

# Hiacc<sup>®</sup>

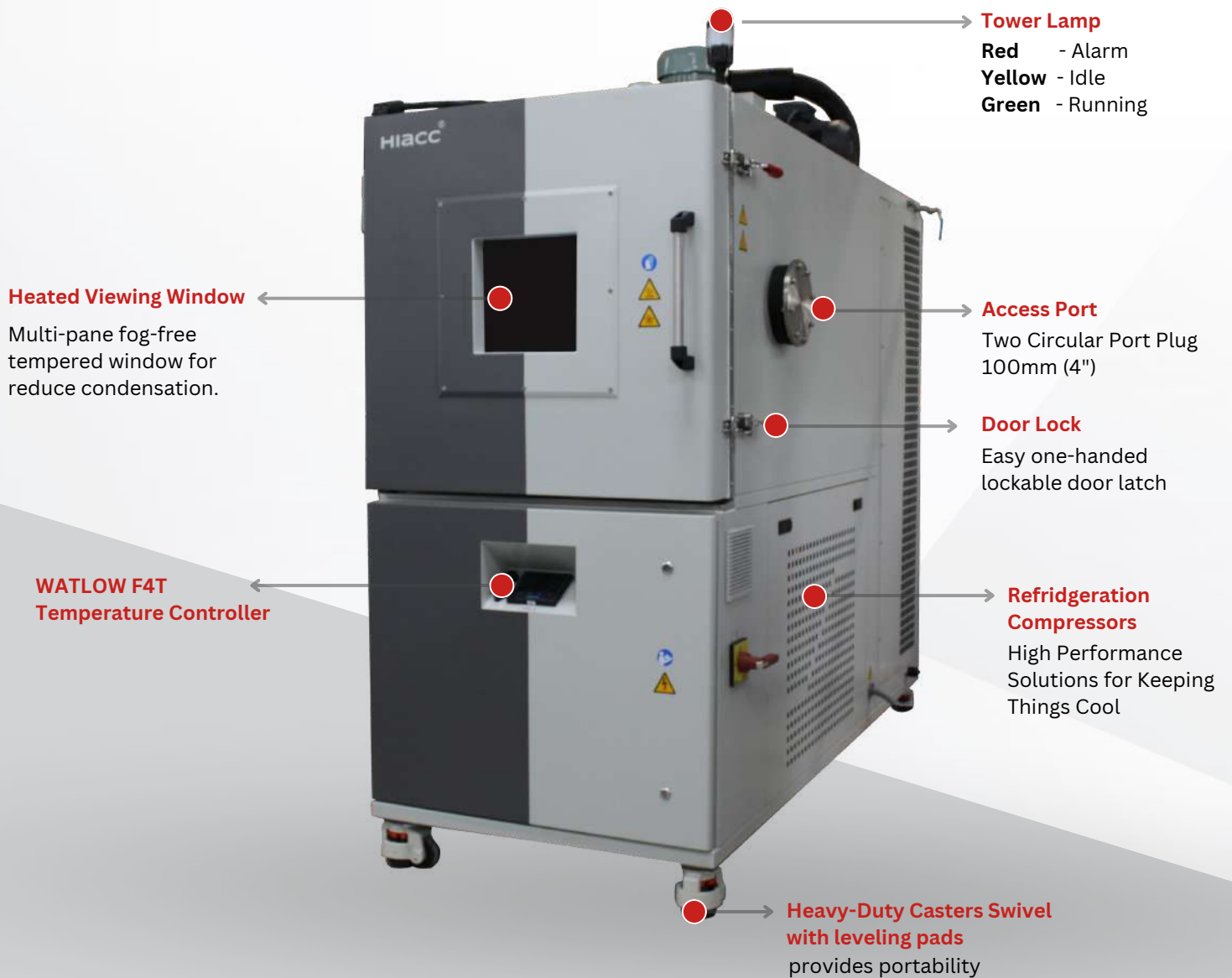
## Altitude Chamber

Product Catalogue

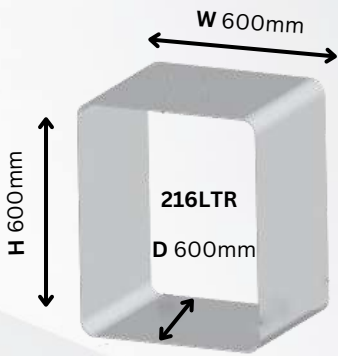


# Simulate the Summit: Altitude Testing Made Easy

HIACC's Altitude Test Chambers integrate temperature and altitude environments, with the option of humidity control, enabling simultaneous environmental testing. These chambers empower users to regulate the test chamber temperature while exposing the product under test to different altitude levels, reaching up to 100000 feet. This unique combination of factors facilitates the precise simulation of real-life conditions that a product might experience at various altitude levels.



## Test Space Capacity



Experience the timeless elegance of our chambers, boasting the signature HIACC stainless steel test space complemented by a sturdy structure. With the control console conveniently located on the door, the unit's footprint is further optimized for compactness. Plus, the user-friendly door latch ensures simplicity and security like never before.

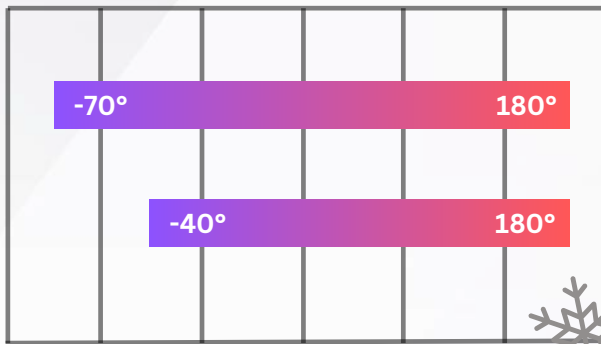
**The Klima Series Available in Different Test Space Sizes: 216 (\*All in Liters)**

(\* Upon customer request, customized sizes are also available.

## Temperature Range

(°C) -60° -20° 0° 80° 160° 200°

**Cascade**  
(All -70C Model)

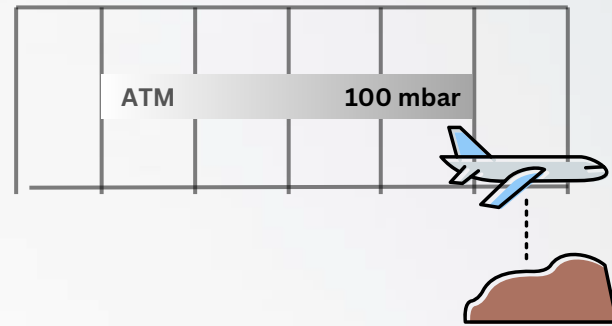


**Single**  
(All -40C Model)

## Altitude Range

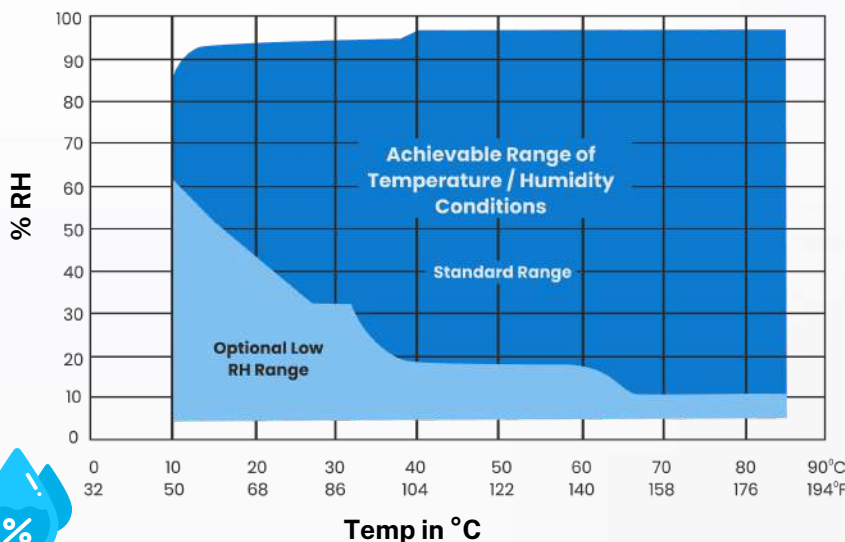
(mbar) ATM 20 50 80 100 120

**Altitude Level**



Choose from a comprehensive range of KLIMA AT series models, featuring over ten options to suit your testing requirements. With altitude ranges of either 100mBar and temperature cycling rates ranging from 3 to 20°C/min, you can select the ideal size and performance for your needs. Ultimate low temperatures of either -40°C or -70°C are available, with optional humidity control (C) for expanded testing capabilities beyond temperature cycling. Engineered to meet international environmental test standards such as IEC, ASTM, and MilStd, the KLIMA AT Series ensures reliable and precise altitude testing performance.

## Humidity Performance



### Full-Range Humidity Specifications\* (option)

Humidity Range	10% to 98% RH
Temperature Range	10°C to 85°C
Humidity Control	<±3% RH

## Options

(Special accessories on customer request)

- ✓ Additional Port Holes 50MM, 100MM, 125MM& 150MM
- ✓ Floor Loading Capacity (Customizable)
- ✓ Air Dryer for Low RH Applications
- ✓ Heavy duty Customized Shelves
- ✓ Water-Cooled Refrigeration Systems
- ✓ Remote Refrigeration/ Condensing Unit
- ✓ Booster Cooling through LN2 up to -150 Deg C



## Safety

### Enhanced Electrical Safety

- ✓ Incoming power supply EMF (Electromagnetic interference filter) protection for reduces electromagnetic field radiation.
- ✓ Dedicated MPCB protection for various components, including Refrigeration Compressors, Air Heater, Circulation Fan Motor, Movement Basket Motor Assembly and Condenser Motor.
- ✓ Dedicated MCB protection for HMI, PLC, Test space Lamp, and the Control Circuit to ensure system stability
- ✓ Three Phase Preventer for under voltage and over voltage protection from the main input power.

### Comprehensive Temperature Control

Dual safety mechanisms - Mechanical Thermostats and adjustable electronic safety controllers - prevent thermal deviations and protect your samples.

- ✓ **Level 1** - High and Low temperature adjustable electronic safety controllers
- ✓ **Level 2** - High and Low temperature mechanical thermostats

### Advanced Refrigeration Safeguard

- ✓ High and Low Refrigeration safety pressure Protection for safeguards the refrigeration system.



## Control

### Precise Climate Regulation

precisely controls temperature, humidity, and other environmental factors to match your desired test conditions.

### Data Logging and Reporting

Track essential data throughout your tests and generate comprehensive reports for analysis.

### Easy Set-Up and Operation

An intuitive user interface allows for simple programming and monitoring of test parameters.



# Technical Specifications

		KLIMA-216/-60C/5KAT
<b>TEST SPACE DIMENSIONS</b>		
Test space volume	Ltr.	216
Width	mm	600
Depth	mm	600
Height	mm	600
<b>PERFORMANCE DATA FOR TEMPERATURE</b>		
Controller from AP	mbar	100
Maximum temperature	°C	100
Minimum temperature discontinuous	°C	-60
Rate of temperature change, cooling	°C/min	5
Rate of temperature change, heating	°C/min	5
Temperature deviation, in time	°C	±1
Heat compensation, max. at +20 °C	W	
<b>PERFORMANCE DATA FOR VACCUUM</b>		
Pumping Range	mbar	AP to 100
Pumping time to 10mbar	min	<30
pressure stability	mbar	±3
<b>PERFORMANCE DATA FOR HUMIDITY</b>		
Maximum temperature	°C	85
Minimum temperature	°C	10
Humidity range	%RH	10...98
Humidity deviation, in time	%RH	±1...±3
Temperature deviation, in time	%RH	±1
Test Standard Compliance	IEC-60068, IEC-60749, IEC-61747, MIL-STD, ISO16750, ASTM, SAE, BIS & 50 other standards	
<b>TEST SPACE LOADING CAPACITY</b>		
Load, max.	kg	
Load per grid	kg	
Possible number of insert grids	piece	4
<b>POWER/CONNECTION DATA</b>		
Voltage rating	V	3/N/PE AC 415V±10% 50Hz other voltages and frequencies optional
Connected Load	kW	28
Sound pressure level	dB(A)	76
Total weight	kg	1100
Refrigerant	type	R404A
		R23

(\*) The performance data refer to an operating room (ambient) temperature of +26 °C, 415 V/50 Hz nominal voltage, without test specimen and without accessories

(\*) Sound Pressure Level: Using a calibrated instrument, the weighted sound pressure level was measured in free-field environments at a height of 1 meters from the floor and a distance of 1 meter from the equipment surface.

(\*) 20 Amp, 32 Amp minimum service Required

## Advanced Energy Saving

The KLIMA features a solenoid valve for advanced cooling control, which modifies proportionately depending on demand to save energy and improve temperature stability. A smart forward-looking algorithm improves and smoothest temperature ramping. It also improves test accuracy and energy efficiency. Combined with further advancements in refrigeration and heater performance, these superior features are unique to HIACC and make the most energy efficient HIACC KLIMA chambers to ever.



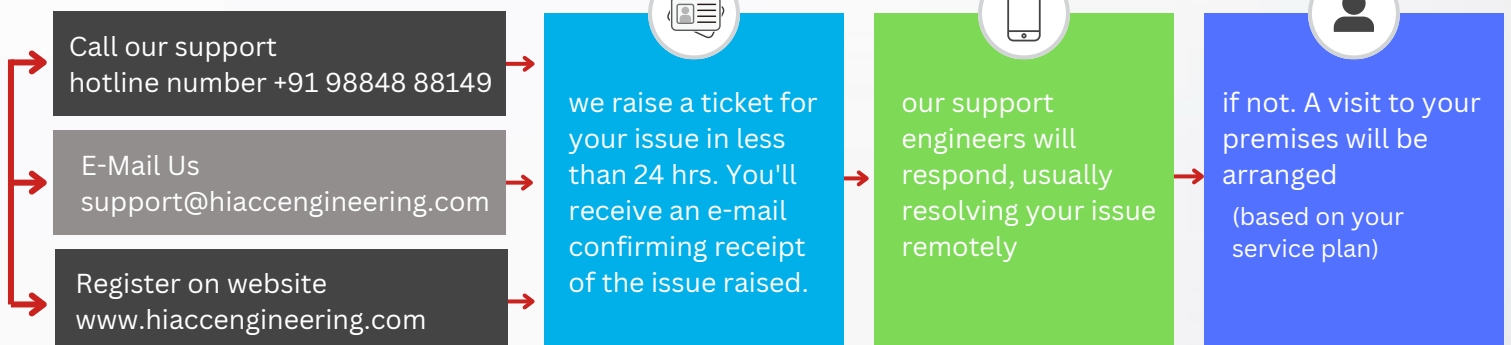
## Touchscreen Controller

Watlow F4T Controller, a cutting-edge solution for precise temperature control and system management. With the ability to program up to 256 steps across 40 nameable profiles, the F4T boasts unparalleled flexibility and customization. The context-sensitive information key and guided steps streamline profile programming, while the four-line backlit LCD provides comprehensive visibility into programming, setup, operating, and help information. The large LED readout delivers precise chamber temperature monitoring with 0.1° resolution, and internal logic ensures reliable refrigeration compressor control. Additionally, the F4T features two alarms and seven event outputs for seamless remote device control, alongside RS-232C communications. Optional GPIB, Ethernet, and analog retransmit capabilities further enhance its adaptability. Elevate your temperature control and system management with the Watlow F4T Controller.

- Multi-level, password-based security system to protect data
- Test data that can be downloaded to .CSV formats
- The MIMIC to detect excessive refrigeration pressures and temperatures and notify users when problems occur
- Remotely to connect up to Chamber
- Graphical trend view of actual/set temperature values
- Easy to Program 40 Profiles up to 50setps each, with battery backup and real time clock.



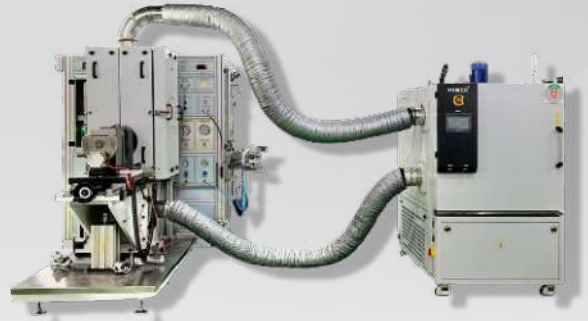
## How Our Support Works







**Integrated Temperature Chamber with Force Calibration System**



**Remote Cooling / Heating Customized Temperature System for Automotive Testing**



**Environmental Chamber with Ultra-Low Humidity Control**



**Custom Size Environmental Chamber with Vibration Integration (AGREE)**



**Walk in/ Drive in Chamber (Customizable)**



**Customized Thermal Shock System**

## Related Products

Expand your testing horizons with our diverse range of complementary equipment, ensuring comprehensive, accurate, and reliable testing outcomes. your ultimate destination for environmental testing solutions, we provide cutting-edge products to elevate your testing capabilities to new heights.



**Climatic Test Chamber**



**Temperature Test Chamber**



**Bench Top / Table Top Test Chamber**



**Thermal Shock Test Chamber**



**Stress Screening Test Chamber**



**HALT/HASS**





# Hiacc<sup>®</sup>

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