

# EXTRUSION FOAMING LINE

Downgauging the production to maximize the understanding: Lab scale production unit to test new raw materials, formulations or blowing agents to facilitate the development of advanced products

## CHARACTERISTICS

- SINGLE LINE WITH A DYNAMIC MIXER AND TWO COOLING AREAS. FULLY INSTRUMENTED TO MONITOR PRESSURE AND TEMPERATURE
- THROUGHPUT FROM 3 TO 5 kg/h
- COMBINATION OF UP TO 5 DIFFERENT BLOWING AGENTS: CO<sub>2</sub>, N<sub>2</sub>, HC, HFOs, ETOH, etc.
- SINGLE-SCREW BUT WITH POSSIBILITY OF COMPOUNDING ON TWIN-SCREW EXTRUDERS
- TAILORED FORMULATIONS: POLYOLEFINS (PE, PP, ETC.), POLYSTYRENE, THERMOPLASTIC ELASTOMERS, BIOPLASTICS, ETC.
- DIE GEOMETRY ADAPTABLE TO THE PROJECT: SHEETS, PIPES, STRANDS, ETC.
- DIMENSIONS OF THE SAMPLES LARGE ENOUGH FOR CHARACTERIZATION

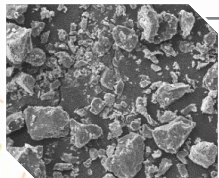


## APPLICATIONS



### DESIGN AND EVALUATION OF NEW FORMULATIONS

- Selection of raw materials (polymers and additives) and analysis of foamability for extrusion foaming applications.
- Evaluation of complex blowing agent blends to reduce density and improve the performance.
- Optimization of the processing conditions.



### ADDITIVES: TESTING AND DEVELOPMENT

- Testing additives: nucleants, flame retardants, etc.
- Detailed analysis of the effect of the additive in the processing, structure, and properties.
- Use of specific additives developed by CellMat to achieve improved structures.



### PROTOTYPE PRODUCTION AND CHARACTERIZATION

- Fabrication of prototypes at small scale for testing properties: thermal conductivity, mechanical properties, fire behavior, acoustic absorption, etc.
- Size and dimensions of the prototypes can be adjusted to the requirements of the client.

### CONTACT US FOR MORE INFORMATION

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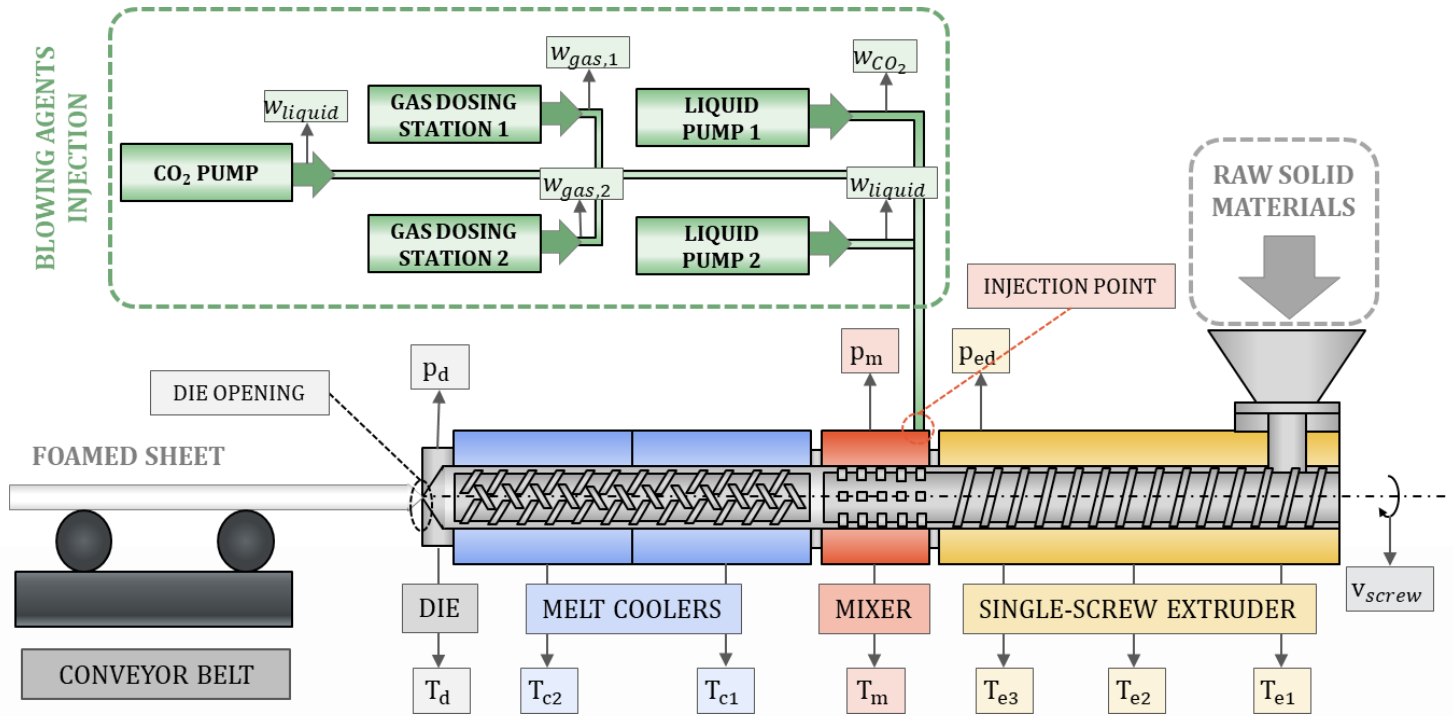
### CELLMAT TECHNOLOGIES S.L.

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## TECHNICAL SPECIFICATIONS



### SINGLE-SCREW EXTRUDER

Model	Thermoscientific Rheomex 252
Dimensions	L/D = 25 (Screw: 19 mm)
Feeding	Pellets / Hopper
Maximum Temperature	450 °C
Maximum screw speed	250 rpm
Heating areas	3

### MIXER AND INJECTION POINT

Mixer type	Static
Length	5D
Maximum pressure	280 bar

### MELT COOLERS

Type	Oil heated tube heat exchangers
Maximum Temperature	260 °C

### PHYSICAL BLOWING AGENT PUMP

#### PRESSURIZED LIQUIDS DOSING STATION (x2)

Model	Promix Z450mc
Maximum pressure	300 bar
Temperature	Up to - 10 °C
Dosing range	10 – 500 g/h

#### HPLC PUMP FOR LIQUIDS (x2)

Model	Flusys WADose LITE HP
Maximum pressure	400 bar
Dosing range	0.05 – 10 ml/min

#### CO<sub>2</sub> PUMP

Model	Supercritical Fluids Tec. SFT-10
Maximum pressure	680 bar
Dosing range	0.01 – 24 ml/min

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