

Labtech Engineering

Quick Guide to our full range of *Scientific* polymer processing machines
For laboratory and pilot plant applications



LAB TECH ENGINEERING
COMPANY LTD

Twin Screw Extruders with Ø 12 and 16 mm. with Modular Barrels for Optimum Flexibility



**12 and 16 mm.
Twin Screw Extruder**



Available with gravimetric feeders which are modified to meet the requirement of feed rates adapted to the output of these small twin screw extruders



**16 mm. Twin Screw
Powder Coating line**

Our 16 mm twin Screw is available with forced air cooling for all barrel zones as well as side feeders

Available in manual or fully computerized touch screen controllers with possibility to download and process all data on a PC.



**Forced air cooled
barrel**



Side feeder



Twin Screw Extruders with Ø 20 and 26 mm with Modular Barrels for Optimum Flexibility

**26 mm twin with 48 L/D and
3 gravimetric feeders**

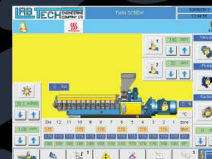
NEW 26 MM COMBI TWIN
With co- as well as counter
rotating screws with a gear
selector for easy change over



Single elements mounted on hexagonal shafts of screws for optimum flexibility of screw configurations.

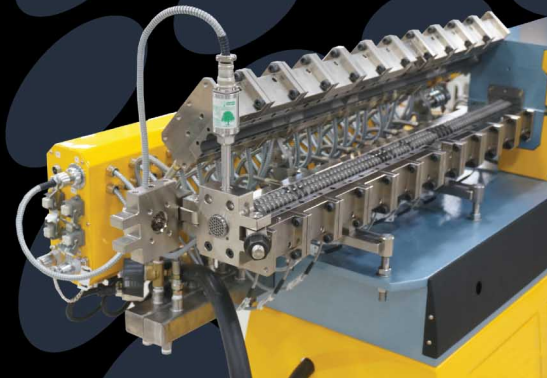
Available with both single and twin-screw hopper feeders, vacuum pump with multiple vent outlets on barrel, twin-screw side feeder, liquid feeders, quick screen changer and a multitude of screw element types and combinations.

Modular co-rotating twin-screw extruders available with clamshell barrels and our unique high tool steel barrel inserts. With screw diameters of 12, 16, 20 and 26 mm and L/D ratios up to 60. Suitable for laboratory, research and small batch productions.



**Optional
Computerized
Controller equipped
with LCD touch
screen**

**High Output 26 mm. Maxi
Compounder with 22 kW drive
motor and 1200 max screw RPM**



Single Screw Extruders

6 sizes with \varnothing 8, 12.5, 20, 30, 40, 45 mm.

Single Screw Extruders 12.5, 20 mm.



The amazing 12.5 mm. conical extruder which can handle regular pellets

The 12.5 and 20 mm extruders are also available as a Table Top versions



C-clamp connection to extruder for fast and easy attachment of downstream equipment.



Our equally amazing 8 mm ultra micro extruder that can be fed with regular pellets



Single Screw Extruders 25, 30 mm.



Single Screw Extruders 40, 45 mm.



Pelletizing Systems

From strand to under water pelletizer



Strand Pelletizers

Our range of pelletizing systems are complete with the introduction of our new under-water pelletizing system which is suitable for our 20 and 26 mm twins as well as our 45 mm single screw extruders.

Strand Pelletizers are available from our smallest version with only a few kg output to over 400 kg/hr. And the unique SideCut Pelletizer that can cut anything a pair of scissors can, from the softest TPE to the most rigid engineering polymers. Available in many sizes with output of up to 900 kg/hr.

Air-Cooled Die-Face Cutter with Parallel-axes die and rotor design only suitable for PVC and other "dry" resin types like certain grades of thermoplastic rubber which does not stick to the die.



Air Cooled Die-Face Cutter



The Amazing Sidecut Pelletizer that cuts anything a pair of scissors can and more.



Side Cutter Pelletizer



Underwater pelletizing

Single Layer Film Blowing Lines

From lay flat of only 100 up to 550 mm.

Compact film blowing line with 20 mm extruder for max 200 mm lay-flat film .



Compact film blowing line



Medium size film blowing line

Single and Multi-layer film blowing lines for film lay-flat widths of up to 550 mm. With many features such as twin channel air cooling ring, variable speed haul-off and nip-rolls, etc.

The film blowing attachment is connected to our single screw extruder via a C-clamp on the flange of the extruder unit. The attachment is built up on an individual self-supporting frame with lockable casters and thus can be easily removed from the extruder.

The die is mounted on the two tower aluminum pillars, adjustable in height to align with the extruder flange.

The film blowing attachment is equipped with film bubble stabilizing cage and synchronous adjustable film collapsing frames with polished teak wood or carbon roller gate rods.

Also available with in-line or off-line MDO film stretching attachment



Optional motorized height adjustment film tower.

Large size for lay flat up to 550 mm

CO-EX film blowing lines with MDO.



Multi Layers Film Blowing Lines

Co-Ex Film Blowing Lines With up to 11 Layers of blown film

9-layers blown film line using three 30 mm and four 25 mm extruder 30 L/D



7-layers blown film line using five 25 mm, 30 L/D extruders with adjustable height



9-layers blown film line using two 30 mm and seven 25 mm extruder 30 L/D with Gravimetric hopper feeders and Dual channel high efficiency air ring, Stabilizing film bubble cage, Film bubble size controller, Oscillating nip roll.



High cooling efficiency air ring and Pancake type die



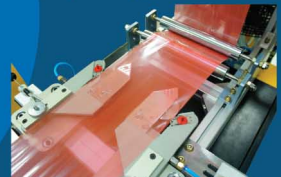
Oscillating Nip-Roll Haul Off with A-frame



Automatic Web Guide system



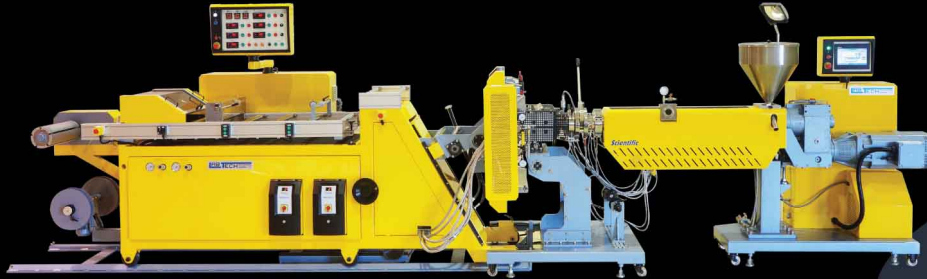
Splitting Knives



Single Layer Chill Roll Line

Flat Film and Sheet Chill Roll Lines

Table top version connected to our 20 mm, 30 L/D extruder with gel counter.



Large Chill Roll & Calendering line type LCCR



Medium size Chill Roll Attachments

Compact Chill Roll Line for spot checking



Our large size chill roll attachments have roll diameters of 175 mm and are equipped with heavy duty hydraulic lay on of both lower and upper rolls against the center roll. Available in various roll widths up to 700 mm. Individual water tempering or oil heating for each roll. Equip with motorized tilting mechanism, the roll stack can be placed in any position from horizontal to vertical or inclined at 45 degrees. The Chill roll attachment is supplied with individual servo motor drives for each roll.

We offer a large range of floor versions, connected to our single screw extruders of sizes 25, 30, 40 and 45 mm all with 30 L/D or to our twin-screw extruders of sizes 16, 20 and 26 mm.

Available with unwinds for laminations and coatings. Windups are available in single or two station versions with manual or automatic tensioning controls

All chill rolls are made from high grade tool steel with hard chrome and mirror polish surface. The rolls are cored with spiral channels for water cooling and heating. Polishing top roll with pneumatic or hydraulic high pressure lay-on to the middle chill roll.

Flat dies with adjustable lip gaps, and widths of up to 150 mm for bench top version and up to 700 mm for the floor versions. Standard die versions can be used for producing thin films of 10 microns and sheets up to 1.5 mm thickness. Special dies are available for larger thicknesses and with exchangeable die lips.

Co-Ex Chill Roll Lines

With Up to 9 layers of cast film

High Speed Chill Roll Attachments. For films down to 10 microns with a line speed up to 100 m/minute

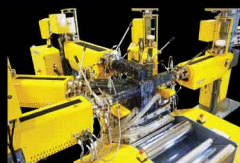


Large High Speed Co-Ex Chill Roll Attachments

The picture below shows an MDO unit in line with a co-ex cast film line which is equipped with two edge cutting stations one before the MDO unit and the other at the wind up station



Also available with in-line or off-line MDO film stretching attachments



From 2 to 9 layers
Available with a large range of chill rolls with die sizes from 100 to 800 mm and with extruder sizes from 12.5 to 45 mm

Medium economy size Chill Roll Line



Heavy Duty Chill Roll lines with 300 to 400 mm roll widths



The Feed Blocks supplied with our co-extrusion lines are made for up to 9 layers



Single and 2-station MDO units with roll widths from 300 to 800 mm

World's Smallest Polymer Processing Lines

The Amazing **Ultra Micro Series**



The Ultra Micro Film Blowing line



The Ultra Micro Chill Roll Line



The Combi film blowing and chill roll line with one common extruder



The Ultra Micro 3-Layers Co-Ex Blown Film line with 3 extruders



Designed by our Engineers to reproduce larger lab and production lines based on our Ultra small extruder with conical screw that can be used with regular pellet sizes



The Ultra Micro 3-Layers Co-Ex Chill Roll Line with 2 extruders

Lines for Pipe, Profile, Hose and Medical Tubing



The lines are designed for extrusion of small diameter Tubing, Pipes and Hoses with a diameter of up to 50 mm and with any desired wall thickness. It can also be used for other profile types with similar size range. The lines comprise of the extruders of sizes from 20 to 45 mm, equipped with a die, downstream calibrating vacuum tank with water spray for cooling and a caterpillar type haul off. The calibrating and sizing unit inside the tank together with the vacuum ensures high precision production of the pipe or tube.

Extrusion Line for Tubeing, Hose, Pipe and other Small Profiles



A Bi-Lumen die produced the tube shown above left. This tube has an outer diameter of only 2 mm and has two cavities (Bi-Lumen).

High Precision Medical Tubing Line



Our Medical Tubing lines are made with the latest technologies. They are built based on technologies with license from a European manufacturer with many years experiences in this field.

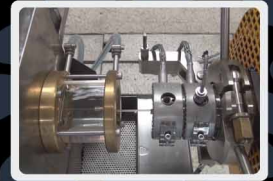
High Speed 3 D Filament production line

With vacuum calibration for a high strand diameter precision of ± 0.025

This special "High Speed High Precision Filament Line" is made specifically to produce high precision filaments with an exact diameter from 1.75 to 3.00 mm with line speeds up to 100 m/min ensuring a homogeneous filament without any voids



3D strand dies, made for ABS and PLA as well as most other polymer and compound types.



High Speed 3D Filament Production Line

A 4-meter long filament calibration water bath is comprised of a stainless steel vacuum sizing/cooling tank and calibration bath equipped with water heater. The Vacuum section with heavy duty hinged Plexiglas lid and quick vacuum release valve mounted on top of the lid. It has a calibration tube inside the vacuum chamber and a venturi strand suction units at the end of the water cooling bath



High Speed Two-Station Wind up unit
With touch screen control

High Speed Caterpillar Haul off unit
And optional laser measuring unit



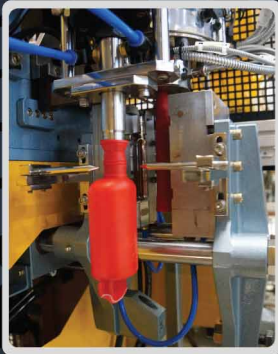
4.0 meter length Stainless steel vacuum sizing/cooling and
calibration bath with water heater

Bottle Blow Moulding lines

Single as well as Multi Layers Co-Ex Versions

The lines used a streamlined die for optimum colour dispersion. A minimum amount of purging is needed for colour change over.

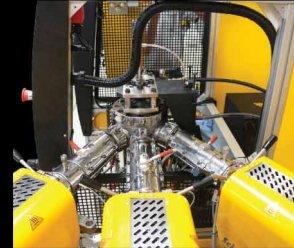
Fully automatic hydraulic bottle blow moulding attachment can be attached to our 20 and 25 mm single screw extruders.



Our range of Blow Moulding lines produces single layer or multilayer bottles of up to 125 ml size and can produce bottle in practically all resin types that can be blown

Our new larger bottle blow moulding attachment can produce bottles of up to 250 ml. The attachment is hydraulic with high clamping force. The co-ex 2 and 3 layer dies are made with adjustable parison thickness and they produce a very even layer thickness over the entire bottle

2-layers line



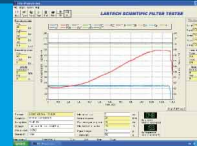
3-layers line



Now also available for larger bottles

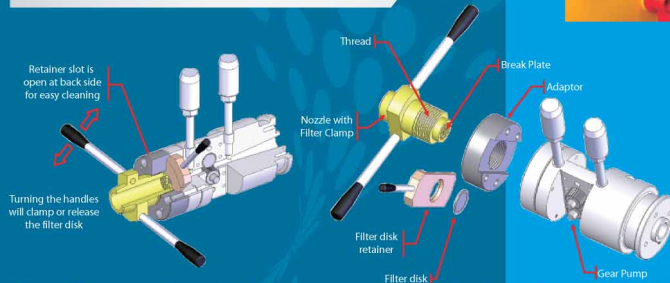
Filter Testers in full Conformity to the DIN Norm

Computerized Filter Tester



Fully computerized version with on board large capacity PC featuring a practical keyboard and mouse for convenience in entering all the test data. This version automatically calculates the filter test value.

**WE WERE FIRST IN THE WORLD
TO PRODUCE FILTER TESTERS**



Our filter test head with gear pump is designed specifically for easy cleaning where the melt flows in a straight line from extruder through gear pump all the way up to the filter. The filter is easily installed and removed with our quick clamping system

Filter Tester with Gear Pump for accurate quality testing and standardization of master batches and compounds.

Standard filter sizes from 40 down to 5 microns, as well as DIN sizes. Available for both our 20 and 25 mm extruders.



**New Compact Filter Tester type
with 20 mm extruder**

Two-Roll Polymer & Rubber Mills



The MicroScientific Bench Top Two roll mill type LRM-M-100 is intended mainly for learning institutes and for laboratories where a smaller batch size is preferred.

Bench Top Two Roll Mill Type

Polymer mills available with roll diameters of 100, 110, 150 and 200 mm. Roll heating is available in 3 ways, with our Standard 3-Zone or TRUE 3-Zone electric roll heating system, with Oil heating and cooling system, or with Electric roll heating and water cooling system.

From manual versions to fully automatic hands-free computerized mills used for colour matching, quality control and research.



New modern design on all our Two Roll Mill



Rubber mills with water cooled or oil heated and cooled rolls. With variable speed heavy-duty direct drives to the rolls.

Two Roll Rubber Mill sizes from 110 to 200 mm



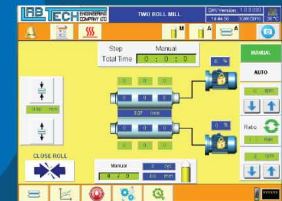
Automatic Rollover Device



Rubber mills have direct drive to the rolls with heavy-duty helical bevel gears



Optional fully computerized operations from an LCD color touch screen with an extremely user-friendly software design



Hydraulic Press

Benchtop Laboratory Hydraulic Presses



Modern designed steel cabinet with curved sliding front door. The front door is equipped with a large Plexiglas window and the control cabinet is recessed so that it is covered by the front door when opened.

Presses with optional automatic platens insert cooling system



Fully Automatic Electric Press With no hydraulics



The up stroke pressure is achieved by a ball screw which is driven by an AC gear motor



Laboratory presses from 20 to 80 MT platen closing force, with double set of heating and cooling platens as standard.

Available with fully automatic platen insert cooling system, as well as many platen sizes and control options.

ASTM Presses with high precision chilled water cooling system



High Speed Mixers

Bench Top Mini Mixers



Practical high speed mixers for homogeneously mixing of all kind of powders.

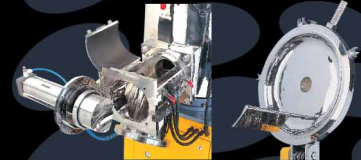


Bench top 10, 5 and 1.5 liter mini high speed mixers with infinitely variable speed impeller drive and easy-to-clean components

Laboratory and pilot plant variable speed fluid high-speed mixers in high polished stainless steel



25 and 75 liter pilot plant high-speed fluid mixers with infinitely variable impeller speeds, automatic mixing cycles and optional water cooling of the impeller.



The computer version with colour LCD touch screen controls is made from our very own user-friendly software design to provide easy operation of the mixer as well as printing of graphic and data of all running parameters via a PC.

High Power Jacketed High Speed Laboratory Mixers with optional cooling mixer



Our production facilities

We recently acquired a factory building next door which has doubled our production and office area so that we now have a total of 10,000 square meter. This expansion will enable us to increase the productions substantially so that we are able to meet the ever increasing demand for many years to come



Labtech Engineering of

Our company's facilities, our capabilities



Our application test laboratory has a large range of machines, a few shown here. These are available at all times for you to test whenever convenient for you. We can also test these machines for you in accordance to your specific requirements



Contact Us :

For more information regarding our wide range of Polymer processing laboratory machines you are most welcome to contact us directly on the below address, email and phone number.

Or if you prefer, please check our website for addresses of our agents worldwide



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