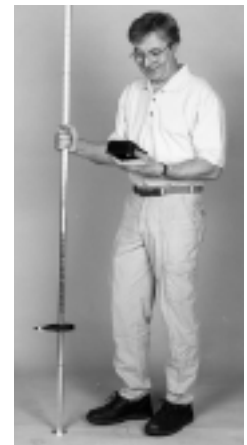
2100-1514 (English)

12' total length. 1" diameter, thick-walled aluminum tube graduated from the bottom up in feet and tenths. Designed to be very stable in higher flows when the 2½" dia. foot is placed on the stream bed. Wand breaks down via threaded fittings into four sections of three feet each. Supplied with a **Top Cap, Slider, and Foot** as well as the Model 2100 Indicator, instruction manual, spare propeller, extra rotor assembly, 9 volt batteries and 25' sensor cable. Top cap contains direction pointer for use when sensor is not visible in deep water and the slider allows locking the sensor anywhere along the entire wand length. Also available in a special version for diving applications. See 2100-Diver specifications.



2100-1518 (Metric)

4 meters total length. Same as 2100-1514 except each section is one meter long. Graduations are marked every 5cm. The length of both the 2100-1514 and 2100-1518 rods can be increased if needed by adding extra sections of rod available as options. The extra sections are offered with or without graduations. Supplied with same equipment as the 2100-1514.



2100-1514

MODEL 2100 CURRENT VELOCITY METER

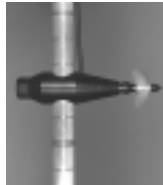


- Efficient propeller-driven *Photo-Fiber-Optic* sensor coupled with precision quartz crystal controlled electronics provide accurate repeatable data in all flow conditions.
 - The *Model 2100* Indicator reads data in feet and meters per second. A toggle switch in the battery compartment changes from one to the other.
 - Powered by a single 9 volt transistor battery. (Space for a spare provided).
 - Three user selectable velocity averaging times in each mode. From 5 to 90 seconds in feet per second and from 1.5 to 30 seconds in meters mode.
 - Sensor components (propeller, rotor, and rotor shaft) easily and inexpensively replaceable. Carry spares into remote locations and you'll never have to return early because of a bent bucketwheel, lost sensor magnet or bent rotor shaft.
 - Wide choice of sensor carriers or "wands" to accommodate virtually any open stream velocity measuring requirement.
 - Lightweight, portable system is easy to work with all day in the field. Indicator weighs a little over a pound and a half.
 - A simple and *accurate* method of user-accomplished calibration is provided with the *Model 2100*. No other current meter offers the user a method of checking and changing calibrations while in the field. Calibration settings for the feet and meters selection are easily checked and changed any time.

OPTIONS AND ACCESSORIES



2100-TSR Adapter for using optical sensor on a USGS style wading rod



2100-151-Slider for use on any 1" rods.



Foot, Slider, Top Cap, 25' sensor and Rotors and parts. Common to the 2100-1514 & -1518 models.



Waterproof Carrying Cases

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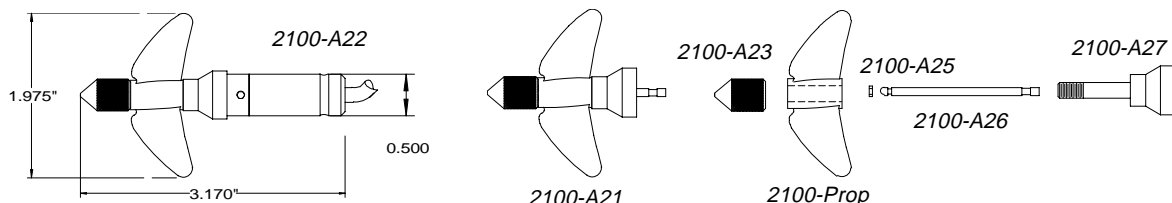
THE SWOFFER OPTICAL-ELECTRONIC SENSOR

The basic principle of the Swoffer sensor is simple; multiple bundles of fiber-optics, assembled into a propeller-driven rotor, gate a beam of infrared light from a photo diode to a photosensitive transistor. The rate of rotation of the propeller rotor is directly proportional to water speed, therefore pulses produced by the photo transistor over a given time are also directly proportional to water velocity.

The Model 2100 uses a propeller rotor which requires very little energy to activate, works in nearly all water conditions and produces consistent, strong output pulses even at low speeds. The calibration curve for the rotors is linear and consistent in all normally occurring open channel velocities. The propellers used with the Model 2100 were specifically designed for use in water so they do not need a shroud to protect them from the effects of turbulence. Because no shroud is used the propellers are better able to shed debris normally found in sewers and natural streams.

The electronic half of the sensor consists of the latest optoelectronics and is epoxy encapsulated in a ½" (12.7mm) diameter acetal resin housing for protection from chemicals and the elements. The sensor uses a two-wire signal system requiring as little as 3 volts for operation and can generate an output signal through over 1000 feet of cable. The sensor consumes very little power, produces four pulses per revolution and can be manufactured in a variety of configurations and, most of all, it is sturdy and reliable.

The standard version of the propeller rotor assembly (2100-A21) uses a very low friction fiberoptic rotor, a polished and hardened stainless steel shaft, and a glass-filled nylon propeller. All rotor parts are easily replaceable in the field and spares are provided with every Model 2100 instrument.



For more complete descriptions and prices see the separate specification and price sheets.

All Model 2100 instruments are supplied with two 9 volt alkaline batteries, two complete rotor assemblies (2100-A21), a spare propeller, the 2100 Digital Indicator with a neck strap and a Sensor (2100-A22). The sensor wands are shipped in a PVC tube which serves as a permanent carrying/storage case.