



# HeFlex

*for Liquid Helium*

Helium transfer hose is used to transfer liquid helium from a storage dewar to a cryostat or any point of usage. The flexibility overcomes misalignment between dewar and equipment, ease the work to connect and disconnect the transfer system.

All hoses come with static vacuum as standard. Static vacuum hose is vacuum sealed at the factory, providing many years of trouble-free vacuum insulation. Option for dynamic vacuum is available upon request.

## HeFlex VIH

HeFlex is a vacuum-insulated stainless steel flexible hose designed to deliver high flow capacity with minimal heat gain and low cooldown losses, while maintaining excellent flexibility.

The hose utilizes a low-mass bellows combined with low-mass multilayer insulation (MLI). A proprietary MLI wrapping process with controlled tensioning provides exceptional insulation performance and reduced cooldown losses. HeFlex is supplied as modular sections with extra-long close-tolerance bayonet or extended withdrawal tube connections and may be used independently or integrated with HeRigid piping to accommodate system misalignment. Each assembly is factory-evacuated and sealed to a static vacuum level of  $10^{-6}$  mbar.

Available in sizes from DN18 to DN25, HeFlex supports both standard and custom liquid helium applications, with an optional liquid nitrogen shield for enhanced thermal efficiency.

HeFlex is commonly used in scientific, medical, and space research systems, including NMR and MRI cryostats, superconducting magnets, and other advanced cryogenic installations.

## Features and Benefits

- Superior vacuum insulation eliminates moisture, condensation and frost build-up
- Due to very low heat gain, liquid helium losses is minimized
- Optimal delivery of LHe to equipment improves cycle time of experiments



HeFlex used for Liquid Helium Transfer

All HeFlex products come with CSM renowned customer service, from conceptual design to implementation, and are backed by a 1-year Vacuum & Defect Warranty.

# HeFlex Specifications

Model	He-08	He-12	He-16	He-25
Inner Diameter	DN 8 5/16" (8.2 mm)	DN 12 1/2" (12.1 mm)	DN 16 3/8" (16.2 mm)	DN 25 1" (25.1 mm)
Outer Diameter	DN 32 43.0 mm	DN 40 (52.1 mm)	DN 50 (62.8 mm)	DN 65 (81.2 mm)
Steady State Heat Leak	0.8 Btu/hr/ft (1.05 W/m)	1.1 Btu/hr/ft (0.96 W/m)	1.4 Btu/hr/ft (1.3 W/m)	2.2 Btu/hr/ft (2.1 W/m)
Bayonet Heat Leak	5.0 Btu/hr (1.5 W)	5.0 Btu/hr (1.5 W)	5.0 Btu/hr (1.5 W)	6.0 Btu/hr (1.8 W)
Max. Operating Pressure	200 psi (13.8 bar)	200 psi (13.8 bar)	200 psi (13.8 bar)	200 psi (13.8 bar)
Weight	0.7 lb/ft (1.1 kg/m)	1.6 lb/ft (2.4 kg/m)	1.7 lbs/ft (2.6 kg/m)	2.3 lbs/ft (3.5 kg/m)
Min. Bend Radius (Static)	8" (20 cm)	10" (25 cm)	12" (30 cm)	18" (45 cm)
Vacuum Insulation	Static / Dynamic Vacuum; Liquid Nitrogen Heatshield (option)			
Max. Length	Max. single line length 33' (10 m)			
Protective Outer Covering	RFB - Regular Flex Braid / Spiral Wrapped			
Flow Rate / Pressure Drop	Consult factory			
Material Construction	Stainless Steel Series 300			
Standard Testing	Dimensional Check He Leak Test @ $1.0 \times 10^{-9}$ cc/s			
Optional	Pneumatic Pressure Test, Vacuum Retention Testing, LN <sub>2</sub> Cold Shock, Pre-Material Certs, X-ray Inspection, ASME B31.3 Certification, CFOS Cleaning for O <sub>2</sub> Services, RPTSTD-8070-0001			

## Typical HeFlex Transfer Hose

