THALES

ITK 200-1

Water-cooled triode for industrial RF heating

- Output power: 600 kW (CW mode)
- Anode voltage: 18 kV
- Anode dissipation: 220 kW
- Frequency up to 30 MHz

600 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 ITK 200-1 triode is intended for high power induction heating applications and delivers continuous RF power of 600 kW. It is especially well suited to industrial applications, such as pipe welding.

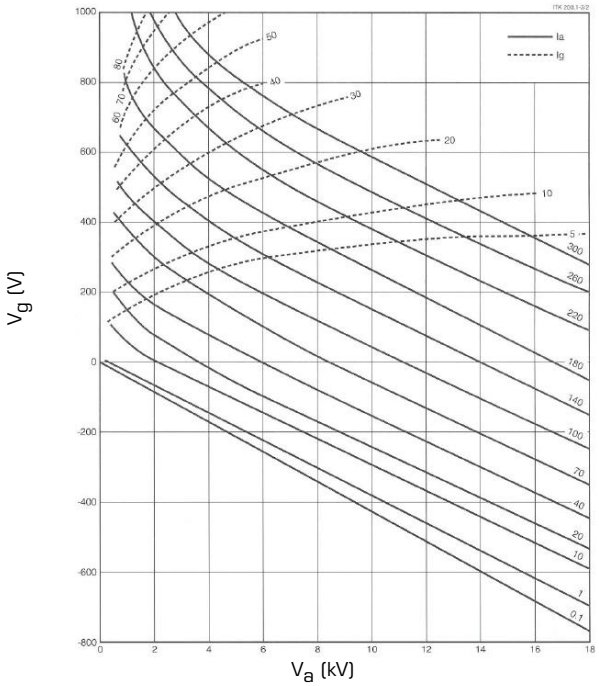
This water-cooled triode uses a coaxial design and metal-ceramic technology. It may be operated in CW or pulse modes. For operation in pulse mode, the parameters depend on each equipment characteristics. Contact us for specific information.

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, induction,laser or plasma applications, backed by all the customer support and technical assistance services you need.

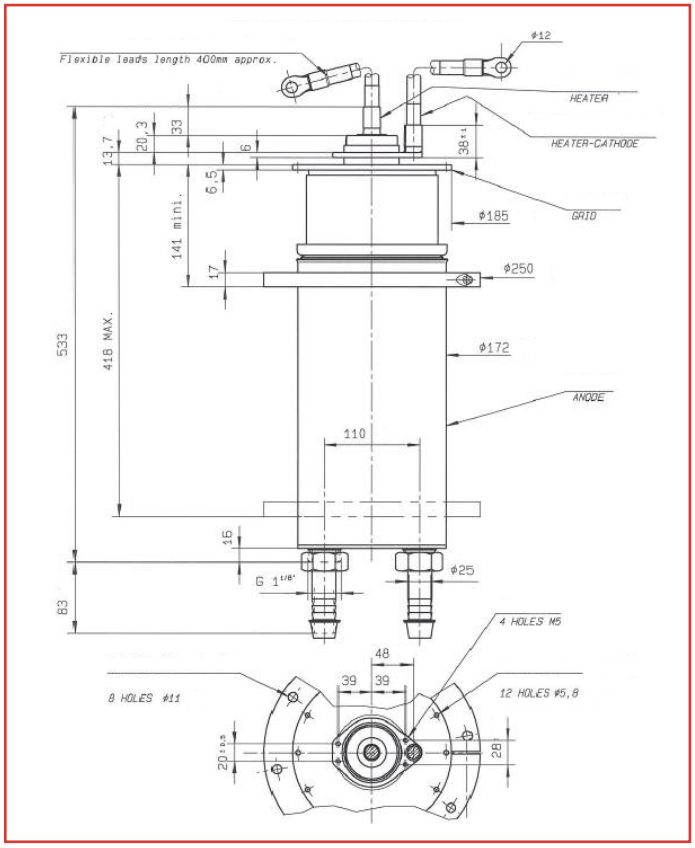
ITK 200-1

Industrial RF Heating triode

Constant current characteristics



Outline drawing (in mm)



Technical specifications

Cathode	thoriated tungsten	
Filament voltage	22	V
Filament current	375	A
Max. heater surge current	1500	A
Amplification factor	27	
Capacitance		
• grid-anode	83	pF
• grid-cathode	205	pF
• cathode-anode	5.5	pF

Mechanical characteristics

Operating position	vertical	
Weight	22	kg
Dimensions	250 x 626	mm

Cooling characteristics (distilled or deionized water)

Max. water temperature at tube outlet	75	°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	2	m^3/min

Maximum ratings

Frequency	30	MHz
Anode voltage		
• up to 15 MHz	18	kV
• from 15 to 30 MHz	15	kV
Grid voltage	-1500	V
Anode current, DC	50	A
Grid current		
• at full load, DC	10	A
• at no load, DC	12	A
Peak cathode current	280	A
Anode dissipation: distilled water	220	kW
Anode dissipation: industrial water	200	kW
Grid dissipation		
• up to 15 MHz	6	kW
• from 15 to 30 MHz	5.5	kW
Grid resistance (tube non conducting)	10	kΩ

Class C, RF oscillator for industrial applications

Frequency	15	30	MHz
Anode voltage	16	14	kV
Anode current	50	50	A
Grid current, on load	7.1	7.3	A
Anode input power	800	700	kW
Anode output power	592	506	kW
Anode dissipation	196	182	kW
Grid dissipation	4.6	4.7	kW
Grid resistance	140	130	Ω
Feedback ratio	12.6	14.1	%
Oscillator efficiency	74	72.3	%

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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