



He-Flex

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.

He-Flex Transfer Hose

He-Flex is a vacuum insulated stainless steel flexible hose designed to meet optimal flow capacity, minimizing heat gain, low cooldown loss, without compromising its flexibility.

He-Flex incorporates low mass bellow and low mass MLI. Moreover, proprietary MLI wrapping process with controlled tensioning enables He-Flex to achieve high performance insulation and lowest cooldown in its class. Engineered as modular section with extra long close-tolerance bayonet or extended withdrawal tube connections. It can be used on its own, or as part of He-Rigid sections for misalignment offset. He-Flex hose is evacuated and sealed at the factory with static vacuum to 10^{-6} mbar.

He-Flex are available in wide variety of sizes from DN18 up to DN25 to meet most standard or custom requirements in liquid helium applications. He-Flex is also available with liquid nitrogen shielding.

CSM offers a complete line of components such as helium valve box, phase separators and gas venting devices to maximize system performance.

He-Flex is used in a wide variety of scientific, medical, and deep-space exploration applications, such as cryostats in NMR spectroscopy, MRI scanners, and superconducting magnets.

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.

All He-Flex products come with CSM renowned customer service, from conceptual design to implementation, and are backed by a 3 year vacuum warranty; 1 year defect warranty



He-Flex is frequently used for
Liquid Helium transfer

He-Flex Specifications

Model	He-08	He-12	He-16	He-25
Inner Diameter	DN 8 5/16" (8.2 mm)	DN 12 ½" (12.1 mm)	DN 16 ⅝" (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 watts/m)	1.1 btu/hr/ft (.96 watts/m)	1.4 btu/hr/ft (1.3 watts/m)	2.2 btu/hr/ft (2.1 watts/m)
Bayonet Heat Leak	5.0 btu/hr (1.5 watts)	5.0 btu/hr (1.5 watts)	5.0 btu/hr (1.5 watts)	6.0 btu/hr (1.8 watts)
Max. Operating Pressure	200 psig (13.8 bar)	200 psig (13.8 bar)	200 psig (13.8 bar)	200 psig (13.8 bar)
Weight	0.7 lbs/ft (1.1 kg/m)	1.6 lbs/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 Type	Static and Dynamic Vacuum; Liquid Nitrogen Heatshield (option)			
Maximum Length	Max. single line length 33' (10 m)			
Protective Outer Covering	RFB - Regular Flex Braid or Spiral wrapped			
Flow Rate / Pressure Drop	Consult factory			
Material Construction	Stainless Steel Series 300			
Standard Testing	Dimensional Check He leak checked 1 x 1 0 - 9 cc/s			
Optional	Pneumatic pressure test, Vacuum retention testing, LN2 cold shock, pre-material certs., X-ray, ASME B31.3 certification			

Typical He-Flex Transfer Hose

