THE M-O VALVE
COMPANY LIMITED

A2900

GEC

LONG LIFE
DOUBLE TRIODE

BRIEF DATA

A double triode, with separate cathodes, for use in applications where long life and close control of characteristics are essential. The valve will maintain its emission capabilities after long periods of operation under cut-off conditions.

The A2900 is a commercial equivalent of the CV6091.

HEATER

	Series	Parallel	
Heater voltage	12.6	6.3	V
Heater current (approx)	0.2	0.4	A

MAXIMUM RATINGS (Absolute)

DC anode supply voltage	550	V
DC anode voltage	500	V
DC anode current per section	12	mA
Anode dissipation per section	3.5	W
Total anode dissipation	6.0	W
Negative grid voltage	100	V
Positive grid voltage	0	V
Grid-cathode circuit resistance (cathode bias)	3	MΩ
Grid-cathode circuit resistance (fixed bias)	1.5	MΩ
Heater-cathode voltage (heater positive)	100	V
Heater-cathode voltage (heater negative)	250	V
Bulb temperature	180	°C

CAPACITANCES (Measured on a cold unscreened valve)

$c_{g\text{-}k'h}$:	3 pF	$c_{a'\text{-}k'h}$:	0.32 pF	$c_{a'\text{-}g'}$:	2.6 pF
$c_{g''\text{-}k''h}$:	3 pF	$c_{a''\text{-}k''h}$:	0.23 pF	$c_{a''\text{-}g''}$:	2.6 pF
$c_{a'\text{-}a''}$:	0.7 pF	$c_{a'\text{-}g''}$:	0.08 pF	$c_{a''\text{-}g'}$:	0.11 pF
$c_{h\text{-}k+all}$:	9.3 pF				

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CHARACTERISTICS : INITIAL SPREADS

	Min	Mean	Max	
*I_h (at V_h = 12.6)	0.19	0.20	0.21	A
*$I_{h-(k'+k'')}$ (at $V_{h-(k'+k'')}$ = ±100 V) . .	—	—	5	μA

The following apply to each triode section measured separately at V_b = 250 V, R_k = 200 Ω (by-passed), both sections operating during the measurements.

	Min	Mean	Max	
I_a	8.4	10.0	11.6	mA
*I_a difference between sections . . .	—	—	1.25	mA
$-I_g$	—	—	0.12	μA
g_m	5.3	6.2	7.1	mA/V
*g_m difference between sections . . .	—	—	1.0	mA/V
*μ	52	62	72	—
†$-V_g$ for I_a = 10 μA	—	—	12.5	V

*Expected spreads based on sample tests.

†Tail measurement, with grid bias applied to section under test only.

LIFE PERFORMANCE

The average life expectancy of the A2900 is at least 10000 hours. In order to obtain maximum life the valve must be operated within the ratings given on page 1, the environment must be a static one and the valve should be switched not more than 12 times in each 24 hours.

A valve is considered to have reached the end of life when it is either inoperative or one or more of its characteristics have reached the following values:-

DC anode current (min)	8	mA
Negative dc grid current (max)	0.15	μA
Mutual conductance (min)	4.75	mA/V

measured at V_b = 250 V and R_k = 200 Ω.

PULSE OPERATION

Pulse operation is not covered by the foregoing life expectancy information. However the A2900 is useful in pulse applications where its closely controlled characteristics are an advantage. The following additional maximum ratings apply:

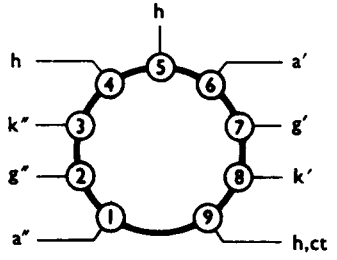
Peak anode voltage	1000	V
DC anode-grid voltage	600	V
Peak cathode current per section	750	mA
Negative peak grid voltage	200	V
Positive peak grid voltage	100	V
Grid dissipation per section	0.25	W
Pulse duration	5	μs

INSTALLATION

The valve may be mounted in any position. If horizontal, the major axes of the grids should be vertical.

The A2900 is not intended for applications which are critical with regard to microphony.

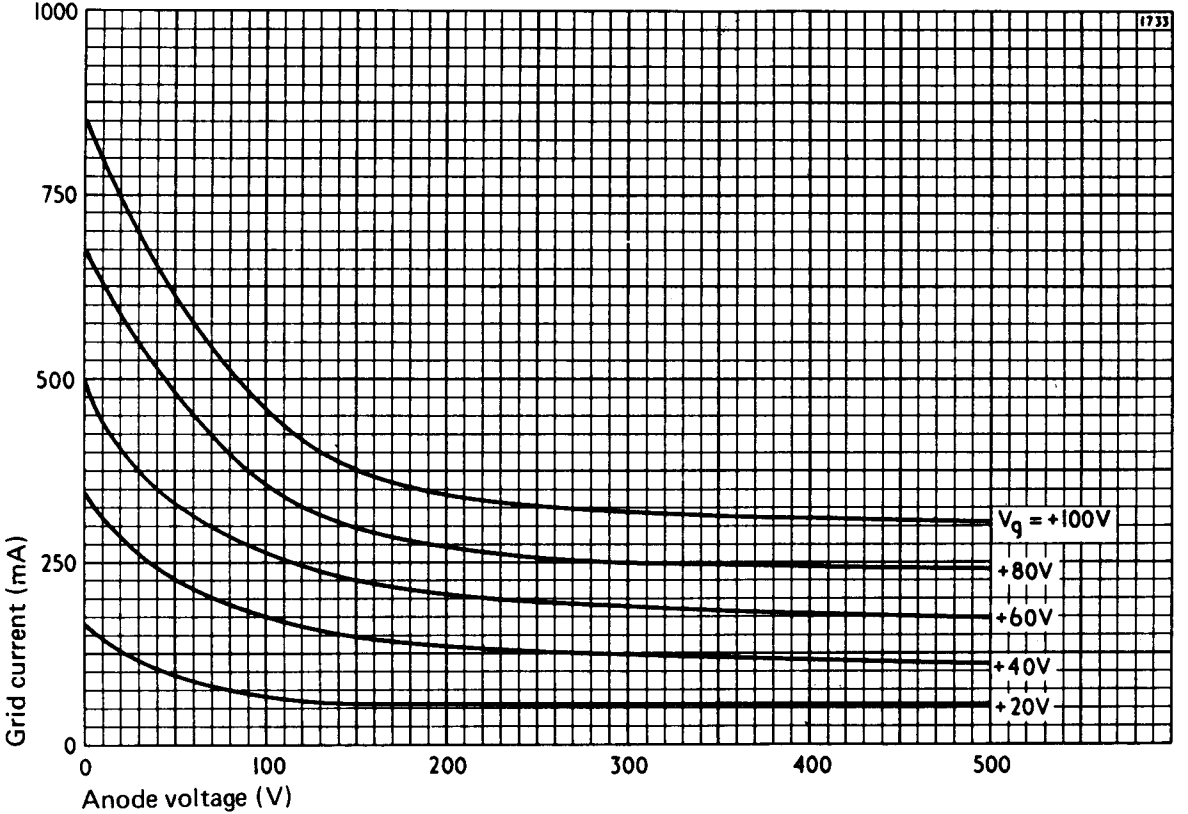
BASE CONNECTIONS AND VALVE DIMENSIONS

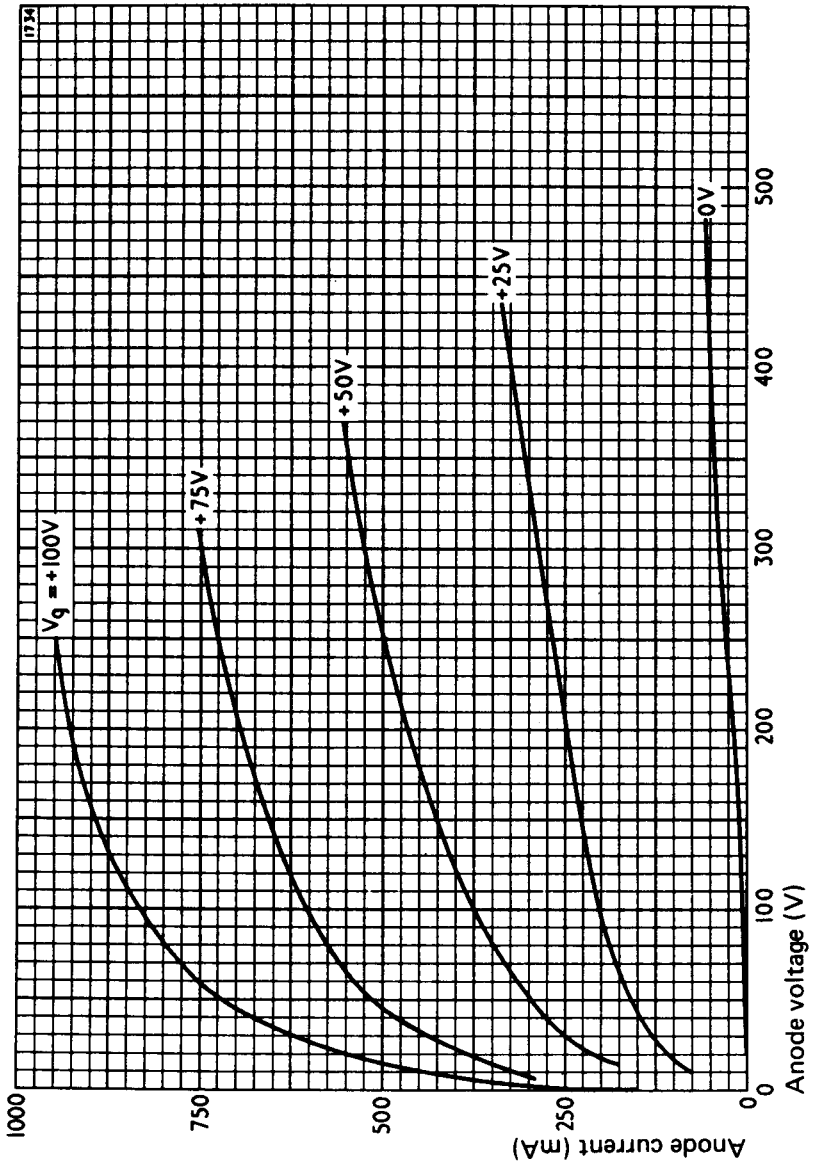


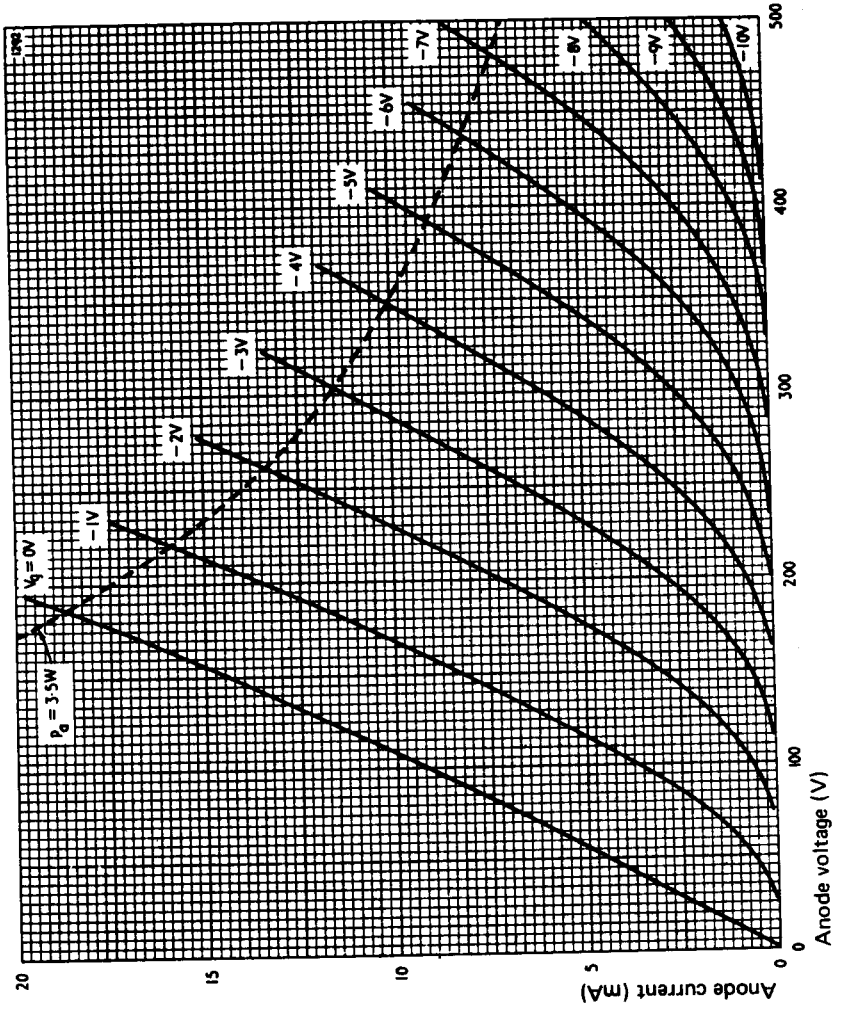
Viewed from underside of base.

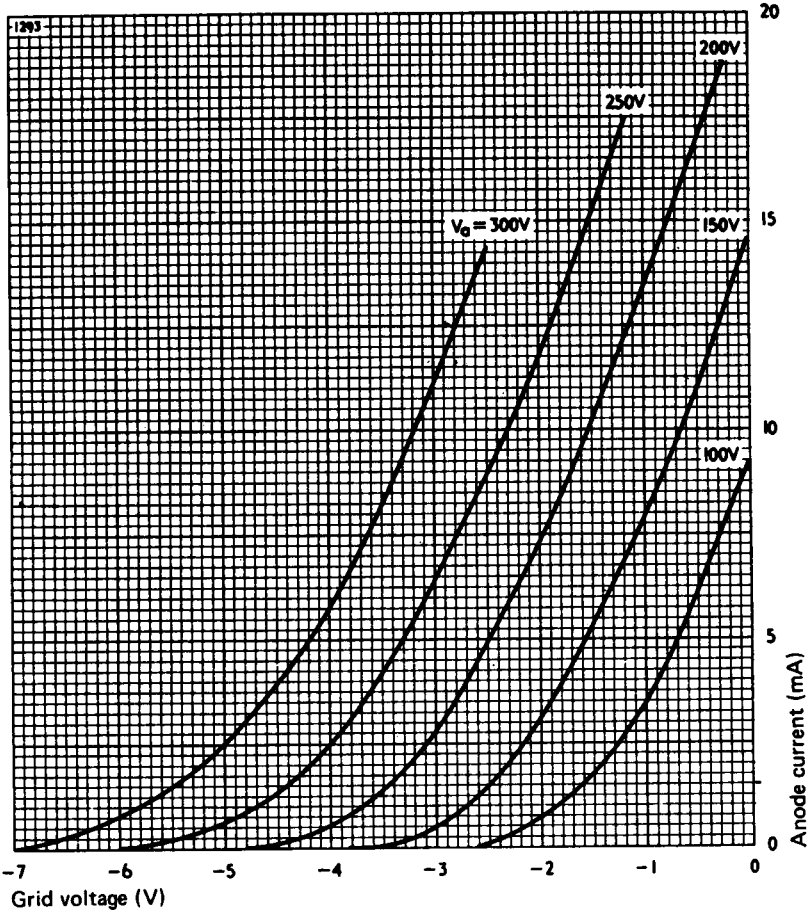
Base: B9A
Bulb: Tubular

Max overall length:	55 mm
Max seated length:	49 mm
Max diameter:	22.2 mm


1733
1000
750
500
250
0
Grid current (mA)
0
100
200
300
400
500
Anode voltage (V)
V_g = +100V
+80V
+60V
+40V
+20V


1734
V_g = +100V
+75V
+50V
+25V
0V
Anode current (mA)
1000
750
500
250
0
0
100
200
300
400
500
Anode voltage (V)


V_g = 0V
P_a = 3.5W
-1V
-2V
-3V
-4V
-5V
-6V
-7V
-8V
-9V
-10V
Anode current (mA)
Anode voltage (V)
0
5
10
15
20
100
200
300
400
500


1293
200V
250V
V_a = 300V
150V
100V
20
15
10
5
0
Anode current (mA)
−7
−6
−5
−4
−3
−2
−1
0
Grid voltage (V)