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(ISO 9001:2015 certified)

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## Dendrometer

Radius

DR

Radius

DRW

Diameter

DD-S

Diameter

DD-L

Diameter

DDW

**Circumference  
DC1**

Circumference

DC2, DC3

Fruit DF

Root/UnderWater

DRO

Vertical

DV

Data

samples

## Equitensiometer

### Sap Flow Sensor

SF-G

SF-L

## Leaf Sensor

## Circumference Dendrometer 1 (DC1)

The Circumference Dendrometer 1 is the simpler version for the measurement of circumference changes of plants. The sensor is mounted on a wire cable with a very low coefficient of thermal expansion on the plant. The slide rings reduce the friction between the wire cable and the tree bark. They also decrease the pressure of wire cable on the tree. Please note the [essential difference between the various circumference dendrometers](#).



### Advantages:

- Suitable for diameter 5-30 cm
- No injury to plants
- Easy installation
- Stability against wind, snow, falling small branches and small fruits
- Readings directly correspond to the circumference changes

### Limits:

- Because the elastic force of the sensor is exerted on the cable wire in tangential direction (wire tension), the contact pressure between cable wire and stem depends on the curvature of the stem, i.e. the stem diameter. This relationship can be regarded analog to the tension-pressure-radius

Air-  
 Broadleaf  
 type)  
 ΔLA-C (ΔT  
 Leaf-to-  
 Air-  
 Conifer  
 type)

stem radius, the lower the contact pressure  
 between cable wire and stem surface.  
 Measurement data between stems of highly  
 divergent radiuses is therefore not  
 comparable (cf. DC2/DC3).

- The problem of instable measurement data increases with increasing stem diameters because of the decreasing contact pressure.

## Data Logger

## Delivery

- Complete with 5 m cables and 1 m wire cable

## Options / Ordering Information

- Cable extension (please specify in meters)
- Extension of the wire cable (please specify in meters)
- Data Logger

## Technical specifications

Name	Circumference Dendrometer 1 (DC1)
Suitable for tree size	Diameter 5-30 cm
Range of the sensor	11 mm
Accuracy	$\pm 1.5 \mu\text{m} \pm 0,12\%$ (CR1000 Logger)
Resolution	0.2-2.6 $\mu\text{m}$ (dependent on used data logger)
Linearity	1%
Thermal expansion coefficient of the wire cable	$< 1,4 \times 10^{-6}/\text{K}$
Thermal expansion coefficient of the sensor	$< 0,1 \mu\text{m}/\text{K}$
Operating conditions	-25 to 70 °C air temperature, 0 to 100% relative air humidity

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