

This vapour-cooled triode is designed for use as an r.f. power amplifier or oscillator and is suitable for cathode drive operation.

## MAXIMUM RATINGS

|                                               |      |     |
|-----------------------------------------------|------|-----|
| Direct anode voltage (Note 1)                 | 14   | kV  |
| Direct anode current                          | 18   | A   |
| Anode dissipation                             | 125  | kW  |
| Grid dissipation                              | 2,75 | kW  |
| Maximum operating frequency for above ratings | 27   | MHz |

Note 1. For Class C anode modulated operation (100% carrier modulation) the maximum anode voltage is 12kV.

## TYPICAL OPERATING CONDITIONS

## Class C. R.F. Power Amplifier or Oscillator

|                                                 |       |    |
|-------------------------------------------------|-------|----|
| Filament voltage, per filament section          | 9,6   | V  |
| Filament current, nominal, per filament section | 290   | A  |
| Direct anode voltage                            | 14    | kV |
| Direct grid voltage                             | -765  | V  |
| Peak r.f. grid voltage                          | 1 305 | V  |
| Anode current                                   | 17,5  | A  |
| Grid current, approx.                           | 3,1   | A  |
| Anode dissipation                               | 45    | kW |
| Grid dissipation, approx.                       | 1,7   | kW |
| Drive power, approx.                            | 4,0   | kW |
| Output power                                    | 200   | kW |
| Efficiency                                      | 81    | %  |

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**ITT**  
**COMPONENTS**

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## CATHODE

Thoriated tungsten filament (Note 2)

|                                                         |               |          |
|---------------------------------------------------------|---------------|----------|
| Filament voltage, per section                           | 9,6V $\pm$ 5% |          |
| Filament current, per section, at 9,6V                  | min. 263      | max. 311 |
| Maximum difference between current in each section      | 15            |          |
| Filament cold resistance, per section                   | 0,004         |          |
| Maximum filament starting current, per section (Note 3) | 700           |          |
| Maximum usable emission                                 | 175           |          |

A  
A  
 $\Omega$   
A  
A

Note 2. The filament consists of two sections. Each section is connected across diagonally opposite pairs of filament terminals. The two filament sections should be operated in phase quadrature.

Note 3. This starting current must not be exceeded even momentarily.

## CHARACTERISTICS

|                                                         |         |          |      |
|---------------------------------------------------------|---------|----------|------|
| Amplification factor (at $V_a = 9,0kV$ : $I_a = 5,0A$ ) | min. 31 | max. 39  |      |
| Mutual conductance (at $V_a = 9,0kV$ : $I_a = 5,0A$ )   | min. 78 | max. 102 | mA/V |

## DIRECT INTERELECTRODE CAPACITANCES

|                   |     |    |
|-------------------|-----|----|
| Grid to anode     | 108 | pF |
| Grid to filament  | 259 | pF |
| Anode to filament | 3,5 | pF |

## COOLING

The anode, which is fitted into an approved type of boiler, is cooled by the evaporation of water. The resulting steam is condensed by either an internal or an external condenser.

The anode seal and bulb temperatures must not exceed 180°C.

To give protection against overheating of the anode, a thermal fuse is fitted in one of four possible positions provided by threaded holes equally spaced around the top surface of the anode ring. The fuse is screwed into position and connected by a non-conducting cord to a suitable switching device. A cord tension of 1 lb (450 g) will ensure that if the anode temperature exceeds the safe limit, the fuse core is pulled out and the safety switch removes all electrical supplies from the tube.

The filament and grid seals are cooled by forced-air. Normally an air flow of 60 ft<sup>3</sup>/min (1,7 m<sup>3</sup>/min) directed into the filament header from a 2 inch (50 mm) diameter orifice is sufficient for the purpose.

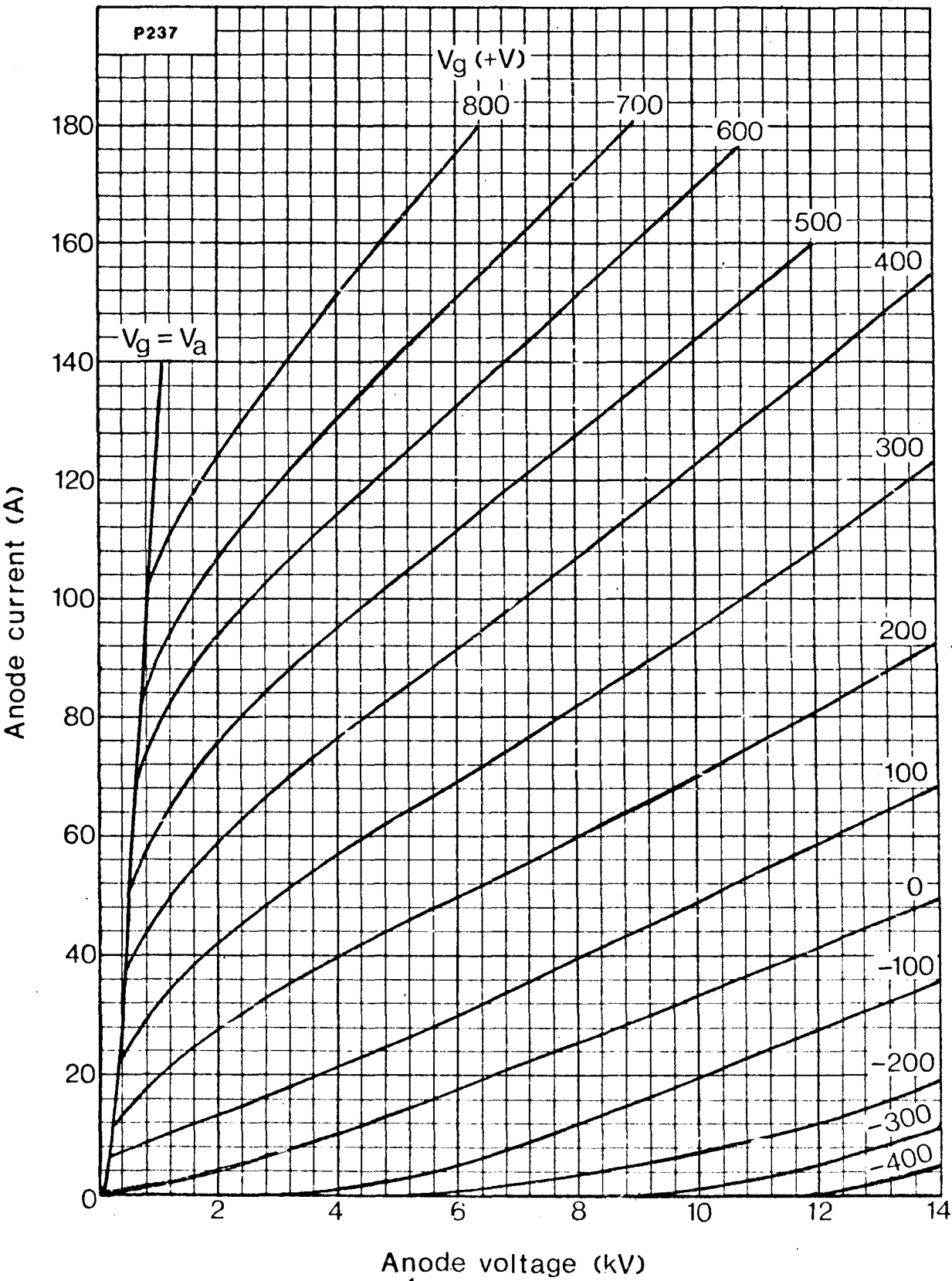
The maximum temperature of the filament and grid seals must not exceed 140°C.

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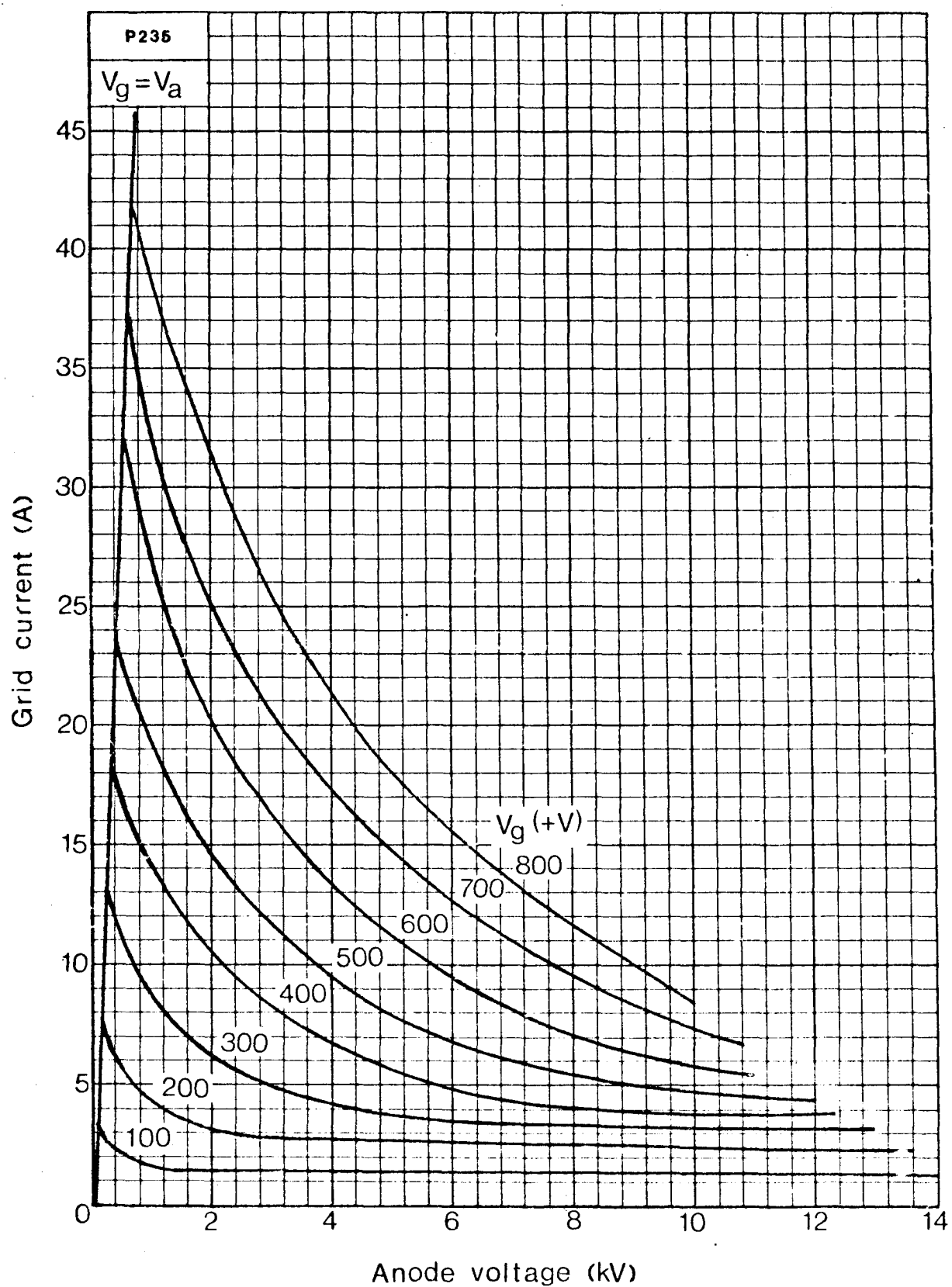
MECHANICAL DATA

|                        |                                                                                                                                                                                         |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dimensions             | As shown in outline drawing included                                                                                                                                                    |
| Mounting position      | Vertical, anode downwards                                                                                                                                                               |
| Net weight             | 125 lb (57 kg)                                                                                                                                                                          |
| Accessories            |                                                                                                                                                                                         |
| Boiler unit     }      | The tube manufacturer should be consulted as to                                                                                                                                         |
| Condenser       }      | types required for specific applications                                                                                                                                                |
| Sealing ring           | Type PSL024 supplied with tube                                                                                                                                                          |
| Thermal fuse           | Type RSW011A, two supplied with tube                                                                                                                                                    |
| Tube lifting equipment | The tube should be lifted by four lifting hooks applied to the underside of the anode corona ring; the hooks being connected by suitable cables to a spreader plate and lifting tackle. |

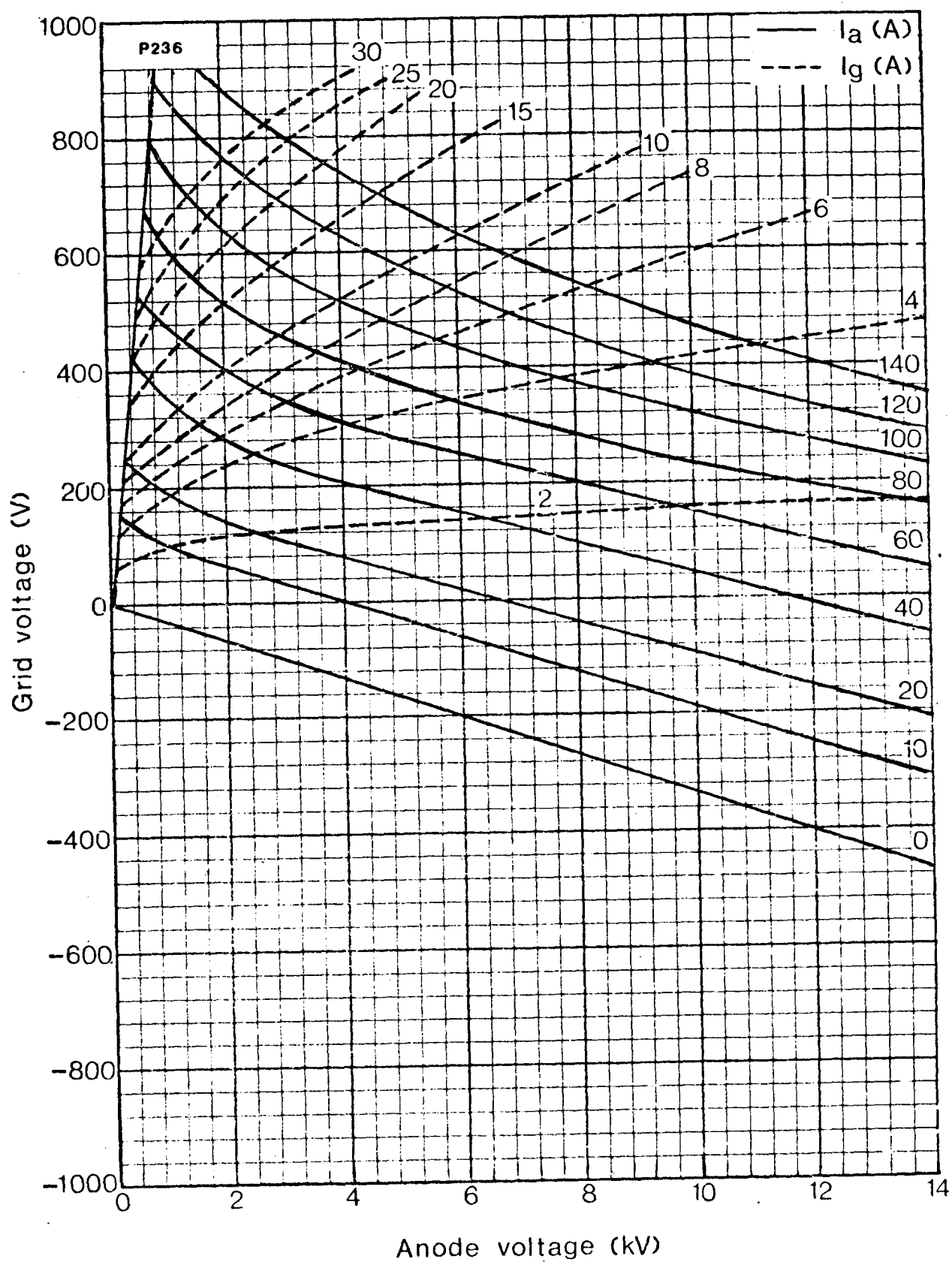
Anode Characteristics



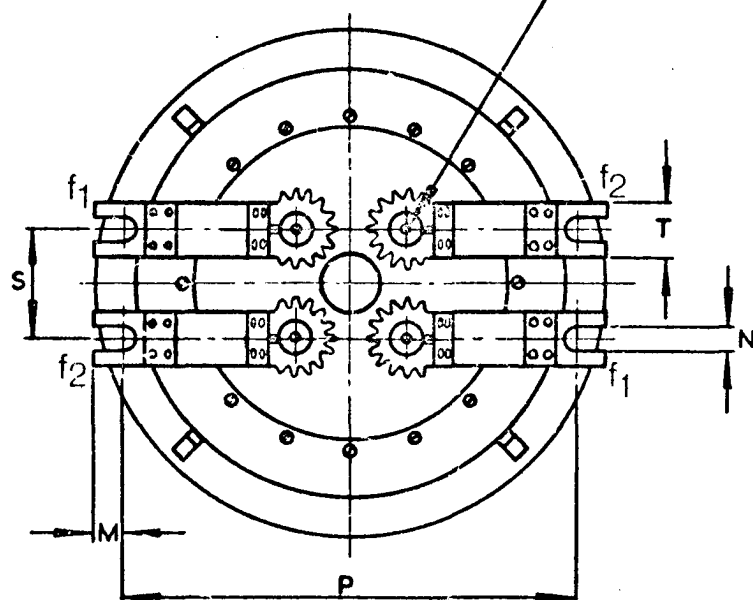
## Grid Characteristics



## Constant Current Characteristics



3Z/340G Outline  
4-filament posts  
H dia. on J p.c.d.



| dim. | mm                | in                |
|------|-------------------|-------------------|
| A    | 332 max.          | 13.06 max.        |
| B    | 256,8 $\pm$ 6,4   | 10.11 $\pm$ .25   |
| C    | 610 max.          | 24.0 max.         |
| D    | 351 max.          | 13.8 max.         |
| E    | 259 max.          | 10.187 max.       |
| F    | 6,35 $\pm$ 0,76   | .25 $\pm$ .03     |
| G    | 50,8              | 2.0               |
| H    | 22,23 $\pm$ 0,13  | .875 $\pm$ .005   |
| J    | 101,6             | 4.0               |
| K    | 274,64 $\pm$ 0,38 | 10.812 $\pm$ .015 |
| L    | 236,53 $\pm$ 0,38 | 9.312 $\pm$ .015  |
| M    | 19,0              | .75               |
| N    | 14,27             | .562              |
| P    | 296,85            | 11.687            |
| Q    | 152               | 6.0               |
| R    | 3,18              | .125              |
| S    | 71,83             | 2.828             |
| T    | 31,75             | 1.25              |
| U    | 228,6 max.        | 9.00 max.         |

Metric dimensions derived from  
original inch dimensions

