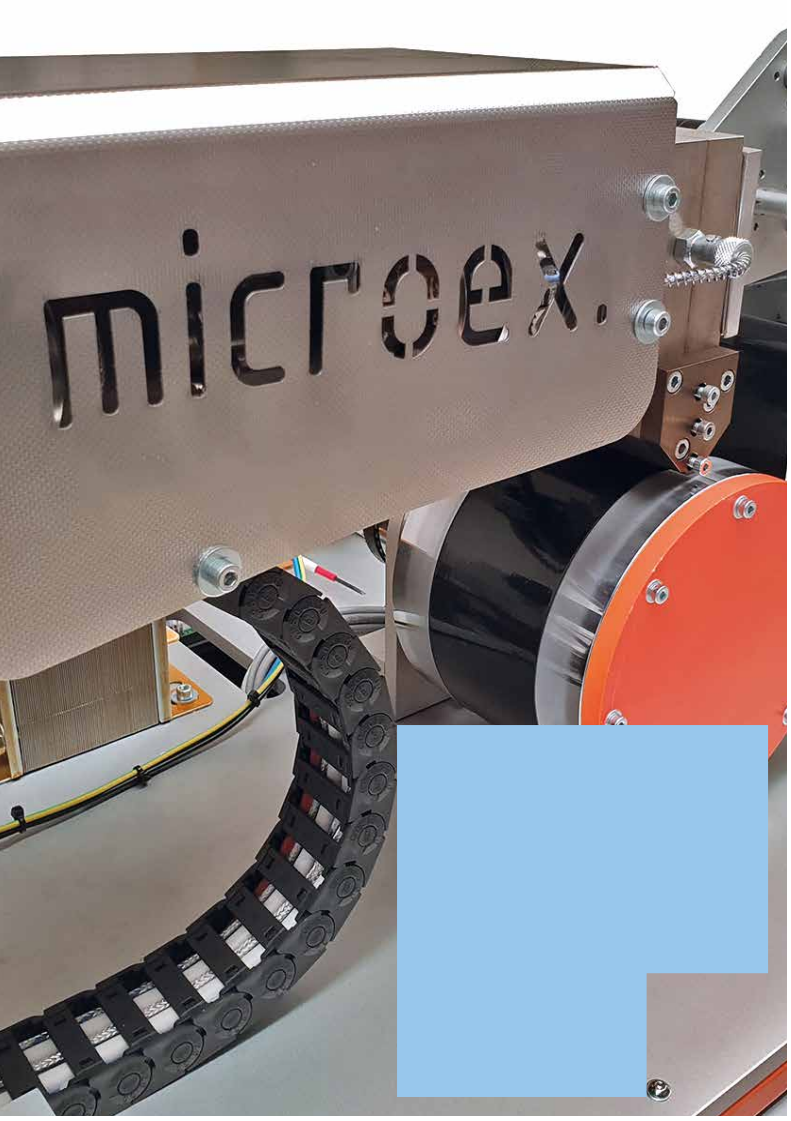
EUR.EX.MA

LAB & PILOT TECHNOLOGY — SYNCRO GROUP

PRODUCT CATALOGUE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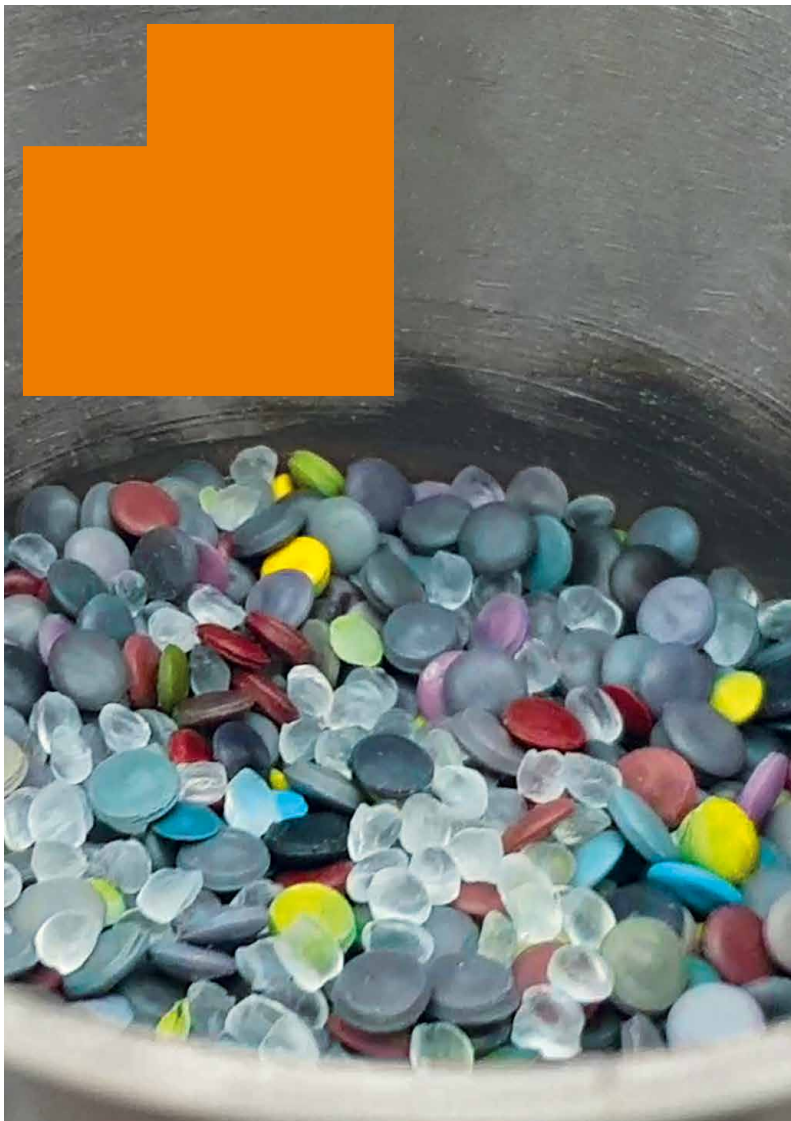

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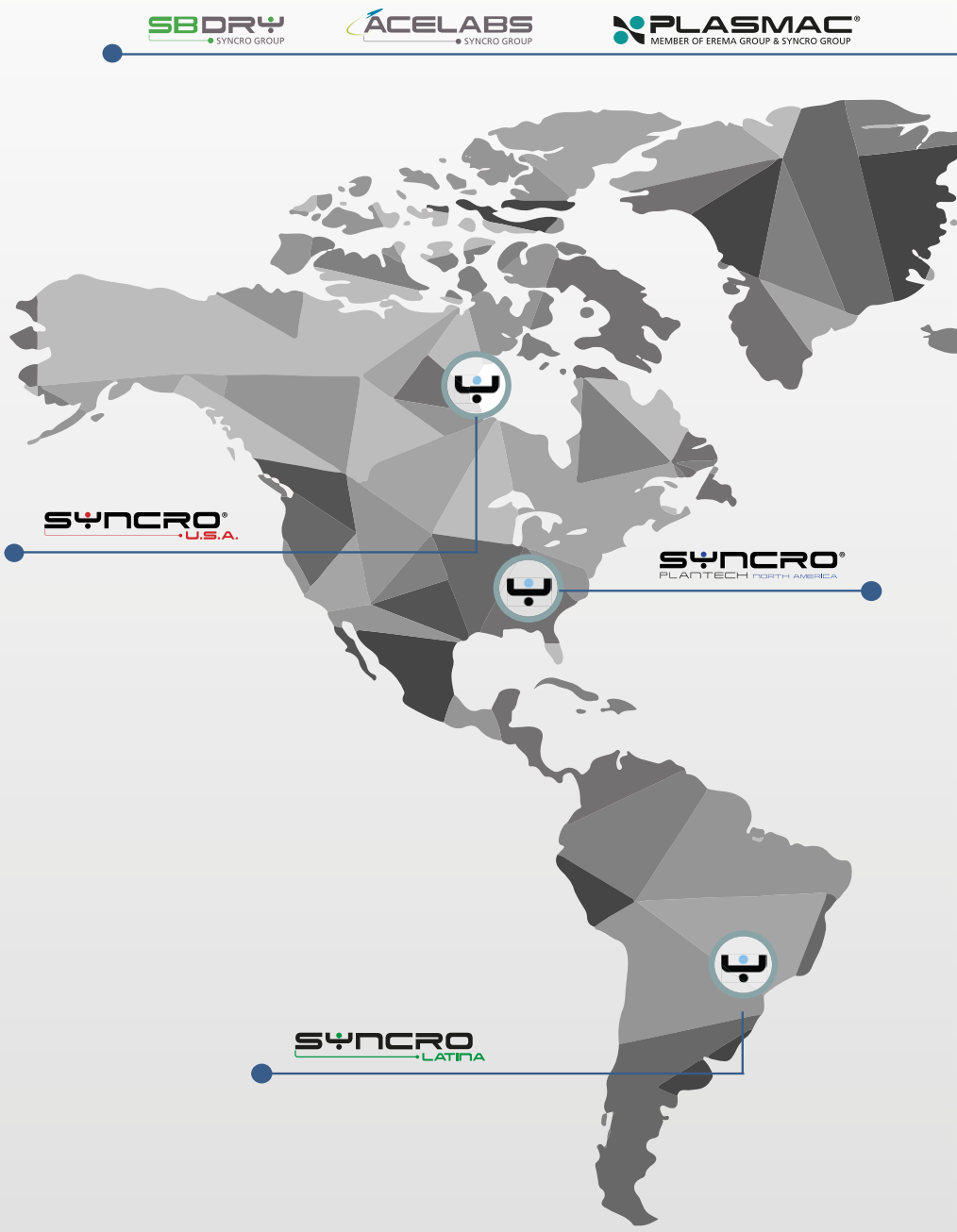

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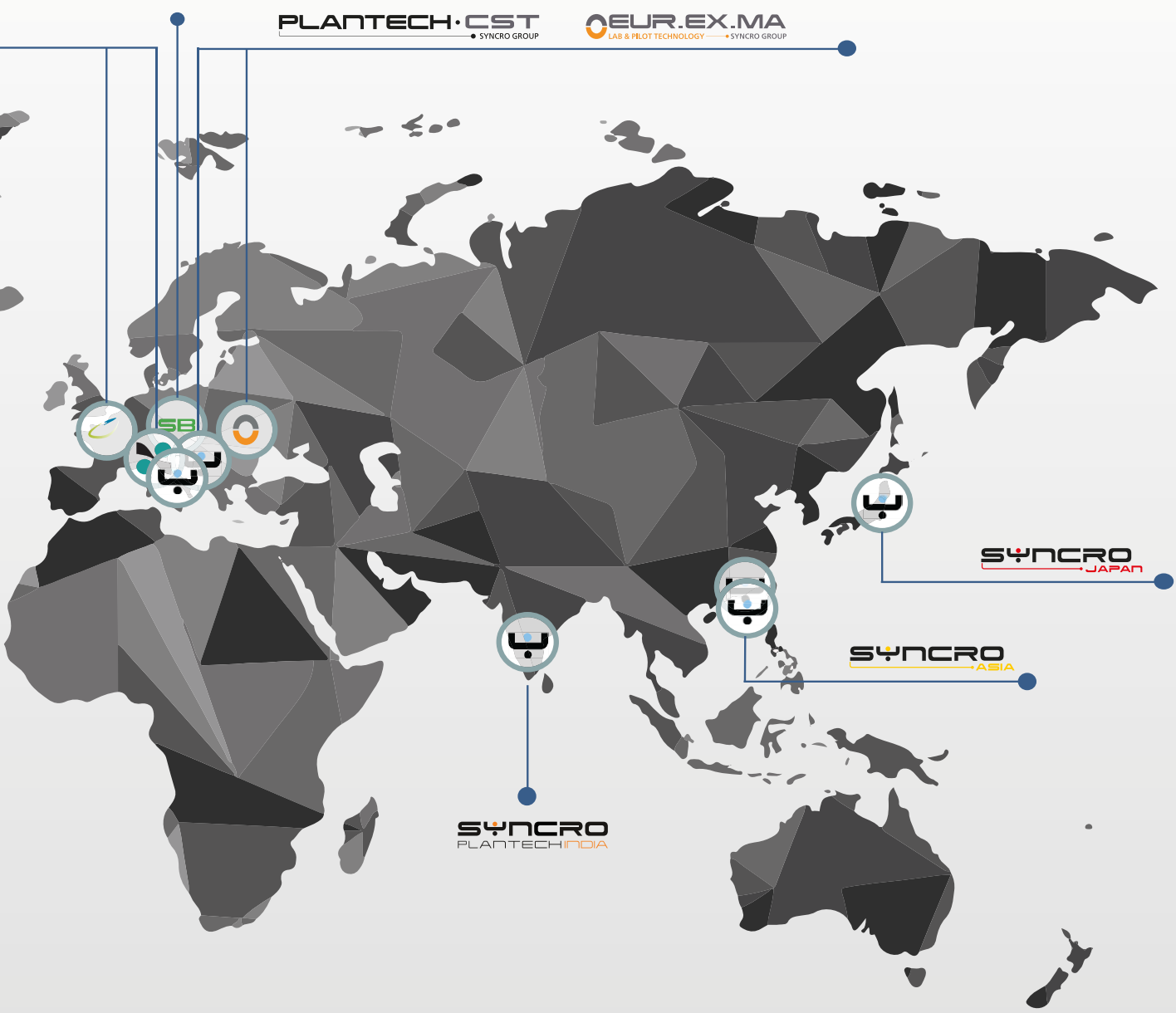

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SYNCRO GROUP

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.

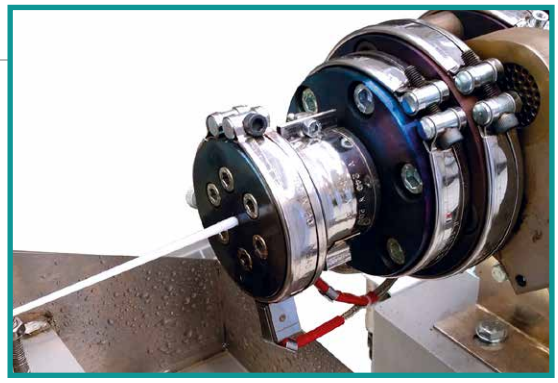
YOUR GLOBAL LOCAL COMPANY

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

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



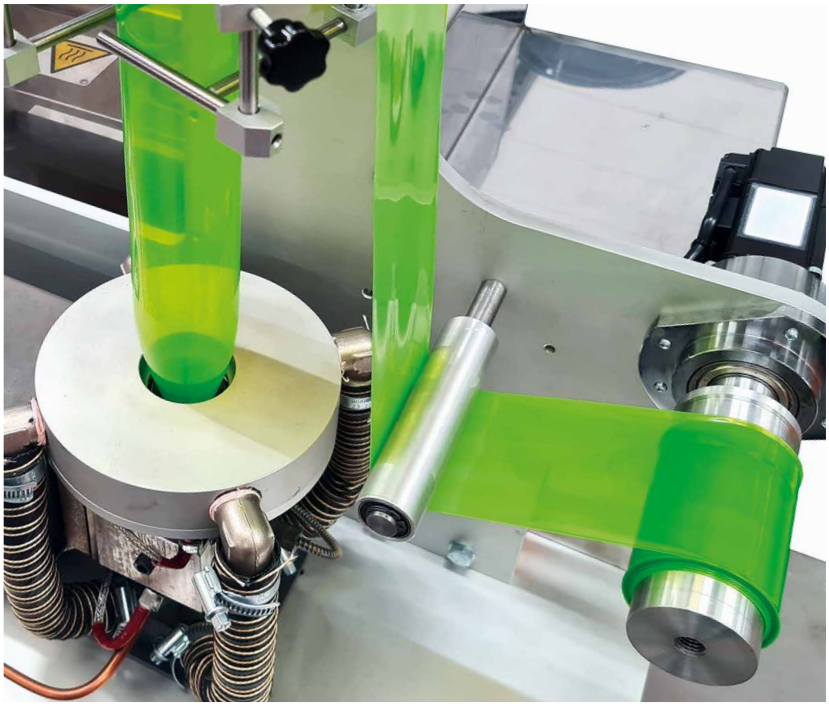
Based on our technicians' expertise, EUR.EX.MA. combines engineering and design to pioneer solutions and applications in the field of **Plastic Processing Technology**. Our main goals are to achieve constant innovation and meet your needs through high-quality mechanical construction **Made in Italy**.

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.



microex blown

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

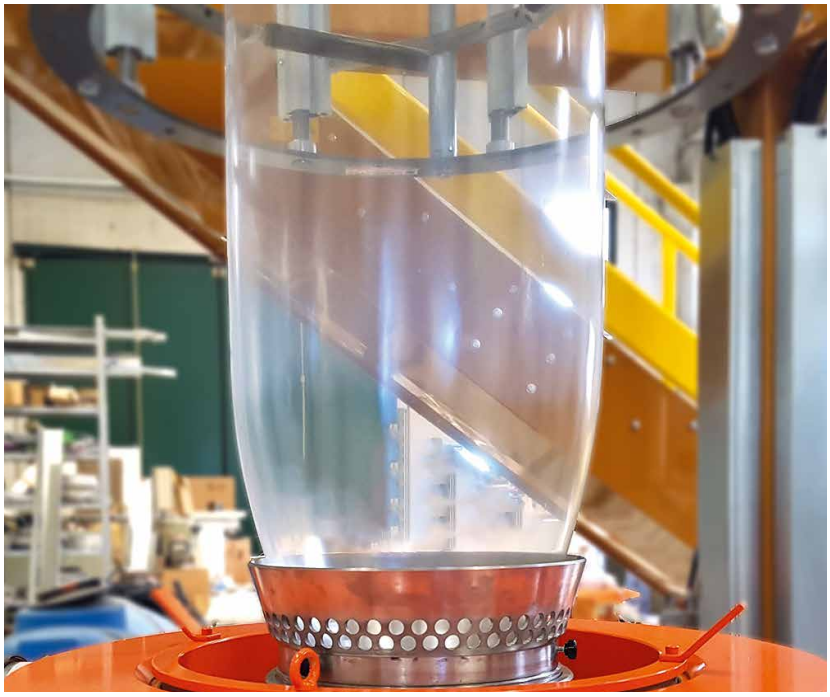
MiniBlown D20 and D25 are the monolayer lab versions that can be equipped with 20 or 25 mm Ø extruders. This line is especially used to test masterbatches and color formulations or to produce small batches.

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		

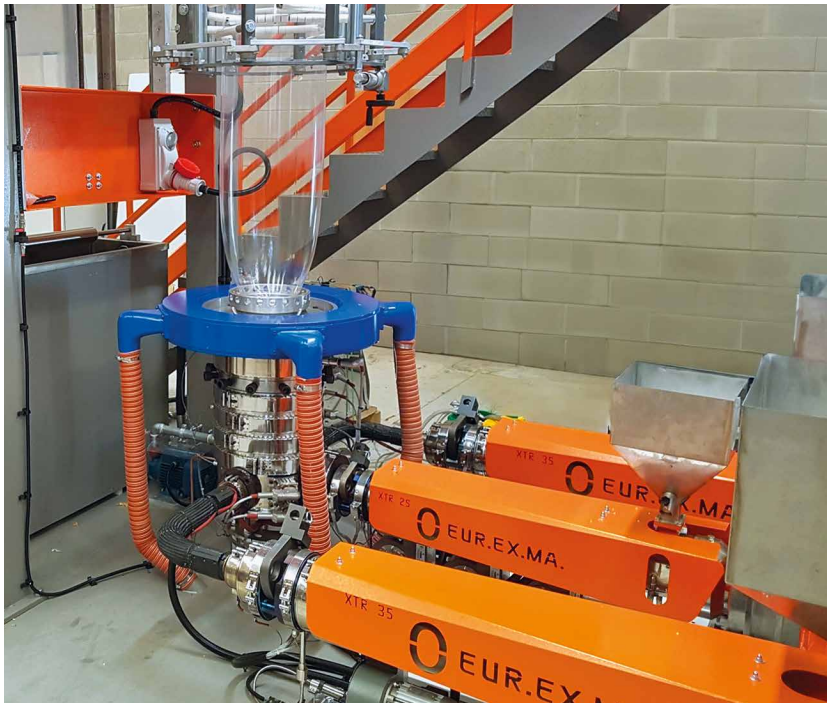


pilotblown

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.

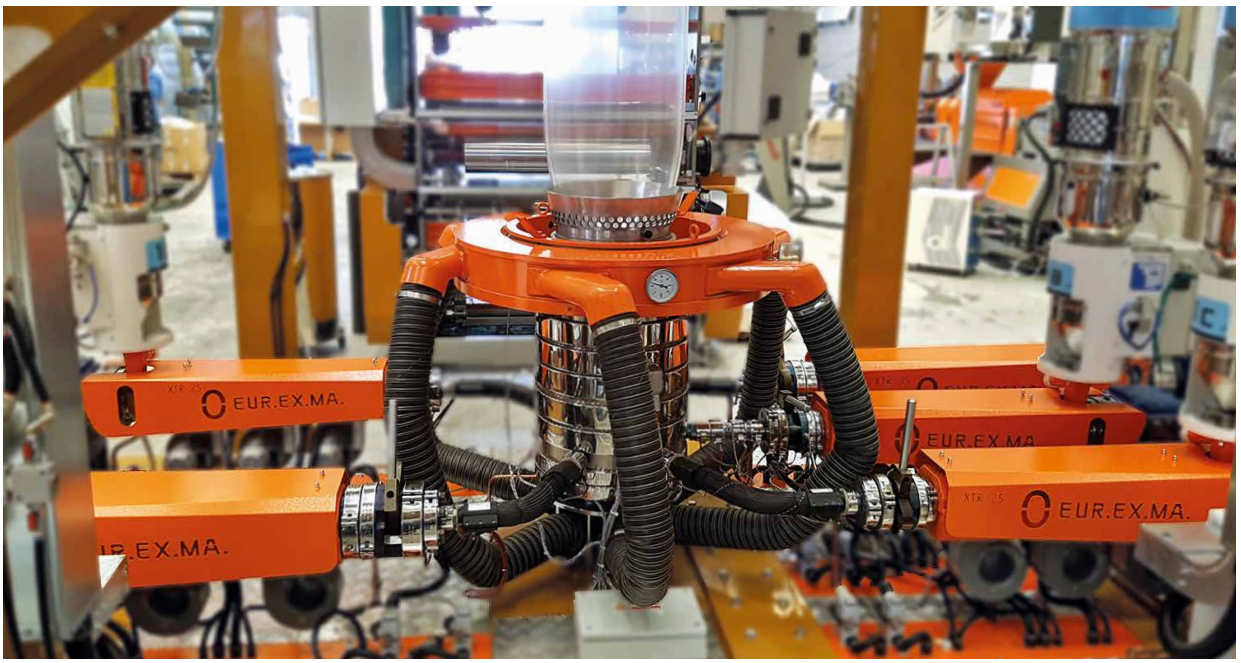
TECHNICAL SPECIFICATION	PILOTBLOWN
	D35
Screw Ø	35 mm
Rolls Width	450/600/800 mm
Layflat Max	400/550/750 mm
Thickness Range	10 - 200 µm
Throughput Max	25 kg/h



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		



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

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

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		

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

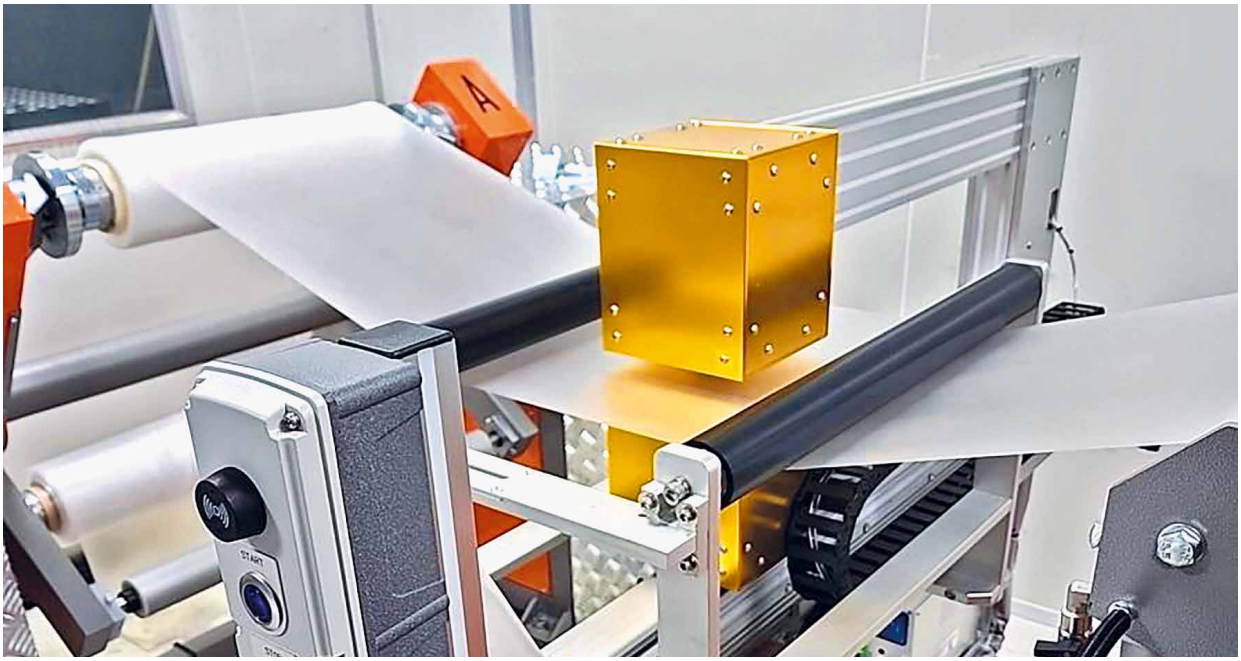
MiniFoil 25, 35 are the monolayer lab versions of the foil/sheet lines that can be equipped with 25, 35 mm Ø extruders. This line is especially used to create sheet samples with different thickness and layflat.

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

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		



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**

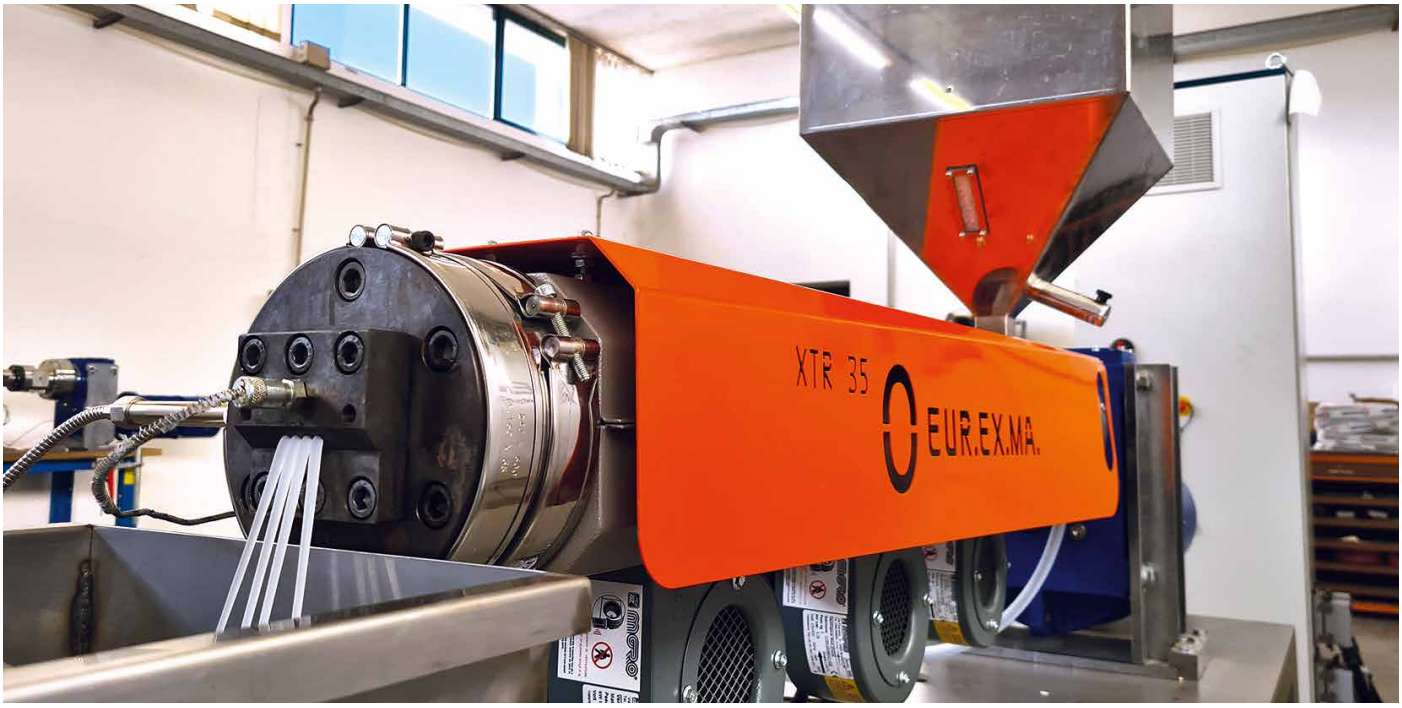
MICROEX CP - CP TWIN

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.

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	

Compound



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**
- → **Customizable configuration of the cooling system**
- → **High temperature version available**
- → **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

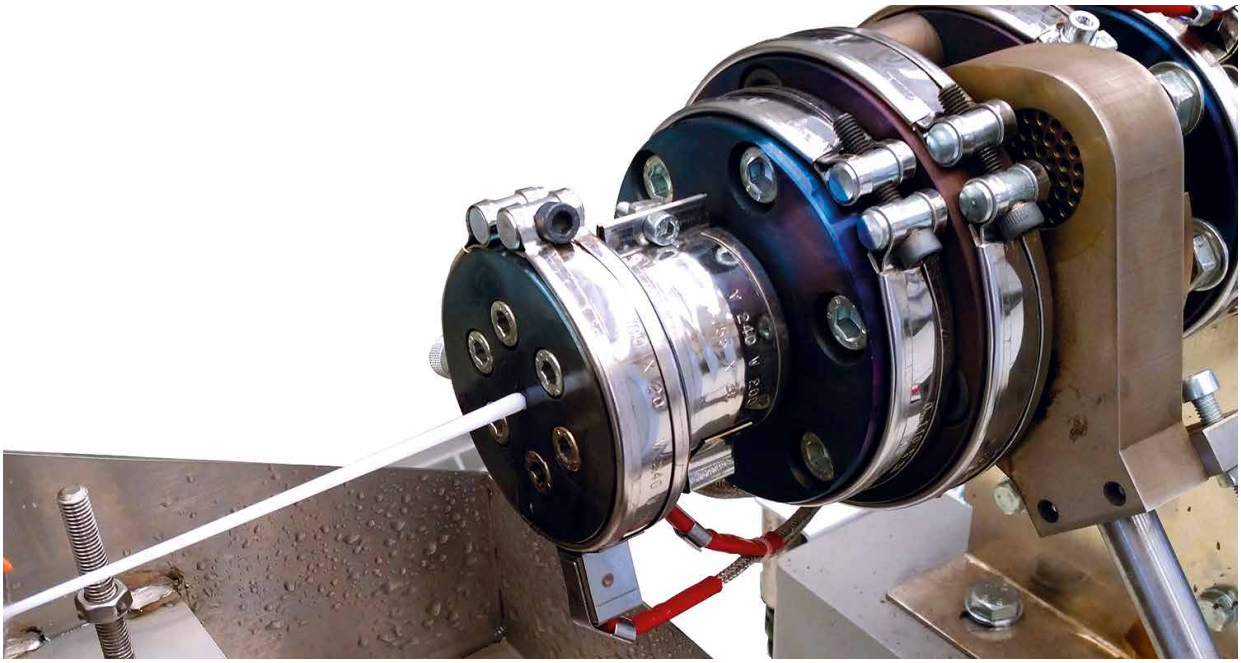
Microex 3D and 3D PLUS are the smallest versions of 3D filament lines, equipped with a MICROEX single-screw extruder. These models can be used to test the characteristics and formulations of different materials before sending them to serial production with low waste and energy consumption (3kW).

TECHNICAL SPECIFICATION	3D	3D PLUS
	single cooling	double cooling
Screw Ø	17,5 mm - special lab design	
Filament Ø	1,75 / 2,85 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



microex SP

MELT SPINNING line is designed for the creation of continuous filament yarn samples used to test several kinds of polymers.

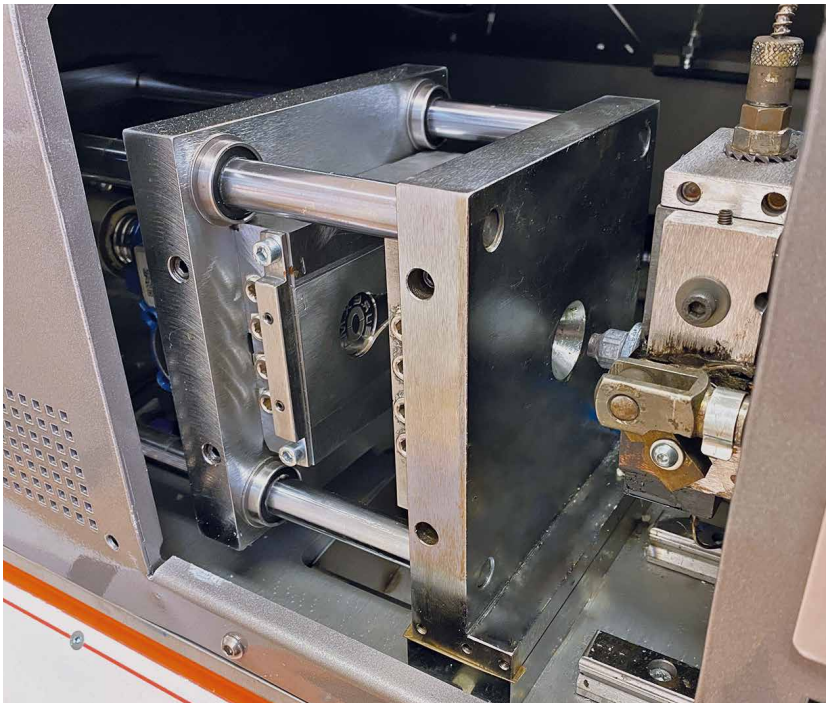
MAIN FEATURES

→ **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 continuous filament 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 (around 3kW).

TECHNICAL SPECIFICATION	SP continuous filament 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.

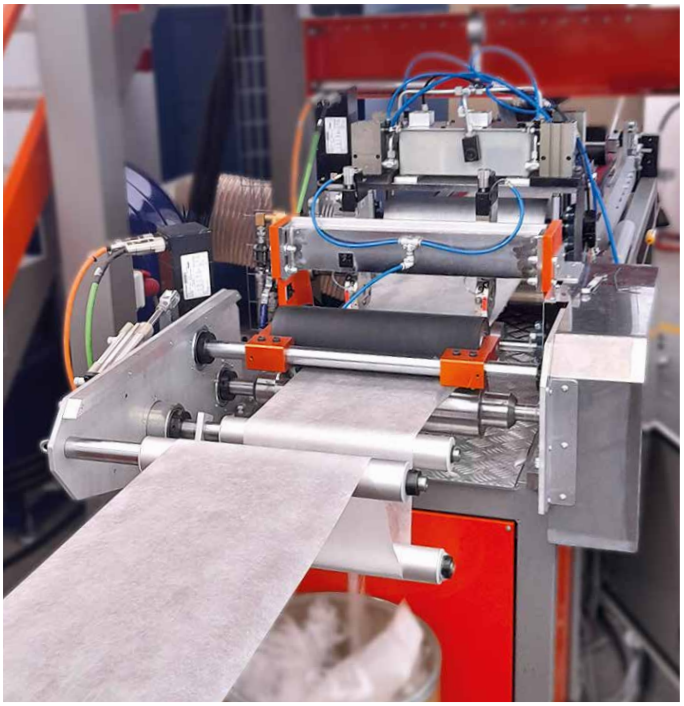
MAIN FEATURES

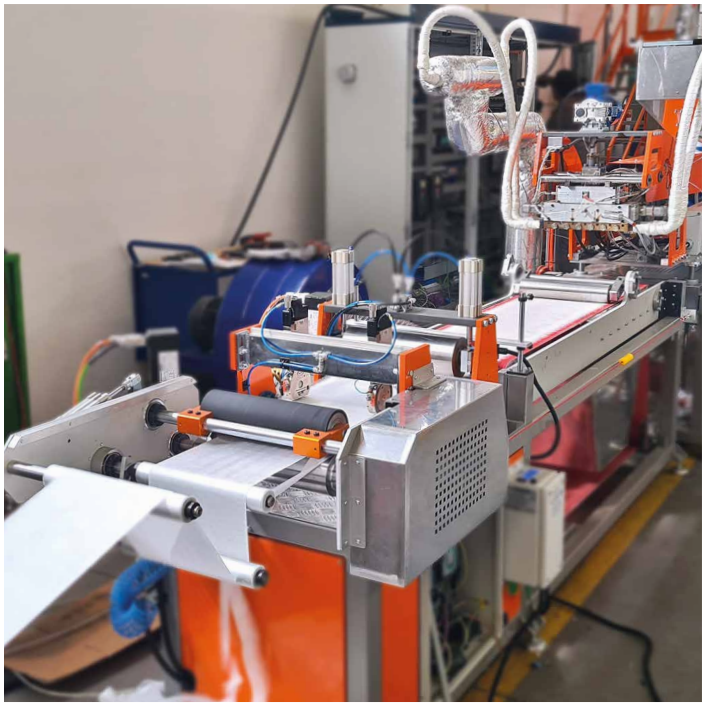
- → **Compatibility with a wide variety of materials**
- → **Fast mould change**
- → **Fully electric machine**
- → **Mould thermoregulation circuit**
- → **Screw extraction in less than 5 minutes to speed up the cleaning process**
- → **Control panel to save and export process data on external USB memory**

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 cm³
Clamping Force	2 ton
Opening Stroke	100 mm





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/m²	25 - 80 g/m²
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.

EUR.EX.LAB

LAB & PILOT TECHNOLOGY — SYNCRO GROUP

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

COMPOUND

BLOWN FILM

INJECTION MOULDING

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


EUR.EX.MA
EUROTECH EXTRUSION MACHINERY SRL


EUR.EX.MA
LAB & PILOT TECHNOLOGY
SYNCRO GROUP

EDITION
2024

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