

BEAD FOAMING AUTOCLAVE

Development of tailored formulations and production routes

CHARACTERISTICS

- BEAD EXPANSION ON HIGH-PRESSURE STIRRED REACTOR
- PRODUCTIVITY UP TO 1 kg/batch
- SOLID MICRO-PELLETS ON CUSTOMIZED STRAND-PELLETIZER AND COMPOUNDING ON TWIN-SCREW EXTRUDERS
- TAILORED FORMULATIONS: EPP, EPS, EPLA, ETPEs, EPC, ETC.
- DIFFERENT BLOWING AGENTS: CO₂, N₂, HC, HFOs, ETOH, etc.
- LAB-SCALE THERMOFORMING ON STEAM-HEATED MOLDS



MICROPELLETS



EXPANDED BEADS



MOLDED PARTS

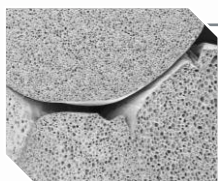


APPLICATIONS



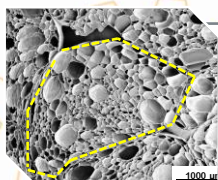
DEVELOPMENT OF NEW FORMULATIONS FOR BEAD FOAMING

- Selection of raw materials: polymers and additives.
- Analysis of foamability for bead foaming applications.
- Evaluation of blowing agents and blowing agent blends.
- Optimization of the processing conditions.



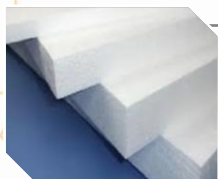
WELDING AND MECHANICAL PROPERTIES

- Study of the welding behavior in a lab-scale steam chest molding process.
- Evaluation of the quality of the welding by studying the mechanical properties.



ADVANCED CHARACTERIZATION

- Evaluation of the blowing agent concentration remaining throughout the process.
- Multi-scale structural analysis of the foamed parts: from the beads to the cellular structure.



PROPERTY CHARACTERIZATION

- Determination of all the relevant properties: thermal conductivity, fire behavior, acoustic absorption, tensile, compression, abrasion, rebound, creep, etc.
- Modeling of the properties.

CONTACT US FOR MORE INFORMATION

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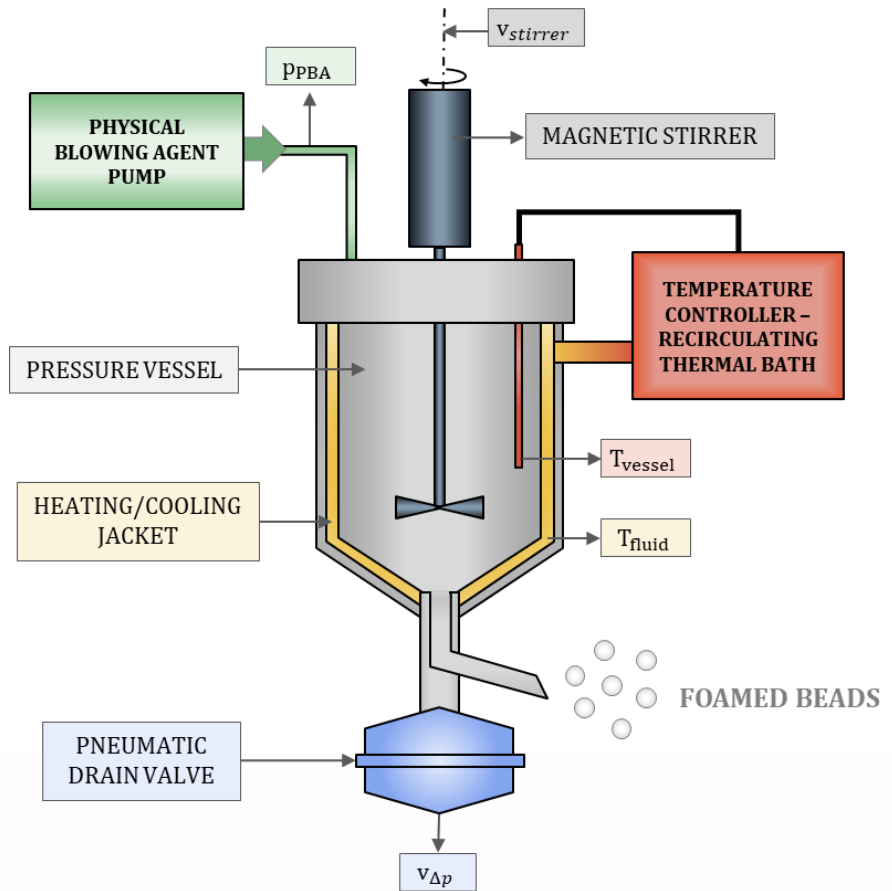
Paseo de Belén 9A

47011, Valladolid, Spain

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TECHNICAL SPECIFICATIONS



PRESSURE VESSEL

Model	Versoclave special Type 3, Buchiglasuster
Volume	5 L
Output	1 kg/batch
Maximum pressure	200 bar

HEATING COOLING JACKET

System	Integrated heating jacket
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TEMPERATURE CONTROLLER

Model	Presto A40, Julabo
Temperature range	-40 °C – 250 °C
Stability	± 0.01 °C

MAGNETIC STIRRER

Model	Cyclone 300ac, Buchiglasuster
Speed controller	0-2000 rpm
Maximum torque	300Ncm

DRAIN BOTTOM VALVE

System	Pneumatic
Minimum opening time	0.1 ms
Maximum pressure	200 bar

PHYSICAL BLOWING AGENT PUMP

Model	260D (Teledyne Isco)
Maximum pressure	517 bar
PBAs	CO ₂ , HCs, HFOs, Liquids, etc.

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