

UNIVERSAL CURRENT METER

CM-32

**NEW
MODEL**



Measuring water velocity in the big river.



Measuring water velocity in the big channel



TÜV We are certified
ISO 9001:2008
Certificate No. 01 100 072276
Quality is our standard

The AKIM Universal Current Meter CM-32 is a measuring instrument to determine the flow velocity of water in open canals, rivers, streams, rivulets, pressure pipes, lakes, and the sea.

- For measuring flow velocities from 0,025 m/sec. to 12 m/sec.
- High accuracy
- Low starting speed of 0,025 m/sec.
- Application of absolutely and anti-corrosive materials. Made of stainless steel.
- Almost frictionless contact transmission
- Universal application on different fixing devices for use on rod or as cable suspended meter equipment.
- The reliable instrument approved by many years practical experience under hard conditions worldwide.

Waterbody:

Made of high-quality, non-corrosive chromium steel, the current meter can be used even under extreme conditions. The propeller is filled with oil and rotating in two special ball-bearings. The oil filling and a capillary seal protects against water entry. A base stop prevents the propeller from striking to the ground.

Universal Application on different fixing devices for use on rod or as cable-suspended meter equipments, for use with AKIM single drum winches or cable way installation.

Contact Transmission:

The current meter propeller gets turned by the flow. A permanent magnet turning with the propeller actuates, once per revolution the built-in Reed Contact which is watertight under pressure. The pulse sequence is nearly proportional to water velocity in the measuring point.

Guiding Device (Rod):

This rod is manufactured from non-corrosive stainless chromium steel. 20 mm. dia., 2 m. long, 2 sections, graduation and numbering in cm. with ground stop.

Determination of Flow Velocity:

The exact relation between the number of propeller revolutions per second and the water velocity is determined by the equation:

$$v = k \cdot n + \Delta$$

v = flow velocity (m/sec.)

k = hydraulic pitch of propeller (m) determined by test runs in the modern hydraulic towing canal.

n = number of propeller revolutions per second

Δ = meter constant (m/sec.) determined by test runs in the modern hydraulic towing canal.

Since among current meters there are mechanical differences in the propellers as well as in the bearings, constants k and Δ are found by specific tests in the modern hydraulic towing canal (Certificated of Calibration DSI - TAKK).

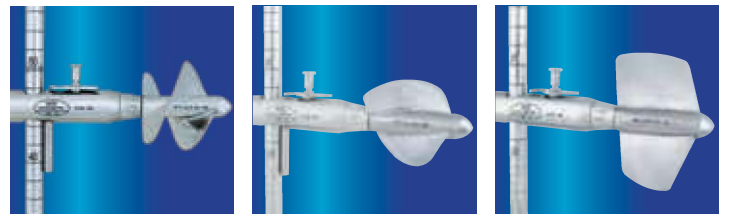
If desired, the calibration equation (relation between n and v) can also be supplied with fully calculated value and compiled in a table (Velocity table – TAKK).

The calibration values can be changed by the user (See user manual).

Propellers and Measuring Range:

The propellers are absolutely of same shape with accurate pitch and very high stability regarding on temperature and deformation. Depending on the pitch of the propellers chosen, the current meter can be used for different velocity measuring ranges. In case of oblique water current, it is possible to measure the component of the flow within an angular range which depends on the type of propeller (see table).

Propeller No	Propeller Size	Max. Water Velocity (m / sec.)	Starting Speed (m / sec.)	Range of Component Effect	Material
1	100 mm dia 0,125 m pitch	5,0	0,025	$\pm 45^\circ$	Metal
2	80 mm dia 0,50 m pitch	10,0	0,040	$\pm 5^\circ$	Metal
3	125 mm dia 0,25 m pitch	12,0	0,025	$\pm 5^\circ$	Metal



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Instrument Case (CM -32):

Made of resistant black ABS plastic.

Dimension: 19 x 33 x 45 cm, **Weight:** Case including equipment approx. 5,5 kg.