



CSZ Builds 700 Cu. Ft. Custom-Designed T-Series Chilling Chamber

What was sold?

In September 2011, a leading supplier of specialty stainless steel and alloys approached CSZ with the need for an oversized, heavy-duty production chilling chamber.

Impressed with previous experience from a CSZ chilling chamber that is 30 years old and still operational today, the customer decided to contact CSZ for their unique application for an additional chilling chamber.

The chamber was to use LN₂ Cooling exclusively and accommodate a load up to 30,000 lbs. It was needed to test the reliability of various diameter steel rods. The rods would be loaded into the freezer via crane.

The incredible dimensions of the chamber and its requirement of exclusive use of LN₂ cooling made this application very unique.

To meet the needs of this requirement, CSZ's solution was a 700 cu. ft. chamber with exterior dimensions 322"L x 147"W x 93"H.

Chamber Features

- Work zone volume: 300"W x 84"D x 48"H
- Temperature range: 0°C to -101°C (32°F to -150°F)
- Chamber reinforced to withstand up to 30,000 lbs.
- 8" thick foam insulation on walls, lid and floor for continuous operation and reduced operating costs
- Exclusive use of LN₂ Cooling system with 3 independent cooling zones for smaller product testing and greater flexibility
- 1 Yokogawa temperature controller for each zone
- Hydraulic cylinder lifting mechanism to open chamber lid to 100°



Shortly after receiving their chamber, the customer contacted CSZ to pass along a thank you. They were impressed with the high quality and rugged design of their very distinct product. The design intent of the chamber was to have a 9 point uniformity of +/-8°C at -88°C. Upon customer testing, the chamber showed an impressive +/-3°C.