



Hindustan Apparatus Manufacturing Co.

12/2, Patel Indl Estate, Behind Range Office, Vasai East, Mumbai- 401208, India.

0091-9168656961,9167498493 09867054026, 7977637260, Email: hamco17@gmail.com,

HEATING AND COOLING CHAMBER WITH HUMIDITY STANDARD & GMP MODEL



“HAMCO” ‘HEATING AND COOLING CHAMBER WITH HUMIDITY CONTROL’ is designed primarily to meet the requirements for tests of thermal shock and various industrial applications. These chambers are designed to meet the testing challenge of vary industrial application.

HAMCO Make GMP ‘HEATING AND COOLING CHAMBER WITH HUMIDITY CONTROL’ is especially built to Pass FDA and ICH Q1A compliance standards and have a reputation for reliability, quality and performance. Exceed FDA/ICH guidelines for long term, intermediate and accelerated stability studies.

Specifications:-

- Temperature Range -40 °C to 250.0 °C, Humidity 40 to 95%RH, Accuracy +/- 0.5 °C. Uniformity +/- 2.0 °C
- Temperature Range -20 °C to +175.0 °C, Humidity 40 to 95% RH, Accuracy +/- 0.5 °C. Uniformity +/- 2.0 °C
- Temperature Display : Digital LED 3 ½ digit, Resolution 0.1 deg C
- Heating system: U shaped Nichrome wire heater in SS Sheathing.
- Cooling system: Hermetically sealed CFC free Emerson compressor with R 23a refrigerant .Cascade system.
- Air circulation: Flange Motor with Impeller and blower.
- Interior Illumination for working Area.
- There will be two nos of blower from 450 Ltr Onwards.

Construction:-



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- Double walled, gap between walls filled with PUF Insulation.
- Standard Model: Stainless steel Mirror polished chamber and heavy gauge Powder- coated CRC exterior.
- **GMP Model: Stainless steel Mirror polished chamber and exterior of dull finish stainless steel.**
- Double Door: Inner full Viewing door and outer door insulated with lock and key arrangement.
- 50mm Validation Port with silicone rubber seal to insert sensor for validation purpose.
- 3" Thick CFC Free Puff Insulation.
- Stainless steel Trays. Adjustable Tray Height adjustment.
- Unit Mounted on castor wheels with front lock arrangement.

Control Panel:-

- Microprocessor based PID temp. Controller with auto tune facility for precise control of temperature.
- Temp. Sensor: PT- 100.
- Dedicated safety controller with separate sensor to cut off the supply in case of overshoot and undershoot of temperature giving audio visual alarm. (Optional)
- Recorder data bank to store and print set values , process values , date and time of master controllers with variable print time intervals (Optional)
- Alarm: Audio visual alarm if temperature deviates from the preset temperature.
- PC Interface communication card with RS 485 for temperature and humidity control system (Hardware only) (optional)

Safety Features:-

- Over heat temperature with alarm.
- Electrical overload compressor cut off.
- Time delay for compressor switch on.
- Electrical short circuit breaker.

Utilities (Pre Installation Requisite):-

- Room temperature around machine preferably at 25 degree C.
- Stabilised input voltage of 230V Ac, 50 Hz, and 20 Amps.
- Water drains line with ½" Nozzle to be provided at floor level.

Data Record:-



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- 21 CFR Part 11 compliant software with audit trail (who did what and when is recorded)
- Multilevel Passwords.
- Data storage device has online and offline capabilities.
- Multi chamber data acquisition on single software.
- Tabular and graphical report, alarm deviation report.
- Mean Kinetic temperature report and alarm deviation report.
- Audit trial report.
- Attractive reports and graphs.
- Alarm report.
- Time synchronisation.

Ordering Information:-

Temp. Range: -40 to + 250 deg C, Humidity range: 40 to 95% RH

Model No.		Capacity		Dimension In Cms		Shelves	Wt. In Kg		Power	
Standard	GMP	Cu. Ft	Ltr.	Chamber	Over All		Unit	Packed in wooden case	VAC Hz	Watts
HAMCO65S -3(-40)	HAMCO65 G-3(-40)	3	90	45x45x45	60x95x110	2	110	165	230,50	1500
HAMCO65 S-4(-40)	HAMCO65 G-3(-40)	4	120	45x45x60	60x95x125	2	150	225	230,50	2000
HAMCO65 S-8(-40)	HAMCO65 G-8(-40)	8	200	60x60x60	80x110x125	2	220	300	230,50	2500
HAMCO65 S-12(-40)	HAMCO65 G-12(-40)	12	324	60x60x90	80x110x155	3	230	320	230,50	2500
HAMCO65 S-16(-40)	HAMCO65 G-16(-40)	16	450	60x60x125	80x130x175	4	340	430	230,50	4000
HAMCO65 S-21(-40)	HAMCO65 G-21(-40)	21	600	60x80x125	80x130x195	5	365	465	230,50	4000
HAMCO65 S-28(-40)	HAMCO65 G-28(-40)	28	800	80x80x125	100x130x210	5	390	500	230,50	4500
HAMCO65 S-34(-40)	HAMCO65 G-34(-40)	34	1000	80x80x155	100x130x220	5	430	525	230,50	4500

Temp. Range: -20 to + 175 deg C, Humidity range: 40 to 95% RH

Model No.		Capacity		Dimension In Cms		Shelves	Wt. In Kg		Power	
Standard	GMP	Cu. Ft	Litres	Chamber	Over All		Unit	Packed in wooden case	VAC Hz	Watts
HAMCO65S -3(-20)	HAMCO65 G-3(-20)	3	90	45x45x45	60x95x110	2	110	165	230,50	1500
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Optional Accessories	
Catalogue No.	Description
PCI-1	Pc interface communication card with Rs. 485 convertor (Hardware) for temperature and humidity control system
RCR-11	Data bank to record, store and print set values, process values, date & time of master controllers with variable print time intervals
SCN-42	4 point temperature complete with sensors, printer interface and facility to record, store and print process values, date & time with variable print time intervals.
SCN-82	8 point temperature complete with sensors, printer interface and facility to record, store and print process values, date & time with variable print time intervals.
SOFTW-21	"HAMCO" CFR 21 part 11 compliance windows based communication software for data management. Complete with Rs 485 multi dropping to monitor multiple chambers to one software.
S.REF- 1	Ready to use standby refrigeration system in case of regular system fails. Complete with compressor, condenser, evaporator and other accessories with gas charging.
SAFTEY - 1	Safety controller for low and high temp protection.
GSM-5	Mobile alert via GSM technology in case of system failures.
PLC (HMI)	Programmable logic controller (PLC) with built in PID controller (auto tune type) , data storage, safety controller, auto changeover of standby systems, auto fault detection and with Ethernet connectivity with 3.8" HMI with colour touch screen.
PS	Online uninterrupted power supply for PLC
VAL.	Validation charges per day (8 hrs.)