

IBF ELECTRONIC GMBH & CO. KG

Company Profile



IBF Electronic offers a complete line of industrial microwave components and products. Specialised in custom designs, for both the industrial and the plasma application market. For all industrial ISM frequencies, like 2.45 GHz, 5.8 GHz and 915 (896/922) MHz. Special design for waveguides applicators, special microwave generators for both heating and plasma are IBF Electronics power. Controlled manually or by various interfaces, or industrial bus controlled systems. We are specialized in pulsed power generators. We have more than 30 years of experience in these developments of microwave components, applicators and plasma systems.

Next to our extensive standard program our strength is in the development of new and custom devices and generators.

Generators with power levels from 100watt up to 120kW.

Almost all generators or microwave components and plasma systems are available in component sets, for easy construction at OEM systems.

Our flexibility and design experience is known world-wide.

Of course, also magnetrons and electron tubes are available as well as spares for all types of generators .

We are the competent partner for research institutes and universities, in the development and manufacturing of special or standard systems.

Please contact us for additional information or specifications.



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Your partner in Microwave & Plasma professional solutions

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Version: June 2020



MICROWAVE GENERATOR 1.2KW CW/3KW PULSE PGEN2450/1.2-3KW7AIW

Features:

- 1.2 kW cw / 3 kW pulse output microwave generator at 2.45 GHz
- With inductive power supply and seprate magnetron head

Specifications:

Power supply	
Design/Dimensions (W x H x D)	19" slide-in chassis, approx. 482 x 266 x 260 mm
Power supply	Inductive power supply with electron tube amplifier
Cooling	Air cooling
Frequency	2450 MHz
Ripple	< 10%
Cw power set value range	120 - 1200 W
Pulse power set value range	120 - 3000 W
Average power maximum	1.2 kW
Operating modes	Continuous wave (cw), pulsed operation
Pulse source	Internal or external
Pulse times (range 1)	Pulse duration: 20µs - 10ms (@resolution 20µm) Pause duration: 20µs - 100ms (@resolution 20µs)
Pulse times (range 2)	Pulse duration: 100µs - 10ms (@resolution 0.1ms) Pause duration: 100µs - 1000ms (@resolution 0.1ms)
External pulse synchronization	Rectangular signal 0 V low-level / 24 V high-level
External pulse sync. range	Up to 25 kHz
Reflected power	Measurem. at waterload, calibrated at 30% of full load
Line voltage	380 V ±5% @ 50 Hz, 3 phases, PE 220 V ±5% @ 50 Hz, neutral, PE
Current per line phase	< 8 A (≈ 4 A @ 1.2 kW cw)
Control interface	CAN-bus, spec. 2.0 A (11 bit identifier)
Baudrate	100 kBit/s
Operating temperature	+10 to +40 °C, < 50% humidity



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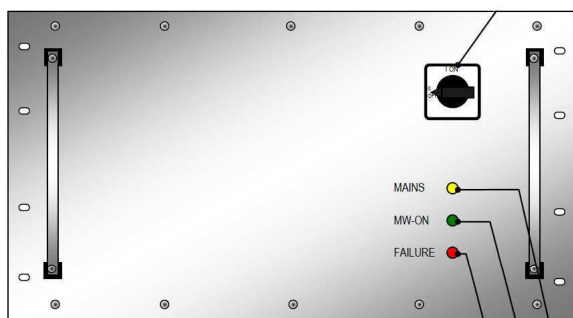
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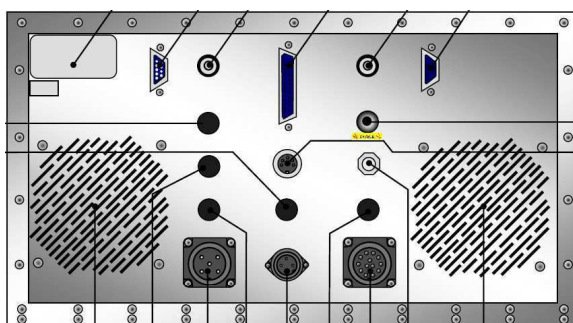
Specifications:

Microwave head	
Magnetron type	IBF1.2KW-WC
Cooling	Air and water cooling (22-25 °C cooling temp. recom.)
Water flow threshold	3.8 l/min
Temperature switch threshold	+70 °C (@magnetron chassis)
Isolator	Integral in isolauncher
Waveguide	WR340/R26
Dimensions (W x H x D)	Approx. 225 x 230 x 325 mm
Reflected power detector	IDM213
Reflected power supervisory	Via microwave detector, connected to power supply

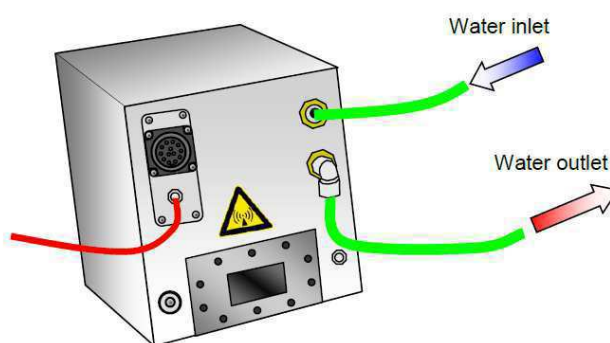
Drawings:



Power supply front panel



Power supply rear panel



Magnetron head



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MICROWAVE GENERATOR 1.2KW CW/3KW PULSE PGEN2450/1.2-3KW2AIW

Features:

- 1.2 kW cw / 3 kW pulse output microwave generator at 2.45 GHz
- With inductive power supply and seprate magnetron head

Specifications:

Power supply	
Design/Dimensions (W x H x D)	19" slide-in chassis, approx. 482 x 266 x 260 mm
Power supply	Inductive power supply with electron tube amplifier
Cooling	Air cooling
Frequency	2450 MHz
Ripple	< 10%
Cw power set value range	120 - 1200 W
Pulse power set value range	120 - 3000 W
Average power maximum	1.2 kW
Operating modes	Continuous wave (cw), pulsed operation
Pulse source	Internal or external
Pulse times (range 1)	Pulse duration: 20µs - 10ms (@resolution 20µm) Pause duration: 20µs - 100ms (@resolution 20µs)
Pulse times (range 2)	Pulse duration: 100µs - 10ms (@resolution 0.1ms) Pause duration: 100µs - 1000ms (@resolution 0.1ms)
External pulse synchronization	Rectangular signal 0 V low-level / 24 V high-level
External pulse sync. range	Up to 25 kHz
Reflected power	Measurem. at waterload, calibrated at 30% of full load
Line voltage	400 V ±5% @ 50 Hz, 3 phases, PE 230 V ±5% @ 50 Hz, neutral, PE
Current per line phase	< 8 A (≈ 4 A @ 1.2 kW cw)
Control interface	CAN-bus, spec. 2.0 A (11 bit identifier)
Baudrate	100 kBit/s
Operating temperature	+10 to +40 °C, < 50% humidity



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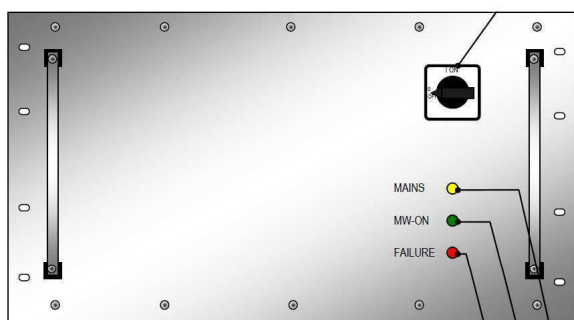
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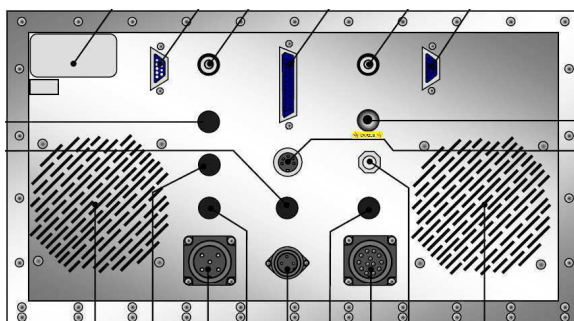
Specifications:

Microwave head	
Magnetron type	IBF1.2KW-WC
Cooling	Air and water cooling (22-25° C cooling temp. recom.)
Water flow threshold	3.8 l/min
Temperature switch threshold	+70 °C (@magnetron chassis)
Isolator	Integral in isolauncher
Waveguide	WR340/R26
Dimensions (W x H x D)	Approx. 225 x 230 x 325 mm
Reflected power detector	IDM213
Reflected power supervisory	Via microwave detector, connected to power supply

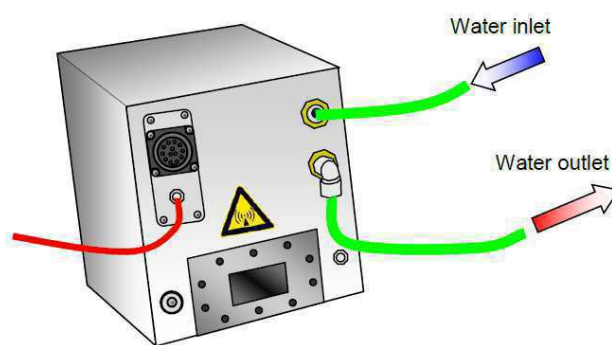
Drawings:



Power supply front panel



Power supply rear panel



Magnetron head



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MICROWAVE GENERATOR 6KW

GEN2450/6KW2CIW

Features:

- 6 kW microwave generator at 2.45 GHz
- With inductive power supply and seprate magnetron head

Specifications:

Frequency	2450 MHz
Hf-Output Power	6 kW, adjustable 10 - 100%
Ripple	< 5%
Power supply	
Dimension	19" rack mounting 7 HU height 675 mm depth
Power control	Controlling by e-magnet
Power supply	Inductive
Cooling	Air cooled
Mains	3 x 400 V, 50/60 Hz < 20 A
Controlls	Optional control unit (connected via 25pol. Sub-D) PLC (connected via 25pol. Sub-D)
Microwave head	
Magnetron	YJ1600
Cooling	Air and water cooling
Isolator	WR340ISOLATOR006SA
Waveguide	R26
Protection	Arc, water- and air flow
Dimensions (HxWxD)	Approx. 255x308x576 mm



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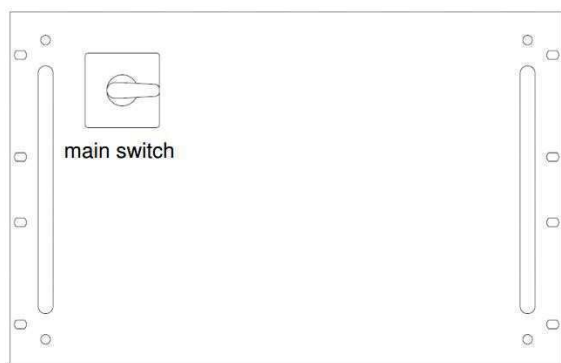
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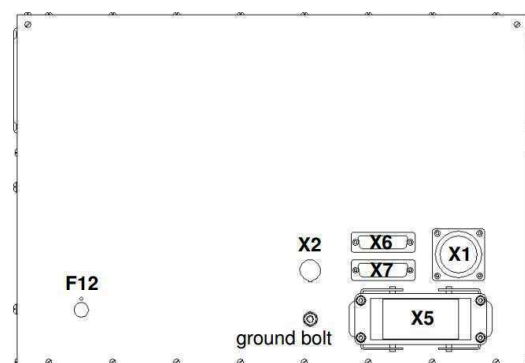
Specifications:

Control unit (optional)	
Dimensions	19" rack mounting 2 HU height
Mains	From power supply

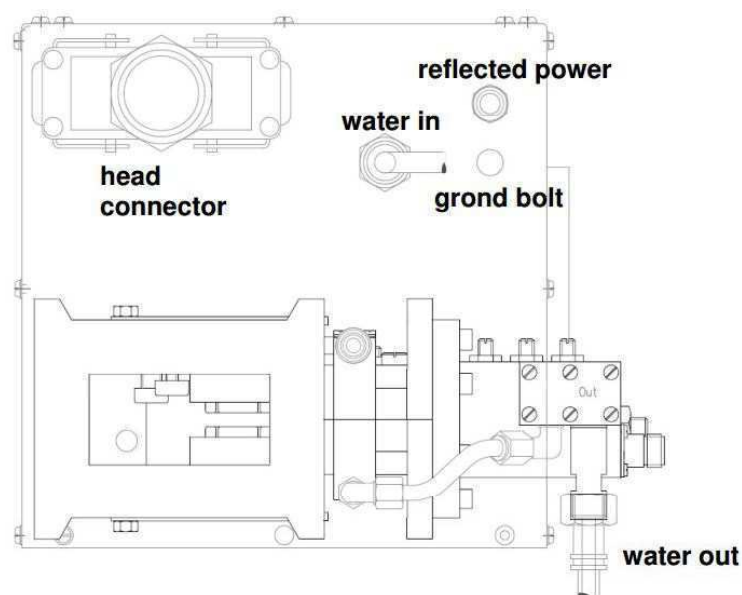
Drawings:



Power supply front panel



Power supply rear panel



Magnetron head



Controller front panel



Controller rear panel



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MICROWAVE GENERATOR 6KW

GEN915/6KW2AIW01

Features:

- 6 kW microwave generator at 915 MHz
- With inductive power supply and seprate magnetron head

Specifications:

Frequency	915 MHz
Hf-Output Power	6 kW cw, adjustable 10 - 100%
Ripple	< 5%
Power supply	
Dimension	19" rack mounting 7 HU height 675 mm depth
Power control	Controlling by e-magnet
Power supply	Inductive
Cooling	Air cooled
Mains	3 x 400 V, 50/60 Hz; others on request < 25 A
Controlls	Optional control unit (connected via 25pol. Sub-D) PLC (connected via 25pol. Sub-D)
Microwave head	
Magnetron	NL10257, CK-147
Cooling	Air- and water cooling
Waveguide	R9
Circulator	WR975CIRCULATOR005SA
Water load	WR975WLOAD030SA
Protection	Arc, water- and air flow
Dimensions (HxWxL)	Approx. 800x500x1100 mm (w/o circ. & w.load)



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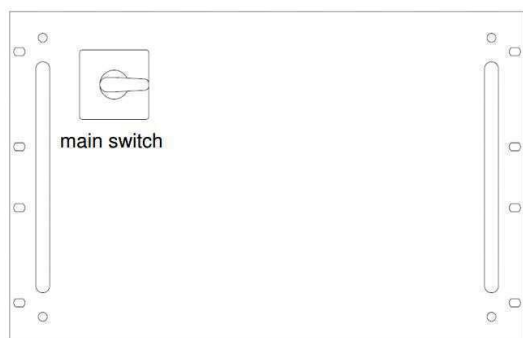
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Specifications:

Control unit (optional)	
Dimensions	19" rack mounting 2 HU height
Mains	From power supply

Drawings:



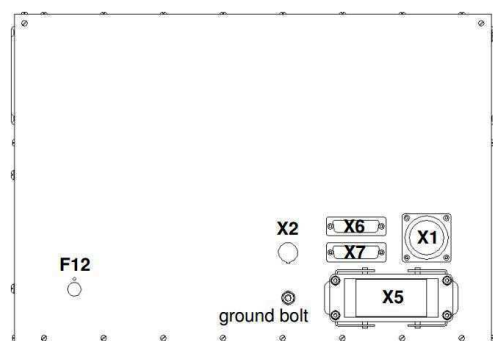
Power supply front panel



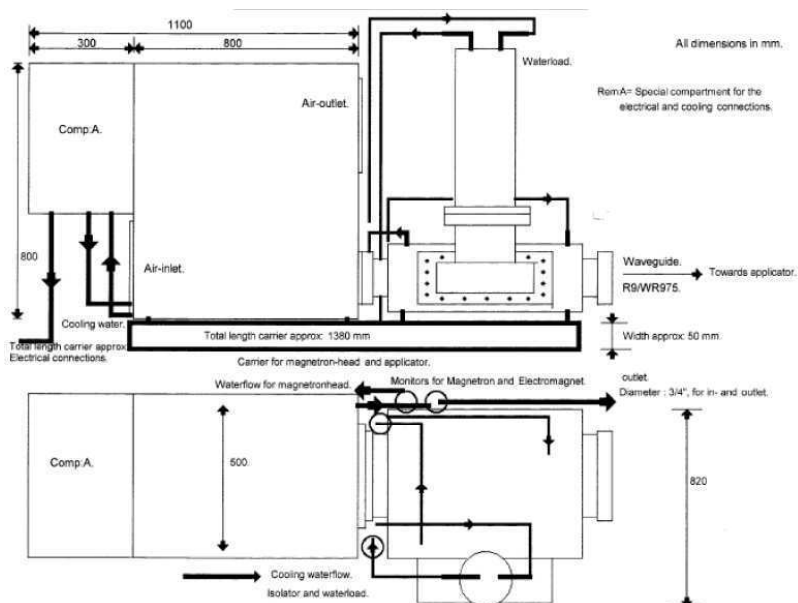
Controller front panel



Controller rear panel



Power supply rear panel



Magnetron head



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SWITCHING POWER SUPPLY 1 KW

SUP2450/1.0KW5CSA01

Features:

- Power supply for 1 kW magnetron
- Recognizes too small or too big output-voltage and output-current
- Observes temperature and internal-voltage of power supply
- Detects short-circuit on output



Specifications:

Input voltage	200 - 265 V AC, 47 - 63 Hz, 1 phase
Input current	< 7 A rms @ 230 V AC @ full load
Harmonic Distortion	Meets EN 61000-3-2 for class A
Power factor	$\cos \phi > 0.95$ @ load from 5% to 100% of full load
Transient overvoltage	Meets EN 61000-4-4 for class B
EMI filtering	Meets EN 55022 for class B
Input Protection	AC line fuse: F 8 A, 250 V AC, 5x20 mm, IEC 60127-2-2
Output power	1450 W
Output current	330 - 365 mA, output current regulation
Output current ripple	100%
Output polarity	-4000 V to -4500 V, negative in respect to ground potential
Suggested magnetron type	Waveguide R26/WR340, 2M244 or 2M246 (1 kW)
Preheating time	Magnetron heating not included
Auxiliary Power	24 V DC, 0.25 A supply for logic and fan



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Dimensional Drawings (in mm):



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POWER SUPPLY 1 KW

SUP2450/1.0KW5CSA02

Features:

- Power supply for 1 kW magnetron



Specifications:

Input voltage	180 - 264 V AC, 47 - 63 Hz
Normal input voltage	200 - 240 V AC
Max. input current	< 10 A @ full load
Leakage current	< 0.5 mA @ 240 V AC input
Regulation input power	500 - 1600 W (220 V AC)
Rated anode output HV	4200 V DC
Rated anode output current	360 mA
Rated filament voltage	3.3 V
Rated Filament current	10 A
AC rms over voltage protection	275 V AC
AC rms under voltage protection	165 V AC
AC over current protection	10 A
Over temperature protection	88 °C
Arcing Protection	Yes
Operating temperature	-20 °C to +50 °C
Storage temperature	-40 °C to +85 °C



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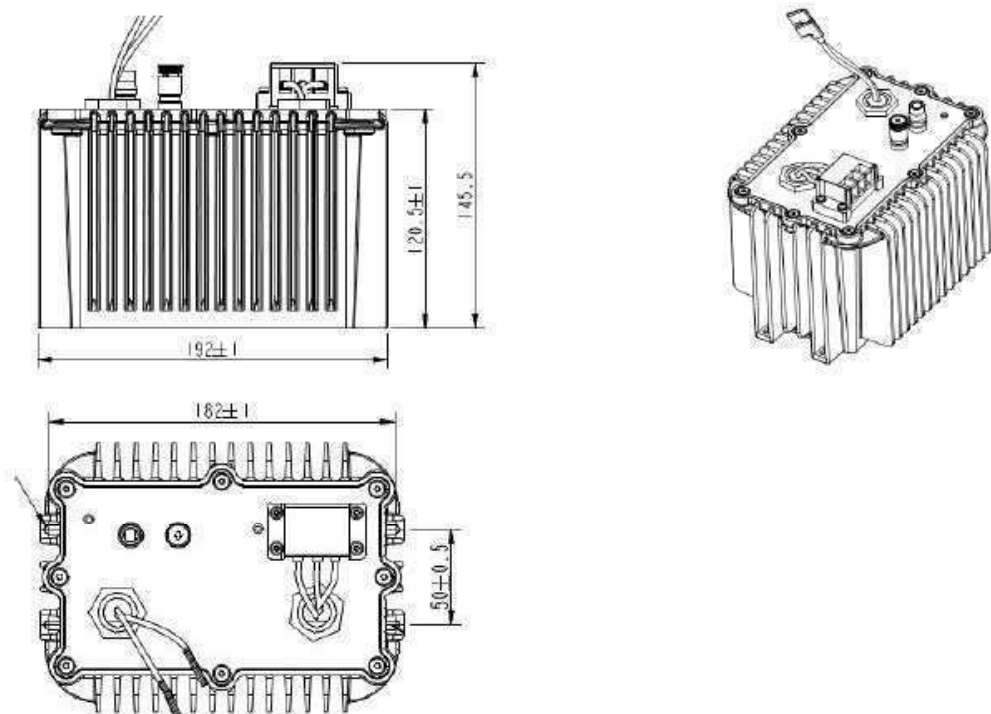
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Dimensional Drawings (in mm):



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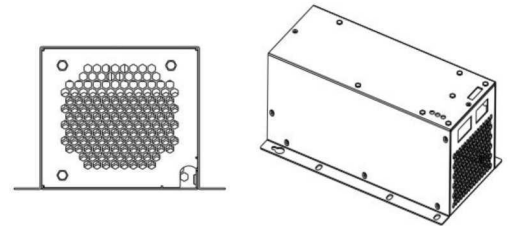
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POWER SUPPLY

SUP2450/1.0KW5CSA03

Features:

- Power supply for 1 kW magnetron



Specifications:

Input voltage range	180 - 264 Vac
Typical voltage range	200 - 240 Vac
Frequency range	47 - 63 Hz
Max. input ac current	10 A max. @ full load condition
Leakage current	< 0.5 mA @ 240 Vac input
Typical input power	300 - 1100 W (input 0 - 5 V)
Max. endure input voltage	300 Vac
Output anode HV (typ.)	4200 Vdc
Anode output current	335 mA
Filament voltage	3.3 V
Filament current	10 A
Arcing protection	Yes
Fan speed protection	Yes
Operating temperature	-20 to +50 °C
Storage temperature	-40 to +85 °C
Operating humidity	10 - 90% RH (non-condensing)
Storage humidity	5 - 95% RH (non-condensing)
Operating altitude	-60 to 3000 m
Storage altitude	Up to 5000 m
Cooling	Forced air
Weight	1,85 kg



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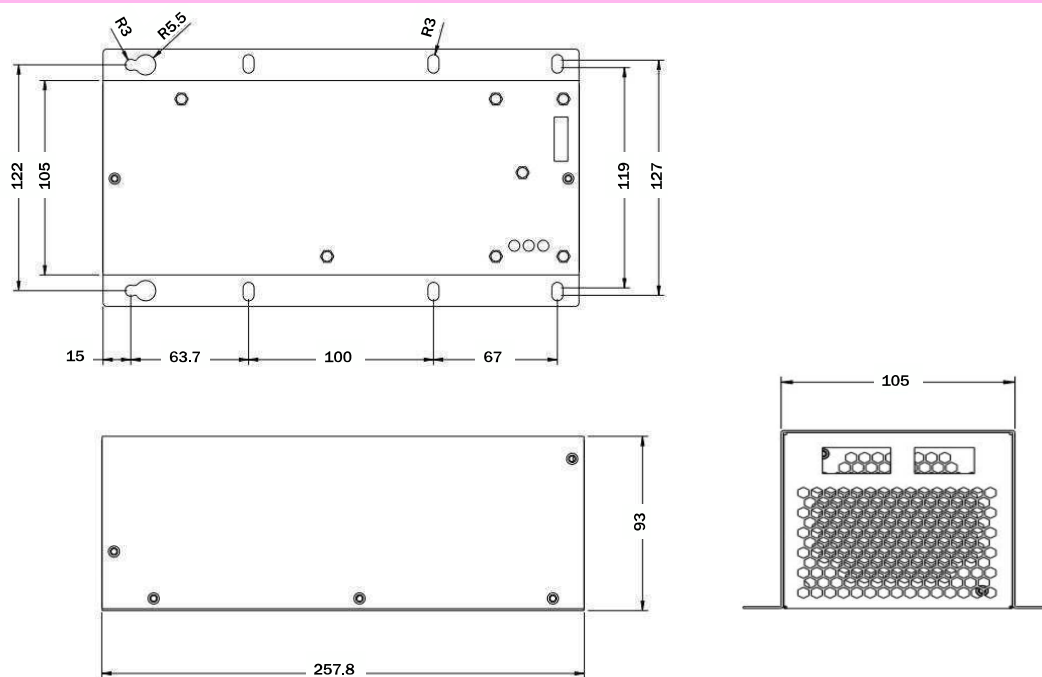
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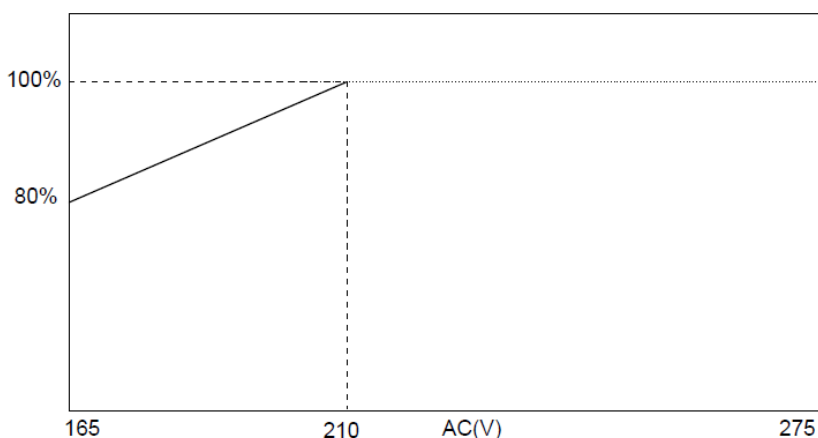
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Dimensional Drawings (in mm):



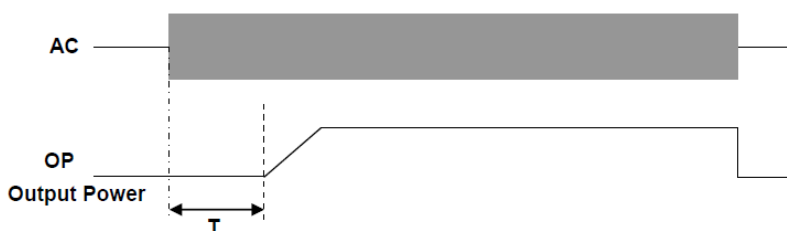
Characteristics:



Above: AC Voltage VS Output Power

Below: Power On Sequence

System power ON	Min. (ms)	Typ. (ms)	Max. (ms)
Time T	700	2500	5000



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SWITCHING POWER SUPPLY 1.2 KW

SUP2450/1.2KW5CSA01

Features:

- Power supply for 1.2 kW magnetron
- Recognizes too small or too big output-voltage and output-current
- Observes temperature and internal-voltage of power supply
- Detects short-circuit on output



Specifications:

Input voltage	200 - 265 V AC, 47 - 63 Hz, 1 phase
Input current	< 9 A rms @ 230 V AC @ full load
Harmonic Distortion	Meets EN 61000-3-2 for class A
Power factor	$\cos \phi > 0.98$ @ load from 5% to 100% of full load
Transient overvoltage	Meets EN 61000-4-4 for class B
EMI filtering	Meets EN 55022 for class B
Input Protection	AC line fuse: F 10 A, 250 V AC, 5x20 mm, IEC 60127-2-2
Output power	1800 W
Output current	440 mA, output current regulation
Output current ripple	100%
Output polarity	-4500 V negative in respect to ground potential
Suggested magnetron type	Waveguide R26/WR340, 2M137 (1.2 kW)
Preheating time	Magnetron heating not included
Auxiliary Power	24 V DC, 0.45 A supply for logic and fan



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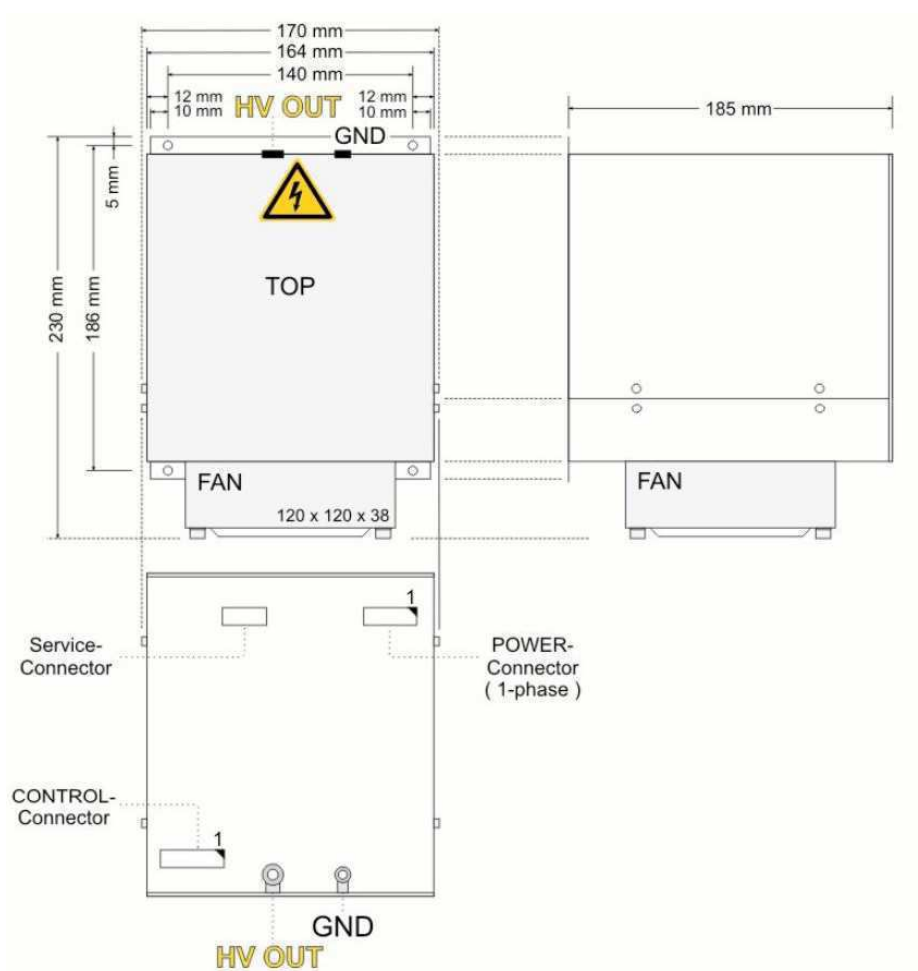
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Specifications:

Output current signal	0 - 10 V ($R_i = 1 \text{ k}\Omega$) for load current 0 - 100%
Output voltage signal	Optional
Use	Indoor use only
Temperature	10 - 40 °C
Dimensions L x W x H	170 mm x 230 mm x 185 mm
Weight	Ca. 2.8 kg

Dimensional Drawings (in mm):



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SWITCHING POWER SUPPLY 2 KW

SUP2450/2.0KW5CSA02

Features:

- Power supply for 2 kW magnetron
- Recognizes too small or too big output-voltage and output-current
- Observes temperature and internal-voltage of power supply
- Detects short-circuit on output



Specifications:

Input voltage	200 - 265 V AC, 47 - 63 Hz, 1 or 2 phases
Input current	< 7 A rms @ 230 V AC @ full load
Harmonic Distortion	Meets EN 61000-3-2 for class A
Power factor	$\cos \phi > 0.95$ @ load from 5% to 100% of full load
Transient overvoltage	Meets EN 61000-4-4 for class B
EMI filtering	Meets EN 55022 for class B
Input Protection	AC line fuse: F 8 A, 250 V AC, 5x20 mm, IEC 60127-2-2
Output power	1450 W
Output current	330 - 365 mA, output current regulation
Output current ripple	100%
Output polarity	-4000 V to -4500 V, negative in respect to ground potential
Suggested magnetron type	Waveguide R26/WR340, 2M259 (2 kW)
Preheating time	Magnetron heating not included
Auxiliary Power	24 V DC, 0.25 A supply for logic and fan



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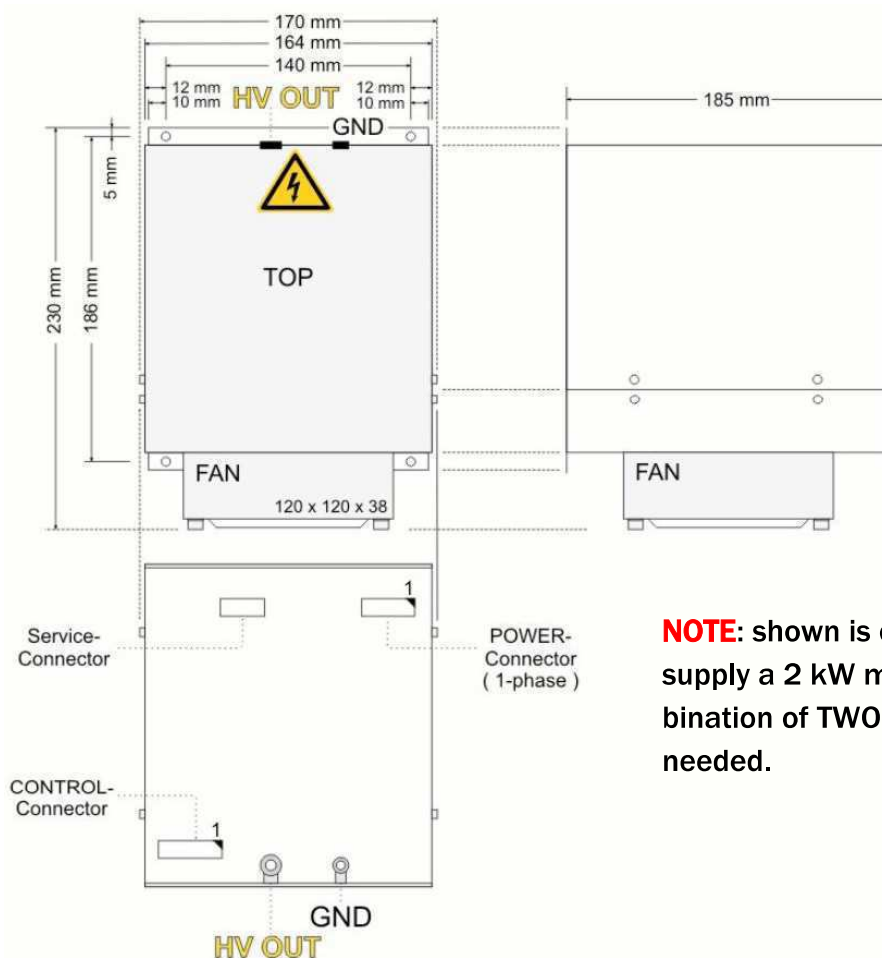
Version: April 2017, AF



Specifications:

Output current signal	0 - 10 V ($R_i = 1 \text{ k}\Omega$) for load current 0 - 100%
Output voltage signal	Optional
Use	Indoor use only
Temperature	10 - 40 °C
Dimensions L x W x H	170 mm x 230 mm x 185 mm (NOTE: dimensions only for one unit, for 2 kW magnetron combination of TWO units needed)
Weight	Ca. 2.8 kg each unit

Dimensional Drawings (in mm):



NOTE: shown is only ONE unit. To supply a 2 kW magnetron a combination of TWO separate units is needed.



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SWITCHING POWER SUPPLY 3 KW

SUP2450/3.0KW2CSA03

Features:

- Power supply for 3 kW magnetron
- Recognizes too small or too big output-voltage and output-current
- Observes temperature and internal-voltage of power supply
- Detects short-circuit on output



Specifications:

Input voltage	200 - 265 V AC, 47 - 63 Hz, 3 phases (400 V +N)
Input current	< 7 A rms @ 230 V AC @ full load
Harmonic Distortion	Meets EN 61000-3-2 for class A
Power factor	$\cos \phi > 0.95$ @ load from 5% to 100% of full load
Transient overvoltage	Meets EN 61000-4-4 for class B
EMI filtering	Meets EN 55022 for class B
Input Protection	AC line fuse: F 8 A, 250 V AC, 5x20 mm, IEC 60127-2-2
Output power	1450 W
Output current	280 - 330 mA, output current regulation
Output current ripple	100%
Output polarity	-4500 V to -5100 V, negative in respect to ground potential
Suggested magnetron type	Waveguide R26/WR340, 2M265 or 2M266 (3 kW)
Preheating time	Magnetron heating not included
Auxiliary Power	24 V DC, 0.25 A supply for logic and fan



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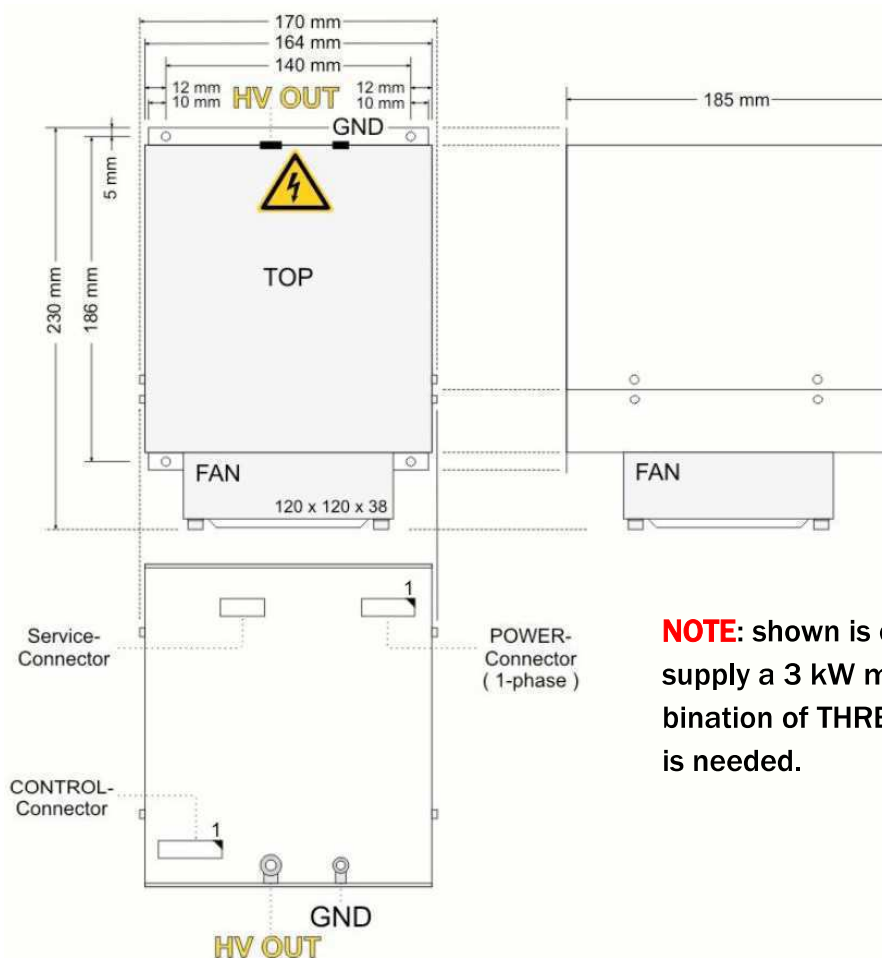
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Specifications:

Output current signal	0 - 10 V ($R_i = 1 \text{ k}\Omega$) for load current 0 - 100%
Output voltage signal	Optional
Use	Indoor use only
Temperature	10 - 40 °C
Dimensions L x W x H	170 mm x 230 mm x 185 mm (NOTE: dimensions only for one unit, for 3 kW magnetron combination of THREE units needed)
Weight	Ca. 2.8 kg each unit

Dimensional Drawings (in mm):



NOTE: shown is only ONE unit. To supply a 3 kW magnetron a combination of THREE separate units is needed.



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Version: April 2017, AF

SWITCHING MODE POWER SUPPLY 2 KW

PSUP2450/2.0-4.0KW2CSW01/02

Features:

- Single pulsed magnetron power supply for 2 kW magnetrons at 2.45 GHz
- Optional without heat-regulation (PSUP2450/2.0-4.0KW2CSW01) or with heat-regulation (PSUP2450/2.0-4.0KW2CSW02)



Specifications:

Dimensions (LxWxH)	503x486x132.5 mm 19" rack (plug-in-case) 3 rack-units height
Weight (approx.)	13 kg
Suggested magnetron type	Waveguide R26/WR340
Preheating time	Magnetron heating-time included
Use	INDOOR USE only
Environmental temperature	5 - 40 °C
Input voltage	3 x 400 V~ ±10%, 47 - 63 Hz, 3 phase
Input current	< 5 A rms, phase at full load
Input protection	3-phase-Fuse must be provided externally: 3-ph-Fuse 10 A T (time lag), 400 V~
Input (auxiliary) voltage	1 x 230 V~ ±10%, 47 - 63 Hz, 1 phase
Input current	< 2 A rms at 230 V _{AC} at full load
Input protection	1-ph-Fuse/automatic circuit breaker implemented in device, positioned on back-side: 1-ph-Fuse 2 A T (time lag), 230 V~



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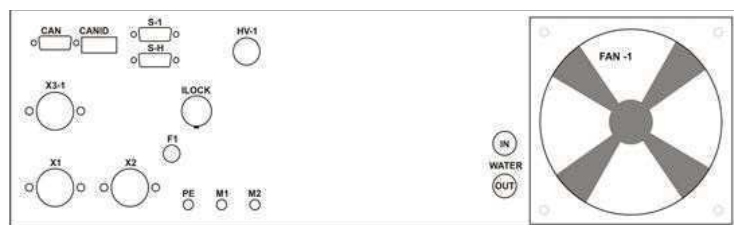
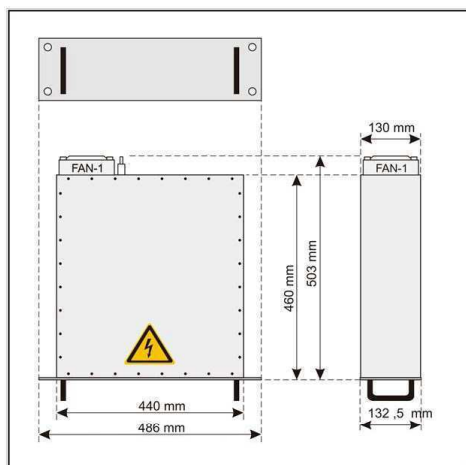
Version: June 2018, AF



Specifications:

Auxiliary power	24 V _{DC} , 50 mA output Magnetron-Head-1 conn. 24 V _{DC} , 50 mA output ILOCK/HV-ON conn.
Output power	1 x 3.0 kW (magnetron input power at max. CW) 1 x 2.0 kW HF-power continuous
Output current	Output current regulation 1 x 50 - 725 mA (725 mA at continuous 2 kW HF-power) 1 x 50 - 1450 mA (1450 mA at pulse-peak 4 kW HF-power)
Output current ripple	Standard ripple
Output polarity	-3800 to -4200 V, negative in respect to ground potential
Harmonic distortion	Meets EN 61000-3-2 for class A
Transient overvoltage	Meets EN 61000-4-4 for class B
EMI filtering	Meets EN 55022 for class B
Output current signal	POWER-OUT over CAN-Status - message
Output voltage signal	POWER-OUT over CAN-Status - message

Dimensional Drawings (in mm):



Back-side



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Version: June 2018, AF

SWITCHING MODE POWER SUPPLY 3 KW

PSUP2450/3.0-4.5KW2CSW02

Features:

- Single pulsed magnetron power supply for 3 kW magnetrons at 2.45 GHz
- With heat-regulation



Specifications:

Dimensions without/with handhold (LxWxH)	508/548x483/483x132.5/132.5 mm 19" rack (plug-in-case) 3 rack-units height
Weight (approx.)	15.5 kg
Suggested magnetron type	Waveguide R26/WR340
Preheating time	Magnetron heating-time included
Use	INDOOR USE only
Environmental temperature	5 - 40 °C
Input voltage	3 x 400 V~ ±10%, 47 - 63 Hz, 3 phase
Input current	< 7.5 A rms, phase at full load
Input protection	3-phase-Fuse must be provided externally: 3-ph-Fuse 10 A T (time lag), 400 V~
Input (auxiliary) voltage	1 x 230 V~ ±10%, 47 - 63 Hz, 1 phase
Input current	< 2 A rms at 230 V _{AC} at full load
Input protection	1-ph-Fuse/automatic circuit breaker implemented in device, positioned on back-side: 1-ph-Fuse 2 A T (time lag), 230 V~



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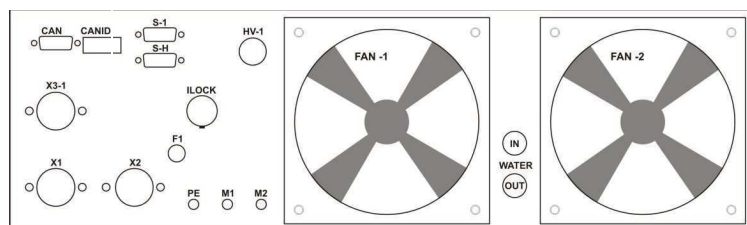
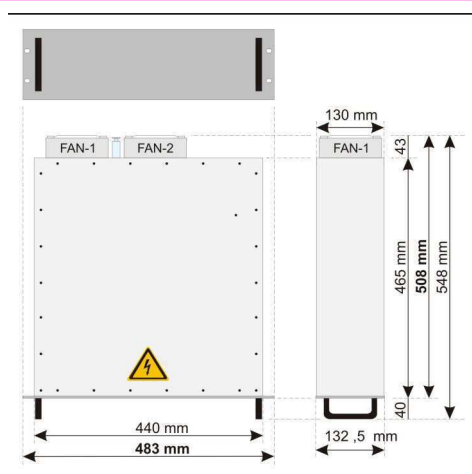
Version: April 2017, AF



Specifications:

Auxiliary power	24 V _{DC} , 50 mA output Magnetron-Head-1 conn. 24 V _{DC} , 50 mA output ILOCK/HV-ON conn.
Output power	1 x 4.6 kW (magnetron input power at max. CW) 1 x 3.0 kW HF-power continuous
Output current	Output current regulation 1 x 50 - 900 mA (900 mA at continuous 3 kW HF-power) 1 x 50 - 1350 mA (1350 mA at pulse-peak 4.5 kW HF-power)
Output current ripple	Standard ripple
Output polarity	-4900 to -5300 V, negative in respect to ground potential
Harmonic distortion	Meets EN 61000-3-2 for class A
Transient overvoltage	Meets EN 61000-4-4 for class B
EMI filtering	Meets EN 55022 for class B
Output current signal	POWER-OUT over CAN-Status - message
Output voltage signal	POWER-OUT over CAN-Status - message

Dimensional Drawings (in mm):



Back-side



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Version: April 2017, AF

SWITCHING MODE DUAL POWER SUPPLY 2 KW

DPSUP2450/2.0-4.0KW2CSW01/02

Features:

- Dual pulsed magnetron power supply for 2 kW magnetrons at 2.45 GHz
- Optional without heat-regulation (DPSUP2450/2.0-4.0KW2CSW01) or with heat-regulation (DPSUP2450/2.0-4.0KW2CSW02)



Specifications:

Dimensions (LxWxH)	503x486x132.5 mm 19" rack (plug-in-case) 3 rack-units height
Weight (approx.)	19 kg
Suggested magnetron type	Waveguide R26/WR340
Preheating time	Magnetron heating-time included
Use	INDOOR USE only
Environmental temperature	5 - 40 °C
Input voltage	3 x 400 V~ ±10%, 47 - 63 Hz, 3 phase
Input current	< 9 A rms, phase at full load
Input protection	3-phase-Fuse must be provided externally: 3-ph-Fuse 10 A T (time lag), 400 V~
Input (auxiliary) voltage	1 x 230 V~ ±10%, 47 - 63 Hz, 1 phase
Input current	< 2 A rms at 230 V _{AC} at full load
Input protection	1-ph-Fuse/automatic circuit breaker implemented in device, positioned on back-side: 1-ph-Fuse 2 A T (time lag), 230 V~



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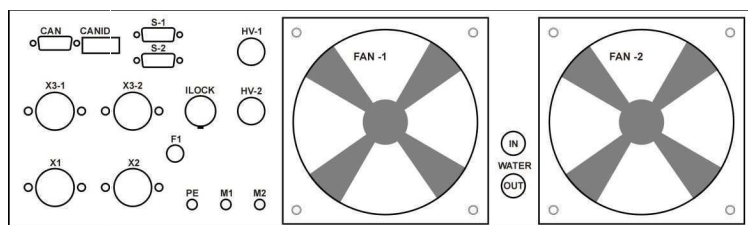
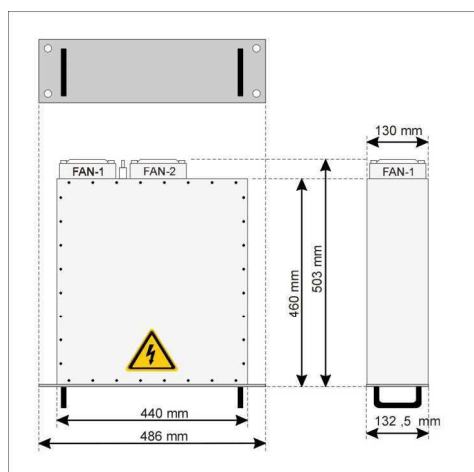
Version: April 2017, AF



Specifications:

Auxiliary power intern	24 V _{DC} , 50 mA output Magnetron-Head-1 conn. 24 V _{DC} , 50 mA output Magnetron-Head-2 conn.
Output power	2 x 2.6 kW (magnetron input power at max CW) 2 x 2.0 kW HF-power continuous
Output current	Output current regulation 2 x 50 - 725 mA (725 mA at continuous 2 kW HF-power) 2 x 50 - 1450 mA (1450 mA at pulse-peak 4 kW HF-power)
Output current ripple	Standard ripple
Output polarity	-3800 to -4200 V, negative in respect to ground potential
Harmonic distortion	Meets EN 61000-3-2 for class A
Transient overvoltage	Meets EN 61000-4-4 for class B
EMI filtering	Meets EN 55022 for class B
Output current signal	POWER-OUT over CAN-Status - message
Output voltage signal	POWER-OUT over CAN-Status - message

Dimensional Drawings (in mm):



Back-side



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SWITCHING MODE DUAL POWER SUPPLY 3 KW

DPSUP2450/3.0-4.5KW2CSW02

Features:

- Dual pulsed magnetron power supply for 3 kW magnetrons at 2.45 GHz
- With heat-regulation



Specifications:

Dimensions without/with handhold (LxWxH)	648/688x483/483x132.5/132.5 mm 19" rack (plug-in-case) 3 rack-units height
Weight (approx.)	24 kg
Suggested magnetron type	Waveguide R26/WR340
Preheating time	Magnetron heating-time included
Use	INDOOR USE only
Environmental temperature	5 - 40 °C
Input voltage	3 x 400 V~ ±10%, 47 - 63 Hz, 3 phase
Input current	< 15 A rms, phase at full load
Input protection	3-phase-Fuse must be provided externally: 3-ph-Fuse 16 A T (time lag), 400 V~
Input (auxiliary) voltage	1 x 230 V~ ±10%, 47 - 63 Hz, 1 phase
Input current	< 2 A rms at 230 V _{AC} at full load
Input protection	1-ph-Fuse/automatic circuit breaker implemented in device, positioned on back-side: 1-ph-Fuse 2 A T (time lag), 230 V~



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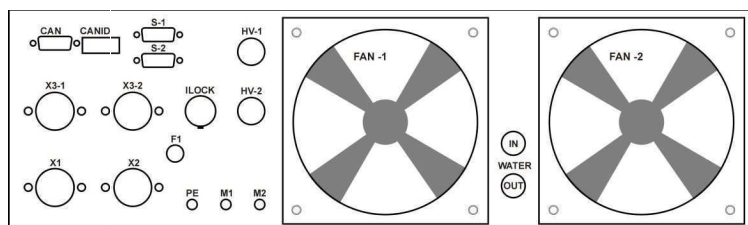
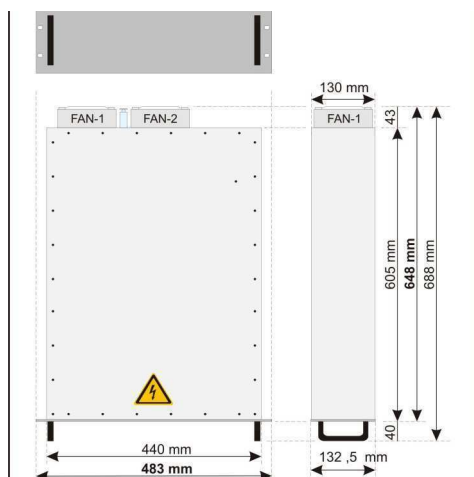
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Specifications:

Auxiliary power	24 V _{DC} , 50 mA output Magnetron-Head-1 conn. 24 V _{DC} , 50 mA output Magnetron-Head-2 conn. 24 V _{DC} , 50 mA output ILOCK/HV-ON conn.
Output power	2 x 4.6 kW (magnetron input power at max. CW) 2 x 3.0 kW HF-power continuous
Output current	Output current regulation 2 x 50 - 900 mA (900 mA at continuous 3 kW HF-power) 2 x 50 - 1350 mA (1350 mA at pulse-peak 4.5 kW HF-power)
Output current ripple	Standard ripple
Output polarity	-4900 to -5300 V, negative in respect to ground potential
Harmonic distortion	Meets EN 61000-3-2 for class A
Transient overvoltage	Meets EN 61000-4-4 for class B
EMI filtering	Meets EN 55022 for class B
Output current signal	POWER-OUT over CAN-Status - message
Output voltage signal	POWER-OUT over CAN-Status - message

Dimensional Drawings (in mm):



Back-side



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POWER SUPPLY 6 KW

SUP2450/6.0KW2CSAXX

Features:

- Only air cooling required due to high efficiency design of power supply
- Suitable for most applications due to low output ripple and long magnetron life due to stable filament control
- Seven different control options available to suit most application requirements

Specifications:

Output power	≤ 8.5 kW
Line input	400 V Also available for 208 V and 480 V
Line frequency	50/60 Hz
Efficiency	92%
Output current	≤ 1150 mA
Alarm management	Opening alarm contact, emission of a 4 bit alarm code, the alarm is latched and requires a reset procedure
Dimesions	Width, Rack: 444 mm Width, Front panel: 480 mm Height, Total: 310 mm Length, Total: 482 mm
Weight	35 kg
Cooling type	Forced air, approx. 200 m ³ /h
Working ambient temp.	≤ 40° C
Compliance	CE mark, Directive EMC and LV, through norms
Preferred Microwave Magnetron Head	MHEADCW (6 kW) or MHEADCWI (6 kW) (others if electrically compatible)



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Options:

Version Abbreviation	BASIC	BUS	DISPLAY
Version Number	0	1	2
External Control (PLC)	Yes	Possible	Yes
LED Panel Indicators	Yes	Yes	NA
Local COMmands (Manual)	NA	NA	Yes
Graphic Interface	NA	NA	Yes
Network Control	NA	Yes	NA
RS 232 Control	Yes	NA	Yes
Seperate Input for Aux Voltages	NA	NA	NA
Firmware Upgrade	Yes	Yes	Yes



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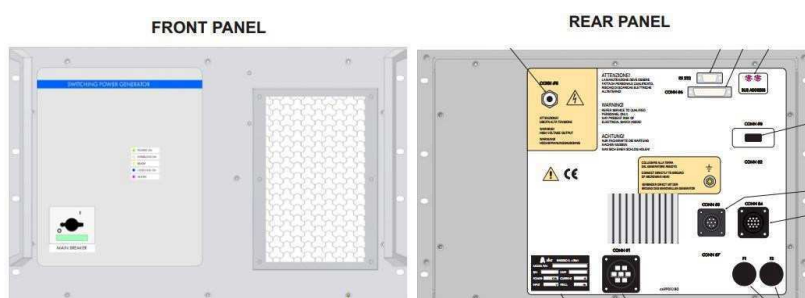
Version: April 2017, AF

SWITCHING POWER SUPPLY 10 KW

SUP2450/010KW2CA02

Features:

- Power supply for 10 kW magnetron
- With embedded microcontroller



Specifications:

Line input nominal	3 x 400 V AC
Working voltage range	360 - 440 V AC
Absolute voltage, max.	450 V AC
Input current, max.	26 A
Output power, max.	14000 W DC
Electrical efficiency (Out/In)	92%
Output current range	160 - 1600 mA
Output current, max.	1600 mA
Output voltage, max.	8800 V DC
Output ripple, max.	±4.5% at 300 Hz ±3% at 40 kHz
Output linearity	±20 W DC
Output stability	1%
Magnetron power & frequency	10 kW, 2460 MHz
Pulsability of output, min T _{ON}	100 msec



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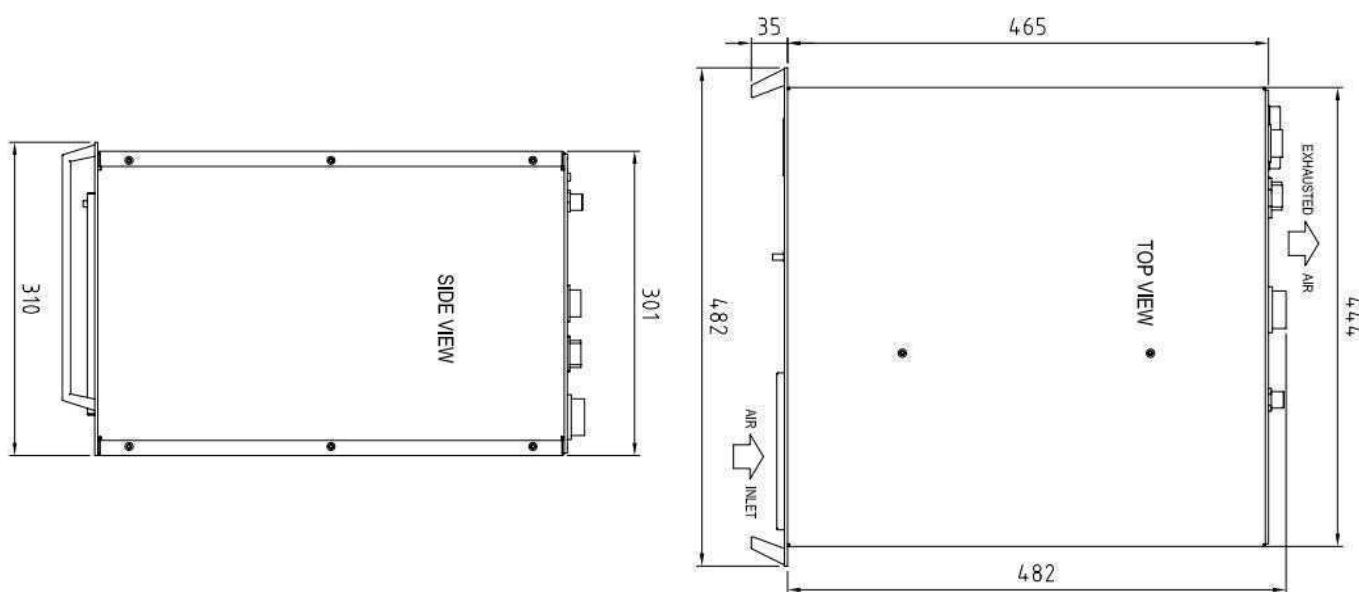
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Specifications:

Use	Indoor use only, within industrial enclosure
Working temperature range	5 - 40 °C, Min - Max
Working humidity range	80% RH up to 31 °C, decreasing linearly to 50% RH at 40 °C
Air cooling requirement, flow	200 m ³ /h input from front panel,
Total weight	40 kg
Rack dimensions:	
Panel width	480 mm
Panel height	310 mm
Length (depth)	482 mm

Dimensional Drawings (in mm):



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COMPONENTS FOR LC STABILIZED POWER SUPPLIES

Specifications:

Component Description	850 W LC Set	1.10 kW LC Set	1.25 kW LC Set	1.45 kW LC Set	2.0 kW LC Set	3.0 kW LC Set
Magnetron	2M167 2M107	2M244 2M247	2M137 YJ1540	2M262 NL10254	2M278 2M259	2M265 2M266
Waveguide Coupling	WR340LAUNCHERFA					
Isolator	WR340ISOLATOR003CA					
H.V. Transformer 230 V / 50 Hz	LT019/0877-0	LT019/0871-0	LT019/0812-0	LT019/0850-0	LT019/0840-0	LT019/0874-0
Filament Transformer 230 V / 50 Hz	FT019/0878-0	FT019/0822-0	FT019/0829-0	FT019/0851-0	FT019/0842-0	FT019/1090
H.V. Transformer 400 V / 50 Hz	LT019/0877-1	LT019/0871-1	LT019/0812-1	LT019/0850-1	LT019/0840-1	LT019/0874-1
Filament Transformer 400 V / 50 Hz	FT019/0878-1	FT019/0822-1	FT019/0829-1	FT019/0851-1	FT019/0842-1	FT019/1001
H.V. Diode	MON00050				2x MON00050	MON00055
H.V. Capacitor 1.3 μF / 50 Hz	101 546 1.03 μF / 50 Hz	101 545 1.3 μF / 50 Hz			2x 101 545	
Capacitor Mount	101 712					
Thermoswitch for Magnetron	102 486 (120 °C)				102 293 (70 °C)	
Cooling fan for air- cooled Magnetrons	G2E108-AA101			G2E120-AR77-01		Only water- cooled
Ventilation Grille	101 841			101 870		—
Capacitor	101 838 (1.5 μF)			101 839 (2.0 μF)		—
Soft-Start Relay 230 V	PSD4850 (102 081)					
Soft-Start Relay 400 V	PSD4850 (102 081)					
Relay Cover	KS100 (102 167)					
Varistor 230 V for Soft-Start Relay	RV0250 (100 338)					
Varistor 400 V for Soft-Start Relay	RV0450 (100 340)					
Supervisory Unit	MON00010				MON00011	
Measuring Resistor	RH50-15R	RH50-12R	RH50-10R	RH50-8R2		RH50-6R8
Protective Diode	MON00140					
ARC Detector	MON00020					



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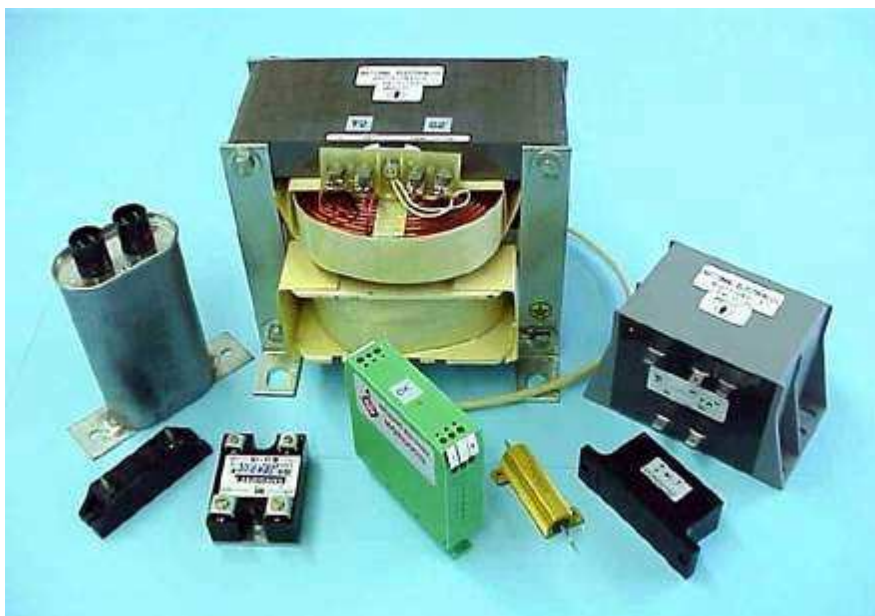
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Version: January 2019, AF



Options:

Upon request, we also supply you with transformers for other line voltages and frequencies (e.g. 110 V / 60 Hz or 208 V / 60 Hz) including the matching resonant circuit capacitors.



Component set for 1.45 kW magnetron



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COMPONENTS FOR THYRISTOR CONTROLLED POWER SUPPLIES

Specifications:

Component Description	850 W Set	1.10 kW Set	1.25 kW Set	1.45 kW Set	2.0 kW Set	3.0 kW Set
Magnetron	2M167 2M107	2M244 2M247	2M137 YJ1540	2M262 NL10254	2M278 2M259	2M265 2M266
Waveguide Coupling	WR340LAUNCHERFA					
Isolator	WR340ISOLATOR003CA					
H.V. Transformer 230 V / 50 Hz	HT019/0879-0	HT019/0872-0	HT019/0806-0	HT019/0854-0	HT019/0841-0	—
Filament Transformer 230 V / 50 Hz	FT019/0878-0	FT019/0822-0	FT019/0829-0	FT019/0851-0	FT019/0842-0	FT019/1087
H.V. Transformer 400 V / 50 Hz	HT019/0879-1	HT019/0872-1	HT019/0806-1	HT019/0854-1	HT019/0841-1	3x HT019/1000
Filament Transformer 400 V / 50 Hz	FT019/0878-1	FT019/0822-1	FT019/0829-1	FT019/0851-1	FT019/0842-1	FT019/1001
H.V. Rectifier	BV019/0846-0	BV019/0846-0	BV019/0846-0	BV019/0846-2	BV019/0846-2	2x MON00055
Anode Current Choke	CH019/0880	CH019/0873	CH019/0852	CH019/0843	CH019/0853	CH019/1002
Thermoswitch for Magnetron	331 534 (120 °C)				102 293 (70 °C)	
Cooling fan for air- cooled Magnetrons	G2E108-AA101			G2E120-AR77-01		Only water- cooled
Ventilation Grille	101 841			101 870		—
Capacitor	101 838 (1.5 µF)			101 839 (2.0 µF)		—
Thyristor Control 230 V / 50 Hz	MON01082- 230V-0.8K	MON01082- 230V-1.0K	MON01082- 230V-1.2K	MON01082- 230V-1.5K	MON01082- 230V-2.0K	PC3.0KW-230V 3x SSR-HV-230V 1x MON00900
Thyristor Control 400 V / 50 Hz	MON01082- 400V-0.8K	MON01082- 400V-1.0K	MON01082- 400V-1.2K	MON01082- 400V-1.5K	MON01082- 400V-2.0K	PC3.0KW-400V 3x SSR-HV-400V 1x MON00900
Varistor 230 V for Transformer	RV0250 (100 338)					
Varistor 400 V for Transformer	RV0450 (100 340)					
Filament Controller	—					SSR-F-230V or SSR-F-400V
ARC Detector	MON00020					



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Options:

Upon request, we also supply you with transformers and regulators for other line voltages and frequencies (e.g. 110 V / 60 Hz or 208 V / 60 Hz).



Component set for 2 kW magnetron



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MICROWAVE MAGNETRON HEADS

MHEADC SERIES CLOSED FRAME HEAD

MHEADO SERIES OPEN FRAME HEAD

PMHEADCWI CLOSED FRAME PULS HEAD

Features:

- Simple, rugged and cost effective design
- Broad portfolio of heads covering a wide range of power needs and applications
- Complete cable sets, with length on request, for an easy plug & play with our power supplies portfolio



Specifications:

TYPE	COOLING	FLANGE	FREQ (GHz)	1 kW	1.2 kW	2 kW	3 kW	6 kW	10 kW
MHEADOA	Air	R26	2.45	Yes	Yes	Yes	Yes	NA	NA
MHEADOAI	Air	R26	2.45	Yes	Yes	Yes	Yes	NA	NA
MHEADOW	Water	R26	2.45	Yes	Yes	Yes	Yes	NA	NA
MHEADOWI	Water	R26	2.45	Yes	Yes	Yes	Yes	NA	NA
MHEADCA	Air	R26	2.45	Yes	Yes	Yes	Yes	NA	NA
MHEADCAI	Air	R26	2.45	Yes	Yes	Yes	Yes	NA	NA
MHEADCW	Water	R26	2.45	Yes	Yes	Yes	Yes	Yes	Yes
MHEADCWI	Water	R26	2.45	Yes	Yes	Yes	Yes	Yes	Yes
PMHEADCWI	Water	R26	2.45	NA	Yes	Yes	Yes	NA	NA



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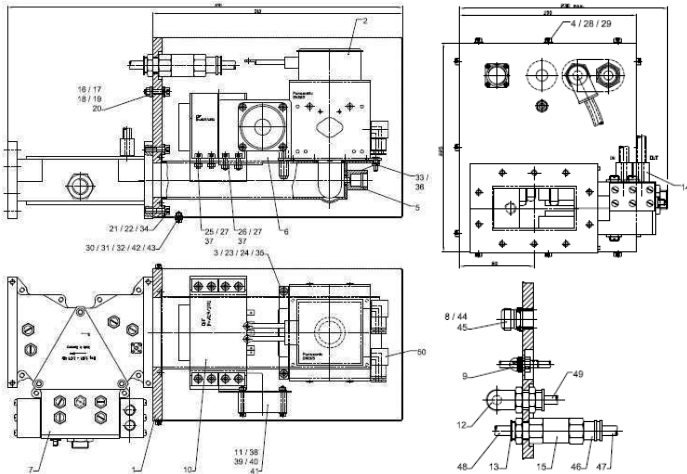
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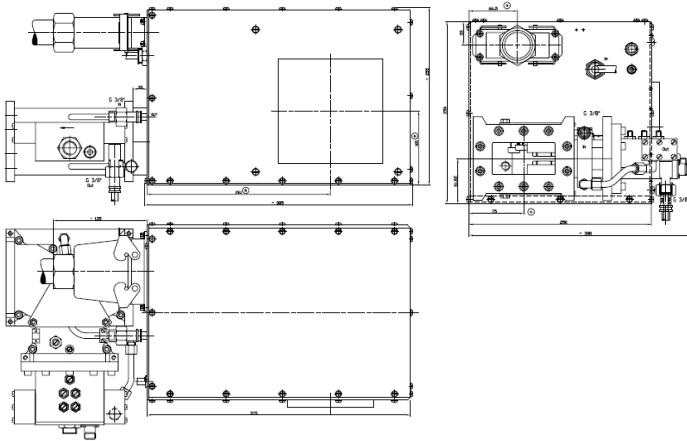
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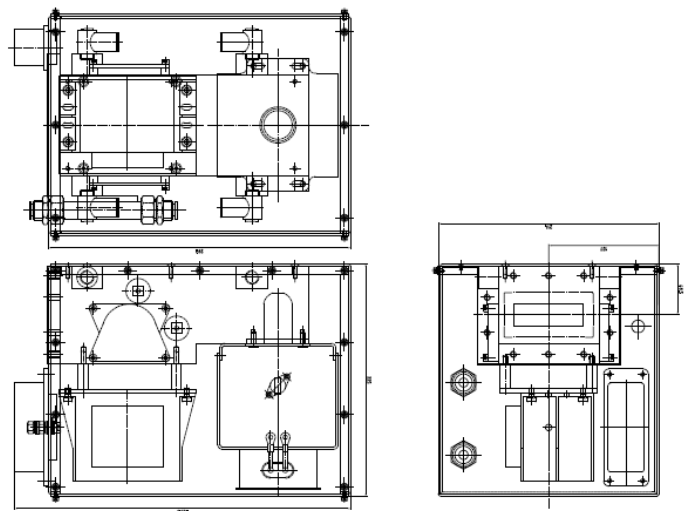
Dimensional Drawings (in mm):



Closed frame Magnetron Head up to 3 kW, water-cooled



Closed frame Magnetron Head 6 kW, water-cooled



Closed frame Magnetron Head up to 3 kW, water-cooled,
with integrated isolator

Options:

- Magnetron Head with integrated isolator (181 mm shorter than not integrated version)
- Measuring of reflected power



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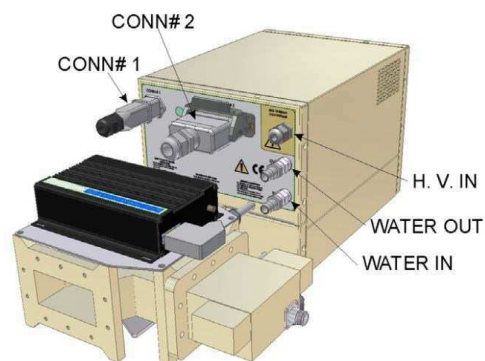
Version: August 2018, AF

MAGNETRON HEAD 10 KW

MHEAD2450/010KW5CW02

Features:

- 2.45 GHz magnetron head
- 10 kW power



Specifications:

Output flange	PDR26
Overall size (LxWxH, head only)	375x235x225 mm
Cooling system	Operating pressure: max. 5 bar Inlet temperature: 20 - 30 °C
Flow rate	> 7 L/min Use of 50 micron filtration is recommended.
Degree of protection	IP 20
Total weight	14 kg
Input voltage of filament trafo	Controlled by power supply
Lamp input	230 V AC
Load of thermoswitch contact	1 A, 250 V
Load of water flow switch contact	130 mA, 50 V
Load of microswitch contact	1 A, 250 V AC 250 mA, 250 V DC



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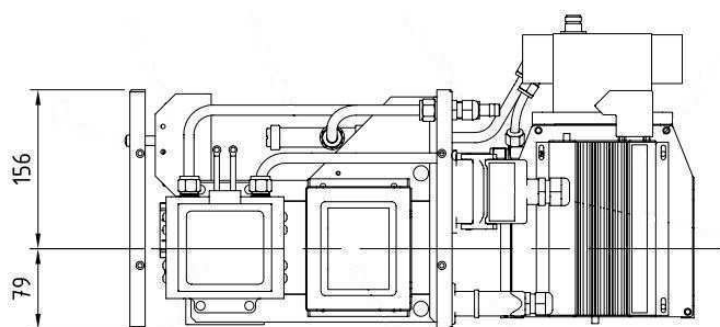
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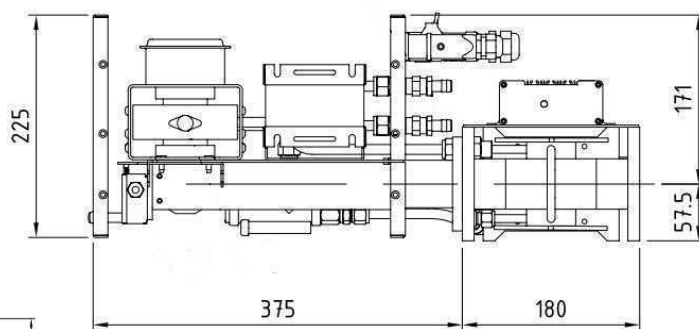
Specifications:

Use	Indoor use only
Altitude	Tested up to 2000 m
Temperature	5 - 40 °C
Relative humidity	80% for temperatures up to 31 °C, decreasing linearly to 50% RH at 40 °C
Pollution degree	2, according to IEC664

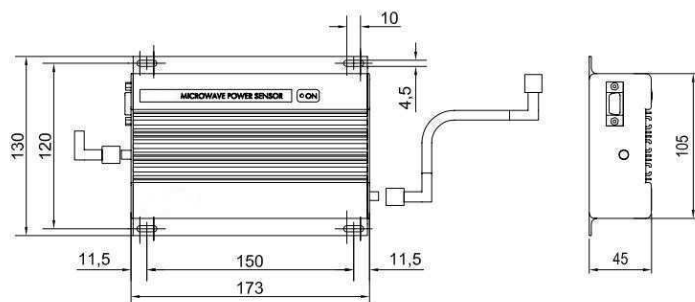
Dimensional Drawings (in mm):



Magnetron head including reflection amplifier



Magnetron head including reflection amplifier



Reflection amplifier



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