

# SEBA

## HYDROMETRIE

### float operated Water Level Recorders

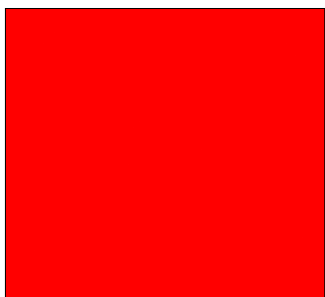


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**ISO 9001**

certificate no. 01110505

*Quality Is Our Standard*



type "DELTA"



type "ALPHA"



type "XI"



water - level

## Vertical Water Level Recorder "ALPHA"

First of all, this instrument serves for the continuous control of liquid levels. It is very robust and registrates with high accuracy. Mainly it is used for:

- ground water studies
- water supply
- discharge measurement
- irrigation
- sewerage

### advantages:

- digital indication
- modular system
- outdoor installation without protection housing
- suitable for groundwater tubes of 2"
- switch-selected recording scales
- tilting mechanism
- additional temperature registration is possible (type **ALPHA-T**)
- datalogger can be installed

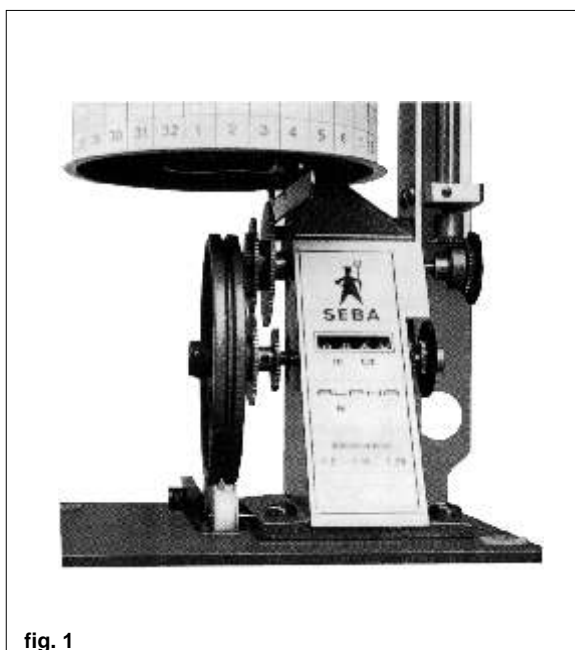


fig. 1



fig. 2

### technical data

#### description

attractive case made of special-aluminium cast with weather-proof hammerscale-lacquer; solid door or with *inspection window*; ventilation with temperature compensation; safety-lock; float-wheel axle with double ball-bearings

#### indication

The measuring instrument is equipped with a digital instantaneous indication. The respective water level can be read in m and cm. (fig. 1)

#### writing device

The writing slide will be lead along a metal bar up- and downwards. The registration will be effected with *capillary- or fibre pens*.

#### registration drum

122 mm Ø; drum circumference 384 mm, usable writing height 250 mm.

#### additional equipment

The measuring instrument is also available with *tilting mechanism*. This enables, to tilt the instrument and using the observation tube for control measurements or for taking water samples. (fig. 2)

#### installation

For installation of the registration gauges to observation tubes, special threaded fixing flanges are available.

Sizes (Ø): 2", 3", 4", 5", 6" and 8"  
(further sizes on request)

On request *fixing tubes* with flange and ventilation in different sizes are available.

#### dimensions

case: 225 x 205 x 510 mm  
case ground-area: 206 x 200 mm

#### weight

17 kgs (gross)  
incl. maintenance material

# Strip Chart Water Level Recorder "DELTA"

The strip chart water level recorder "DELTA" serves for continuous registration of water levels in flowing and stagnant waters.

The registration will be effected on a 16 m long diagram roll.

Mainly this instrument will be used for:

- discharge measurement
- irrigation
- ground water studies

## advantages:

- long-term measurements, maintenance-free
- digital indication
- changeable paper speed
- reversing spindle
- outdoor installation
- simple installation
- modular system

For outdoor installation, the instrument can be delivered with solid door (fig. 5) and protection cover for the float wheel, float cable and return pulley.

For mounting on tubes, flanges with  $\varnothing$  4", 5" and 6" are available.

inkl. Wartungsmaterial

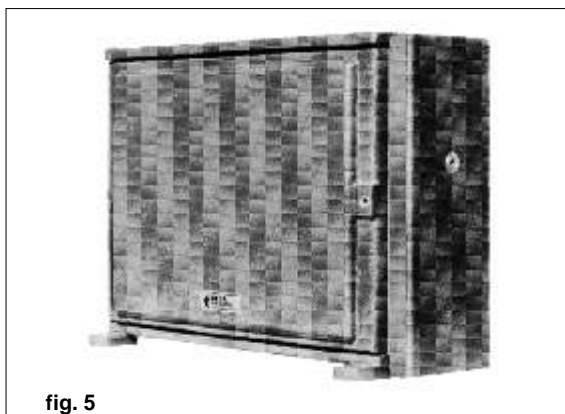


fig. 5

## technical data

### description

attractive housing made of special aluminium cast with weather-proof hammerscale lacquer; *solid door* or with *inspection window*; ventilation for temperature compensation; safety-lock, float-wheel on ball-bearings.

### indication

4-digit counter for digital indication in m and cm; range 0 - 99 m.

### writing device

reversing spindle for recording high- and low water level peaks with capillary- or fibre pens. On request also pencil- or waxpaper writing possible.

### strip chart unit

usable writing width 250 mm

### diagram roll

normal paper or ceramic coated

### clockwork

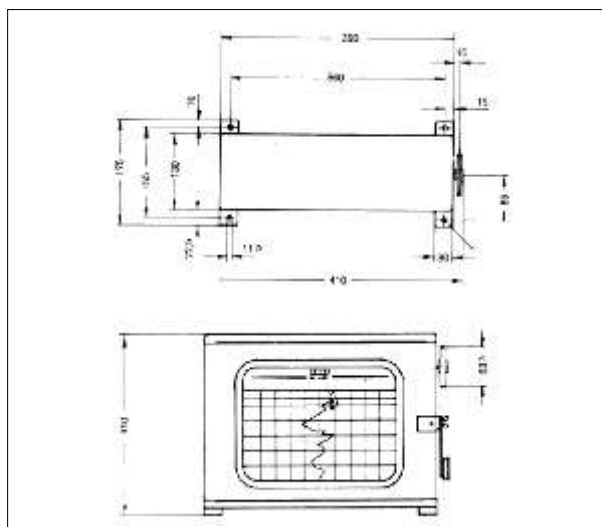
The instrument can be equipped with mechanical or quartzdriven clockwork.

- quartzdriven clockwork (battery-operated)

operation period: approx. 500 days

paper speed: 2-5-10-20 mm/h\*  
(\*other paper speeds on request)

## dimensions:



### weight:

16 kgs (gross)  
incl. maintenance-material

### measuring ranges

As standard version, three recording scales are installed (second version mentioned in brackets) which can be selected by lateral moving of the gears.

registration scale	measuring range[m]	float from Ø
1: 5 (1:10)	1,25 ( 2,50)	90 mm
1:10 (1:20)	2,50 ( 5,00)	90 mm
1:20 (1:40)	5,00 (10,00)	90 mm

By simple exchange of pairs of tooth gears, following registration scales are possible:

registration scale	measuring range[m]	float from Ø
1: 2,5	0,625	150 mm
1:30	7,50	90 mm
1:50	12,50	90 mm

on request registration scales up to 1 : 200 are possible

### option

easy adaption of a datalogger for parallel digital registration of water level fluctuations (e.g. type MDS-Insider DIGI)

## Accessories

### reversal indication

The SEBA strip chart recorder "DELTA" can be equipped with a reversal indication (2nd writing pen at the left paper border). So it is possible to determine the tendency (falling or increasing water level) at the reversal.

### tele-transmission

All SEBA water level recorders ("ALPHA", "XI", "DELTA") can simply be equipped for tele-transmission of water levels. Both, long-distance indication, as well as remote registration are possible.

### parameter versions:

- potentiometer
- transformer with current output 0-20 mA
- encoder

On request the instrument can also be equipped with limit switches for steering purposes.

### in case of order, please indicate following

		ALPHA	XI-Pegel	DELTA
1	solid door or with inspection window	●		●
2	with or without tilting mechanism	●		
3	digital indication for ground- or surface water	●		●
4	registration scales/measuring ranges	●	●	●
5	quartzdriven or mechanical clockwork	●	●	quartzdriven only
6	drum rotation/paper speed	●	●	●
7	fibre- or capillary pens	●	●	●
8	size for fixing flange	●		●
9	length of float cable	●	●	●
10	accessories	●	●	●



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represented by:

## measuring ranges

As standard version, three recording scales are installed (second version mentioned in brackets)  
The scales are adjustable by lateral moving of the gear bloc.

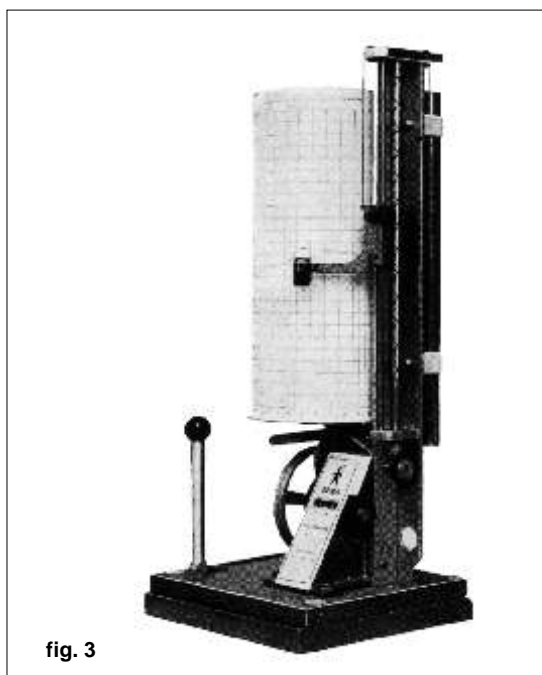
registration scale	measuring range[m]	float from Ø
1: 5 (1:10)	1,25 ( 2,50)	75 mm*
1:10 (1:20)	2,50 ( 5,00)	75 mm*
1:20 (1:40)	5,00 (10,00)	75 mm*

By simple exchanging a pair of gears the following measuring ranges are possible:

registration scale	measuring range[m]	float from Ø
1: 1	0,25 m	> Ø 200 mm
1: 2	0,50 m	Ø 150 mm
1:15	3,75 m	Ø 75 mm*
1:25	6,25 m	Ø 75 mm*
1:30	7,50 m	Ø 75 mm*
1:40	10,00 m	Ø 75 mm*

In case of recording scales 1:50 - 1:200 the gear pairs are mounted separately.

\* in case of perpendicular observation tubes also floats of 40 mm Ø are possible. Depending on the tube, we recommend to use the greatest possible diameter for the float!



## clockwork

The instrument is available with mechanical or with quartzdriven clockwork. They can be exchanged by loosening two screws.

### ● mechanical clockwork (hand wound)

drum rotation	paper speed	operation period
4 days*	4 mm/h	32 days
8 days*	2 mm/h	32 days
16 days*	1 mm/h	32 days
32 days*	12 mm/day	32 days

\* reversible by exchanging one gear pair

### ● quartzdriven clockwork

battery-operated (3V)  
accuracy +/- 60s/year  
4 drum rotations (selectable by switch)

drum rotation	paper speed	operation period
1 day	16 mm/h	500 days (approx.)
8 days	2 mm/h	
32 days	12 mm/day	
96 days	4 mm/day	

other drum rotations are available on request (1 hour to 196 days)

## variations

### Vertical-Water Level Recorder "ALPHA-U"

For recording high and low water level peaks, this instrument is equipped with a reversing spindle (fig. 3). Therefore, floats with > 75 mm Ø are necessary.

### Vertical-Water Level Recorder "ALPHA-T"

This instrument serves for the simultaneous control of water level **and** -temperature. The temperature module can be later installed into our reliable water level recorder "**ALPHA**". It's also available with temperature registration only, as version "**ALPHA-TS**".

### Vertical Water Level Recorder "ALPHA" with datalogger "MDS-Insider"

"MDS-Insider" and measuring converter will be installed into the "ALPHA"-housing. This ensures a simultaneous analogue (mechanical) and digital (computer-compatible) recording of measuring data.

# Horizontal Water Level Recorder "XI"

The measuring instrument serves for continuous control and registration of water level fluctuations in flowing and stagnant waters. The application of this very reasonable instrument type requires a protection housing!

## advantages:

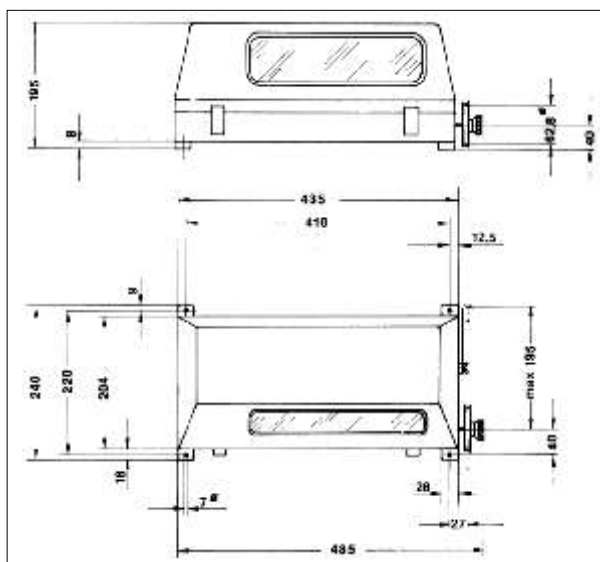
- extremely smooth running
- selectable recording scales
- reversing spindle for registration of high- and low water level peaks
- simple and quick installation

## technical data

### recording drum

horizontal positioned;  
 Ø 122 mm;  
 drum circumference 384 mm;  
 writing width 250 mm

### dimensions



### writing device

Reversing spindle for recording high- and low water level peaks with capillary- or fibre pens.

### weight

approx. 14 kgs (gross)  
 incl. maintenance material

### option

easy adaption of a datalogger for parallel digital registration of water level fluctuations (e.g. type MDS-Insider DIGI)



fig. 4

## measuring ranges

This instrument is supposed to be equipped with five standard registration scales - according to the requirement. Adjustment to another measuring range will be effected by simple exchange of the float wheels.

recording scale	measuring range[m]	float from Ø
1: 1	0,25	90 mm
1: 2	0,50	90 mm
1: 5	1,25	90 mm
1:10	2,50	90 mm
1:20	5,00	90 mm

other registration scales on request

## clockwork

The instrument is available with mechanical or with quartzdriven clockwork. They can be exchanged by loosening two screws.

### ● mechanical clockwork (hand wound)

drum rotation	paper speed	operation period
4 days*	4 mm/h	32 days
8 days*	2 mm/h	32 days
16 days*	1 mm/h	32 days
32 days*	12 mm/day	32 days

\* reversible by exchanging one gear pair

### ● quartzdriven clockwork

battery-operated (3V)  
 accuracy +/- 60s/year

drum rotation	paper speed	operation period
1 day	16 mm/h	500 days (approx.)
8 days	2 mm/h	
16 days	1 mm/h	
32 days	12 mm/day	

other drum rotations are available on request (1 hour to 196 days)