ScandiNova
Part of Nodica Group

RF UNIT K100

With Canon S-band klystron **E3772A** or **E3779B**

COMPACT

FULLY EQUIPPED

UP TO 7.5 MW RF PEAK POWER

FOR USE IN VARIOUS RF APPLICATIONS

INTEGRATED WITH CANON KLYSTRON

TURN KEY RF UNIT 7.5 MW/6&10 KW, S-BAND

ScandiNova's K100 is a turn-key Radio Frequency (RF) Unit. By combining ScandiNova's solid-state pulsed power technology with Canon's high quality klystrons, a very compact, high performance RF Unit has been created, providing up to 7.5 MW RF peak power. The RF Unit is optimized for two different Canon S-band klystrons: E3772A operating at RF frequency 2856 MHz, and E3779B operating at 2998 MHz.

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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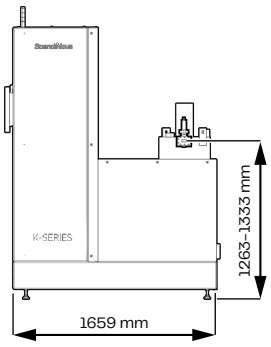
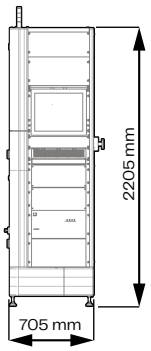
SYSTEM SPECIFICATIONS	UNIT	TYPE OF KLYSTRON E3772A	E3779B	EXTENDED	PREMIUM	NOTES
Klystron RF peak power	MW	0–7.5	0–7.5			Adjustable
Klystron RF average power	kW	0–6	0–10			Adjustable
RF frequency	MHz	2856±5	2998±5			Set by RF source
RF pulse length, top	µs	0–4	0–5			Adjustable
Pulse repetition rate	Hz	0–200	0–200	0–500	0–1000	Subject to max avg. and peak power
Voltage pulse to pulse stability	ppm	< 100	< 100	< 50	< 20	RMS 1000 consecutive pulses at < 200 Hz
RF pulse flatness	%	< ±1.5	< ±1.5	< ±1.0	< ±0.75	Measured at max peak power
Radiation at 1 m distance	µSv/h	< 10	< 10	< 5	< 2	Waveguide output value excluded

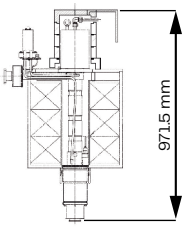
INTERFACE	CONNECTOR	DEFAULT	OPTION	NOTES
Mains power, three-phase	Terminal block (4-wire)	360–430 VAC, 50/60 Hz, 33 kVA	200–220, 420–500 VAC, 50/60 Hz	
Mains power, single-phase	Terminal block	200–240 VAC, 50/60 Hz, 2.2 kVA	100–120 VAC, 50/60 Hz	
Control interface	RJ45	Modbus TCP		100 Hz update rate
Water cooling interface	Hose 1"	66 dm³/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		Calibration according to test cert.
Waveguide output	WR-284 (CPR-284F)	SF6	Vacuum	
RF amplifier input	SMA female	Nominal input power 0 dBm		Max +15 dBm

SIZE, WEIGHT AND VOLUME	UNIT	VALUE
Total system weight	kg	1300
– Modulator	kg	900
– Klystron, Solenoid and oil	kg	400
Total oil volume	dm³	208
Minimum lifting height of Klystron	mm	appr. 2400

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







Klystron and Solenoid

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

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)
- Remote control via Modbus TCP
- Canon Klystron 7.5 MW
- Canon 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
- Signal delay generator
- Directional coupler (SF6)
- Additional radiation shielding
- Front turned 90 ° left
- Klystron conditioning tool
- Reduced filament heating mode
- Seismic reinforcement kit

Accessories

- Circulator & RF loads (SF6)
- Waveguides
- Waveguide window
- SF6 filling kit
- Spare part kit

Services

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

In collaboration with Canon Electron Tube Division

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

HEADQUARTERS

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