

# K-SERIES K500



RF PEAK POWER UP TO 100 MW

MODULATOR PEAK POWER UP TO 220 MW

This high-end solid-state pulse modulator is designed to handle a wide range of the largest klystrons on the market with a RF peak power from 50 MW to 100 MW. ScandiNova offers everything from a standard modulator to a turn-key RF system that includes all necessary system components from the wall socket to the accelerator, such as the klystron, diagnostics and low-level RF. Review our other pulse modulators in the modular K-Series.

SYSTEM SPECIFICATIONS	UNIT	DATA	NOTES
Klystron RF Peak Power	MW	50–100	Depends on choice of klystron
Klystron RF Average Power	kW	60	Maximum
Modulator Peak Power	MW	220	Maximum
Modulator Average Power	kW	160	Maximum
Pulse Voltage	kV	320–500	Typical range
Pulse Current	A	300–525	Typical range
Pulse Repetition Frequency Range	Hz	0–500	Typical range. Depending on max average power (see options).
Pulse Length, Top	µs	0.5–15	Typical range. Depending on max mod. power.
Flatness (Voltage)	%/µs	< 0.5	Flat top. Depending on load (see options).
Modulator Voltage Stability, RMS	%	0.01	(see options)
Cooling (incl. RF parts)	l/min	20–300	Clean water

INTERFACE	DEFAULT	OPTION
Mains Power, 3 Phase	400 VAC, 50/60 Hz	208/380/480 VAC
Mains Power, Single Phase	230 VAC, 50/60 Hz	115 VAC
Control Interface	ModBus TCP	
Water Cooling Interface In/Out	ISO G2"	
Trig Input	Electrical and Optical	
Diagnostics	Pulse Voltage and Current	See Options

#### Standard Modulator Includes

Control System (ScandiCat)  
Remote Control  
Local Control Panel  
Mains Power Distribution  
Cooling System  
Filament PS  
Klystron Socket  
Pulse Sensors  
Hard Wired Interlock System

#### Additional System Components

Low Level RF Amplifier/Generator  
Circulator & RF Loads  
Directional Coupler  
Waveguide Windows  
Vacuum PS  
Solenoid PS  
Klystron  
Extended cooling for Klystron,  
Solenoid etc.

#### Typical Klystron Loads

Thales	Toshiba
TH1801	E3712 (100 MW)
TH2104C	E3712 (80 MW)
TH2104D	E3740A
TH2104U	E3766
TH2108-1	<b>CPI</b>
TV2022B	VKP-7952C
TV2022C	VKS-8262N
TV2022D	

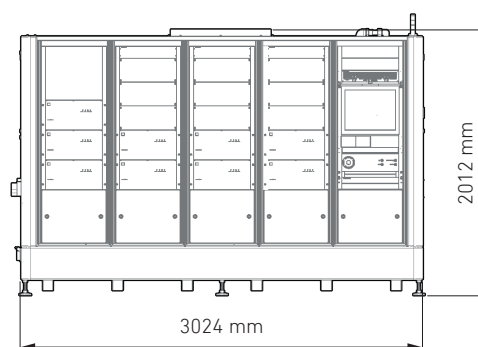
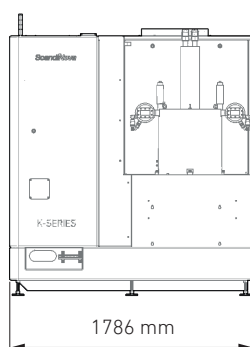
#### Options

Pulse/RF Diagnostics  
Enhanced PRF Range (up to 1000 Hz)  
Enhanced Stability (down to 0.002%)  
Enhanced Flatness (<0.25 %/µs)  
Neutron Resistant Switching

#### Size and Weight

Weight approx. 3300 kg  
(excl. oil, klystron, solenoid)  
Oil volume approx. 1100 l

*Information contained in this document*



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