MERCURY VAPOUR RECTIFIER

AH211A

Service Type CV532 ←

INTRODUCTION

The AH211A is a hot cathode Mercury Vapour Rectifier with maximum ratings of 16kV peak inverse voltage and 8A peak current. It will provide a D.C. output of 15kV 6A in a three phase full wave circuit.

GENERAL DATA

(See also Preamble to Rectifier Section of this catalogue)

Electrical

Filament	Oxide Coated	
Filament Voltage	2·5	V
Filament Current	30	A
Filament Heating Time	1	Minute
Condensed Mercury Temperature	25 to 50	°C
Max Peak Inverse Voltage	16	kV
Max Anode Current:		
Peak	8	A
Mean (30 seconds Max averaging time)	2	A ←
Under fault conditions (0·1 seconds Max duration)	100	A

Mechanical

Overall Length	13·38 inches	(340 mm)	Max
Overall Diameter	3·19 inches	(81 mm)	Max
Net Weight	1¼ pounds	(0·5 kg)	Approx
Mounting Position		Vertical, base down	
Base		*(See outline drawing)*	

CONTROL OF CONDENSED MERCURY TEMPERATURE

On the following pages two curves are given showing:

1. Total heating time for any value of ambient temperature. This is for use when the valve is being switched on from cold.
2. Rise of condensed mercury temperature above ambient plotted against heating time and cooling time. This can be used as indicated by the example in the preamble to this section of the catalogue.

← Indicates a change.

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MAXIMUM OPERATING CONDITIONS
(Absolute Values—see Preamble)

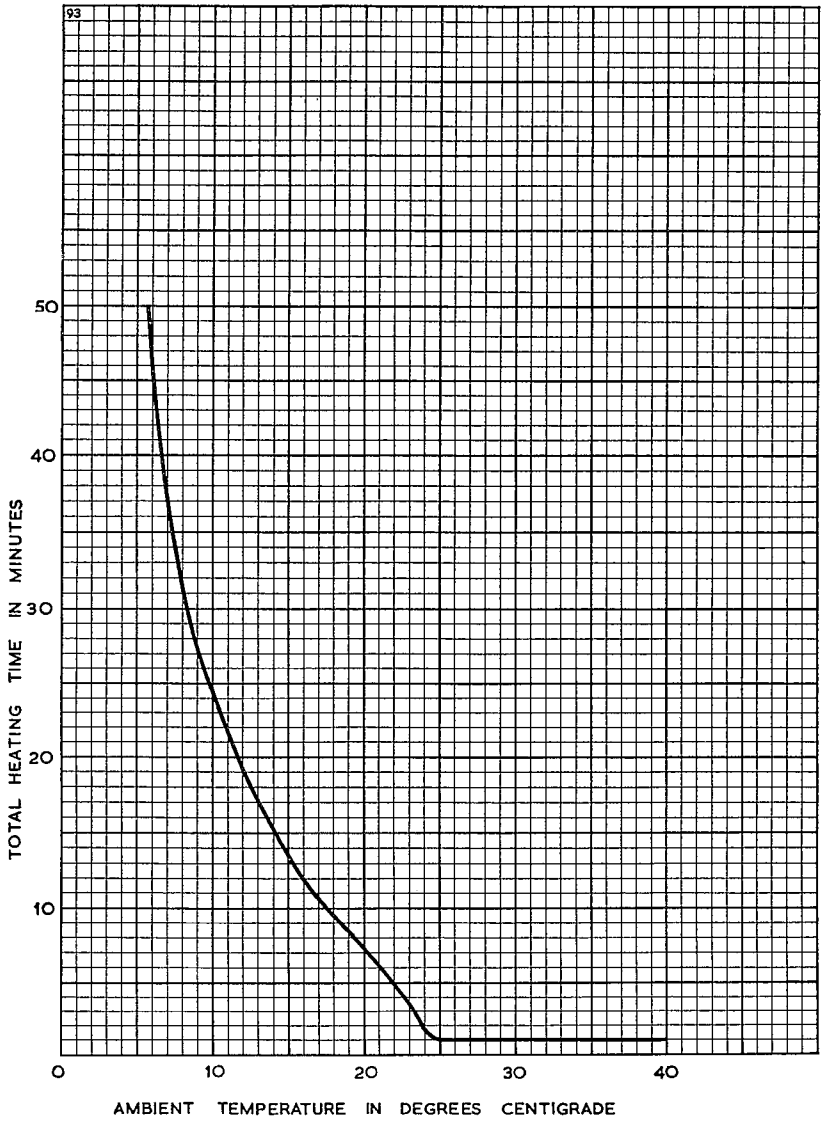
Circuit	* Diagram	Condensed Mercury Temp. °C	Peak Inverse Voltage (50-60 c/s) kV	Anode current in Amperes		Transformer Secondary Voltage (R.M.S.) kV	Max D.C. Output	
				Peak	Mean‡		kV	Amps
Single Phase Full Wave	A	25–50	16	8	2·0	5·6	5·0	4
Single Phase Full Wave Bridge	B	25–50	16	8	2·0	11·2	10·1	4
Three Phase Half Wave	C	25–50	16	8	2·0	6·5†	7·6†	6
Three Phase Full Wave	D	25–50	16	8	2·0	6·5	15·2	6

*For diagrams see Typical Rectifier Circuits for Choke Input Filters in the preamble to this section of the catalogue.

†For operation with constant full load. If the load resistance is increased, the secondary voltage should be decreased (to avoid excessive peak inverse voltage) until at no load the reduction is 14%. The D.C. output voltage will be correspondingly decreased.

‡Mean anode currents are averaged over any period of 30 seconds maximum.

TOTAL HEATING TIME CHARACTERISTIC



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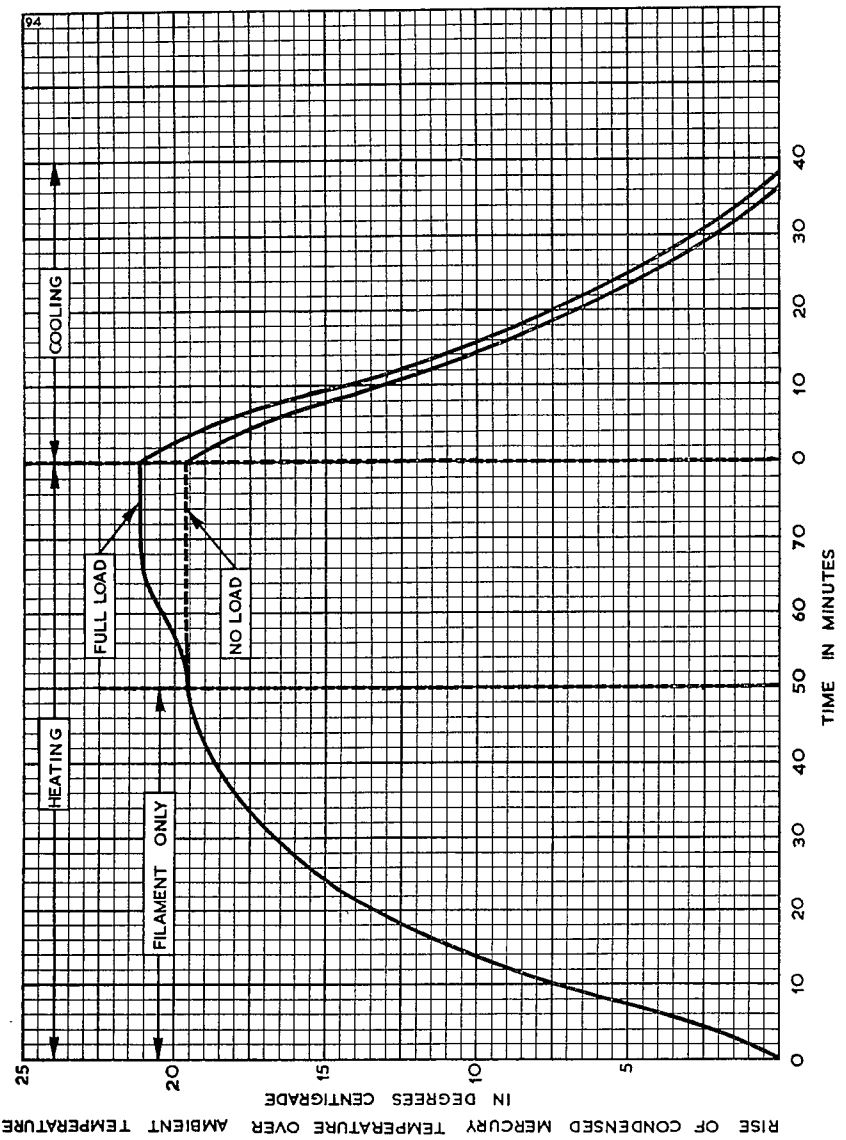
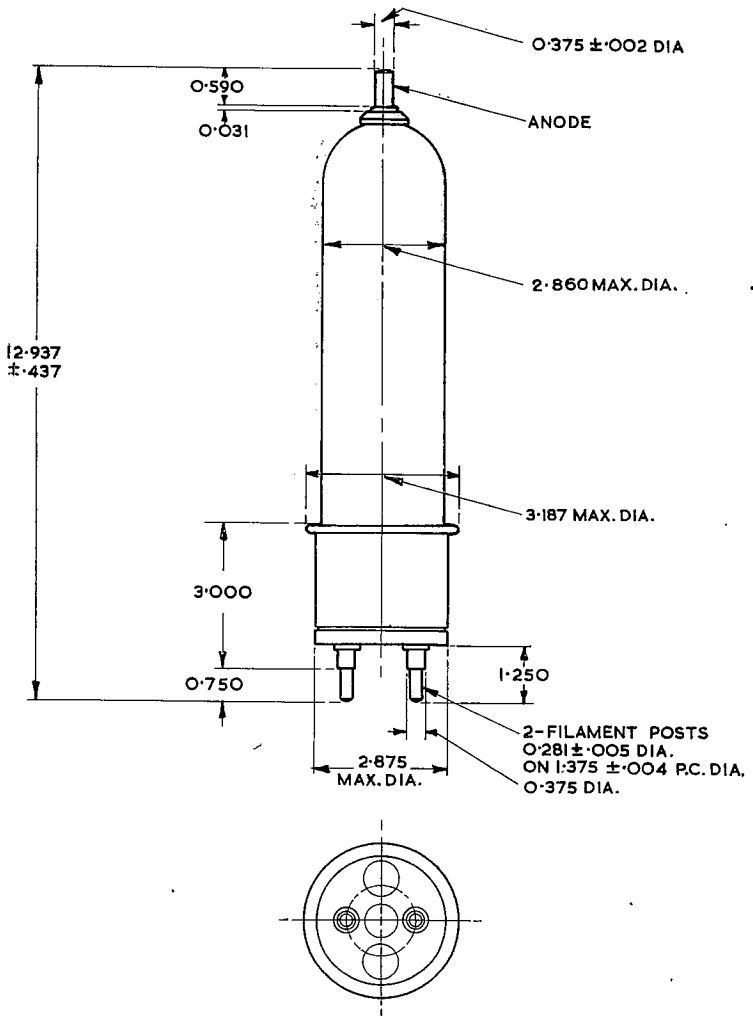
HEATING AND COOLING CHARACTERISTIC



OUTLINE

529

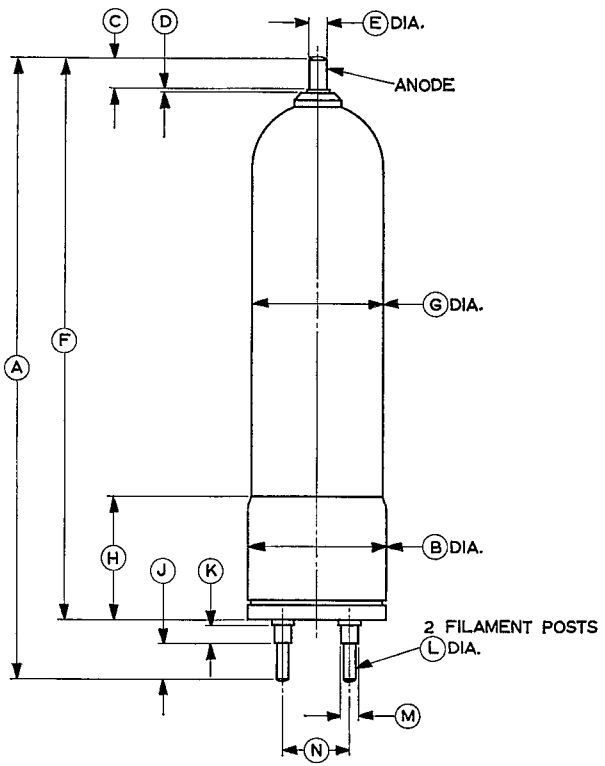


ALL DIMENSIONS IN INCHES

INDICATES A CHANGE ←

OUTLINE

529A



Ref.	Inches	Millimetres	Ref.	Inches	Millimetres
A	12·937±0·437	328·6±11·10	H	2·563	65·10
B	2·875	73·03	J	0·750	19·05
C	0·590	14·99	K	0·375	9·53
D	0·031	0·79	L	0·281±0·005	7·14±0·13
E	0·375±0·002	9·525±0·051	M	0·375	9·53
F	11·687±0·437	296·8±11·10	N	1·375	34·93
G	2·860 Max	72·64 Max			

Millimetre dimensions have been derived from inches.

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