

Options

- Window and interior light. Window sizes are 12" x 12" and 18" x 18" clear viewing area.
- Access Ports. Sizes are 2", 3", 4" and 6." One 3" access port in the left wall is provided with each chamber.
- A caster base to allow convenient chamber movement. The caster base includes four swivel casters. Caster bases are available on LDF8's to LDF64's.
- A fixed base to support the chamber at a convenient work height.
- Shelf pilasters and wire-type stainless steel shelves.
- GN2 gas purge with pressure regulator, gauge, flow measuring and regulating valved rotameter, and vent.
- Desiccant Drier purge with dual tower 10-cfm desiccant drier, pressure regulator, gauge, flow measuring and regulating valved rotameter and vent.



Larger and custom sizes are available. A custom LDF67 is shown with interior workspace dimensions of 37" high by 62" wide by 51" deep.

Instrumentation

Controls are mounted on the side or top to prevent dripping from damaging the instruments. Available instruments include:

- Microprocessor-based, FM Approved high over-temperature safety control.
- Set of two, one high and one low micro-processor-based, FM Approved temperature safety controls.
- Remote control over an Ethernet Link.
- 12-inch, chart printing, circular recorder.
- Strip chart recorder.
- See Bemco Instrument Bulletin for further descriptions.



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Description:

Take a giant step forward with a Bemco liquid nitrogen cooled LDF Series Wide Range Expendable Refrigerant Temperature chamber.

Why settle for the appearance of testing when you can have a system that actually works?

Choose Bemco, the chamber that others only copy.

We have 8, 16, 27, 64 and 125 cubic foot standard models and custom units to fit almost any requirement.

**Contact Us
For a Free
Quotation or
Additional
Information**

-73 to +177 C
-100 to +350 F

LDF

Wide Range
Expendable Refrigerant
Temperature Chambers

Environmental Test and Space Simulation Systems



Bemco Inc.
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LN₂ Cooled Temperature Chambers



Bemco LDF8-73/177C

Cooling rate from 23 C (+73 F) to -73 C (-100 F) chambers is approximately 15 minutes, 6.4 C / minute (11.5 F / minute) average. 23 C (+73 F) to 177 C (350 F) in approximately 30 minutes, 5.1 C / minute (9.2 F / minute), both with the chamber empty.

+ or - 1 C (+ or - 1.8 F) guaranteed control, + or - 0.3 C (+ or - 0.5 F) typical.

All electrical wiring meets the United States National Electric Code. U.L. and CSA approved components are used where possible.

Conditioning

Chamber air is recirculated by a high volume, stainless steel axial fan discharging through a hinged rear mounted guard and diffuser baffle to create a uniform environment around your test objects.

The fan is driven by a vertically mounted motor with dual ball bearing races, connected by a large diameter extended stainless steel shaft. Fast-response open type heaters behind a radiation baffle raise chamber temperature as required.

Cooling

Chamber temperature is reduced by a proportionally controlled liquid nitrogen injection system utilizing both a control solenoid and a series mounted safety solenoid to positively interrupt nitrogen flow in the event of a malfunction. A relief valve and a line strainer are provided for dependable operation. A self sealing vent system with an attachment coupling for remote piping by others removes expanded nitrogen from the workspace.

Construction

LDF Series chambers include a 304 Series stainless steel welded liner with high temperature fiberglass insulation. No asbestos is used in chamber construction. Outer cases are fabricated from cold rolled steel finished in Bemco Blue. Chamber doors feature Bemco's plug door to minimize problems with expansion and contraction on the door face and dual gaskets to greatly reduce thermal losses near the door face. An over-center Bemco cam-type latch seals the door.

Controls

Each Bemco LDF chamber is furnished with a microprocessor based programmable 1/4-DIN solid state 256-step ramping controller which includes a 4-line LCD interface display and a large red LED display.

Temperature inside the LDF chamber is sensed by a precision thermocouple. An RS232 and RS485 interface is standard. Heaters are interlocked with a separate heavy duty power contactor and a factory preset high temperature safety control.

Model Number	Interior Height	Interior Width	Interior Depth	Exterior Height	Exterior Width	Exterior Depth	Weight Pounds	Base Height (1)
LDF8	24"	24"	24"	48"	36"	49"	600	26"
LDF16	30"	30"	30"	44" ⁽²⁾	52"	57"	800	26"
LDF27	36"	36"	36"	50" ⁽²⁾	58"	63"	1000	26"
LDF64	48"	48"	48"	62" ⁽²⁾	70"	77"	1500	26"
LDF125	60"	60"	60"	80" ⁽²⁾	82"	93"	2500	Note (1)

(1) Base is Optional. The LDF125 includes a channel base. (2) Add approximately 10" to height for fan motors.



We Deliver

Bemco chambers really simulate the environments expected. We take your specifications and requirements literally. Our equipment does what we promise and you specify. We are truly focused on Excellence.

Combined Environments

Temperature, Humidity, Altitude, Vibration, Vacuum, Rain, Sunshine, Salt Spray, Sand and Dust, and Gasses. Space Simulation Systems, Walk-in Chambers, Drive-in Rooms, PAO Fluid Chillers, and Air Servos.