

# **Space Launch Complex Piping**



## **Premier Engineering and Design**

Whether the project is fully engineered or a design-build. CryoWorks is the go-to, proven partner to tackle engineering challenges.

Our staff of experienced engineers and designers shorten the engineering phase of the project while helping to ensure +20 years life of mission-critical VIP systems.

# Clean Manufacturing=Reliable Product

We pride ourselves on producing pipe with an expected life of +20 years. We only hire experienced welders capable of making cryogenic fit welds. We don't use any carbon steel, preventing the possibility of contamination.

Our welding shop and the production pipe are routinely thoroughly cleaned to prevent contamination and ensure high vacuum and minimum heat leak.

### **Project Execution Excellence**

"Thinking outside the box to help us solve problems is CryoWorks' main asset" -G.P, rocket launch company

# **Need Vacuum Insulated Piping Now?**

From Vandenburg to the Cape, CryoWorks is the preferred supplier of Space Launch Complex Piping in the aerospace industry. Our experience in fixed, mobile launch facilities, engine testing facilities, and commodity transfer at space launch complexes ensures timely completion of your projects.

CryoWorks Vacuum Insulated Pipe (VIP) systems for LNG, LOX, LH2, and other commonly used cryogenic fluids are designed and manufactured to ASME B31.3, B31.12, and NFPA 59A, helping to propel humanity to the moon, mars, and beyond!





"Your competitor isn't able to meet our deadlines or match your quality"

-A.C, space exploration company





# **Space and Launch Complex**

# Vacuum Insulated Pipe (VIP)



Vacuum Insulated Pipe (VIP) is the preferred method for transporting cryogenic liquids and is unmatched in safety, reliability, and cost-effectiveness. Whether for storage, transfer, or final use purposes, vacuuminsulated piping is your most efficient option. CryoWorks offers many types of vacuum insulated piping systems. From our stocked prefabricated VIP assemblies, modular designed systems, flexible piping systems (static or dynamic vacuum) to our more complex engineered to order VIP piping systems.

### Flexible VIP and Accessories



Many installations in the Aerospace industry require flexible solutions. Common solutions that CryoWorks offers are umblicals from the pad to the rocket, hoses from the test stand to an engine, between tanks, pumps, and other ground equipment.

#### F-Series Bayonet™



The F-Series Bayonet™ connections are high efficiency cryogenic connections designed for vacuum insulated piping systems utilizing a close tolerance fit between the male and female connections. CryoWorks has developed a proprietary heat/cryo treat process that provides long-term dimensional stability and allows for a closer tolerance fit that provides best-inclass thermal performance. These bayonets incorporate a standard ASME-rated backup flange and gasket to provide the most reliable pressure boundary seal.

### **CryoFilter™**



CryoWorks CryoFilter™ is vacuum insulated for low heat influx, while easy to maintain. Simply remove our industry leading F-Series Bayonet cap designed for rapid disassembly to clean or replace the filter element.