

DF Fruit and Vegetable Dendrometer

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The Fruit and Vegetable Dendrometer is the special dendrometer version for measurements on circular fruiting bodies. The fruit in the measuring frame is firmly fixed without affecting its growth. The frame sustains the weight of the target and relieves the peduncle.

Advantages

- Suitable for diameter between 0 and 11 cm (other size on request)
- Fruits do not have to bear the weight of the dendrometers
- Measures diameter changes
- Assessment of ripeness for softening fruit types
- No Injury to fruits
- Stability against wind, snow, falling small branches and small fruits

Limits

- Not suitable for oversoft fruit types (such as ripe raspberries)

Delivery

- Complete with 5 m cable
- Fixing materials and installation tools (wrench)

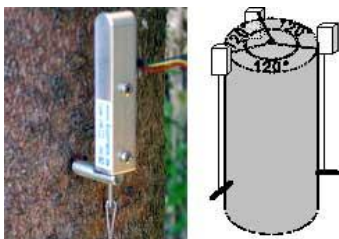
Options / Ordering Information

- Cable extension (please specify in meters)
- If necessary, different frame size
- Data Logger

Technical specifications

Name	Fruit and Vegetable Dendrometer (DF)
Suitable for fruit / vegetable size	Diameter 0 -11 cm (range on request reducible)
Range of the sensor	15 mm
Accuracy	$\pm 2 \mu\text{m} \pm 0.12\%$ (CR1000 data logger)
Resolution	0.3 – 3.6 μm (dependent on data logger used)
Linearity	2%
Thermal expansion coefficient of sensor	$<0.1 \mu\text{m/K}$
Operating conditions	Air temperature: -25 to 70 °C, air humidity: 0 to 100%

DV Vertical Dendrometer



The Vertical dendrometer is designed to determine vertical changes (not growth) of trees continuously. Tree stems and their respective sections vary in length and curvature, according to water status (short- to mid-term) wind direction and wind speed (short-term to permanent), snow and fruit load (mid-term to permanent), unbalanced growth or loss of crown parts (long-term to permanent). Vertical changes are a valuable information to assess water status and static characteristics, such as mechanical stress-strain relationships and mechanical stability of trees. In order to disentangle the different causes (water status, mechanical stress), parallel measurements with three vertical dendrometers, oriented in three different cardinal directions are necessary.

Advantages

- Assessment of mechanical stress-strain relationships
- Suitable for large trees (diameter >8 cm)
- Robust installation, resistant against wind, snow, falling branches and fruits

Limits

- Trunk is injured by drilling (the damage can be minimized by tree resin)

Delivery

- Complete with 5 m cable and 1 m wire cable

Options / Ordering Information

- Cable extension (please specify in meters)
- Installation tools (tree resin, hand drill)
- Data Logger

Technical specifications

Name	DV Vertical Dendrometer
Suitable for plant size	Diameter > 8 cm
Range of the sensor	11 mm
Accuracy	$\pm 1.5 \mu\text{m} \pm 0.12\%$ (CR1000 data logger)
Resolution	0.2 - 2.6 μm (dependent on data logger used)
Linearity	1%
Thermal expansion coefficient of sensor	$<0.1 \mu\text{m/K}$
Thermal expansion coefficient of the wire cable	$<1.4 \times 10^{-6}/\text{K}$
Operating conditions	Air temperature: -25 to 70 °C, air humidity: 0 to 100%