

RS 3300 CJ

Water-cooled triode

450 kW

- Output power:
450 kW in CW mode
- Anode voltage: 17 kV
- Anode dissipation: 150 kW max.
- Frequency up to 30 MHz



THALES



RS 3300 CJ

The RS 3300 CJ is a RF power triode designed specifically for industrial applications. This tube uses a coaxial design and metal-ceramic technology. This triode is designed to operate in CW mode. For operation in pulse mode, the parameters depend on each

equipment characteristics, contact us for specific information.

The RS 3300 CJ is a water-cooled triode.

This product is designed, developed and manufactured at an ISO 9001 production site registered.

Electrical characteristics

Filament	thoriated tungsten		
Filament voltage (+ 5 %, - 10 %)	16	V	
Filament current	425	A	
Surge current	1 275	A	max.
Capacitance:			
• grid-anode	140	pF	
• grid-cathode	270	pF	
• cathode-anode (1)	5	pF	
Amplification factor	35		approx.
Transconductance (Va: 5 kV, Ia: 10 A)	170	mA/V	approx.

Mechanical Characteristics

Operating position	vertical, anode up or down		
Weight	62	kg	approx.
Dimensions	see outline drawing		

Maximum ratings

Frequency (2)	30	MHz
Anode voltage:		
• up to 15 MHz	17	kV
• from 15 to 30 MHz	13	kV
Control-grid voltage	- 2.5	kV
Control-grid current (F < 15 MHz):		
• at full load, CW	8	A
• at no load, CW	10	A
Peak cathode current, CW	250	A
Anode dissipation	150	kW
Grid dissipation:		
• up to 15 MHz	4.5	kW
• from 15 to 30 MHz	3.5	kW
Grid resistance (at blocked tube)	3	kΩ

(1) Measured with a 40 cm diameter shielding plate in the grid terminal plane.

(2) Conditions above 30 MHz, please consult Thales Electron Devices.

Cooling

Anode cooling	water		
Cooling water flow and pressure gradient	see cooling curves		
Cooling water inlet pressure	8	bar	max.
Water inlet temperature	35	°C	max.
Temperature at any point on tube envelope	220	°C	max.
Air flow on tube terminal side	4	m³/mn	

Typical operation (3)

Examples	Class C RF oscillator for industrial applications		
	1	2	
Frequency	< 15	< 15	MHz
Anode voltage	16	14	kV
Control grid bias	- 730	- 800	V
RF control grid voltage	1 250	1 310	V
Anode current	36.3	32	A
Control grid current	6.5	6.3	A
Anode input power	581	448	kW
Anode output power (4)	450	350	kW
Anode dissipation	123	90	kW
Control grid dissipation	3	2.8	kW
Grid resistance	112	127	Ω
Feedback ratio	8.6	10.4	%
Oscillator efficiency	77.5	78	%

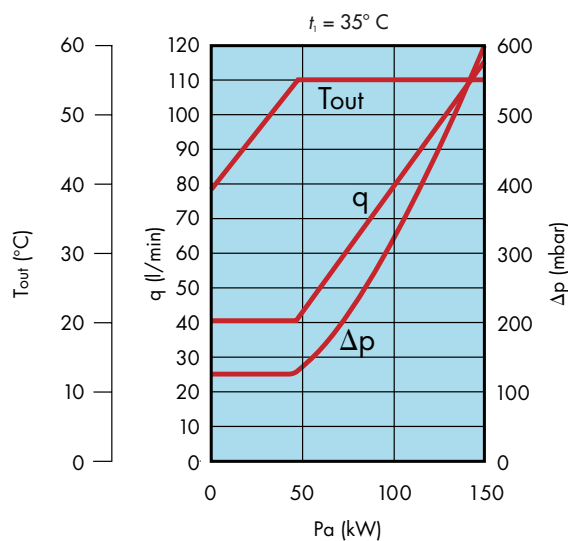
(3) Operation with higher frequencies on request

(4) Without taking circuit losses into account

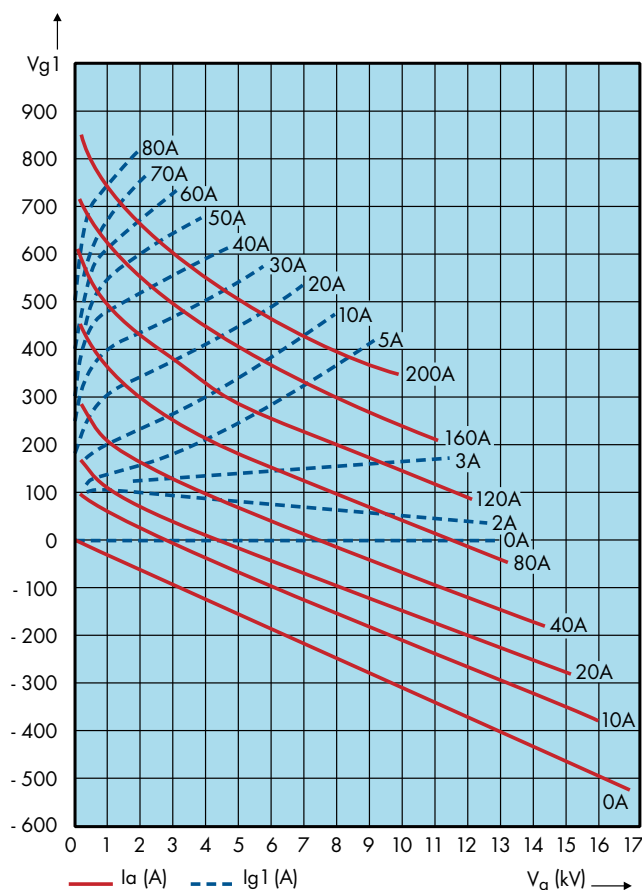
Nota: Data sheets are for information only. For design purpose, please ask for our latest specification.

Cooling water curves:

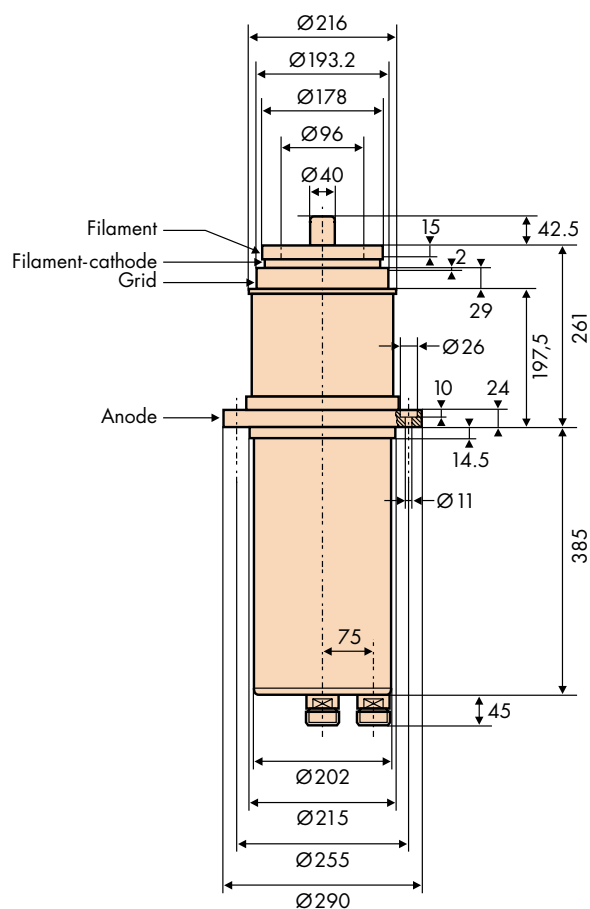
Pa : anode dissipation
 Δp : pressure drop
 q : water flow rate
 T_{out} : water outlet temperature



Constant current characteristics



Outline drawing (mm)



This document cannot be considered to be a contractual specification. The information given herein may be modified without notice due to product improvement or further development. Consult Thales Electron Devices before making use of this information for equipment design.

For further information, please contact:

THALES ELECTRON DEVICES

2 bis, rue Latécoère - 78941 Vélizy Cedex - France
Tel: + 33 1 30 70 35 00 - Fax: + 33 1 30 70 35 35
www.thalesgroup.com/electrondevices