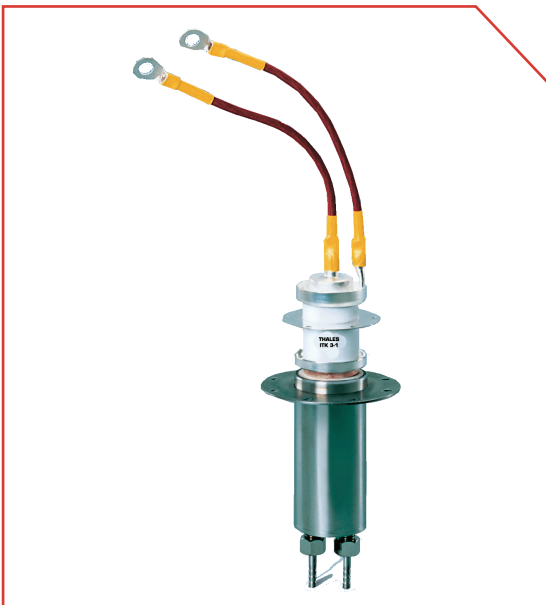




ITK 3-1

Water-cooled triode for industrial RF heating



6.7 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 3-1 triode is intended for low power induction heating applications and delivers continuous RF power of 6.7 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.

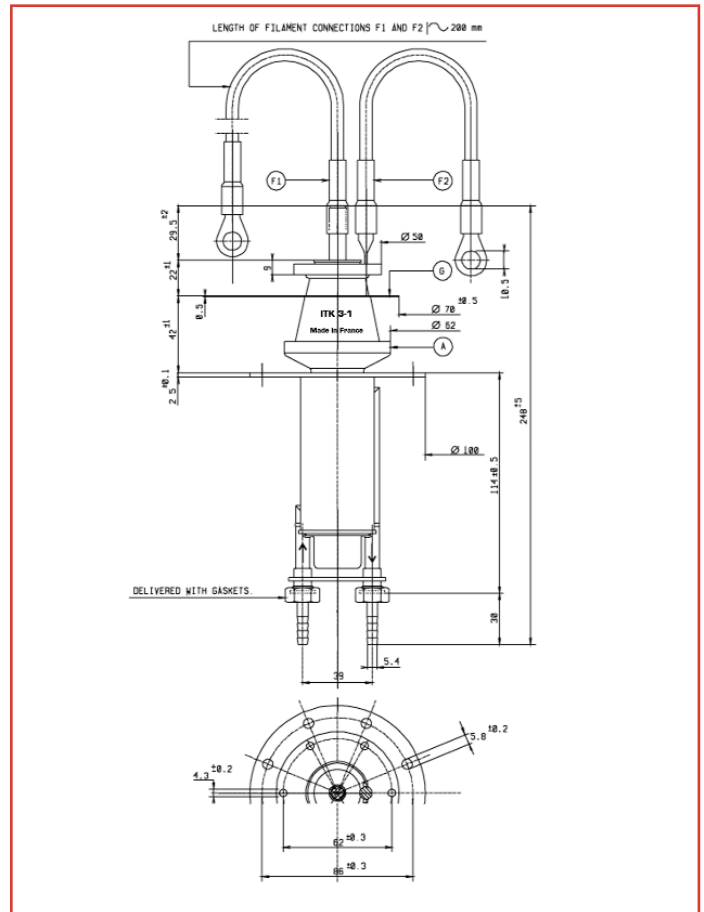
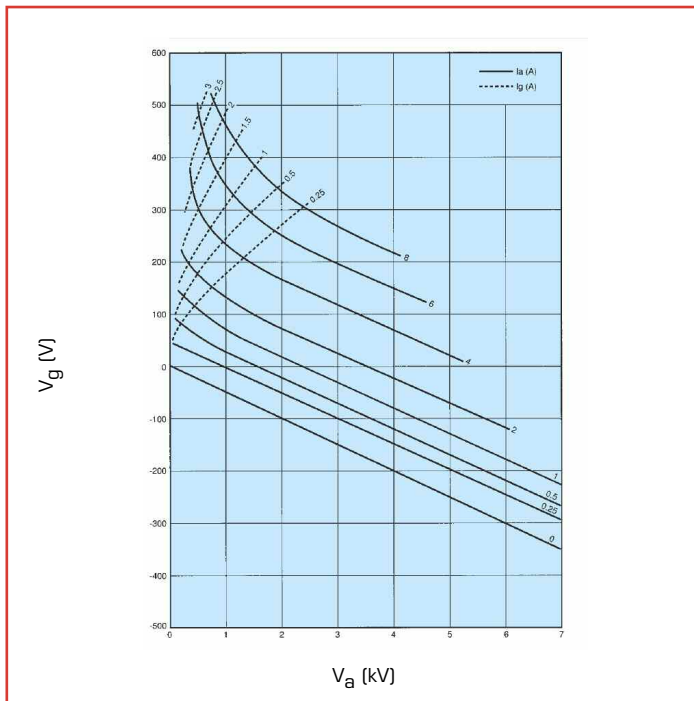
Thales is fully committed to the long-term viability of tube technology, and to delivering high-tech products based on our proven expertise in complex processes. We offer the widest range on the market, whether for dielectric or induction and laser applications, backed by all the customer support and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

- Output power: 6.7 kW (CW mode)
- Anode voltage: 7.2 kV
- Anode dissipation: 3.5 kW
- Frequency up to 160 MHz

ITK 3-1

Industrial RF Heating triode

Constant current characteristics



Technical specifications

Cathode	thoriated tungsten
Filament voltage	6.3 V
Filament current	35 A
Max. heater surge current	125 A
Amplification factor	21
Capacitance	
• grid-anode	14 pF
• grid-cathode	17 pF
• cathode-anode	0.5 pF

Mechanical characteristics

Operating position	vertical
Weight	1.6 kg
Dimensions	100 x 235 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	160	MHz
Anode voltage up to 85 MHz	7.2	kV
Anode voltage from 85 to 160 MHz	6	kV
Grid voltage	-1000	V
Anode current, CW	1.3	A
Grid current (up to 85 MHz), at full load, CW	0.30	A
Grid current, at no load, CW	0.40	A
Peak cathode current CW	7.5	A
Anode dissipation: industrial water	3	kW
Anode dissipation: distilled water	3.5	kW
Grid dissipation up to 85 MHz	130	W
Grid dissipation from 85 to 160 MHz	100	W
Grid resistance (tube non conducting)	10	kΩ

Class C RF oscillator for industrial applications

Frequency	30	30	MHz
Anode voltage	6.8	5.5	kV
Anode current	1.3	1.3	A
Grid current, on load	0.24	0.30	A
Anode input power	8.8	7.2	kW
Anode output power	6.7	5.3	kW
Anode dissipation	1.9	1.7	kW
Grid dissipation	70	95	W
Grid resistance	2150	1500	Ω
Feedback ratio	14	16.5	%
Oscillator efficiency	75	74	%

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