



KLYSTRON

A two cavity fixed Tuned Klystron Oscillator for Transmitter operation in the 'X' Band. This valve is designed to minimise the effects of vibration and to withstand heavy acceleration.

PHYSICAL DETAILS.

Overall Length	170 mm.
For other dimensions see outline drawings on Page 3.	
*Output Waveguide	W.G. 16—American Type UG39/U.
Water Connections	$\frac{1}{2}$ in. B.S.P.
Mounting Position (Preferred)	Vertical with Cathode down.
Weight	1 lb. 10 ozs. 0.73 kg.

HEATER.

Heater Voltage	7 to 8.5 volts.
Heater Input Power	15.5 to 21 watts.
Heater Resistance at 18w. Input Power	1.9 to 2.1 ohms.
Cold Heater Resistance	0.2 ohms.
Max. Heater Switching Surge	8 amps.

RATINGS.

Max. Beam Voltage	8.0 kV.
Max. Beam Current	40 mA.

FREQUENCY.

†Operating Frequency	9500 ± 25 Mc/s.
Tuning Range	Fixed Tuned.

WATER COOLING.

The valve is provided with water cooling circuits on both block and collector. With these connected in series a flow of not less than 0.5 litre/min. of water at 25°C. is necessary.

TYPICAL OPERATION AND CHARACTERISTICS.

Beam Voltage	7.2 to 7.8 kV.
Beam Current	30—40 mA.
Output Power	10—20 watts.
Beam Voltage at low end of mode	5.6 to 6.2 kV.
§Electronic Tuning Range	2 Mc/s. for 600 volts. ± 100 volts.
**Frequency Pushing with Beam Voltage	4.2 kc/s/V.
Frequency Pushing with Heater Current	150 c/s/Amp.
††Frequency Pulling	1.1 Mc/s.
§§Frequency Drift	< 2 kc/s/hour.
Temp. Coefficient Frequency	150 kc/s/°C.
Microphony	Less than 500 c/s/g. up to 10g. in the range 20—5000 c/s. Shocks up to 150g of 7 milliseconds duration produce no detectable frequency variation.
Shock	

*Bolts to UG 40A/U. Choke Flange.

†This is the frequency to which these Klystrons are normally tuned.

††Tubes for operation at other frequencies in the range 8500 to 10,000 Mc/s. can be supplied to special order.

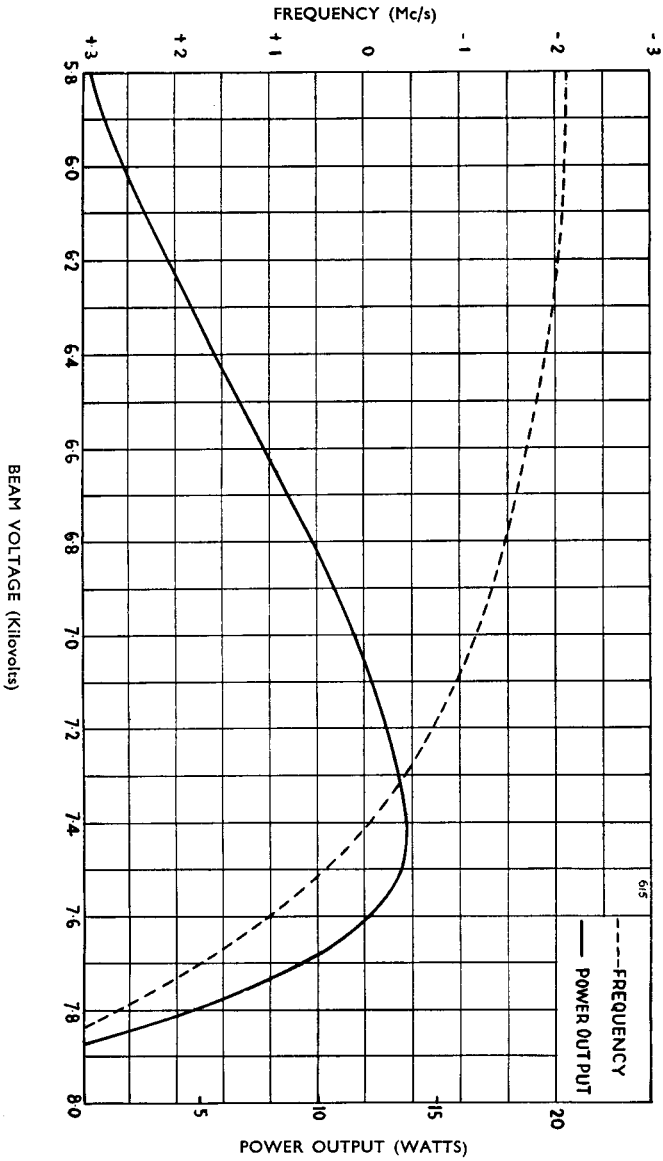
§For a power variation of less than 1dB.

**At optimum power output.

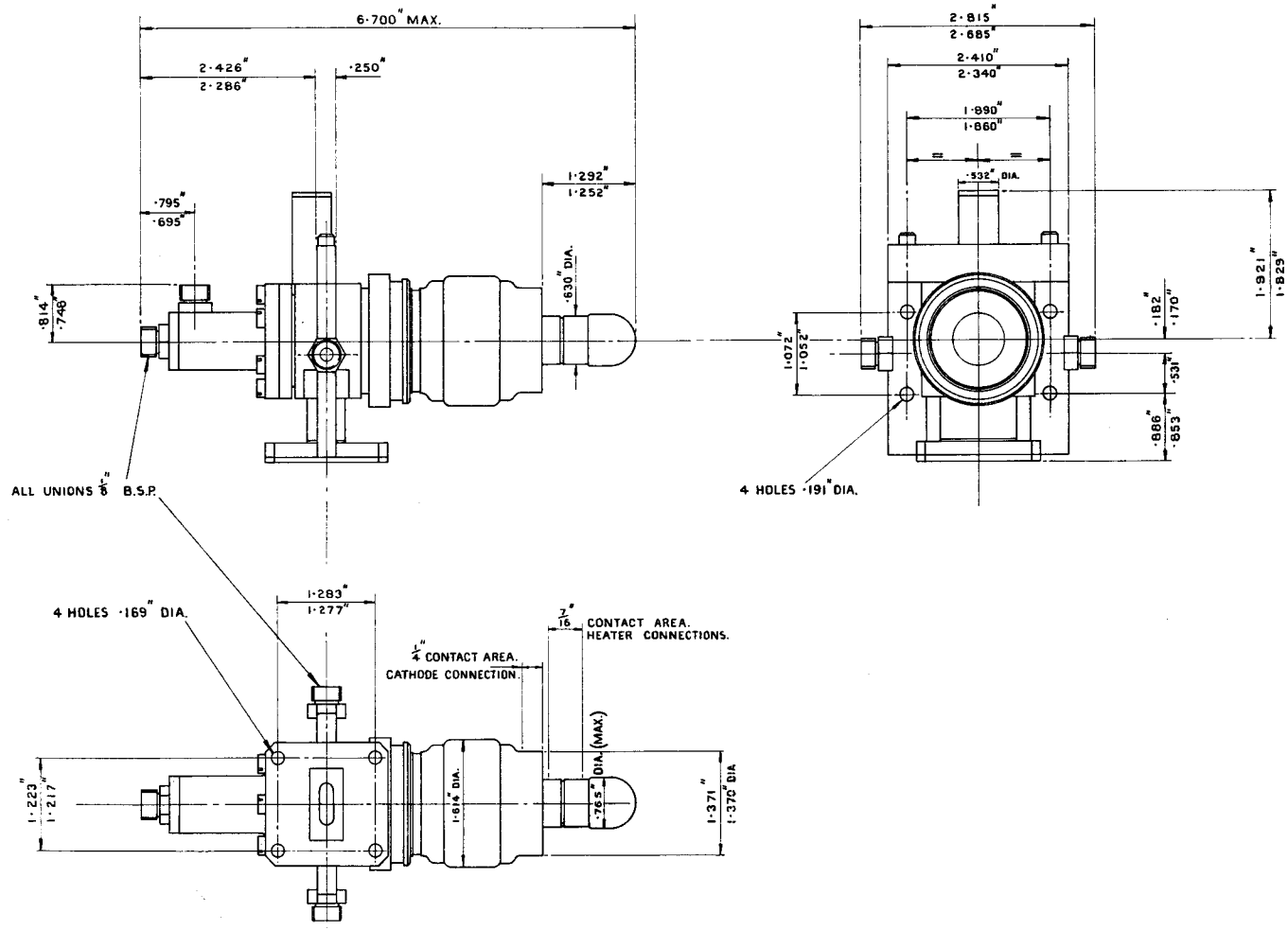
†††All phases of V.S.W.R. 1.5:1.

§§§At constant temperature.



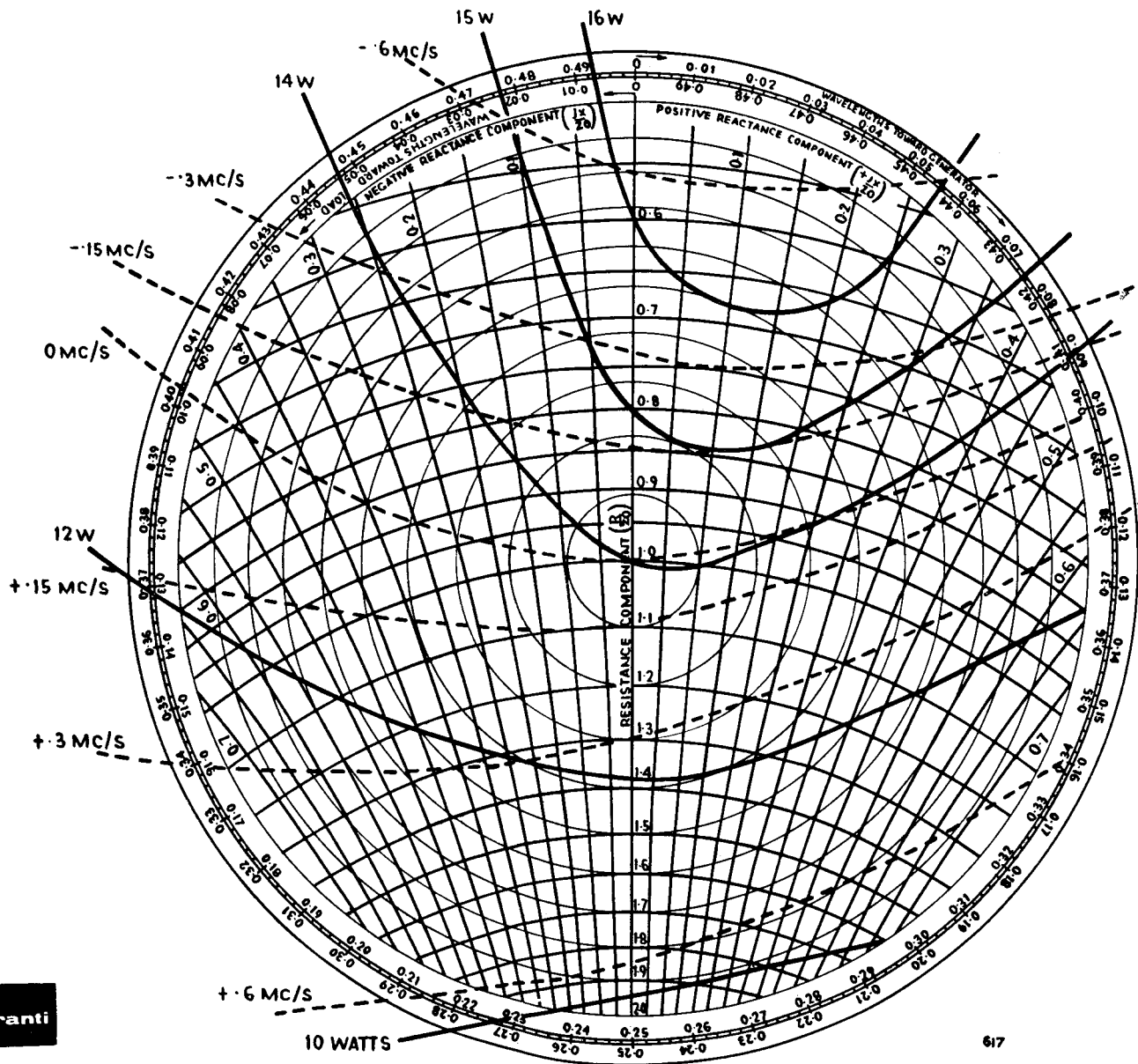


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RIEKE DIAGRAM



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