SCIENCE
PARTICLE ACCELERATORS

TH 2161
TH 2161 A
TH 2161 B

High power CW klystrons

Up to 300 kW CW at 500 MHz

- Klystron range for use in synchrotrons and storage rings
- Three power levels: 180, 250 and 300 kW CW
- Minimum gain: 40 dB min
- High efficiency: 60 % min
- High reliability, long life
- Modulating anode

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TH 2161

The TH 2161's family is the latest generation of CW klystrons specially designed by Thales Electron Devices as RF amplifiers for synchrotrons and storage rings. Operating at 500 MHz, they may deliver up to 300 kW CW (TH 2161 B version).
These five-cavity klystrons are fitted with a modulating anode to adapt operation to specific applications. They operate in vertical position. Collector and body are water-cooled, window and gun are air cooled.

These products are designed, developed and manufactured at an ISO 9001 registered production site.

RF performance

	TH 2161	TH 2161A	TH 2161B		
Frequency	500	500	500	MHz	
RF output power (CW)	180	250	300	kW	min.
Peak RF drive power	18	25	30	W	max.
Instantaneous bandwidth (-1 dB)	2	2	2	MHz	min.
Gain	40	40	40	dB	min.
Perveance	0.75	0.75	0.75	$\mu A.V^{-3/2}$	
Efficiency	60	63	63	%	typ.

Electrical characteristics

Heater voltage, ac or dc (1)	10	10	10	V	max.
Heater current (1)	30	30	30	A	max.
Peak beam voltage (1)	46	50	54	kV	max.
Peak cathode current (1)	7.5	8.5	9.5	A	max.
Anode voltage	28	30	32	kV	max.
Ion pump voltage	5	5	5	kV	

Electromagnet (built in)

2 power supplies:					
• dc voltage	100	100	100	V	max.
• direct current per coil (1)	12	12	12	A	

(1) The exact value is indicated on the Test Report accompanying each tube delivered.

Mechanical characteristics

Tube electromagnet and cart weight		1 250		kg	approx.
Tube height		3 100		mm	
RF input		N type 50		Ω	
RF output		WR 1800 waveguide			

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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.

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P-463 / 2001.04 - Photos : Thales Electron Devices