



EIMAC

A Division of Varian Associates
SAN CARLOS, CALIFORNIA

Tentative Data

5K50CB

**10 KW CW
POWER AMPLIFIER
C-BAND KLYSTRON**

The Eimac 5K50CB power-amplifier klystron operates at frequencies from 4.4-5.0 kilomegacycles with a rated output power of 10 kilowatts and a minimum gain of 60 decibels. This klystron is intended primarily for use in tropospheric scatter communications systems.

A confined flow configuration is used in the electron gun of the 5K50CB to minimize focusing adjustments and to provide a thoroughly stable beam.

This electron gun is completely enclosed in a metal shield with integral shielded connecting leads to reduce the high voltage hazard to a minimum.

The small size and light weight of the 5K50CB make it suitable, where necessary, for mounting on the antenna structure of the system in which it is used.

Five integral cavities are used in the 5K50CB. Both input and output couplings are fixed. Unusual stability, for this power and frequency, is achieved through the use of improved body cooling.

The 5K50CB incorporates a built-in vacuum pump in the form of a titanium getter which should be energized whenever heater power is applied.

A focusing electromagnet and klystron supporting structure, Catalog Number H-175, has been designed for use with the 5K50CB.



CHARACTERISTICS

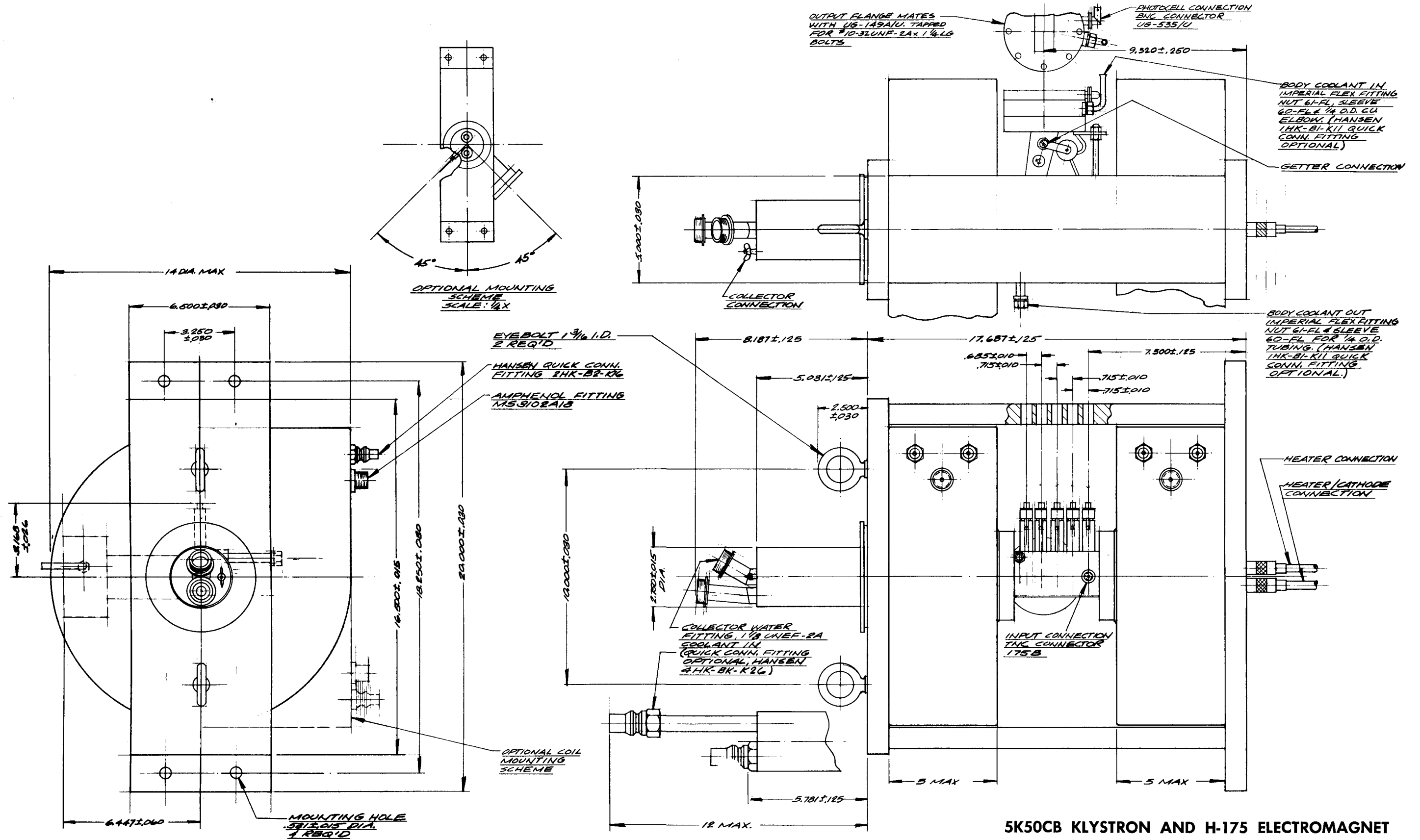
ELECTRICAL

Heater: Voltage	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10 volts
Current	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.0 amperes
Cathode: Impregnated, Unipotential															
Heating Time	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5 minutes
Getter: Voltage	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.0 volts
Current	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25 amperes
Power Gain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60 decibels
Output Power	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10 kilowatts
Frequency Range	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.4-5.0 kilomegacycles
Phase sensitivity to beam voltage	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.06 degrees/volt



5K50CB

5K50CB



5K50CB KLYSTRON AND H-175 ELECTROMAGNET

5K50CB

Operating Position	-	-	-	-	-	-	-	-	-	-	-	Axis Vertical, Cathode Down				
Output rf Coupling	-	-	-	-	-	-	-	-	-	-	-	-	-	RG49/U Waveguide		
Input rf Coupling	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	TNC
Dimensions: Klystron only	-	-	-	-	-	-	-	-	-	-	-	-	-	6 x 7 x 26½ inches		
Electromagnet:																
Height	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18.5 inches
Width	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.5 inches
Depth	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20 inches
Weight: Klystron only	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30 lbs
Electromagnet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	270 lbs
Cooling: 52.5/47.5 Solution, Ethylene Glycol and Water												Flow Rate	Pressure Drop			
Body	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5 gpm	50 psi	
Collector	-	-	-	-	-	-	-	-	-	-	-	-	-	9 gpm	50 psi	
Electromagnet	-	-	-	-	-	-	-	-	-	-	-	-	-	2 gpm	50 psi	

ELECTROMAGNET POWER-SUPPLY REQUIREMENTS

[illegible]

MAXIMUM RATINGS

[illegible]

TYPICAL OPERATION – TUNED FOR HIGH EFFICIENCY

[illegible]

For additional information or information regarding a specific application, write to Eimac Division, Varian Associates, 301 Industrial Way, San Carlos, California