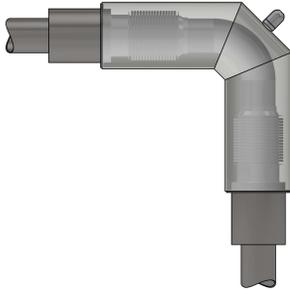




Welded Connections



All welded connections come with CSM renowned customer service, from conceptual design to implementation, and are backed by a 10 years warranty

Vacuum insulated welded connections with extreme low heat leak, frost and condensation free, designed for cryogenic systems down to 4 kelvin. Suitable for liquid hydrogen and LNG application

Vacuum Insulated Welded Connections

CSM uses a highly efficient field-welded cryogenic connection for vacuum insulated piping systems. Vacuum insulated welded connection ensures lowest heat leak by providing a continuous vacuum insulation between the spool sections. Constructed in stainless steel, the vacuum insulated welded connections are designed with high-quality long heat path transition to be installed with our standard low profile sleeve tube. These design features translate to lowest heat leak and preserve liquid cryogen quality.

Fully welded connection ensure full working pressure up to 35 Bar and suitable for extreme hazardous working environment like petrochemical complex or ASU plant. Connection insulation can be done either by low heat leaks vacuum insulation or polyurethane foam insulation.



Onboard fuel and bunkering piping system for LNG or liquid hydrogen

Typical Applications

- LNG vacuum insulated rigid lines
- LH₂ vacuum insulated flex lines
- Applicable for all cryogenic medium with temperature down to 4 Kelvin

Features and Benefits

- Frost and condensation free connections
- Minimization of heat leak
- Easy to install at compact working spaces
- Can be installed in any orientation
- Welded connection ensures high durability & vibration resistant
- Available in Vacuum jacketed or Polyurethane insulation options

Welded Connection Specifications

Sizes	Max Design Pressure psi (bar)	Vacuum Jacketed Heat Leak BTU / Hr (W)	PU Insulated Heat Leak BTU / Hr (W)	Inner & Outer Jacket Pipe Construction
W10	500 (35)	5.46 (1.60)	50.98 (14.95)	S/S300
W15	500 (35)	5.76 (1.69)	60.49 (17.74)	S/S300
W20	500 (35)	9.21 (2.70)	72.05 (21.13)	S/S300
W25	500 (35)	9.34 (2.74)	78.29 (22.96)	S/S300
W30	500 (35)	13.09 (3.84)	90.81 (26.63)	S/S300
W40	500 (35)	18.48 (5.42)	109.87 (32.22)	S/S300

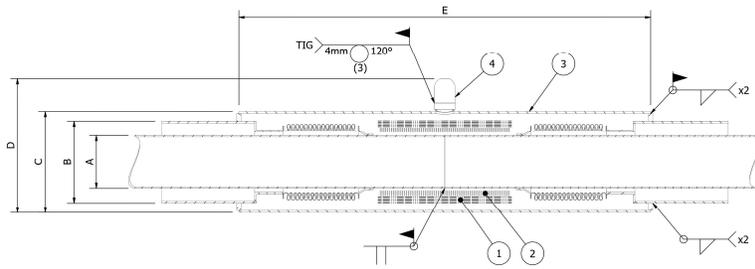
Welded Connection Dimensions

Sizes Mm	Inner Pipe Diameter A	Vacuum Jacket Diameter B	Vacuum Jacket Sleeve Diameter C	Overall Height D	Vacuum Jacket Sleeve Length (Straight) E	Vacuum Jacket Sleeve Length (Elbow) F	Vacuum Jacket Sleeve Horizontal Length (Tee) G	Vacuum Jacket Sleeve Vertical Length (Tee) H
W10	1" NB (33.4mm)	2 ½" NB (73.0mm)	3 ½" NB (101.6mm)	5.8" (146.8mm)	20.5" (520.0mm)	11.8" (300.0mm)	22.8" (580.0mm)	10.6" (270.0mm)
W15	1 ½" NB (48.3mm)	3" NB (88.9mm)	4" NB (114.3mm)	6.3" (159.5mm)	21.3" (540.0mm)	12.2" (310.0mm)	23.2" (590.0mm)	11" (280.0mm)
W20	2" NB (60.3mm)	4" NB (114.3mm)	5" NB (141.3mm)	7.4" (186.5mm)	22" (560.0mm)	12.6" (320.0mm)	24.4" (620.0mm)	11" (280.0mm)
W25	2 ½" NB (73.0mm)	4" NB (114.3mm)	5" NB (141.3mm)	7.4" (186.5mm)	23.6" (600.0mm)	13.4" (340.0mm)	25.2" (640.0mm)	11.8" (300.0mm)
W30	3" NB (88.9mm)	5" NB (141.3mm)	6" NB (169.3mm)	8.4" (213.5mm)	23.6" (600.0mm)	13.4" (340.0mm)	25.2" (640.0mm)	11.8" (300.0mm)
W40	4" NB (114.3mm)	6" NB (168.3mm)	8" NB (219.1mm)	10.5" (264.5mm)	27.6" (700.0mm)	15" (380.0mm)	28.3" (720.0mm)	13.4" (340.0mm)

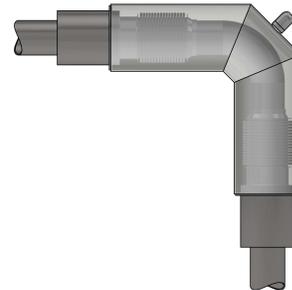
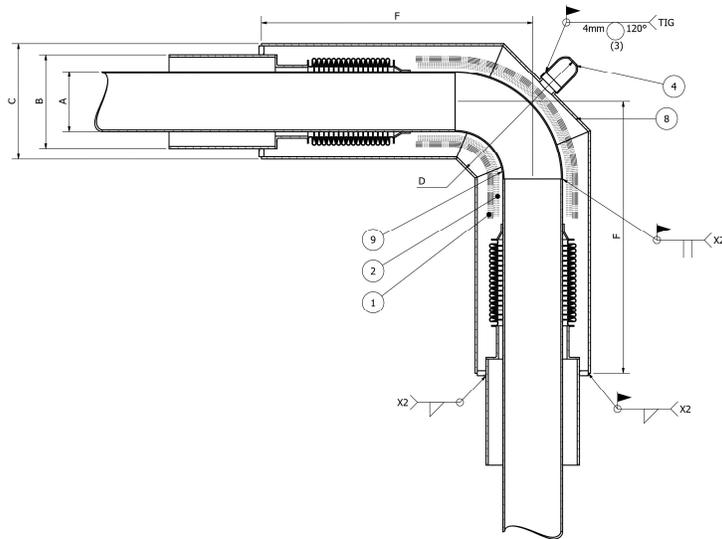
Welded Connection Material Supply List

No	Name
1	Multi-Layer Insulation
2	Molecular Sieve
3	Vacuum Jacketed Sleeve Tube (Straight) c/w Vacuum Port
4	Vacuum Port Plug Assembly
5	Vacuum Grease
6	Pump Out Valve Operator
7	Vacuum Jacketed Sleeve Tube w/o Vacuum Port
8	Vacuum Jacketed Sleeve Tube (Elbow) c/w Vacuum Port
9	Process Elbow (Sch 5S)
10	Vacuum Jacketed Sleeve Tube (Tee) c/w Vacuum Port
11	Process Tee (Sch 5S)

Welded Straight Connection



Welded Elbow Connection



Welded Tee Connection

