

Stainless SEMIFLEX[®]

US Patent No. 3,490,496

NEW

Vacuum Insulated Flexible Liquid Nitrogen Pipe



LIQUID NITROGEN PIPING

**VACUUM
BARRIER** **VBC**
CORPORATION

Stainless SEMIFLEX®

New Vacuum Insulated Flexible Liquid Nitrogen Pipe

Vacuum Barrier Corporation, the original manufacturer of SEMIFLEX®, proudly adds Stainless SEMIFLEX® to their vacuum insulated liquid nitrogen (LN₂) piping line.

Stainless SEMIFLEX®, available in both sealed and dynamic, is the new vacuum insulated LN₂ flexible pipe designed, fabricated and manufactured by Vacuum Barrier Corporation. Stainless SEMIFLEX® is constructed from stainless steel to provide the lowest cool down and steady state heat loss for superior thermal performance. Frost, moisture and ice ball problems commonly associated with foam insulated or soft vacuum lines are eliminated with Stainless SEMIFLEX®. Smooth contours in the flexible pipes design allow for a higher LN₂ flow capacity. Stainless SEMIFLEX® can be combined with COBRAFLX® flexible hose to provide efficient connections to use points.

VACUUM BARRIER VBC
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Stainless SEMIFLEX® Engineering Data

Size	S-5	FS-5	S-10	FS-10
Material	Austenitic Stainless Steel			
Inside Diameter				
Inches	0.66	0.62	1.40	1.00
Millimeters	17	16	36	25
Outside Diameter				
Inches	2.0	1.90	3.0	2.79
Millimeters	51	48	76	71
Steady State Heat Loss				
BTU per hr per ft	0.9	0.9	1.8	2.8
Watts per meter	0.9	0.9	1.7	2.7
Cool Down Heat Loss				
BTU per foot	4	6	9	16.5
Watts hours/meter	4	6	9	16
Bayonet Heat Loss				
BTU per hour	5	5	6	6
Watts	1.5	1.5	1.8	1.8
Design Pressure				
PSI	175	175	175	175
Bars	12	12	12	12
Weight				
lbs. per foot	1.2	0.9	1.7	2.0
kg per meter	1.8	1.3	2.5	3.0
Minimum Bend Radius				
Inches	9.25	5.5	12	10
cm	23	14	30	25
Flow rate	Consult Factory			

Stainless SEMIFLEX® materials and construction methods:

- Every pipe is helium leak tested and cold shocked to ensure its vacuum integrity
- To achieve the longest service life in the industry every sealed hose is heat soaked during evacuation and is equipped with chemical getters
- Each sealed hose is sealed under high vacuum with a combination seal-off/annulus relief valve
- Fabrication techniques from welding to insulation are unmatched by any other manufacturer to ensure years of efficient and safe use