

## 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 left wall is provided with each chamber.
- Caster locks. Four swivel casters are standard on all models.
- Shelf pilasters and wire-type stainless steel shelves.
- LN2 boost cooling with vent for extra or back-up cooling.
- 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.
- Four refrigeration gauges (two per compressor) mounted in the refrigeration package available with or without isolation valves.



The Bemco F Series includes a plug door, cross broken floor and a rear mounted high volume air circulation system.

## 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.



**Bemco Inc.**  
Focused on Excellence

2255 Union Place  
Simi Valley, CA 93065  
805-583-4970  
805-583-5033 fax  
<http://www.bemcoinc.com>

## Description:

Take a giant step forward with a wide range Bemco mechanically refrigerated F Series High and Low 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 and 64 cubic foot standard models, many available on our quick-ship program, and custom units to fit almost any requirement.

*Environmental Test and Space Simulation Systems*

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

# F

Wide Range  
Mechanically Refrigerated  
Temperature Chambers



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



**Bemco Inc.**  
Focused on Excellence

# F High - Low Temperature Chamber



**Bemco F27-73/177C**

Cooling rate from 23 C (+73 F) to -73 C (-100 F) is approximately 55 minutes, or 1.7 C (3.2 F) / minute and average cooling rate from 23 C to -55 C is 2 C (3.6 F) per minute. Average heating rate from 23 C (+73 F) to +177 C (350 F) is 3.4 C (6.2 F) / minute, both with the chamber empty.

+ or - 1 C (+ or - 1.8 F) guaranteed control, + or - 0.15 C (+ or - 0.25 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

A proportionally controlled cascade, two compressor refrigeration system utilizing modern environmentally friendly refrigerants cools the workspace. The system includes automatic hot gas bypass and suction cooling unloading as well as Bemco's exclusive, high performance coaxial cascade heat exchanger.

All systems have thermal and current sensors on each compressor as well as numerous safety and reliability protection systems for dependable operation.

## Construction

F 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 F chamber is furnished with a micro-processor 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 F chamber is sensed by a precision thermocouple. An RS232 and RS485 interface are 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	Live Load Watts, -55 C
F8	24"	24"	24"	74"	36"	49"	1000	1425
F16	30"	30"	30"	70" <sup>(1)</sup>	52"	57"	1300	1580
F27	36"	36"	36"	76" <sup>(1)</sup>	58"	63"	1500	1580
F64 <sup>(2)</sup>	48"	48"	48"	88" <sup>(1)</sup>	70"	77"	2500	4500

(1) Add approximately 10" to height near the rear of the workspace for fan motors. (2) F64 - water cooled condensing.



## 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.