SUPER INSULATED VACUUM LINE

A Super Insulated Vacuum Line (SIVL) provides the most efficient method of transferring liquid nitrogen from a bulk tank to one or more use points. It does away with lagged lines and the manual handling of Dewars and provides a clean, low maintenance pipeline suitable for any environment. Available in a variety of sizes, it can be run to almost any length and still provide liquid where it is required.

Key Features

- Outer pipe remains ambient – no personnel hazard.
- Polished stainless outer – suitable for any environment, even cat. 3 or 4 laboratories.
- Pipework has an indefinite lifetime with only minimal maintenance required.
- Pipework can be modified or extended at a later date to add in additional outlets.
- Can be supplied in kit form for installation by local labour.
- Small outer diameter in comparison to equivalent lagged lines.
- Outer pipe remains a fixed length. All contraction is taken up in the inner pipe.

Applications

SIVL (or VJ piping or VIP as it is sometimes known) is based on a pipe in pipe system. Made entirely of polished austenitic stainless steel, the liquid nitrogen is conveyed down the inner pipe whilst the outer pipe remains at ambient. A combination of vacuum, multi-layer super insulation, cryosorption material and low conductivity supports ensure that the heat transferred into the liquid remains at a minimum, thus providing the most efficient system possible. Designed to be site-installed using our own highly skilled engineers or by one of our network of proficient agents, the system is site adjustable to allow for site changes that most other systems cannot accommodate. The system can also be supplied with bayonet couplings for self assembly.
Optional Extras

**Cryostop Valve**
Electro-pneumatically actuated shut off valve at supply tank

**Vapour Vent units**
Mechanical devices for keeping the line full of liquid at all times.

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**Technical Specification**

<table>
<thead>
<tr>
<th>Size</th>
<th>ID (mm)</th>
<th>OD (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>½” NB</td>
<td>18</td>
<td>76</td>
</tr>
<tr>
<td>1” NB</td>
<td>30</td>
<td>89</td>
</tr>
<tr>
<td>1½” NB</td>
<td>45</td>
<td>102</td>
</tr>
<tr>
<td>2” NB</td>
<td>57</td>
<td>114</td>
</tr>
<tr>
<td>3” NB</td>
<td>85</td>
<td>168</td>
</tr>
</tbody>
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**Optional Extras**

**Other cryogens**
The majority of our pipework is used for LN₂ but variants can be made for LOX, LNG, LAr and LCO₂. Other fluids are available on request.

**Coupled variant**
Whilst our pipework is best installed in its site welded form, a variant using Johnston couplings is also available for install by local labour.

**Design and installation**
Thames Cryogenics can advise on how to integrate your existing equipment and/or design systems to suit specific requirements and maximise safety and reliability. We provide expertise in cryogenic pipeline and storage systems to deliver integrated solutions.

**Maintenance and refurbishment**
A maintenance check is advised every 12 months on all cryogenic equipment. Thames Cryogenics offer a choice of site based maintenance contracts and will refurbish/upgrade products regardless of age or condition.