

TECHNICAL SPECIFICATION

Multi-beam X-band Klystron type BT263

VDBT

The company was created for the development and manufacture of precision microwave vacuum-electron-tube devices (VETD). The main product areas being manufactured are:

- Linear electron accelerators.
- Vacuum-tube radar devices.
- Multi-beam high power klystrons (MBK).

Advantages of BT263

- Low Working voltage (less than half) when compared to similar RF power single beam klystrons.
- Reduction of harmful X-rays during operation.
- High efficiency performance due to the state-of-art Bunching Alignment Collecting (BAC) beam technology.
- Ability to work in air, without an oil tank, which reduces the installation weight.
- It can operate in spatial position and on mobile installations.
- Total cost of ownership (TCO) is much better since you need less power and the overall systems becomes smaller.
- Permanent magnet focusing that significantly reduces the MBK weight and additionally increases overall system efficiency due to absence of solenoid power losses.
- Application for the BT263 is Medical, Industry, Science and Defense.

GENERAL DATA CHARACTERISTICS

Electrical	Min.	Max.	Unit
Frequency (Option: 11.25; 11.4; 11.9)		9.30	GHz
Peak RF Output Power		3.5	4.0
Heater Voltage			14
Heater Current			28
Heater Current (Surge)			30
Heater Warm-up Time	10		min
Peak Beam Voltage			56
Peak Cathode Current			130
Peak RF Drive Power			200
Collector Dissipation			20
Efficiency	50		%
Gain	45		50
Average RF Output Power		9.5	10
Pulse Width (Beam Voltage)	1	16.5	17
Pulse Width (RF Output Power) ⁽¹⁾	1	15.5	16
Pulse Repetition Rate ⁽¹⁾			180 ⁽¹⁾
Load VSWR			1.2
Ground		Tube Body	
Irradiation with X-ray shield at 1meter distance			3
			mR/hour

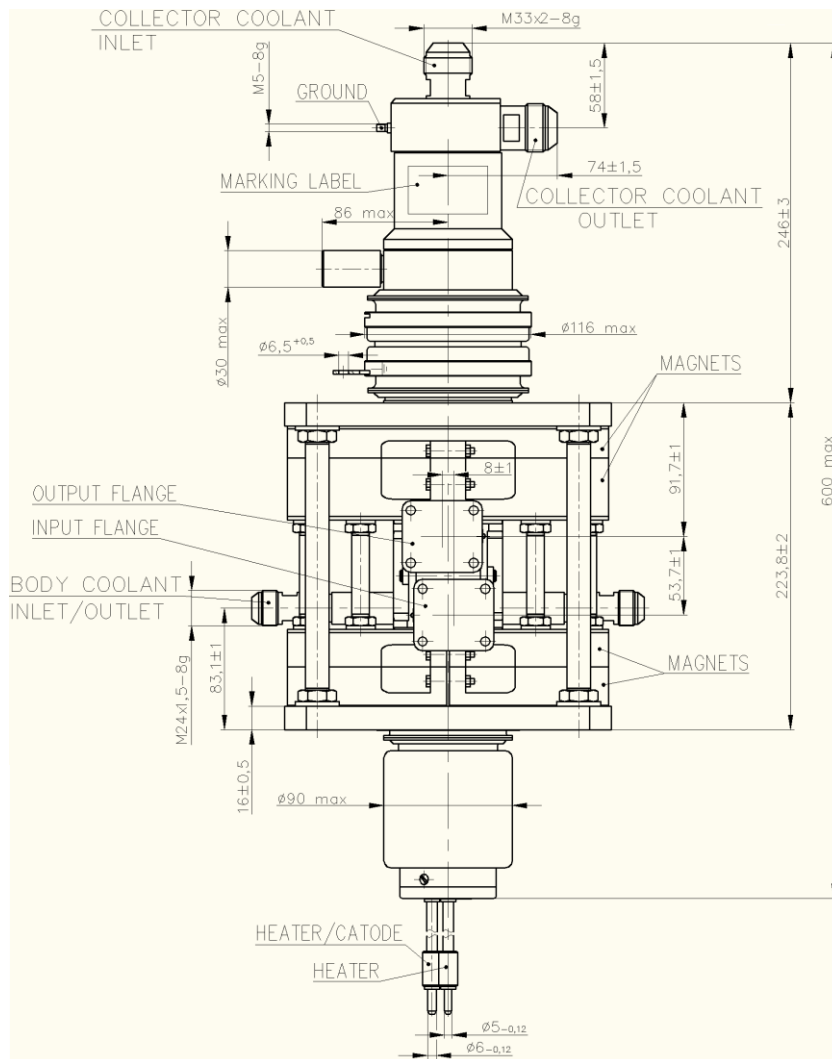
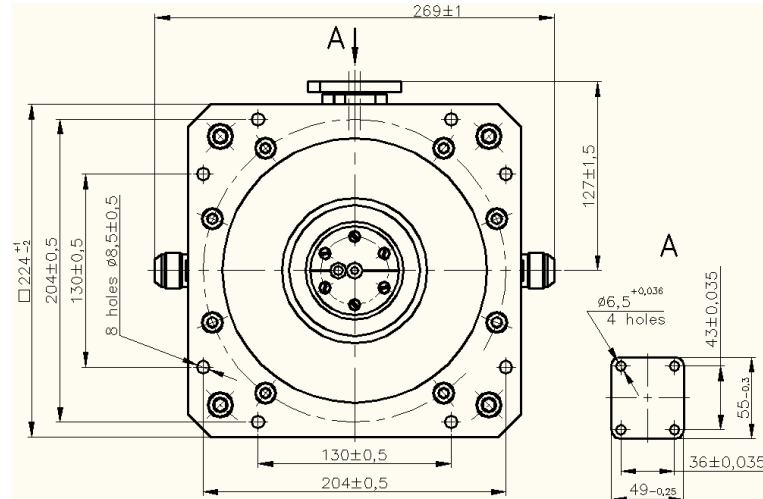
Physical	Min.	Max.	Unit
Mechanical			
Dimensions			
Length		Approx. 770	mm
Net Weight		Approx. 95	kg
Mounting Position	Vertical, Cathode down, horizontal position is also permitted, in the case of necessity		
Cathode	Impregnated Cathode		
Ion Pump	1.5		L/s
Focusing Magnet	Permanent magnet(PPM), it is mounted on the klystron		
X-ray Shields	VDBT X-ray Shielding KIT VD-116		
Connection			
Heater/Cathode	External screw M8		
Heater	External screw M8		
RF Input	Coaxial, Type N receptacle		
RF Output	WR-90		
Ground	External screw M8		
Ion Pump	Coaxial, see outline drawing		
Cooling			
Collector	Water		
Flow Rate	30		L/min
Pressure Drop	0.15		MPa
Coolant Pressure		0.7	MPa
Inlet Coolant Temperature	4	40	°C
Inlet/Outlet Connector	M24x1.5 tubing		
Body	Water		
Flow Rate	7		L/min
Pressure Drop	0.15		MPa
Coolant Pressure		0.7	MPa
Inlet Coolant Temperature	4	40	°C
Inlet/Outlet Connector	M24x1.5 tubing		
Environmental			
Temperature	5	45	°C
Humidity	30	65	%

Note

(1) The RF pulse width shall be measured between the 3dB points of the output pulse. Maximum pulse repetition rate is 560pps in case maximum pulse width is 5µs and 2800pps in case maximum pulse width is 1µs.

DIMENSIONAL OUTLINE OF THE KLYSTRON (Reference)

Unit: mm



Dimensional outline will be submitted within Three (3) months after P/O