The Vacuum Insulated Pipe, also known as VIP or SIVL, is used to transfer liquefied gases at extremely low temperatures, keeping thermal heat losses to a minimum. This rigid pipe in combination with a slim design results in an ideal and attractive alternative for non-insulated or conventional insulated piping.

**BENEFITS**
- Due to outstanding insulation properties, thermal heat losses are kept to a minimum
- All spools are pre-fab for a fast and efficient installation
- Entire stainless steel structure keeps the VIP fit for purpose for many years and is perfectly suitable for food, laboratory and pharmaceutical industries
- No ice

**FEATURES**
- All stainless steel
- High vacuum insulation
- Qualified welding to the highest standards
- Integrated contraction bellows
- Diameter process pipe: up to 8"
- Pressure Rates: up to PN40
- Suitable for: N2, O2, Ar, LNG, H2, He, CO2

**APPLICATION**
- Connection of bulk storage with applications in food, medical, pharmaceutical, automotive, space and other applications
- Transfer lines between cold boxes, storage tanks and truck/ship filling on air separation units
- Transfer lines for small and mid-scale bulk break in LNG market
- Combined into multiple transfer lines for research institutes and laboratory applications

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PRODUCT SHEET
VACUUM-INSULATED - PIPING

INTERFACES
Johnston plug-in coupling
(can be installed without welding)

Welded couplings with vacuum or Perlite insulation
requires welding on-site

Universal pipe end to allow welding to any fitting, flange
or application

MATERIALS
Process Pipe
1.4301/1.4306/1.4307 ~304/304L
Vacuum Jacket
1.4301/1.4306/1.4307 ~304/304L
Optional: 1.4401/1.4404 ~316/316L
Spacers
Epoxy-reinforced glass fibre
Multi-Layer Insulation
Glass paper and Aluminium foil
Supporting pipe clamps
Galvanised with rubber inlay
Stainless steel on request

PIPE SIZE | PROCESS LINE | VACUUM JACKET | CAPACITY INDICATION (L/h)(1) | HEAT LOSS INDICATION (W/m) | WEIGHT INDICATION (kg/m)
--- | --- | --- | --- | --- | ---
DN10 small | ∅ 12x1.0 | ∅ 40.0x1.0 | 300 | 0.30 | 2.1
DN10 | ∅ 12x1.0 | ∅ 63.5x1.5 | 300 | 0.40 | 3.4
DN15 | ∅ 18x1.0 | ∅ 63.5x1.5 | 500 | 0.45 | 3.5
DN25 | ∅ 28x1.0 | ∅ 63.5x1.5 | 2,000 | 0.65 | 4.0
1” | ∅ 33.7x1.6 | ∅ 76.1x2.0 | 3,000 | 0.75 | 6.0
1½” | ∅ 48.3x1.6 | ∅ 88.9x2.0 | 4,500 | 0.85 | 7.5
2” | ∅ 60.3x1.6 | ∅ 114.3x2.0 | 6,000 | 1.0 | 10.0
2½” | ∅ 76.1x2.0 | ∅ 139.7x2.0 | 11,500 | 1.3 | 14.0
3” | ∅ 88.9x2.0 | ∅ 154.0x2.0 | 16,000 | 1.9 | 16.0
4” | ∅ 114.3x2.0 | ∅ 168.3x3.0 | 27,000 | 2.0 | 22.0
6” | ∅ 168.3x3.0 | ∅ 219.1x3.0 | 60,000 | 3.3 | 32.0
8” | ∅ 219.1x3.0 | ∅ 273.0x3.0 | 115,000 | 4.4 | 41.0

(1) Based on saturated boiling liquid at a flow speed of 1 metre/second

DESIGN SPECIFICATIONS
Standard according to Pressure Equipment Directive (PED)
Design according to AD2000, EN13480 or ASME B31.3
(others on request)

Cleanliness level:
- Oil and grease-free
- Oxygen clean on request

Static vacuum with Multi-Layer Insulation
Bellows: 1000 cycles from +38°C till -196°C, calculated
according to EN14917 or EJMA

Standard testing for each individual VIP spool:
- Dimensional check
- Pressure testing
- NDE by X-ray or PT
- Helium leak test (<1x10-9 mbarL/sec)
- Vacuum retention test after 24h at ambient
temp (acceptance level <2x10-4 mbar)

DOCUMENTATION
By default, a standard manufacturer data book record
is part of each project and contains:
- As-built isometrics (if applicable)
- Safety guidelines
- User manuals (if applicable)
- Declaration of conformity (if applicable)

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