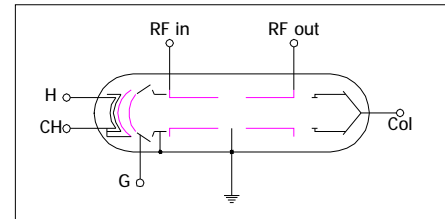
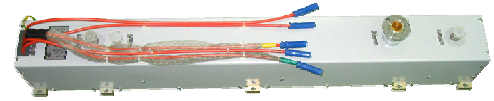


## Features

Frequency range	1,2 to 1,5 GHz
RF peak output power	20 kW
RF average output power	400 W
Gain	32 dB
Duty cycle	2 %

## Description

The L13 is a ring and bar, grid-pulsed and liquid cooled traveling wave tube for use as a driver or output tube in advanced radar system and test equipment. Each tube delivers at least 20 kW of RF peak power and minimum 400 W of average output power in L band without adjustment. The tube has a metal-ceramic vacuum envelope, single-stage depressed collector and periodic permanent magnet focusing structure.



H – heater; CH – cathode-heater;  
G –grid; Col – collector

## RF Performance Requirements

TECHNICAL DATA	MIN	MAX	UNITS
Frequency range	1,20	1,50	GHz
RF peak output power	20	-	kW
RF average output power	400	-	W
Gain	32	-	dB
RF drive power	-	12	W
Load VSWR	max 2:1		

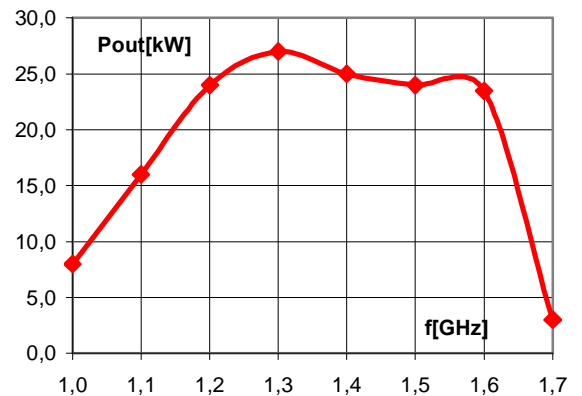
## Electrical Requirements

TECHNICAL DATA	MIN	MAX	UNITS
Cathode voltage	-16,5	-18,5	kV
Collector voltage	83 % cathode voltage		
Grid bias voltage	-500	-700	V
Grid pulse voltage	+400	+700	V
Cathode pulse current	-	8,0	A
SWS pulse current	0,3	3,2	A
Duty cycle	-	2	%
Pulse width	-	60	μs
Ion pump voltage	-	-2,0	kV
Heater voltage	10,0	12,0	V
Heater current	4,5	5,0	A
Heater warm-up time	4		min

## Notes

- The cathode and ion pump voltages are measured with respect to the ground.
- The heater, grid and collector voltages are measured with respect to the cathode.
- Optimum output power may occur after slight tuning of grid pulse voltage and RF input power at operating frequency.

## Chart



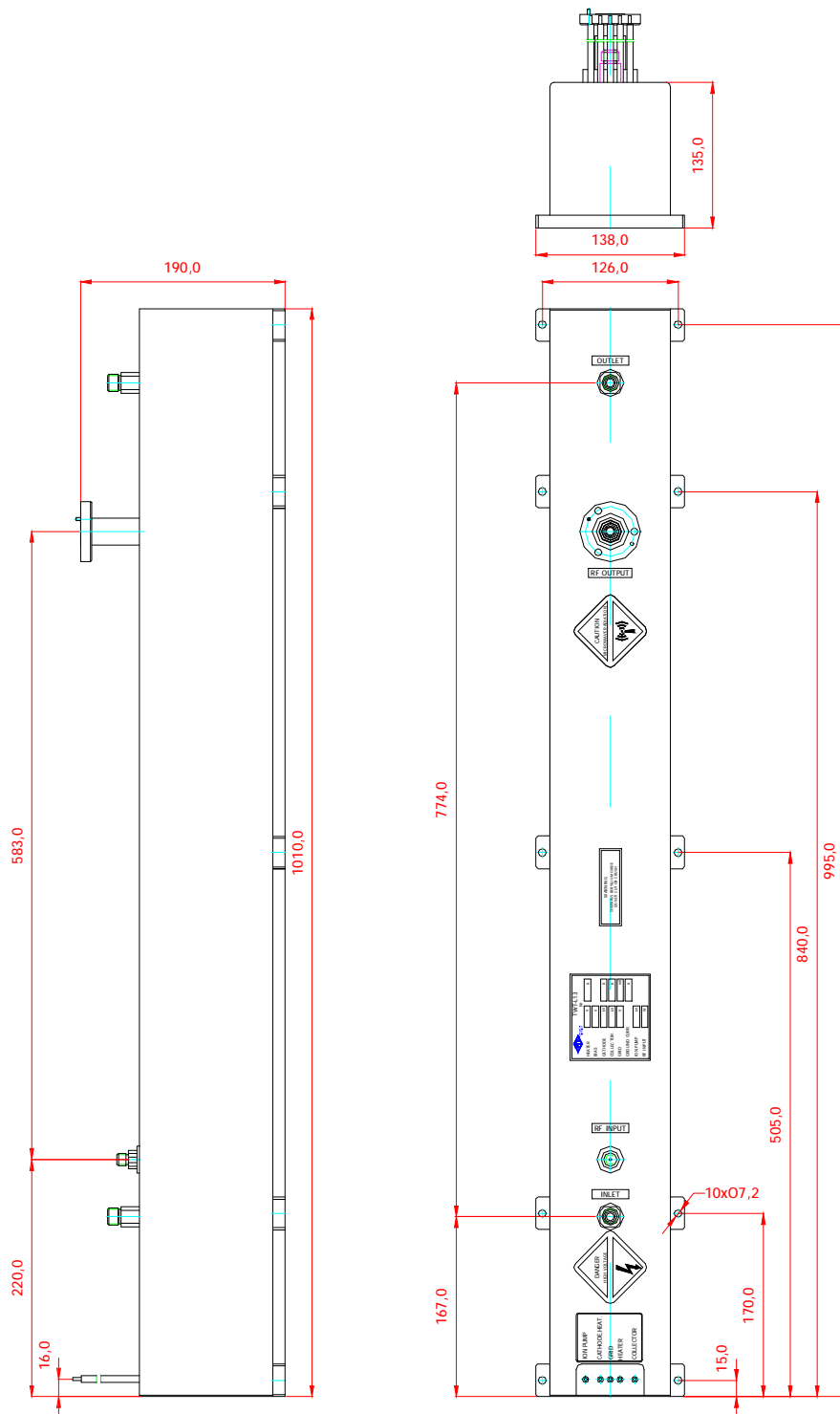
Output power versus input frequency

## Mechanical Description

Dimensions	See Outline Drawing
Weight	27,0 kg
Liquid cooling	4.0 l/minutes, 60°C max on inlet
Mounting Position	Any
RF input connector	N50
RF output connector	7/8" EIA

**PIT - RADWAR S.A.**  
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The mechanical dimensions can be modified. Current detailed outline drawing are available on request.  
All mechanical dimensions are in [mm].

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