



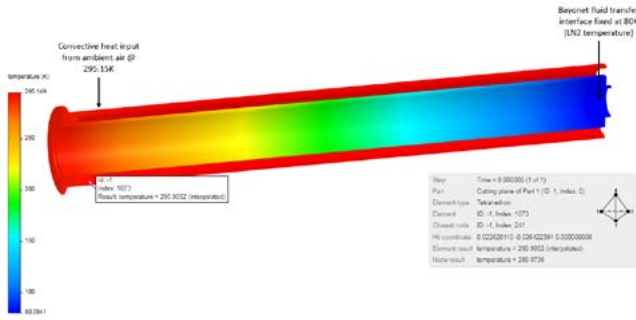
LEADERS IN THERMAL ENGINEERING



SIVL / VACUUM JACKETED TRANSFER LINES

CONCEPT • DESIGN • MANUFACTURE • TEST • INSTALL • AFTER SALES

Female Bayonet – Temperature Profile



ANALYSIS

GRE analyse our client's requirements, considering mass flow, length of run, fluid type and fluid condition. We will then design a solution that will exceed the requirements of your project.

DESIGN AND ENGINEERING

Using 2D and 3D design software, finite element analysis and extensive manual calculations, our transfer lines are designed to cope with all operational conditions, whether they be internal or external applications.

MANUFACTURE

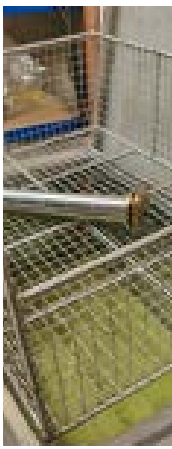
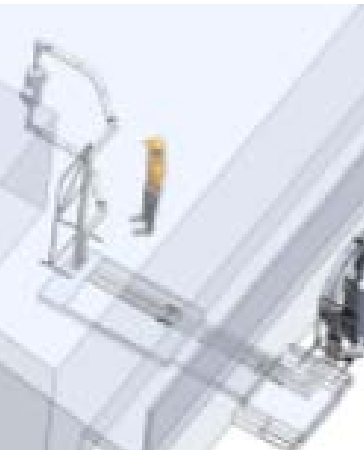
With a wealth of experience in manufacture, all our vacuum insulated transfer lines are built under clean-room conditions, using nitrile gloves and a scrupulous cleaning regime to limit outgassing

TESTING

All our transfer lines and systems are comprehensively, pumped, conditioned/ outgassed, then tested, using helium gas leak detection, to ensure they perform perfectly, first time, every time.

CLIENTS

We supply to industrial, research, medical clients amongst many other clients worldwide. Here are just a few examples.



LEADERS IN THERMAL ENGINEERING

Projects

Design and manufacture a liquid nitrogen transfer line system for a bespoke freeze-dryer.

The system was constructed to BS EN 13480 standards and employed pressure relief to HSE Cat II PROVEN (Double block and bleed) standards.

GRE provided a full design report, pipe sizing, flow modelling and justification to the client; manufactured, fitted and tested the system.



Design (including detailed drawing pack and material certification) and manufacture of an integrated gas vent/cryocooler feed.

Image to the far left shows the assembly, which included a gas vent (with heated exhaust), closed-loop pressure relief and cryogenic valves built into a single line to save on space for client.

Design and manufacture of two, 8 metre long, 10-in-1 LN2 transfer lines for a fusion reactor cooling application.

Materials included, custom-made machined flanges and bayonet system, low outgassing 10-layer multi-insulation and PTFE spacers along with triple-seated vacuum port plug and 'blow off' valve.



Design and manufacture super insulated vacuum liquid nitrogen transfer line system, digitally modelled to follow a complex path through clients' laboratory.

The system comprised or approximately 100 metres of vacuum insulated pipework, spilt into 37 sections, many fitted with flexible sections for compliance. line to save on space for client.



LEADERS IN THERMAL ENGINEERING

GRE. Ltd.
Highmount Court,
Mid Devon Business Park,
Willand, Devon,
EX15 2FB, UK

Telephone: +44 (0) 1884 820422
Email: info@gre-ltd.com

gre-ltd.com

