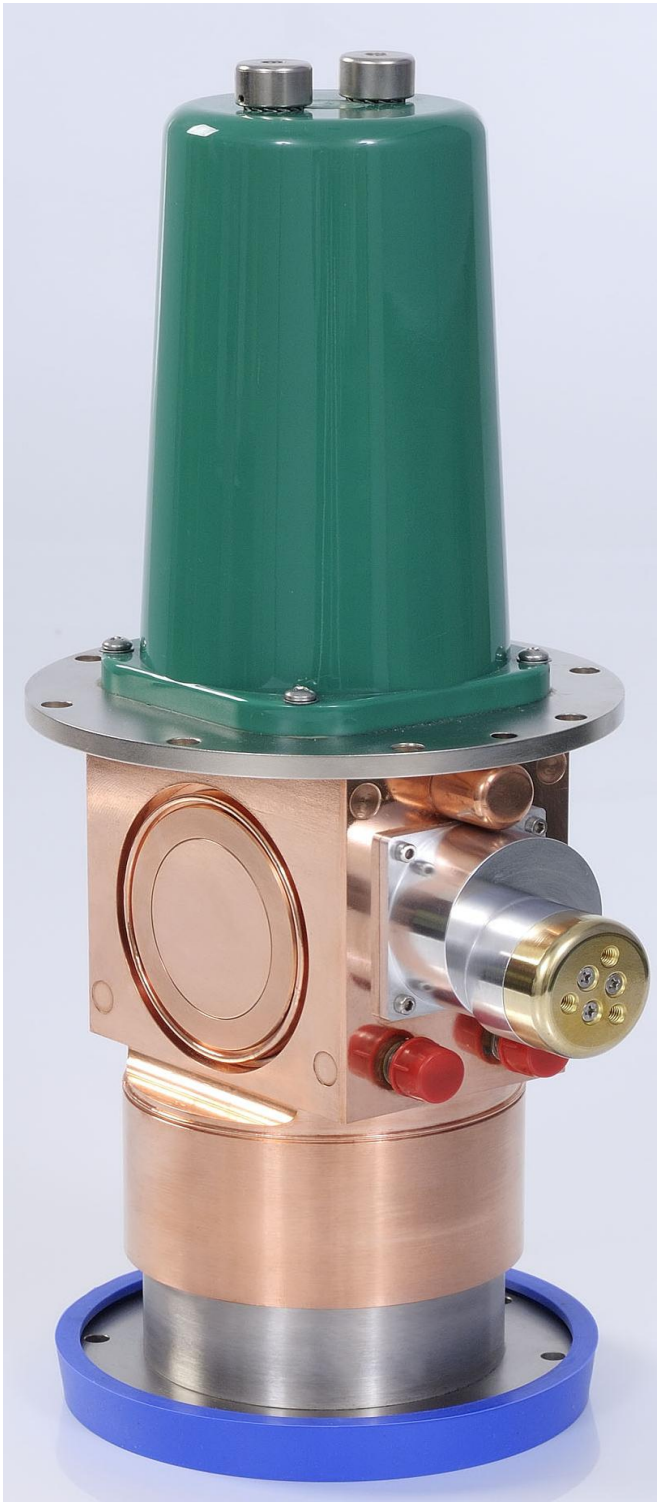
GLM5193

Tunable S-Band Magnetron



ABRIDGED DATA

Mechanically tuned pulse magnetron intended primarily for linear accelerators.

Frequency range
(cooling water 40℃)……..2993 to 3002 MHz
Peak output power. . . . . ……...2.6 MW
Magnet …….separate
Output……..…to no. 10 (WR284) waveguide
(72.14×34.04 mm internal)
Cooling ……..…….water

GENERAL DATA

Electrical

Cathode…… indirectly heated
Heater voltage……. …. …. …. ……8.5 V dc
Heater current……...9.0 A
Peak heater starting current,
not to be exceeded…….……20 A max
Cathode pre-heating time
(minimum)……3.0 min

Mechanical

Overall dimensions…….see outline
Net weight…….8 kg approx
Tuner revolutions to cover frequency range
…….. 4.75
Mounting position…….any

Address:ST28 Xihu Road,Kunshan,Jiangsu Provice,China
TEL：400 9280 680
Web:www.glvac.com
FAX：+86（512）36872122
E-mail：marketing@glvac.cn
Zip：215333

Cooling

The magnetron is water cooled and has an integral water jacket. The recommended water flow is 5 litres per minute or more; a pressure of approximately 1.25 kg/cm^2 will be necessary to give this rate of flow. The outlet water temperature must not exceed 45℃.

MAXIMUM AND MINIMUM RATINGS

(Absolute values)

These ratings cannot necessarily be used simultaneously, and no individual rating should be exceeded.

	Min	Max	
Magnetic field…….....–		1580	mT
	–	1580	gauss
Heater voltage ……..……8.0		10	V dc
Heater starting current (peak).....–		20	A
Anode voltage (peak)……...–		48	kV
Anode current (peak)…… 65		115	A
Input power (mean)…….–		6.0	kW
Pulse duration ……..–		5.0	μs
Rate of rise of voltage pulse			
……75		120	kV/μs
Outlet water temperature……. –		45	℃
VSWR at output coupler ……..–		1.5:1	
Pressurizing of waveguide			
……..…… ….–		3.1 kg/cm^2 g	

TEST CONDITIONS AND LIMITS

The magnetron is tested to comply with the following electrical specification.

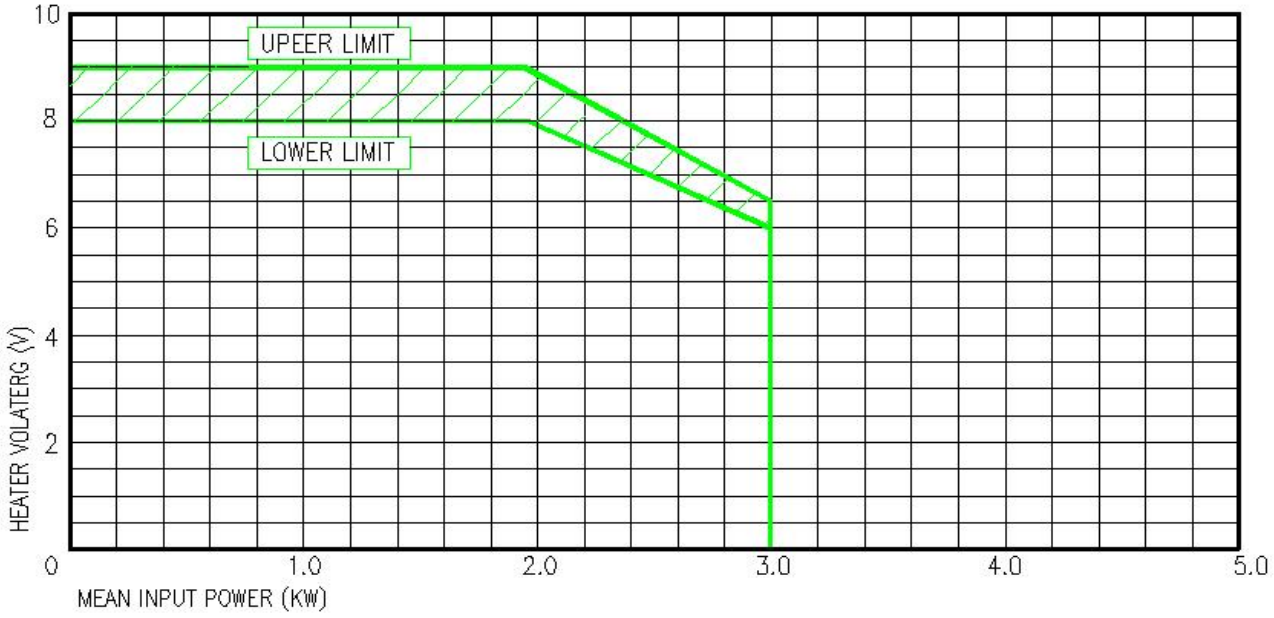
Test Conditions

Magnetic field…….....155.0 ± 2.0 mT
1550 ± 20 gauss
Heater voltage (for test)……..0 V
Anode current (peak)……..…110 A
Frequency……..……...…250Hz
Pulse duration…….....4 μs
VSWR at output coupler ……1.1:1
Minimum rate of rise of voltage pulse
……..100 kV/μs

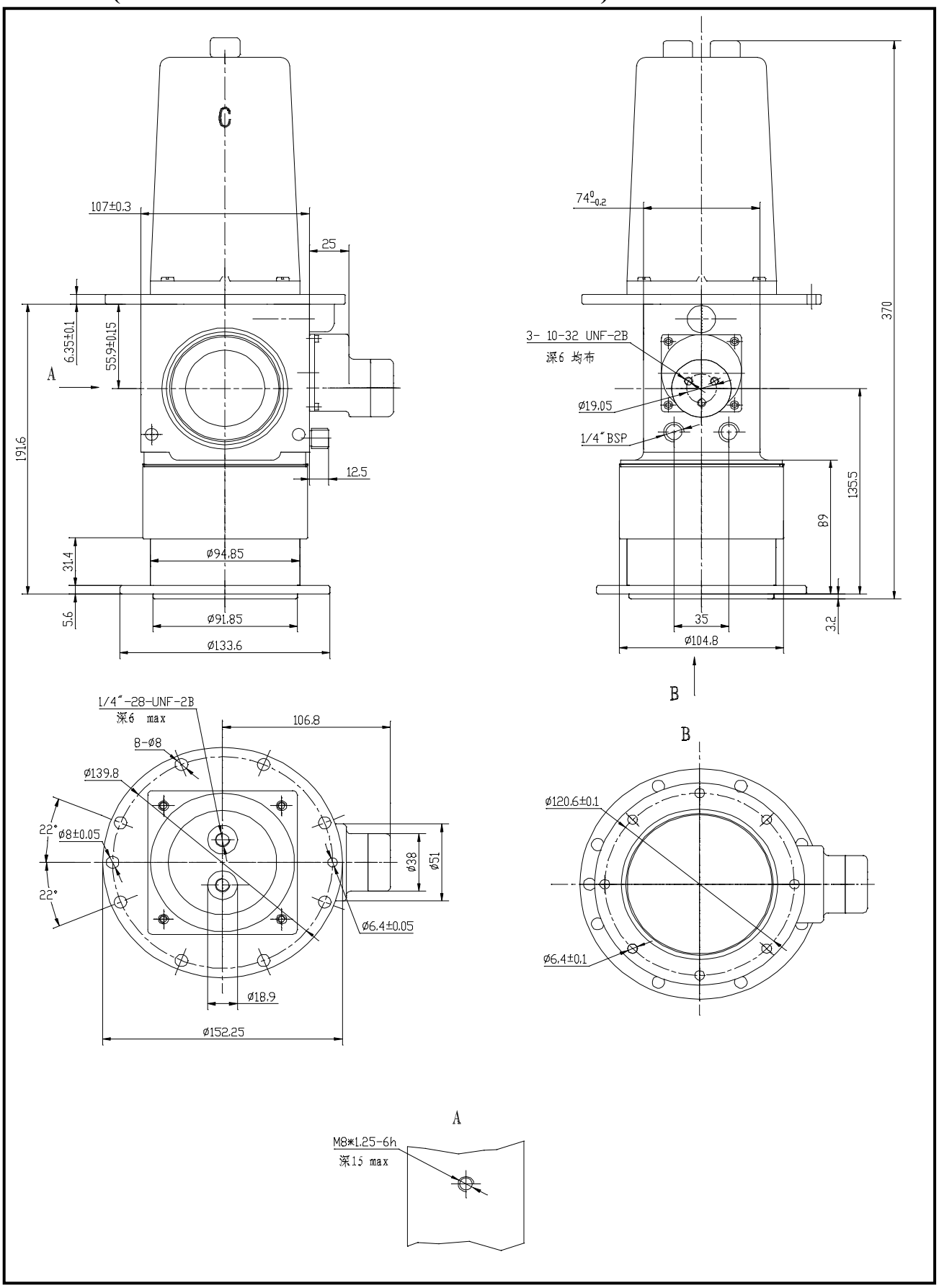
Limits

	Min	Max	
Anode voltage (peak) ……40		48	kV
Output power (mean)...……...2.2		–	kW
Frequency:			
lower end of tuning range……....–		2993	MHz
upper end of tuning range …….3002		–	MHz
RF bandwidth at 1/4 power …….–		1.0	MHz
Frequency pulling (VSWR			
not less than 1.5:1)…… …...–		7.0	MHz
Stability……..–		0.5	%
Inlet water at 25℃			

HEATER VOLTAGE REDUCTION SCHEDULE



OUTLINE (All dimensions without limits are nominal)



Address:ST28 Xihu Road,Kunshan,Jiangsu Provice,China
TEL：400 9280 680
Web:www.glvac.com
FAX：+86（512）36872122
E-mail：marketing@glvac.cn
Zip：215333