

LABTECH *INVITATION* ENGINEERING

Dear Sir/Madam,

I am very pleased to invite you to visit our booth at the giant K2019 exhibition. We are again located at booth #71C37, in the same place as during the last K2016 or in Hall 7. On the last page of this invitation letter we are showing you a map of our location which I hope will make it easy for you to locate us.

We will have same large booth area of some 200 square meters and it will be filled to the brim with a lot of our machines. All of them will be running at the show and we will be pleased to give you a firsthand, personal demonstration of any or all of them.

We are pleased to give you detailed information on all machines we will exhibit on the following pages

We hope you will have time to visit our booth, and we all look forward very much to see you there.

Yours sincerely,



Peter Jurgensen
and all of us at Labtech Engineering



16-23 October 2019
Düsseldorf, Germany
Please visit our large booth
in Hall 7, #71C37

**WE LOOK FORWARD
TO SEE YOU IN OUR
BOOTH AT K2019**

5-LAYER CO-EX COMPACT FILM BLOWING LINE

NEW!



Our new **Compact LCF-400 CO-EX** film blowing line is a viable low cost alternative to our regular co-extrusion film blowing lines. The line has 5 modular extruders of “low boy” type connected to a five-layer pancake type film blowing die. The standard line is equipped with a stabilizer cage with Teflon rolls, polished wood collapsing frame, hard-chromed and rubber haul-off rolls, rubber pull rolls, and surface winder, all mounted over the die assembly on a 360-degree, oscillating tower frame.

FEATURING :

- Smart, compact design optimized for minimum floor space consumption allowing for more possibilities in workspace allocation
- Oscillating Nip-Rolls as standard
- The entire 5-layer co-ex film blowing line is mounted on a sturdy steel foundation, which is equipped with casters and leveling bolts for easy positioning.
- Entire film tower is mounted on low friction slides so it can easily be moved to give full access to the die
- Motorized height adjustment of the tower nip gap with collapsing frame enabling optimum flexibility of blow up ratio and bubble cooling rate.
- Modular pancake die which will be designed for your specific applications where we use our Canadian expert to design the die following specifications of the resin types you will use.



**NEW!
MODERN DESIGN**



26 MM CO-ROTATING TWIN SCREW COMPOUNDING LINE

EXHIBITION TWIN LINE FEATURING :

- LTEM26-48 Maxi Compounder custom version with 26 mm screw diameter and 48 L/D
- Single side feeder with gravimetric hopper feeder
- Additional gravimetric feeder for main in feed port
- Fully computerized controls
- LW-100 Water Cooling Bath with eco-friendly water circulation system, nylon brush, and vacuum dryer
- LZ-120/VS Strand Pelletizer with digital controls for feed rates up to 70 m/min and digitally adjustable pellet lengths from 0.5 to 6.0 mm

As with our Ø16 and Ø20 mm twin screw extruders, the 26 mm twin type LTEM26-48 features our well proven modular clam shell design system which has been in use by all our customers for over 10 years. Here each barrel module has easily removable wear inserts and the screws are mounted on hexagon shafts with a very large variety of different screw element types. The barrel modules are joined by bolts, while each individual module has a length of 4D, and contains cartridge heaters and water cooling channels. The modular assembly was designed to have air gaps between the bolted barrel segments, while the barrel inserts stay in complete contact with each other. This system enables larger temperature variance between each barrel module, which in turn gives great flexibility in processing difficult polymers.





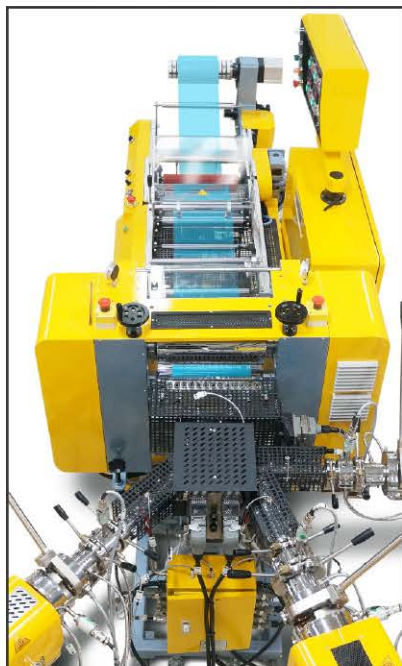
With 3-layer Manifold Die

3-LAYER CO-EX CAST FILM LINE WITH 3 EXTRUDERS

LABTECH's LCCR-350-SR cast film and sheet extrusion line will be showcased while running with polymers during the entire exhibition hours. It is equipped with three Ø25mm, 30L/D single screw, vented extruders coupled to a 3-layer multi manifold die for A-B-C configurations. The manifold die has a width of 200 mm



The LCCR-350-SR is one of our heavy-duty versions equipped with a roll stack having three rolls with diameters of Ø145mm and widths of 400mm. The top roll is laid on hydraulically onto the middle roll.



The unit's roll stack is mounted on a separate trolley and rests on top of a slide rail along with the downstream unit. This allows the stack to be easily slid forward or backward from the flat die and can be oriented vertically, horizontally, or diagonally in 45°.

The downstream conveyor frame features two on-board water TCUs for temperature control of the rolls, an edge cutter, cassette winder for the trimmed edges, and a center winder with a pneumatic expansion shaft.

FEATURING :

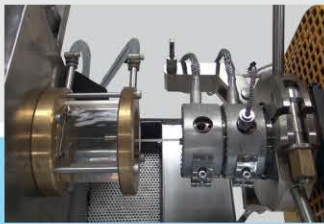
- New separate, free riding roll stack on rails for hassle-free positioning against the die. Capable of vertical, horizontal, or diagonal 45° stack positions
- 3-layer manifold die with lip adjustment from 0.3 to 3.5 mm
- No feed block as extruders are connected directly to the manifold die
- 3 units 25 mm extruders with vector motor drives and conventional controllers
- All extruders with gravimetric hopper feeders for precise layer thickness
- Central control cabinet
- Servo motor drives for all rolls
- All rolls in rolling stack are with spiral channels for optimum heating and cooling accuracy
- Electronic tension controls
- Combined surface and driven wind up

NEW HIGH SPEED 3D FILAMENT PRODUCTION LINE

with vacuum calibration for a high strand diameter precision with a tolerance of less than ± 0.025 mm



The #1 choice for many famous brands



High-grade tool steel 3D filament dies with hard chromed and polished interior, designed for running ABS, PLA, as well as other polymer compounds.

LABTECH's "High Speed, High Precision" Filament Line is specifically engineered to produce filaments with highly precise diameters ranging from $\varnothing 1.75$ to $\varnothing 2.85$ mm, suitable for various 3D printer brands.



Our new two-station wind up unit

- Fast and easy change over from one wind up cassette to the other.
- High speed wind up of up to 100 meter/minute.
- Touch screen where you can set diameter of the 3D strand.
- Equipped with digital meter counter.
- Individual variable speed motor drive for each wind up station.
- Special precision oscillating strand guide will ensure that the wind up on the cassette is very even laid. The diameter of the strand is entered on the touch screen and the lay on equipment will guide the strands so they are nice and tightly wound up.
- Automatic tensioning of the 3D strand with clutch as well as a mechanical dancer.



High Speed Caterpillar Haul Off unit.

- Variable speed drive of belt with a max pulling speed of 100 meter per minute.
- Digital speed indicator in m/min. Front PMMA interlocked safety cover which can swing open for access to belt components.
- Adjustable pulling pressure with a hand wheel moving the upper belt up and down
- The haul off speed is connected to a laser diameter measuring unit and will control precisely the filament diameter.



Filament accumulator for New High speed 3D filament line.

The accumulator comprises of two vertical shafts each with 15 free moving wheels where the 3D filament is threaded over each wheel. The upper shaft with the wheels will move upward as soon as the wind up unit is stopped for changing over from one full cassette to an empty one.

During the upward movement the filament which is wound over the wheels will expand, accumulating more and more filament coming out from the caterpillar and with this the operator has sufficient time to change the wind up cassettes without any interruption of the filament line. As soon as the new cassette is winding up the filament, the accumulator will reverse, releasing gradually the accumulated filament to be ready for next cassette change.



LABORATORY SINGLE LAYER BLOWN FILM TOWER ATTACHMENT

with the LWIS1000-8K Film Inspection and Defect Recognition System



*Running
Rigid
Transparent
PVC Film*

FEATURING :

- Standard 2.4-meter high LF-250 film blowing tower attachment with a roll width of 250 mm for accommodating lay flat widths of up to 200 mm
- Robust tower frame and electrical cabinet mounted on a fully mobile steel base with casters and levelling feet
- Compatible with LABTECH's standard single-layer spiral mandrel or custom die designs such as pancake or spider dies.
- Single-lip, air cooling ring for uniform bubble exterior cooling. The air inflow is regulated by adjusting the blower RPM, while the air output is regulated by adjusting the lip gap by turning the air ring plate via its handles.
- Collapsing frame and bubble stabilizers consist of smooth polished teak wood slats.
- Haul-off nip rolls consisting of a pneumatically-actuated rubber press roll and a polished driven roll
- Standard surface winder driven by infinitely variable-speed motor drive, while tension is manually regulated by a slip clutch.
- Equipped with the LWIS1000-8k film web inspection system and defect analysis software for real-time monitoring of film quality (see more info to the right).



LWIS1000-8K High-Precision Web Inspection System

The monitoring system includes a NECTA/8K monochrome line scan camera configured with a scan frequency at 90,000 scans/s with an attached NIKON 50 mm, 1:1.4D lens. The camera monitors the film under a light source, while an encoder records the length of the film.



A light source illuminates the film, while an encoder wheel is placed in contact with a guide roll to measure the current film length that is currently being scanned.

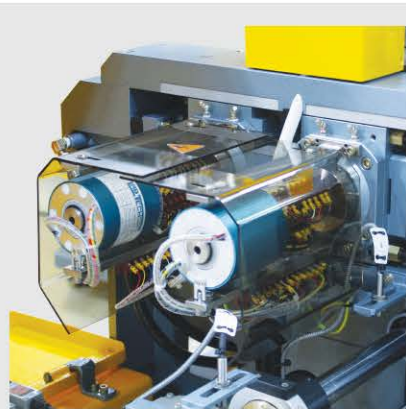
COMPUTERIZED TWO-ROLL MILL WITH BRAND NEW INTERNAL HIGH ACCURACY ROLL HEATING SYSTEM



*Many
New
Amazing
Features*

FEATURING :

- LABTECH will showcase the new fully automatic version of the LRM-SCR-110/BO Two-Roll Mill with automatic batch rollover device, the brand new built-in oil heating system connected with True-3-Zone electric heating, and the hydraulic quick-opening option
- The mill is equipped with the new high precision, nip gap distance measuring system which measures the gap directly on the roll shafts
- The two-roll mill features a new sleek design appearance similar to LABTECH's press machines. All future mills will have the same design
- Newly designed safety interlocked cage for easy loading of batch and optimized for more working space
- Running parameters such as nip gap distance, front and rear roll RPMs, and rollover device movements now have visual status indicators and controlled on the touchscreen
- During the exhibition, we will be demonstrating color matching and quality control of pigments mixed in an ABS stock with our two-roll mill, along with the 20MT press machine described on the previous page.



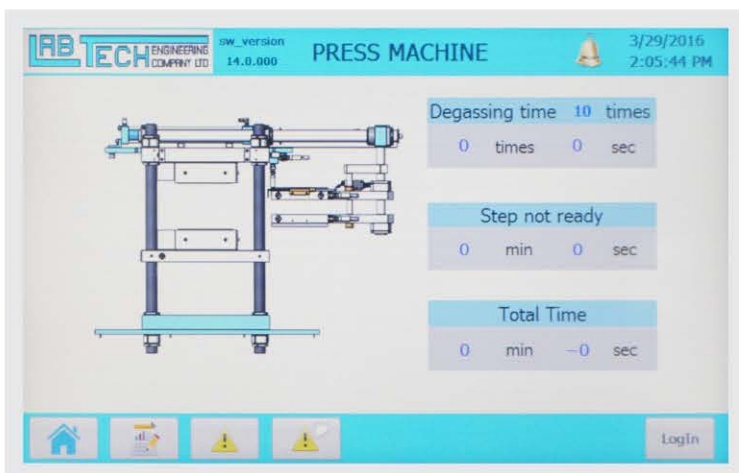
LABORATORY HYDRAULIC PRESS WITH AUTOMATIC COOLING PLATEN INSERTS



Time-saving, fully automatic functions where the press will go through all press cycles fully automatically without the presence of the operator

FEATURING :

- 20 MT hydraulic press with automatic cooling platens insert
- Cooling platen inserts are hydraulically activated
- Standard platen size 200 x 200 mm, or with optional size of 300 x 300 mm
- The platen's exterior layers are made of precision ground, hard tool steel, while the interior layer is made of a copper plate containing a multitude of cartridge heaters for a highly uniform heat transfer distribution.
- Touch screen control of all press cycles which can be individually set up with many time functions
- Automated Insert Cooling system is a time-saving feature which ensures the shortest possible cycle time as shown below:
 - Pre-heating
 - Full Pressing
 - Venting
 - Full pressing after venting
 - Opening of platens and inserting of cooling platens
 - Closing with rapid cooling of mould
 - Opening of press platens for removal of mould



NEW COMPACT FILTER TESTER WITH ON BOARD PANEL PC

In full conformity to the international standard norm, EN-13900-5

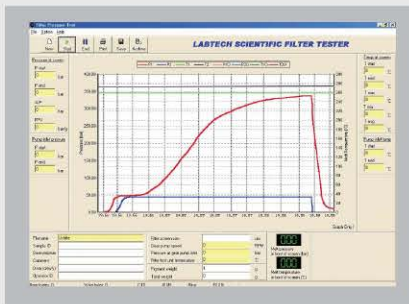


***We were first in the world to launch
a filter tester back in 2003.***

***Since then we were copied by many,
but fortunately we are still the world leader thanks
to the great trust we enjoy from all our customer.***

FEATURING :

- New compact filter tester with on board industrial PC featuring touch screen as well as a very convenient key board where all test parameters can be easily entered
- Clear graphic illustration of the entire filter test where screens can be printed or downloaded to an external PC
- 3 cc gear pump driven by a servo motor which ensures a very even resin flow and high torque over the entire RPM range
- With our designed filter test head which has a very easy system for changing filters
- With new color touch screen control of all extruder parameters and with nice and clear graphic illustrations
- Controls for manual as well as fully automatic running of the entire machine.



The unit has an on board high capacity PC and all running parameters can be easily keyed in on the practical keyboard. All data can be stored on board as well as downloaded to an external PC. The large screen is showing the pressure build up in real time and will automatically show the Delta P filter pressure value after the test is completed.



The pressure sensor is connected to a pressure control instrument that in turn will regulate the extruder screw speed to ensure that it delivers a steady flow of polymer at a constant pressure. This inlet pressure can be set digitally on the control panel. A second transducer is placed in front of the filter and will monitor the pressure build up.



The filter tester head with the gear pump has a very stream-lined design which enables very easy and fast cleaning from one batch to another. The head is connected to our 20 mm single screw extruder which has a new nice and user friendly touch screen controlling all parameters.

ULTRA MICRO 3-D FILAMENT LINE WITH **5MM** TWIN SCREW EXTRUDER.



The Ultra Micro 3-D Filament Compact Line consists of a 5 mm Super Micro 40 L/D twin screw extruder, a water bath, and a traverse spool winder station. It is designed to be ideally suited for running very small sample sizes for R&D and QC applications. It features fully computerized, user-friendly controls for an intuitive operating experience. The line is complete with strand cooling bath, a puller station, followed by a single station cassette wind up unit with oscillating strand guide. The line can produce 3-D filament of diameters 1.75 and 2.85 mm or any other diameter required. The minute 5 mm twin requires to be fed with free flowing powder but the line will also be available with our 12 mm twin screw extruder to be used with regular pellet sizes or peller/powder mixtures.



WORLD'S SMALLEST POLYMER PROCESSING LINES

THE ULTRA MICRO SERIES

NEW!



The Ultra Micro
Single Screw
Pelletizing
Line



The Ultra Micro
Cast Film Line



The Ultra Micro 3-layer
(A-B-C), (A-B-A)
Co-Ex Film &
Sheet Line



The Ultra Micro
Film Blowing
Line



The Ultra Micro 5-layer
(A-B-C-D-E)
Co-Ex Film
Blowing Line

NEW!

ALL LINES ARE EQUIPPED WITH OUR UNIQUE
ULTRA MICRO SINGLE SCREW EXTRUDER
WITH AN ENDING SCREW DIAMETER
OF ONLY 8 MM BUT STILL ABLE
TO PROCESS REGULAR PLASTIC PELLETS

MAP SHOWING OUR BOOTH'S LOCATION

1. Enter Hall 7 either from north entrance of from adjoining halls 6, 7A or 9
2. Go to the escalator taking you to 1st floor
3. Follow red line to our booth C37



We look forward to seeing you in our Booth 71C37 in Hall 7, 1st Floor

Following persons will be at our booth

Peter Jurgensen
President

Pornchai Sinsokudomchai
Managing Director

Rudi Scheman
Sales Export Manager

Ekachai Luangthichaiwanit
Customer Support Manager

Charade Balba
Sales Representative

Lisa Jurgensen & Ian Fides
Sales Representative Georgia/USA

Alain Antoine
Area Sales Manager Labtech Engineering Europe

Michel Becker
Area Sales Manager Labtech Engineering Europe

Caroline Bauwens
Back Office Labtech Engineering Europe

Georg Schallar
Labtech Europe Representative for Austria

Yuri Mogilnikov
Labtech Representative for Russia

Alberto Morquillas
Labtech Representative for Spain

Jorge Javier
Labtech Representative for Spain

Janet Rendle
Labtech Representative for UK

Dean Brant
Labtech Representative for UK

James Cheng Jian, Michael Zhu & Justin Zhou
Labtech Representative for China

Chi-Min Huang, Lin-Png wu & Liang-Jen Ku
Labtech Representative for Taiwan

Tomo Kurabuchi & Yoshikatsu Nakai
Labtech Representative for Japan

Howard Choi
Labtech Representative for Korea

Jan Kral & Martin Lefan
Labtech Representative for the Czech Republic, Slovakia, Lithuania, Estonia, Latvia, Moldova, Ukraine, Belarus

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