

# dew formation

## Percival models I-36D & I-36DL

I-36DL chamber shown

### applications

- Chambers have been frequently used for (but are not limited to) plant pathology research studies
- Chambers employ technology to simulate the actions of natural elements (dew forms on plants by having the plants radiate energy to the chamber heat sink so that the plant is maintained below the dew point of the air)

*For other plant applications that don't require dew, please refer to other plant growth chambers.*

- Many other applications exist for this product

*Please compare your own requirements to the specifications listed below.*

### percival's intellus ultra controller

- Controls temperature, lighting, humidity (optional) and CO<sub>2</sub> (optional)
- Single-board electronic solid-state design includes 10 key membrane keypad with LED indicators and vacuum fluorescent display
- Programs can be configured to run in real time or elapsed time
- Ramping and non-ramping program methods available for each programming mode
- Multiple programs can be linked creating complex environmental profiles
- Optional Intellus Web Server allows monitoring and controlling of chamber via web browser (requires Internet Explorer 6.0+) (this option allows for remote monitoring and programming of chamber including alerts and current condition updates for up to five e-mail addresses)

*Please refer to [www.percival-scientific.com](http://www.percival-scientific.com) for additional information regarding the control system.*



### airflow/circulation

- Natural air flow provides temperature uniformity during the dew deposition period

### cabinet construction

- Interior constructed of stainless-steel and aluminum with non-corrosive features that will resist chemical cleaning and disinfecting
- Walls covered with stainless-steel cooling plates to absorb radiated heat from plants (the false ceiling is tapered to prohibit drops of water from settling on plants on the top shelf)
- Contains caster assembly and adjustable leveling legs to compensate for floor unevenness in the lab
- Neither cabinet contains access ports on the side of the chamber

## I-36D & I-36DL specifications (subject to change without notice)

Temp Range with all lights on	Interior Space volume		Total Shelving Floor Area		Maximum Growing Height		Exterior Dimensions						Light Intensity 6" from lamps unless otherwise noted	Tiers
	°C	ft <sup>3</sup>	m <sup>3</sup>	ft <sup>2</sup>	m <sup>2</sup>	in	cm	width		depth		height		
* 10-32±0.75	29.7	0.8	19.5	1.8	10.5	26.7	33.5	85.1	33.6	85.4	77.2	196.1	µmoles/m <sup>2</sup> /s	4
** 12-32±1.0	29.7	0.8	19.5	1.8	10.5	26.7	33.5	85.1	37.4	95.1	77.2	196.1	500	4

\*I-36D \*\*I-36DL

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## insulation

- Woodless construction using CFC free insulation (overall wall thickness is 2" [5.1 cm], ample insulation for maintenance of stated temperature range)

## door

- One door opening 29.2" x 57.5" (74 cm x 146 cm) provides full access to the chamber interior (magnetic gasket provides a tight seal to door frame)

## interior space

- 29.7 ft<sup>3</sup> (0.8 m<sup>3</sup>) with work area of 19.5 ft<sup>2</sup> (1.8 m<sup>2</sup>) provided on four shelves

## shelving

- One tier of white epoxy coated steel wire shelving (shelf is 27.5"D x 25.5"W [69.9 cm x 64.8 cm])
- Shelf is supported by shelf clips allowing ½" vertical adjustments
- Maximum growing height is 10.5" (26.7 cm) provided on four tiers

## lighting system (I-36D)

- Contains working light (40W appliance bulb) controlled by the Intellus Ultra controller

## lighting system (I-36DL)

- Single lamp bank consists of eight 17W energy efficient fluorescent lamps and two 40W incandescent lamps
- Maximum light intensity of 505 μmoles/m<sup>2</sup>/s of light irradiance measured @ 6" from lamps on 1 on/off light event
- Programming and control of the lighting is done via Intellus real time controller

## finish

- Interior and exterior painted with highly reflective, environmentally friendly, high temperature baked white powder coating

## refrigeration

- ½ h.p. self-contained air-cooled condensing unit with hot gas bypass system for continuous compressor operation, extended life and close temperature control (this continuous running condensing unit ensures precise temperature control by alternately cycling refrigerant and hot gas to coil; this also prolongs life of compressor, and eliminates risk of ice build up in coil)
- Top mounted refrigeration system allows easy access for maintenance (e.g. cleaning)
- As heat is rejected, it rises and is dissipated into room without having any effect on inside temperature of cabinet
- Solenoid valves have extended stem for quiet and long life operation
- Ceiling mounted evaporator coil incorporates twin air circulation fans in aluminum housing

## temperature range (I-36DL)

- 10°-32°C (±0.75°C) lights off and 12°-32°C (±1°C) lights on

## temperature safety limit controls

- (Experiment Protection) Adjustable high and low temperature controls, audible alarms, and visual indicators provided
- Controls shut down all power to the chamber, activating alarms (when the temperature returns to the normal range the system will automatically reset)

## options (most popular)

- Intellus Ultra Web Server (C9)
  - Communications Software (C9+)
  - Door with observation window and cover (Q2) (I-36D only)
  - Self-contained water-cooled condensing unit
  - Dry alarm contacts
  - Dimmable lighting (closed loop with PAR light sensor) (Q22) (I-36DL only)
  - Dimmable lighting (open loop control) (Q23) (I-36DL only)
  - Security package including locking door, power switch, and dry alarm contacts (S1)
  - Access ports (Q10)
  - Temperature recorder (10", front or side mount) (R1)
  - External drip pan assembly (Q19)
  - Drip pan adapter (Q17)
  - Additional shelving
- See other catalog sheets or consult factory for additional accessories.

## electrical service requirements (I-36D)

- 115/1/60 - 13 amps (total) (power cord and grounded plug provided)

## electrical service requirements (I-36DL)

- 115/1/60 - (two grounded cords and plug provided, [1] 8 amp cord and [1] 10 amp cord)

Consult factory for electrical services when adding accessories to the chamber.



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