THALES

ITL 30-2

Air-cooled triode for industrial RF heating

- Output power: 85 kW (CW mode)
- Anode voltage: 14 kV
- Anode dissipation: 28 kW
- Frequency up to 100 MHz

85 kW triode for dielectric 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 ITL 30-2 triode is intended for medium power dielectric heating applications and delivers continuous RF power of 85 kW. It is especially well suited to industrial applications, such as wood glue drying applications.

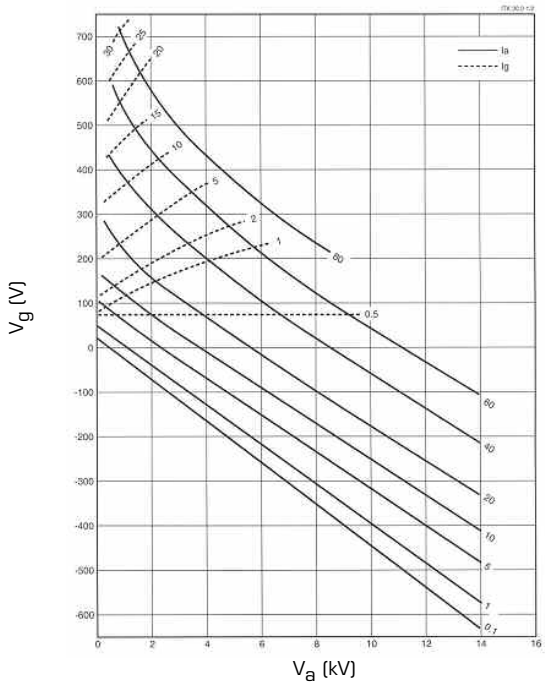
This air-cooled triode uses a coaxial design and metal-ceramic technology. It may be operated in CW or pulse modes. For operation in pulse mode, the parameters depend on each equipment characteristics. Contact us for specific information.

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.

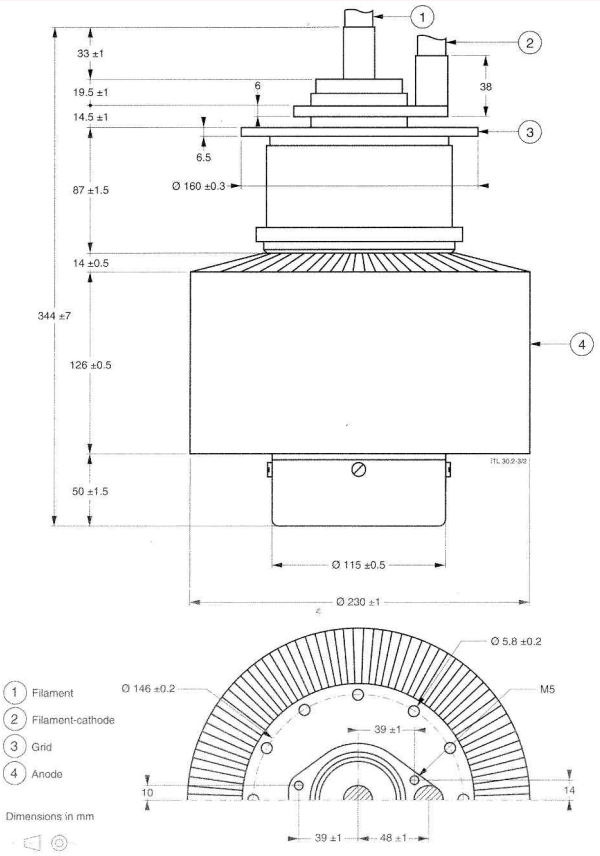
ITL 30-2

Industrial RF Heating triode

Constant current characteristics



Outline drawing (in mm)



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	20	kg
Dimensions	230 x 344	mm

Cooling characteristics

Max. air temperature at tube inlet	45	°C
Max. air temperature at tube outlet	100	°C
Min. air flow cooling (for Pa=25 kW, T_{in}=45°)	33	m³/min
Corresponding air pressure drop	20	mbar
Max T° at any point on the tube envelop	220	°C

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: $T°_{in}$=25°C	28	kW
Anode dissipation: $T°_{in}$=45°C	25	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	9.1	11.1	A
Grid current, on load	1.1	1.8	A
Anode input power	109	111	kW
Anode output power	83.6	84.4	kW
Anode dissipation	24	25	kW
Grid dissipation	300	640	W
Grid resistance	662	370	Ω
Feedback ratio	9.6	11.8	%
Oscillator efficiency	76.6	76	%

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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