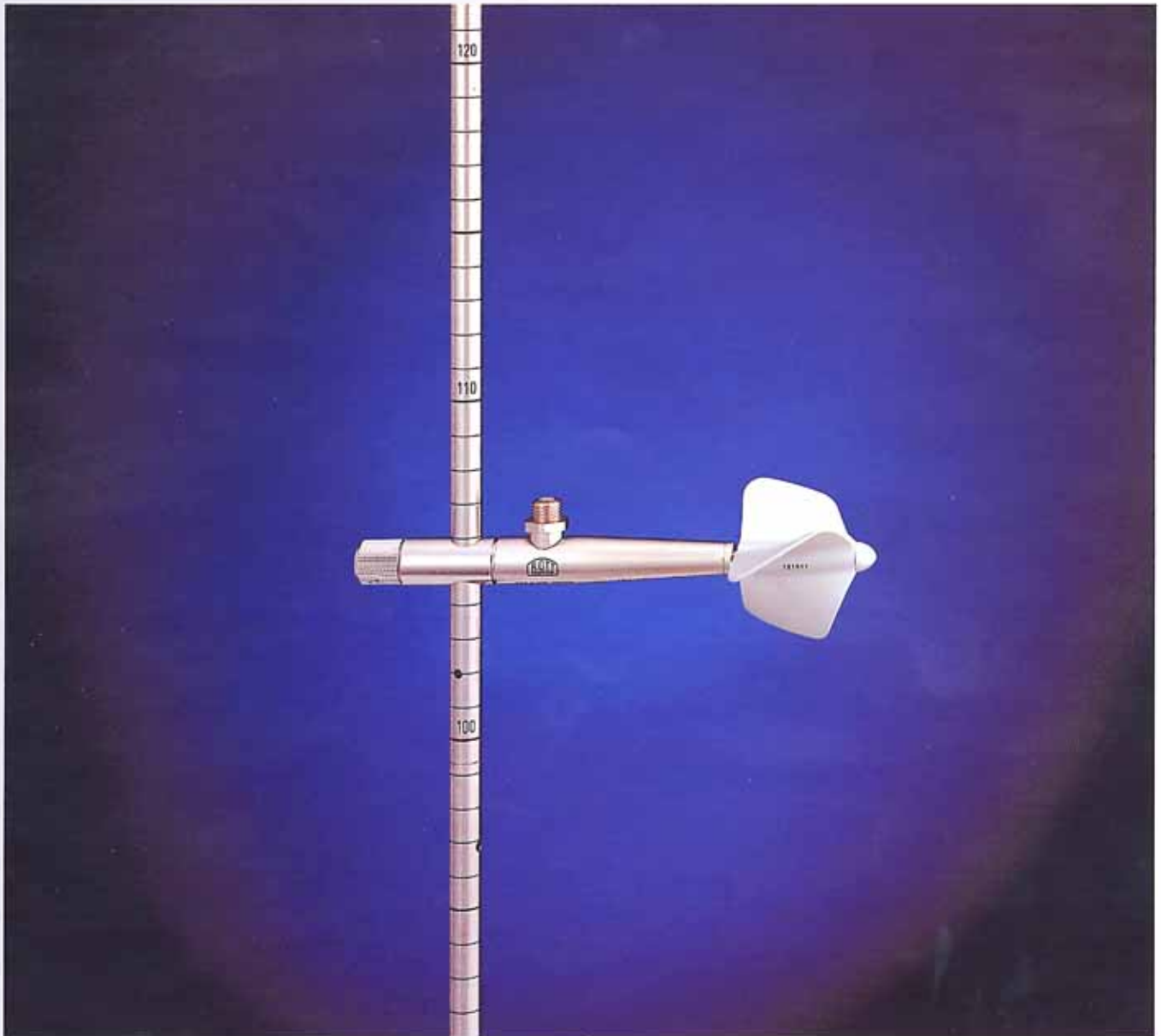


# Small Current Meter C 2



The OTT C 2 Small Current Meter is used if at low water levels the flow velocity has to be measured, e.g. in

- laboratories
- river models
- small channels, falajs
- conduits
- outfall ditches, etc.

The OTT C2 means thousandfold proved quality, precision and reliability - worldwide for decades.

It is especially recommended for measurements in remote regions whenever a light-weight and handy measuring instrument is required.

The highly precise, reinforced spindle bearing as well as an on-contact signalling system give the possibility for measuring flow velocities as from 2.5 cm/sec. Minimum depth of water for using this instrument is approx. 4 cm.

OTT Current Meters set the standard for liquid-flow measurement and without them - hydrometry is not imaginable.

## ● Fixing

The small current meter can directly be fixed to a rod (item 13/14) of 9 mm dia.

A Relocating Device (item 14 A), however, has proved to be a useful facility, which is designed as sleeve tube (see frontis-piece) and is slid together with the current meter over the rod.

For measurements from higher places (e.g. bridges) it is recommended, by means of the clamping piece (Fig. 2, or item 21 resp.) to use a rod of 20 mm dia. (item 15-20) with relocating device (item 22-24).

## ● Measuring Ranges - Component Effect

(see table on page 3)

Depending on the pitch of the propellers used, different velocity ranges may be obtained.

Besides the propellers have a component effect. The angular degrees specified in the table show the extent of oblique flow up to which the propeller measures the true velocity value. Within the stated ranges of oblique flow and velocity, the propellers follow the law of cosine with an accuracy of  $\pm 1\%$  of the measured value.

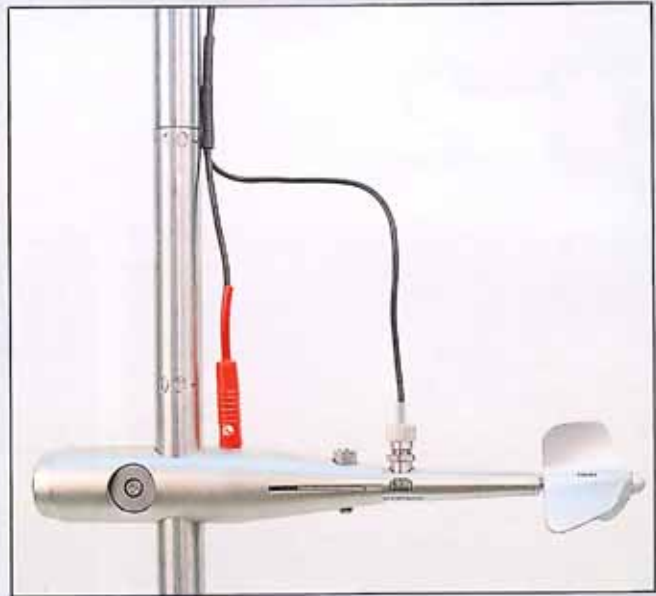


Fig. 2: C 2 Small Current Meter with clamping piece (Adapter), fixed on rod 20 mm dia.

## Determination of Flow Velocity

A calibration of the small current meter with the relating propeller is necessary in order to determine the water velocity  $v$  according to the equation

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

$k$  = hydraulic pitch of propeller (m) determined by test runs in the rating tank.

$n$  = number of propeller revolutions per second

$\Delta$  = meter constant (m/sec) determined by test runs in the rating tank.

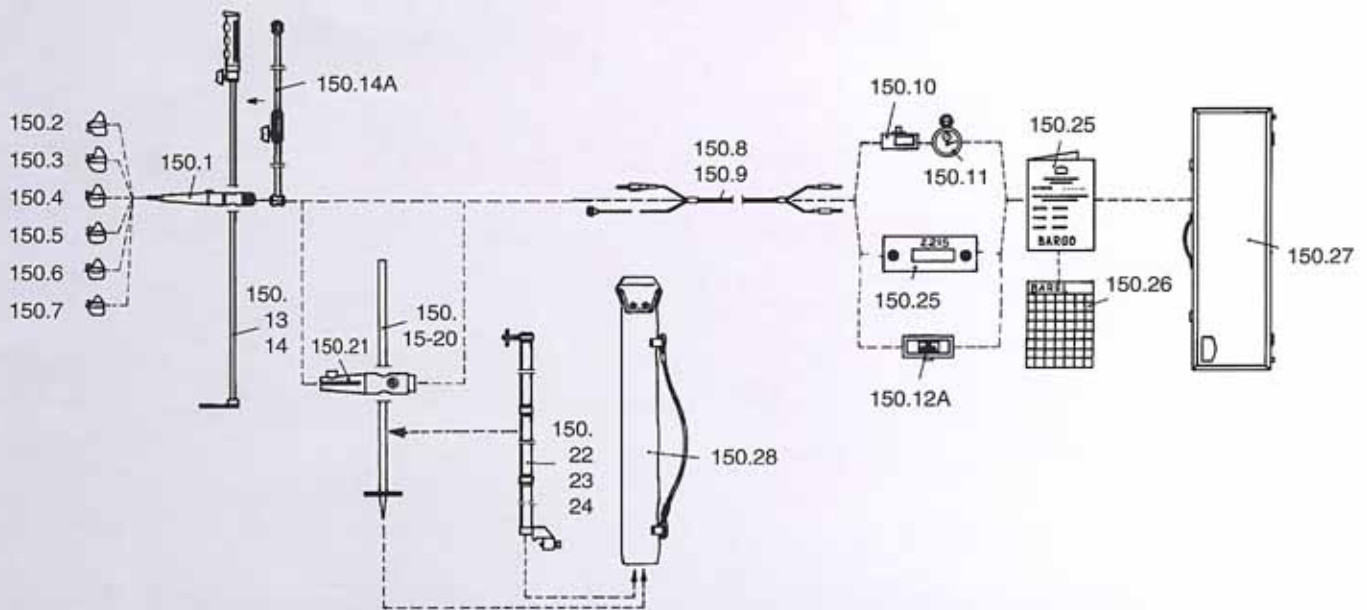
Since among current meters there are mechanical differences in the propellers as well as in the bearings, the constants  $k$  and  $\Delta$  are found by specific tests in our rating tank (**certificate of calibration BARGO**).

If desired, the calibration equation (relation between  $n$  and  $v$ ) can also be supplied with fully calculated values compiled in a table (**velocity table BAREL**).

For more particulars regarding the calibration of current meters, see folder HLe 120/14.



● Possibilities of Equipment Combinations with C 2 Small Current Meter



No.	Designation		Ident.-No.
1	<b>C 2 Small Current Meter Instrument case</b>	<b>basic unit (Material: brass, nickel-plated) with tools</b> for the accommodation of the complete C 2 (standard) meas. equipment	150.1 150.27
		rod 9 mm dia.      v min. (m/sec.)      v max. (m/sec.)      component-effect	
2	<b>Propeller No. 1</b>	50 mm dia.      0,05 m pitch      0,025      1,0      ± 30°	150.2
3	<b>Propeller No. 2</b>	50 mm dia.      0,10 m pitch      0,030      2,0      ± 20°	150.3
4	<b>Propeller No. 3</b>	50 mm dia.      0,25 m pitch      0,035      4,0      ± 10°	150.4
5	<b>Propeller No. 4</b>	50 mm dia.      0,50 m pitch      0,060      5,0      .....	150.5
6	<b>Propeller No. 5</b>	30 mm dia.      0,05 m pitch      0,050      1,0      ± 20°	150.6
7	<b>Propeller No. 6</b>	30 mm dia.      0,10 m pitch      0,055      2,0      ± 10°	150.7
		(Material of the propellers: aluminium anodized)	
8	<b>Connecting cable to rod 9 mm dia.</b>	(length 2,5 m - other lengths up on request)	150.8
9	<b>Connecting cable to rod 20 mm dia.</b>	(length 4 m - other lengths up on request)	150.9
10	<b>Z 21 counter set</b>	incl. batteries	150.10
11	<b>Stop watch</b>	with a recording accuracy of 1/10 sec.	150.11
12	<b>Z 215 counter set</b>	incl. batteries	150.12
12 A	<b>Z 30 counter set</b>	incl. batteries	150.12A
13	<b>Rod 9 mm dia.</b>	1,0 m long, 2 sections, without graduation, with handle	150.13
14	<b>Rod 9 mm dia.</b>	1,5 m long, 3 sections, with cm-graduation, with handle	150.14
14 A	<b>Relocating device</b>	1 m long, 2 sections, suitable for rod 9 mm dia., 1,5 m long	150.14A
	<b>Rod 20 mm dia.</b>	with base plate and point, <b>dm</b> -graduation and <b>dm</b> -numbering	
15		2 m long, 4 sections	150.15
16		2 m long, 2 sections (other lengths - see OTT-price list)	150.16
17		3 m long, 3 sections	150.17
	<b>Rod 20 mm dia.</b>	with base plate and point, <b>cm</b> -graduation and <b>dm</b> -numbering	
18		2 m long, 4 sections	150.18
19		2 m long, 2 sections (other lengths - see OTT-price list)	150.19
20		3 m long, 3 sections	150.20
21	<b>Clamping piece for</b>	20 mm dia. or for HERES Relocating device	150.21
	<b>HERES relocation device rod 20 mm dia.</b>	(should always be shorter by 1 m than the rod used)	
22		1 m long, 2 sections	150.22
23		2 m long, 4 sections	150.23
24		2 m long, 2 sections	150.24
25	Certificate of calibration BARGO	(for each propeller 1x)	150.25
26	Velocity table BAREL	(for each propeller 1x)	150.26
28	Canvas bag	for rod 20 mm dia. and HERES relocating device	150.28

## Counter Sets for C 2 Small Current Meter

### Z 215 Counter Set

This instrument is suitable for carrying out point measurements with preset time or number of pulses, as well as integration measurements with remaining term measurement. A LCD double display shows simultaneously pulses and time.



### Z 30 Counter Set

It is used for counting the propeller pulses in preset or any desired time intervals.

The instrument is suitable for current meters giving a pulse with each propeller revolution. Zero-setting by press button. Preset time 30, 40, 50, 60 and 100 sec. by built-in quartz clock.



### Z 21 Counter Set

It is used, together with a stop watch, for counting the impulses of water current meters. Every pulse generated by the current meter is counted.

The instrument is suitable for operation with current meters giving a pulse with each propeller revolution. Zero-setting by press button.



## Technical details

Plastic housing with carrying strap.

Max. counting frequency: 20 pulses per second

Temperature range: - 20°C to + 60°C  
Power supply: 6 V (4 Mignon cells)

Dimensions: Z 215 155 x 58 x 195 mm / 1,1 kg  
Z 30 155 x 92 x 55 mm / 0,55 kg  
Z 21 155 x 92 x 55 mm / 0,45 kg

### Instrument Case

The complete measuring equipment incl. Z 21 or Z 30 counter set is housed in a light-metal case.

(dimensions 720 x 220 x 110 mm, weight 5,5 kg).

By this, it is a portable instrument. Due to the small size, the components for each part can be checked at a glance.



Small design details may be changed without notice

### Delivery program, e.g.:

Water Level Recorders  
Current Meters  
Pressure Probes  
Shaft Encoders  
Data Loggers, Smart Sens.  
Data Remote Transmission

*Please ask for our price list!*

**OTT**  
MESSTECHNIK