

Small-scale continuous processing for research, development and production in the pharmaceutical industry.

The PRISM PHARMALAB compounder has PLC control with data logging and recipe storage ensuring reliable and repeatable results. Products can be related back to processing conditions. The stainless steel compounders are built to GMP standards with a focus on a clean, streamlined GMP design.

PRISM PHARMALAB

Pharmaceutical twin-screw extruders and ancillaries for continuous processing



Applications:

- Melt granulation
- Biomedical compounds
- Water sensitive products
- Medical adhesives

Materials:

- Medical polymers
- Drug delivery systems
- Soft gels

Comprehensive Range of Capabilities

Available in 16 mm and 24 mm sizes, the PRISM PHARMALAB series can be used for research, development or production of pharmaceutical formulations. Additionally, a full range of ancillary equipment is available for product mixing, and post-extrusion processing.

Designed for Pharmaceutical Needs

The horizontally split barrels (up to 40:1 L/D) have a crevice-free, GMP design. Quick release clamps give easy access to screws and process contact surfaces for cleaning or configuration changes. The barrel is modular, with segments available for feeding solids and liquids, or for venting. The variable speed AC motors are brushless and therefore low maintenance.

The touch-screen display is easy to use and easy to clean. The PLC incorporates data acquisition with an option to download to a remote computer for archiving and analysis. The controls include recipe storage of preset extruder parameters for repeatable process conditions.

Supporting Our Customers

Thermo Electron (Stone) UK has a fully equipped Technology Centre for customer trials on PRISM equipment. This service ensures you will get the performance you need before you make an investment. With a worldwide services network supporting the pharmaceutical industry, your investment will be protected.

PRISM PHARMALAB

Ancillary equipment

Thermo offers a full range of ancillary equipment to integrate with PRISM PHARMALAB twin-screw extruders, including pre-mixers, chill rolls, strand pelletising lines, an air-cooled face-cut system, and cast sheet or blown film lines. Thermo has the ability and experience to design other non-standard ancillaries for special applications.



Change-bowl mixers

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

Metering Feeders

Volumetric and gravimetric feeders can be fitted and integrated into the control system.

Chill Roll Flaker units

Extruded melt can be cooled and flaked on a GMP standard PRISM Pharma CRF Chill Roll Faker unit.

Face-cut Pelletising

For water-sensitive products or highly filled compounds, an air-cooled face-cut pelletiser, the PRISM Pharma Series FCP, is available complete with blower and collecting cyclone.

Strand Pelletising Options

Product extruded from the PRISM PHARMALAB compounder can be converted using a traditional strand pelletiser with water, or air-cooling. The PRISM Pharma Series VARICUT pelletisers allow pellet length to be controlled between 1 and 3 mm.

Specifications		PHARMALAB 16		PHARMALAB 24	
Barrel Length	L/D	25:1	40:1	28:1	40:1
Barrel Bore Diameter	mm	16	16	24	24
Screw Diameter	mm	15,6	15,6	23,6	23,6
Channel Depth	mm	3,3	3,3	5,15	5,15
Centre-line Spacing	mm	12,5	12,5	18,75	18,75
Centre-line to Radius ratio		1,56	1,56	1,56	1,56
Maximum Screw speed	rpm	500	500	500	500
Motor Power at Maximum Speed	kW	1,25	1,25	4	4
Torque per shaft	Nm	12	12	38	38
Torque/ (C-line) ³	Nm/cm ³	6,1	6,1	5,8	5,8
Extruder Dimensions					
L x W x H	m	1.5x0.7x1.5	1.5x0.7x1.5	2.0x0.7x1.5	2.0x0.7x1.5
Scale-up data					
Internal Free Volume	cm ³	68	109	255	365
Peripheral Surface Area	cm ²	316	505	796	1138
Surface Area per Unit Free Volume	m ² /l	0,47	0,47	0,31	0,31
Typical output	kg/h	0.5 to 5	0.5 to 5	2 to 20	2 to 20
Services					
Electrical power	Volt/ph/Amp	220V/1ph/20A	220V/1ph/25A	400V/3ph+N/40A	400V/3ph+N/40A
Cooling Water 20 deg C	Litres/min	5	5	20	20

Thermo Electron Corporation

Material Characterization Business

International/Germany

Thermo Electron (Karlsruhe) GmbH
Dieselstr. 4
76227 Karlsruhe
Tel. +49 (0) 721 4 09 44 44
info.mc.de@thermo.com

Benelux

Thermo Electron B.V.
Takkebijsters 1
4817 BL Breda
Tel. +31 (0) 76 5 87 98 88
info.mc.nl@thermo.com

China

Thermo Electron
23/F Peregrine Plaza
1325 Huai Hai Rd, Shanghai 200031
Tel. +86 (21) 54 65 75 88
info.china@thermo.com

France

Thermo Electron S.A.
16 Avenue du Quebec - Silic 765
91963 Courtaboeuf Cedex
Tel. +33 (0) 1 60 92 48 00
info.mc.fr@thermo.com

United Kingdom

Thermo Electron
Emerald Way, Stone
Staffordshire ST15 0SR
Tel. +44 (0) 1785 81 36 48
info.mc.uk@thermo.com

USA

Thermo Electron
25 Nimble Hill Rd.
Newington, NH 03801
Tel. 603 436 9444
info.mc.us@thermo.com