



## ITL 15-2

### Air-cooled triode for industrial RF heating



#### 45 kW triode for RF dielectric heating machines

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 ITL 15-2 triode is intended for dielectric heating applications and delivers continuous RF power of 45 kW. It is especially well suited to industrial applications, such as wood gluing and plastic welding.

This air-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.

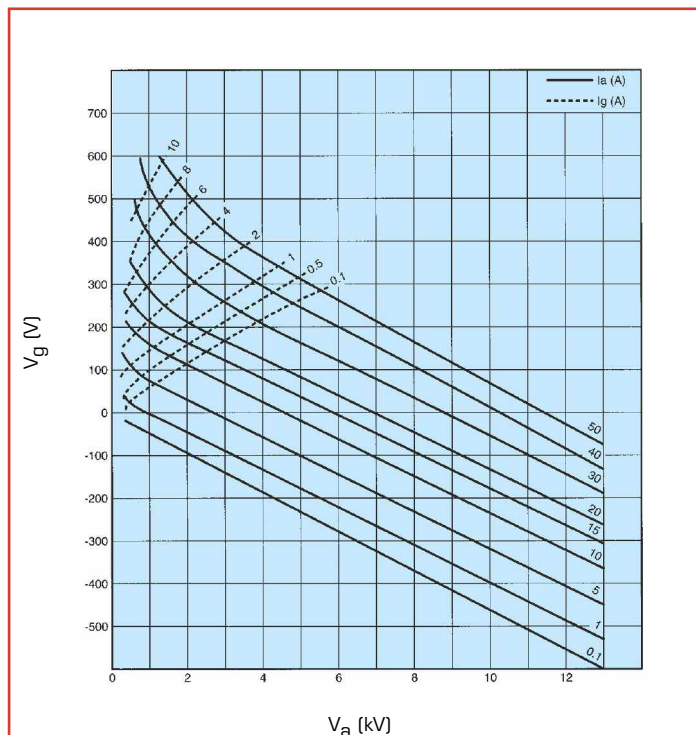
Thales is fully committed to the long-term viability of tube technology, and to delivering high-tech products based on our proven expertise in complex processes. We offer the widest range on the market, whether for dielectric or induction and laser applications, backed by all the customer support and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

- Output power: 45 kW (CW mode)
- Anode voltage: 13 kV
- Anode dissipation: 17 kW
- Frequency up to 120 MHz

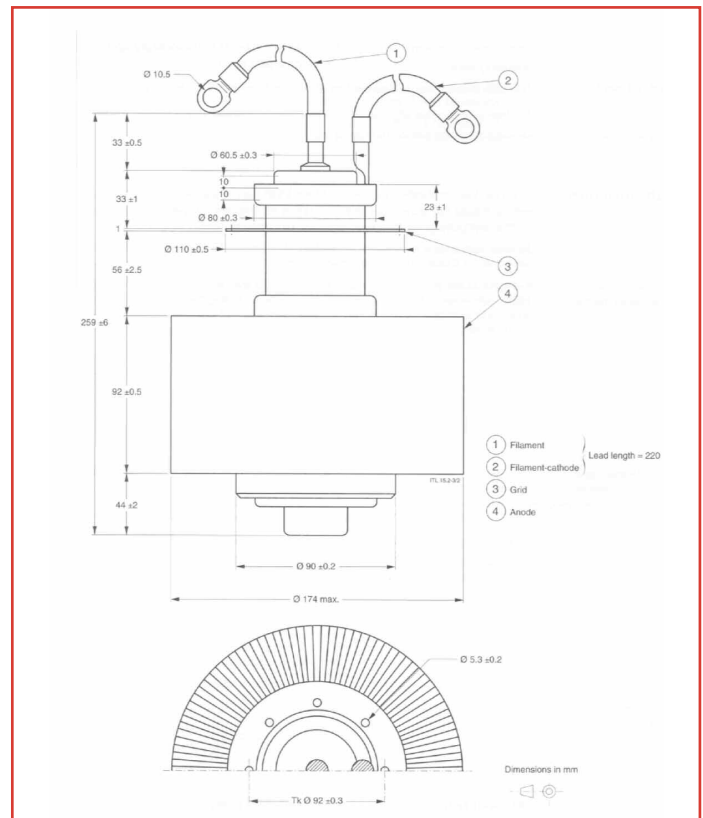
# ITL 15-2

## Industrial RF Heating triode

### Constant current characteristics



### Outline drawing (in mm)



### Technical specifications

Cathode	thoriated tungsten
Filament voltage	7.2 V
Filament current	180 A
Max. heater surge current	500 A
Amplification factor	25
Capacitance	
• grid-anode	25 pF
• grid-cathode	60 pF
• cathode-anode	1.4 pF

### Mechanical characteristics

Operating position	vertical
Weight	9 kg
Dimensions	174 x 259 mm

### Cooling characteristics (air-cooling)

Typ. air temperature at tube inlet	25 °C
Min. air flow cooling (for Pa=2.5 kW)	9 m <sup>3</sup> /min
Corresponding air pressure drop	3.8 mbar
Max. T° at any point on the tube envelop	220 °C

### Maximum ratings

Frequency	120	MHz
Anode voltage up to 30 MHz	13	kV
Anode voltage from 30 to 60 MHz	11	kV
Anode voltage from 60 to 90 MHz	9	kV
Anode voltage from 90 to 120 MHz	7	kV
Grid voltage	-1500	V
Anode current, CW	8	A
Grid current, at full load, CW	1.6	A
Grid current, at no load, CW	3	A
Peak cathode current CW	40	A
Anode dissipation (Tin = 25°C)	17	kW
Anode dissipation (Tin = 45°C)	15	kW
Grid dissipation up to 30 MHz	600	W
Grid dissipation from 30 to 60 MHz	520	W
Grid dissipation from 60 to 90 MHz	460	W
Grid dissipation from 90 to 120 MHz	400	W
Grid resistance (tube non conducting)	10	kΩ

### Class C, RF oscillator for industrial applications

Frequency	30	60	MHz
Anode voltage	12	10	kV
Anode current	5	6	A
Grid current, on load	0.33	0.60	A
Anode input power	60	60	kW
Anode output power	45	45	kW
Anode dissipation	14.5	14.5	kW
Grid dissipation	75	170	W
Grid resistance	1970	1000	Ω
Feedback ratio	8.4	10.2	%
Oscillator efficiency	75	75	%

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](http://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](mailto:rfms.marketing@thalesgroup.com)

### RICHARDSON ELECTRONICS, Ltd

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

Phone: +1 630 208 2200  
Email: [edg@rell.com](mailto:edg@rell.com)

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