

WEBBER

Serving Satisfied Customers since 1946

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Environmental Test Chambers



Webber Environmental Test Chambers:

Humidity, Temperature, Temperature & Humidity, A.G.R.E.E., Thermal Shock, Altitude, Explosion Proof, Expendable Refrigerant and many more . . .

Environmental Test Chambers

Standard answers for creating the most non-standard conditions. Environmental test chambers crafted from six decades of proven experience. Since 1946, Webber Manufacturing Company has been designing and manufacturing environmental test equipment to the very highest standards of the industry. In every respect, our standard Environmental Test Chambers reflect that long-standing commitment to quality. Offering test volumes from 5 to 80 cubic feet and temperature ranges from -100 to +350 degrees Fahrenheit, they provide the outstanding performance and reliability that so many leading test facilities have come to expect from units with the valued name "Webber".

When a standard answer won't do . . .

In over six decades of experience, Webber Manufacturing Company has gained an excellent reputation for designing and fabricating custom environmental test chambers, as well as the standard chambers described in the brochure.

In those instances where selections from our standard line do not meet your requirements, we are capable of modifying a standard chamber or building a unit to your exact specifications.

Please feel free to consult our factory about such individual special needs, without hesitation or obligation.



Mailing Address: P.O. Box 19449 • Indianapolis, Indiana 46219

Webber Model Designation System

AF10 -100 +350 H X

A - Air cooled condenser
W - Water cooled condenser
L - Liquid nitrogen,
Liquid Carbon Dioxide

T - Top opening door
F - Front opening door

Upper Limit of
Temperature
range

Lower Limit of Temperature range

Number indicates - Internal volume in cubic feet

X - Explosion Proof

H - Humidity
V - Vacuum



The following chart lists our standard chamber models. Select a model that is close to meeting your requirements and we will start there and modify the chamber to meet your specifications.

Environmental Test Chambers

Model Designation	Test Volume (cu. Ft.)	Dimensions (inches) W x H x D	Temperature Range (°F)	Refrigeration System (H.P.)	Power Options (Standard)	Shipping Weight (approximate lbs.)	Heating Capacity (Empty Chamber) (minutes)	Cooling Capacity (Empty Chamber) (minutes)	Live Load Capacity (watts)
							75°F to 200°F	75°F to 0°F	0°F to -100°F
AF5-40+350	5	Int. 21 21 21 Ext. 46 67 37	-40 to 350 -100 to 350	1 1 x 1	230-1-60 230-3-60	650 lbs. 750 lbs.	20 45 20	20 60	250 100
AF5-100+350									
AF5-100+350H									
AF10-40+350	10	Int. 26 26 26 Ext. 51 70 42	-40 to 350 -100 to 350	1 1 1/2 x 1 1/2	230-1-60 230-3-60	800 lbs. 950 lbs.	20 45 20	20 60	450 200
AF10-40+350H									
AF10-100+350									
AF10-100+350H									
AF16-40+350	16	Int. 30 30 30 Ext. 55 74 47	-40 to 350 -100 to 350	1 1 1/2 x 1 1/2	230-1-60 230-3-60	950 lbs. 1150 lbs.	15 40 20	20 50	375 150
AF16-40+350H									
AF16-100+350									
AF16-100+350H									
AF27-40+350	27	Int. 36 36 36 Ext. 59 80* 67	-40 to 350 -100 to 350	3 3 x 3	230-3-60 460-3-60	1500 lbs. 1900 lbs.	15 30 15	15 60	2300 650
AF27-40+350H									
AF27-100+350									
AF27-100+350H									
WF38-40+350	36	Int. 36 48 36 Ext. 59 94* 67	-40 to 350 -100 to 350	3 3 x 3	230-3-60 460-3-60	1700 lbs. 2100 lbs.	15 30 15	10 40	3450 900
WF38-40+350H									
WF38-100+350									
WF38-100+350H									
WF42-40+350	42	Int. 42 42 42 Ext. 65 88* 76	-40 to 350 -100 to 350	3 3 x 3	230-3-60 460-3-60	1900 lbs. 2300 lbs.	15 30 15	10 40	3300 800
WF42-40+350H									
WF42-100+350									
WF42-100+350H									
WF48-40+350	48	Int. 48 48 36 Ext. 71 96* 72	-40 to 350 -100 to 350	6 6 x 6	230-3-60 460-3-60	2150 lbs. 2550 lbs.	15 30 15	25 40	3600 1300
WF48-40+350H									
WF48-100+350									
WF48-100+350H									
WF64-40+350	64	Int. 48 48 48 Ext. 71 96* 84	-40 to 350 -100 to 350	6 6 x 6	230-3-60 460-3-60	2750 lbs. 3200 lbs.	15 30 15	15 40	3400 1100
WF64-40+350H									
WF64-100+350									
WF64-100+350H									
WF80-40+350	80	Int. 46 1/2 58 1/2 51 Ext. 69 1/2 72 1/2 120	-40 to 350 -100 to 350	7 1/2 7 1/2 x 7 1/2	230-3-60 460-3-60	3000 lbs. 3500 lbs.	20 40 20	10 40	5900 1700
WF80-40+350H									
WF80-100+350									
WF80-100+350H									

*Note: Add 8.5 inches additional height to test chamber for removable fan motor

Standard Features

Chamber Construction:

- Interiors of heavy gauge, brushed-finish type 304 stainless steel.
- Heliarc welded interior seams to form a rugged, vapor-tight unit.
- Insulated with non-hygroscopic high "R" value fiberglass.
- Chambers 27 cubic feet and larger fabricated of structural steel.
- Chambers 16 cubic feet and smaller fabricated of heavy gauge, cold rolled sheet metal formed and welded.
- Standard 2" diameter customer port.
- Dual silicone rubber gaskets to seal door to chamber.
- Heavy duty door hinges and specially designed, adjustable door latch.
- Tough, industrial quality, textured enamel paint finish.
- Access panels for easy serviceability.
- Stainless steel drain with check valve.
- Pressure equalization system.
- All chambers allow handling with a forklift.

Refrigeration System

- Heavy-duty, industrial-quality, semihermetic compressors – the type usually featured on more expensive chambers – standard on all models with mechanical refrigeration.
- Thermal expansion valves to control cooling, allowing maximum pull-down rates and high load ratings, without sacrificing one for the other.
- Liquid injection valves to insure sufficient compressor cooling during all chamber temperature conditions.
- Bypass systems for accurate temperature control while eliminating life-shortening rapid compressor cycling.
- Bypass time-out feature shuts compressor off, after timing out in a standby condition, reducing energy consumption and eliminating standby operation when profiles do not require cooling.
- Refrigeration pressure gauges on all systems.
- System design backed by years of environmental experience and constructed of high quality commercially available components.

Heating System

- Electrical resistance heaters are low mass open nichrome elements supported by ceramic insulators, for fast response and minimal residual heating effects.
- Heaters baffled from test space to prevent direct radiation on test specimens.
- Controlled by heavy duty, quiet mercury contactors rated for millions of cycles.
- Interlocked to air circulation system.
- Standard thermal links or electronic high-temperature limiters with redundant heater contactor.

Humidity System

- All stainless steel, heavy duty vapor generator construction.
- Refrigerated copper coils to provide dehumidification.
- Vapor generator protected against low water and overheating conditions.

Air Circulation System

- High volume propeller type fan blades.
- Externally located fan motors with lubricated-for-life bearings.
- Integral one-piece stainless steel extended fan motor shafts for long life and minimal vibration.
- Chamber conditioning systems are interlocked to the air circulation system.
- Designed to minimize chamber temperature gradients and maximize conditioning system performance.

Instrumentation

- Microprocessor-based programmer/controller on all chambers.
- Uses-selectable Fahrenheit or Celsius temperature indication.
- Humidity settings and indication in units of percent of relative humidity, eliminating need for dry-bulb/wet-bulb conversion tables and charts.
- Operator-oriented features for easy operation and programming.
- Digital indication of program and control parameters.
- Looping feature to allow repeating complete or partial programs.
- Guaranteed soak feature to let process variable reach set point before going to next step.
- Real-time clock.
- Protection to retain controller parameters and programs in event of power failure.
- Three-mode controller action, featuring proportional band, rate, and reset adjustment, for optimum control.
- Solid state control out-puts with opto-isolated zero voltage crossover switching for reliable, accurate control.



Electrical

- Components mounted in a fully enclosed electrical cabinet.
- Power connection terminal block and ground lug for easy utility connections.
- All wiring enclosed in wiring ducts or bundled and strapped.
- All wires numbered for easy identification.
- All wiring meeting or exceeding National Electrical Code.
- Wire color coded per JIC specifications.

Safety

- Guards on all conditioner fan blades.
- Non-toxic, non-flammable refrigerants.
- Gauges to continuously indicate refrigeration system pressure.
- Pressure relief valves or fusible plugs on all refrigeration systems.
- High pressure switches on all refrigeration systems, to shut compressors off in event of excessive discharge pressures.
- Thermal links or fixed-heat electronic high-temperature limiter with redundant heater contactor, to protect chamber from dangerous over-temperature condition.
- Conditioning/air circulation interlock, to prevent equipment damage in event of fan motor electrical failure.
- All electrical circuits protected by fuses or circuit breakers.
- Refrigeration compressors protected against overload conditions.

Optional Accessories & Equipment:

- Optional instrumentation systems.
- Instrumentation consoles.
- Recorders – circular and strip-chart styles.
- Product high and low temperature limiter alarms, - UL & FM recognized
- Digital communications interfaces (RS-232C, 422A, 423A, IEEE-488).
- Computer-based test chamber control systems utilizing custom software packages.
- Additional chamber portholes.
- Viewing windows.
- Window wipers.
- Interior lights.
- Adjustable shelves.
- Casters
- Stainless steel exteriors.
- Electrical feed-thru terminals.
- Gaseous nitrogen purge.
- Air dryer systems.
- Acoustic insulation package.
- Custom paint finishes.
- Larger or smaller capacity refrigeration packages.
- Air- or water-cooled condensers.
- Refrigeration compressor oil pressure gauges.
- Water mizer package to minimize refrigeration system water consumption (where applicable).
- Extended heating/cooling ranges.
- Liquid CO-2 (carbon dioxide) cooling/assist packages.
- Liquid nitrogen cooling/assist packages.
- Optional heating systems to increase or decrease temperature change rates.
- Humidity water deionizer/filter packages.
- Humidity water reservoir packages.
- Special chamber power characteristics.
- Electrical disconnect switches.
- Running-time meters.

Additional Products Available:

- Temperature and Temperature/Humidity Chambers up to 4,000 cubic feet.
- Industrial Freezers to -300 degrees F.
- Panel/Modular Units.
- Temperature/Altitude and Temperature/Altitude/Humidity Chambers.
- Thermal Shock Units.
- A.G. R. E. E. Chambers.
- Explosion-Proof Chambers.
- Convection Fluid Test Equipment.
- Portable Temperature Conditioning Systems.
- Expendable Refrigerant Test Chambers – Benchtop and floor models.



Sometimes size does matter:

If our standard chambers lack the cubic feet required, we do make them bigger. Chambers or Modular Rooms, built with gargantuan proportions are possible. Call us today discuss all of the options.



Call us today with any questions you may have about
Webber Environmental Test Chambers.

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