



Flowatch Flowmeter/ Anemometer

6597

**Convenient collapsible design
for ultimate portability.**

Perfect for educational use as well as for work in remote locations. The probe folds down into 3 separate sections measuring 16" each. This collapsible design allows you to easily pack the flowmeter in a backpack. Flow measurements can be taken in knots, km/h, mph, and m/s. The meter also takes temperature measurements in either °F or °C, including minimum and maximum temperature and current temperature. The basic unit includes meter, foldable probe, standard flow sensor and carrying case. Also included is a wind speed impeller which allows you to take air velocity and wind chill measurements. To take flow measurements from a bridge or other elevated location, use the optional flow sensor with 15 meter cable (sold separately). The unit automatically turns itself off after 36 hours. **Power:** CR2032 Lithium battery (included).

Flowatch Flowmeter	Ⓞ 2.25 lbs.	94356
		2+
Optional Flow Sensor with 15 Meter Cable	1.25 lbs.	94358
CR2032, 3V Lithium, single	1 oz.	02190

	Accuracy	Resolution	Minimum	Maximum	Sampling	Response
Current Wind Speed	±3%	0.2 knots	2.2 knots	27 knots	1 sec	3 sec
		0.2 mph	2.5 mph	31 mph		
		0.3 km/h	4.0 km/h	50 km/h		
		0.1 m/s	1.1 m/s	14 m/s		
Current Water Speed	±3%	0.2 knots	0.5 knots	27 knots	1 sec	3 sec
		0.2 mph	0.6 mph	31 mph		
		0.3 km/h	1.0 km/h	50 km/h		
		0.1 m/s	0.3 m/s	14 m/s		
Average Speed	±3%	0.1 knots	0	27 knots	-	-
		0.1 mph	0	31 mph		
		0.1 km/h	0	50 km/h		
		0.1 m/s	0	14 m/s		
Current Temp.	±0.7°C ±1.25°F	1°C 1°F	-25°C -13°F	100°C 160°F	1 sec	5 min
Wind Chill Factor	-	1°C 1°F	<-25°C <-13°F	>100°C >160°F	1 sec	-



Global Water
Instrumentation, Inc.

Flow Probe Hand-held Flowmeter

3392

**True velocity averaging provides
outstanding accuracy!**

Ideal for storm run-off studies or flow measurements of rivers, streams, canals, and sewers.

Incorporates true velocity averaging for the most accurate measurement possible. The probe shaft is available in lengths that extend from 3' to 6' and from 5' to 15'. Located on the bottom tip is a protected Turbo-Prop sensor which uses the most advanced positive displacement technique available. For minimal friction, this 2" Turbo-Prop sensor rotates freely on a bearing shaft with no mechanical interconnections. Magnetic material in the propeller passes a pickup coil in the housing producing electrical impulses. These electrical impulses are then carried by wire to a readout display on top of the handle. This readout display amplifies and converts the signal into feet/meters per second readings. Instantaneous velocity and true average velocity are then displayed. A unique two-button keypad allows other functions to be displayed including maximum velocity, time-of-day, stop watch, totalizer for batch flows, and RPM for accurate low velocity measurement. Features a padded gun-type carrying case and long life watch-type batteries for readout display (no battery required for Turbo-Prop). Probe can be extended up to 25' with standard PVC pipe and electrical extension cable.

Specifications

Range: 0.3 - 15 FPS (0.1 - 4.5 MPS). **Accuracy:** average velocity ±0.1 FPS, instantaneous velocity ±0.5 FPS. **Averaging:** true digital running average. **Display:** LCD. **Sensor Type:** protected Turbo-Prop propeller with electromagnetic pickup. **Weight:** 2 lbs. **Size:** probe expands from 3' to 6', sensor housing is 2" in dia. x 3"L. **Materials:** PVC handle and propeller housing, anodized aluminum shaft, brass bearing. **Power:** Internal replaceable watch-type batteries with one-year life. **Operating temperature:** 0°F to 120°F.

3' to 6' Expandable Flow Probe	Ⓞ	8.25 lbs.	94303
5' to 15' Expandable Flow Probe	Ⓞ	10 lbs.	94307



MJP Student Stream Flowmeter

7107

Ideal for student projects and practical river and irrigation studies and management.

Revolutions of impeller are sensed electronically and transmitted to a hand-held counter unit that features start, stop, and clear functions. Revolutions per unit of time can be translated into stream velocity using a conversion chart. May be used in brackish water or salt water. Fitted with a re-settable LCD counter and powered by a long-life battery (included), this flowmeter eliminates the need for tiresome calculations. Comes complete with PVC pole mounted with an impeller which collapses into four sections for easy storage and carrying, three stream bed elevation rods, protective carrying pouch for counter, weather-proof storage case,

instruction manual, and comparison charts. Optional 3-cup, hand-held anemometer is available for measuring air velocity. Range of the anemometer is 2 mph to 65 mph.

Materials: PVC impeller poles, stainless steel impeller shaft, plastic impeller. **Dimensions:** Overall pole length: 3.3'. **Four individual sections:** 9.8", 4.9", and 2.5". **Cable:** 3.3'. **Elevation rods:** 9.8", 4.9", and 2.5". **Data Readout:** LCD counter; 800 counts per minute; re-setting. **Sensor Type:** Magnetic. **Range:** Approximately 0.05m/sec to 8.0m/sec. **Accuracy:** ±7%.

Flowmeter	2.25 lbs.	94305
Anemometer Option	4 oz.	94306

Ⓞ Combination English and Metric

Ⓞ Oversize. Ships UPS 30 lb. rate. See Shipping Information for details.

Swoffer Model 2100 Series And 3000 Series Open Stream Current Velocity Meters

3398

A portable, reliable means of measuring open stream velocities in the range of 0.1 to 25 feet per second or 0.03 to 7.5 meters per second (selectable). Measurements can be read in feet or meters on your choice of two digital readout indicator models, both with better than 1% accuracy. Each meter includes a meter indicator, shoulder strap and snap ring, and PVC shipping/storage tube for the sensor. 2100 Series includes a 9V battery, and the 3000 series includes four AA batteries.

Sensor

The sensor uses a 2" propeller which rotates a fiber-optic bundle to create a signal from a photodiode to a photosensitive transistor. This signal is transferred via cable to the indicator where velocity is displayed. Resolution of the display is to hundredths. The propeller is swivel mounted for easy storage. A quick-disconnect, waterproof cable connection is located at the indicator. The electronics of the sensors are permanently encapsulated in epoxy resin and housed in chemically inert acetal-resin fittings. All sensor parts are replaceable and are available separately. Sensor wands are aluminum alloy with stainless steel fasteners. Propeller is glass impregnated nylon and all other plastic sensor parts are acetal-resin (Delrin or Celcon).

Model 2100 Indicator

Accommodates all types of open stream flows. Three selectable, pre-set display update times allow up to 90 seconds of averaging. In extremely turbulent flows, otherwise unreadable data is electronically averaged and can be used without interpolation. Features a dial-style control and self-calibration to check accuracy of instrument while in the field. A compartment in the back of the indicator houses the battery and has space for one spare. Liquid crystal display features one line with 0.7"H digits.

Model 3000 Indicator

A datalogging version of the 2100, the 3000 records depths, width, velocities and angles along with time and date of measurements. It figures the "Q" and can upload all information in spreadsheet-acceptable format to your PC via RS232. Simple file transfer software and a DB9 serial connection cable are provided. Choose from 1 to 999 seconds of averaging. Velocities can be a single averaged measurement or the accumulated average of as many measurements as desired. As many as 1,000 "stations" in 1 to 100 stream cross-sections can be acquired and stored in memory. Use the convenient keypad to input angles of velocity other than perpendicular to the stream cross-section. Simple, accurate calibration is possible in the field. Two-line, 16-character LCD prompts user through all operations. Compatible with all Swoffer instruments.

Indicator Construction

Weatherproof indicator cases are vacuum-formed ABS plastic with a clear acrylic lens over the LCD and measure just 6" x 4" x 2". The electronics of the indicators are sealed against moisture.

Model 2100-12 – for 6/10 depth method. 3' Wand easily measures stream depth to 2-1/2' then places the sensor 6/10 of the stream depth from the surface. Primarily used when wading, it is lightweight enough to be carried on a backpack. Shipped in two pieces ; one weighs 2 lbs., the other 3 lbs. **Ⓢ** 3 lbs. **94178**

Model 3000-12 – same as 2100-12, except includes the 3000 series indicator. **Ⓢ** 6 lbs. **94031**

Model 2100-13 – same as Model 2100-12, except for 3-1/2' wading rod. Shipped in two pieces; one weighs 2 lbs., the other weighs 3 lbs. **Ⓢ** 5 lbs. **94160**

Model 3000-13 – same as 2100-13, except includes the 3000 series indicator. **Ⓢ** 6 lbs. **94032**

Model 2100-LX – Wand extends from 4' to 19-1/2'. Propeller is on 10' boom which swivels 120° for reaching up into lateral conduits. A 3' adjustable table depth probe is supplied. Shipped in two pieces; one weighs 2 lbs., the other 7 lbs. **Ⓢ** 7 lbs. **94179**

Model 3000-LX – same as 2100-LX, except includes the 3000 series indicator. **Ⓢ** 9 lbs. **94033**

Model-2100-1514 – Similar to the Model 2100-12 and 2100-13, but more versatile. The 2100-1514 can be used from bridges, boats, manholes, or while wading. Meter comes complete with four 3' sections that offer the option of adjusting the sensor. Weight: meter – 8 lbs.; four 3' sections packaged together – 2 lbs. each. **Ⓢ** 10 lbs. **94161**

Model-3000-1514 – same as 2100-1514, except includes the 3000 series indicator. **Ⓢ** 10 lbs. **94034**

Optional 3' extension for 2100-1514 2 lbs. **94162**

9V Battery, single 3 oz. **02179**

AA cell, pack of 4 7 oz. **02352**

Ⓢ Combination English and Metric





WATER*MARK®

USGS Type Current Meters

3401

Features precisely balanced bucket wheel which is mounted on a vertical pivot and is rotated by water flow. Rate of rotation is proportional to water velocity. Velocity is determined by counting bucket wheel revolutions over a given period of time. Revolutions can be monitored by headset or a digimeter (both sold separately). Use headset to manually count revolutions via an audible tone produced every revolution. The number of revolutions over a period of time are compared to a rating chart (included) which determines water velocity. The digimeter is a digital counter that electronically monitors revolutions and time, calculates water velocity, and displays it. Two separate binding posts on the contact chamber allow the operator to set unit to selectively count either every revolution or every fifth revolution for use in fast moving water. Meters are constructed of stainless steel, brass, and bronze with chrome-plating where required.

Model 6200 "AA" Current Meter

Measures velocity from 0.1 FPS to 25 FPS. May be suspended by wading rod (sold separately) or cable from a bridge board (sold separately). Furnished with a foam-cushioned carrying case, rating chart, tail fin assembly, screw driver, assorted spare parts, special lubricant, and operation and maintenance manual. **Dimensions:** 8-3/4" x 5".

Model 6200

"AA" Current Meter 6 lbs. **95000**

Model 6205 "Mini" Current Meter

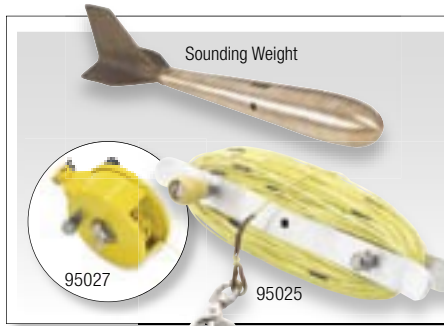
Available for use in shallow water or where water velocity is between 0.1 FPS to 4.9 FPS. Its small size allows it to be suspended by wading rod (sold separately) only. Furnished with foam cushioned carrying case, rating chart, assorted spare parts, and special lubricant. **Dimensions:** 3.735" x 2".

Model 6205

"Mini" Current Meter 2 lbs. **95001**

Accessories for Model 6200 and Model 6205

4' Top Setting Wading Rod	9 lbs.	95002
6' Top Setting Wading Rod	10 lbs.	95003
1.2 Meter Top Setting Rod	9 lbs.	95004
Headset Readout for Current Meters	3 lbs.	95005
Digital Readout Unit for Current Meters	2 lbs.	95006
Rod Adapter, required to mount 95006 to Wading Rod	1 lbs.	95011
Rod Mount, required to mount 95006 to Wading Rod	1 lbs.	95012



Sounding Weight

95027

95025

Sounding Weights

Optional sounding weights hold current meters against the flowing water. The 15 lb. sounding weight is solid bronze, and the 30 lb. sounding weight is lead. Each weight is furnished with the required weight hanger and weight hanger pin.

15 lb. Sounding Weight	18 lbs.	95009
30 lb. Sounding Weight	34 lbs.	95010
New! Hand Line	4 lbs.	95015

Kevlar® Taglines with Reels

USGS standard taglines feature a Kevlar inner core enclosed in a nylon jacket dyed yellow with black markings for excellent visibility. Use to measure the distance between observation points during discharge measurements, as well as the width across a river. Tagline is marked at preset intervals. The 150' and 300' models have aluminum skeltonized reels, and the 400' model has an enclosed yellow poly reel.

150' Kevlar Tagline	E	3 lbs.	95025
300' Kevlar Tagline	E	4 lbs.	95026
400' Kevlar Tagline	E	6 lbs.	95027



Model 4200 Bridge Board

3401

Use this free-standing support with a sounding reel (sold separately) to raise or lower a current meter or sediment sampler over bridge railings. The vertical leg is adjustable to match rails of 12" to 48" heights. The 4' boom extends past the bridge railing to lower the instrument into the water below. Recommended maximum weight of the instrument being lowered is 30 pounds. The bridge board is constructed of aluminum with stainless steel hardware. Folds for easy transportation and storage. **Dimensions (collapsed):** 48" x 12" x 6".

Model 4200 Bridge Board 16 lbs. **95007**

A-Pak Sounding Reel

Optional sounding reel is equipped with 45' of sounding cable, a digital counter depth indicator, pressed sleeve connector, and heavy-duty carrying case. Mounts to bridge board with three wing nuts (included). Constructed of aluminum, brass, bronze, and stainless steel. Electric terminals, connected to the cable, are provided for sending or receiving electrical signals to or from a current meter.

A-Pak Sounding Reel 15 lbs. **95008**



Model 6200FD Rod-Suspended Water Current Meter Kit

3401

Measures velocity in shallow streams, irrigation ditches, canals, water supply conduits, and sewers. Suspended on a 1.2 m or 4' wading rod (specify when ordering kit), the bucket wheel revolves in flowing water. The circuit is closed each revolution or each fifth revolution. Separate binding posts permit selection of the count desired. Digital Flow Indicator provides direct digital display of flow velocity in feet or meters per second ranging from 0.2 to 32 ft. per second or 0.06 to 7.6 meters per second.

Components

Type AA Current Meter: With meter case, rating table, instrument oil, screw driver, and cleaning cloth. **Spare Parts:** Extra pivot with lock nut, hanger screw, tailpiece screw, insulation bushing. **Meter Case:** Holds meter, spare parts, accessories, and telephone set. Rating Table. **Headphone Set:** Includes batteries. **Digital Readout Unit:** LCD screen. **Top Setting Wading Rod:** 1.2 m or 4' as required with vernier handle and two-plug connector.

Model 6200FD Rod-Suspended Water Current Meter Kit **E** 16 lbs. **94961**

Note: When ordering, please specify which top setting wading rod you want, either 1.2 m or 4'.

E English
E Combination English and Metric