

PLANT GROWTH CHAMBER



Krew Instruments with its expertise in the pharmaceutical industry, designs Plant Growth Chambers as per ICH, WHO, and I.S standards. These chambers provide a controlled environment for plant growth, allowing measurement of the effects of light, temperature, humidity, and atmospheric conditions on plant growth and function. With Krew's Plant Growth Chambers, it is possible to create a precise environment for scientific research on plant biology, optimizing plant growth conditions in a controlled and reproducible manner.

CONTROL FEATURES

- Microprocessor based PID controller with high accuracy off 1°C & $\pm 2\%$ RH. (Temperature & Humidity controller)
- Three wire RTD sensor & direct output capacitance type RH sensor.
- Safety Controller system for Temperature overshoot & undershoot with buzzer & LED in case the temperature controller fails.
- Additional Safety thermostat provided to prevent the temperature overshoot in case the safety controller fails.
- Low water level Safety cut off for humidity boiler heater with CFC Free Eco- Friendly cooling systems.
- Calibration & validation for 8 hours, Complete IQ, OQ and PQ documentation & operating manual

TECHNICAL SPECIFICATIONS

- 99 Hours Programmable Micro Controller Based cyclic Timer for regulating illumination condition
- Light Intensity $300\ \mu\text{moles}/\text{m}^2/\text{s}$. Programmable through dimmable Option
- Fluorescent tubes for day light effect in each compartment
- Refrigeration System : CFC Free
- Compressor : Hermetically Sealed Compressor with R 134a refrigerant
- Humidity System: Non condensing type steam injection system with water level arrangement with insulation to save heat energy.
- Safety Features 1. Float switch to cut off the mains supply in case of low water level in the boiler tank.
- Validation Port 50 mm validation Port with silicone rubber seal to insert sensors for validation
- Power Supply : 230 V AC single phase 50Hz
- Adjustable Tray Height arrangement
- Castor wheels, MCB and Heavy duty latch with lock & key

MATERIAL OF CONSTRUCTION

- Standard Model: Inner stainless steel (304) 0.8mm thickness and outer mild steel, 1.0mm thickness powder coated.
- GMP Model: Inner stainless steel (304) 0.8mm thickness and outer Stainless steel, 1.0mm thickness Mirror Finish.

CONSTRUCTION FEATURES

- Thick Puff insulated cabinet to maintain a constant temperature (Double walled insulation CFC Free).
- Distributed unique air flow system for maximum uniformity of temperature throughout the chamber.
- Inside see through unbreakable acrylic door.
- High quality growth lights at three sides of the chamber. These lights are controlled through cyclic timer for 24X7 a week. These lights can be easily changed or replaced at user level.

OPTIONAL ACCESSORIES

- Scanner (Data logger) with 4 + 4 or 8 + 8 sensors for continuous scanning of temperature humidity uniformity.
- Printer/PC interface for online / offline print of data on 80 col.
- Dot matrix printer or on PC with data storage capacity of 2500 readings & print interval settable from 1-255 minutes, Storage also can be Provided up to 10000 readings
- Standby Cooling System.
- Standby Humidity System.
- Mobile alert through GSM.
- Door Access Security System.
- PLC for auto change over cooling system and humidity system 7" Color touch Screen HMI.
- Imported linear type Temperature Humidity sensors.
- Data Management 21 CFR Part 11 compliance Software.
- Power off Power resumed remark in software.
- Voltage Stabilizer will be provided as per capacity (at Extra Cost).

AVAILABLE CAPACITY

Models	KPC-10	KPC-11	KPC-12	KPC-13	KPC-14	KPC-15	KPC-16	KPC-17
Temp. Range	10°Cto60° C							
Temp. Accuracy	±1° C							
Temp. Uniformity	± 2° C							
Temperature Resolution	0.1° C							
Humidity Range	40% RH to 98% RH. +2% RH							
Humidity Accuracy	±3% RH							
Humidity Uniformity	45 x 45 x 50	60 x 60 x 63	60 x 60 x 91	60 x 60 x 120	65 x 65 x 120	70 x 72 x 120	80 x 80 x 125	85 x 85 x 140
Inner Size in CM (WxDXH)	100	225	325	425	500	600	800	1000
Volume (Liters)	02	03	03	04	07	07	08	08
No. of Trays								



Krew Instruments Pvt Ltd.

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