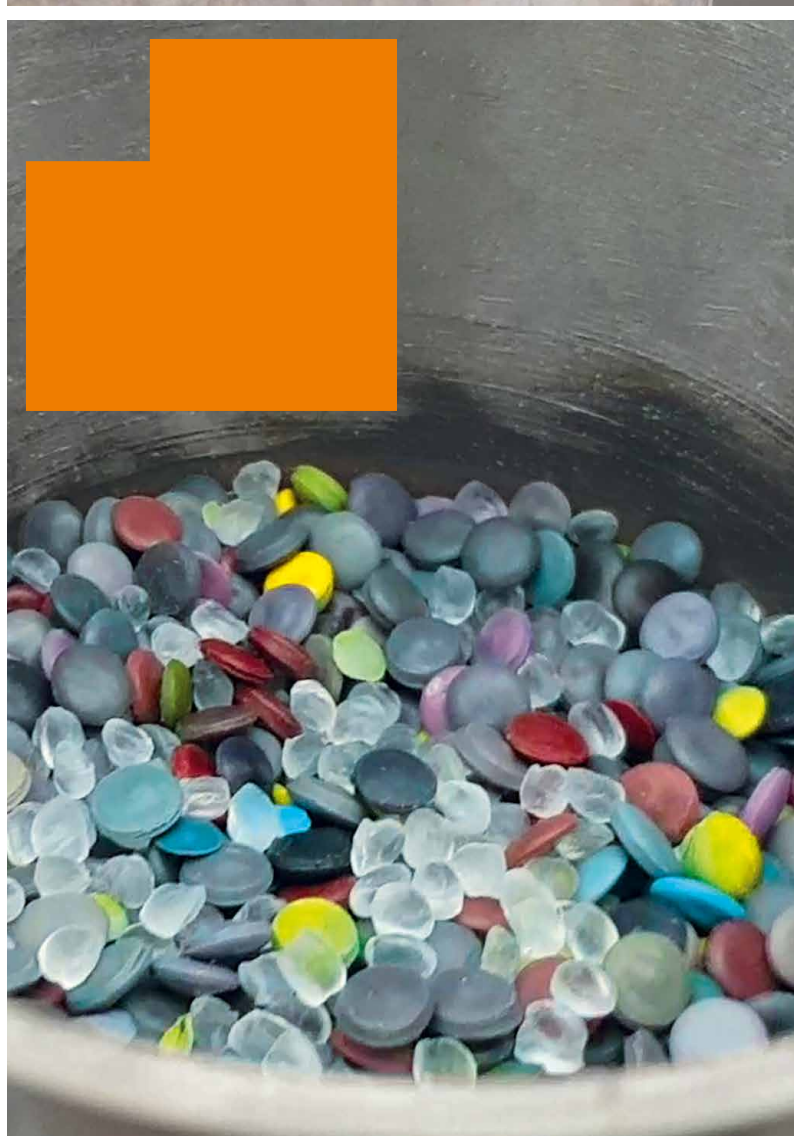
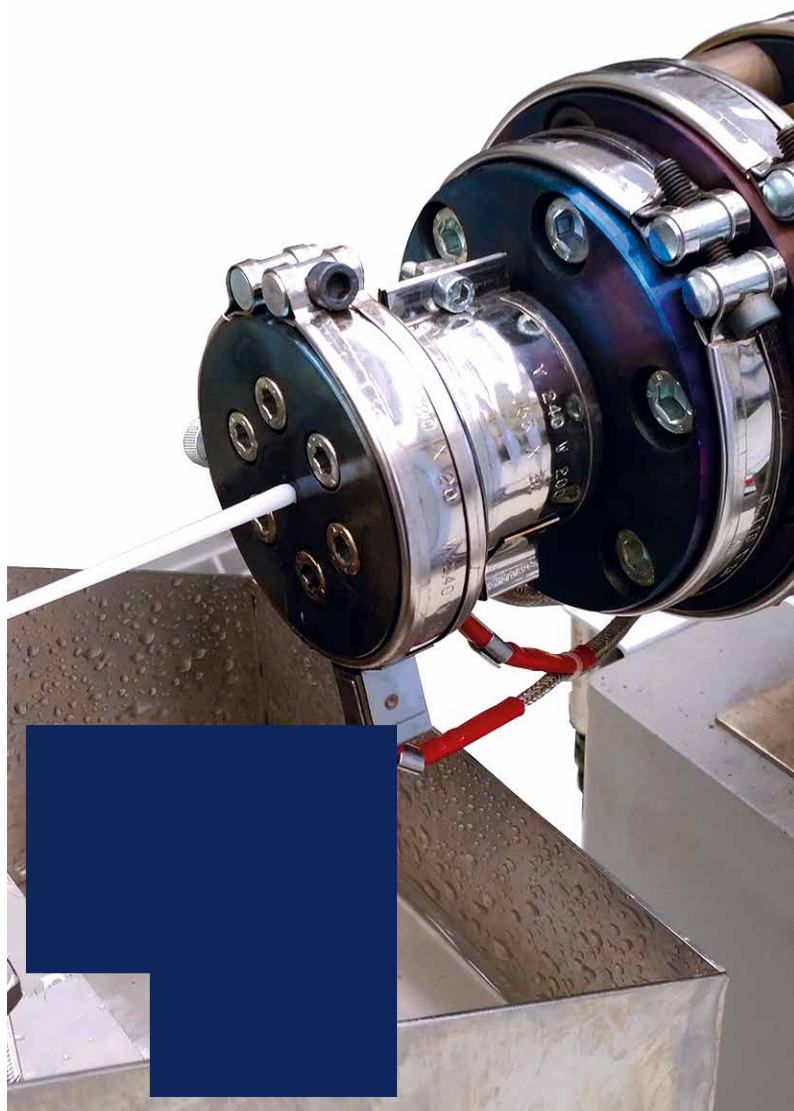
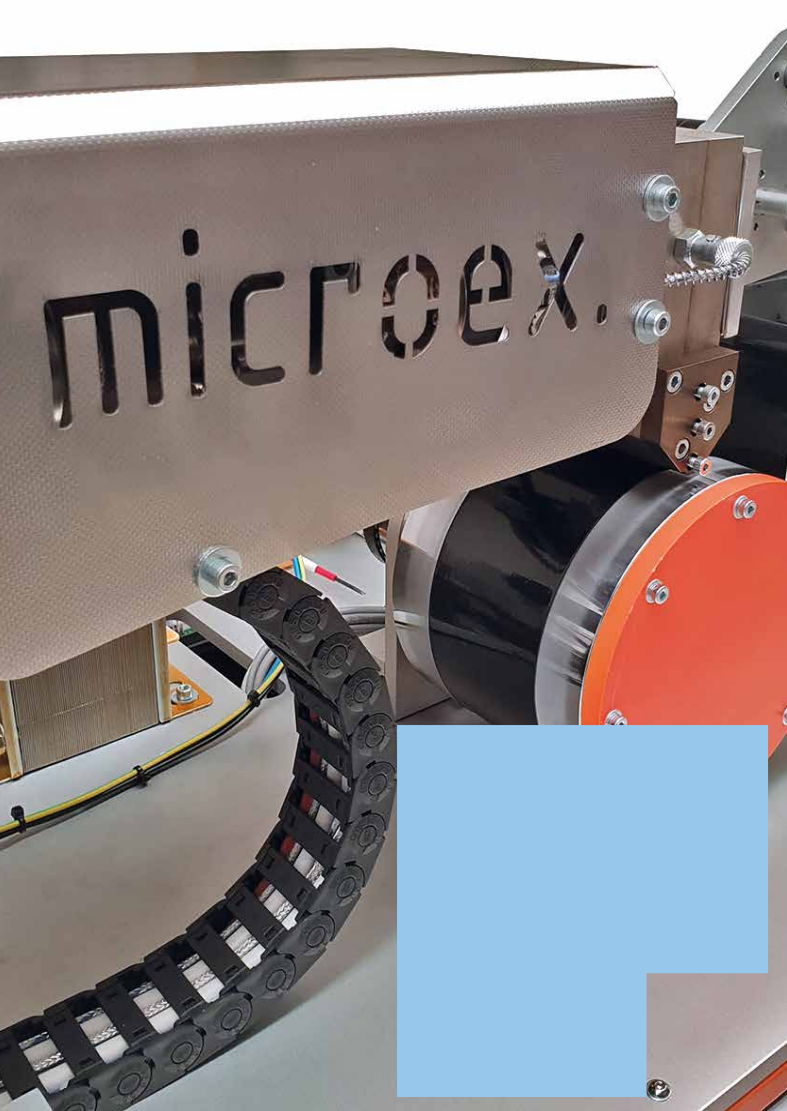


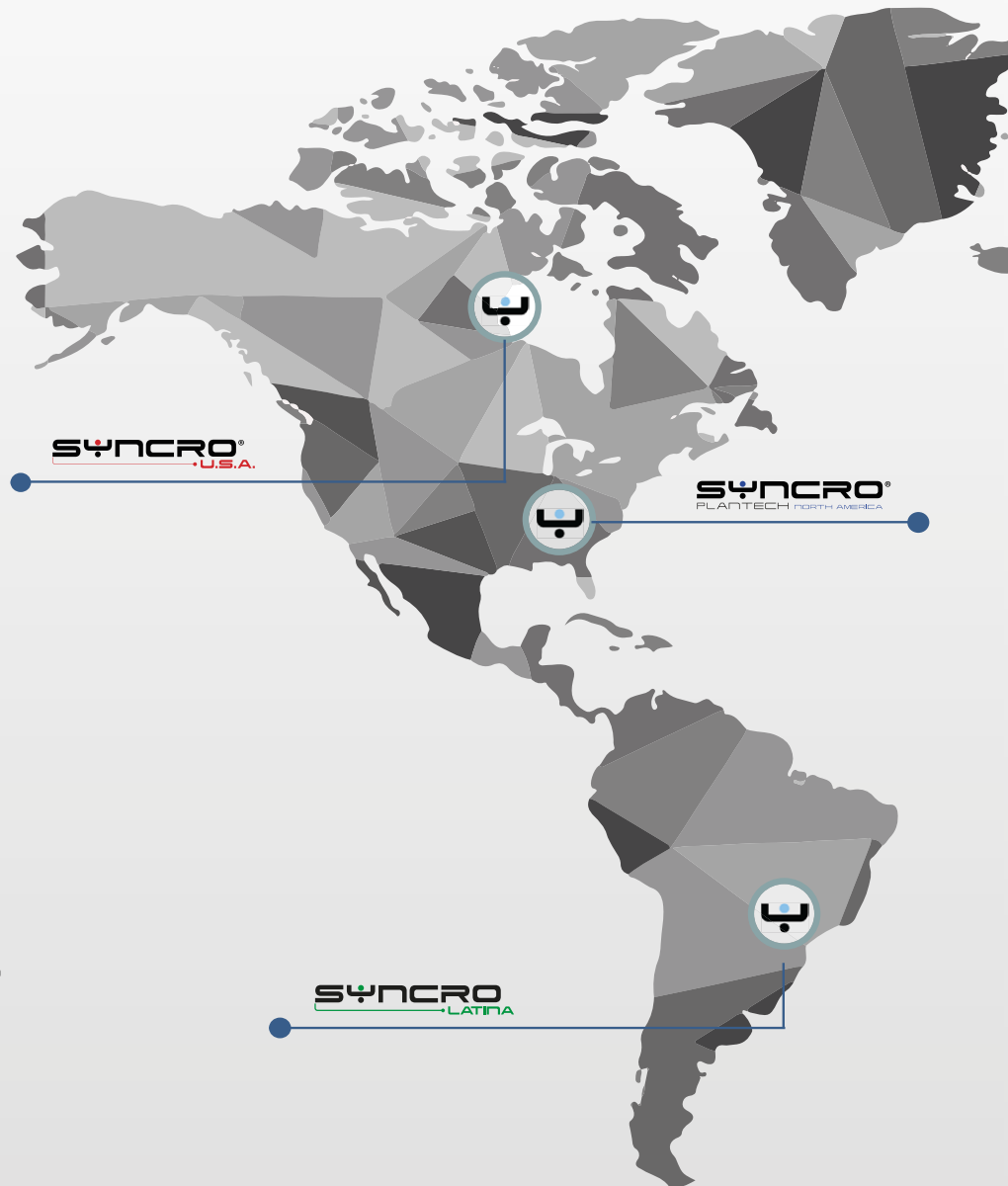
OEUR.EX.MA
LAB & PILOT TECHNOLOGY — SYNCRO GROUP



PRODUCT CATALOGUE



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ZERO WASTE MYSSION

The ambitious project of the group, which started a few years ago, is now identified with a clear message and a corporate mission called "ZERO WASTE MYSSION".

All the machines and systems developed by Syncro Group have the common objective to reduce industrial waste; going forward the new generation of products from Syncro Group will be identified with the "PLANET APPROVED" brand.

Intelligent management of raw materials, analysis and selection of post-consumer and post-industrial waste, recipe testing and optimization, production automation, in-line quality and post-industrial waste recycling identify the "ZERO WASTE MYSSION" of Syncro Group.

Syncro Group is a leading supplier of automation for extrusion, quality control systems, material handling and storage, defect measurement, recycling lines, laboratory and pilot lines through the expertise of the companies SYNCRO, PLASMAC, PLANTECH-CST, ACELABS, EUR.EX.MA. and SBDRY.

Syncro Group has 9 production plants as well as subsidiaries in the USA, Brazil, China, Japan and India.

YOUR GLOBAL LOCAL COMPANY



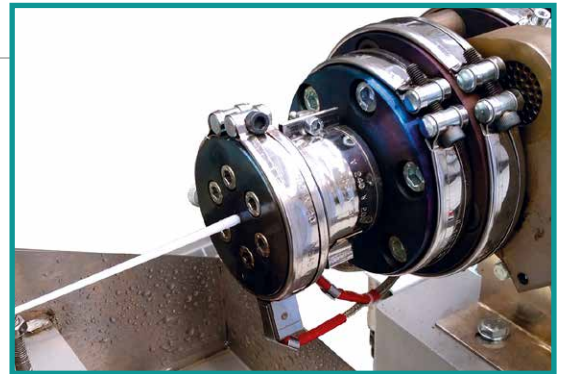
ABOUT EUR.EX.MA.

Eurotech Extrusion Machinery offers, since 1999, Lab and Pilot Extrusion lines designed for material testing and small-scale industrial production. We meet the needs of laboratories and R&D departments of companies specialized in the manufacturing and processing of thermoplastic materials. Based in Italy, **EUR.EX.MA.** works with local and international customers looking for innovative solutions.



ENGINEERING & DESIGN

Based on our technicians' expertise, EUR.EX.MA. combines engineering and design to pioneer solutions and applications in the field of **Plastic Processing Technology**. Our main goals are to achieve constant innovation and meet your needs through high-quality mechanical construction **Made in Italy**.



TESTING LAB

At **EUR.EX.LAB** we have set up a dedicated 600 sqm Testing Lab where you can find our benchtop products. We make you experience first-hand the processing and the quality of our lines. Here, you will have the chance to test your own materials and check the quality of the final product.



CUSTOMER CARE

From product design to manufacturing right through to installation, training and after sales support, **EUR.EX.MA.** works closely with you in order to provide professional and fast assistance all over the world. We assist our customers throughout the choice of the desired line and solutions.





BLOWN FILM lines are designed to create samples of tubular film in different scales for packaging purpose. They are designed for the testing and quality control of different materials and polymers, virgin and recycled.

MAIN FEATURES

- **Compatibility with all materials typically used for tubular film, such as PE, PP, PA, EVA and Biopolymers**
- **Customizable configuration for film width and thickness**
- **High quality air cooling rings available for different machine size**
- **Screw extraction in less than 5 minutes to speed up the cleaning process**
- **Control panel to save and export process data on external USB memory**

MICROEX BLOWN

Microex Blown is the smallest version of the tubular film lines, equipped with MICROEX single-screw extruders. Available in monolayer, 3-layer, and 5-layer versions, this line is very compact and allows the quality control of recycled materials, color masterbatches, additives and biopolymers with low waste and energy consumption (3kW).

| TECHNICAL SPECIFICATION | MICROEX BLOWN | | |
|-------------------------|------------------------------|-------------|-------------|
| | monolayer | 3 layers | 5 layers |
| Screws Ø | 17,5 mm - special lab design | | |
| Rolls Width | 120 mm | 250 mm | 250 mm |
| Layflat Max | 80 mm | 150 mm | 150 mm |
| Thickness Range | 20 - 100 µm | 20 - 150 µm | 20 - 150 µm |
| Throughput Max | 1 kg/h | 2 kg/h | 3 kg/h |



MINIBLOWN

MiniBlown D20 and D25 are the monolayer lab versions that can be equipped with 20 or 25 mm Ø extruders. This line is especially used to test masterbatches and color formulations or to produce small batches.

| TECHNICAL SPECIFICATION | MINIBLOWN | |
|-------------------------|-------------|---------|
| | D20 | D25 |
| Screws Ø | 20 mm | 25 mm |
| Rolls Width | 250 mm | 380 mm |
| Layflat Max | 200 mm | 340 mm |
| Thickness Range | 10 - 200 µm | |
| Throughput Max | 5 kg/h | 10 kg/h |

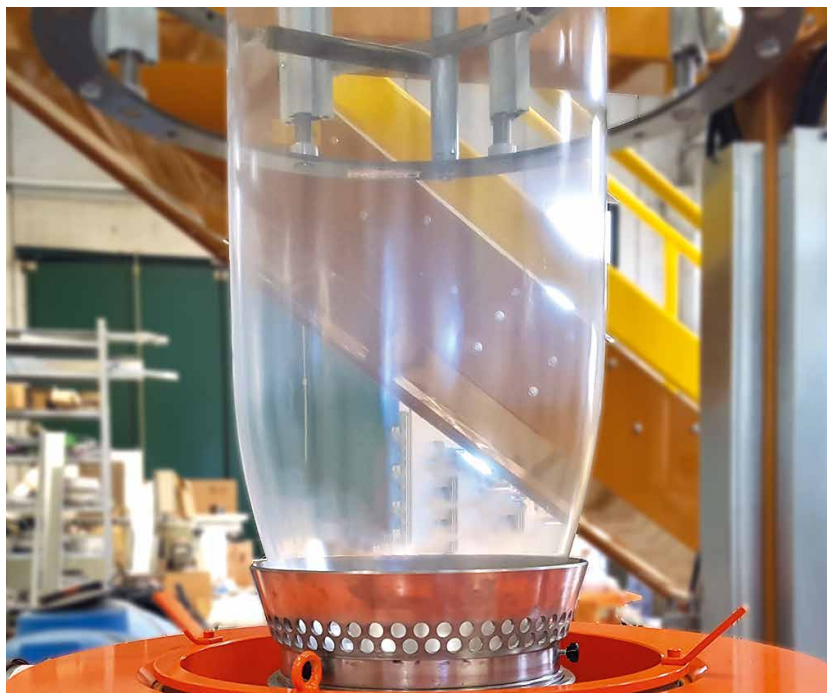
MINIBLOWN - K

MiniBlown K3, K5, K7 are designed to test the compatibility of different polymers in a multilayer film structure. In particular, they can be used to test the properties of barrier film with a wide range of thicknesses.

| TECHNICAL SPECIFICATION | MINIBLOWN - K | | |
|-------------------------|-----------------------------|----------|----------|
| | 3 layers | 5 layers | 7 layers |
| Screws Ø | any combination of 20/25 mm | | |
| Rolls Width | 380 mm | | |
| Layflat Max | 340 mm | | |
| Thickness Range | 10 - 200 µm | | |

miniblown

Blown Film



PILOTBLOWN

PilotBlown D35 is a monolayer model designed for small-scale production of tubular film. Depending on the desired layflat, it can be equipped with different dies and different rolls width.

| TECHNICAL SPECIFICATION | PILOTBLOWN |
|-------------------------|----------------|
| | D35 |
| Screw Ø | 35 mm |
| Rolls Width | 450/600/800 mm |
| Layflat Max | 400/550/750 mm |
| Thickness Range | 10 - 200 µm |
| Throughput Max | 25 kg/h |

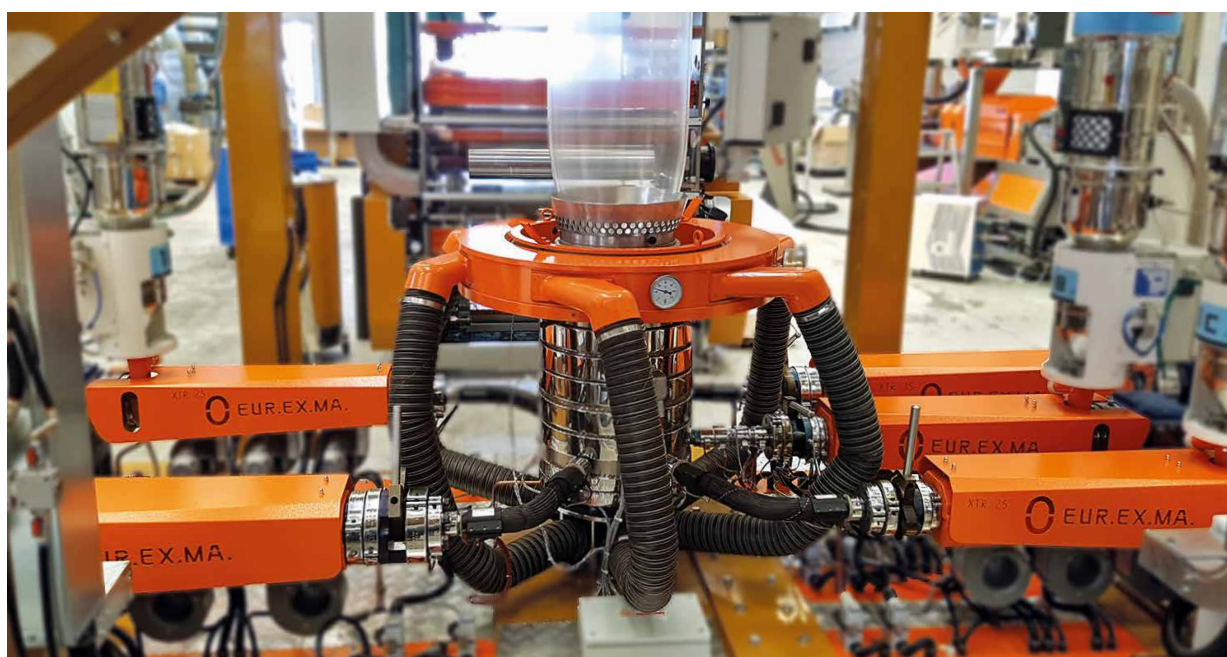




PILOTBLOWN - K

PilotBlown K3, K5, K7 are multilayer lines designed to test the compatibility of different polymers or for small-scale production. Depending on the desired layflat, it can be equipped with different dies and different rolls width.

| TECHNICAL SPECIFICATION | PILOTBLOWN - K | | |
|-------------------------|-----------------------------------|----------|----------|
| | 3 layers | 5 layers | 7 layers |
| Screws Ø | any combination of 20/25/30/35 mm | | |
| Rolls Width | 450/600/800 mm | | |
| Layflat Max | 400/550/750 mm | | |
| Thickness Range | 10 - 200 µm | | |





microex cast

CAST FILM lines are designed for the quality control of polymers, compounds, masterbatches, and recycled materials. The film samples can be used for mechanical properties testing, visual control of defects, processability of polymers and color matching.

MAIN FEATURES

- **Compatibility with a wide variety of materials**
- **Customizable configuration for film width and thickness**
- **Internal water circulation system for thermoregulation of the rolls**
- **Longitudinal movement to set up the distance of die lips/chill roll**
- **Screw extraction in less than 5 minutes to speed up the cleaning process**
- **Control panel to save and export process data on external USB memory**

MICROEX CAST

Microex Cast is the smallest version of the cast film lines, equipped with a MICROEX single-screw extruder. This line produces small samples of film with low waste and energy consumption (3kW) and can be customized with EYES, a visual quality inspection system that detects and categorizes all kind of defects.

| TECHNICAL SPECIFICATION | MICROEX CAST |
|-------------------------|------------------------------|
| | monolayer |
| Screw Ø | 17,5 mm - special lab design |
| Layflat Max | 100 mm |
| Thickness Range | 20 - 800 µm |
| Throughput Max | 1 kg/h |
| Chill Rolls | 1 |

Cast Film



minicast

MINICAST

MiniCast 20, 25, 35 are the monolayer lab versions that can be equipped with 20, 25, 35 mm Ø extruders. This line is especially used to create cast film samples with different thickness and layflat. Equipped with one or two chill rolls.

| TECHNICAL SPECIFICATION | MINICAST | | |
|-------------------------|-------------|---------|----------------|
| | 20 | 25 | 35 |
| Screws Ø | 20 mm | 25 mm | 35 mm |
| Rolls Width | 200 mm | 200 mm | 200/350/500 mm |
| Layflat Max | 180 mm | 180 mm | 180/300/450 mm |
| Thickness Range | 20 - 500 µm | | |
| Throughput Max | 7 kg/h | 12 kg/h | 30 kg/h |

MINICAST - K

MiniCast K3, K5, K7 are designed to test the compatibility of different polymers in a multilayer film structure. This line is especially used to create cast film samples with different thickness and layflat. Equipped with one or two chill rolls.

| TECHNICAL SPECIFICATION | MINICAST - K | | |
|-------------------------|-----------------------------------|----------|----------|
| | 3 layers | 5 layers | 7 layers |
| Screws Ø | any combination of 20/25/30/35 mm | | |
| Rolls Width | 200/350/500 mm | | |
| Layflat Max | 180/300/450 mm | | |
| Thickness Range | 20 - 500 µm | | |

Cast Film



minifoil

FOIL/SHEET lines are designed for the quality control of compounds and recycled materials. The samples can be used for mechanical properties testing, visual control of defects, processability of polymers, colour formulas and thermoforming.

MAIN FEATURES

- **Compatibility with a wide variety of materials**
- **Variable thickness of the sheet**
- **Equipped with horizontal, vertical, or 45° calendering units**
- **The calendering unit can be composed of 2 or 3 chill rolls**
- **Internal water circulation system for thermoregulation of the rolls**
- **Screw extraction in less than 5 minutes to speed up the cleaning process**
- **Control panel to save and export process data on external USB memory**

MINIFOIL

MiniFoil 25, 35 are the monolayer lab versions of the foil/sheet lines that can be equipped with 25, 35 mm Ø extruders. This line is especially used to create sheet samples with different thickness and layflat.

| TECHNICAL SPECIFICATION | MINIFOIL | |
|-------------------------|------------|------------|
| | 25 | 35 |
| Screws Ø | 25 mm | 35 mm |
| Rolls Width | 200/350 mm | |
| Layflat Max | 180/320 mm | |
| Thickness Range | 0,5 - 2 mm | 0,5 - 8 mm |
| Throughput Max | 10 kg/h | 30 kg/h |

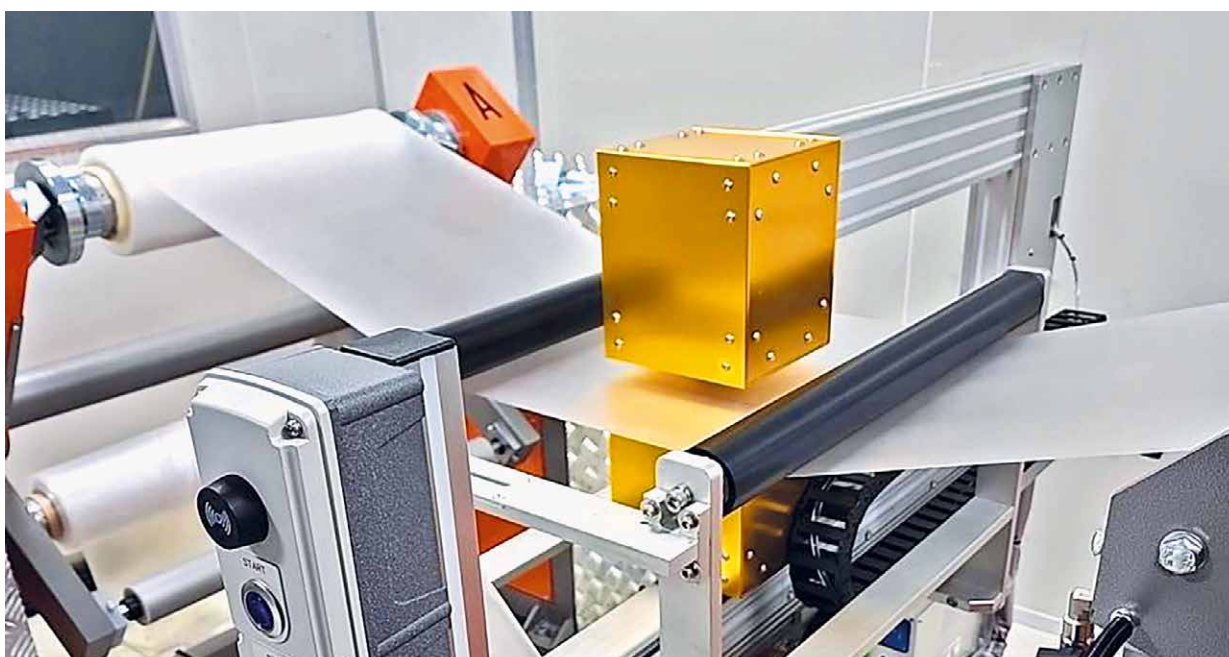
Foil/Sheet



MINIFOIL - K

MiniFoil K3, K5, K7 are designed to test the compatibility of different polymers in a multilayer sheet structure. This line is especially used to create sheet samples with different thickness and layflat.

| TECHNICAL SPECIFICATION | MINIFOIL - K | | |
|-------------------------|-----------------------------------|----------|----------|
| | 3 layers | 5 layers | 7 layers |
| Screws Ø | any combination of 20/25/30/35 mm | | |
| Rolls Width | 200/350/500 mm | | |
| Layflat Max | 180/320/450 mm | | |
| Thickness Range | 0,5 - 8 mm | | |



minifoil · K

Foil/Sheet



microex CP

COMPOUND lines are designed to test different formulations of compounds or small batches of additives and colour masterbatches with low cost and waste.

MAIN FEATURES

- **Compatibility with a wide variety of materials, virgin or recycled**
- **Variable granules size, ranging from 1 to 3 mm Ø**
- **Single and twin screw extruder versions**
- **Different extruder size versions**
- **Strand Pelletizer / Die Face Cutting setup**
- **Control panel to save and export process data on external USB memory**

MICROEX CP - CP TWIN

Microex CP and CP TWIN are the smallest versions of the compounding lines, equipped with MICROEX extruder. These models are very compact and allow the quality control of recycled materials, color masterbatches, additives and biopolymers with low waste and energy consumption (3kW).

MICROEX CP TWIN, thanks to a co-rotating twin-screw extruder, achieves the optimal mixing efficiency of the polymers. It can also be equipped with a degassing port and interchangeable elements for the screws.

Compound

| TECHNICAL SPECIFICATION | CP | CP TWIN |
|-------------------------|------------------------------------|---------|
| | single | twin |
| Screw Ø | 17,5 mm - special lab design | 12 mm |
| Input Material Form | granules | powders |
| Processed Materials | TPU, TPE, PA, PET PE, PC, PMMA, PP | |
| Throughput Max | 1 kg/h | |



X • TR

X-TR 20, 25, 35 are the single-screw lab versions for compounding that can be equipped with 20, 25, 35 mm Ø extruder. This line can be customized with a degassing port, screw coatings, and bimetallic barrels.

| TECHNICAL SPECIFICATION | X • TR | | |
|-------------------------|--------------|---------|---------|
| | 20 | 25 | 35 |
| Screws Ø | 20 mm | 25 mm | 35 mm |
| L/D Ratio | 30:1 | | |
| Processed Materials | all polymers | | |
| Throughput Max | 5 kg/h | 12 kg/h | 30 kg/h |

X • TWIN

X-TWIN S, M, L are the lab versions for compounding that can be equipped with 22, 30, 35 mm Ø co-rotating twin-screw extruder to achieve the optimal mixing efficiency of the polymers. Customizable with interchangeable elements for the screws, degassing ports, and side feeders to add any powder or liquid to the polymeric melt.

| TECHNICAL SPECIFICATION | X • TWIN | | |
|-------------------------|---------------------------|---------|---------|
| | S | M | L |
| Screws Ø | 22 mm | 30 mm | 35 mm |
| L/D Ratio | 40:1 / 44:1 / 48:1 / 52:1 | | |
| Processed Materials | all polymers | | |
| Throughput Max | 15 kg/h | 45 kg/h | 80 kg/h |



3D lines are used for the production of 3D printing filament. They can process standard materials such as ABS, PLA, PE, TPU or, if equipped with a double cooling system, several kinds of technopolymers.

- MAIN FEATURES**
- **Different filament diameter 1,75 / 2,85 mm**
 - **Customizable configuration of the cooling system**
 - **Available versions for high temperature**
 - **In-line diameter measurement system available as optional**
 - **Screw extraction in less than 5 minutes to speed up the cleaning process**
 - **Control panel to save and export process data on external USB memory**

MICROEX 3D - 3D PLUS

Microex 3D and 3D PLUS are the smallest versions of 3D filament lines, equipped with a MICROEX single-screw extruder. These models can be used to test the characteristics and formulations of different materials before sending them to serial production with low waste and energy consumption (3kW).

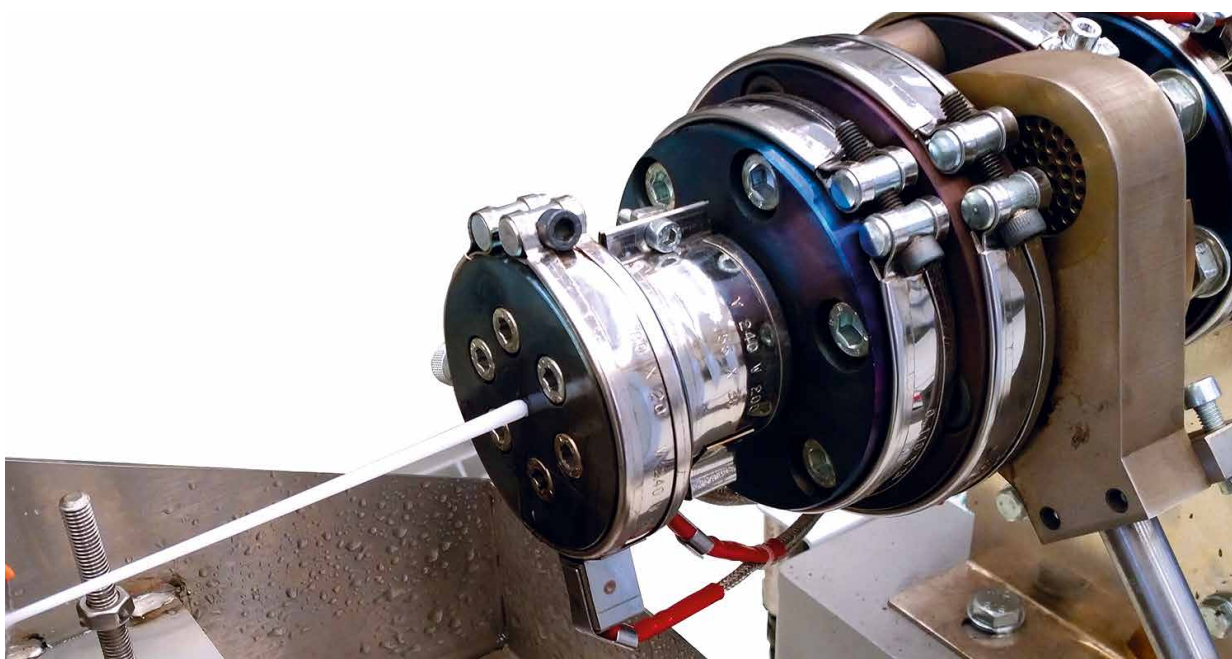
| TECHNICAL SPECIFICATION | 3D | 3D PLUS |
|-------------------------|------------------------------|----------------|
| | single cooling | double cooling |
| Screw Ø | 17,5 mm - special lab design | |
| Filament Ø | 1,75 mm | |
| Throughput Max | 1 kg/h | |
| Cooling System | Air | Air and Water |



MINI3D

Mini3D is employed for the production of filament for 3D printing. It can also be equipped with a high temperature extruder (450°C) and a double cooling system to process several kinds of technopolymers.

| TECHNICAL SPECIFICATION | MINI3D |
|-------------------------|-------------------------|
| | single / double cooling |
| Screw Ø | 25 mm |
| Filament Ø | 1,75 mm |
| Throughput Max | 10 kg/h |
| Cooling System | Water / Air and Water |



mini3D

3D Printing Filament



microex SP

MELT SPINNING line is designed for the creation of continuous filament and Full-Drawn Yarn samples used to test several kinds of polymers.

MAIN FEATURES

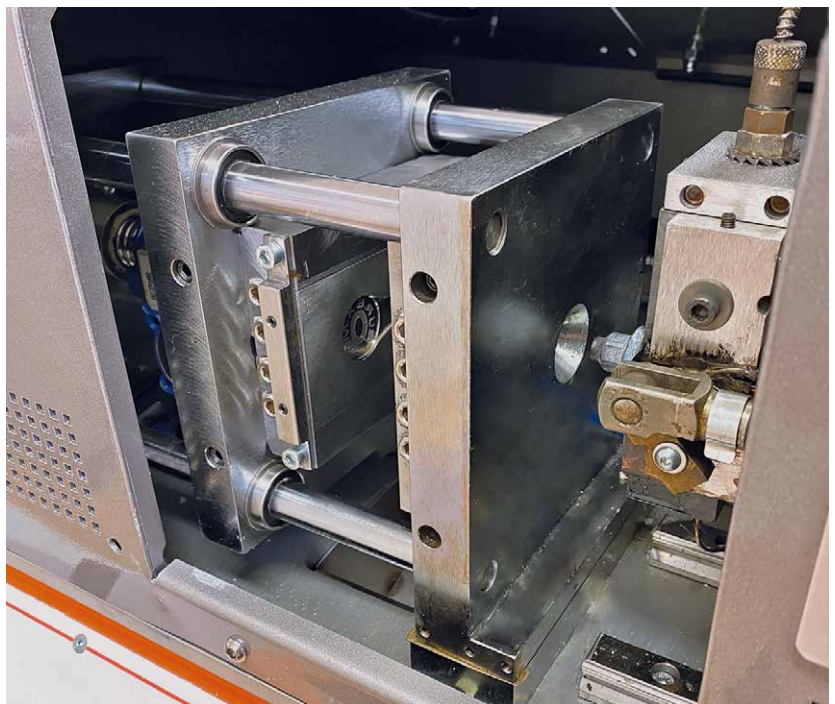
- **Compatibility with PP, PA, PET, and elastomeric polymers**
- **Different sizes and shapes of the spinneret holes**
- **Quenching cabinet to equalize the air flow on all the surface**
- **Gear melt pump to dose the filaments**
- **Adjustable interlacing unit**
- **Two draw fields configuration**
- **10" Touch screen control panel to save and export process data on USB**

MICROEX SP

Microex SP is the benchtop line designed to create small samples of Full-Drawn Yarn, equipped with a Microex single-screw extruder. This line can be used to test characteristics and formulations of different materials with low waste and energy consumption (3kW).

Melt Spinning

| TECHNICAL SPECIFICATION | SP |
|-------------------------|-------------------------------------|
| | full-drawn yarn |
| Screw Ø | 17,5 mm - special lab design |
| Count | 70 - 250 dtex |
| N. filaments | up to 40 |
| Throughput Max | 1 kg/h |
| Holes Shapes | trilobal, round, hollow, and others |



INJECTION MOULDING line is designed to test colours, polymers, and additives. It can also be used to prepare specimens for analytical purposes with low waste and energy consumption.

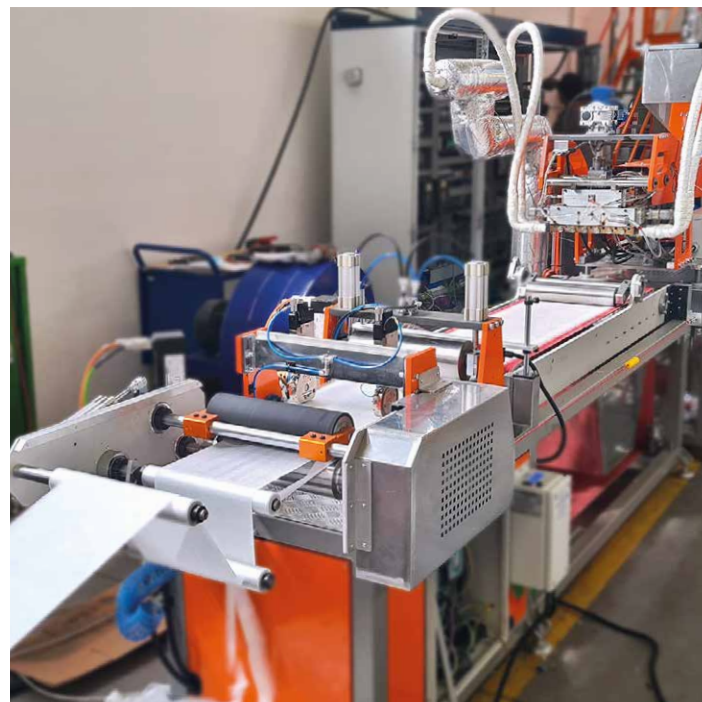
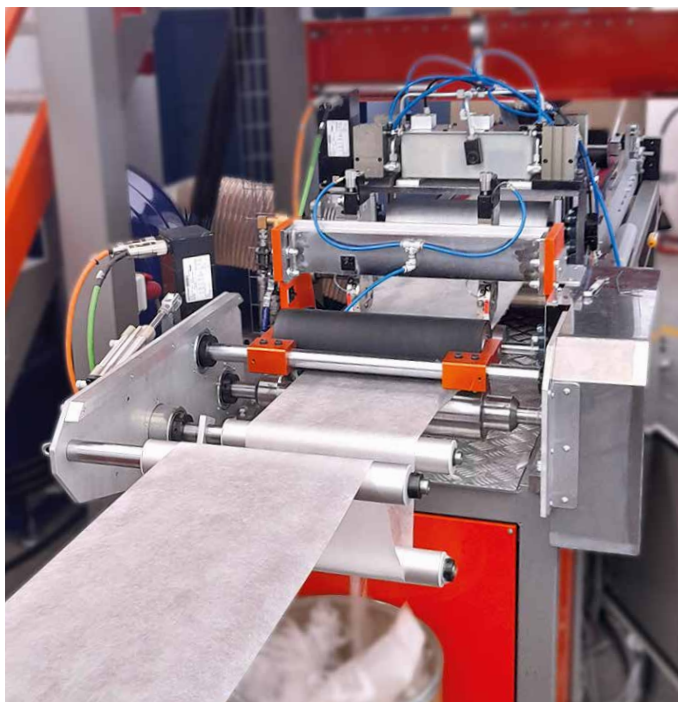
- MAIN FEATURES**
- **Compatibility with a wide variety of materials**
 - **Fast mould change**
 - **Fully electric machine**
 - **Mould thermoregulation circuit**
 - **Screw extraction in less than 5 minutes to speed up the cleaning process**
 - **Control panel to save and export process data on external USB memory**

MICROEX MD
 Microex MD is the benchtop line designed to produce mould samples. It is meant for the quality control of different materials, new and recycled, and for testing various polymers with low waste and energy consumption (3kW).

| TECHNICAL SPECIFICATION | MD |
|-------------------------|--------------------|
| | injection moulding |
| Screw | lab design |
| Volume | 8 cm ³ |
| Clamping Force | 2 ton |
| Opening Stroke | 100 mm |

microex MD

Injection Moulding



NONWOVEN line is designed for the creation of samples of nonwoven used in many applications and industries including Automotive, Building Products, Filtration, Medical, and many others.

- MAIN FEATURES**
- **High precision melt pumps**
 - **High quality spinning dies**
 - **Compatibility with PP, Polyesters and Biopolymers**
 - **Blow ducts system to cool the filaments to achieve desired properties**
 - **Screw extraction in less than 5 minutes to speed up the cleaning process**
 - **Control panel to save and export process data on external USB memory**

SPUNBOND 300 - MELTBLOWN 300
 SpunBond 300 and MeltBlown 300 are the monolayer lab versions for the production of nonwovens that can be equipped with a 25 mm Ø extruder. These lines can be used to test the compatibility of different polymers or for small-scale production.

| TECHNICAL SPECIFICATION | SPUNBOND 300 | MELTBLOWN 300 |
|-------------------------|--------------------------------|--------------------------|
| | nonwoven | |
| Screw Ø | 25 mm | |
| Product Width | 250 mm | |
| Thickness | 20 - 80 g/m ² | 25 - 80 g/m ² |
| Throughput Max | 8 kg/h | |
| Processed Materials | PP, Polyesters and Biopolymers | only PP |



MIX DR1 is a lab mixer used to prepare melted polymer samples without heating.
 Capacity: 50-100 g
 Speed: 3000 rpm
 Power: 5,5 KW



MIX 10 is a powder lab mixer used to prepare mixed samples with colours and additives, with upper inlet for liquids. Available with cooling system.
 Power: 2,2 KW



HP PRESS 150 and **HP PRESS 400** are hot plates pressing machines, available in the benchtop type (150x150 mm plate) or the standalone version (400 x 400 mm plate). Working with temperatures up to 400°, HP PRESS 400 can be equipped with a cooling system.





MELT
SPINNING



CAST
FILM

3D
FILAMENT



See first-hand our benchtop machines operating at **EUR.EX.LAB**: a state-of-the-art 600 sqm testing area with our well-known products and equipment.

In this area, you will have the chance to test your materials and formulations to verify the quality of the final product.

Our experienced technicians will assist you and recommend the most suitable solutions tailored to your needs.

COME AND VISIT OUR TESTING LAB

WHERE IDEAS MEET TECHNOLOGY

Take advantage of the laboratory and its various equipment, such as the visual quality inspection system **EYES**, to meticulously detect and categorize all kinds of defects.

Microex Cast
Microex Blown
Microex MD
Single and Twin Screw
Compounding Lines



COMPOUND

BLOWN
FILM



INJECTION
MOULDING





PAMMATEC
EUROTECH EXTRUSION MACHINERY SRL



EUR.EX.MA
EUROTECH EXTRUSION MACHINERY SRL

The background features a complex, abstract pattern of curved lines and dots, resembling a stylized globe or a network diagram. The lines are thin and grey, with some dots in shades of grey and orange. The overall aesthetic is clean and modern, with a focus on geometric shapes and movement.

OEUR.EX.MA
LAB & PILOT TECHNOLOGY — SYNCRO GROUP

EDITION
2024



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