THALES

YD 1150 FL / ITL 3-1

Air-cooled triode for Industrial RF Heating

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

6.7 kW triode for RF 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 YD 1150 FL / ITL 3-1 triode is intended for low power dielectric heating applications and delivers continuous RF power of 6.7 kW. It is especially well suited to industrial applications, such as plastic or dielectric heating.

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.

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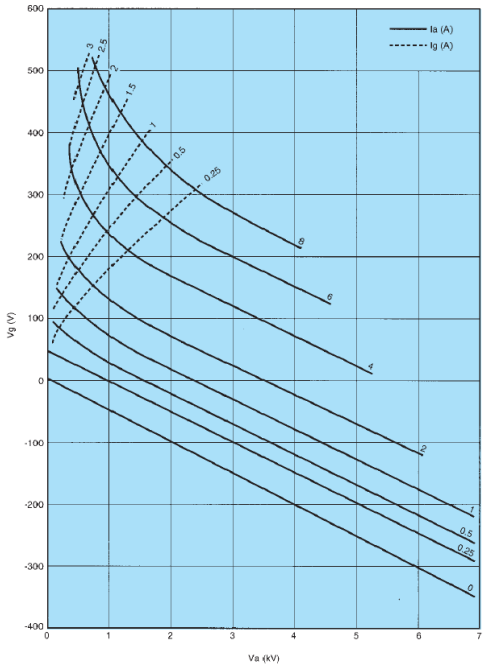
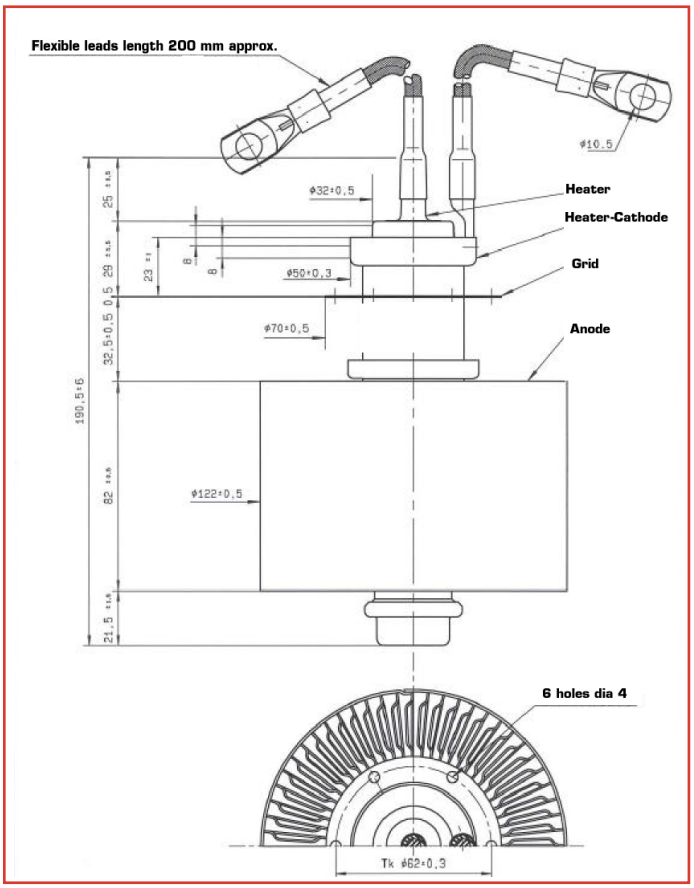
Industrial RF Heating triode

Constant current characteristics



Outline drawing (in mm)



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	2.7	kg
Dimensions	122 x 185	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=3 kW)	2.5	m^3/min
Min. air pressure cooling (for Pa=3 kW)	0.7	mbar
Max. T° at any point on the tube envelop	200	°C

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 85MHz), 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 (for T° in = 45°C)	3	kW
Anode dissipation (for T° in = 25°C)	3.5	kW
Grid dissipation up to 85 MHz	130	kW
Grid dissipation from 85 to 160 MHz	100	kW
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	75	95	W
Grid resistance	2.15	1.50	kΩ
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

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