

ERX, ERC SERIES

3kW High Voltage Power Supply



Description

The ERX-10kV, 3.3-15 kW standard ebeam power supplies are switch-mode units incorporating the latest in high frequency, high power switching technology. Each power level of this 10 kV family of power supplies is neatly packaged in a single rack-mountable chassis with approximate dimensions of 10 1/2" H x 19" W (max) x 22" Deep. These robust power supplies were designed to use modularity for ease of field maintenance.

Features

- Highly Frequency IGBT Switching Technology
- Power Factor Correction
- Integrated Filament Regulation
- Emission Current Regulation
- Arc Management
- Air Insulated High Voltage Section
- Low Stored Energy
- Air Cooled Chassis
- Light Weight
- Instrumented Front Panel
- Remote Controlled Operation
- CE Approved Design

Operation of the power supplies can be accomplished locally via the front panel controls or remotely via the rear panel control connector J4. Three additional jacks (J5A, J5B and J5c) are provided for interface to external source modules. J-4 is a 25 Pin D connector while each of the J-5 connectors is a 9Pin D type.

Certain commands or signal are operative in both modes. For example, the local HV OFF/RESET pushbutton switch is operative in both local and remote modes.

UVC's are management options are designed with the challenges of Thin Film Deposition in minds. Our solid-state ebeam power supplies can be configured for rapid arc detection with typical shutdown in <25us. Arc quenching mode with recovery time as fast as 5ms, or arc counting where excessive arcing results in latched fault to allow the HVPS to ride through expected process arcs, but maintain the ability to react to unexpected transient conditions.

It should be noted any of the models in the standard 6-10-15kW series could be customized to suite an end-user's unique specifications. Typical options are:

- Customized Control Panels
- Filament Power Supplies
- One and two gun Filament Modules
- Specialized Metering
- Bias Supplies
- Auxiliary Gun Conversion Kits

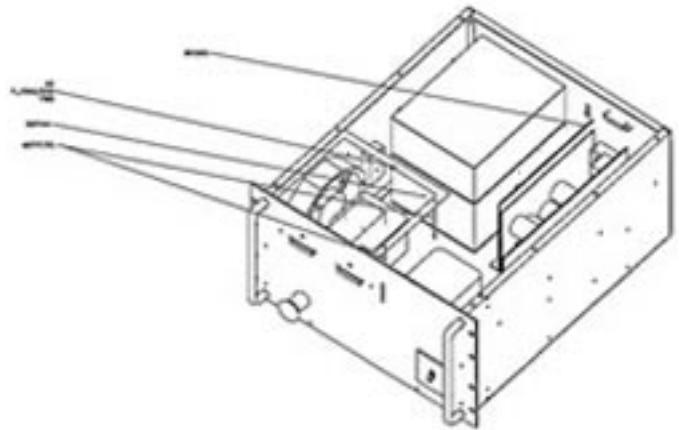
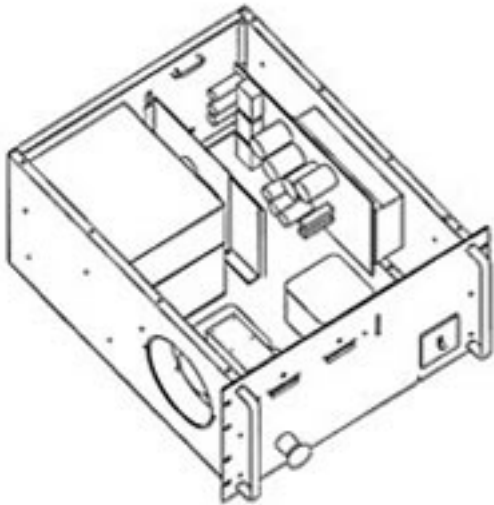
Electrical Specifications

Input	
Voltage	230VAC \pm 10% Single \emptyset
Frequency	50/60Hz
Current	20Amps Max at 207V
Output - High Voltage	
Voltage	0--5.5kV DC, negative polarity (positive ground)
Current	0-600 mA DC
Regulation	\pm 0.1% (\pm 10V)
Ripple	0.05% rms (50V rms) maximum
Power	3.3 kW max
Output - Filament	
Voltage	0-7V RMS
Current	0-35 Amps RMS
Frequency	33KHZ +10%
Duty	Continuous
Regulator	\pm 3% (Filament Current)
	\pm 1% (Emission Current)
	Note: Automatic crossover from filament current to emission when HV turns on (customer supplied filament transformer to have isolation >6kV DC)

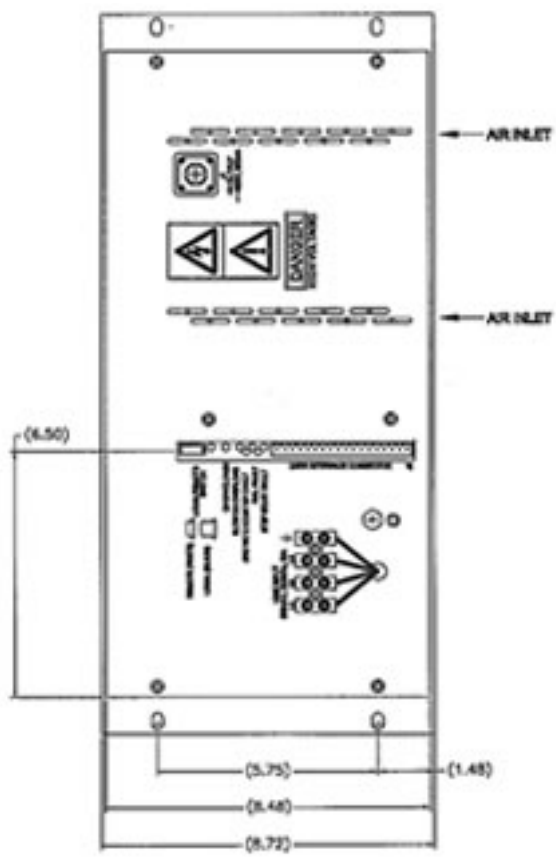
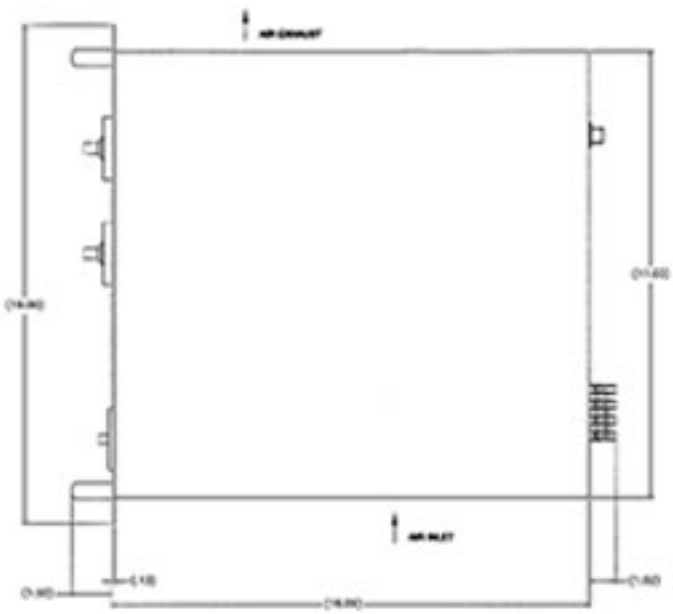
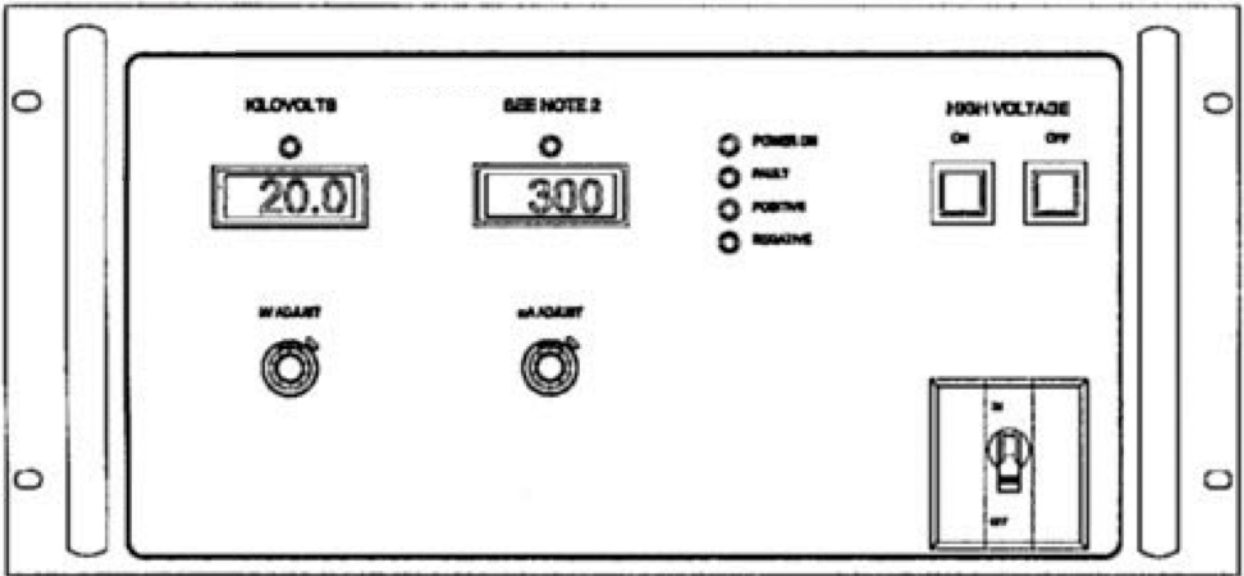
Mechanical Specifications

Chassis Dimensions	
Panel	19" W x 10 1/2" H
Chassis	22" Deep
Weight	18.65kG, 50Lbs.
Input Connection	Power Cable, Phase orientation not critical
Output Connection	Coaxial cable with the shield grounded
Indoor Use	
Altitude	7500 Ft. Max
Humidity	Non-Condensing
Temperature	40° C Max Ambient
Transient Voltage	Category II
Pollution Degree @	In accordance with IEC 664

6000 Watt – ERX



10kw - ERC



Pin Out

Control – “Local”	
Main Circuit Breaker	
HV – ON	Push Button – White
Voltage Set	Potentiometer
HV – OFF	Push Button – Green
Local Filament ON	Push Button – White
Emission Current Set	Potentiometer – 10 Turns
Indicators	Power On
	Remote Mode
	Interlock Open
	Arc
	Over-current
	Fault
	Ready for High Voltage
	High Voltage On
Meters	3.5 Digit LCD Type
	Voltage “10.00” kV
	Current “600” mA
Control - "Remote"	
“25 Pin D” Connector	Power Supply to Remote
	24V DC Fused Output
	HV – On Response
	Fault Response
KV Monitor	0-10V = 1-5KV
MA Monitor	0-6V = 0-600mA
Filament Current Monitor	0-10V = 0-5kV
Remote to Power Supply	24V Remote Command
	24V on Command
	Filament ON/OFF Command (24V DC = ON)
Remote Emission Current Reference	BNC jack: Rear Panel

	Interlock: Contact Closure Required
	HV "ON" Response