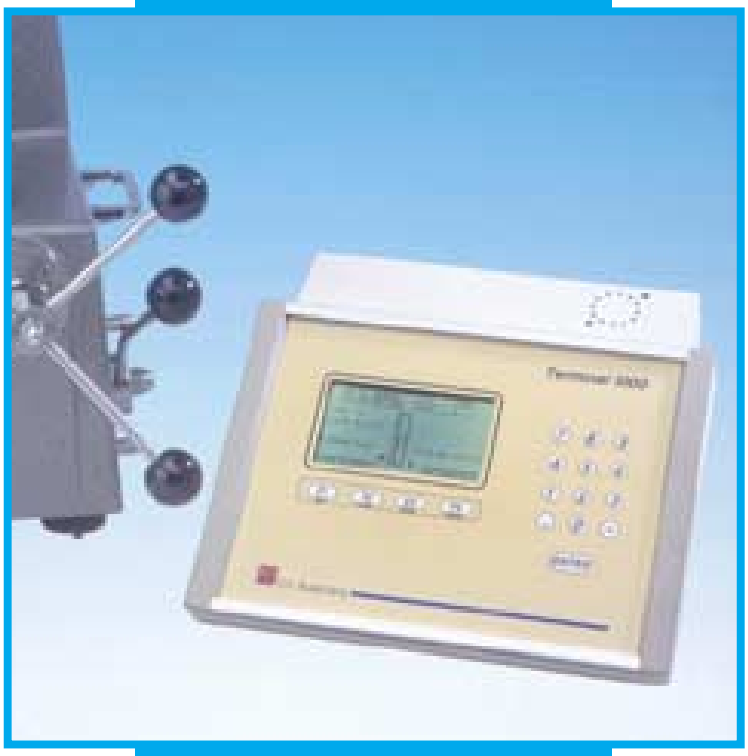
METROLOGY RANGE



TERMINAL 5000

Interface Terminal for Type 5000 Pressure Balances

The Terminal 5000 has been specifically designed to give the user a simple access to the metrological excellence achievable by the type 5000 pressure balances and to improve their ease of operation.
It determines the value of the masses to be loaded to reach the desired pressure, and makes an accurate calculation of the generated pressure according to the loaded masses, respecting the fundamental pressure equation.
It permanently displays the piston position and monitors the environmental parameters.

- Local calculation of the corrected pressure
- Automatic compensation of the environmental influence
- Pressure mode or mass mode operation
- 13 pressure units including a user unit
- Ability to support 2 pressure balances for easy cross-flotations
- Adaptability to any D&H type 5000 pressure balance

DH·Budenberg

ENVIRONMENTAL INFLUENCE CORRECTION

The Terminal 5000 integrates an Environment Monitoring Module™ (ambient temperature, atmospheric pressure, relative humidity) which compensates in real time the air buoyancy effects on the standard's masses.
The Piston Cylinder Assembly Monitoring Module makes it possible to detect precisely the piston position of the type 5000 pressure balance as well as any variation of its effective area under thermal influence.

EASE OF PRESSURE CALCULATION

The Terminal 5000 converts masses into pressure and pressure into masses using the pressure calculation fundamental equation, taking into account the external conditions.
In pressure mode, the Terminal 5000 displays the value of the masses to be loaded according to the desired pressure. In mass mode, it precisely calculates the generated pressure according to the true or nominal masses the user has loaded.

ABSOLUTE PRESSURE MEASUREMENT

The Terminal 5000 is equipped with a special connection port aimed at interfacing a digital quartz crystal barometer. The barometer automatically adds the atmospheric pressure to the Terminal 5000-calculated gauge pressure.
The user obtains a continuous pressure measurement, with an additional error typically below 5 Pa, which is negligible for most common applications.

USER FRIENDLINESS

The Terminal 5000 user interface comprises a large graphic screen for the display of the piston position in real time with zooming capability, the variable parameters, the calculated pressure and mass value.
Function keys give easy access to the different menus and enable the user to customize the Terminal.
Passwords protect sensitive information to meet Quality Assurance requirements.

PRESSURE BALANCE CROSS-FLOTATION

The Terminal 5000 is equipped as standard with 2 pressure balance connections for supporting 2 DH·Budenberg type 5000 pressure balances hence allowing the cross-flotation of one against the other.

Cross-flotation capabilities can be extended to any make of dead-weight testers using the Terminal 5000 “Option 01”.
Option 01 consists of an L-shaped adjustable bracket with an optical sensor to measure the piston cylinder displacement, and a temperature probe to be placed as close as possible to the piston cylinder to measure its temperature.

TECHNICAL SPECIFICATIONS:

Bracket:
- Adjustable height: 5 to 61 cm

Temperature probe:
- 4 wire platinum resistance temperature sensor
- A class DIN 43760

Optical sensor:
- Fiber optic control
- Conforms to DIN 4403
- Accuracy: 0.2 mm
- Sensing distance: 8 to 40 mm
- Reaction time < 1 ms

TECHNICAL SPECIFICATIONS

EMM™ & PMM™

Sensors	Type	Accuracy	Operating temperature
Ambient temperature:	B DIN 4-wire PT100	± 0.2°C	- 50°C to 220°C
Relative humidity:	Capacitive sensor	± 5%	- 40°C to 85°C
Atmospheric pressure:	Strain gauge	± 5 mbar	- 10°C to 80°C
PCA temperature:	A DIN 43760 4-wire PT100	± 0.1°C	- 50°C to 220°C
PCA position:	Inductive sensors	± 0.01 mm	

PISTON CYLINDER ASSEMBLY

- Storage of metrological details of 5 piston-cylinder assemblies
- Display of the piston position in mm
- Zooming on the piston position up to 0.1 mm resolution
- Display of the piston displacement trend
- Display of the piston sink rate in mm/mn
- Piston position sensor internal calibration
- Piston-cylinder assembly temperature probe calibration
- Storage of the head correction between the reference and the test instrument
- User-selectable piston equilibrium position

MASSES

- Storage of metrological details of 3 mass sets
- Storage of the individual detail of each mass set
- Nominal or true masses operation
- User-selectable working resolution on the mass set

PHYSICAL SPECIFICATIONS

Dimensions (L x W x H)	30 x 28 x 10 cm	Operating temperature	10 to 30°C
Weight	2 kg	Humidity range	15 to 85% HR
Computer interface	RS232C and/or IEEE 488	Power supply	100 - 240 VAC, 50-60 Hz
Barometer interface	RS232C	Power consumption	15 VA

For further information, please refer to our technical documentation n°98201 GB

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