

Scientific

Single Screw Laboratory Extruders

and downstream equipment

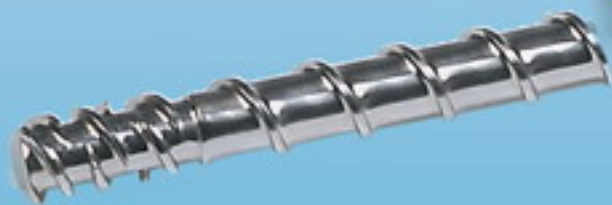
Please see separate catalogue for full range of laboratory twin screw extruders

20 mm, 30 L/D tabletop model

25 mm, 30 L/D floor models, vented and non vented versions

30 mm, 30 L/D floor models, vented and non vented versions

Build your own screw with our new optional modular screw elements



Cut open flights at screw tip for optimum mixing efficiency

30 L/D vented screw with Maddock mixing section



Maddock mixing and shearing section before vent

Double flights after vent for optimum feeding of polymer



- Screw and barrel in high-grade nitride steel, screw diameter 20, 25 and 30 mm, all with L/D ratios of 30.
- Several standard screw configurations. The 25 and 30 mm extruders can be supplied with a plain screw used for QC and general polymer processing where extra mixing is not required. Or, they can be equipped with a high mixing screw incorporating a Maddock mixing section, as well as pineapple mixing at screw tip. Optionally, these extruder sizes can be supplied in vented versions with screw design as pictured on proceeding page.

The 20 mm, 30 L/D, table top extruder is only available with plain screw.

- Large over sized AC motor drive, coupled directly to a in line heavy-duty helical gear box for minimum loss factor and maximum life time. The gearbox is flange-connected to an individual housing containing the oversized trust and position bearings for the screw drive.
- Programmable frequency inverter for infinite variable screw speed control and high torque even at low speeds. Digital readout of the screw RPM and motor power in percent of full load from instruments mounted on the control panel.



The 25 and 30-mm extruders have four heating zones and the 20-mm has three zones on the barrel, all with air-cooling. Each zone is equipped with high efficient air-cooling where copper sheets are mounted below the band heaters, ending up in a multitude of fins. These fins catches the cold air and conduct it directly to the barrel. The sirocco types of cooling fans are all mounted in the extruder sub cabinet and connected to each zone with hoses. The large wattage on the band heaters coupled with the efficient cooling system ensures very fast heating and cooling of each zone.

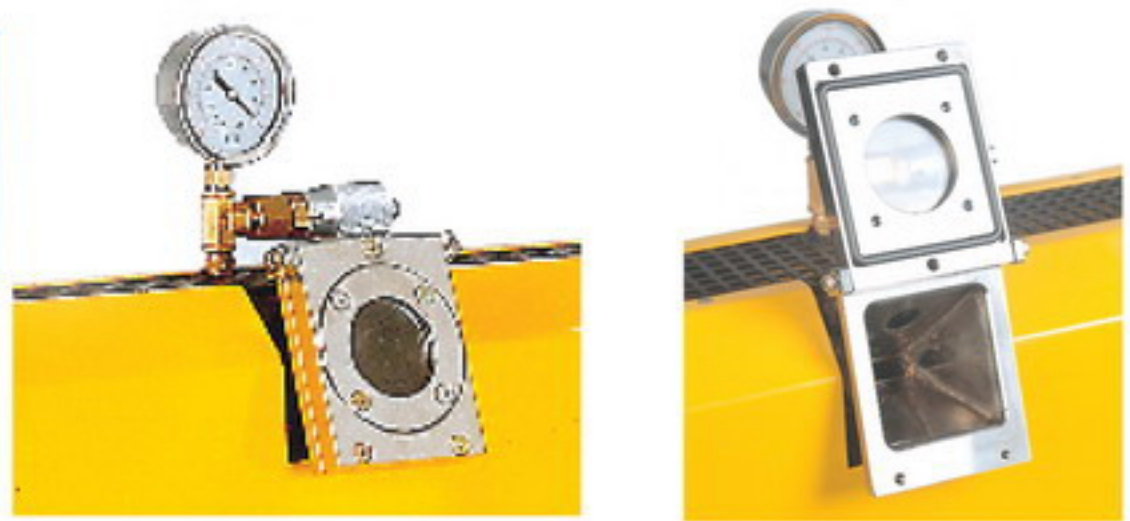
- Digital programmable set and readout temperature controllers for all zones coupled to solid-state relays for accurate heat control. The controllers are self-tuning and equipped with programmed auto compensation, ensuring a precise temperature over the entire working range of 0 to 300°C.
- Extruders supplied with downstream water bath and pelletizer are equipped with Chromed Strand Die head with one, two respectively four strands for 20, 25 and 30 mm extruders. The die is complete with electric band heater and digital programmable, and self-tuning controller. Streamlined die channels are designed for shortest possible changeover of colours, or compound with minimum contamination.



Extruder head with chromed C-Clamp, equipped with two isolated handles and a single clamping screw for easy operation. A breaker plate with slot for inserting of screens is situated at the barrel flange and can be easily accessed when the flange is opened.

- The 25 and 30-mm extruders have all electric components built into the sub-cabinet with swing open doors. For the 20-mm table top version the components are built in below and behind the extruder barrel.
- The 25 and 30-mm, extruders have a convenient swing away control cabinet containing all temperature controllers and extruder drive instruments. On the table top extruder, the control panel is mounted on the extruder body.
- Modern designed extruder body where all components are fully enclosed. A steel cover over the entire extruder barrel has grids on top for evacuation of hot air. The polished stainless steel hopper can be turned sideways for easy emptying of remaining load. The hopper is also equipped with a shut off valve.
- Extruder body for the 25 and 30-mm, versions are resting on four heavy-duty lockable casters, as well as four legs adjustable in height.

The vented extruders are equipped with a large all stainless steel vent opening. The front door to the vent is equipped with a large glass window. The door can be swung opened to enable easy cleaning of the vent area.



These extruders are also equipped with a built in high capacity vane-type vacuum pump. Including large inlet filters, as well as a vacuum dial gauge and release valve mounted on the top of the extruder barrel behind the vent opening.

Single Screw Extruder Data

Extruder type		LE20-30	LE25-30	LE30-30
Types Standard Screw	Straight compression	Ratio 1 : 3	Ratio 1 : 3	Ratio 1 : 3
	Non vented version		Maddock at 20 D + pineapple at screw tip	Maddock at 20 D + pineapple at screw tip
	Vented version		Maddock at 15 D + split flange at screw tip	Maddock at 15 D + split flange at screw tip
Version		Tabletop with optional sub-cabinet	Floor type	Floor type
Screw Diameter	mm	20	25	30
Screw L/D ratio		30	30	30
Motor power	kW	1,5	4	7,5
Screw speed range	RPM	0-150	0-300	0-250
Number of heater zones on barrel		3	4	4
Additional temperature controller (More on request)		1	1	1
Air cooling on all barrel zones		YES	YES	YES
Heater power	Watt	1,970	4,000	8,400
Approx. max output with LD-PE, Kg/Hour		6	15	25
Dimensions:		95x62x75	170x73x167	190x61x167

BUILT WITH FULL SAFETY IN CONFORMITY TO CE AND ALL OTHER WORLD SAFETY STANDARDS.