

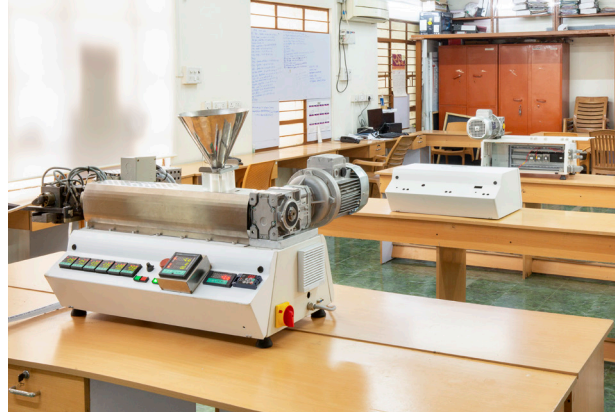


EASY·LINE

Press
Extruder
Compounder
Blown Film Line

Flat Film Line
Roll Mill
Filter Pressure Value

EASY LINE



NGA Plastic Technology PVT LTD was founded by the NGA GROUP with headquarters in Austria in cooperation with Techscience Services PVT LTD with headquarters in Chennai.

Other companies in the NGA Group are COLLIN Lab & Pilot Solutions (Germany), BritAS Recycling-Anlagen (Germany), COMELT Collin Melt Solutions (Austria), NGA Plastic Technology Inc. (USA) and NGA Plastic Technology (Singapore).

NGA Plastic Technology PVT LTD is now an affiliated company of COLLIN Lab & Pilot Solutions. COLLIN has already been working very successfully with Techscience, who has also technical know-how and experience, for more than 30 years.

Main goal of the new company is to supply new growing markets with easy to handle lab scale testing and R&D lines - based on proven COLLIN technology, manufactured in India under the Brand "COLLIN Asia". The first series of machinery is introduced under the subbrand EASY LINE.

India is a large future market - especially for masterbatch, compounding and blown and cast film production. In addition, we can perfectly serve the markets of South East Asia and Africa from this branch.

EASY LINE table-top machines are designed for the processing of polymers, for training, research and development.

EASY to handle – Different use

- ▶ Perfect for the simulation of different discontinuous and continuous processes of plastics processing
- ▶ Ideal for quality control
- ▶ Easy to test samples

Plug & Play – Quick & EASY

- ▶ EASY LINE machines are all adapted to each other
- ▶ Screening of materials requires less efforts & material
- ▶ Retrofitting or extension can be realized quickly
- ▶ Quick starting processes

EASY LINE – Stand alone machines or complete line solutions

Stand alone machines or installation of complete processing lines for the production of pellets, blown film, flat film, sheets or strands.

Press

P 200

The heating or cooling EASY LINE press is used to produce test plates for the plastics, rubber or ceramic industries under reproducible temperature and pressure conditions. The single-stage hydraulic press with double-acting hydraulic cylinder covers an enormous range of pressure.

Applications

- ▶ Producing test plates
- ▶ Laminating of different materials
- ▶ Pressing of thick plates with adequate tools

Features

- ▶ The optional available cassette cooling system allows extremely short cooling times and process cycles with low energy consumption.

Advantages

- ▶ Table-top machine, ergonomic design
- ▶ Wide range of pressures
- ▶ Optimum handling in the press room due to the design



Extruder

E 16, E 20

The EASY LINE single-screw extruder is the standard unit for the continuous plastification of polymers. The extruders of the COLLIN EASY LINE series have an output of between 50 and 3000 g/h. They are the ideal tool for training and science as well as for research and for the testing of new materials in small batches. The design has a very small footprint and is therefore the ideal machine to build co-extrusion lines.

Applications

- ▶ Ideal tool for training and science as well as for research for the testing of new materials in small batches
- ▶ Perfect machine to build up co-extrusion lines

Advantages

- ▶ Table-top machine, ergonomic design
- ▶ Very small footprint
- ▶ High processing variability
- ▶ Exact control and adjustment of all parameters



Compounder

ZK 25 x 24 D

The EASY LINE compounder is the universally accepted process machine for continuous blending, alloying and dispersing of polymer materials. The process can be effected by either co- or counter-rotating screws.

Applications

- ▶ Incorporating pigments and/or fillers
- ▶ Alloying of polymers
- ▶ Degassing of molten masses

Features

- ▶ Co-rotating screws: Standard machine for the production of batches of polyolefins and technical polymers with pigments and fillers.
- ▶ Counter-rotating screws: When higher pressure build-up or precise residence time is required for instance for the plastification of PVC.

Advantages

- ▶ Simple control of the plastification process
- ▶ Table-top machine, ergonomic design
- ▶ Very small footprint



Blown Film Line

BL 50

The EASY LINE blown film line is a unit for the production of blown film made of all commercially available polymers. A blown film die (up to a diameter of 30 mm) with optimised melt flow and a cooling ring with adjustable gap guarantees extremely thin and even blown film. Multi-layer blown film dies are used for the production of barrier film for the packaging range or other technical films (co-extrusion).

Applications

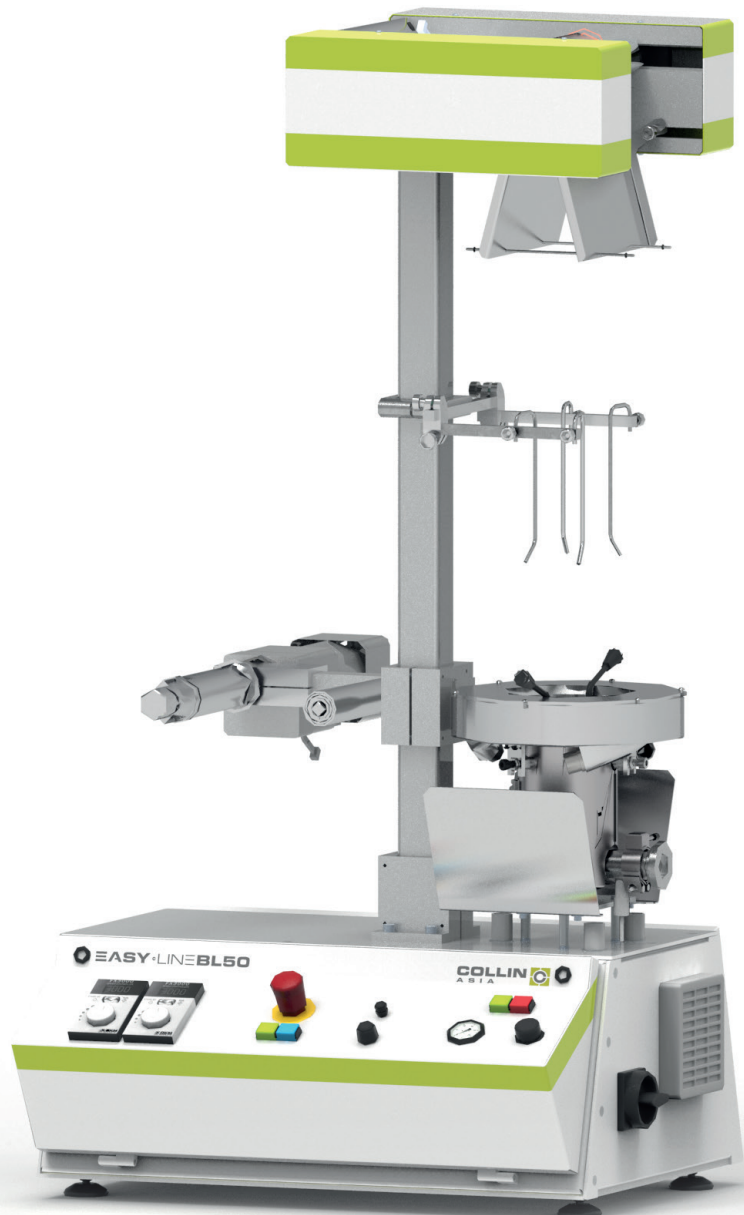
- ▶ For the production of blown film made of all commercially available polymers

Features

- ▶ Fix height for the nip-rolls
- ▶ Individually driven winder
- ▶ A cooling fan integrated into the control panel

Advantages

- ▶ Thin blown film
- ▶ Compact table-top machine, ergonomic design
- ▶ Easy to handle



Flat Film Line

CR 72

The EASY LINE flat film line CR 72 x 190 – a three Chill Roll unit with pneumatically operated pivoted top roll – allows the simulation of all known processes of cast film and sheet production.



Applications

- ▶ Casting of low viscosity polymers with a vertical die
- ▶ Smoothing or calendering of film and sheet
- ▶ Laminating of film or sheets made of different materials
- ▶ Finishing of flat film with a horizontal die

Features

- ▶ Feedback systems and multi-manifold dies for the production of 3 or 5-layer film and sheet (co-extrusion)

Advantages

- ▶ Several functions of cast film line and a small calander
- ▶ Compact table-top machine, ergonomic design
- ▶ Gap width can precisely be adjusted

Roll Mill

RM 100

The roll mill is a standard unit for compounding, kneading, plastifying and sheeting of plastics and elastomers to form sheets.

Small batches of 30 up to 50 g allow speedy and cost-effective testing methods. Good temperature constancy of the roll, high torque and a completely protected working area allow the table-top Roll Mill RM 100 to be the ideal instrument for testing of small batches.



Filter Pressure Value

FPV

Principle

Polymer melt is pressed with a defined volume through a melt filter and the pressure in front of the melt filter is monitored. Particles (contaminations, agglomerates in pigments, etc.) are caught in the filter and the pressure increases in front of the melt filter. The calculation of the pressure filter value (FPV), according to ISO 23900-5, starts at the end of the test by determining the initial pressure (P start) and the final pressure (P max) divided by the pigment weight.

$$\text{FPV} = \frac{P \text{ max} - P \text{ start}}{\text{Pigment weight}}$$

Main applications

- ▶ Testing of pigment or additive dispersion
- ▶ Inspection of contamination in virgin and recycled polymers

Special Features

- ▶ By using a by-pass valve, the melt flow can be by-passed in front of the screen. This enables an interruption of the melt flow without having to stop the extruder or the melt pump. A change of the screen can easily be done while purging both, the extruder and melt pump. But the most decisive advantage is that after having changed the screen the extruder and the melt pump need not to be started again.
- ▶ First, the new screen is positioned in a pre-heating position and then in the actual testing position for the next trial. Therefore, the time needed for the test screen to adapt thermally to the testing equipment is no longer necessary.

Advantages

- ▶ Extremely reduced downtime
- ▶ Reduction of the staff requirement
- ▶ Extremely safe in operation
- ▶ Manually operated
- ▶ Melt valve for continuous measuring without stopping the extruder
- ▶ Melt pump for constant melt flow-rate
- ▶ Melt filter preheating
- ▶ All design parameters and the evaluation correspond to the ISO Standard 23900-5



EASY·LINE

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