

# PolarFit™ cryogenic cooling systems for rubber hose manufacturing



## Key benefits compared to mechanical systems:

- Faster cooling, which could lead to increased production rates
- Improved consistency of high-quality rubber hose
- Smaller footprint
- Typically lower operating and capital costs

## Realize higher production rates from faster and precise cooling

In reinforced hose manufacturing, the rubber hose must be at the optimum temperature before it can be braided. Too much cooling can cause the rubber to become brittle or damaged. Too little cooling can lead to deformation, kinking, cutting, poor braiding and other issues. Air Products' PolarFit cryogenic cooling systems can help you precisely control the hose temperature in your braiding process, which could enable higher production rates with improved product quality versus using mechanical cooling systems.

## Increase productivity and quality

Our PolarFit cryogenic cooling systems use liquid nitrogen to rapidly cool and precisely control the temperature of the uncured hose. The extremely low temperature of liquid nitrogen can help you achieve faster cooling, enabling increased production rates. The precise temperature control allows you to maintain an optimal braiding temperature, which makes it possible to more consistently produce high-quality rubber hose.

## Experience quick installation

Our complete hose cooling system can be customized to include all the components you need to efficiently integrate it into your operation's existing footprint—including a cooling chamber, plus temperature and flow controls. Our applications engineers can integrate these components into your production line with limited to no downtime. And you can achieve start-up immediately after installation. The automated control system allows you to easily maintain your desired hose temperature.

## Achieve low operating and capital costs

Since the system only consumes liquid nitrogen when it's needed to maintain a consistent temperature, operating costs can be reduced. In addition, the

vaporized nitrogen may be used for inerting or blanketing in other areas of your operation. The capital cost of the system is a fraction of a mechanical system due to the limited number of mechanical components.

## Benefit from our experience

As a global leader in the use and supply of industrial gases, Air Products has decades of experience applying cryogenic solutions to various cooling applications. We can provide complete technical service—from feasibility and economic evaluation, through start-up and ongoing service. Additionally, we

offer a wide range of technical services, gas-based solutions and a full line of industrial gases, including efficient and cost-effective nitrogen systems for small and large volume users.

## Try it first

Our applications engineers can work with you to understand your rubber hose manufacturing process and tailor a PolarFit cryogenic cooling system to meet your specific needs. We can even test your product in our trial facilities in the United States or Asia to allow you to evaluate the feasibility of using nitrogen cooling in your process.

To speak with a specialist about how our PolarFit cryogenic hose cooling systems can help your operation, please email us at [asiacpi@airproducts.com](mailto:asiacpi@airproducts.com) or call our offices:

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