

Ferranti



CATHODE RAY TUBES

5G/75

This 125 mm. (5") diameter cathode ray tube features ultra high resolution (2000 lines/inch). It has an optically-flat face-plate and is fitted with a tetrode gun.

GENERAL DESCRIPTION

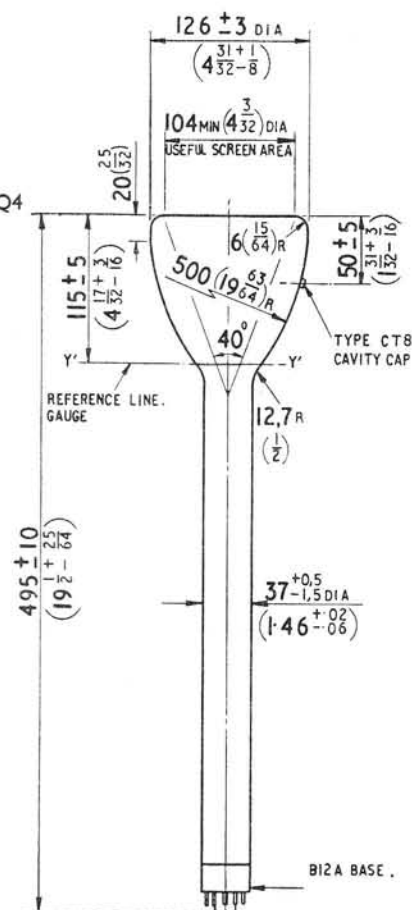
Screen Area	104 mm. (4") diameter
Deflection Angle	40° total
Deflection	Magnetic
Focus	Magnetic
Gun	Tetrode with limiting aperture
Screen	Aluminised: Phosphors A, P, Q and Q4
Faceplate	Optically Flat

PHYSICAL DATA

Max. Overall Length	505 mm. (19.88")
Max. Diameter... ..	129 mm. (5.08")
Nom. Neck Diameter... ..	37 mm. (1.46")
Min. Useful Screen Diameter	104 mm. (4.09")
Total Deflection Angle ...	40°
Base	BS.448: B12A (Duodecal)
Anode Cap	BS.448: CT8 (JEDEC J1-21)
Weight	0.85 kg. (1lb. 14oz.)

For dimensions of tube see outline drawing.

For dimensions of reference line gauge see drawing on page 4.



Dimensions in Millimetres
(Inch conversions in brackets)

BASE CONNECTIONS

Pin No.	Connection	Pin No.	Connection
1	Heater	7	None
2	Grid	8	No pin
3	No pin	9	No pin
4	No pin	10	Anode 1
5	No pin	11	Cathode
6	None	12	Heater

Side Contact—Anode 2

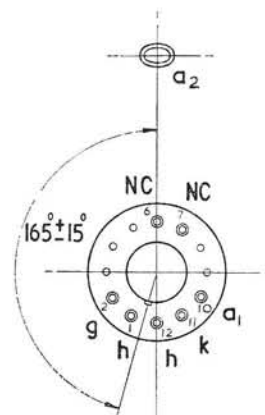
EXTERNAL FINISH

This tube is available in the following standard finishes:

Plain bulb— Code letter M.

Potted anode—Code letter O.

Other finishes may be supplied to special order. For details please refer to the general section "Nomenclature" in the Microspot Handbook.



SCREENS

All screens are aluminised.

Ferranti phosphors A, P, Q and Q4 are recommended for use with this tube. For the characteristics of these, please refer to the individual data sheets in the "Phosphor Data" section of the Microspot Handbook.

Other phosphors may be supplied to special order but it should be noted that not all types are suitable for use with this tube.

FACEPLATE

This is optically flat and is 6.35 mm. (0.25") thick. The angle between the normal to the faceplate and the axis of the neck is less than $0^{\circ} 30'$.

The refractive indices are:

$$N_D = 1.50632$$

$$N_B = 1.51217$$

$$N_G = 1.51677$$

ELECTRICAL RATINGS AND CHARACTERISTICS

	min.	nom.	max.	Typical Operation
Heater Voltage	5.7	6.3	6.9	6.3 V
Heater Current	—	0.3	—	0.3 A
First Anode Voltage	1.0	—	2.5	2.0 kV
Final Anode Voltage	12	—	30	25 kV
Grid Voltage for Visual Cut-off	—	—	—	-60 to -160 V
Heater-Cathode Voltage				
Heater positive	—	—	200	— V
Heater negative	—	—	200	— V
Grid-Cathode Resistance	—	—	1.5	— $M\Omega$

RESOLUTION

See graph on page 3.

RADIANCE

See graph on page 3.

CAPACITANCE

C_{k-a11} 8pF Max.

C_{g-a11} 8pF Max.

OPERATING NOTES

This tube has a limiting aperture through which it is necessary to align the beam. This can be effected either with the magnet supplied or by using an alignment coil such as the Ferranti FC10A.

The mu-metal shield supplied should be fitted on the tube neck behind the focus coil.

To achieve the maximum performance of which the tube is capable, it is necessary to align all the coils. For full details of the recommended alignment procedures, please refer to the general section "Operating Notes" in the Microspot Handbook.

The recommended positions for the coils are given in the drawing on page 4.

X-RAY WARNING

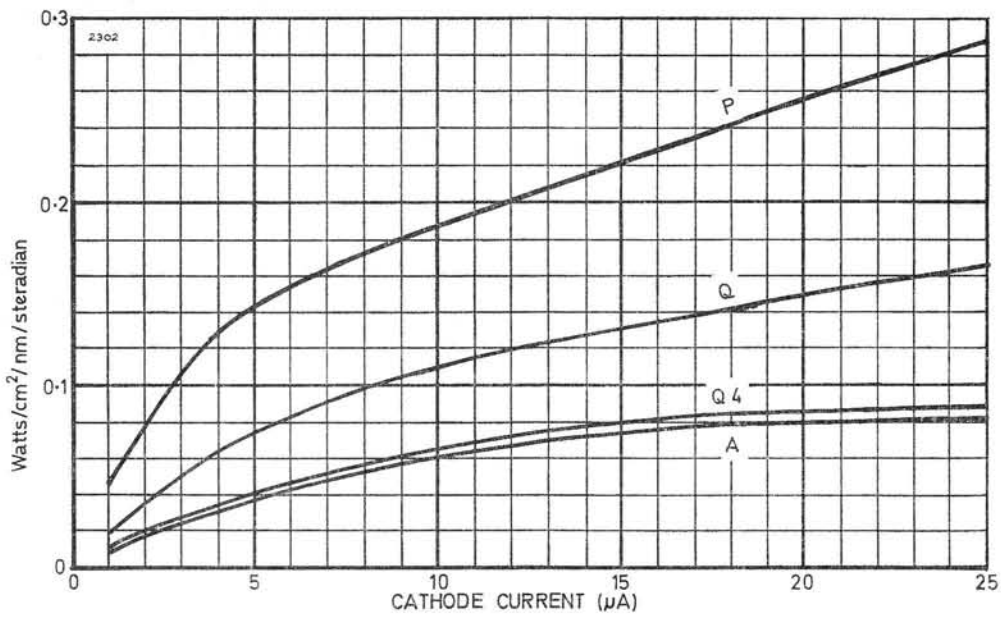
When operated at anode voltages in excess of 16kV, X-Ray shielding may be required to give protection against the possible danger of prolonged exposure.

ORDERING

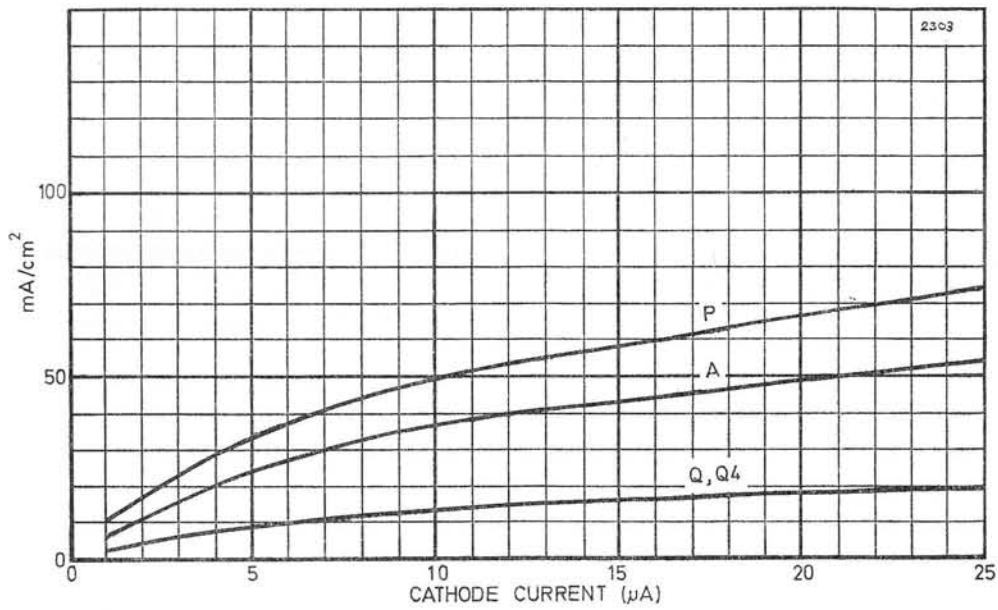
When ordering this tube, the type number must be followed by the code for the phosphor type required. This in turn must be followed by the code for the external finish desired. Thus if this tube is required to be supplied with a type Q4 phosphor and a plain bulb, the full type number is 5G/75Q4M. Full details of the coding system are given in the general section "Nomenclature" in the Microspot Handbook.

NOTE

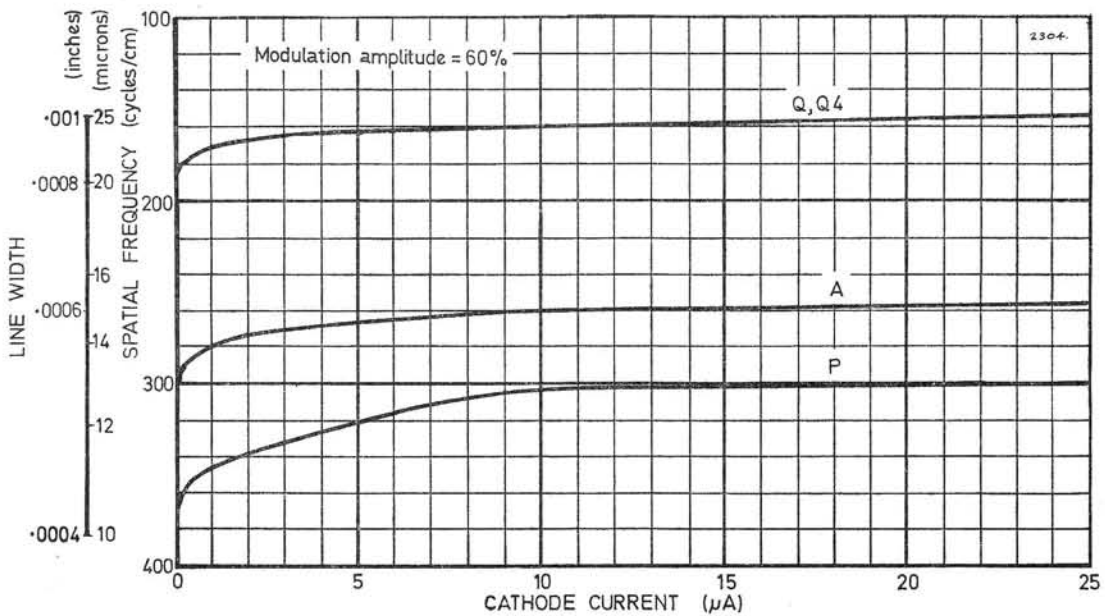
This data sheet should be read in conjunction with the general information sections and the phosphor data sections of the Microspot Handbook.



TYPICAL RADIANCE

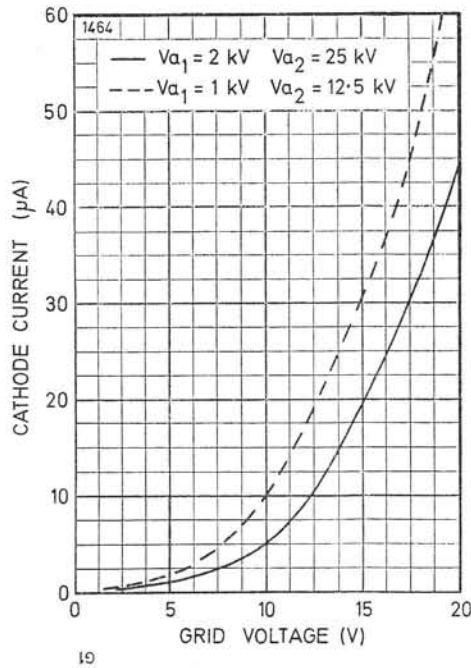


TYPICAL SCREEN LOADING

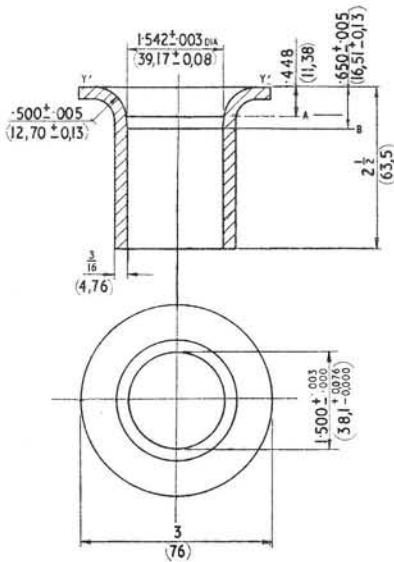


TYPICAL RESOLUTION

TYPICAL GRID DRIVE



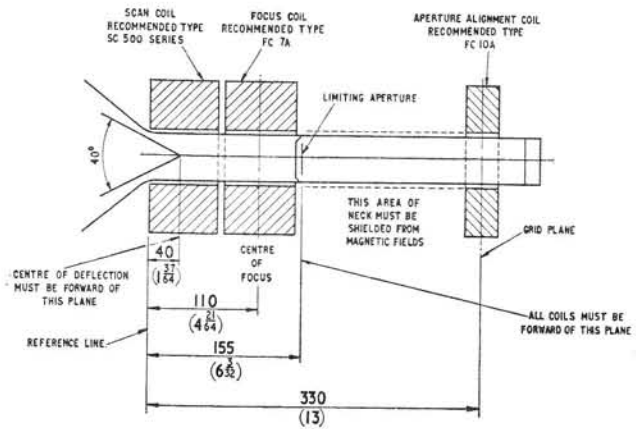
REFERENCE LINE GAUGE
(JEDEC GAUGE No. 110)



REFERENCE LINE IS DETERMINED BY THE PLANE Y'-Y'
REFERENCE LINE IS DETERMINED BY POSITION WHERE
GAUGE RESTS ON BULB CONE.
6° TAPER BETWEEN DIMENSIONS A & B.

Dimensions in Inches
(Millimetre conversions in brackets)

RECOMMENDED COIL POSITIONS



Dimensions in Millimetres
(Inch conversions in brackets)

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Telephone: (061) MAIn 6661
Telex: 66-247

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