

Fruit Dendrometer

Type DF

Technical Specifications



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Model DF1

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| Name of the Sensor | Fruit Dendrometer Type DF1 (previously DF) |
| Use area | For measuring diameter growth of small sized or slow growing fruits and vegetables |
| Suitable for fruit size | Diameter: 0 -5 cm (frame sizes >5 cm on request) |
| Range of the sensor | 15 mm |
| Resolution | The resolution of the sensor itself is infinite. The resolution of readings is determined by connected data logger, e.g. CR1300: 0.013 μm Dendrometer logger DL18: 0.24 μm |
| Accuracy | Dendrometer dependent: Max. $\pm 3.3\%$ of reading (stable offset) Logger dependent, e.g.: CR300: $\pm (0.1\% \text{ of reading} + 0.36 \mu\text{m})$ Dendrometer logger DL18: $\pm (0.1\% \text{ of reading} + 0.6 \mu\text{m})$ |
| Temperature coefficient of the sensor | $<0.2 \mu\text{m}/^\circ\text{C}$ in the whole range |
| Linearity | $<2\%$ |
| Environment | Outdoor condition: -25 to 70°C air temperature, 0 to 100% relative air humidity |
| Weight of the sensor | 15 g without cable |
| Power supply | Stabilized Vex of 0.5 – 10 VDC, power consumption practically zero |
| Material | Stainless steel and Aluminium |
| Cable length | 5 m, extendable up to 100 m |



Model DF2



Model DF3

| Name of the Sensor | Diameter dendrometer large | |
|---------------------------------------|---|--|
| | Type DF2 | Type DF3 |
| Use area | small/medium sized and fast growing fruits and vegetables | large sized and fast growing fruits and vegetables |
| Suitable for fruit size | 0-13 cm (larger or smaller frame sizes on request) | 0-13 cm (larger or smaller frame sizes on request) |
| Range of the sensor | 25.4 mm | 50.8 mm |
| Resolution | The resolution of the sensor itself is infinite. The resolution of readings is determined by connected data logger, e.g. CR300: 0.025 μm Dendrometer logger DL18: 0.4 μm | |
| Accuracy | Dendrometer dependent: Max. $\pm 1.97\%$ of reading (stable offset) Data logger dependent, e.g.: CR300: $\pm(0.1\%$ of reading + 0.6 $\mu\text{m})$ DL18: $\pm(0.1\%$ of reading + 1 $\mu\text{m})$ | |
| Temperature coefficient of the sensor | < 0.2 $\mu\text{m} / ^\circ\text{C}$ in the whole range | |
| Linearity | < 0.7% | < 0.5% |
| Environment | Outdoor condition: -25 to 70°C air temperature, 0 to 100% relative air humidity | |
| Weight of the sensor | 26 g without cable | 37 g without cable |
| Power supply | Stabilized Vex of 0.5 – 10 VDC, power consumption practically zero | |
| Material | Stainless steel and Aluminium | |
| Cable length | 5 m, extendable up to 100 m | |



Model DF4

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| Name of the Sensor | Clamping fruit dendrometer Type DF4, fast mounting for toolless installation |
| Use area | For continuous measurements of diameter of fruit and vegetables |
| Suitable for fruit diameter (ball shaped) | 0-13 cm |
| Range of the sensor | 130 mm (full scale, FS) |
| Resolution | The resolution of the sensor itself is infinite. The resolution of readings is determined by connected data logger, e.g. CR300: 0.15 μm Dendrometer logger DL18: 2.5 μm |
| Accuracy | Dendrometer dependent: Max. $\pm 0.77\%$ of FS Dependent on the connected data logger, e.g.: CR300: $\pm (0.1\% \text{ of reading} + 3.5 \mu\text{m})$ Dendrometer logger DL18: $(0.1\% \text{ of reading} + 5.5 \mu\text{m})$ |
| Temperature coefficient of the Sensor | $< 2.5 \mu\text{m}/^\circ\text{C}$ in the whole range |
| Linearity | $< 1\%$ |
| Environment | Outdoor condition: -25 to 70°C air temperature, 0 to 100% relative air humidity |
| Weight of the sensor | 48 g without cable |
| Power supply and sensor output | Stabilized Vex of 0.5 – 10 VDC, power consumption practically zero. Calibrated sensor signal Vout range: 0 to $0.8666 \cdot \text{Vex (VDC)}$ at 130 mm FS |
| Material | Stainless steel and Aluminium |
| Cable length | 5 m, extendable up to 100 m |