

# DC Power Supplies

## High Voltage DC Power Supplies

■ **HAEFELY HIPOTRONICS** high power ranges of supplies are either air or oil insulated. There are numerous protection features provided in these power supplies including input and backup breakers, adjustable overload relay (10-110% of rated current), fast overload sensor, zero-start interlock plus provision for external safety interlock, current-limiting resistor in output circuit, output shorting solenoid (and/or stiff resistive bleeders) and fuse or circuit breaker protection of controls.

Standard high power supplies are available from 1kW to 50kW and 1kV to 300kV and are furnished with shielded coaxial output cable.

Rated current is available from zero to maximum voltage and all power supplies feature solid-state rectifiers, meter calibration, potentiometers and surge/transient protection of meters, relays and voltage regulators. Controls include a meter polarity-reversing switch and rotary output voltage control in addition to input power and overload circuits.



### FEATURES

- ☑ **Continuously adjustable test voltage** from zero to rated voltage
- ☑ **Shielded output cable**
- ☑ **Adjustable Overload** from 10 to 110% of rated current output
- ☑ **Backup Breaker** overload safety situation
- ☑ **Output Connected** voltmeter and ammeter
- ☑ **Zero start interlock** ensures that the voltage control is at zero before HV can be energized
- ☑ **Shorting solenoid** grounds output cable and object under test

### BENEFITS

**Simple to Use** – minimal amount of setup time and simple control panel allows simple testing

**Operator Safety** – the power supply and test object are automatically grounded when high voltage is turned off

**Output Connected Meters** – allows for fast accurate readings

**Shielded Coaxial Output Cable** – allows for easy connection to test object.

### APPLICATIONS

- Accelerators
- X-Ray Systems
- DC Transmission Line Components
- High Voltage Power Sources

## TECHNICAL SPECIFICATIONS

### 1kW High Power DC Supplies

General	801-1A	850-20	875-13	8100-5	8100-10
Input Voltage	120V, 60Hz –A version 230V, 50Hz –B version				
Output Voltage	0 – 1kV DC	0 – 50kV DC	0 – 75kV DC	0 – 100kV DC	0 – 100kV DC
Output Current	1A	20mA	13mA	5mA	10mA
Output Polarity	Positive or Negative output in respect to ground				
Metering	4.5" analog meters, $\pm 2\%$ full scale accuracy				
Regulation	15% No Load to Full Load				
Ripple	2% rms				
Control Dimensions	12.25H x 19W x 15D (311mmx483mmx381mm)				
Control Weights	Net 60lbs (27kg)	Net 98lbs (44kg)	Net 35lbs (16kg)		
High Voltage Dimensions	In Control Section		18H x 18W x 18D (457mmx457mmx457mm)		
High Voltage Weight	In Control Section		Net 92lbs (42kg)	Net 215lbs (100kg)	Net 250lbs (113kg)

Note: Other Output Ratings Available, Consult Factory with Your Requirements

### 2.5kW High Power DC Supplies

General	801-2.5A	850-50	8100-25	8150-16.5	8300-8
Input Voltage	120V, 25A, 60Hz –A version 230V, 13A, 50Hz –B version				
Output Voltage	0 – 1kV DC	0 – 50kV DC	0 – 100kV DC	0 – 150kV DC	0 – 300kV DC
Output Current	2.5A	50mA	25mA	16.5mA	8mA
Output Polarity	Positive or Negative output in respect to ground				
Metering	4.5" analog meters, $\pm 2\%$ full scale accuracy				
Regulation	15% No Load to Full Load				
Ripple	2% rms				
Control Dimensions	12.25H x 19W x 15D (311mmx483mmx381mm)				
Control Weights	Net 60lbs (27kg)	Net 98lbs (44kg)	Net 35lbs (16kg)		
High Voltage Dimensions	In Control Section		18H x 18W x 18D (457mmx457mmx457mm)		
High Voltage Weight	In Control Section		Net 92lbs (42kg)	Net 215lbs (100kg)	Net 250lbs (113kg)

Note: Other Output Ratings Available, Consult Factory with Your Requirements

### 5kW High Power DC Supplies

General	801-5A	825-200	8100-50	8150-33.3	8300-16.8
Input Voltage	208/230V 15A 50/60Hz Three Phase	208/220V 25A 50/60Hz Single Phase			
Output Voltage	0 – 1kV DC	0 – 25kV DC	0 – 100kV DC	0 – 150kV DC	0 – 300kV DC
Output Current	5A	200mA	50mA	33.3mA	16.8mA
Output Polarity	Positive or Negative output in respect to ground				
Metering	4.5" analog meters, $\pm 2\%$ full scale accuracy				
Regulation	10% No Load to Full Load		15% No Load to Full Load		
Ripple	5% rms (1% Optional)		2% rms		
Control Dimensions	49H x 23W x 24D (1245mmx584mmx610mm)		17.5H x 19W x 17D (445mmx483mmx432mm)		
Control Weights	Net 450lbs (204kg)		Net 105lbs (48kg)		



High Voltage Dimensions	In Control Section	32Hx21'diameter (813mmx533mm)	60H x 29'diameter (1524mmx737mm)	
High Voltage Weight	In Control Section	Net 950lbs (431kg)	Net 2800lbs (1270kg)	Net 4700lbs (2132kg)

Note: Other Output Ratings Available, Consult Factory with Your Requirements

**10kW High Power DC Supplies**

General	801-10A	825-400	8100-100	8150-65	8300-33
Input Voltage	208/230V 30A 50/60Hz Three Phase		480V 25A 50/60Hz Single Phase		
Output Voltage	0 – 1kV DC	0 – 25kV DC	0 – 100kV DC	0 – 150kV DC	0 – 300kV DC
Output Current	10A	400mA	100mA	65mA	33mA
Output Polarity	Positive or Negative output in respect to ground				
Metering	4.5" analog meters, ±2% full scale accuracy				
Regulation	10% No Load to Full Load		18% No Load to Full Load		
Ripple	5% rms (1% Optional)		2% rms		
Control Dimensions	70H x 23W x 25D (1778mmx584mmx635mm)				
Control Weights	Net 600lbs (272kg)		Net 225lbs (101kg)		
High Voltage Dimensions	In Control Section		30H x 40W x 25D 762mmx1016mmx63 5mm	32H x 40W x 25D 813mmx1016mmx 635mm	48H x 48W x 70D (1219mmx1219mmx 1778mm)
High Voltage Weight	In Control Section		Net 2450lbs (1111kg)	Net 3100lbs (1406kg)	Net 5500lbs (2495kg)

Note: Other Output Ratings Available, Consult Factory with Your Requirements

**15kW High Power DC Supplies**

General	801-15A	825-600	8100-150	8150-100	8300-50
Input Voltage	480V 20A 50/60Hz Three Phase		480V 32A 50/60Hz Single Phase		
Output Voltage	0 – 1kV DC	0 – 25kV DC	0 – 100kV DC	0 – 150kV DC	0 – 300kV DC
Output Current	15A	600mA	150mA	100mA	50mA
Output Polarity	Positive or Negative output in respect to ground				
Metering	4.5" analog meters, ±2% full scale accuracy				
Regulation	10% No Load to Full Load		18% No Load to Full Load		
Ripple	5% rms (1% Optional)		2% rms		
Control Dimensions	70H x 23W x 25D (1778mmx584mmx635mm)				
Control Weights	Net 750lbs (340kg)		Net 420lbs (191kg)		
High Voltage Dimensions	In Control Section		30H x 40W x 25D 762mmx1016mmx63 5mm	32H x 40W x 28D 813mmx1016mmx 711mm	48H x 48W x 70D (1219mmx1219mmx1 778mm)
High Voltage Weight	In Control Section		Net 2850lbs (1293kg)	Net 3700lbs (1678kg)	Net 5500lbs (2495kg)

Note: Other Output Ratings Available, Consult Factory with Your Requirements

**25kW High Power DC Supplies**

General	801-25A	825-1A	8100-250	8150-170	8300-80
Input Voltage	480V 32A 50/60Hz Three Phase				480V 54A 50/60Hz Single Phase
Output Voltage	0 – 1kV DC	0 – 25kV DC	0 – 100kV DC	0 – 150kV DC	0 – 300kV DC



Output Current	25A	1A	250mA	170mA	80mA
Output Polarity	Positive or Negative output in respect to ground				
Metering	4.5" analog meters, $\pm 2\%$ full scale accuracy				
Regulation	10% No Load to Full Load				18% NL-FL
Ripple	5% rms (1% Optional)				2% rms
Control Dimensions	72H x 25W x 30D (1829mmx635mmx762mm)		70H x 23W x 25D (1778mmx584mmx635mm)		
Control Weights	Net 1250lbs (567kg)		Net 500lbs (227kg)		
High Voltage Dimensions	In Control Section	32H x 40W x 28D 813mmx1016mmx71 1mm		35H x 44W x 30D 869mmx1118mmx 762mm	48H x 54W x 40D (1219mmx1372mmx1 016mm)
High Voltage Weight	In Control Section	Net 4400lbs (1996kg)		Net 5000lbs (2268kg)	Net 6000lbs (2722kg)

Note: Other Output Ratings Available, Consult Factory with Your Requirements

### 50kW High Power DC Supplies

General	801-50A	825-2A	8100-500	8150-335	8300-165
Input Voltage	480V 32A 50/60Hz Three Phase				480V 54A 50/60Hz Single Phase
Output Voltage	0 – 1kV DC	0 – 25kV DC	0 – 100kV DC	0 – 150kV DC	0 – 300kV DC
Output Current	50A	2A	500mA	335mA	165mA
Output Polarity	Positive or Negative output in respect to ground				
Metering	4.5" analog meters, $\pm 2\%$ full scale accuracy				
Regulation	10% No Load to Full Load				18% NL-FL
Ripple	5% rms (1% Optional)				2% rms
Control Dimensions	70H x 23W x 25D (1778mmx584mmx635mm)				
Control Weights	Net 800lbs (386kg)				
High Voltage Dimensions	In Control Section	35H x 44W x 30D 869mmx1118mmx76 2mm		48H x 54W x 40D 1219mmx1372mmx1016mm	
High Voltage Weight	In Control Section	Net 6200lbs (2812kg)		Net 6500lbs (2948kg)	Net 7000lbs (3175kg)

Note: Other Output Ratings Available, Consult Factory with Your Requirements

On high power units (25kW and 50kW) specifications and dimensions provided herein are estimates only. Exact data will be provided after receipt of order.

## OPTIONS

- Meter Relays for Over-voltage or Over-current
- Line Reactor to limit output to rated current
- Dwell Timer
- Memory kV Meter to record voltage break down
- Motorized Output Controls

NOTE: The time required for the output to rise from zero to rated voltage is optional and may be 15, 30, or 60 seconds.  
(Rated speed (V/s) is the rated voltage divided by the rise time.)

## SPECIAL APPLICATIONS

Modified units can be supplied with thyristor regulators for capacitor charging applications as well as crowbar circuits, high-energy discharge solenoids, line regulators, special control functions, and special packaging.

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