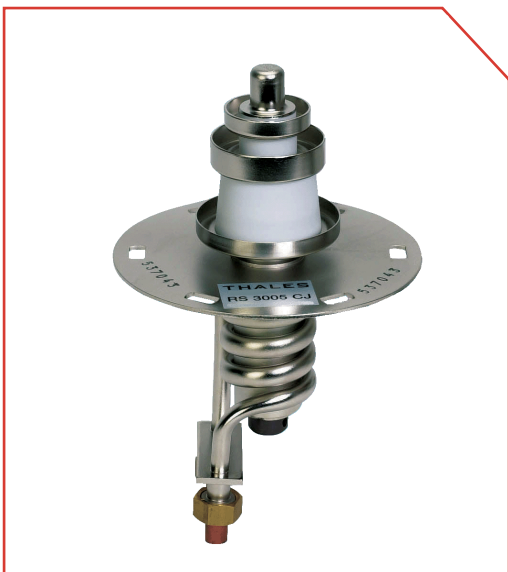




RS 3005 CJ

Water-cooled triode for industrial RF heating



6 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.

RS 3005 CJ triode is intended for low power induction heating applications and delivers continuous RF power of 6 kW. It is especially well suited to industrial applications, such as heat treatment process.

This water-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.

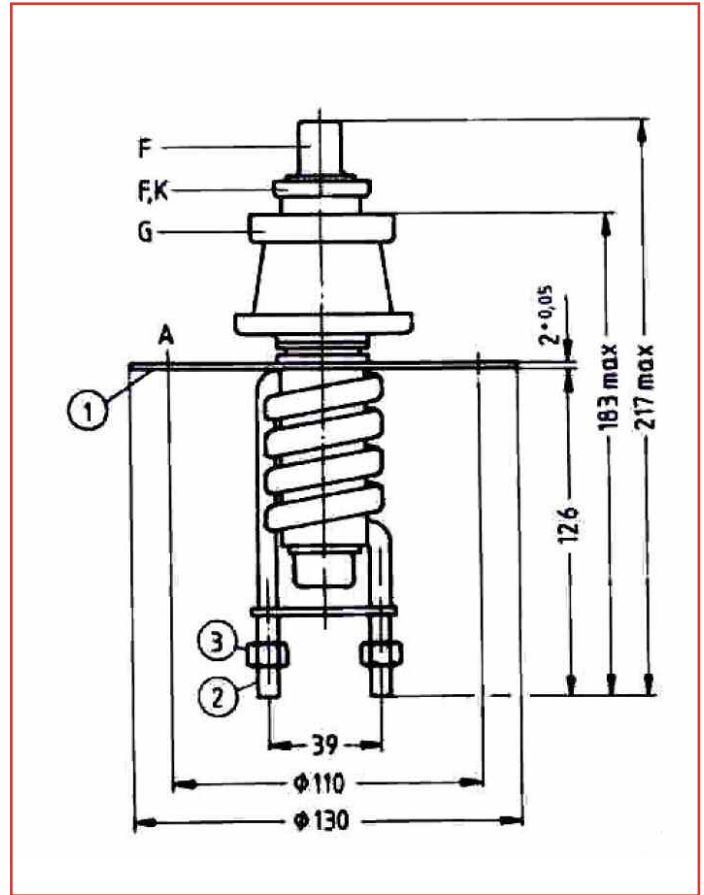
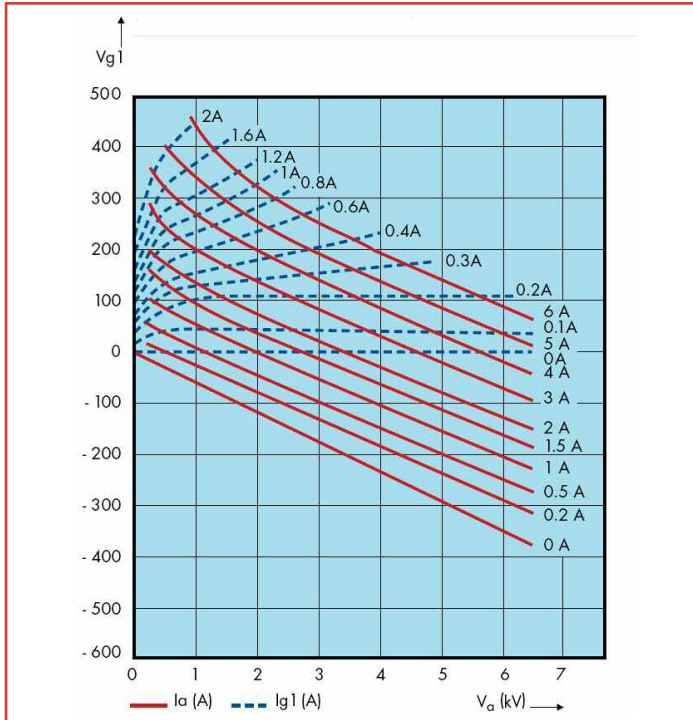
Thales is fully committed to the long-term viability of tube technology, and to delivering high-tech products based on our proven expertise in complex processes. We offer the widest range on the market, whether for dielectric or induction and laser applications, backed by all the customer support and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

- Output power: 6 kW (CW mode)
- Anode voltage: 7.2 kV
- Anode dissipation: 2.5 kW
- Frequency up to 160 MHz

RS 3005 CJ

Industrial RF Heating triode

Constant current characteristics



Technical specifications

| | |
|---------------------------|--------------------|
| Cathode | thoriated tungsten |
| Filament voltage | 6.3 V |
| Filament current | 33 A |
| Max. heater surge current | 100 A |
| Amplification factor | 20 |
| Capacitance | |
| • grid-anode | 14.5 pF |
| • grid-cathode | 17 pF |
| • cathode-anode | 0.4 pF |

Mechanical characteristics

| | |
|--------------------|--------------|
| Operating position | vertical |
| Weight | 0.9 kg |
| Dimensions | 130 x 217 mm |

Cooling characteristics (industrial water)

| | |
|--|-------------------------|
| Max. water temperature at tube outlet | 60 °C |
| Min. water pressure at tube inlet | 5 Bar |
| Max. T° at any point on the tube envelop | 220 °C |
| Min. air flow on filament connections | 0.3 m ³ /min |

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 |
| Grid current, at full load, CW up to 85 MHz | 0.35 A |
| Grid current, at no load, CW up to 85 MHz | 0.45 A |
| Cathode current CW | 1.7 A |
| Anode dissipation | 2.5 kW |
| Grid dissipation up to 85 MHz | 150 W |
| Grid dissipation from 85 to 160 MHz | 110 W |
| Grid resistance (tube non conducting) | 20 kΩ |

Class C, RF oscillator for industrial applications

| | | | |
|-------------------------|-------|-------|-----|
| Frequency | ≤ 85 | ≤ 85 | MHz |
| Anode voltage | 6.3 | 6.3 | kV |
| Control grid bias | -550 | -650 | V |
| RF control grid voltage | 940 | 1010 | V |
| Anode current | 1.29 | 1.03 | A |
| Grid current, on load | 0.285 | 0.255 | A |
| Anode input power | 8.1 | 6.5 | kW |
| Anode output power | 6 | 5 | kW |
| Anode dissipation | 1.85 | 1.25 | kW |
| Grid dissipation | 95 | 80 | W |
| Grid resistance | 1.95 | 2.60 | kΩ |
| Feedback ratio | 16.9 | 18 | % |
| Oscillator efficiency | 74 | 77 | % |

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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