

## CAPACITOR DISCHARGE POWER SUPPLIES

### The HRW Series

The HRW series of capacitor discharge power supplies is designed for the most demanding production requirements. The series offers advanced all-solid state circuitry, exceptionally fast recharge rates, and simplified component layout to assure long, trouble-free service.

A built-in feature to assure quality welds is the automatic recharge cycle. Some equipment does not start a recharge until the weld head is opened. This means that the operator's habits can delay the start of recharge. Hughes power supplies eliminate this production problem. All Hughes power supplies start their recharge for the next weld almost immediately, regardless of whether the weld head has been opened or its microswitch reset. After each weld, a very brief hold-off period is provided to assure that the capacitor bank is fully discharged. Recharge then starts automatically.

All units are voltage regulated and maintain consistent output with line changes of up to  $\pm 10\%$ . Standby power is low.

The elimination of mechanical or mercury relays by the use of silicon control rectifiers provides greater freedom from noise, wear and service, plus economy and faster repetition rates. A sturdy, well-ventilated chassis aids in heat dissipation. Fast duty cycles are facilitated by forced air fans on all models.

All models have triple pulse form selection available to meet the special requirements of certain jobs. The selection of the desired pulse form is made by a front panel selector switch. To aid in selecting and resetting exact watt-second settings, all units have extra large meter faces with dual range scales.

Pushbutton heat selectors are featured on the HRW-250B and HRW-750B. Five pushbuttons on high range allow you to select different programmed heat schedules quickly and accurately. All models have dual range (high and low) manual heat controls.

In the specifications that follow, peak current output is rated as measured by the voltage drop across a 50 MV MA-14-05 shunt (.001 ohms) for all power supplies except HRW-750B and HAC models. These take an MA-14-03 shunt (.0001 ohms).

Cam-Lok type receptacles are provided on the front panel for no-tools-required connection of weld cables.

As always, Hughes is the leader in engineering products with versatility and reliability. Repeatability, dependability, fast cycling, advanced styling and the latest design in charging circuitry are engineered into the HRW series. One of these supplies holds the answer to your welding problem. Let Hughes sales engineers help you select the correct supply for your job.

The Hughes HRW series power supplies are manufactured under U.S. Patent Numbers 3,586,882; 3,604,888; 3,641,306.

### Model HRW-50C

### 50 Watt-Second Dual Range

This solid state power supply with new charge concept combines ultrahigh-speed charging and voltage regulating circuits. No warm-up required. Fewer parts improve reliability. Three selectable pulse lengths are provided.



**SPECIFICATIONS • Model HRW-50C**

Energy storage — dual range .....	Low range: .25-10 watt-seconds High range: 1-50 watt-seconds
Capacitor bank .....	750 $\mu$ F at 60 Hz, no bias and 24°C ambient
Capacitor voltage .....	Low range: 20-183 Vdc High range: 20-410 Vdc
Maximum peak current output .....	Short pulse: 3,500 A at 1.6-ms base Mid pulse: 2,700 A at 2.6-ms base Long pulse: 2,250 A at 3.5-ms base
Repetition rates .....	At 25 watt-seconds, 3/second; 50 watt-seconds, 2/second
Input power requirements .....	Single phase, 50/60 Hz, 105-125 Vac, 5 A circuit breaker (230 V, 2.5 A)
Standby power line demand .....	Less than 1A
Dimensions (H x W x D) .....	5.75 x 13 x 13.5 in (146 x 339 x 343 mm)
Weight .....	39 lb (18 kg), net, 45 lb (20 kg) shipping

Specify HRW-50C-MC for factory set 230 V, 50 or 60 Hz operation.