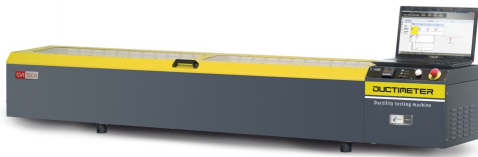


DATA SHEET

High Performance Ductilometer for Force Ductility Test - Ductimeter



Ductility testing machine DUCTIMETER - High performance model 81-PV10B02

General description

The ductility test is performed for determining the ductility of bituminous materials by measuring the elongation before breaking when two ends of briquette specimens are pulled apart at a specified speed and temperature.

Water bath

Insulated stainless steel water bath with a heating system located over the entire base surface and a stainless steel cooling coil (for connection to water mains or chiller) distributed over the three side walls assuring temperature uniformity without water turbulence inside the bath. All parts in contact with water are made of stainless steel.

Carriage displacement

Double-screw rods and mobile carriage enable test speeds from 5 to 100 mm/min. The system also permits the fast return of the carriage at the end of the test (500 mm/min) to reduce dead time and increase productivity. The carriage return is automatic, manual intervention is not required.

Temperature control

- A closed-loop PID system assures constant temperature from 4 to 30°C, with a water chiller (see accessories)
- Stainless steel cooling coil
- Plate-type base heaters give better temperature uniformity
- The thermoregulation system is based on control of the heater (which increases the temperature of the bath) and the control of the flow rate of the cooling coil by an electro-valve. This important feature assures control of the temperature within strict limits and permits the use of suitable standard water chillers.

Load and elongation measurement

Automatic measurement of the elongation by an encoder and of the test load of the four testing lines with load cells (not included).

Testing software

- Selection of test parameters (speed, temperature etc.) by PC. The test temperature, however, can be set in advance using the control panel of the machine.
- Test control by PC: Start-Stop-Carriage return
- Specimen failure recognition
- Real-time display of load/elongation graph with advanced visualization options (single or multi-graph)

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- Data acquisition and processing conforming to Standards
- Function for multiple test data comparison
- Storage of test data

Machine control

By PC (not included)

Water cooling

This model is proposed without a chiller for use with a suitable cooling system that could be available in the laboratory. It is important, however, that this unit is capable of delivering a flow rate of 6 litres/min, 1 bar, at the minimum temperature of 2°C.

See-through cover

Essential for better temperature control of the bath.

Main features

- 4 tension line (briquette capacity) x 1500 mm
- Easy and free access to the large testing space
- Double drive screw rod
- Closed-loop PID temperature control system
- Stainless steel insulated water bath
- Exclusive in-built thermoregulation system compensating the control, optimized by the connection to chiller (optional)
- High carriage return speed 500 mm/min for greater productivity
- Adjustable speed range from 5 to 100 mm/min
- PC-controlled using dedicated software
- Includes a system for measuring forces up to 1200N with load cells (up to 300N per line if 4 load cells are used).
- Temperature range from 4 to 30°C
- Elongation measurement system by encoder
- Real-time load and displacement graphics via PC

Standards

- ASTM D113
- EN 13398
- AASHTO T51
- ASTM D6084
- AASHTO T300
- EN 13589
- EN 13703

Specifications

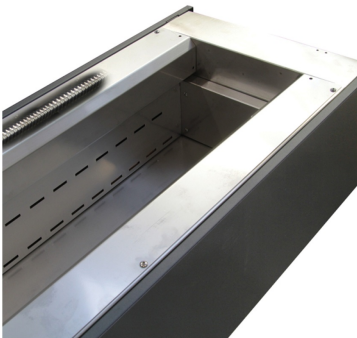
| | |
|-----------------------|--|
| Models | 81-PV10B02 81-PV10B04 |
| Conforms to Standards | EN 13398 EN 13589 EN 13703 ASTM D113 ASTM D6084 AASHTO T51 AASHTO T300 |

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| | |
|--|---|
| Machine control by | PC with dedicated software (PC not included) |
| Thermostatically controlled water bath temperature | from 4 to 30°C with water chiller |
| Temperature control system | Heater and cooling coil for connection to cold water or water chiller |
| Structure | Stainless steel tank |
| Briquettes capacity | 4 |
| Max carriage travel | 1500 mm |
| Testing speed | Adjustable from 5 to 100 mm/min |
| Elongation measurement by | Encoder (optical system) |
| Max. load and tension load measurement | 1200 N to by load cells (each load cell has 500N capacity) |
| Tension load/elongation graph | Real-time graphs by PC |
| Carriage return speed | 500 mm/min |
| Power rating (approx.) | 1200 W |
| Transparent cover | Included |
| Overall dimensions | (l x d x h) 2434 x 412 x 385 mm |
| Weight approx. | 100 kg |

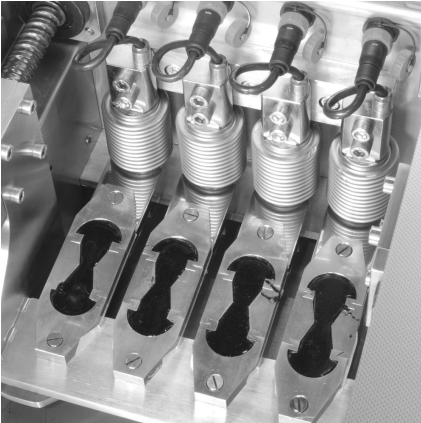


Software for ductility test



Ductility machine tank

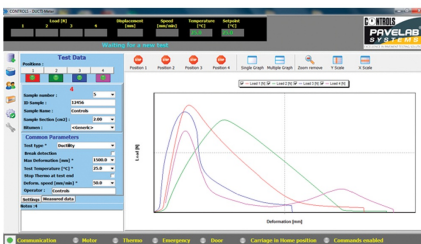
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Briquettes

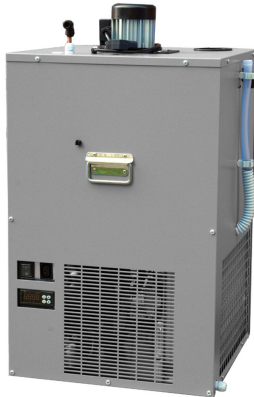


Briquettes moulds



Software screenshot

DATA SHEET



Water chiller 81-PV1002

Products

81-PV10B02

DUCTIMETER, High Performance Ductility machine, 4 briquettes capacity, 1500 mm carriage travel. 230V/50-60/Hz/1ph

81-PV10B04

DUCTIMETER, High Performance Ductility machine, 4 briquettes capacity, 1500 mm carriage travel. 110V/60/Hz/1ph

Accessories and consumables

81-B0141

Ductility mould to EN 13398

81-B0141/A

Briquette mould conforming to ASTM D6084 and AASHTO T300

81-B0141/B

Briquette mould conforming to ASTM D113 and AASHTO T51

81-B0141/E

Briquette mould conforming to EN 13589

81-B0142

Ductility mould plate

81-PV10010

Support base for ductility machines

81-PV1002

Water chiller, flow rate 6 l/min at 1 bar, 2°C min. temperature. 1200 W cooling capacity. 230V/50-60Hz/1ph

81-PV1004

Water chiller, flow rate 6 l/min at 1 bar, 2°C min. temperature. 1200 W cooling capacity. 110V/60Hz/1ph

81-PV10020

High precision strain gauge load cell 0-500 N cap.