

STC**SPECIAL VALVES****3R/167S
3R/167E
3R/167W****Water-Cooled Industrial Triodes**

PROVISIONAL DATA

**Codes: 16P12
16P13
16P14**

These valves are intended for use in industrial heating equipment. Their filaments are suitable for direct switching. Anode cooling is effected by an integral coil around the anode which obviates the need for a separate water jacket and provides efficient cooling with an economy in water consumption. The difference between the three types of valves is in the position and types of water connectors.

CATHODE

Directly heated thoriated tungsten

Filament voltage	8.0 ($\pm 5\%$)	V
Filament current—nominal	26.0	A
Maximum usable emission	6.0	A

CHARACTERISTICS

Amplification factor	{ At $V_a = 5.0$ kV $I_a = 400$ mA }	24	
Mutual conductance		7.5	mA/V

DIRECT INTERELECTRODE CAPACITANCES

Grid to anode	11.5	pF
Grid to filament	14.5	pF
Anode to filament	3.8	pF

MOUNTING POSITION

Vertical—base upwards

May 1964

**3R/167S
3R/167E
3R/167W** } —1***Standard Telephones and Cables Limited***

COMPONENTS GROUP

VALVE DIVISION, PAIGNTON, DEVON

Tel.: Paignton 58685

Telex: 4251

LONDON SALES OFFICE, FOOTSCRAY, SIDCUP, KENT

Tel.: Footscray 3333

Telex: 21836

MAXIMUM RATINGS

D.C. anode voltage (peak value of direct voltage plus ripple)	8.0	kV
Direct grid voltage	—1.0	kV
Anode dissipation	3.0	kW
Operating frequency		
Limited by water connexion	10	Mc/s
Limited by valve	40	Mc/s

TYPICAL OPERATING CONDITIONS

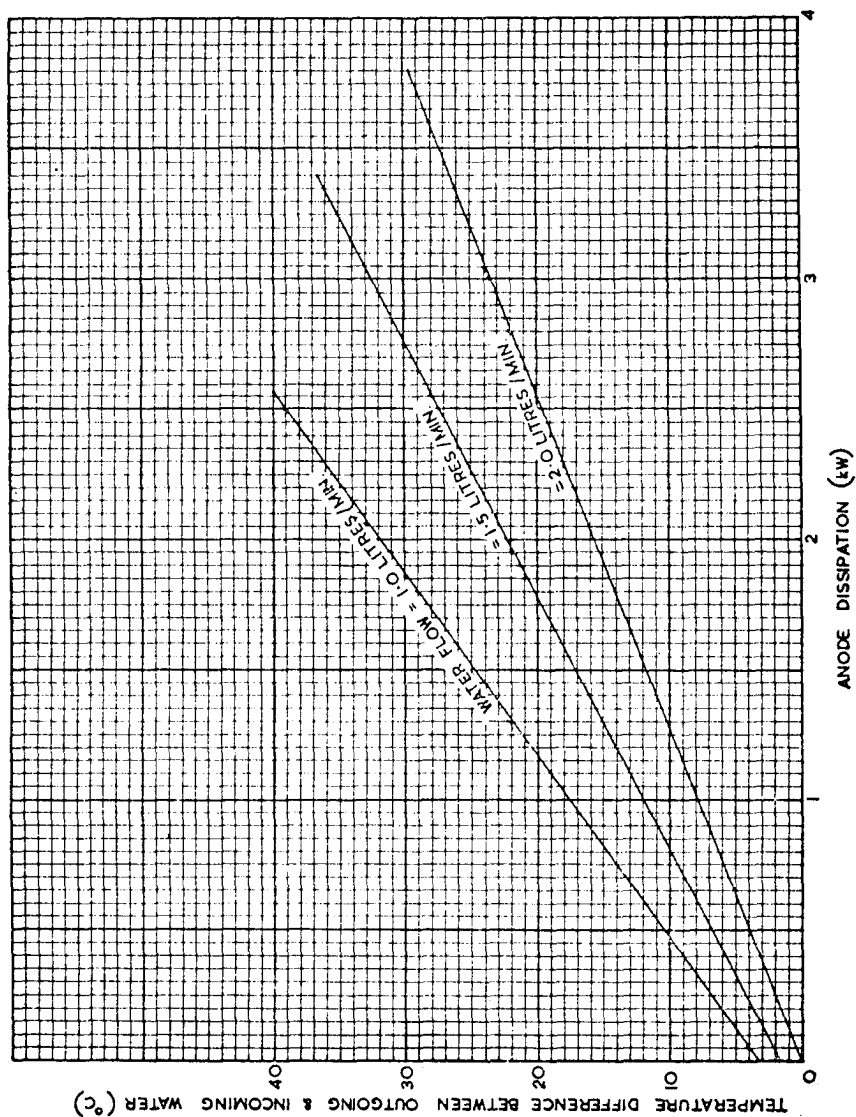
Anode voltage	5.0	6.0	kV
Mean anode current	1.55	1.5	A
Mean grid current	145	135	mA
Bias voltage	—250	—350	V
Bias resistor	1.75	2.6	k Ω
Peak cathode current	6.0	6.0	A
Peak anode current	5.0	5.0	A
Peak grid current	1.0	1.0	A
Anode dissipation	2.5	2.5	kW
Grid dissipation	70	65	W
Anode efficiency	69	72	%
Power output—oscillator	5.3	6.3	kW
Power output (at 85% transfer efficiency)	4.5	5.35	kW

NOTES ON TYPICAL OPERATION

The typical operating conditions given are for service as a Class C self-oscillator and are calculated for an assumed d.c. anode voltage. Where conditions of service render the valve liable to excessive mains variation, poor regulation of supplies or power supplies with a high peak to mean ratio, care should be taken to see that the limiting values are not exceeded.

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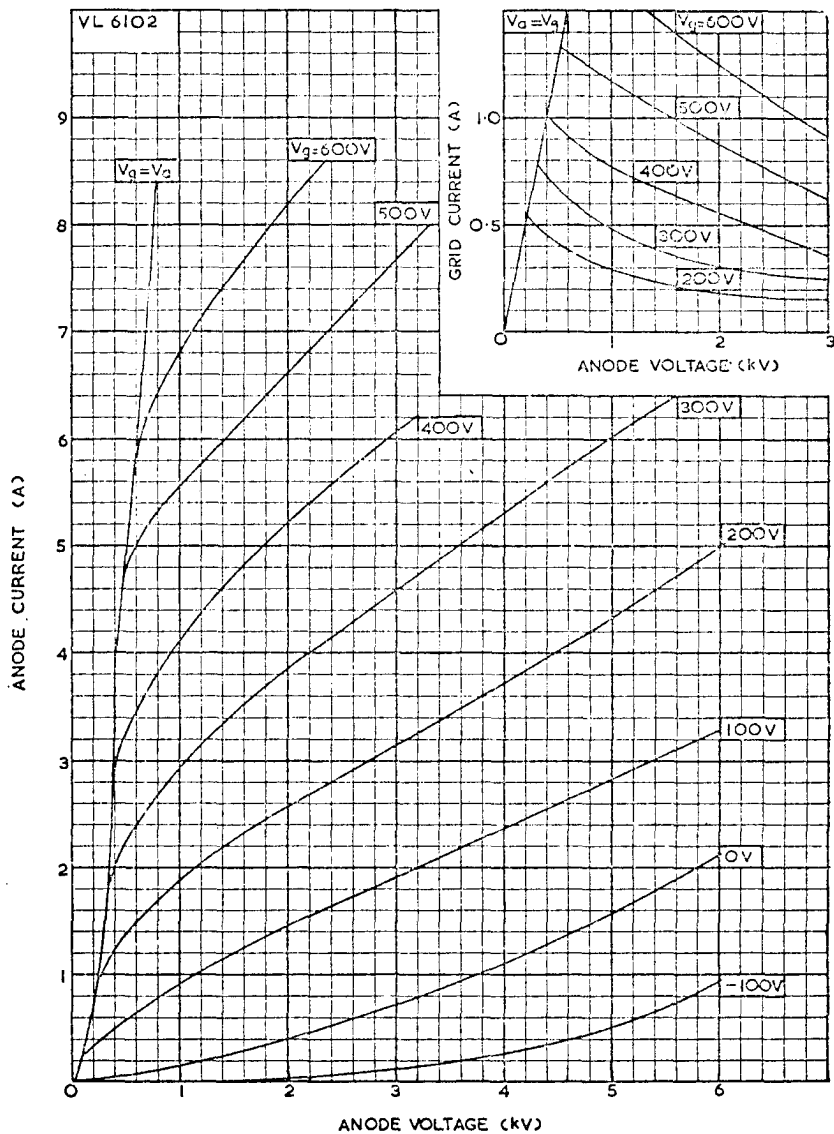
3R/167S
3R/167E
3R/167W

PROVISIONAL DATA

STC

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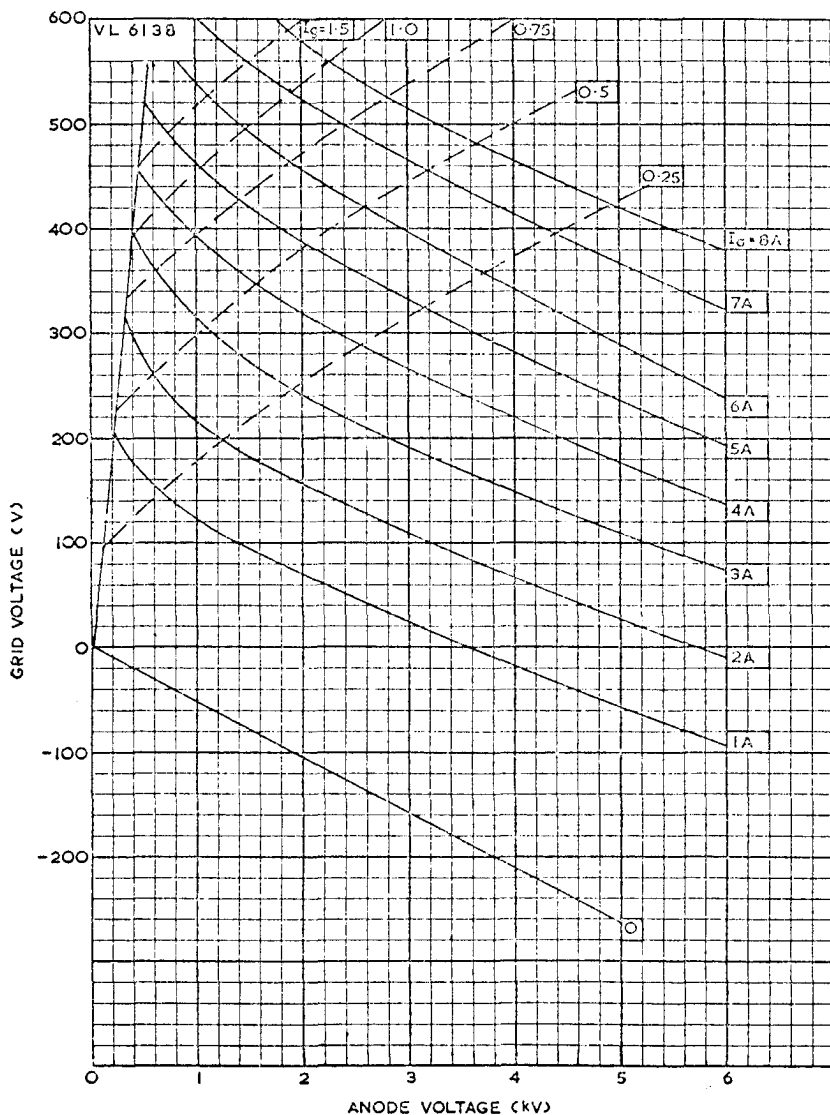


June 1965

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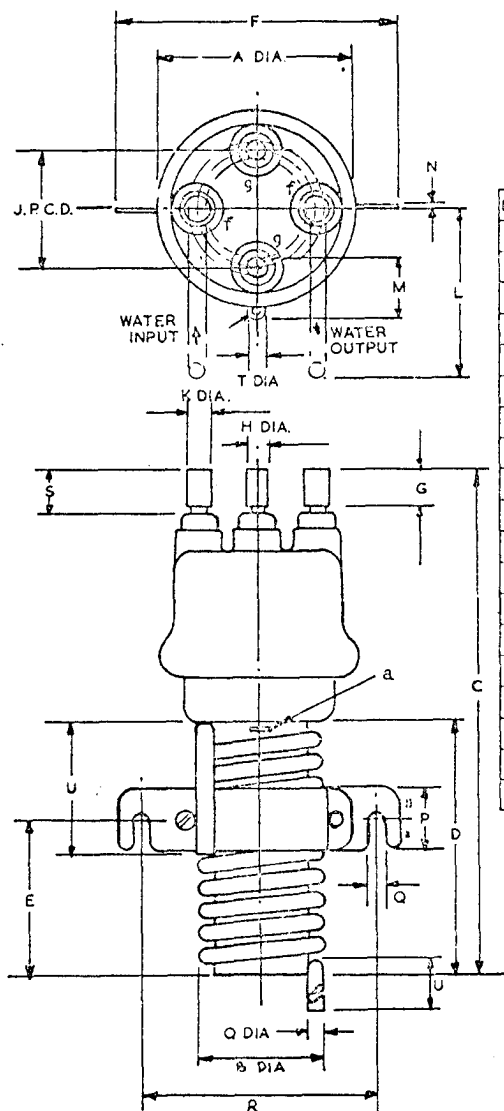
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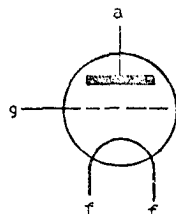
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16P12 Outline



DIM	INCHES	MILLIMETRES
A	3.150 MAX.	80.00 MAX.
B	2 1/16 MAX.	52.4 MAX.
C	8 3/8 MAX.	212.7 MAX.
D	4 15/64 ± 1/16	106.8 ± 1.6
E	2 1/2 ± 1/32	63.5 ± 0.8
F	4 9/16 MAX.	115.9 MAX.
G	19/32 MIN.	15.0 MIN.
H	0.312 ± 0.005	7.94 ± 0.13
J	1.890 ± 0.010	48.00 ± 0.25
K	0.375 ± 0.005	9.53 ± 0.13
L	2 3/4 APPROX.	69.9 APPROX.
M	1 APPROX.	25.4 APPROX.
N	0.064 ± 0.005	1.63 ± 0.13
P	1 ± 1/32	25.4 ± 0.8
Q	1/4 ± 1/64	6.4 ± 0.4
R	3 3/4 ± 1/32	95.3 ± 0.8
S	3/4 MAX.	19.0 MAX.
T	5/16 APPROX.	7.9 APPROX.
U	2 1/8 APPROX.	54.0 APPROX.

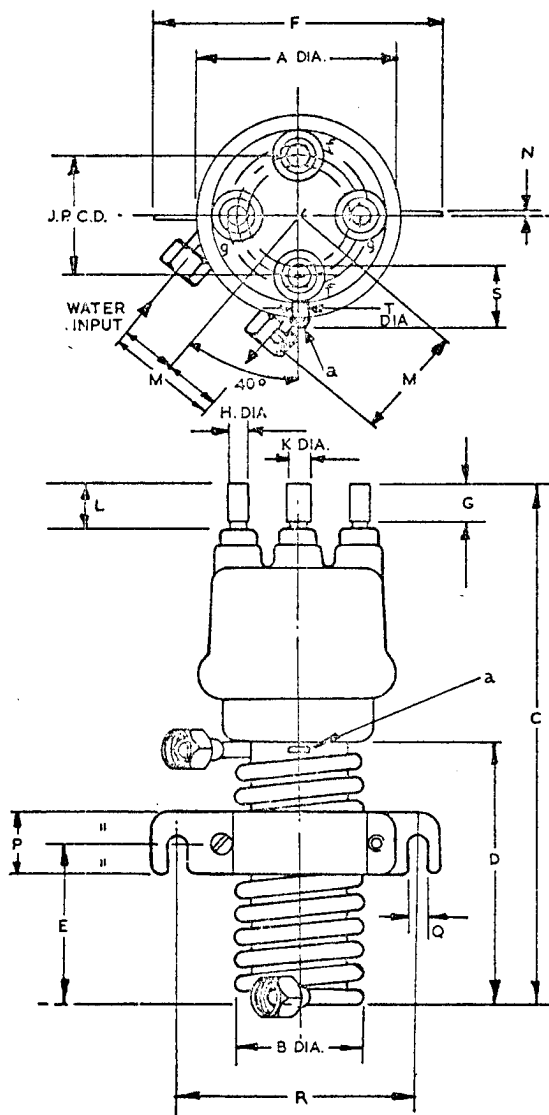
BASIC DIMS ARE INCHES



Code: 16P13

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16P13 Outline



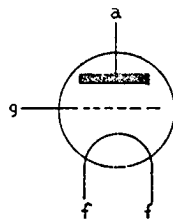
BASIC DIMS. ARE INCHES

DIM.	INCHES	MILLIMETRES
A	3.150 MAX.	80.00 MAX.
B	2 1/16 MAX.	52.4 MAX.
C	6 3/8 MAX.	212.7 MAX.
D	4 13/64 ± 1/16	106.8 ± 1.6
E	2 1/2 ± 1/32	63.5 ± 0.8
F	4 9/16 MAX.	115.9 MAX.
G	19/32 MIN.	15.0 MIN.
H	0.312 ± 0.005	7.94 ± 0.13
J	1.890 ± 0.010	48.00 ± 0.25
K	0.375 ± 0.005	9.53 ± 0.13
L	3/4 MAX.	19.0 MAX.
M	1 3/4 APPROX.	44.45 APPROX.
N	0.064 ± 0.005	1.63 ± 0.13
P	1 ± 1/32	25.4 ± 0.8
Q	1/4 ± 1/64	6.4 ± 0.4
R	3 3/4 ± 1/32	95.3 ± 0.8
S	1 APPROX.	25.4 APPROX.
T	5/16 APPROX.	7.9 APPROX.

INTEGRAL WATER JACKET

CONNEXIONS

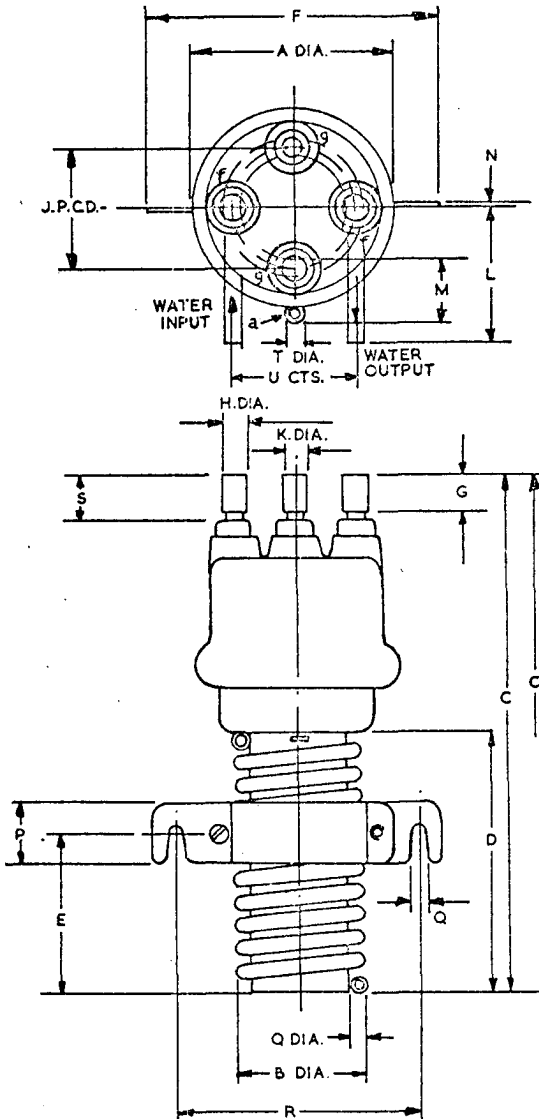
 ENOTS 1/4" DIA. UNION NIPPLES
 REF No. B1745D

 ENOTS 1/4" BSP UNION NUTS
 REF No. B1745D


Code: 16P14

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16P14 Outline



DIM.	INCHES	MILLIMETRES
A	3.150 MAX.	80.00 MAX.
B	2 1/16 MAX.	52.4 MAX.
C	8 3/8 MAX.	212.7 MAX.
D	4 13/64 ± 1/16	106.8 ± 1.6
E	2 1/2 ± 1/32	63.5 ± 0.8
F	4 9/16 MAX.	115.9 MAX.
G	19/32 MIN.	15.0 MIN.
H	0.312 ± 0.005	7.94 ± 0.13
J	1.890 ± 0.010	48.00 ± 0.25
K	0.375 ± 0.005	9.53 ± 0.13
L	2 1/8 ± 1/8	54.0 ± 3.2
M	1 APPROX	25.4 APPROX
N	0.064 ± 0.005	1.63 ± 0.13
F	1 ± 1/32	25.4 ± 0.8
Q	1/4 ± 1/64	6.4 ± 0.4
R	3 3/4 ± 1/32	95.3 ± 0.8
S	3/4 MAX.	19.0 MAX.
T	5/16 APPROX	7.9 APPROX
U	1 3/4 NOM.	44.45 NOM.

BASIC DIMS. ARE INCHES

