

OL 46D Deuterium Lamp Power Supply



The OL 46D Current Source for Deuterium Lamps is specifically designed to operate the OL UV-40 and OL 752-12 deuterium lamp standards of spectral irradiance. The OL UV-40 must be operated at the same current used during the calibration in order to realize the calibration accuracy. Accordingly, the OL 46D provides a constant lamp current of 300 mA with an uncertainty of $\pm 0.1\%$. It is also an ideal current source for the OL 740-20 and OL 750-20 deuterium sources.

The OL 46D features complex automatic lamp starting and operating supplies. Its dual filament design can operate lamps with high or low filament current requirements. When the supply is turned on, a current is supplied to the starting filament. After 20 seconds, the regulated filament current is reduced 40% of the initial value and the high voltage circuit is switched on. Following the high voltage pulse, the lamp arc strikes and a precision lamp current is established. The circuit is designed to provide a stable, reliable discharge without subjecting the lamp to undue stress.

The OL 46D regulated power supply maintains its accuracy during power line transients of $\pm 10\%$. The supply will also operate over a $\pm 10\%$ load variance, which allows it to accommodate different operating voltages from one lamp to another.

SPECIFICATIONS	
Output Current	300 mA $\pm 0.1\%$
Filament Voltage (starting).....	10 V (1.2A)
Filament Voltage (operating)	7 V (1.0 A)
High Voltage Starting Pulse.....	600 volts (peak)
Lamp Voltage.....	80 volts $\pm 10\%$
Regulation (line and Load).....	$\pm 0.05\%$
Input Voltage.....	85 – 265 VAC, 50/60 Hz
Weight	4 lbs (1.8 kg)
Size.....	9.88" L x 6.50" D x 3.88" H (25.1 cm x 16.5 cm x 9.9 cm)