

## 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.
- Casters, four swivel type with locks.
- 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.



**FHC Series high capacity, two compressor refrigeration system. Shown below, the Bemco exclusive, high reliability cascade heat exchanger.**

## Instrumentation

Controls are mounted on the side 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.
- Custom fixturing, load boards, and card cages to match your load.
- 12 inch, chart printing, circular recorder.
- Strip chart recorder.
- See Bemco Instrument Bulletin for further descriptions.



**Bemco Inc.**  
Focused on Excellence

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## Description:

Take a giant step forward with a wide range Bemco mechanically refrigerated FHC Series high capacity and rapid change rate 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, 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

# FHC

High Capacity  
Mechanically Refrigerated  
Temperature Chambers

*Environmental Test and Space Simulation Systems*



**Bemco Inc.**  
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# FHC Rapid Change Rate Chamber



**Bemco FHC-73/177C-8-40WC**  
20 Hp x 20 Hp Cascade Mechanical Cooling

Units are available with average heating and cooling rates in excess of 5 C / minute (9 F / minute), 10 C / minute (18 F / minute) and 15 C / minute (27 F / minute) over the temperature range of -55 C (-67 F) to +177 C (350 F). Slightly reduced cooling rates are offered to -73 C (-100 F). All systems utilize mechanical cooling exclusively to produce these cooling rates.

+ or - 1 C (+ or - 1.8 F) guaranteed control, + or - 0.5 C (+ or - 0.9 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 one or more high volume, stainless steel axial fan(s) 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 are water cooled, have thermal and current sensors on each compressor as well as numerous safety and reliability protection systems for dependable operation.

## Construction

FHC Series chambers include a 304 Series stainless steel welded liner with high temperature fiber-glass 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 FHC 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 FHC 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	Live Load Watts, -55 C
FHC8	24"	24"	24"	67"	60"	93"	1700	2000
FHC16	30"	30"	30"	73"	66"	99"	2000	8700
FHC27	36"	36"	36"	79"	72"	105"	2500	9900
FHC64	48"	48"	48"	91"	84"	117"	4000	17300

Add approximately 10" to height near rear of the workspace for fan motors on all models.



## 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.