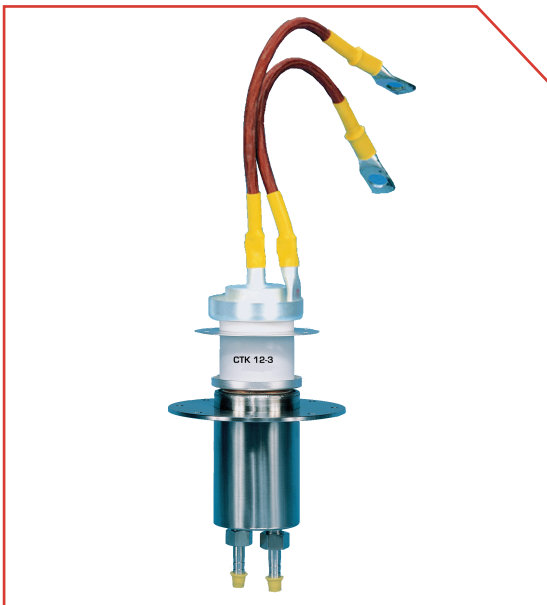




CTK 12-3

Water-cooled, high-mu triode for industrial RF heating



30 kW triode for induction heating

Based on more than 60 years of experience in the design and manufacture of electron tubes, Thales is a long-standing partner to most producers of industrial heating machines. And we are the benchmark supplier of grid tubes.

The CTK 12-3 triode is intended for induction heating applications and deliver continuous RF power of 30 kW. It is especially well suited to industrial applications, such as heat treatment process.

This water-cooled triode uses a coaxial design and metal-ceramic technology. It may be operated in CW or pulse modes. For operation in pulse mode, the parameters depend on each equipment characteristics. Contact us for specific information.

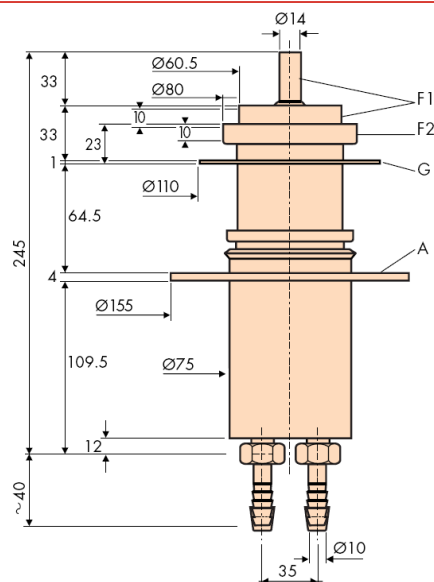
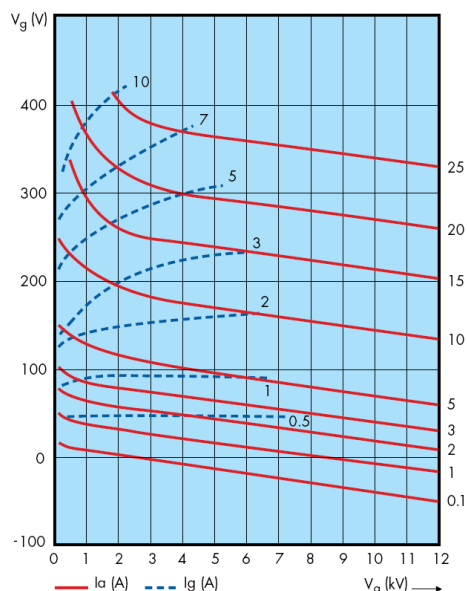
Thales is fully committed to the long-term viability of tube technology, and to delivering high-tech products based on our proven expertise in complex processes. We offer the widest range on the market, whether for dielectric or induction and laser applications, backed by all the customer support and technical assistance services you need.

- Output power: 30 kW (CW mode)
- Anode voltage: 12 kV
- Anode dissipation: 15 kW
- Frequency up to 120 MHz

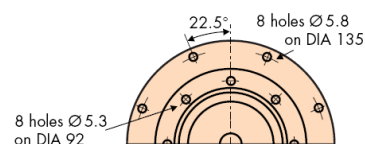
CTK 12-3

Industrial RF Heating triode

Constant current characteristics



Top view (dimensions in mm)



Technical specifications

Cathode	thoriated tungsten	
Filament voltage	5.8	V
Filament current	145	A
Max. heater surge current	500	A
Amplification factor	220	
Capacitance		
• grid-anode	21	pF
• grid-cathode	60	pF
• cathode-anode	0.20	pF

Mechanical characteristics

Operating position	vertical	
Weight	3.1	kg
Dimensions	155 x 255	mm
CTK 12-3	with flexible leads - length 200	mm

Cooling characteristics (industrial water)

Max. water temperature at tube outlet	60 °C
Max. water pressure at tube inlet	5 bar
Max. T° at any point on the tube envelop	220 °C
Min. air flow on filament connections	0.5 m ³ /min

Maximum ratings

Frequency	120	MHz
Anode voltage up to 80 MHz	12	kV
Anode voltage from 80 to 100 MHz	10	kV
Anode voltage from 100 to 120 MHz	8	kV
Grid voltage	-1500	V
Peak cathode current CW	25	A
Anode dissipation: industrial water	13	kW
Anode dissipation: distilled water	15	kW
Grid dissipation up to 80 MHz	450	W
Grid dissipation from 80 to 100 MHz	420	W
Grid dissipation from 100 to 120 MHz	390	W
Grid resistance (tube non conducting)	10	kΩ

Class C RF oscillator for industrial applications

Frequency	30	60	MHz
Anode voltage	10	8	kV
Anode current	4	3.8	A
Grid current, on load	1.4	1.4	A
Anode input power	40	30.4	kW
Anode output power	30	22	kW
Anode dissipation	9	8	kW
Grid dissipation	370	370	W
Grid DC voltage	-210	-200	V

Operations at higher frequencies available on request.

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

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