

IN084 INSECT REARING CHAMBER

IN Series Overview

The IN series chambers are designed with insect rearing as the primary application, but can be used for other research studies as well. Our IN series chambers are widely used among *Drosophila* and Mosquito researchers and offer state of the art technology for pursuing various research studies.

IN011

The IN011 is a bench top insect rearing chamber designed to fit on 24" benchtops or stacked with optional racking.

IN030

The IN030 is a single-door insect rearing chamber.

IN034

The IN034 is an extra wide single-door insect rearing chamber designed to fit through standard doors.

IN055

The IN055 is a 2-door insect rearing chamber.

IN084

The IN084 is a 3-door insect rearing chamber.



Featured photo is the IN084 3-door insect rearing chamber, open door view to show internal racks and optional chart recorder attached.



Featured photo is the IN084 3-door insect rearing chamber, closed door view with optional chart recorder.



IN SERIES: INSECT REARING CHAMBERS

The IN series was introduced in 2003 as the first commercially manufactured large capacity Peltier-cooled insect rearing chamber. Thousands of IN series insect rearing chambers are presently in use by research companies around the world. The advantages of these chambers for insect rearing include:

Reliable Cooling Redundancy

Each IN series chamber includes multiple, independent thermoelectric cooling units. The 7 year warranty on cooling components and the ability of our chambers to maintain temperature even if the chamber suffers multiple failures is unmatched by any other refrigeration-based chamber.

Quiet Operation

The IN chambers utilize quiet and highly efficient DC fans. Locating these chambers in laboratory workspaces is a viable option.

Simple Serviceability

Due to the omission of all refrigeration equipment on these models, refrigeration technicians are not required during chamber servicing. Refrigerated insect rearing chambers are not only costly to service, but can require days to service properly. Nearly every component of thermoelectric-based chambers can be serviced within minutes with basic tools. For instance, the ultrasonic humidifier is capable of being removed and reinstalled in less than 5 minutes and operates on non-hazardous 24 volts.

Options Available

Chart Recorder
Timed Lighting
CO₂
Data Loggers
Dryers
Ultrasonic Humidification

Superior Control and Uniformity

The optional ultrasonic humidification system provides excellent humidity control and avoids hot spots seen during chamber mapping of steam boiler equipped chambers. Thermoelectric cooling and automatic switching system from cooling to heating control provide consistent results throughout the available temperature range. Standard control at the sensor in these chambers is $\pm 0.2^{\circ}\text{C}$ and $\pm 0.3\% \text{RH}$.

Greatly Reduced Direct and Indirect Energy Loads

The IN Series chambers utilize less energy than comparable insect rearing chambers and introduce less impact upon building cooling systems. This efficiency "dual benefit" allows our chambers to be located in spaces unsuitable for other chambers. Electrical energy savings by the IN Series vs. steam boiler equipped chambers can easily amount to hundreds or even thousands of dollars saved per year.

Widely Proven, Non-Proprietary Controllers

Standard controllers for the IN Series are manufactured by Fuji Electric and are ideal for insect rearing chamber. Unlike many proprietary controllers, this controller is commercially available and proven in tens of thousands of installations. Standard functions include: autotuning, fuzzy logic, PID control, programmable alarms, calibration capability, ramp/soak, offset capability, etc. A touchscreen control interface is optional. Other controller manufacturers are also supported (Watlow, Allen Bradley etc.)

Services and Warranties

We offer 24 hour technical support throughout the lifetime of your chamber. In addition to standard warranties, we also offer extended warranties for cooling components, parts and labor. We also provide qualifications, validations and preventive maintenance services at an additional cost. Please ask for a quote.

IN084 Insect Rearing Chamber Specifications (ambient 21° C)

Performance	Standard	Customized Option
Temperature Range	18° C to 50° C	20° C to 70° C
Ambient Temperature	18° C to 27° C	Available
Temperature Control	± 0.2° C	Available
Temperature Uniformity	± 0.7° C	Available
Control Resolution	0.1° C	Available
Temperature Sensor	NIST Traceable PT100 Class A RTD	Available
Humidity Range	N/A	Ambient to 90% @ 40° C Dewpoint
Humidity Control	N/A	± 0.3%
Humidity Uniformity	N/A	2.0%
Control Resolution	N/A	0.1%
Humidity Sensor	N/A	NIST Traceable Rotronic HC2A-S

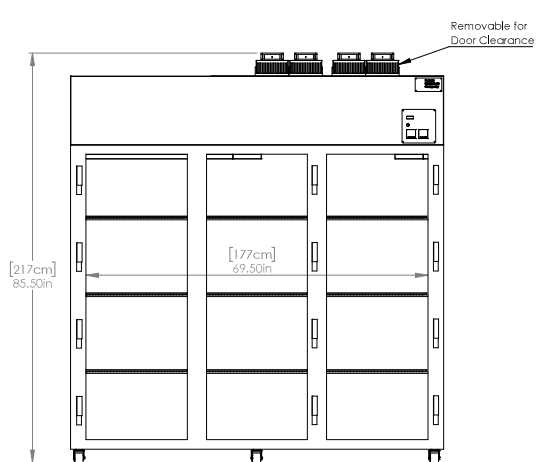
Control System	Standard	Customized Option
Controller	Fuji PXF4 (PID - Fuzzy Logic)	West EC-44, Future Design Touchpad, Watlow, Allen Bradley
Control Readout	Actual and Set-Point Values	Trending, Duty Cycle
Calibration Correction Capability	Standard 0.1 Resolution	Available
Uniformity Off Set	Standard 0.1 Resolution	Available
Alarm	Audible and Visual	Text, Email, Web Server, Remote Access
Alarm Type	Deviation in 0.1° C or 0.1% RH with Delay	Absolute 0.1 Resolution with Delay
Remote Monitoring	Dry Alarm Contact, RS 485 & Analog Output	Ethernet
Password Protection	Numeric	Numeric, Alpha Numeric
Audit Trail	N/A	Available
Uninterrupted Power Supply (Monitoring)	N/A	Available

Construction	Standard	Customized Option
Exterior	Stainless steel 300 series on front, door with keyed lock and brushed aluminum finish sides	Complete Stainless Steel 300 Series, front, door, and sides
Interior	Coated aluminum side walls, back, door liner, and stainless steel floor and ceiling	Stainless Steel 300 Series, side walls, back, floor, ceiling, and door liner
Shelving	9 PVC coated shelves, supports up to 150 lbs of evenly distributed weight	Available
Casters	2.75" weight capacity is 300 lbs per caster (not included with the weight of the chamber)	5" (127cm) diameter plate castors

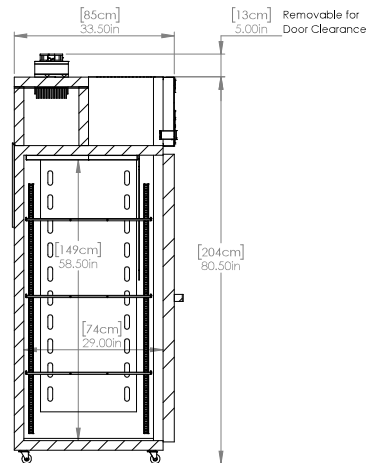
Capacity & Dimensions	US Standard	Metric
Interior Capacity	70.75 ft³	2003.42 liters
External Dimensions	Refer to Drawing Below	Refer to Drawing Below
Internal Dimensions	Refer to Drawing Below	Refer to Drawing Below
Shelf Dimensions	Refer to Drawing Below	Refer to Drawing Below
Crated Weight	1190 lbs	539.77 kg

Electrical	US Standard	International
Voltage (dedicated circuit required)	115 / 60 / 1	230 / 50 / 1
RLA	9.5	5 With Step Down Transformer
Cord Length	9 ft	2.74m (specify plug)

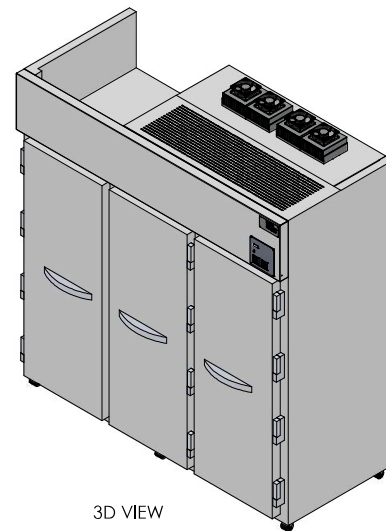




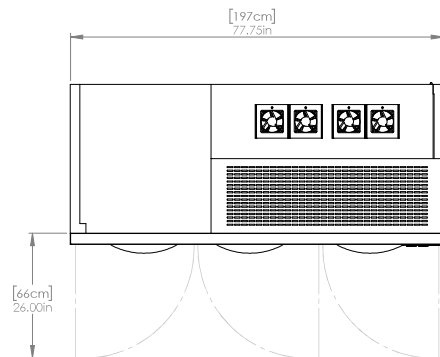
FRONT VIEW
(DOORS REMOVED)



SIDE VIEW
(SECTION)



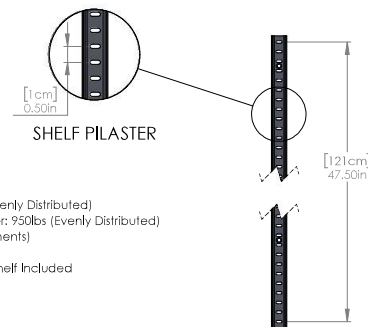
3D VIEW



TOP VIEW



WIRE SHELF



Notes:

- Shelf Finish: Gray PVC Coated
- Max Weight per Shelf: 150lbs (Evenly Distributed)
- Max Load Capacity of Chamber: 950lbs (Evenly Distributed)
- Pilaster Height: 47.5" (1/2" Increments)
- Minimum Spacing: 2"
- 4 Stainless Steel Shelf Clips per Shelf Included
- 2" I.D. Access Port Included
- Door Opening: 21" W x 58" H

Note: Tolerances are 0.25" unless otherwise stated.
*Dimensions and components are subject to change without notice.