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Thies CLIMA

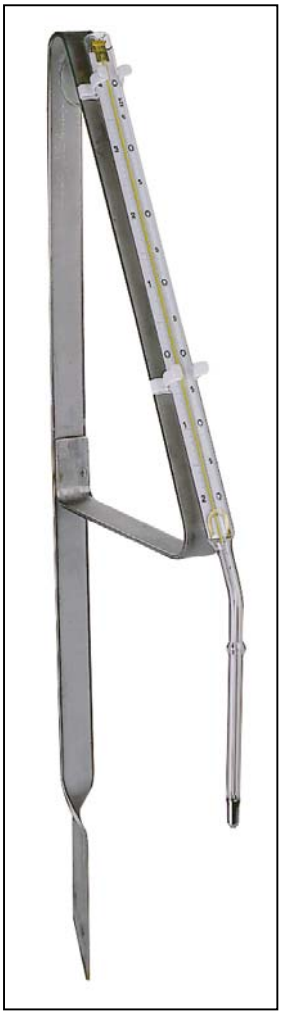
Instruction for Use

021370/10/06

Soil Thermometer

with support 2.2110.xx.xxx

without support 508314



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Contents

1 Model

with support

Description	Order-No.	Meas. range	Graduation	Accuracy	Inserting depth
Soil Thermometer	2.2110.02.003	-25...+60°C	0,2	±0,4 K(<0°C) ±0,2 K(0-+50°C) ±0,3 K(>50°C)	20 mm
Soil Thermometer	2.2110.03.003	-25...+60°C	0,2		30 mm
Soil Thermometer	2.2110.06.004	-25...+45°C	0,2		60 mm
Soil Thermometer	2.2110.11.006	-22...+40°C	0,2		110 mm
Soil Thermometer	2.2110.16.008	-15...+40°C	0,2		160 mm
Soil Thermometer	2.2110.21.009	-15...+35°C	0,2		210mm
Soil Thermometer	2.2110.31.009	-15...+35°C	0,2		310 mm
Soil Thermometer *	2.2110.11.092	-10...+55°C	0,2		100 mm
Soil Thermometer *	2.2110.21.092	-10...+55°C	0,2		210 mm

without support

Soil Thermometer *****	508 314	-25…+50°C	0,2	±0,2 K	200 mm

2 Description

The soil thermometer is a mercury glass thermometer that can be calibrated. It is designed for measuring the soil temperature. The reading is carried out at the upper part of the mercury column.

3 Mounting

At the measuring location a hole must be dug out in the ground. The depth of the ground hole has to correspond at least to the length of the inserting shaft of the thermometer.

Afterwards, the support is put into the ground, close to the hole, up to a horizontal strut.

The soil thermometer is now carefully clamped onto the support, or resp. is put into the ground hole. The ground hole is filled up with soil, afterwards.

4 Technical Data

characteristic	**specification**
Measuring range	see model
Graduation	see model
Accuracy	see model
Inserting depth	see model
Liquid	mercury
Angle	150°
Type	DIN 58655
Type *	leaning on DIN 58655
Weight:	
Thermometer Support	ca. 100 g ca. 850g
Total length :	
Thermometer support	ca. 380 mm + Eintauchlänge ca. 700 mm

5 Separated liquid columns – what do you do?

Before use of a liquid in glass thermometer, make sure that the liquid column is not interrupted. These phenomena are frequently caused by violent shocks during transport.

In most cases it is possible to rejoin broken columns by application of the following directions:

If there is only a small interruption at the upper end of the column, try to rejoin it by holding the thermometer in a vertical position and taping it against the inside of the hand.

Another procedure may be effective by warming the bulb until the column reaches the separated portions in the safety chamber at the upper end of the capillary tube. Great care is necessary to avoid filling the safety chamber completely with mercury, which might produce pressures large enough to burst the bulb. Joining the mercury is more readily accomplished if the quantity in either cavity has first shattered into droplets by tapping the thermometer laterally against the hand.

If an interruption is in the lower part of the liquid column, the bulb of the thermometer may be cooled in a solution of common salt, ice and water (about –20°C) to bring the mercury down into an enlargement of the bore or finally into the bulb. Moderate tapping of the bulb on a paper pad, inside of the hand, or the application of centrifugal force usually serves to unite the mercury in the bulb. If the salt solution does not provide sufficient cooling carbon dioxide snow (dry ice about –78°C) may be used. Since mercury freezes at about –38°C, it will cause the mercury to solidify. Care must be taken to warm at first the top of the bulb or the enlargement of the capillary tube so that pressures in the bulb due to the expanding mercury may be relieved.

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