



# SemiFlex

Pre-engineered modular Semi-Flex VJ hose has added advantage over the traditional rigid VJP, especially when system upgrade is frequently done.

This option is cost saving as the flexibility of the pipe reduces the necessity for precise system layout measurements. It allows the whole system to be easily reused if use-point locations and plant layout are changed. Semi-Flex can be added if required to the existing system without major rework expenses.

*Semi-Flex facilitate users to design and construct their own LN2 delivery system with minimum piping engineering experience or knowledge.*



All Semiflex products come with CSM renowned customer service, from conceptual design to implementation, and are backed by a 5-years Vacuum Warranty, & 1-year Defect Warranty.



*Semi-Flex with Dynamic Vacuum option*

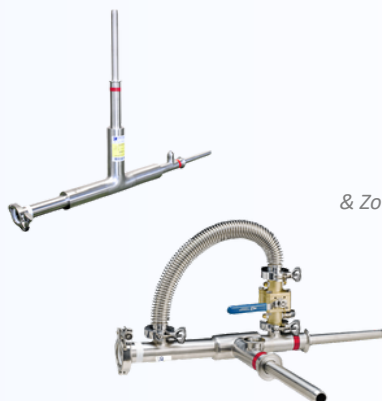
## SemiFlex VJ Hose

Semi-Flex, a semi-rigid bendable pipe with optimal flexibility is suitable for long distance piping system application, an alternative to traditional rigid piping. It's lightweight stainless steel construction reduces cool-down losses to an absolute minimum.

Semi-Flex hoses are protected by a high quality and wear resistant stainless steel braided outer covering. Typical hoses are manufactured with pipe thread ends or bayonet connection.

These hoses are used in a wide variety of applications as main transfer hose for LN2 such as food freezing, semiconductor test handlers, MBE and LN2 dosing applications.

## Related Products:



*Modular Tee or Modular Tee with Jumper Hose & Zone Valve in dynamic vacuum set up*

## Features and Benefits

- Can be coiled for shipment by air freight, thus eliminate the need for expensive logistics
- Tees, elbows, bayonets and valves can be incorporated with Semi-Flex VJ hose for a customized LN2 piping system application
- Select hoses are stocked for immediate delivery
- Super insulation and proprietary chemical getters ensures long lasting vacuum integrity
- Special MLI system ensure fast pump down speed to  $10^{-4}$  Torr
- Static Semi-Flex is vacuum evacuated at  $10^{-6}$  Torr
- Each Semi-Flex is helium leak checked ( $1 \times 10^{-9}$  std cc/sec) and liquid nitrogen cold shocked before shipping
- Vacuum insulation eliminates frost, ice and related safety hazards

## SemiFlex Static Specifications

Model	SF16	SF25	SF32	SF40	SF50
Inner Diameter	DN16 $\frac{5}{8}$ " (16.2 mm)	DN25 1" (25.1 mm)	DN32 $1\frac{3}{8}$ " (34.2 mm)	DN40 $1\frac{1}{2}$ " (40 mm)	DN50 2" (50.1 mm)
Outer Diameter	DN40 (52.1 mm)	DN50 (62.8 mm)	DN65 (81.2 mm)	DN100 (120 mm)	DN100 (120 mm)
Steady State Heat Leak	1.4 BTU/hr/ft (1.3 W/m)	1.5 BTU/hr/ft (1.4 W/m)	1.6 BTU/hr/ft (1.5 W/m)	1.8 BTU/hr/ft (1.7 W/m)	1.7 BTU/hr/ft (1.6 W/m)
Bayonet Heat Leak	4.0 BTU/hr (1.2 W)	8.1 BTU/hr (2.4 W)	8.1 BTU/hr (2.4 W)	9.2 BTU/hr (2.7 W)	11.3 BTU/hr (3.3 W)
Max. Operating Pressure (Bayonet)	200 psi (13.8 bar)	200 psi (13.8 bar)	200 psi (13.8 bar)	200 psi (13.8 bar)	200 psi (13.8 bar)
Weight (exclude Bayonet)	1.0 lb/ft (1.4 kg/m)	1.3 lb/ft (1.9 kg/m)	3.0 lb/ft (4.5 kg/m)	5.3 lb/ft (7.9 kg/m)	5.5 lb/ft (8.2 kg/m)
Min. Bend Radius	12" (30 cm)	16" (40 cm)	18" (45 cm)	24" (60 cm)	28" (72 cm)
Max. Length	Single Spool 59 ft (18.00 m)				
Vacuum Insulation Type	Static or Dynamic Vacuum				
Material Construction	Stainless Steel Series 300				
Protective Outer Covering	RFB - Regular Flex Braid				
Standard Testing	Dimensional Check He Leak Test at $1.0 \times 10^{-9}$ cc/s				
Optional	Pneumatic pressure test, Vacuum retention testing, LN2 cold shock, pre-material certs., X-ray, ASME B31.3 certification, CFOS cleaning for O2 services				

## Typical StatiRigid-P, Engineered Modular Piping System

