



RS 2048 CJC

Water-cooled tetrode for Industrial RF Heating



53 kW tetrode for CO₂ laser

Based on more than 60 years of experience in the design and manufacture of electron tubes, Thales is a long-standing partner to most leading manufacturers of CO₂ laser systems, with thousands of machines in service worldwide and tens thousands of tubes already delivered.

Thales laser tubes, the original Siemens grid-controlled triodes and tetrodes, are used in a number of different industrial applications where reliability and performance are the key selection criteria. Typical applications are cutting and welding used for very high precision operations mainly in sheet metal fabrication and automotive industry.

The RS 2048 CJC tetrode, intended for CO₂ laser applications, is equipped with the pyrolytic graphite grid which offer better reliability and longer operating life in high-power systems. This water-cooled tetrode uses a coaxial design and metal-ceramic technology. It is a very powerful tube regarding its compact size. It delivers continuous RF power of 53 kW for laser power between 5000 and 7000 W.

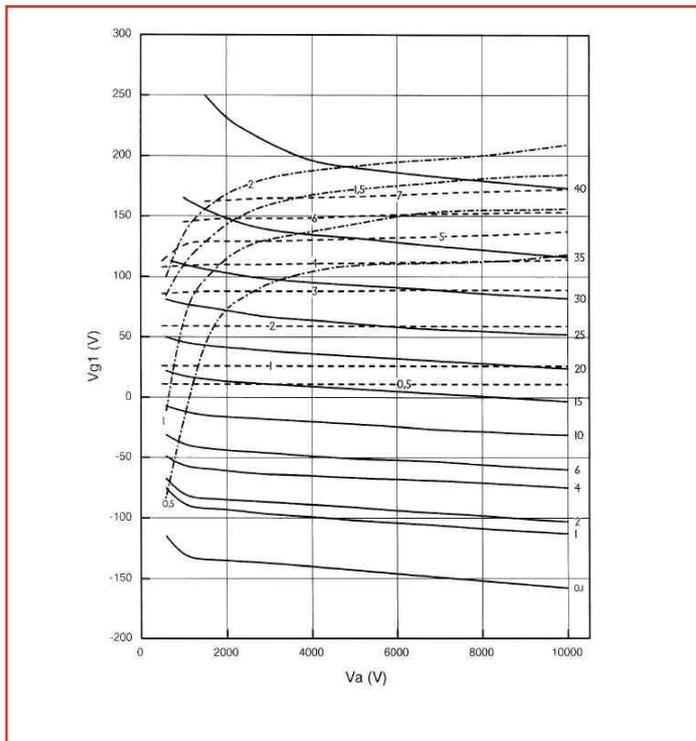
Thales offer products that fully meet today's laser market requirements with all the customer support and technical assistance services you need.

- Output power: 53 kW (CW mode)
- Anode voltage: 14 kV
- Anode dissipation: 30 kW
- Frequency up to 110 MHz

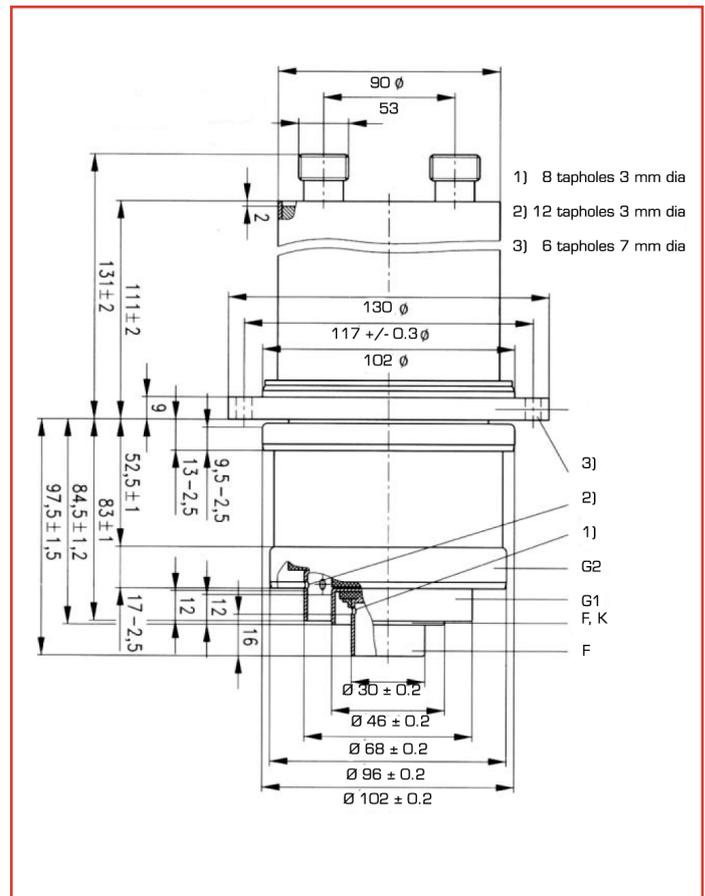
RS 2048 CJC

Industrial RF Heating

Constant current characteristics
VG2 = 800V



Outline drawing (in mm)



Technical specifications

Cathode	thoriated tungsten	
Filament voltage	9	V
Filament current	115	A
Max. heater surge current	250	A
Amplification factor	7.5	
Capacitances		
• K - G1 =	80	pF
• K - G2 =	5.2	pF
• FK - A =	0.1	pF
• G1 - G2 =	115	pF
• G1 - A =	0.6	pF
• G2 - A =	20.5	pF

Mechanical characteristics

Operating position	vertical
Weight	4.4 kg
Dimensions	130 x 230 mm

Cooling characteristics (industrial water)

Max. water temperature at tube outlet	65 °C
Min. water pressure at tube inlet	6 bar
Max. T° at any point on the tube envelope	220 °C
Min. air flow on filament connections	0.7 m ³ /min

Maximum ratings

Frequency	110	MHz
Anode voltage	14	kV
Screen grid voltage	1000	V
Control grid voltage	-300	V
DC anode current	6	A
Cathode current peak	35	A
Anode dissipation	30	kW
Grid dissipation		
• up to 50 MHz	300	W
• from 50 to 110 MHz	270	W

Class C, RF amplifier operation

Frequency	<50	<110	MHz
Anode voltage	12	10	kV
Anode current	5.6	4.9	A
Anode output power	53	37.5	kW
Anode dissipation	14	11	kW
Screen grid voltage	800	800	V
Control grid voltage	-230	-220	V
Screen grid current	220	190	mA
Control grid current	600	550	mA
Screen grid dissipation	176	152	W

Thales propose ROEKG 248K socket which is convenient, fast and secure for the installation and deinstallation of the tube on any type of generator.

For more technical information regarding this tube, feel free to ask our distributor Richardson Electronics - www.rellaser.com

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