

Dynapower and Rapid Power have attained the reputation as the premier manufacturers in the industry. Our experience is vast in the design and manufacture of custom power supply equipment for a variety of applications.



Dynapower and Rapid Power incorporate the highest quality materials to design and build the following products:

Dynapower and Rapid Power Products and Systems

- | | |
|---------------------------------------|---|
| AC Power Supplies | Flexible Copper Cable and Water-Cooled Solid Bussing |
| Ampere Hour Meters | Multi-Circuit Power Supplies |
| Battery Booster Power Supplies | Precision Power Supplies |
| Battery Formation Equipment | Pulse Power Supplies |
| Color Anodizing Power Supplies | Rectifiers |
| Computer Interfaces | Transformers |
| Custom Circuit Boards | ULTRACAST™ Cast Coil Transformers |
| Data Acquisition Systems | |



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BEST PRODUCT • BEST SERVICE • BEST VALUE

DC PLATING POWER SUPPLIES



DYNAPOWER
CORPORATION



RAPID
POWER CORPORATION

100 Years of Experience

Dynapower and Rapid Power engineer and manufacture standard and custom design DC Plating Power Supplies, which have the following design topologies:

DC Plating Power Supply Specifications

- AC Input:** Up to 600 Volts, 3 phase, 50 or 60 Hz (other AC voltages available upon request)
- DC Output:** 6, 9, 12, 15, 18, 24 Volts, and up to 30,000 Amperes (higher DC voltage and current ratings available upon request)
- Ripple:** SCR Units - 5% RMS AC ripple when operated at rated voltage and current (additional ripple filters are available upon request)

Switchmode Units - Less than 1% RMS of full scale rating
- Rating:** All components are rated as a standard for 100% continuous full load service in a 40°C ambient.
- Power Factor:** 0.9 power factor at rated output



*NEMA 4X Water-cooled
Switchmode Wall-Mountable
Power Supply*

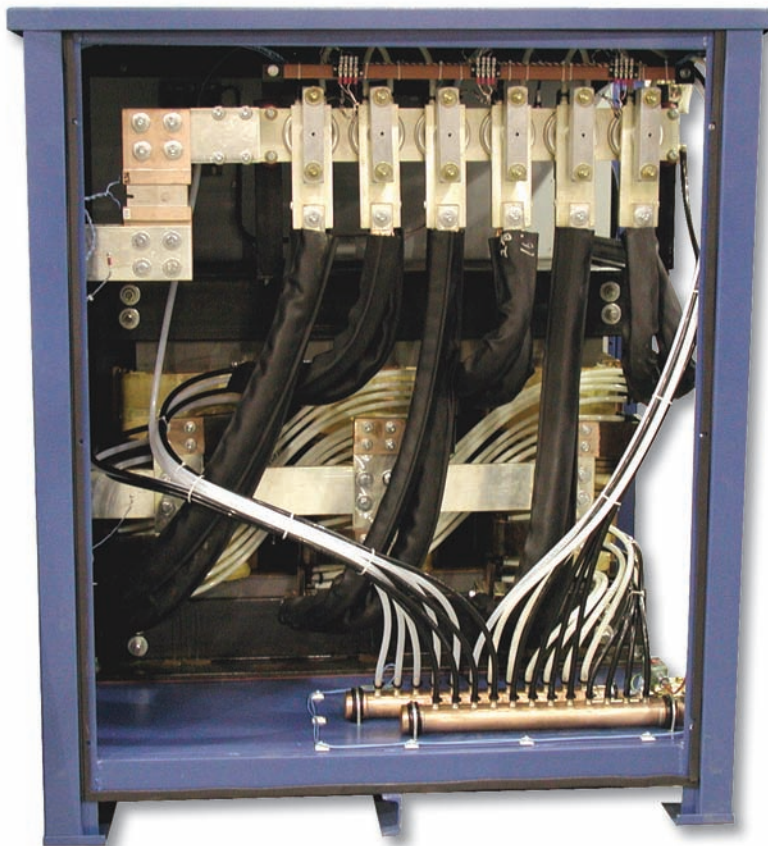
Rectification

Dynapower and Rapid Power's rectifier assemblies employ semiconductors at an extremely conservative utilization level of less than 50% of the device rating. This conservative design coupled with an oversized cooling system which uses deep-hole drilled silver-plated copper heat sinks, ensures low junction temperatures on the semiconductor devices and hence long-term, reliable operation.

Transformation

Dynapower and Rapid Power design and manufacture the transformers in our power supplies to ensure the quality and reliability of the units.

- Winding:** Splice-free, electrolytically pure copper
- Core:** Low loss, grain-oriented silicon steel
- Insulation:** Class B Design with Class H insulation. (80°C Rise with 220°C NOMEX insulation)
- Process:** Coils are vacuum impregnated by varnish and then baked to cure
- Cooling:** Water-cooled transformers are cooled via a heavy-walled rectangular copper coolant tube that is in intimate contact with the secondary windings. Air-cooled transformers are cooled via fans.



Water-cooled SCR Power Supply

Cooling

Dynapower and Rapid Power's power supplies are designed for optimum low loss, efficient operation and employ specially designed cooling systems to remove the heat generated during operation. Dynapower and Rapid Power have vast experience in designing and manufacturing numerous types of cooling systems including, but not limited to:

- Direct Water-Cooled
- Forced Air-Cooled
- Convection Cooled
- Air-to-Water Heat Exchanger
- Water-to-Water Heat Exchanger
- Water-to-Air Heat Exchanger
- Custom Oil-Cooled

Controls

The power supply will be controlled via a Touchpad interface which will be mounted on the front panel of the unit or on a remote control enclosure. The Touchpad interface has the following features, and more:

- Digital 4 Digit Display of DC Volts and DC Amperes
- Precision Voltage and Current Pushbuttons with Setpoint Displays
- Start, Stop, Reset, Manual/Auto and Polarity (+/-) pushbuttons
- Alphanumeric display for status indication, setup, fault diagnostics and special operating modes
- Ampere Hour Setpoint and Run Display with Totalizer
- Pulse and Periodic Reverse Capability (when specified)
- Create, Edit and Store Multi-Step Custom programs
- Ramp, Timer, End of Cycle alarm
- 0-10 V, 4-20 mA, Serial and Ethernet capabilities



Touch Pad Control Interface

Features

- Constant Current Control with $\pm 0.5\%$ regulation of name plate rating, load with voltage limit protection. Automatic crossover to voltage control is provided.
- Constant Voltage Control $\pm 0.5\%$ regulation of nameplate rating, with over-current limit protection. Automatic crossover to current control is provided.
- NEMA 2 steel enclosures, with optional PVC, Stainless Steel and other custom enclosures available
- All major components and assemblies manufactured to the highest standard of quality at Dynapower and Rapid Power's facility
- 100% copper bussing
- UL, CSA and CE compliant designs available
- Most extensive warranty in the industry



Multiple, independently controllable output power supplies in one enclosure with either Secondary SCR or Switchmode design topology