

MPE Cabinets

Fusion UV's Modular Power Supply Enclosure cabinets fulfill three main purposes for housing Power Supply Units.

First, the cabinet has a single point for customer power connections. The cabinet includes a main circuit breaker and power distribution for each power supply. Second, the cabinet provides clean filtered air for the power supplies. The tapered internal duct system assures that each power supply receives the correct flow of cooling air. Third, the cabinet contains a Programmable Logic Controller (PLC) (usually an Allen Bradley, but customer's choice) to control the power supply and lamps as well as all emergency controls.

The MPE cabinet is a safe, secure method for housing multiple UV lamp installations. Dependability and uniform control are critical to the production line. With multiple modular UV lamps working in tandem to cure inks, coatings, adhesives, or surface treatments, a centralized control system can make the difference in maintaining excellent process control.

Fusion UV modular lamp systems can be configured to cover unlimited process widths. Fusion UV's MPE cabinet offers centralized control of any number of lamps.



FLEXIBILITY:

The MPE allows the user to control all lamp systems from a single control panel located on the front of the enclosure or from a remote location. Multiple lamp systems can be configured to operate simultaneously as a single group, or divided into any number of independent control groups. If desired, individual lamps can be balanced in intensity and then controlled in similar fashion.

From the single control panel, the lamp systems can be turned to ON, OFF, and STANDBY. Other controls and indicators include: High/Reduced Power selection, Variable Power Level selection, Local/Remote Control selection, Row (Group) On-Off selection, Emergency Stop, Fault Indicators, and Elapsed Time Meters for various parts of the equipment. Control panel options include a 6-inch color touchscreen (standard), a 10-inch color touchscreen, and industrial hardwired pilot devices. With either touchscreen option comes the ability to monitor process signals (ie. lamp supply air pressure, exhaust air pressure, motor current, etc...) if desired.

The MPE can be adapted to any plant layout by using either a Remote Control Panel, or direct connection into the existing control system. The Remote Control Panel can duplicate all the functions of the MPE cabinet mounted (local control) panel if desired.

The safety interlock features that are incorporated into each Fusion UV lamp system are also a part of the MPE control system. The PLC can be configured so that a fault signal from any unit in the system will either shut down the single failed unit, or the entire group. The fault can also be configured to just signal a warning if desired. Various input/output signals can be relayed to other process equipment so that the process line can be started or stopped in synchronization with the UV lamps. The lamps can also ramp up in power with the increasing process line speeds.

STANDARD CABINET FEATURES:

- The MPE can support either 6-inch or 10-inch lamp systems.
- A PLC to provide input & output signals to/from the lamp systems. Standard PLC configurations available for up to 4 rows (groups) of lamps. (Greater number available if needed).
- An Allen Bradley PLC is typically used for control. Other options include Modicon and Siemens.
- Power supplies are easily accessible through the front and back panels of the MPE.
- 6-inch Color Touchscreen.
- Internal blowers supply filtered air to cool the installed Power Supplies. The inlet filters are located on top of the cabinet.
- Standard color is shown. Other colors available per RAL chart.

SPECIFICATIONS: MPE Cabinets

Electric Power Requirements:

Electric Supply: Single power drop of 200, 208, 230-240, 380, 415, 440, 460-480 VAC, 50 or 60 Hz depending on the power supply type. Not all voltages available for all power supply types. Note, each cabinet is capable of providing the necessary internal control voltages (120 VAC and/or 24 VDC) as needed.

Approximate Dimensions:

	Width	Height	Depth
MPE5:	787 mm (31")	1924 cm (76")	1152 cm (46")
MPE10:	1399 cm (55")	1924 cm (76")	1152 cm (46")

Please note that 900-1200 mm (36-48") of clearance space is required in both front and rear of the cabinet for hinged doors to swing open for access to inside of cabinet.

Weight:

Weight for a cabinet (without power supplies) is 300 Kg (650 lb.) for an MPE5, and 430 Kg (950 lb.) for an MPE10. Add weights of power supplies installed for total weight.

Capacity:

- MPE5:** (5) F300, F450, F600
(4) VPS, LH6, LH10
- MPE10:** (10) F300, F450, F600
(8) VPS, LH6, LH10

Multiple cabinets are used for additional units.

Typical Control Arrangements:

E-Stop: The emergency stop button shuts down all lamp systems (fault) via a "hard" input to each unit.

Local/Remote: Enables either the main control panel (local) or the remotely controlled panel (remote).

Row On/Off Selector: Allows the operator to select which groups of lamps are enabled.

High/Reduced Power: Selects high or reduced power operation for lamps with two or variable power levels.

Variable Power Selection: Selects lamp power from virtually no UV lamp output to 100% UV lamp output.

Lamp On: Turns on the high voltage power to the irradiators, allowing them to operate after the warm up cycle.

Lamp Off: Immediately turns off the high voltage power to the irradiators, putting them in the OFF mode. (Control Power is still on within the cabinet so that the controls can operate.)

Lamp Standby: Turns on the high voltage power to the irradiators, but placing them in standby mode. The lamps may reach full power from standby much faster than from a cold start.

Elapsed Time Hour Meter: An LCD readout (or computer timer on a screen) with the elapsed time that a row (group) of lamps has been operated. This is useful for scheduling preventive maintenance.

RF Fault Interlock: This signals when the RF detector connected to the control circuits detects a fault. The system must have at least one RF detector.

External Fault Interlock: This signals when a fault occurs in an interlock external to the lamp system. Typical external interlocks include lightshield doors, clamshell opening, pressure blowers, exhaust blowers, etc.

Lamp System Fault Indicator: Signals when a lamp system fault is detected such as in a power supply/irradiator cabling, and RF detector fault.

Typical Advanced Touchscreen Control Options:

- Graphic display of process equipment
- Color display of lamp power output
- Menu driven command system
- Security levels of operation
- Graphic display of all interlock status
- First fault analysis
- Elapsed time logged on UV lamps
- Elapsed time logged on magnetrons
- Elapsed time logged on blower motors/filter changes
- Filter pressure delta- contamination condition
- Suggested preventive maintenance schedule
- Alert and Alarm levels
- Statistical Process Control (SPC) information
- Trend graphs of process speeds
- Trend graphs of oxygen levels (for Nitrogen-Inerted units)
- Trend graphs of system usage
- Trend graphs of downtime by category
- Ability to store various process operating parameters in memory
- Context sensitive specific HELP screens



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



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