



TF-Series

T-Series

V-Series

# Industrial Freezers & Production Chilling Chambers

# Freezers & Chilling Chambers

## Built to Last for Decades

Cincinnati Sub-Zero's Chilling Chambers are premier, ultra-low temperature industrial freezers. Designed with heavy-duty construction, our units are built-to-last for years of trouble-free operation. These chambers are primarily used for age-hardening, stress-relieving, expansion assembly, martensiting, dimensional stabilization, and other heavy-duty industrial cooling applications.

## Features & Benefits

- Heavy duty, built-to-last construction for long life. (CSZ has fully operational freezers in the field that are 30+ years old)
- Trouble Free operation saves maintenance costs
- Casters for easy mobility (V-Series)
- Thick foam insulation for continuous operation and reduce operating costs
- NEMA-12 enclosures and oil tight switches extend the life of electronics refrigeration
- Gas spring or pneumatic easy-to-open lids
- Fast and efficient cooling with zero ozone depletion refrigerants
- Freezer construction and refrigeration systems hold up in harsh heat treat environments (T & TF-Series)
- High Volume Air Circulation provides uniform cooling (T & TF-Series)



TF-Series Freezer

## Select from three different freezer styles

- The **V-Series** top-loading freezers offer economical chilling capability primarily used as storage freezers and in tool rooms where light duty storage or laboratory freezers are not adequate.
- The **T-Series** top-loading freezers are used for heavy production loads where high capacities and high performance are required.
- The **TF-Series** front loading freezers offer side-by-side operation with batch-type heat treating furnaces, heavy-duty rollers and guides to interface directly with most charge car load/unload mechanisms, and compatibility with part baskets and trays used in other heat-treating mechanisms.

These freezers may be custom-designed to meet your needs.

## Temperature Range

Standard Range: -40°F to -120°F (-40°C to -85°C)  
Optional Liquid Nitrogen Cooling: -300°F (-184°C)



V-Series Freezer



T-Series Freezer

# Basic Specifications

Model	Cooling Capacity*	Workspace Size	Overall Size**	Recommended Minimum Service	
	Lbs. (kg) Steel/Hr	Inches (cm) L x W x D	Inches (cm) L x W x H <sup>1</sup> x H <sup>2</sup>	230V	460V
<b>T-Series Heavy-Duty Freezers</b>					
T-13-2-2	100 (45)	36 x 24 x 26 (91 x 61 x 66)	111 x 42 x 61 x 36 (282 x 107 x 155 x 92)	30	15
T-21-2-2	90 (41)	60 x 24 x 26 (152 x 61 x 66)	135 x 42 x 64 x 36 (343 x 107 x 163 x 92)	30	15
T-21-3-3	250 (114)	60 x 24 x 26 (152 x 61 x 66)	143 x 42 x 64 x 36 (363 x 107 x 163 x 92)	50	25
T-25-3-3	248 (113)	48 x 30 x 30 (122 x 76 x 76)	135 x 48 x 64 x 40 (343 x 122 x 163 x 102)	50	25
T-25-6-6	324 (147)	48 x 30 x 30 (122 x 76 x 76)	135 x 48 x 64 x 40 (343 x 122 x 163 x 102)	90	45
T-25-7.5-7.5	638 (290)	48 x 30 x 30 (122 x 76 x 76)	135 x 48 x 64 x 40 (343 x 122 x 163 x 102)	90	45
T-37-3-3	236 (107)	72 x 30 x 30 (183 x 76 x 76)	159 x 48 x 64 x 40 (404 x 122 x 163 x 102)	50	25
T-37-6-6	312 (142)	72 x 30 x 30 (183 x 76 x 76)	159 x 48 x 64 x 40 (404 x 122 x 163 x 102)	90	45
T-37-7.5-7.5	627 (285)	72 x 30 x 30 (183 x 76 x 76)	159 x 48 x 64 x 40 (404 x 122 x 163 x 102)	90	45
T-60-6-6	290 (132)	60 x 48 x 36 (152 x 122 x 91)	149 x 66 x 64 x 46 (379 x 168 x 163 x 117)	90	45
T-60-7.5-7.5	605 (275)	60 x 48 x 36 (152 x 122 x 91)	149 x 66 x 64 x 46 (379 x 168 x 163 x 117)	90	45
T-96-6-6	285 (130)	72 x 48 x 48 (183 x 122 x 122)	161 x 66 x 67 x 58 (409 x 168 x 170 x 148)	90	45
T-96-7.5-7.5	594 (270)	72 x 48 x 48 (183 x 122 x 122)	161 x 66 x 67 x 58 (409 x 168 x 170 x 148)	90	45
<b>V-Series Light Duty Freezers</b>					
V-6-1-1	60 (27)	32 x 18 x 18 (80 x 46 x 46)	47 x 32 x 47 x 43 (119 x 81 x 119 x 109)	20	10
V-9-1.5-1.5	100 (45)	48 x 18 x 18 (122 x 46 x 46)	64 x 32 x 47 x 43 (163 x 81 x 119 x 109)	25	12
V-11-1.5-1.5	95 (43)	60 x 18 x 18 (152 x 46 x 46)	77 x 32 x 47 x 43 (196 x 81 x 119 x 109)	25	15

All dimensions are approximate. Performance is based on water cooled operation with 3 phase, 60 hertz power, and 75°F (24°C) ambient room temperature. Performance will be reduced by approximately 17% for 50 hertz. The addition of certain options may affect performance.

\* The pounds (kilograms) of steel stated in the chart is the quantity of 75°F (24°C) steel that can be placed in a -120°F (-85°C) prechilled chamber and expect the chamber to recover to -120°F (-85°C) within one hour. The additional time required for the load temperature to stabilize after chamber air temperature recovery depends on factors such as the part's thickness and the amount of exposed surface area.

\*\* H<sup>1</sup> is overall height. H<sup>2</sup> is loading height.

Notes:

- Floor load is rated for 200 Lbs. per square foot. However, floor reinforcement is available for larger capacities.
- V-Model performance is without the lid mounted and measured air circulator. The recovery time will be longer with the air circulator option.

# Freezers & Chilling Chambers

Our Production Chilling Chambers/Freezers are designed to meet your most demanding applications. Below is a list of standard features.

## Standard Features

- Non-Settling Low “K” Factor Foam Insulation
- Casters (V-Series)
- Lid/Door Switch (T & TF-Series)
- Heavy Duty Heliarc Welded Vapor Tight Liner with Brush Stainless Steel Interior
- Adjustable Chrome Plated Latch
- Oil Tight Switches and Lights
- Digital Display Temperature Controller
- Fused Electrical Components
- Fully Enclosed NEMA 12 Electrical Compartments
- Refrigeration Pressure Gauges
- Refrigeration Service Taps
- Manual Defrost Switch (T & TF-Series)
- Water Cooled Condenser

## Custom-Designed Freezers for your Application

Where standard models don't meet your application needs, our extensive range of custom capabilities can provide enhanced performance. CSZ builds large freezers for shrink/fit applications for shafts/bearings of large wind mills. See the examples below of other customized designed freezers we have built.



Front-opening freezer for epoxy storage



Custom size freezer with 168 cu. ft. interior

## Optional Accessories & Custom Capabilities

- Access Ports
- Custom-Size Chambers
- Casters (T-Series)
- Lid Mounted Air Circulator (V-Series)
- Running Time Meter
- EIA-232/485 Communications
- Electrical Disconnect Switch
- Windows-Based Software Packages
- Explosion-Proof Chambers
- Product Soak Timer
- 50 Hz. Operation
- Temperature Recorders
- Compliance to all Wiring Standards
- Custom Control Interface Capability
- Liquid Nitrogen Cooled
- Liquid Baths
- Air Cooled/Remote Refrigeration
- Liquid Nitrogen Boost Cooling
- Automatic Defrost Systems

# The Experience you Rely on...

Cincinnati Sub-Zero (CSZ) Products, Inc. is an ISO-9001 certified company with over 70 years of industry experience designing and manufacturing temperature-controlled products of the highest quality, with a commitment to total customer satisfaction.

At CSZ, we offer a complete line of both standard and custom-designed environmental simulation chambers including:

- Temperature Cycling
- Humidity
- Stability Cabinets & Rooms
- Thermal Shock
- Stress-Screening
- Altitude
- AGREE Vibration
- HALT/HASS
- Freezers
- Liquid Chillers
- Wind & Rain
- Sand & Dust
- Other Temperature Management Solutions

*Sizes range from benchtop to full walk-in/drive-in chambers.*

## TESTING SERVICES

CSZ Testing Services is an A2LA Accredited Test Laboratory utilizing the latest test technology. CSZ is your one stop source for all of your environmental simulation testing needs. Our testing laboratory is here to help with your product qualification testing, overflow testing and /or third party product validation. Testing capabilities include Temperature, Humidity, and/or Vibration, Thermal Shock, Burn-in, Altitude, Vibration, Shock, Salt Spray, and Cyclic Corrosion test. Serving you from two locations in Cincinnati, OH and Sterling Heights, MI. For more information please call CSZ Testing headquarters at 513-793-7774 or visit [www.csztesting.com](http://www.csztesting.com).



**CSZ is your one stop solution for ...**

- Environmental Chambers
- Freezers
- System Upgrades
- Preventative Maintenance
- Calibration Services
- Contract Testing Services

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