THALES

YD 1202

Water-cooled triode for industrial RF heating

- Output power: 163 kW (CW mode)
- Anode voltage: 15 kV
- Anode dissipation: 100 kW
- Frequency up to 100 MHz

163 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 YD 1202 triode is intended for induction heating applications and delivers continuous RF power of 163 kW. It is especially well suited to industrial applications, such as heat treatment or wood processing.

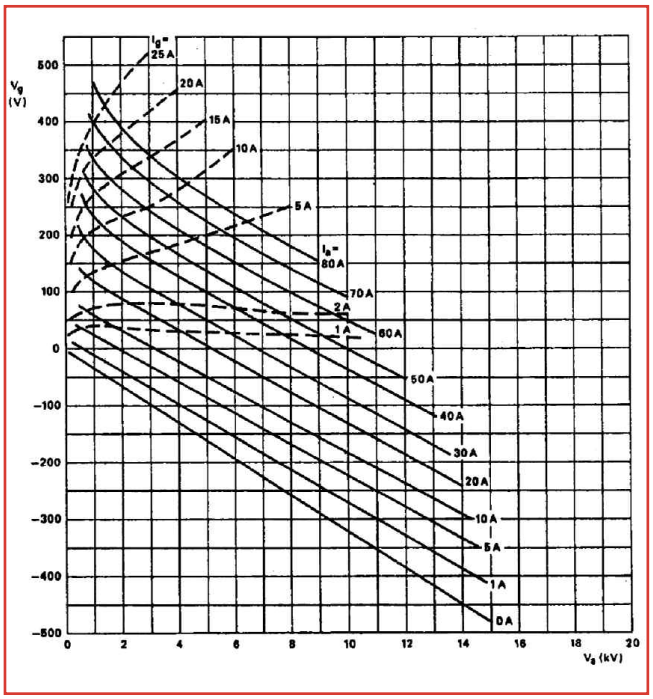
This water-cooled triode uses a coaxial design and metal-ceramic technology. It may be operated in CW or pulse modes. For operation in pulse mode, the parameters depend on each equipment characteristics. Contact us for specific information.

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.

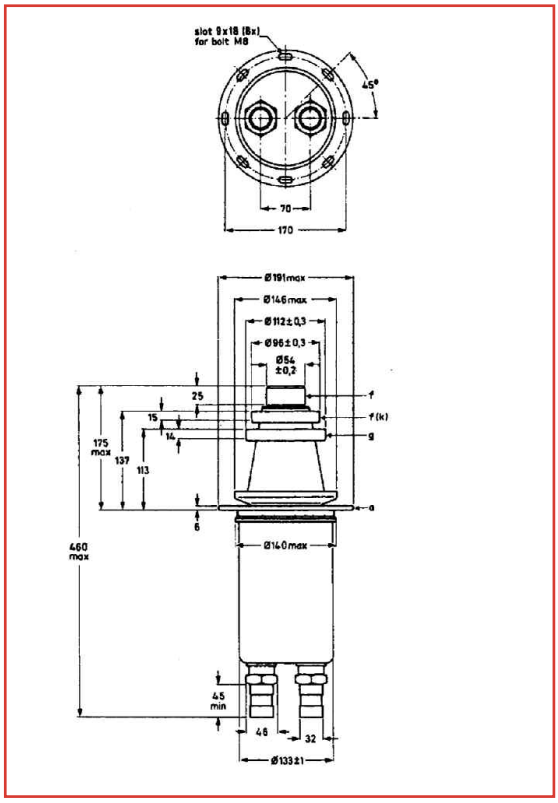
YD 1202

Industrial RF Heating triode

Constant current characteristics



Outline drawing (in mm)



Technical specifications

Cathode	thoriated tungsten	
Filament voltage	12.2	V
Filament current	250	A
Max. heater surge current	1500	A
Amplification factor	36	
Capacitance		
• grid-anode	57	pF
• grid-cathode	160	pF
• cathode-anode	2.4	pF

Mechanical characteristics

Operating position	vertical	
Weight	11.5	kg
Dimensions	191 x 460	mm

Cooling characteristics (industrial water)

Max. water temperature at tube outlet	60	°C
Max. water pressure at tube inlet	6	bar
Max. T° at any point on the tube envelop	200	°C
Min. air flow on filament connections	2	m^3/min

Maximum ratings

Frequency (1)	30	MHz
Anode voltage up to 30 MHz	15	kV
Grid voltage	-2000	V
Anode current, CW	19	A
Grid current		
• at full load, CW	5	A
• at no load, CW	7	A
Peak cathode current CW	100	A
Anode dissipation		
• deionized water	100	kW
• industrial water	80	kW
Grid dissipation up to 30 MHz	2.5	kW
Grid resistance (tube non conducting)	10	kΩ

(1) It is possible to operate up to 30 MHz with max voltage and power. To operate up to 100 MHz please contact Thales Technical Support.

Class C, RF oscillator for industrial applications

Frequency	30	MHz
Anode voltage	12	kV
Anode current	18	A
Grid current, on load	4	A
Anode input power	216	kW
Anode output power	163	kW
Anode dissipation	47	kW
Grid dissipation	2	kW
Grid resistance	225	Ω
Feedback ratio	12.5	%
Oscillator efficiency	75.4	%

Operations at higher frequencies available on request.

P403A/2011.03 Crédit photos. Thales
This document cannot be considered to be a contractual specification. This information herein may be modified without notice.

For more technical information regarding this tube, feel free to ask our distributor Richardson Electronics - www.rell.com

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