



## RS 2088 CJC

### Water-cooled tetrode for Industrial RF Heating



#### 53 kW tetrode for CO<sub>2</sub> 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 CO<sub>2</sub> 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 2088 CJC tetrode, intended for CO<sub>2</sub> laser applications, is equipped with the pyrolitic 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 of 8000 W.

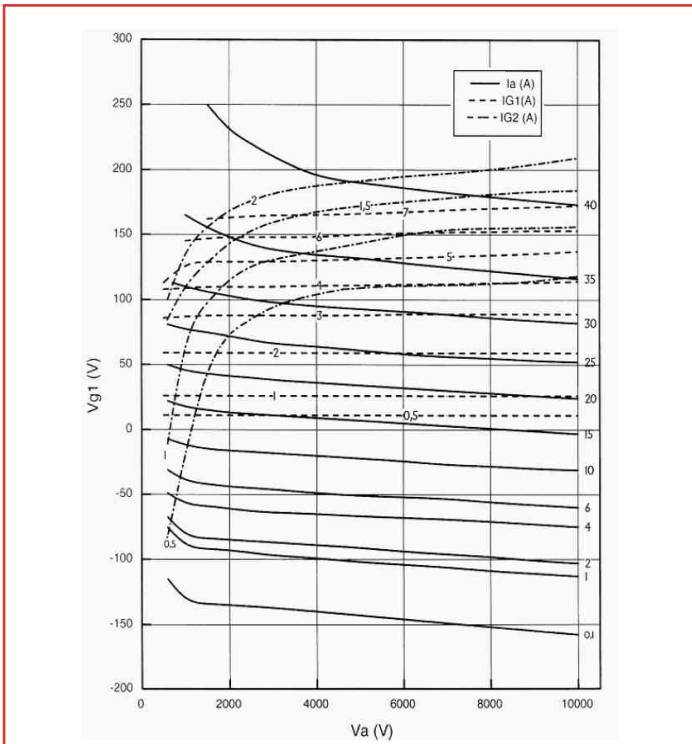
Thales offer products that fully meet today's laser market requirements with all the customer support and technical assistance services you need.

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

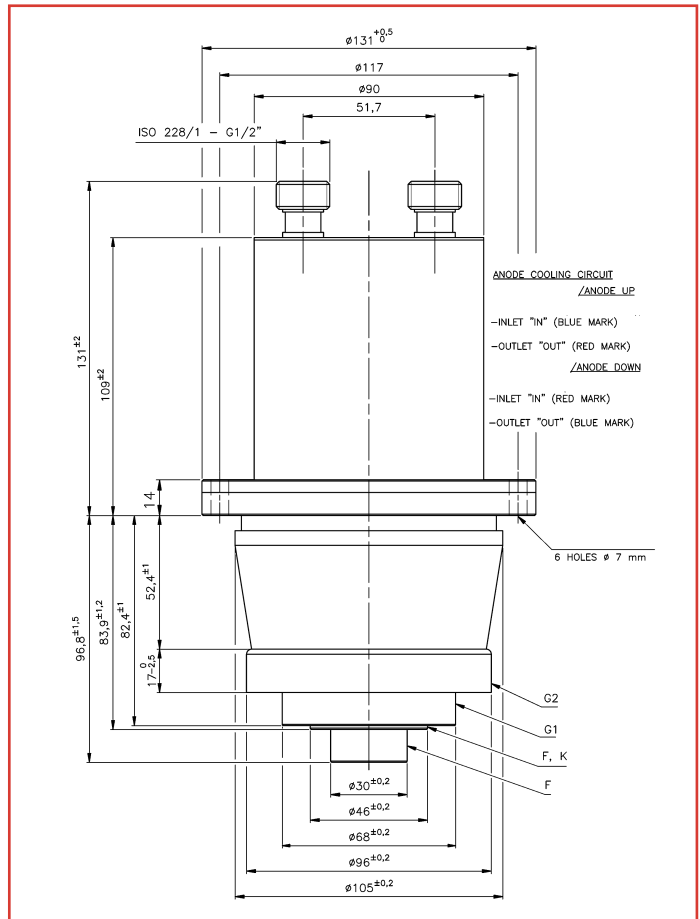
# RS 2088 CJC

Industrial RF Heating

**Constant current characteristics**  
VG2 = 800V



## Outline drawing (in mm)



### Technical specifications

Cathode	thoriated tungsten	
Filament voltage	9.3	V
Filament current	118	A
Max. heater surge current	500	A
Amplification factor	7.5	
Capacitances		
• K - G1 =	80 pF	• G1 - G2 = 115 pF
• K - G2 =	5.2 pF	• G1 - A = 0.6 pF
• FK - A =	0.1 pF	• G2 - A = 20.5 pF

### Mechanical characteristics

Operating position	vertical
Weight	3.9 kg
Dimensions	131 x 228 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 <sup>3</sup> /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	<30	<50	<110	MHz
Anode voltage	11	12	10	kV
Anode current	6.1	5.6	4.8	A
Anode output power	53	53	37.5	kW
Anode dissipation	12.3	12	9.1	kW
Screen grid voltage	800	800	800	V
Control grid voltage	-250	-230	-220	V
Screen grid current	140	140	140	mA
Grid current	350	360	260	mA
Grid dissipation	115	113	108	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](http://www.rellaser.com)

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