



ITK 30-2

Water-cooled triode for industrial RF heating



130 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 30-2 triode is intended for low power induction heating applications and delivers continuous RF power of 130 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 pulsemodes. For operation in pulse mode, the parameters depend on each equipment characteristics. Contact us for specific information.

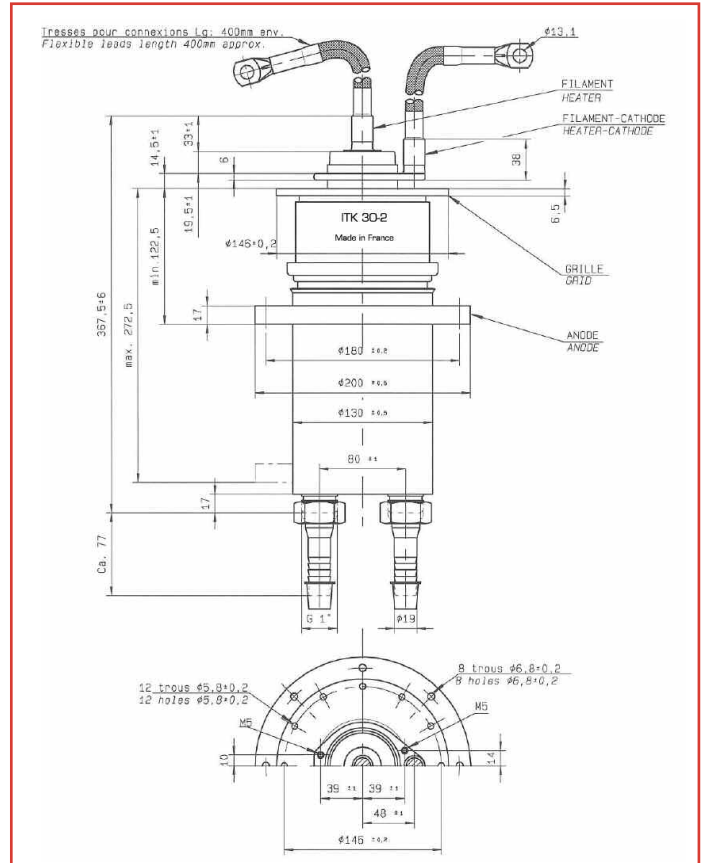
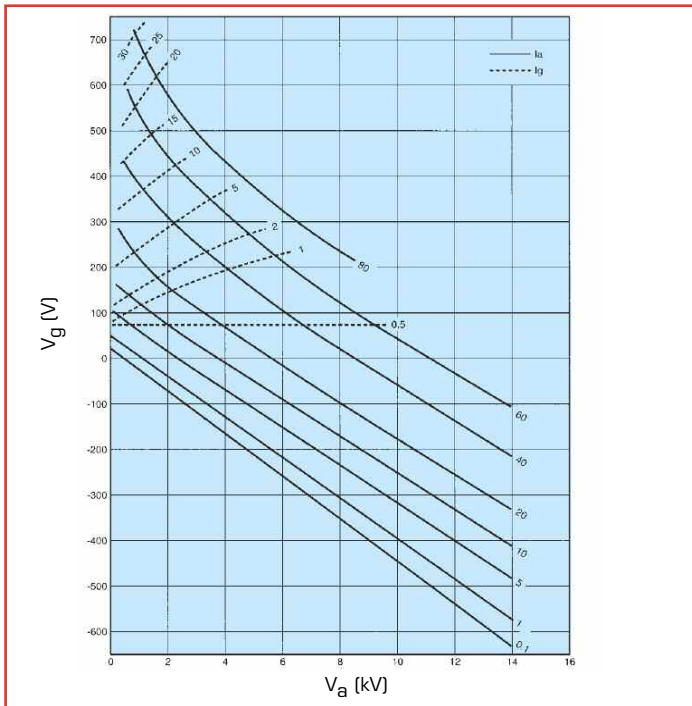
Thales is fully committed to the long-term viability of tube technology, and to delivering high-tech products based on our proven expertise in complex processes. We offer the widest range on the market, whether for dielectric or induction and laser applications, backed by all the customer support and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

- Output power: 130 kW (CW mode)
- Anode voltage: 14 kV
- Anode dissipation: 50 kW
- Frequency up to 100 MHz

ITK 30-2

Industrial RF Heating triode

Constant current characteristics



Technical specifications

Cathode	thoriated tungsten
Filament voltage	11 V
Filament current	240 A
Max. heater surge current	900 A
Amplification factor	23
Capacitance	
• grid-anode	49 pF
• grid-cathode	98 pF
• cathode-anode	2.5 pF

Mechanical characteristics

Operating position	vertical
Weight	10.3 kg
Dimensions	200 x 367 mm

Cooling characteristics (industrial water)

Max. water temperature at tube outlet	60 °C
Min. 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	100	MHz
Anode voltage		
• up to 30 MHz	14	kV
• from 30 to 70 MHz	12	kV
• from 70 to 100 MHz	10	kV
Grid voltage	-1500	V
Anode current, CW	16	A
Grid current, at full load, CW	3	A
Grid current, at no load, CW	5	A
Peak cathode current CW	90	A
Anode dissipation: industrial water	40	kW
Anode dissipation: distilled water	50	kW
Grid dissipation		
• up to 30 MHz	1200	W
• from 30 to 70 MHz	1050	W
• from 70 to 100 MHz	900	W
Grid resistance (tube non conducting)	10	kΩ

Class C, RF oscillator for industrial applications

Frequency	30	30	MHz
Anode voltage	12	10	kV
Anode current	14.4	12.6	A
Grid current, on load	2.2	2.2	A
Anode input power	173	126	kW
Anode output power	132	96	kW
Anode dissipation	39	28	kW
Grid dissipation	890	885	W
Grid resistance	360	310	Ω
Feedback ratio	11.7	11.5	%
Oscillator efficiency	76	75.8	%

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

THALES MICROWAVE & IMAGING SUB-SYSTEMS

2, rue Marcel Dassault - BP 23
78141 Vélizy-Villacoublay Cedex - France

Phone: + 33 (0) 1 30 70 35 00
Email: rfms.marketing@thalesgroup.com

RICHARDSON ELECTRONICS, Ltd

40W267 Keslinger Road
LaFox, IL 60147-0393 - USA

Phone: +1 630 208 2200
Email: edg@rell.com

