

3kW, 6kW, 8kW, 10kW **SOLID STATE** E-Beam Power Supply with built in Emission Current Regulator.

The HVCEB series is designed to provide the ultimate in control & reliability for your process in one package.

6,000 Watt All with Mercury Arc Control!



8kW & 10kW E-Beam with Multiple E-Gun Capability!



3,000 Watt E-Beam All with Mercury Arc Control!



- Weight: Only 38 to 48 lbs

Basic Features:

- HV Output & Filament all in one design. Rugged and Design to last!
- **Mercury Arc Control** Suppression Rollback Ride-Thru Circuitry. **Very low stored energy.**
- Digital Front Panel Meters and Controls for Voltage, Current, and Filament.
- Self Protection from Arc, Over Voltage, Over Current, & Temperature.
- **Remote Handheld available on 10kW for Easy Pre-Melt**

Remote:

- Extensive & Flexible Remote Monitoring & Programming e-Beam HVC Pin-out.
- HV On/off apply +10v to +24V to Pin 4. Built in sequential filament and HV application.
- Current Ref. 0-5V or 0-10V for any rate controller. (*See remote control for details.*)

Mechanicals:

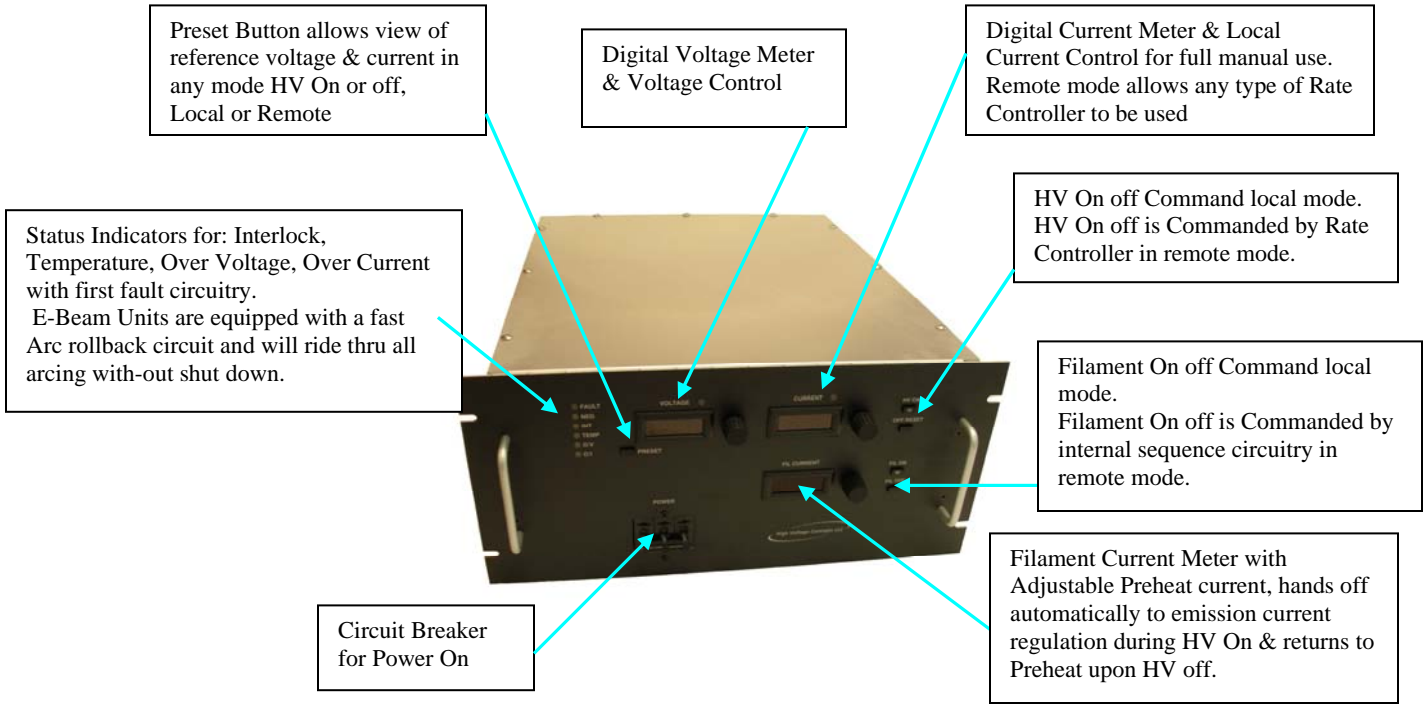
- **7" Ht. 3kW Air Cooled, 19" Deep.**
- **8-3/4" Ht 6kW Water Cooled, 21" Deep.**
- **10. 5"Ht 10kW Air Cooled, 23" Deep.**

Filament:

- Automatic Emission Current Regulation
- 3-way Filament Control (Adjustable or fixed Standby Current, Maximum Current, Emission-Current). Local or remote control.
- Filament Power up to 650 watts (Consult Factory with your e-gun application).
- OEM and Custom Designs. Other Voltages and Power Levels available upon request.

All E-Beam Front Panel Function Description

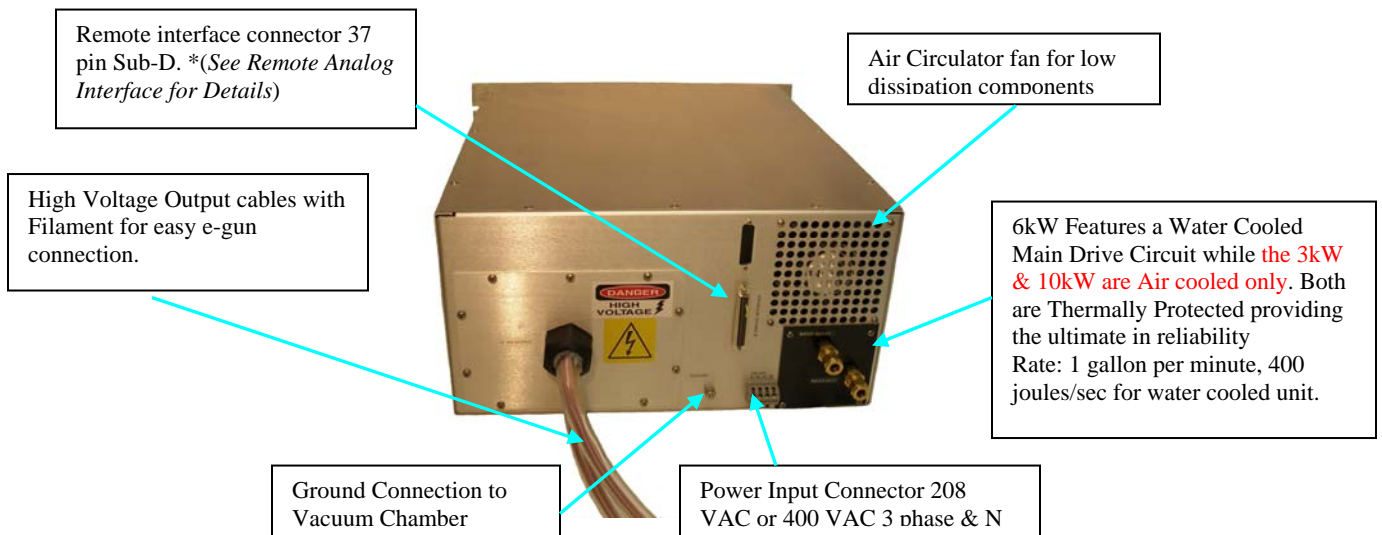
8kW & 10kW have Hand-held Front Panel Remote for Easy Pre-Melt & Can Control Two E-Guns!



Remote Hand Held for Convenient Pre-Melt available on 8kW & 10kW only.

6kWatt E-Beam Rear Panel Shown Below.

8kW & 10kW E-Beam Can Control Two Guns via Remote Controlled Filaments.



Remote Analog Customer Interface (E-Beam Pin-Out) 37 Pin Sub-D Connector

Remote FEMALE SUB-D connector is on the back panel a Male Sub-D mate is provided.

1. **Voltage Reference:** Voltage Control for E-Beam remains with front panel control at all times unless specified.
2. **Current Reference:** 0-5 Volts Input = 0 to Full Output Current. This Reference must be connected to 5 Volts when using this supply in Voltage only mode, otherwise the auto-crossover control will believe you are requesting near zero current and no output will result. This only operates in remote mode. 0-10V Available. This Pin is not used to control current in 8kW & 10kW See Multi-E-Gun J-7
3. **N.C.** This pin has no connection.
4. **Remote HV On-Off/Reset:** Apply and maintain voltage in range (+8.5 volts minimum to +24 volts maximum) to turn on HV. This sequence will occur after application of stated voltage; Filament will energize in standby mode 7 seconds later HV will turn on. Upon removal of the stated voltage HV will turn off then 7 seconds later the filament will turn off.
5. **NC.** This pin has no connection.
6. **Remote kV Monitor:** 0-5.0 Volts = 0 to Full Output Voltage 0-10V available. Output Impedance of this device is 1k Ohms. This Function is available in any mode.
7. **Remote Over Voltage Fault Set-point Reference:** 0 to 5.0 Volts = 0 to Full Output Voltage over rides the internal Over Voltage setting which is fixed at 105% of the full output voltage. This function is available in any mode.
8. **Remote Over Current Fault Set-point Reference:** 0 to 5.0 Volts = 0 to Full Output Current over rides the internal Over Current setting which is fixed at 105% of the full output current. This function is available in any mode.
9. **+5 volts.** 100mA Max
10. **Filament Monitor.** 0-5 volts = 0- Full Current Amps this signal is present in all modes.
11. **+15 Volts** 20mA Max
12. **-15 Volts** 20mA Max
13. **Common.**
14. **HV On Signal.** When HV On is commanded this pin goes Low. Its output impedance is 2k ohm, and the High position is +5 Volts. This signal is always present in Local and Remote control.
15. **Common.**
16. **Local/ Remote Command:** Pulling this pin LOW and holding will remove control from the front panel. The Front Panel Potentiometer References will be over ridden as well as the HV On Command. Meters will function normally and the Preset button will read the remote program reference inputs instead of the Front Panel Potentiometers. All LED function remains.
17. **Temperature:** This pin reads the temperature of the IGBT in the power driver. The measurement is in Kelvin/100. Room temperature will read 2.93V or 293° Kelvin. This function is available in any mode.
18. **NC.** This pin has no connection
19. **Remote Current Monitor:** 0-5Volts = 0 to Full Output Current 0-10V available. Output Impedance of this device is 1k Ohms. This function is available in any mode.
20. **Fault Signal.** When Fault is triggered this pin goes Low. Its output impedance is 2k ohm, and the High position is +5 Volts. This signal is always present in Local and Remote control. To clear fault cycle HV Off/Reset see pin 4.
21. **Common.**
22. **+5 volts.** 100mA Max.
23. **Remote Filament Reference Input.** 0 to 5 volts = 0 to Full Current. This signal must be 500 ohm or lower output impedance, a 1k ohm potentiometer for example.
24. **Reference Voltage +10 Volts:** 5mA Max Current Draw.
25. **External Interlock:** This pin must be held LOW in order to operate power supply. A HIGH or an OPEN on this pin will trip the unit off via an Interlock FAULT and block the application of HV ON. This pin must be held LOW before the OFF/ RESET command can be used to clear the fault. This function is always available.
26. **Remote High Voltage lamp On.** {+} Provides +24 volts source for a lamp when high voltage is enabled.
27. **Remote High Voltage lamp Return.** {-}Return for +24 volts lamp.
28. **Pump Voltage Return.** {-}Return for +24 volts for coolant pump relay.
29. **Pump Voltage +24 volts:** {+} Provides +24 volts source for tube coolant pump relay. Other voltages are available.
30. **Filament On Remote:** Controlled by HV On- Off/Reset see pin 4.
31. **Filament Off Remote:** Controlled by HV On- Off/Reset see pin 4.
32. **Filament On Signal:** This pin is normally high (+5 Volts) with Filament OFF and Goes Low when Filament is ON.
33. **Common:**
34. **Common:**
35. **Common:**
36. & 37. **Spare:**

Remote Multi-E-Gun Control Customer Interface (8kW & 10kW Only)



(J-7) 9 Pin Sub-D Connector

1. **Current Reference:** 0-5volt = 0-Full Current Output reference for E-Gun #1.
2. **Current Reference:** 0-5volt = 0-Full Current Output reference for E-Gun #2.
3. **Common:**
4. **Remote E-Gun Control:** Pull This pin Low and holding will remove Local Front panel selection of E-Guns to Remote Control Selection of E-Guns.
5. **Common:**
6. **E-Gun #1 Select:** Pull this pin High to any voltage from +5v to +15v and hold to select.
7. **E-Gun #2 Select:** Pull this pin High to any voltage from +5v to +15v and hold to select. Previous selected E-Gun must return low or no connection before next choice can be made.
8. **Spare:**
9. **Common:**

Model Line Table:

Model	Max Power	Current	Std. Input VAC	Alt. Input VAC
HVCEB-3	*3000 watts	500mA	208 3 phase	400 3 phase & N
HVCEB-6	6000 watts	600mA	208 3 phase	400 3 phase & N
HVCEB-8	8000 watts	800mA	208 3 phase	400 3 phase & N
HVCEB-10	10,000 watts	1,000mA	208 3 phase	400 3 phase & N

*Note: 3kW are Air Cooled in 7 inch Rack

Line Regulation: +/- 0.02% of Full Voltage

Load Regulation: +/- 0.05% of Full Voltage

Low Stored Energy

Operating Ambient Temperature: -15° C to 45° C

Water Temperature: 40 C Max @ 1 Gallon / Min. Storage: -40° C to 85° C

Stability: +/- 0.01% per hour

Weight: 38 to 53 Lbs depending on Model.

Note: Specifications are subject to change without notice.

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