PLASTECO corporation

Company Profile

People and environment-friendly plastic.

A better future through people-friendly plastic technology

It would not be possible for modern society to exist at all without the benefits of plastics. However, on the other hand, the use of these resources has forced us to come to terms with resource and waste issues, as well as many other environmental problems.

Under these circumstances, Plasteco Corporation has consistently worked to develop environmentally friendly plastic products, manufacturing technology, and manufacturing equipment since its establishment in 2007.
As a result, world-first technologies have been developed and applied such as the ultra-lightweight thin-walled PET bottle filling system and the supercritical inert gas foam molding system.

Plasteco will continue to innovate further in environmentally harmonized technologies and develop plastic technologies that are loved by people and friendly to the environment, thereby enriching people's lives.

Plasteco Corporation
President and Representative Director
Ryutaro Hayashi

Kisera Kawanishi Laboratory (Kawanishi City, Hyogo Prefecture)

Business Outline

Supercritical Inert Gas Microcellular Foam Molding Technology

Commissioned Production of Foam Molded Product Samples

Quantitative Supercritical Inert Gas Feeder

We manufacture and sell plastic molding equipment based on our unique foam molding technology, sample trial production by commissioned experiment, and expand our business globally, mainly in China and the U.S. markets.

Global Expansion Business

Polylactic acid (PLA) Foamed Products

Supercritical Inert Gas Microcellular Foam Molding Technology

- Foaming agent is safe and environmentally friendly
- High performance, high magnification ultrafine foam
- Total technology support

It's not explosive or flammable like the hydrocarbon-based blowing agents such as chlorofluorocarbons and butane used in conventional foaming technology,and there's no need to make facilities explosion-proof.

It's an environmentally friendly technology with a low global warming potential. It's not toxic like chemical foaming agents, no residue effects, excellent recyclability, and can be used safely for medical products, etc.

With our many years of experience and know-how, we provide consistent support from raw materials to complete molding equipment and molding process development.

Commissioned foam extrusion molding service and batch foaming service

Plasteco has its own extrusion molding equipment and batch foaming equipment and offers contract manufacturing of product samples from raw materials brought in.

Clean Foam Consulting Services

We supply consulting services for clean foam applications, economic benefits, experimental equipment, and production equipment.

Trial production inquiry
Shape, Size, Material

→ Meeting/ Discussion
Specific trial production conditions, etc.

→ Trial production and testing
Witness test is also possible.

Environmentally Friendly and High Value-Added Micro Foaming Technology


Biodegradable fishing buoy

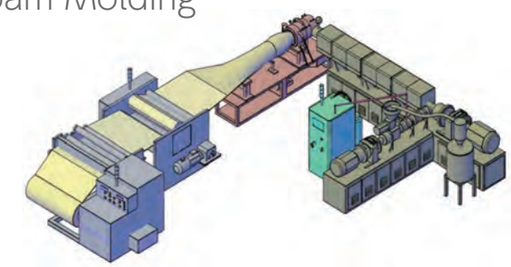
Polylactic Acid (PLA) Foamed Products Business

Plasteco conduct research on plastic products and manufacturing methods that address environmental and resource issues together with cooperative research institutes.
While the use of petroleum-based resin is being restricted worldwide, biodegradable and completely non-petroleum derived foamed plastic products born from this research are advanced materials that can be used safely in the future.

- 100% plant-origin
- 100% biodegradable
- Carbon Neutral (CO_2)
- Low environmental impact foaming agent used.


Tray

Plasteco's Supercritical Inert Gas Foam Molding



Our extrusion foam molding technology is eco-friendly and uses Supercritical Inert Gas. Plasteco's global system construction makes it possible to offer proposals optimized for foaming at a low cost, Foam test can be conducted with the resin of the customer's choice at our test facility, allowing for reliable equipment start-up in a short period of time.

Quantitative Supercritical Inert Gas Feeder

- High-pressure gas supply required for CO2 or N2 foaming
- Precision feeding of any foam molding
- For quantitative supply of all types of inert gases
- For applications other than foaming

CO2 Quantitative Gas Feeder

N2 Quantitative Gas Feeder

Precise and stable high-pressure gas supply technology is essential for supercritical foam molding.

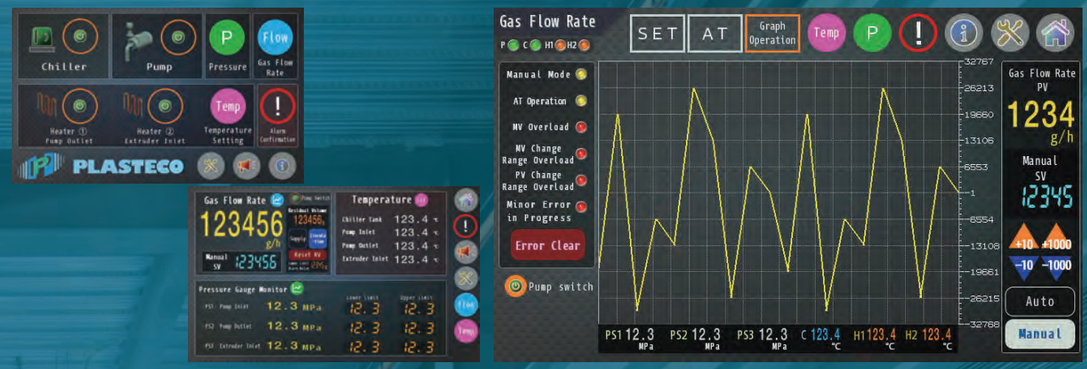
In foam molding using CO2 or N2, minute changes in the supply volume can cause drastic changes in cell diameter and foaming conditions. In addition, if there is a pressure change in the gas injection section of the molding machine, the conventional pressure-controlled pump will increase or decrease the supply volume due to pressure fluctuations.

Plasteco's Quantitative Supercritical Inert Gas Feeder controls the feed mass at a constant level and the feed pressure automatically follows the pressure at the destination, enabling precise feed volume to be always kept, resulting in uniform and fine foam molding.

It can be used for a wide range of applications, from small supply volumes for small molding machines to large flow rates for large molding machines, as well as for applications other than foaming. Flow control, high pressure, and other options are also available for a wide range of applications.

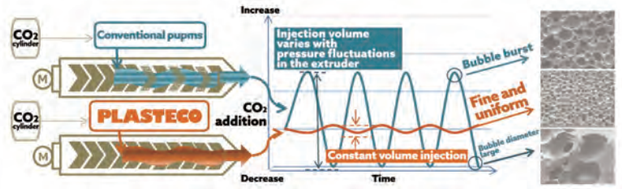
Screen Operation

Simple operation screen with 7" color LCD touch panel.
Expandable up to 15 inches with a choice.



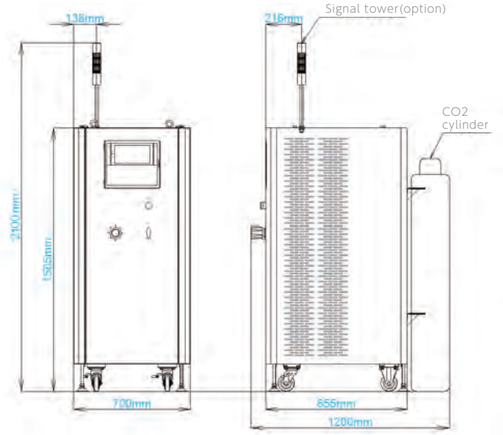
Trend graph table of supply by switching screens

CO2 and N2 have low solubility in resin, and even small fluctuations in supply volume have a large impact on foaming. With conventional pressure-controlled pumps, pressure fluctuations in the molding machine can cause fluctuations in the supply volume.
Plasteco's Quantitative Supercritical Inert Gas Feeder always keeps stable foaming by controlling the supply mass at constant level regardless of the injection pressure.



Comparison with conventional pumps

Outline Drawings (SFC-20, SFC-100)



Basic specifications

	SFC - 20	SFC- 100	SFC - 300	SFN - 20	SFN - 100	SFN - 300
Product	CO2 Quantitative Gas Feeder			N2 Quantitative Gas Feeder		
Gas Type	CO_2			N_2		
Cylinder	Liquid Carbon Dioxide Cylinder with a siphon (3.5 - 10MPa)			Nitrogen cylinder (3.5 - 10 MPa)		
Injection Volume	0.2～20(g/min)	1～100(g/min)	3～300(g/min)	0.2～20(g/min)	1～100(g/min)	3～300(g/min)
Pressure	Max. 25MPa			Max. 25MPa		
Pumps	Pulseless plunger pump			Hydrostatic booster pump		
Flowmeter	Coriolis Mass Flowmeter			Coriolis Mass Flowmeter		
Control System	Automatic ⇒ Mass feedback control Manual ⇒ Constant volume feed control			Automatic ⇒ Mass feedback control Manual ⇒ Constant volume feed control		
Accuracy	Less than ±1.0% (during F.S. circulation operation)			Less than ±1.0% (during F.S. circulation operation)		
Stabilization Circuit	Built-in self-circulation loop			Built-in self-circulation loop		
Control panel	7' color touch panel			7' color touch panel		
Dimension	W700 × D855 × H1585※ ※H2100 to the top of the signal tower		W850 × D1000 × H1585※ ※H2100 to the top of the signal tower	W700 × D855 × H1585※ ※H2100 to the top of the signal tower		W850 × D1000 × H1585※ ※H2100 to the top of the signal tower
Voltage	AC100V / 200V			AC100V / 200V		
Power supply	2kW			1kW		
Options	①Signal tower (with buzzer) ②Auto-adjusting mechanism of discharge volume by external input ③CO2/O2 sensor ④Max. 25MPa ⑤Max. screen size of 15 inches			①Signal tower (with buzzer) ②Auto-adjusting mechanism of discharge volume by external input ③CO2/O2 sensor ④Max. 25MPa ⑤Max. screen size of 15 inches		

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