ScandiNova

RF UNIT **K100**

COMPACT

FULLY EQUIPPED

UP TO 10 MW RF PEAK POWER

FOR USE IN VARIOUS RF APPLICATIONS

INTEGRATED WITH KLYSTRON

TURN KEY RF UNIT 10 MW/10 kW

ScandiNova's K100 is a turn-key Radio Frequency (RF) Unit. By combining ScandiNova's solid-state pulsed power technology with high quality klystrons from well-known manufacturers, a very compact, high performance RF Unit has been created, providing up to 10 MW RF peak power. The RF Unit is optimized for a wide range of klystrons from Canon, CPI, Thales, Toshiba, Toriy, and L3.

The K100 is fully equipped with Klystron, Solenoid, klystron accessories and supporting systems, such as Solenoid Power Supply, Ion Pump Power Supply, RF Amplifier, internal cooling system and radiation shielding. All interlocks and essential diagnostics are fully integrated, and the ScandiCAT™ control system offers a safe and easy-to-use means of controlling the RF Unit.

There are several alternatives and options available for the RF Unit, e.g. extended/premium performance, different interfaces and RF components as well as different levels of service and support programmes.

THE K-SERIES

ScandiNova's K-series contains a range of klystron based RF units with high reliability and performance, a compact design and low energy consumption.

The RF units utilize ScandiNova's unique solid-state pulsed power technology, integrated with different types of klystrons, usually operating in the RF peak power range 3-100 MW.

The RF units have extended diagnostics and features, and are easy to install and operate. They contain few consumables and require minimal maintenance.

Excellence in pulsed power
www.scandinovasystems.com

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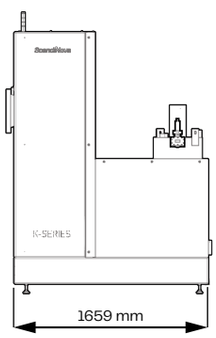
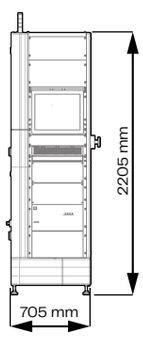
SYSTEM SPECIFICATIONS	UNIT	VALUE	NOTES
Klystron RF peak power	MW	3–10	Depends on choice of klystron
Klystron RF average power	kW	10	Maximum
RF frequency	GHz	1.3–12	L, S, C or X-band depending on klystron
RF pulse length, top	µs	0.5–10	Typical range, depends on max modulator power
Pulse repetition rate	Hz	0–500	Typical range, depends on max average power
RF phase shift	degrees	< 0.35	Measured at 200 Hz
RF pulse flatness	%	< 1	Flat top, depends on klystron
Radiation at 1 m distance	µSv/h	< 10	

INTERFACE	CONNECTOR	DEFAULT	OPTION	NOTES
Mains power, three-phase	Terminal block (4-wire)	400 VAC, 50/60 Hz	230/380/480 VAC	
Mains power, single-phase	Terminal block	230 VAC, 50/60 Hz	115 VAC	
Control interface	RJ45	Modbus TCP		100 Hz update rate
Water cooling interface	Hose 1"	66 dm^3/min, 20–30 °C	31–40 °C inlet water	Low conductivity water
Trig input	BNC	5–15 V into 50 Ω	HFBR: Optical	Pulse width can be set by trig pulse
Diagnostics	BNC	Pulse voltage & current signals		More diagnostics available via control system
RF input	SMA	Nominal input power 0 dBm		Max +15 dBm

SIZE, WEIGHT AND VOLUME	UNIT	VALUE
Total system weight	kg	1150–1450
– Modulator	kg	900
– Klystron, Solenoid and oil	kg	250–550
Total oil volume	dm^3	208

For more information, visit www.scandinovasystems.com/K100





The Standard RF Unit Includes

- Power Distribution Unit
- Capacitive Charging Power Supply
- Solid-state Switch Unit
- Pulse transformer and tank
- Water cooling manifold and flow meters diagnostics
- Filament power supply
- Local control panel (19" touch screen)
- Graphical user interface
- ScandiCAT™ control system
- Digitizer for modulator diagnostics
- RF Digitizer (FWD/RFL power/VSWR)
- Directional coupler
- Remote control via Modbus TCP
- Klystron
- Solenoid
- Solenoid Power Supply
- Ion Pump Power Supply
- RF Amplifier
- Factory acceptance test certificate
- Manuals

Options

- Internal controllable RF source
- Internal controllable phase shifter
- Neutron resistant Switch Unit
- Additional radiation shielding
- Front turned 90 ° left
- Klystron conditioning tool
- Reduced filament heating mode
- Seismic reinforcement kit

Accessories

- Circulator & RF loads
- Waveguides
- Waveguide window
- SF6 filling system and controls
- SF6 filling flange
- Spare part kit

Services

- Training in handling, operation and maintenance
- Factory acceptance test participation
- Site acceptance test
- Shipping
- Installation and start-up
- Service contract

Information contained in this document is subject to change without notice.

COMPANY WITH MANAGEMENT SYSTEM CERTIFIED BY DNV
ISO 9001 • ISO 14001

HEADQUARTERS

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