



## YD 1173

### Air-cooled triode for industrial RF heating



#### 13.2 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 1173 triode is intended for low power dielectric heating applications and delivers continuous RF power of 13.2 kW. It is especially well suited to industrial applications, such as 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.

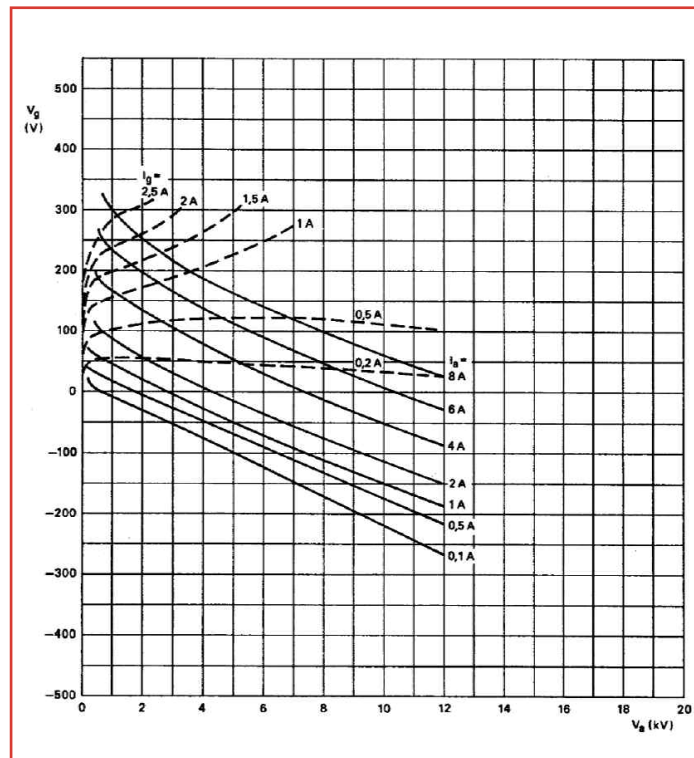
Thales is fully committed to the long-term viability of tube technology, and to delivering high-tech products based on our proven expertise in complex processes. We offer the widest range on the market, whether for dielectric or induction and laser applications, backed by all the customer support and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

- Output power: 13.2 kW (CW mode)
- Anode voltage: 12 kV
- Anode dissipation: 10 kW
- Frequency up to 50 MHz

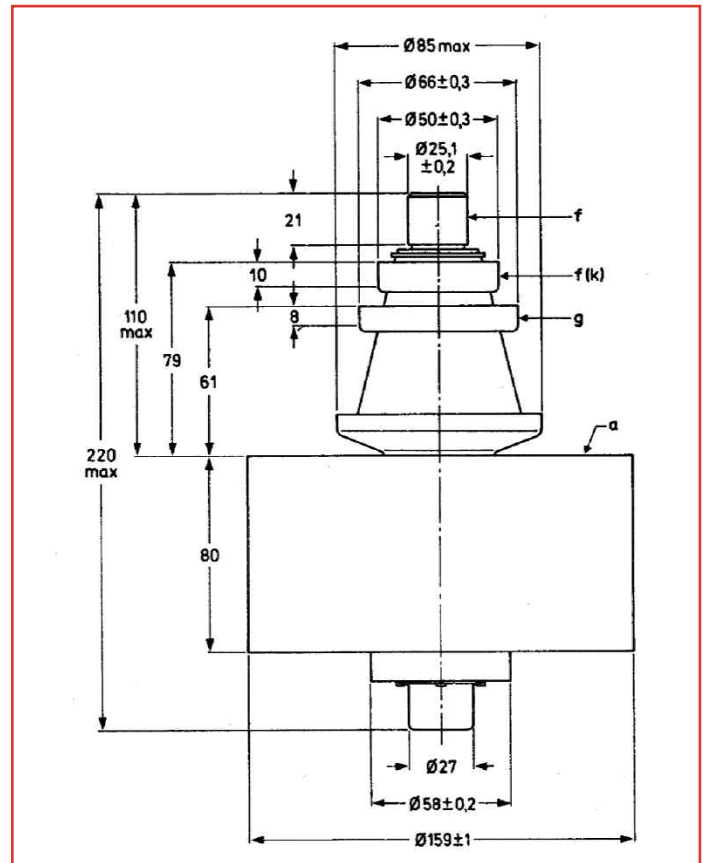
# YD 1173

## Industrial RF Heating triode

### Constant current characteristics



### Outline drawing (in mm)



### Technical specifications

Cathode	thoriated tungsten
Filament voltage	5.4 V
Filament current	65 A
Max. heater surge current	400 A
Amplification factor	45
Capacitance	
• grid-anode	17 pF
• grid-cathode	42 pF
• cathode-anode	0.4 pF

### Mechanical characteristics

Operating position	vertical
Weight	7 kg
Dimensions	159 x 220 mm

### Cooling characteristics

Max. air temperature at tube inlet	45 °C
Min. air flow cooling (for $P_a + P_g = 10$ kW)	9.5 m <sup>3</sup> /min
Min. air pressure cooling corresponding	0.55 mbar
Max. T° at any point on the tube envelop	240 °C

### Maximum ratings

Frequency	50	MHz
Anode DC voltage	12	kV
Grid DC voltage	-1500	V
Anode DC current	2.0	A
Grid DC current at full load	0.6	A
Grid DC current, at no load	0.8	A
Peak cathode current	10	A
Anode dissipation (for inlet T°=45°C)	10	kW
Grid dissipation	300	W
Grid resistance (tube non conducting)	10	kΩ

### Class C, RF oscillator for industrial applications

Frequency	50	MHz
Anode DC voltage	10	kV
Grid DC voltage	-675	V
Anode DC current	1.75	A
Grid DC current, on load	0.45	A
Anode input power	17.5	kW
Anode output power	13.22	kW
Anode dissipation	3.8	kW
Grid dissipation	180	W
Grid resistance	1500	Ω
Feedback ratio	12	%
Oscillator efficiency	75.6	%

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)

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