SCIENCE
PARTICLE ACCELERATORS

TH 2167

High-power CW klystron

Used at CERN in the Large Hadron Collider

330 kW CW at 400 MHz

- High efficiency: 63% min.
- High gain: 37 dB min.
- Integral focusing coils
- Electron gun air insulated
- Proven reliability by design, long life
- Electron gun with modulating anode

THALES

TH 2167

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The TH 2167 is the latest generation of CW klystrons specially designed by Thales Electron Devices as RF source for physics and synchrotron applications. The TH 2167 is qualified in the Large Hadron Collider (LHC) project built at CERN (International laboratory). Operating at 400 MHz, it may deliver 330 kW CW. This five-integrated cavity klystron is fitted with a modulating anode to adapt operation to specific applications.The tube is operated vertical, collector down. Collector and body are water-cooled, electron gun and output window are forced-air.

This product is designed, developed and manufactured at an ISO 9001: V2000 and ISO 14001 registered production site.

RF performance

Frequency	400.8	MHz	
RF output power	300	kW	
RF drive power	70	W	max.
- 1dB bandwidth	1	MHz	
Saturated gain	37	dB	min.
Efficiency	63	%	typ.

Electrical characteristics

RF rated output power	200	300	330	kW	
Cathode voltage	48	54	58	kV	typ.
Anode voltage	29	32	33	kV	typ.
Beam current	8	9	9.2	A	typ.
Heater voltage	12	12	12	V	max.
Heater current	30	30	30	A	max.

Cooling

Collector coolant flow	490	l/min	
Body coolant flow	10	l/min	
Air flow (window + gun)	50	m^3/hour	

Electromagnet

1 power supply:			
• dc voltage	300	V	max.
• dc current per coil	12	A	

Mechanical characteristics

Height	3 800	mm	max.
Length	1 010	mm	max.
Width	1 000	mm	max.
Weight	1 750	kg	approx.
RF input	type UG 22 (radial R161270) - 50	Ω	
RF output	half height, CPR 2300 F flange		

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

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