

MATERIALS VACUUM DEPOSITION

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- Power Supplies M 06

Power Supplies

DC POWER SUPPLIES DC 05 - DC 30 FOR SPUTTERING APPLICATIONS

The compact power supplies were developed for small magnetrons in production plants and laboratories. Easy and safe operation make these power supplies very flexible for many processes. The arc-handling adjusts automatically to different process parameters, so that programming is not necessary. The units are designed for mounting in 19" racks.

The DC Power supplies DC 05 - DC 30 are **CE Compliant**.

SPECIFICATIONS

	DC 05/1000	DC 10/1000	DC 12/2000	DC 15/1000	DC 20/1000	DC 30/1000
Nominal power*	0.5 kW	1 kW	1.2 kW	1.5 kW	2 kW	3 kW
Output voltage	1000 V		2000 V	1000 V		
	Plus pole grounded					
	Option: Minus pole grounded, tight beam			Option: Floating		
Output current	0.7 A	1.4 A	1 A	2.4 A	2.8 A	4.2 A
Control	Current, voltage or power controlled					
Mode of operation	Manual via front panel or external via A/D interface AS 4, AS 4 F or Profibus					
Set point	0 ... 100 % of nominal voltage, current or power					
Output accuracy	±1% of nominal value for voltage, current and power					
Arc suppression	Quenching time: 6 µs up to 3 ms, automatically Delay time 6 µs up to 10 ms, automatically					
Indications	3,5" digit display for voltage, current and power					
Noise	$L_{pA} < 70$ dB (A)					

* Other nominal power available on request, up to 50 kW.

Mains connection	230 V, +5 % / -10 %, 50/60 Hz, (Option: 200 V, L1, L2, PE)			3 x 400 V, +5 %/ -10 %, 50/60 Hz, (Option: 3 x 200 V, only GS 15 and GS 20), PE		
Mains connection	230 V, +5 % / -10 %, 50/60 Hz, (Option: 200 V, L1, L2, PE)			3 x 400 V, +5 %/ -10 %, 50/60 Hz, (Option: 3 x 200 V, only GS 15 and GS 20), PE		
Power consumption	0.6 kVA	1.2 kVA	1.4 kVA	1.8kVA	2.4 kVA	3.6 kVA
Fusing	6 A	6 A	10 A	6 A (10 A)	6 A (10 A)	10 A
High voltage connection	RG 213 or JZ-600-Y-CY, 2 x 1.5 mm ²					
Cooling	Forced air, maximum ambient temperature 40° C					
Size	1/2 19" slide-in, 3HU (132.5 mm), 560 mm deep					
Weight	11 kg			12 kg		

RF 200 300 750 FAMILY ACTIVE FRONT PANEL FOR SPUTTERING APPLICATIONS

NEYCO introduce a new family of low-medium power RF generators intended to satisfy the needs of laboratory grade and small low pressure industrial plasma systems.

These generators are **CE Compliant**.

Model **RF200-300-750.AFP** 200, 300 and 750 W, Active Front Panel, direct tuner interface, optional external module.

The low-medium power AFP (Active Front Panel) series is a ½ rack mounted generator with direct tuner control and AFP with LCD touch screen display, friendly user interface software and RS 232-Profibus interfaces up on request. The unit can be configured also to drive 2 Auto matching networks as option.



Common SPECIFICATIONS of **Active Front Panel generator** families:

- The analog control module and the RF module are common to all families.
- The RF mosfet type, output tuning elements and DC switching power supply.
- The BDS RF series is a class E circuit with 85-90% typical efficiency.
- The output power is modulated by means of a PWM circuit acting on the DC bus.

SPECIFICATIONS FOR ACTIVE FRONT PANEL VERSION

Dimensions	132.5 x 269 x 410 mm
Weight	About 5 kg
Power requirements	World wide mains supply 120 to 240 VAC 50-60 Hz with PFC
Operating frequency	13.56 MHz ± 0.005 % quartz controlled
Output power on 50 Ohm load	From 4 to max 750 W (different FS versions)
Maximum reflected power	20 %
Harmonic content	-40 dB below fundamental
Power detector	Forward and reverse power, linear scale 3% accuracy
Protection circuits	Excess reverse power, over temperature PA (Power Amplifier) overvoltage, PA over current
RF Output connector	N, female
User Interface	User friendly LCD touch screen display
User port connector	D-Type 9 pin, female Interlock function and remote RF ON
Interfaces	RS 232 - Profibus for remote control (up on request)
Tuner control	Full interfacing capability with matching units series BDS-AMXXX
Matching network port	D-Type 25 pin female
Operating temperature	From 10 to 40°C, No condensation or icing
Cooling	Forced air with 80mm fan
Note	Optional: driver module for N° 2 auto matching networks

BAA 600 AUTO MATCHING UNIT FOR RF SPUTTERING

NEYCO is introducing a new family of automatic matching network units operating at the standard ISM frequency of 13.56 MHz intended for industrial and laboratory use.

The BAA 600 Auto is **CE Compliant**.

Typical applications include sputtering process, PECVD deposition, plasma activation, dielectric heating, laser excitation and more. The two standard configurations are L type network that best fits low impedance loads and TEE configuration for medium impedance loads.



Model BAA 600: Auto Matching based on variable air caps rated for 3000 V and 16 A analog user port pin compatible with BDS.HF 200-300 and 750 W generator's family.

The BAA600 is an auto matching unit to be used in HF (13.56 MHz) plasma application, transform the complex impedance of the load in a 50 Ohm resistive. The tuning circuit is L type using high quality variable caps and precision positioning motors. Typical tuning type is less than 2 seconds.

A wide range of full preset or one channel only preset is possible. It's also possible a full independent operation with only one external switch to recall ignition position is required.

A DC BIAS measurement circuit permits to monitor DC bias, scaled of a factor of 100.

SPECIFICATIONS

Tuning Elements	High grade air variable capacitors with high current sliding contacts. Option one vacuum capacitor in order to achieve higher cathode Voltage and current
Power supply	24 VDC 800 mA max. (from the Neyco's HF generators or via an external P.S.)
Analog I/O	10 V full scale
Digital I/O	24 VDC isolated
Input RF	N type female
Output RF	7/16 female to be used with RG393 Teflon cable
Max cathode voltage	3000 VAC + DC
Max cathode current	16 A RF
User connector	D15 pin female
Operating modes	N, female
Detector Type	Passive phase magnitude detector, signal reversing possible
Dimensions	190 x 340 x 175 mm

Direct interfacing with all Neyco's series RF generators.

3 Channel output (vacuum relays) option.

HIPMS & PULSED DC power supplies also available.

 See more in our website: www.neyco.fr

PROGRAMMABLE DC POWER SUPPLIES FOR THERMAL APPLICATIONS

FEATURES

- High power density: 3.3 kW, 5 kW, 10 kW, 15 kW
- Output Voltage up to 600 V, Current up to 400 A
- Built in RS-232 & RS-485 Interface Standard
- Advanced Parallel Operation
- Optional Interface: LXI Compliant LAN / IEEE 488.2 SCPI (GPIB) Multi-Drop / Isolated Analog Programming
- LabView® and LabWindows® drivers



Programmable DC Power supplies are **CE Compliant**.

	3.3 kW	5 kW	10 kW	15 kW
AC inputs	Single-phase (230 VAC) & Three-phase (208 VAC, 400 VAC)	Three-phase (208 VAC, 400 VAC)	Three-phase (208 VAC, 400 VAC, 480 VAC)	
Output voltage	Up to 600 V		From 7.5 V to 1500 V	
Output current	Up to 400 A	Up to 600 A	Up to 1000 ADC	
Active Power Factor Correction	Single-phase & Three-Phase AC Input	Three-phase AC Input	Passive Three-phase AC Inputs	
Output current	0.7 A	1.4 A	1 A	2.4 A
Control	Independent remote ON/OFF and remote Enable/Disable			
Mounting	19" Rack Mount capability for ATE and OEM applications			
Driver	LabView® and LabWindows® drivers			
Warranty	Five years, CE Mark			

DC GLOW DISCHARGE DC POWER SUPPLIES FOR PLASMA APPLICATIONS

The BDS-GLOW is a DC High Voltage Power Supply, specifically designed for plasma glow discharge. Is available in the 2000 or 4000 V with 3 kW power capacity full scale with positive or negative output.

Several protection and limiting circuits have been implemented to satisfy the most critical applications. The arc detection circuit sense plasma arcing end cause immediate shutdown and restart after an user-defined dead time. Overcurrent, overvoltage, over temperature circuits are included.

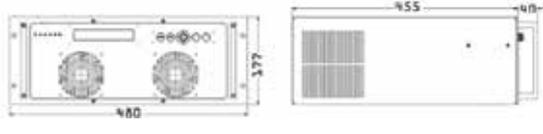
The high frequency inverter is equipped with last generation IGBT transistor obtaining mains to output efficiency greater than 90 %.

The interfacing with user application can be by analog user port or Optional RS-232. The front panel is equipped with LCD display and active front panel is available as option for local manual control.

DC glow discharge DC Power supplies is **CE Compliant**.



SPECIFICATIONS

Output voltage	From 300 V to 4000 V	From 150 V to 2000 V
Output current	Up to 800 mA	Up to 1.6 A
Output polarity	Negative, (or Positive on request)	
Output connector	Fischer, type 105, 10 kV rating for RG213 coax cable	
Mains input	3 x 400 VAC ±10% 50 Hz (L1, L2, L3PE)	
Dimensions		
Weight	12 kg	
Cooling	Forced air	
Working temperature	15-35 °C	
Protection circuits	Inverter over temperature Mains under - overvoltage Output current limit (LED Overcurrent) Output overvoltage	
ARC Handling	dV / dT soft start ramp	
Interfacing	Analog user port with 10 V scaled signals and 24 V digital commands on DB25	
Interlock	Contact closure to enable HV output	

MF GENERATOR FOR PLASMA APPLICATIONS

The BDS-MF is a 40 kHz plasma generator with max power delivery of 5 kW or 10 kW specifically designed for plasma excitation on PECVD or plasma cleaning applications.

The unit is capable of delivery up to 10 kW (or 5 kW) at 5000 V RMS output. The output is balanced type, capable to drive 2 symmetrical electrodes. Typical application is PECVD process on large process chambers. A unique features is the high voltage matching transformer built in 2 (standard) or 3 (on request) transformer taps are available as impedance matching.

User only needs to connect two coaxial cables to the electrodes. Interface with the user's PLC can be both analog or digital RS-232 or Profibus (upon request).

MF Generator for plasma application is **CE Compliant**.

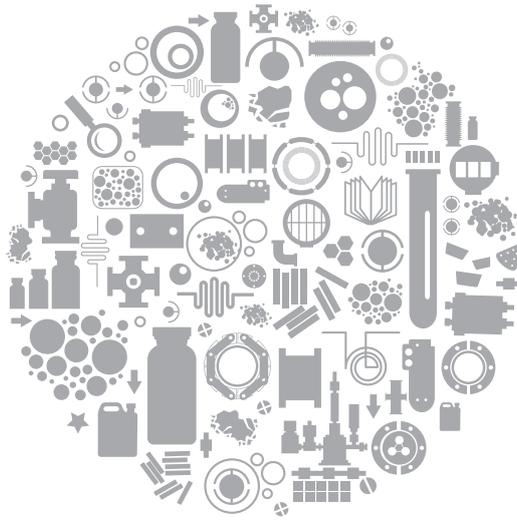


FEATURES

- Output matching transformer is built in. No external box is required.
- Air cooled unit. No risk associated with moisture or water leakage
- Full power with ambient temperature up to 40C°
- Analog interface
- Fieldbus interface available upon request
- Front panel display makes installation and troubleshooting easier
- High efficiency >90%
- Compact and lightweight construction, only 20 kg, 4UI

SPECIFICATIONS

	MF5k	MF10k
Output Load	5 kW on 2000 Ω load	10 kW on 2000 Ω load
AC Supply	3 x 400 VAC ± 10% 50 / 60 Hz, 10 A (L1, L2, L3, PE)	3 x 400 VAC ± 10% 50 / 60 Hz, 18 A (L1, L2, L3, PE)
Dimensions	19" rack style, 4UI height (177 mm) 540 mm depth	
Weight	20 kg, hard robust aluminum case	
Cooling	Forced air, high efficiency heat sinks operate up to 40°C ambient temperature	
Output voltage	Up to 5000 V (7000 V as option) on tap2 at 2000 Ohm load	
Output current	Up to 3,5 A on tap1, Up to 2,5 A on tap2	
Output Connection	Balanced 2 x Fischer 105 connectors for RG214/U coaxial cable	
Ignition voltage	Greater than 5500 Vrms	
Arc detection	Based on primary overcurrent, 1 microsecond reaction time	
User interface	DB25 connector, analog signal 10V, digital 24V pinout compatible with Advanced Energy PEII® RS232 or Profibus (optional)	
Front panel	LCD display 2x40 characters highly readable	
Protection	Overcurrent, open load, arcs, mains under voltage, over-temperature	
Measurement	RMS voltage, RMS current, active power delivered	
Regulation	Power regulation mode	
HV transformer	Built in 2 taps 1000 Ω, 2000 Ω	
Designation	CE Declaration of conformity available upon request	



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