Product Specifications

PRISM TSE 16 PC

Bench-top twin-screw extruders and ancillaries

Small-scale continuous processing for research, development, colour matching and quality control in the powder coatings industry. The PRISM TSE 16 Powder Coatings (PC) twin-screw extruders are bench-top units pre-wired with a manual control panel. The open-barrel design promotes simple screw removal and easy, efficient cleaning.

Applications:
- **Powder coatings**
- **Thermosets**
- **Resin development**

Materials:
- **Epoxy resins**
- **Polyester resins**
- **Polyurethane resins**
- **Hybrid formulations**

TSE 16 PC Twin-screw Extruders

The PRISM TSE 16 PC extruders are designed for bench-top operation. The horizontally-split barrels are quick to open, giving easy access to screws and process contact surfaces for cleaning or configuration changes.

The barrel has additional ports for feeding solids and liquids, or for venting.

A simple, manual control panel houses controls and instruments to operate the extruder and feeders. A plc-controlled version with touch screen operator interface is available for special testing needs.

Low maintenance, brushless variable speed AC motors drive the screws at 500 rpm. Available in different barrel lengths of 14:1 and 24:1, the PRISM TSE 16 PC can be used for research, development or small-scale production.

Thermo Electron Corporation is a leading supplier of equipment and instruments to the Polymer, Powder Coatings, and Chemical industry, worldwide.

Thermo Electron (Stone) UK has a fully equipped Technology Centre for customer trials on PRISM equipment, and with world-wide representation, Thermo Electron Corporation supports customers globally.

PRISM TSE 16 PC

Ancillary equipment
Thermo Electron offers a range of ancillary equipment to integrate with the PRISM TSE 16 PC twin-screw extruder, including pre-mixers, and chill rolls. Thermo has the ability and experience to design other non-standard ancillaries for special applications.

Metering feeders
Volumetric vibrating tray feeders or screw feeders can be integrated into the control system, and gravimetric feeders can be fitted.

Change-bowl mixers
A range of change-bowl high-speed mixers from 3 to 15 liter is available to pre-blend materials.

Specifications		Option 1	Option 2
Barrel length	L/D	14:1	24:1
Barrel bore diameter	mm	16	16
Screw diameter	mm	15.6	15.6
Channel depth	mm	3.3	3.3
Centre-line spacing	mm	12.5	12.5
Centre-line to radius ratio		1.56	1.56
Maximum screw speed	rpm	500	500
Motor power at maximum speed	kW	1.25	1.25
Barrel zones		3	4
Heater rating	W	7 x 300	15 x 300
Extruder dimensions			
L x W x H	m	0.7 x 0.4 x 0.9	0.9 x 0.4 x 0.9
Scale-up data			
Internal free volume	cm^3	41	68
Typical output	kg/h	0.2 to 5	0.5 to 10
Services			
Electrical power	Volt/ph/Amp	220V/1ph/20A	220V/1ph/32A
Extruder and chill roll cooling water 20°C	Liter/min	15	15

Thermo Electron Corporation

Material Characterization

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