

## IN09 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.

### IN09

The IN09 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.

### IN055

The IN055 is a 2-door insect rearing chamber.

### IN084

The IN084 is a 3-door insect rearing chamber.



Featured photo is the IN09 bench top insect rearing chamber, shown with upgraded West controller and open door view to show internal adjustable racks.



Featured photo is the IN09 bench top insect rearing chamber, shown with upgraded West controller and closed door view.



## 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 stability 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 stability 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 a minute and operates on non-hazardous 24 volts.

### Options Available

Chart Recorder  
Timed Lighting  
CO<sub>2</sub>  
Data Loggers  
Bench-Top Chamber Capable of Being Stacked  
Dryers

### Superior Control and Uniformity

The 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 stability 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 stability testing chambers. 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, 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.

## IN09 Insect Chamber Specifications (ambient 21° C)

Performance	Standard	Customized Option
Temperature Range	10° C to 60° C	20° C to 70° C
Ambient Temperature	21° C ± 3° C	Available
Temperature Control	± 0.2° C	Available
Temperature Uniformity	± 0.7° C	Available
Control Resolution	0.1° C	Available
Temperature Sensor	NIST Traceable Platinum RTD	Available
Humidity Range	Ambient to 90% @ 40° C Dewpoint	2 to 95% @ 22° C
Humidity Control	± 0.3%	Available
Humidity Uniformity	± 2%	Available
Control Resolution	0.1%	Available
Humidity Sensor	NIST Traceable Rotronic HCS2	Other or Custom

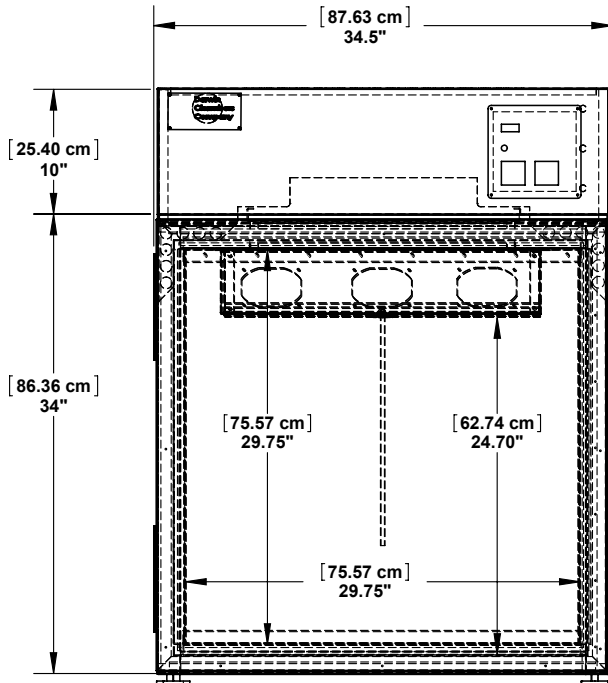
Control System	Standard	Customized Option
Controller	Fuji PXG4 (PID - Fuzzy Logic)	West EC-44, Future Design Touchpad, Watlow, Allen Bradley
Control Readout	Actual and Set-Point Values	Trending, Duty Cycle
Calibration Correction Capability	Standard 0.1 Resolution	Available
Uniformity Off Set	Standard 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	Powder Coated	Stainless Steel
Interior	Stainless Steel	Stainless Steel
Shelving	2 Gray PVC Coated, Adjustable 1" Increments	Stainless Steel, Chrome Plate or Custom
Casters	2.75"	5" Casters or Seismic Legs

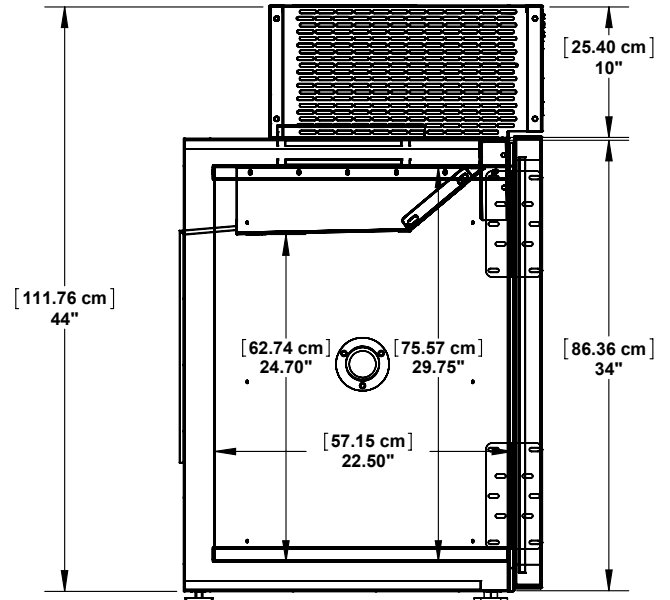
Capacity & Dimensions	US Standard	Metric
Interior Capacity	9 ft <sup>3</sup>	254 liters
External Dimensions	34.5" W x 28.25" D x 44" H	87.63 cm W x 71.75 cm D x 111.76 cm H
Internal Dimensions	29.75" W x 22.5" D x 29.75" H	75.57 cm W x 57.17 cm D x 75.57 cm H
Shelf Dimensions	21.5" W, 26.25" D	54.61 cm W x 66.68 cm D
Crated Weight	420 lbs	154 kg

Electrical	US Standard	International
Voltage	115 / 60 / 1	230 / 50 / 1
RLA	4.5	2.6 With Step Down Transformer
Cord Length	9 ft	9 ft

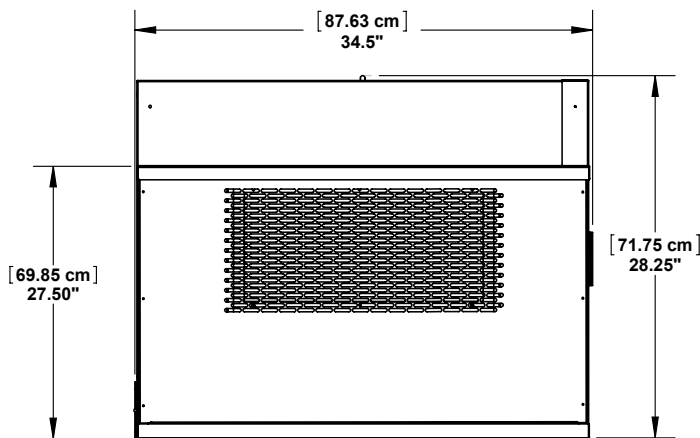
## IN09 Stability Chamber Technical Drawings



**Front View**



**Side View**



**Top View**

