



VERTIV™

Liebert®

PULSE POWER SUPPLY



Free Cooling Unit

Introduction

Pulse Power is the Science & technology of accumulating energy over a relatively long period of time & releasing it very quickly. For Plasma Processing DC Pulse Power Supply is required. DC Pulse Power Supply is very much in vogue these days when conventional techniques fail to produce acceptable results. Pulse is represented by a shift in Voltage or Current & thus Power.

Pulsing is done to

- Avoid arcing – or at least to reduce arc defects.
- Achieve better film properties : Denser , tougher , brighter , more Transparent.
- Achieve higher yields
- Increase throughput

Specially designed power supply for ;

- PACVD / PECVD (Plasma Assisted / Enhanced Chemical Vapor Deposition)
- Electro-deposition
- Nano-oxide reduction by hydrogen glow discharge
- High precision plasma metal removal from surfaces using reactive gases
- Hydrogen Production
- Anodizing

Features

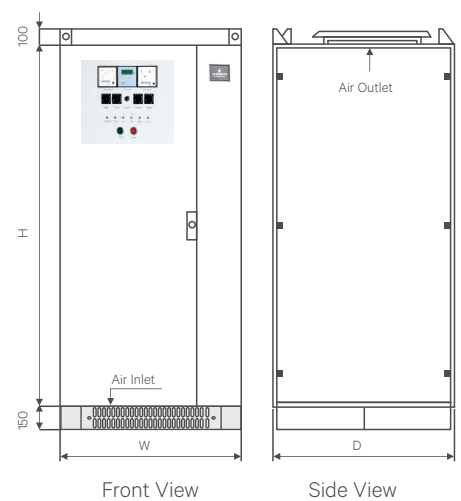
- Option of voltage or current mode, as per the process requirement
- Smooth sputtering mode, +200 V to +1100 V pulse with variable duty and frequency
- Pulse frequency setting and variable voltage option
- Plasma current setting as per available working surface area



Rating	10 kVA	20 kVA	40 kVA	60 kVA
Input Voltage	415 V AC (+10% to - 10%), Three Phase & N			
Input Frequency	50 Hz (± 10%)			
Rectifier Type	Full Wave			
Output Power	10 kW, 20 kW, 40 kW, 60 kW			
Output Voltage	0 - 1200 V (Adjustable through 10 turn POT with dial)			
Output Frequency	1 kHz to 6 kHz Variable			
Duty Cycle	10 - 95%			
Waveform	Duty cycle controlled chopped DC output			
Configuration	Standalone			
Efficiency	> 90% (At full load & nominal input voltage)			
Acoustic Noise Level	< 64 dBA @ 1 meter			
Ambient Temp	0 to 40 C			
Storage Temp	-10 to 70 C			
Relative Humidity	Up to 95% (Non Condensing)			
Altitude	< 1000 meter. Above Sea Level (Without derating)			
Enclosure Protection Grade	IP - 41			
Cooling	Forced Air			
Cooling	Hawells Gray (RAL 7035)			
Cable Entry	Bottom			
Dimension (W X D X H) in mm	800 X 800 X 1600			
Weight	275 kg	300 kg	350 kg	400 kg
Testing Standards	IEC 62040 - 3			

Display & Indications

Metering	DC Voltage	Output Current	Output Frequency
LED Indications	Control Supply OK Output OT	Rectifier Over Voltage	Mains ON
Protections	Input Single Phasing/ Phase reversal Input Contactor Arc Suppression Alarms are provided for all important protections	High Speed Over Current Over Temperature	Output Overload Output Short Circuit Rectifier Over Voltage
Controls	Potentiometer Switch	Output Voltage Auto / Manual for Output Voltage	Output Frequency Duty Cycle





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