

HITEC

LUXEMBOURG



TEST EQUIPMENT TO DETERMINE THE MASS STRENGTH OF PELLETED CARBON BLACK AS PER ASTM D1937

The test method ASTM D1937 "... is designed to determine the force required to pack a cylindrical column with pelleted carbon black. The results of this test are believed to relate to the ability of the carbon black to flow in bulk handling systems." ... "Mass strength gives an indication of the flowability in bulk handling. It is affected by pellet properties such as hardness, size, shape, and especially fines content."*

* Excerpts from chapter 1 resp. 4, of ASTM D1937-13

- Motor controlled accurate load application
- Linear carriage with load cell, stepper motor driven up to 30 mm/s and with position reading
- Programmable controller with 5.7" display, 640x480 px
- 4 robust push buttons for "dirty" operations
- Anodized aluminum frame and fully dust proof stainless steel electronic cabinet
- Software guided measurement sequence according to ASTM D1937
- Software guided load cell calibration
- Compact table model – small footprint
- AC mains supply only (no compressed air)

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KEY FEATURES

State-of-the-art design

Force measure by load cell

Motorized plunger with position

Feedback of sample height

Single supply: wide range mains 90-240 VAC

Table model: 610 x 440 x 900 mm (W x D x H)

PMST AT A GLANCE

The PMST by HITEC Luxembourg is a small press with up to 500 N compression force. It is equipped with a load cell to hold a compression plunger. The plunger and load cell holder are mounted on a motor driven carriage with a travel range of 255 mm. The plunger immerses into a compression cylinder, which bottom has a removal slide door. The design allows compressing a powder under controlled conditions and to observe its flowability after such a compacting.



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FORCE MEASURING SPECIFICS

Force reading range 500 N
 Force reading resolution 0.1 N
 Force reading accuracy 0.2% of actual value + 1 N absolute

TRAVEL DRIVE & MEASURING SPECIFICS

Position relative to slide door (position 0 mm)
 Position reading resolution 0.1 mm
 Position reading accuracy ± 0.8 mm
 Travel range 255 mm

SAMPLE CYLINDER / PISTON ASSEMBLY

ASTM D 1937 compliant compression chamber
 Material Stainless steel
 Cylinder diameter 52.39 mm
 Cylinder height 95.25 mm (3 ¾")
 Plunge diameter 50.8 mm (2")
 Other cylinder / piston dimensions are possible

CALIBRATION

Software supported load cell calibration by means of certified masses (optional)
 Automatic zeroing of force reading before each test
 Automatic zero thickness position at power up of tester

DIMENSIONS & SUPPLY

⚡ Power supply 90-240 VAC, 50/60 Hz, 300 VA
 📏 Table model 61 x 44 x 90 cm (W x D x H)
 ⚖️ Weight 67 kg (plus 3 each calibration weights of 10 kg)

SOFTWARE

Standalone measuring application
 Menu guided on built-in display
 Software assisted measurement sequence according to ASTM D1937

- Display of list of the different load steps with result OK respectively NOK
- Memorizes history of up to 50 tests with date & time and list of load steps

Software assisted load cell calibration by means of standard weights:

- Gain calculation and linearity verification
- Memorizes history of up to 50 calibrations

Settings menu for various parameters



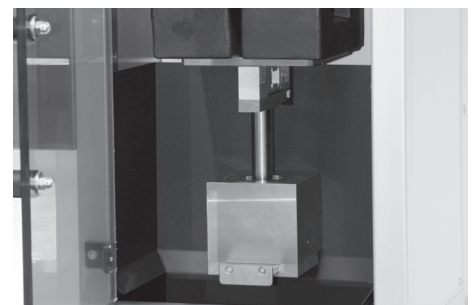
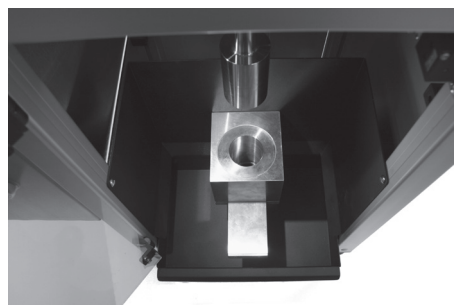
PMST by HITEC Luxembourg



Actual: Position 255.0 mm Load -0.0 N

Target load : 100 N ↑ ↓ to change by 2 N
 Load speed : 5 mm/s
 Hold time : 10 second

Status:
 Initialized
 Door closed
 Container OK



C Luxembourg

1.0 mm Load -0.2 N

screen:

| nr | HRV | Minuts | Gain | R ² | Status |
|----|-----|--------|--------|----------------|---------|
| 01 | 15 | 47 | 0.9983 | 1.0000 | Ok |
| 02 | 15 | 36 | 1 | - | Default |
| 03 | 15 | 36 | 1 | - | Default |

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