

MACKLOW SMITH

MST R33

PLASTOMETER

Uses

The Macklow Smith Plastometer has been designed as a laboratory-scale extrusion plant. It enables the behaviour of polymers to be studied under a wide range of operating conditions. The viscous properties of the material to be extruded will depend principally upon its formulation and conditioning. The main factors affecting the quality of the finished product are temperature, pressure, extrusion rate and die geometry. The Plastometer provides a means of verifying each of them in a controlled manner while the appearance of the extruded material is being observed. These results can also be recorded if that option is required. The Plastometer therefore serves as a quality control instrument as well as a means of optimising processing conditions.

Operation

The extrusion chamber comprises of a cylinder, a piston and a die. There are dies available with various sizes of orifices to suit most applications. The sample to be tested is placed in a cylinder, a piston and the cylinder are then placed in pockets of the soaking oven to bring them up to the required test temperature. When they have been conditioned the cylinder is placed in the working oven and the piston loaded in the holder. Pressing the start button brings the piston down until it just bears upon the sample and automatically slows to the pre-set test speed, after the extrusion is completed the piston is then driven back at full speed to the start position ready for the next test. The pressure is observed by the digital display and can be set to show and hold the peak force during the test. The quality of the extrusion is also examined.

Simple to Install

They are supplied for bench mounting, with a standard electrical supply of 230V 1ph 50hz and may be plugged into most wall sockets.

Accuracy

Each machine comes with a works calibration certificate for the readout from the load cell/display to within $\pm 0.05\%$ of rated full scale. The customer approved pre-set test speed to within 0.5mm/minute.

Options

Various size dies.
 Extra cylinders/pistons cleaning and removal tools.
 Speed indicator.
 Software for recording and downloading onto a PC.
 Macklow Smith software/report generator.

SPECIFICATION



Model	MST R33
Electrical Supply	230V 1PH 50HZ Others available on request
Capacity:	
Force Range	Up to 450 kg/cm ²
Cylinder	3.226cm ² (0.5"²)
Temperature	Up to 250°C
Drive speed	Up to 130mm/min
Test speed	1 pre-set
Overload Trip	Set at 110% FS
Load Cell:	
Accuracy	$\pm 0.05\%$ full scale
Safe overload	125% FS
Digital Display:	
Peak Hold feature	standard
Display	6 digits, 18mm LCD
Update speed	30ips
Protection	IP65
Membrane	Polyester, tactile action
Machine Dimensions:	
H x W x D	1150 x 954 x 530mm
Weight	230kgs

In the interest of product development we reserve the right to alter specifications without prior notice.