

# F450T

## Powerful benefits make Fusion UV the system of choice for industrial production

Fusion UV Systems' unique technology of microwave-powered lamps for ultraviolet curing has proven itself the system of choice in over a decade of demanding production use around the world. These unique systems provide functional and decorative finishes on a variety of products – including cans, folding cartons, tags, labels, cups, tubes, resilient flooring, plastic film, and glass.

The microwave lamp operates without the metal electrodes required in conventional arc lamps and provides the most reliable, stable, and efficient UV curing system. It is the curing system of choice where minimal down time, minimum maintenance, and maximum product output are key performance parameters.

The F450T system contains three major elements: the electrodeless bulb, the irradiator, and the power supply.

### The Electrodeless Bulb

- **Long bulb lifetime.** 300 watt/inch mercury bulbs with full 8000-hour warranty. Many users report lifetimes well in excess of warranty period.
- **Rapid start and restart.** Eliminates requirement for shutters and associated shutter mechanisms.
- **High UV/low IR output.** Optimized bulb fill to give maximum ultraviolet output with minimum infrared. Less heat to substrate.
- **Rapid bulb change.** Bulb replacement requires minimal operating downtime.
- **Full cure width maintained throughout bulb life.** No blackening at bulb ends; therefore, no decrease in cure width with age of bulb.
- **Several different spectral outputs.** Enables users to optimize UV wavelength with the reactive sensitivity of chemistry being used and the desired properties of the end product.



### The Irradiator

Rigid aluminum construction incorporates both the bulb and reflector assembly. The major benefits of this design are:

- **Focused elliptical reflector.** Concentrates maximum UV energy on substrate. Simple bulb changes can be accomplished in minutes.
- **Positive air cooling.** No water cooling required. Positive air flow through the reflector forces dirt, dust, and vapors away from the reflectors and the bulb, maintaining system cleanliness and reducing maintenance.
- **Engineered modular design.** Adjustable cure width with no limitations. The 10" modules can be placed end-to-end for uniform cure, or turned on independently to save energy costs for narrow width runs on wide systems.

### The Power Supply

The power supply embodies simple controls and easy interconnect. Its benefits are:

- **On/off/standby control.** Allows easier, quicker job/press startup procedures.
- **Safety interlocks.**
- **Production line connections.** Lamps automatically switch on and off with production line.
- **Production interlock.** Lamp output monitored to eliminate product spoilage.
- **Pullout control board.** Eases service and component change.
- **Full fault indicator array.** If any section of the UV curing systems fails, controls indicate the location of the failure.
- **Master/slave option.** For multiple power supply configuration. User programs master power supply to control others.



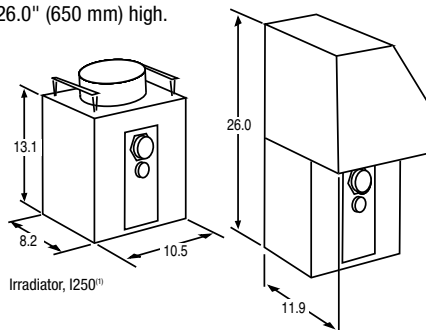
# SPECIFICATIONS: F450T

All specifications are for a single lamp system, whose length is 10.5" (267 mm). A larger system is made by adding more irradiators and power supplies. Modules placed end-to-end form continuous lamps in lengths which are multiples of 10.5" (267 mm). Items with an asterisk (\*) increase proportionately with the size of the system. Single level (P150) or dual level (P155) power supplies are available.

## Irradiator/Blower: Model I250B with K250 Blower

**Lamp Power:** 300 w/in (120 w/cm); 3000 Watts total.

**\*Dimensions:** 10.5" (267 mm) long x 8.2" (206 mm) wide at base; 11.9" (302 mm) wide at blower top x 26.0" (650 mm) high.



**\*Weight:** I250B: 59 lbs. (27 kg).

I250: 27 lbs. (12 kg).

**\*Cooling:** 205 cfm (5.8 m<sup>3</sup>/min) of filtered air at 4.4" (106 mm) water static pressure (1093-1490 Pa) inside irradiator case.

**Reflector Geometry:** Elliptical, bulb at focus.

**Substrate Location:** 2.1" (53 mm) from irradiator face, for maximum irradiance.

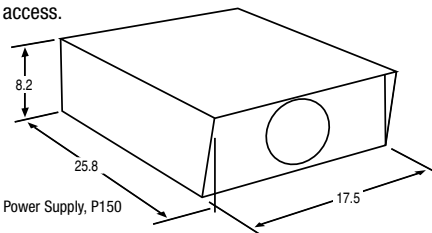
**Mounting Position:** Any angle with respect to vertical.

**Mounting Enclosure:** Supplied separately from lamp system.

**Option:** The integral blower can be replaced by a remote blower connected with flexible hose to the irradiator. The irradiator weight is 30 lbs. (13.6 kg) and height is 13.1" (333 mm) (not including adaptor for connecting hose). Refer to irradiator model I250.

## Power Supply: Model P150

**\*Dimensions (max):** 17.5" (445 mm) wide x 8.2" (208 mm) high x 25.8" (604 mm); additional 12" (305 mm) clearance suggested for cable connectors and rear access.



**\*Weight: P150:** 120 lbs. (55 kg).

**Cooling:** Self contained, rotary fan on front panel.

**Control Functions:** Power: ON/OFF;  
Lamp: ON/STANDBY/OFF.

**Interlocks:** Unit: HV CABLE, LAMP OUT, POWER IMBALANCE, POWER ERROR, POWER SUPPLY TEMPERATURE, MODULAR BLOWER.

System: SYSTEM BLOWER, EXTERNAL INTERLOCK, RF INTERLOCK (RF detector).

**Connections:** 26' (8 m) cable assembly from power supply to irradiator supplied by Fusion UV. Other standard lengths are available. Multiple power supplies interconnect with a single pre-wired cable.

Line power connections and fused disconnect supplied by user.

## Utilities:

**\*Line Power:** 5.6 KVA, 3 phase.

**Line Voltage:** 200/208/240V or 460/480 VAC, 60 Hz or 200/380/415 VAC, 50 Hz available.

**Control Power:** Supplied internally.

**\*Exhaust:** 300 cfm (8.5 m<sup>3</sup>/min) per irradiator required to be exhausted.

**Compressed Air:** None required.

**Water:** None required.

Contact your local Fusion UV office for an engineered solution for your specific requirements.



FUSION UV SYSTEMS, INC.®

### Fusion UV Systems, Inc. Corporate Headquarters

910 Clopper Road  
Gaithersburg, Maryland  
20878-1357 USA  
+1 301-527-2660  
FAX: +1 301-527-2661  
+1 888-276-8600  
(North American Toll Free)  
www.fusionuv.com  
e-mail: info@fusionuv.com

### Fusion UV Systems West

Torrance, California  
+1 310-370-9920  
FAX: +1 310-370-9152

### Fusion UV Systems GmbH

Ismaning, Germany  
+49 89 899631-0  
FAX: +49 89 899631-10  
www.fusionuv.de

### Fusion UV Systems Spectris China Ltd.

www.fusionuv.com.cn  
Beijing, China  
+8610-59935827/28  
FAX: +8610-59935999  
Guangzhou, China  
+86 20 8756 8900  
FAX: +86 20 2887 3848  
Shanghai, China  
+86 21 61133698  
FAX: +86 21 61133699

### Fusion UV Systems Japan KK

Tokyo, Japan  
+81 3 5542 3980  
FAX: +81 3 5542 3992  
www.fusionuv.co.jp

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• Canada Patent No. 1024246

Other U.S. and Foreign Patents Pending. We reserve the right to incorporate changes and improvements without notice.

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