Industrial Gas for Plastics: Gas Assist Injection Molding

High Pressure Nitrogen to Meet High Pressure Demands

Plastic producers are under ever increasing pressure to increase quality while decreasing costs. Gas Assist Injection Molding (GAIM) can help you meet both demands by allowing you to decrease your plastic usage while ensuring a more consistent product quality and wall thickness—all with smaller machines and at a lower power cost.

Higher Quality, Decreased Costs

Adding GAIM to an injection molding process can have wide-ranging benefits across your operation. From increasing your product quality to decreasing your plastic weight, learn how GAIM can help you do more with less:

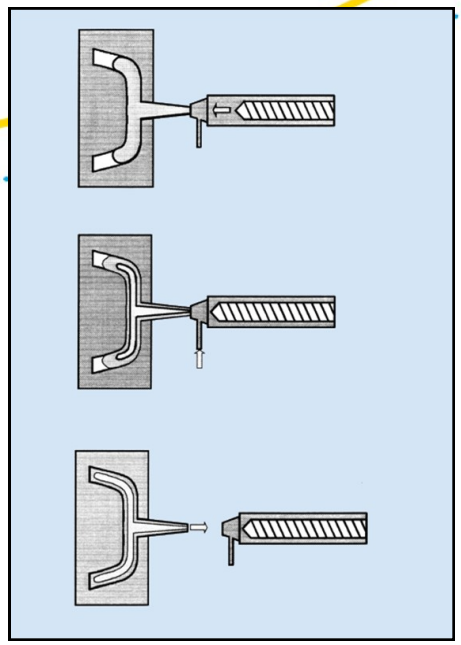
GAIM can help increase:

- Strength and Rigidity
- Design Freedom
- Oxidative Resistance
- Wall Thickness Uniformity
- Overall quality by reducing sink marks

GAIM can help decrease:

- Clamp tonnage
- Machine size and energy use
- Cycle and Cooling time
- Part Weight
- Plastic Usage

Why Nitrogen?



A common question is "Why should I use nitrogen for GAIM instead of pure air?". Here is a sample of some of the benefits that nitrogen usage provides over air usage:

- Many polymers suffer from quality problems due to oxidation at the high temperatures and pressures required for modern injection molding. Inert nitrogen eliminates oxygen and reduces the opportunity for oxidation.
- Air assist injection molding shows increased splay compared to nitrogen assist injection molding.
- Liquid nitrogen can be pumped to a high pressure more cost efficiently than air can be compressed to a high pressure. This can reduce expensive capital on air compressors and reduces overall energy expenditure.

The Air Products Advantage

When you choose Air Products to meet your material separation needs, you gain access to over 40 years of cryogenic experience.

As a leader in industrial gas applications, we offer complete technical service from our experienced staff and fully equipped facilities, from feasibility and design through start-up and ongoing service.

Whether you're recovering or grinding after separation, Air Products' skilled engineers can help you determine the feasibility and economics of using gases in your process—from high pressure injection to liquid nitrogen cryogenic cooling.

We've helped customers design and specify customized processes to support their efforts for material recovery and reclamation. The process is different in every scenario, so call us to find out how Air Products can help you.

tell me more

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