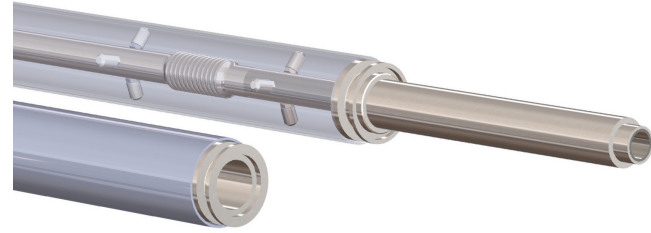


CryoCraft's Vacuum Insulated Pipe (VIP) is meticulously engineered to deliver premium performance and exceptional durability for the most demanding cryogenic applications. Each section is constructed from high-grade stainless steel, featuring an inner carrier line protected by a rugged outer jacket.



The core of our system is the high-vacuum annular space, which contains multi-layer super insulation and internal gettering materials. This advanced design minimizes heat transfer, ensuring industry-leading thermal performance and long-term reliability. Our VIP systems are available in common sizes from ½" to 2" NPS and feature robust internal or external expansion joints.

Features:

- **Turnkey System Solutions:**

Leverage our deep industry expertise. We offer comprehensive project support, including system design and engineering, project management, and professional installation services to ensure a seamless experience.

- **Engineered for Optimal Performance:**

Specifically designed for the safe and efficient transfer of liquid nitrogen and other cryogenic fluids.

- **Premium Connections:**

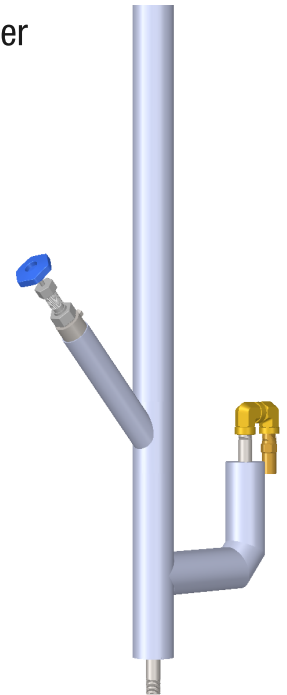
High-performance, vacuum-insulated bayonet connections allow for simple, reliable, and secure modular assembly without field welding.

- **Durable by Design:**

Integrated flexible sections provide superior durability and adaptability for system offsets, equipment drops, and use points.

- **Rigorous Quality Assurance:**

Every spool section undergoes stringent helium leak testing and is fully evacuated and sealed to guarantee vacuum integrity and flawless performance upon arrival.



Benefits:

- **Reduced Installation Time:** The modular, engineered design with bayonet connections eliminates the need for field welding, simplifying installation and minimizing downtime.
- **Rapid ROI:** Superior thermal performance significantly reduces cryogenic liquid losses, leading to a quick return on your capital investment.
- **Unmatched Thermal Efficiency:** Our advanced vacuum insulation technology delivers vastly superior performance compared to traditional foam-insulated or bare copper piping.
- **Guaranteed Durability:** We stand behind our product with a five-year vacuum warranty, a testament to our commitment to quality and long-term durability.

Technical Data:

Inner Pipe NPS (DN)	Outer Pipe NPS (DN)	Pipe Wall Schedule (Inner/Jacket)	Jacket OD Nominal Inch (mm)	Dry Weight	
				lbs/ft	kg/m
½" (15)	2" (50)	5/5	2.375 (60.3)	3.00	4.46
1" (25)	3" (80)	5/5	3.500 (88.9)	4.48	6.67
1 ½" (40)	3 ½" (90)	5/5	4.000 (101.6)	5.46	8.12
2" (50)	4" (100)	5/5	4.500 (114.3)	6.07	9.03

VIP Heat Leak:

Inner Pipe NPS (DN)	Cool Down			Static Heat Leak		LN2 Bayonet Pair Heat Leak	
	kJ/m	kg/m*	lb of LN ₂ /ft	BTU/hr/ft	Watt/m	BTU/hr	Watt
½" (15)	39	0.20	0.13	0.32	0.31	14.1	4.13
1" (25)	58	0.29	0.19	0.48	0.46	20.8	6.09
1 ½" (40)	85	0.43	0.29	0.58	0.56	22.1	6.47
2" (50)	107	0.54	0.36	0.79	0.76	19.3	5.65

LN2 Flow Guide* (gpm):

Inner Pipe NPS	100 ft	200 ft	300 ft	400 ft	500 ft
½"	4.8	3.5	2.9	2.6	2.2
1"	29	20	16	12	11
1 ½"	63	50	42	38	36
2"	110	80	70	62	58

Pressure Drop* (PSI/FT):

Inner Pipe NPS	Flow (gpm)							
	2	5	10	25	50	75	100	150
½"	0.006	0.039	0.154	0.964				
1"		0.003	0.011	0.063	0.262	0.570	1.014	
1 ½"			0.001	0.008	0.040	0.070	0.125	0.280
2"				0.002	0.009	0.193	0.034	0.077

* For reference only. Contact CryoCraft for a detailed analysis and specific design considerations.

PN D2003 R1

©2025 Cryocraft Systems, LLC