



APPLICATION

MECHANICAL

Mounting: The 3W5000A1 must be mounted vertically with its base up or down at the convenience of the designer. The filament connections should be made through spring collets and care must be taken not to impart strain to the terminals or base.

The tube must be protected from severe shock and vibration during shipment and operation.

Cooling: Sufficient cooling must be provided to maintain seal and anode core temperature at 175°C or below. Cooling water and air-flow must be started when filament power is applied and it is advisable to continue for two minutes after all voltages are removed.

The table below lists minimum water-flow requirements to maintain tube temperatures below 175°C for various water-inlet temperatures. The water outlet temperature must not exceed 70°C and inlet water pressure must be less than 60 pounds per square inch. A separate air-flow supply of approximately six cubic feet per minute, directed into the filament structure is also required to maintain rated filament seal temperatures. This is best accomplished using a small diameter insulating tubing directed into the stem, between the filament seals.

MINIMUM WATER COOLING REQUIREMENTS								
Water Inlet Temp. (°C)	Plate Dissipation							
	2 KW		3 KW		4 KW		5 KW	
	Flow Rate GPM	Pressure Drop PSI	Flow Rate GPM	Pressure Drop PSI	Flow Rate GPM	Pressure Drop PSI	Flow Rate GPM	Pressure Drop PSI
20	1.7	0.68	2.6	1.3	3.9	2.3	5.6	3.9
30	2.3	1.1	3.2	1.7	4.5	2.8	6.2	4.5
40	3.0	1.6	3.8	2.2	5.3	3.5	6.9	5.3
50	3.9	2.3	4.7	3.0	6.0	4.3	7.7	6.1

Note:

An extra 425 watts have been added to these plate dissipation figures in preparing this tabulation, to compensate for grid and filament dissipation.

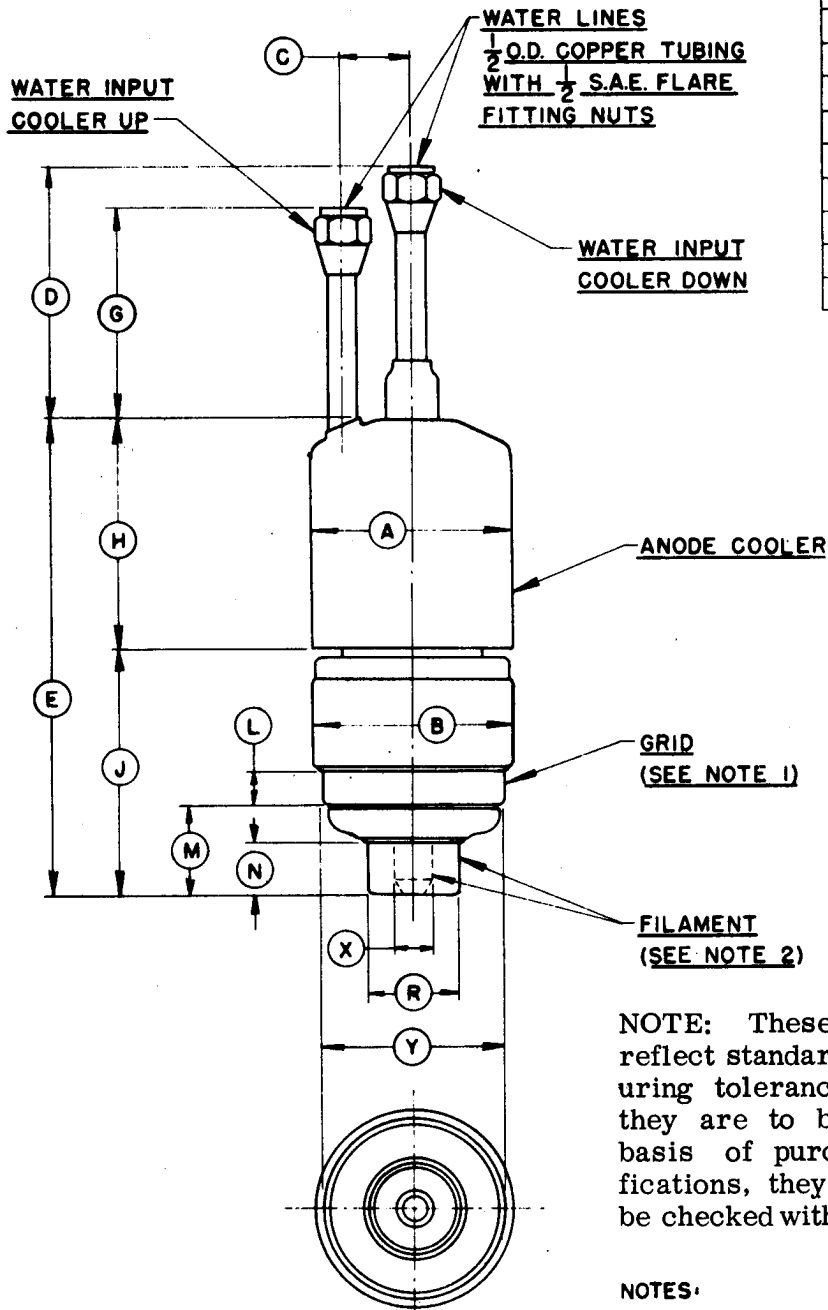
For operation at high altitudes or higher ambient temperatures, these quantities should be increased. In all cases it is suggested that actual temperatures be measured to insure adequate cooling.

ELECTRICAL

Filament: The rated filament voltage for the 3W5000A1 is 7.5 volts and should not exceed this value by more than five percent if maximum tube life is to be realized. Reduction of filament voltage to about 7.2 volts will actually enhance tube life and provision should be made for this adjustment where the lower emission can be tolerated.

Grid Operation: The grid dissipation rating of the 3W5000A1 is 50 watts. This is the product of the peak positive grid voltage and average dc grid current. When tubes are used in parallel in amplifier or modulator service, provision should be made for individual adjustment of bias voltage, in order to match the tubes. In practice, individual adjustment of drive voltage will not be necessary.

Special Applications: If it is desired to operate the tube under conditions widely different from those given here, write to Power Grid Tube Marketing, Eitel-McCullough, Inc., 301 Industrial Way, San Carlos, California, for information and recommendations.



DIMENSION DATA			
REF.	NOM.	MIN.	MAX.
A		3.234	3.266
B			3.625
C		1.062	1.187
D		4.000	4.500
E		7.562	8.062
G		3.250	3.750
H		3.625	3.875
J		3.937	4.187
L		.375	.437
M		1.437	1.562
N		.812	.937
R		1.490	1.510
X		.615	.635
Y		2.990	3.010

NOTE: These dimensions reflect standard manufacturing tolerances. Where they are to be made the basis of purchase specifications, they should first be checked with the factory.

NOTES:

- .025" MAXIMUM RUNOUT OF INNER FILAMENT CONTACT SURFACE WITH RESPECT TO OUTER FILAMENT CONTACT SURFACE.
- DIMENSIONS IN INCHES.



3W5000A1

