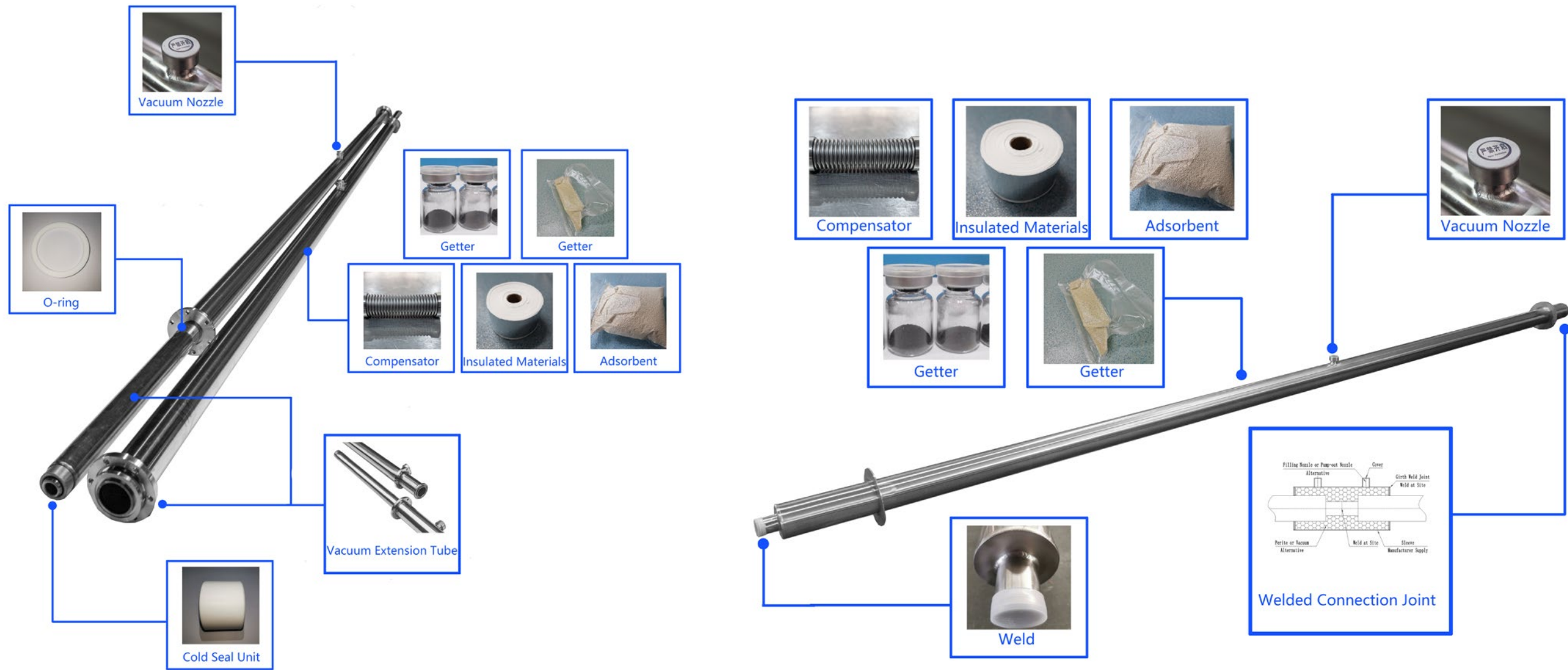




Vacuum Insulated/Jacketed Pipe

The Vacuum Insulated Piping is constructed in a high vacuum and multi-layer insulated materials, and passes through a series of extremely strict technical treatments and high vacuum treatment, which is used for transferring of liquid oxygen, liquid nitrogen, liquid argon, liquid hydrogen, liquid helium, and LNG. It is as a perfect substitute for conventional piping insulation.

Main Product Parameters



Materials	Stainless Steel 300 Series
Design Temperature	-196~90℃ LH2,LHe: -270~90℃
Ambient Temperature	-50~90℃
Vacuum Leakage Rate	$\leq 1 \times 10^{-10} \text{Pa} \cdot \text{m}^3/\text{s}$
Vacuum Level before Delivery	$\leq 0.05 \text{Pa}$ (0.0005mbar)
Vacuum Level after Guarantee	$\leq 0.1 \text{Pa}$ (0.001mbar)
Vacuum Level in Cryogenic State	$\leq 0.01 \text{Pa}$ (0.0001mbar)
Insulated Method	High Vacuum Multi-Layer Insulation
Adsorbent and Getter	Yes
NDE	RT for Butt Weld PT for Rest of Weld
Compensator for VI pipe	$\geq 4.0 \text{MPa}$
Test Pressure	1.15 Times Design Pressure
Medium	LIN, LOX, LAr, LHe, LH2, LNG



Coupling Types

Three kinds of couplings Vacuum Insulated pipe are available for customers to choose from. These couplings are mainly used for the connection between vacuum insulated pipes.

	Vacuum Bayonet Coupling (with Clamps)	Vacuum Bayonet Coupling (with Flanges)	Welded Coupling
Connection Type	Clamps	Flanges and Bolts	Weld
Insulation Type at couplings	Vacuum	Vacuum	Perlite or Vacuum
On-site Insulated Treatment at couplings	No	No	Yes, perlite filled into or vacuum pump out from the Insulated Sleeves at joints.
Nominal Diameter of Inner Pipe	DN10 (3/8")~DN25 (1")	DN10 (3/8")~DN80 (3")	DN10 (3/8")~DN500 (20")
Design Pressure	≤8 bar	≤25 bar	≤40 bar
Installation	Easy	Easy	Weld

Vacuum Bayonet Coupling



Bayonet with Flanges (BF)

Bayonet with Clamps (BC)

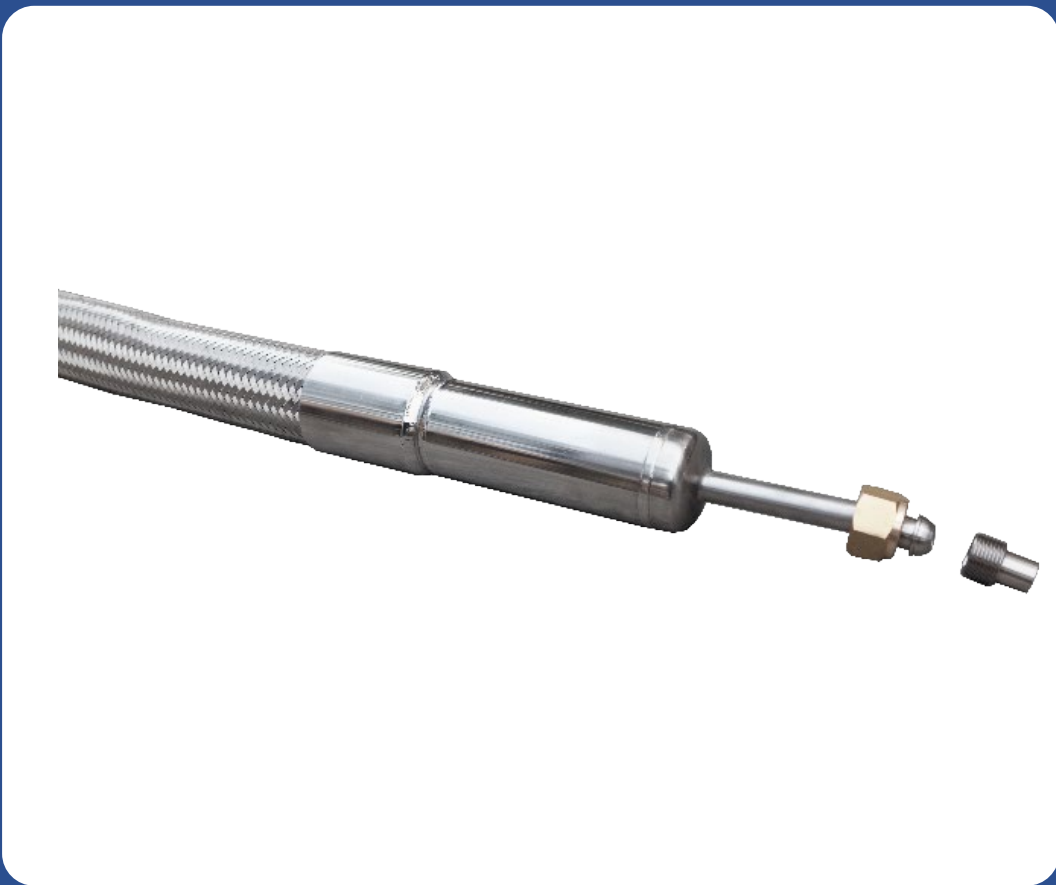
Welded Coupling



Customized Coupling

The customized coupling which is on the basis of the welded coupling, any joint can be re-welded to its inner pipe, like Flange, Screw Thread or any customized joint.

The customized coupling is mainly used for connecting VI Piping to user's equipment. Most of customized couplings require on-site insulation treatment.



The screw thread/flange is re-welded on a welded coupling



CHENGDU HOLY CRYOGENIC EQUIPMENT CO.,LTD - HL CRYO
WWW.HLCRYO.COM INFO@CDHOLY.COM

The Reasons of Choosing HL CRYO.

The customized coupling which is on the basis of the welded coupling, any joint can be re-welded to its inner pipe, like Flange, Screw Thread or any customized joint.

The customized couplings is mainly used for connecting VI Piping to user equipment. Most of customized couplings require on-site insulation treatment.

The Scope of Supply.

The following equipment is suitable for cryogenic services.

- Vacuum Insulated/Jacketed Pipe Series
- Phase Separator/Degasser Series
- Dynamic Vacuum Pump Unit Series
- Other cryogenic support equipment related to VI piping, such as Safety Relief Valve, Filter, Heater of Venting Pipe, Pressure Control System etc.
- Vacuum Insulated/Jacketed Flexible Hose Series
- Vacuum Insulated Valve Series
- PLC Automatic Control System for VI Piping

The Main Service Areas.

- Air Separator/ Cold Box
- Aerospace Industry
- Biostorage/Biobank and Pharmaceutical
- Aluminum Extrusion
- Bulb Production
- Rare Gas
- Test Platform
- Chip: MBE and Packaging&Testing
- Liquid Hydrogen & Liquid Helium
- Motor and Engine
- Food & Beverage Production
- Rubber Tyre Production
- Receiving and Filling Station
- Research Institute Project

Getting A Quotation

Provide the following information as much detail as possible in order to get an accurate quotation quickly.

1. Industry/product application, and medium.
 2. Pipe specifications and quantity, or quantity of flow.
 3. Work pressure or design pressure.
 4. Material of piping system.
 5. If valves, phase separator and other equipment are needed, it is recommended to provide drawings.
 6. Commercial terms, including currency, country/port, and the Incoterm (EXW, FOB or CIF) etc.
 7. Other requirements.
- If not sure about any above information, please contact HL CRYO.



The Manufacture Standard.

ASME B31.3

The Raw Materials.

Usually, ASTM/ASME 300 Series Stainless Steel (Acid Pickling, Mechanical Polishing, Bright Annealing and Electro Polishing).

The Minimum Order.

There is no limited for minimum order.



CHENGDU HOLY CRYOGENIC EQUIPMENT CO.,LTD – HL CRYO
WWW.HLCRYO.COM INFO@CDHOLY.COM