



# Insulon® Hose LP

## Vacuum Jacketed Hoses for Low Pressure Applications

Insulon Hose LP is the first of its kind — engineered with proprietary insulation technology for both cryogenic and high-temperature applications from  $-270^{\circ}\text{C}$  to  $900^{\circ}\text{C}$  ( $-454^{\circ}\text{F}$  to  $1650^{\circ}\text{F}$ ).

### TECHNOLOGY

Insulon products feature proprietary advanced vacuum insulation — and now it's available in flexible tubes and hoses.

### EXPERTISE

We are world-leaders in advanced vacuum technology, with unique specialties in cryogenic and high-temperature applications.

### MANUFACTURING

We leverage 50 years of experience in high-precision manufacturing to deliver reliable products. Quality control includes 100% functional testing.

### QUICK DELIVERY

You don't like waiting, and neither do we. Insulon hoses ship in weeks, not months. Contact us for your lead time.

# Specifications

Inner Diameter (ID)	1/2 in.	3/4 in.
Outer Diameter (OD)	1.27 in.	1.62 in.
Overall Thickness	0.39 in.	0.44 in.
Lengths (Ready-to-ship)	4, 6, 20 ft.	4, 6, 20 ft.
Lengths (Custom)	1 ft. increments up to 20 ft.	1 ft. increments up to 20 ft.
Material	316L Stainless Steel	316L Stainless Steel
Weight	Approx. 0.463 lb./ft.	Approx. 0.64 lb./ft.
Minimum Allowable Bend Radius (Static)	3.33 in.*	4 in.*
Operating Temperature	Cryogenic to 900°C (1650°F)	Cryogenic to 900°C (1650°F)
Maximum Allowable Working Pressure (MAWP)	72 psi (5 bar) @ 23°C (73°F)**	43 psi (2.75 bar) @ 23°C (73°F)**

\*Bend radius specifications apply to static applications only.

\*\*Contact sales for pressure derating factor at temperature for your application. Pressure tests are conducted at 1.5x MAWP according to NAHAD *Corrugated Metal Hose Assembly Specification Guidelines*, p. 33 (2005).

# Applications

Representing advancements in vacuum insulation technology, Insulon Hoses LP are engineered for both cryogenic and high-temperature applications from -270°C to 900°C (-454°F to 1650°F).

- Aerospace
- Automotive
- Cable & Wire Harnesses
- Chemical Processing
- Cleanroom Manufacturing
- Cryogenic Fluid Transfer
- Cryotherapy Devices
- Food-Grade Applications
- Fuel & Oil Lines
- Heater Hoses
- High-Temperature Gases
- High-Temperature Liquids
- Hydrogen Fuel Cells
- Industrial Equipment
- Low Pressure Steam Transfer
- Medical-Grade Applications
- Semiconductor Fabrication

Insulon Hoses LP are engineered specifically for low-pressure applications. See Page 2 for Maximum Allowable Working Pressure (MAWP).

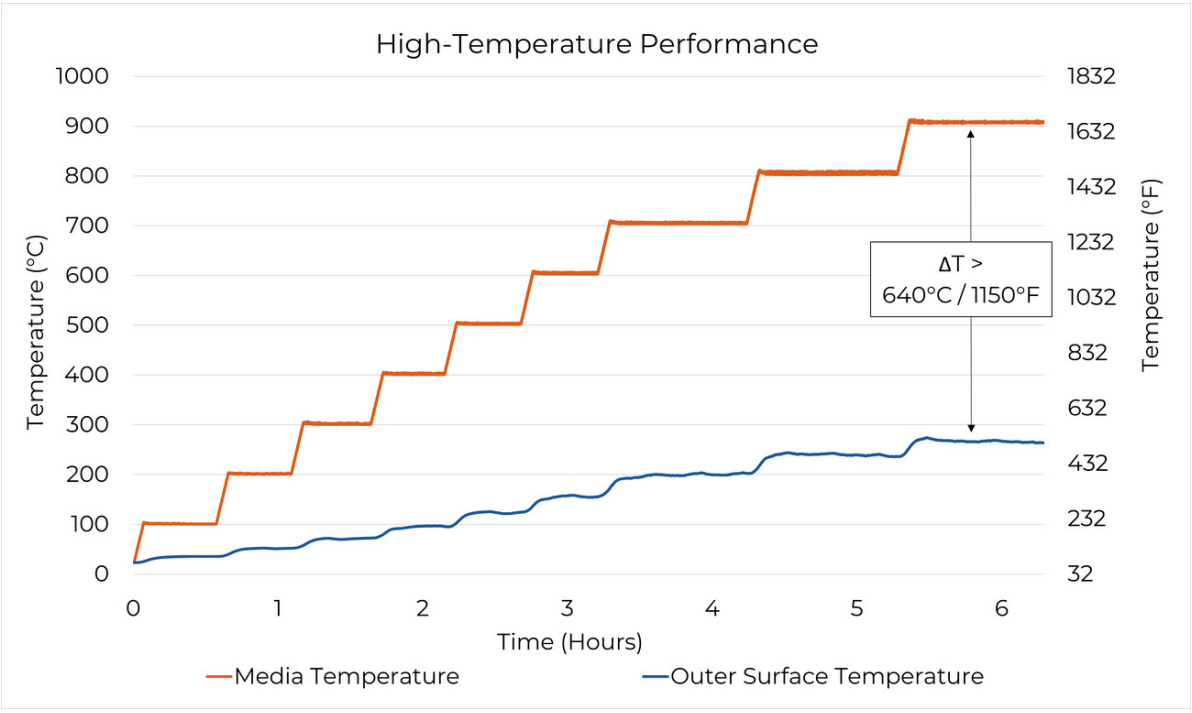
## FEATURES & BENEFITS

- Cleanroom-compatible materials (316L stainless steel)
- Compatible with cryogenic fluids including hydrogen
- Durable, reliable construction
- Easy installation
- Easy to clean and sterilize
- Improve thermal energy efficiency
- Low springback reduces stress on connections and joints
- Maintain safer external surface temperature
- Minimize heat loss and conserve thermal energy
- Naturally flame-retardant materials
- Non-fibrous materials
- Reduce condensation, dripping, and risk of mold
- Reduce cryogenic material losses due to boil-off
- Reduce risk of corrosion-under-insulation (CUI)



# High-Temperature Performance

Insulon Hoses LP consistently outperform conventional thermal insulation materials used for low-pressure, high-temperature applications.



This test was conducted with a 1/2" ID x 6 foot long Insulon Hose LP transferring hot air. Media temperature was measured at the inlet. Outer surface temperature was measured at the midpoint. Room temperature was 23°C (73°F).

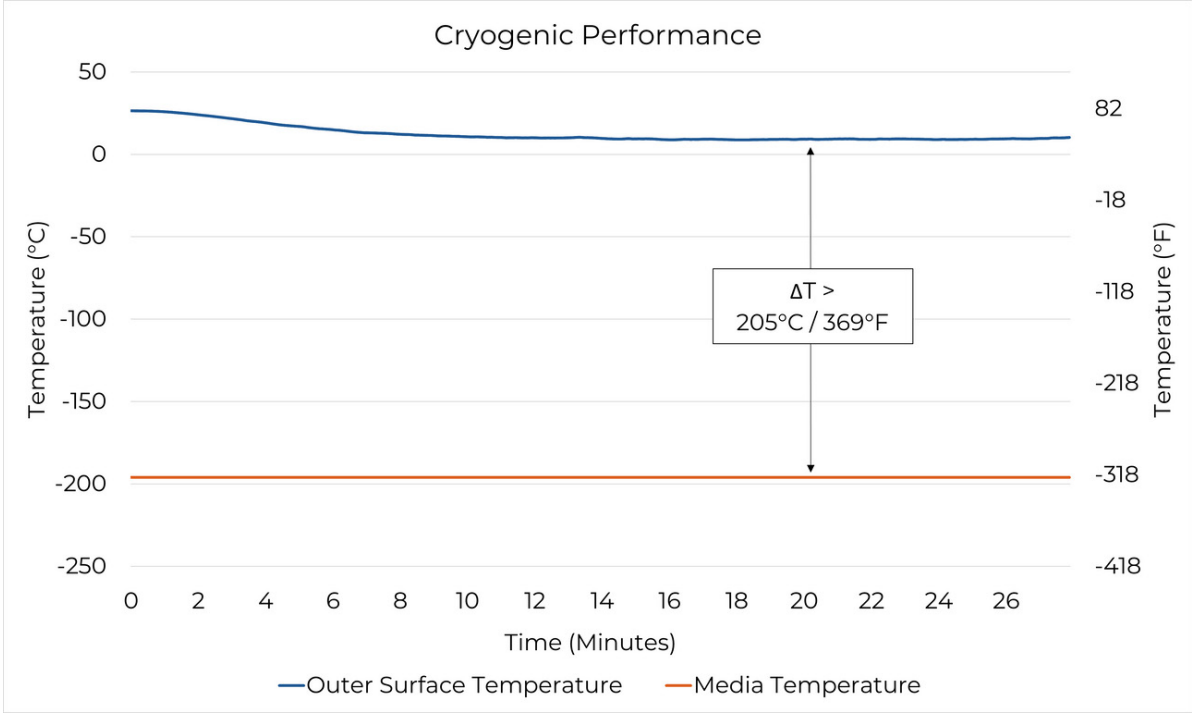


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# Cryogenic Performance

Insulon Hoses LP deliver outstanding thermal insulation performance in cryogenic applications. Reduce boil-off material losses, prevent condensation, and maintain ambient external surface temperatures.



This test was conducted with a 1/2" ID x 6 foot long Insulon Hose LP transferring liquid nitrogen. Media temperature was measured at the inlet. Outer surface temperature was measured at the midpoint. Room temperature was 23°C (73°F).

## COMPATIBLE WITH

- Liquid Argon
- Liquid Carbon Dioxide
- Liquid Helium
- Liquid Hydrogen
- Liquid Methane
- Liquid Nitrogen
- Liquid Oxygen

Let us know if your project requires compliance with specific guidelines or regulations, including ASTM, CGA and/or ISO standards.



# End Fittings

## READY-TO-SHIP

We keep our most popular end fittings in stock to shorten lead times.



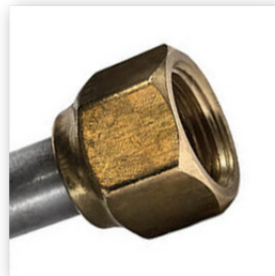
### Tube Stub (no end fitting)

- Stainless steel
- Minimum length: 0.84 in.
- Wall thickness: 0.035 in.
- Available with 1/2 in. ID and 3/4 in. ID hoses



### Compression Fittings

- Stainless steel
- Available with 1/2 in. ID and 3/4 in. ID hoses



### CGA295 (JIC Swivel Nut)

- Stainless steel or brass
- Standard fitting for LN2 dewars
- Available with 1/2 in. ID hoses only

## CUSTOM END FITTINGS

We are happy to attach other types of end fittings that are not listed above. Custom configurations may have longer lead times.

# What's next?

## WE'RE HERE TO HELP

Need assistance? Contact us with your S.T.A.M.P.E.D. requirements.

S T A M P E D

Size Temperature Application Material Pressure End Fittings Delivery

## FIND US ONLINE

Visit us online to learn more about Insulon Technology. In addition to flexible hoses, Insulon is engineered in a variety of configurations, including:

- Bend-to-shape tubing
- Custom geometries
- Dewars, flasks, and containers
- Pre-bent rigid piping
- Small-bore tubing
- Straight rigid piping

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