

Frese T650 Smart Balancing

Description

Frese T650 Smart Balancing provides accurate digital pressure measurement with built-in digital compensation for temperature variations and non-linearity in readings.

It is specifically designed for hydronic balancing in heating and cooling systems.

Frese T650 can measure static pressure, differential pressure and flow within these systems and further supports flow correction to account for antifreeze mixtures used in cooling systems.

Frese T650 calculates flow rates in system branches by measuring the differential pressure across the balancing elements.

Measurements can be taken in all branches of the hydronic system, allowing for comprehensive system balancing



Operation

The app displays real-time pressure and flow values at the measuring point. It also allows for flow correction when using antifreeze mixtures in cooling systems.

Frese T650 is operated through a mobile application compatible with both Android and iOS devices.

The app provides real-time readings of pressure and flow at the measuring point.

Data recorded via the app can be stored or exported via mail in xml, csv or xls file format.

Service and Calibration

The Frese T650 Smart Balancing unit should be serviced and calibrated every 24 months to ensure valid operation during use.

Features

- Precise pressure measurement
- Separated measuring unit
- True differential pressure sensor
- 24-bit AD conversion
- Digital compensation for temperature effects and measurement non-linearity
- Precise zeroing of differential pressure measurement via mechanical bypass
- Measurement of relative (static) and differential pressure in systems
- User-friendly application for mobile devices with Android or iOS
- Transfer of measurement data to the mobile application via Bluetooth Low Energy
- Optional correction for calculating the flow rate of antifreeze liquids
- Database of Frese valves
- Easy selection of valves using visual identification
- Project-based workflow support
- Autonomous recording of measured values, with a capacity of up to 2,000 records

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Technical data

Pressure Sensor:	Piezoresistive true differential pressure sensor
Full Scale Range:	1 MPa
Allowed pressure:	120 % of Full Scale
Pressure Inlets:	Nipples for quick couplers R21
Zeroing Time:	Max. 10 seconds when media temperature exceeds 50 °C
Protection Class:	IP65 (Cover)
Ambient. Temp:	-5 °C to 50 °C
Storage Temp:	+5 °C to 50 °C
Media Temp:	0 °C to 90 °C (Water), -20 °C to 90 °C (Antifreeze), measured at the end of 1.5 m hoses
Dimensions:	140 x 74 x 47 mm (W x L x D)
Weight:	440 g

Measurement deviation

Non-linearity, Hysteresis & Repeatability Error:	0.15 % of Full Scale
Zeroing Error:	± 50 Pa (under 5 kPa) (Full Scale 1 MPa)
Temperature Error:	0.25 % of Full Scale (In the operating temperature range)
Pressure Measurement Zeroing:	Manual zeroing with mechanical bypass of the pressure sensor

Range

Data & Connectivity

Data Transfer:	Bluetooth® Low Energy 5.0 (Wireless)
Radiated Power:	Max. +6 dBm (4 mW)
Capacity:	Measurement Recording Up to 2,000 records

Battery Capacity

Power Supply:	2× AAA alkaline or NiMH rechargeable batteries (Eneloop AAA HR-4UTGB or BK-4HCC recommended)
Supply Current:	Max. 25 mA
Operating Time:	Up to 45 hours

Product programme

Frese product code: 48-0049

Contents

The Frese T650 is delivered in a protective case for ease of transport.

- Handheld terminal with precision differential pressure sensor
- Suitcase WAG T650
- Set of hoses (red and blue)
- Set of needles
- Adapter - 2 pcs
- Strap
- Batteries AAA 1,5V - 2 pcs.
- User Guide Frese T650 Smart Balancing
- Calibration protocol
- Set of filters



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