

EITEL-McCULLOUGH, INC.
SAN CARLOS, CALIFORNIA

2X3000F

HIGH-VACUUM RECTIFIER

The Eimac 2X3000F is a high-vacuum, forced-air cooled, external-anode diode intended for use in high-power rectifier units whenever high peak-inverse voltages, extreme ambient temperatures, high operating frequency, or the production of high-frequency transients would prevent the use of mercury-vapor or gas-filled rectifier tubes.

CHARACTERISTICS

ELECTRICAL

Filament:	Thoriated Tungsten	
Voltage	- - - - -	7.5 volts
Current	- - - - -	51 amperes

MECHANICAL

Operating Position	- - - - -	Vertical, base down or up
Maximum Operating Temperatures:		
Glass-to-Metal Seals	- - - - -	175° C
Anode Core	- - - - -	175° C
Net Weight	- - - - -	5.7 pounds
Shipping Weight (Approximate)	- - - - -	17 pounds

MAXIMUM RATINGS

PEAK INVERSE PLATE VOLTAGE	- - - - -	- 25,000 MAX.	VOLTS
PLATE DISSIPATION	- - - - -	- 3,000 MAX.	WATTS
DC PLATE CURRENT	- - - - -	- 3 MAX.	AMPERES
PEAK PLATE CURRENT	- - - - -	- 20 MAX.	AMPERES

TYPICAL POWER-SUPPLY CAPABILITIES*

Circuit	Maximum AC Input Voltage (volts rms)	Approx. DC Output Voltage (volts)	Maximum DC Output Current (amps)
Single-Phase, Full-Wave (2 tubes)	17,700 total	8,000	6.0
Single-Phase, Bridge (4 tubes)	17,700 total	16,000	6.0
Three-Phase, Full-Wave (6 tubes)	10,200 per leg	24,000	9.0

*Choke-input filter with L equal to or greater than twice "critical"; zero circuit loss assumed.

COOLING

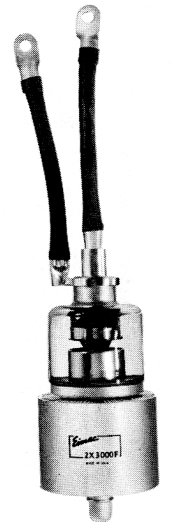
Sufficient forced air cooling must be provided to maintain seal and anode core temperature at 175°C or below. Air-flow must be started when filament power is applied and it is advisable to continue air-cooling for two minutes after all voltages are removed.

The table below lists minimum air-flow requirements to maintain tube temperatures below 175°C with air flowing in both the base-to-anode and anode-to-base directions. This tabulation presumes air at 40°C and sea level. A separate 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.

Plate Dissipation (Watts)	MINIMUM COOLING AIR-FLOW REQUIREMENTS			
	BASE-TO-ANODE FLOW		ANODE-TO-BASE FLOW	
	AIR-FLOW (CFM)	PRESSURE DROP (inches of water)	AIR-FLOW (CFM)	PRESSURE DROP (inches of water)
1000	15	0.1	25	0.2
2000	45	0.4	75	1.2
3000	95	1.4	155	4.5

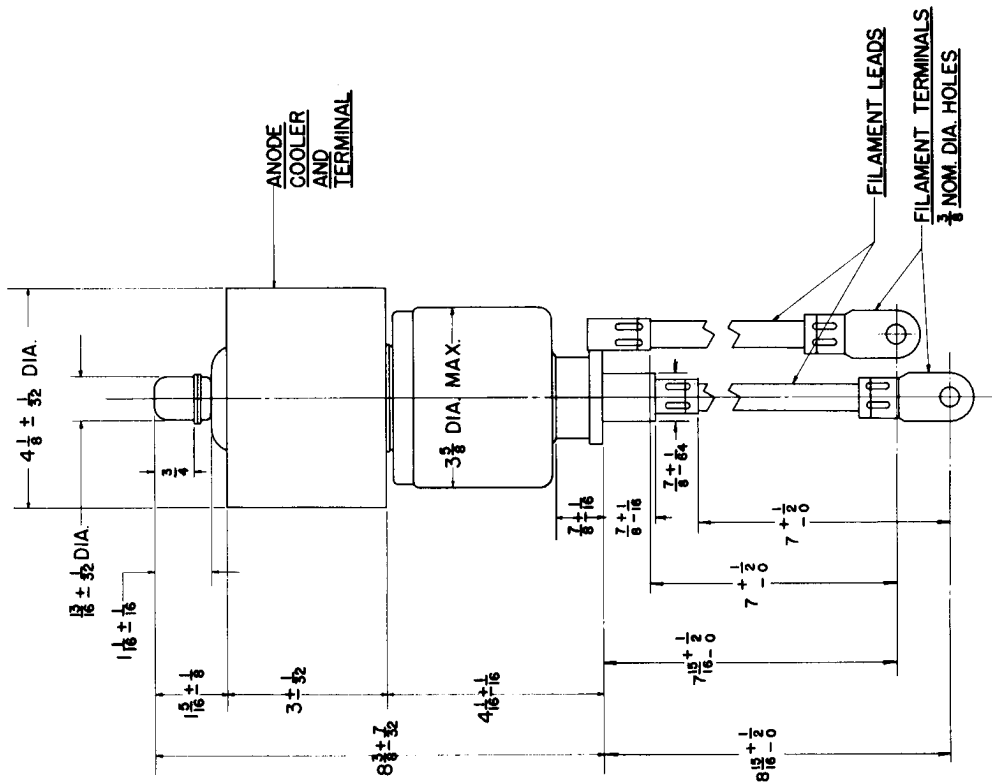
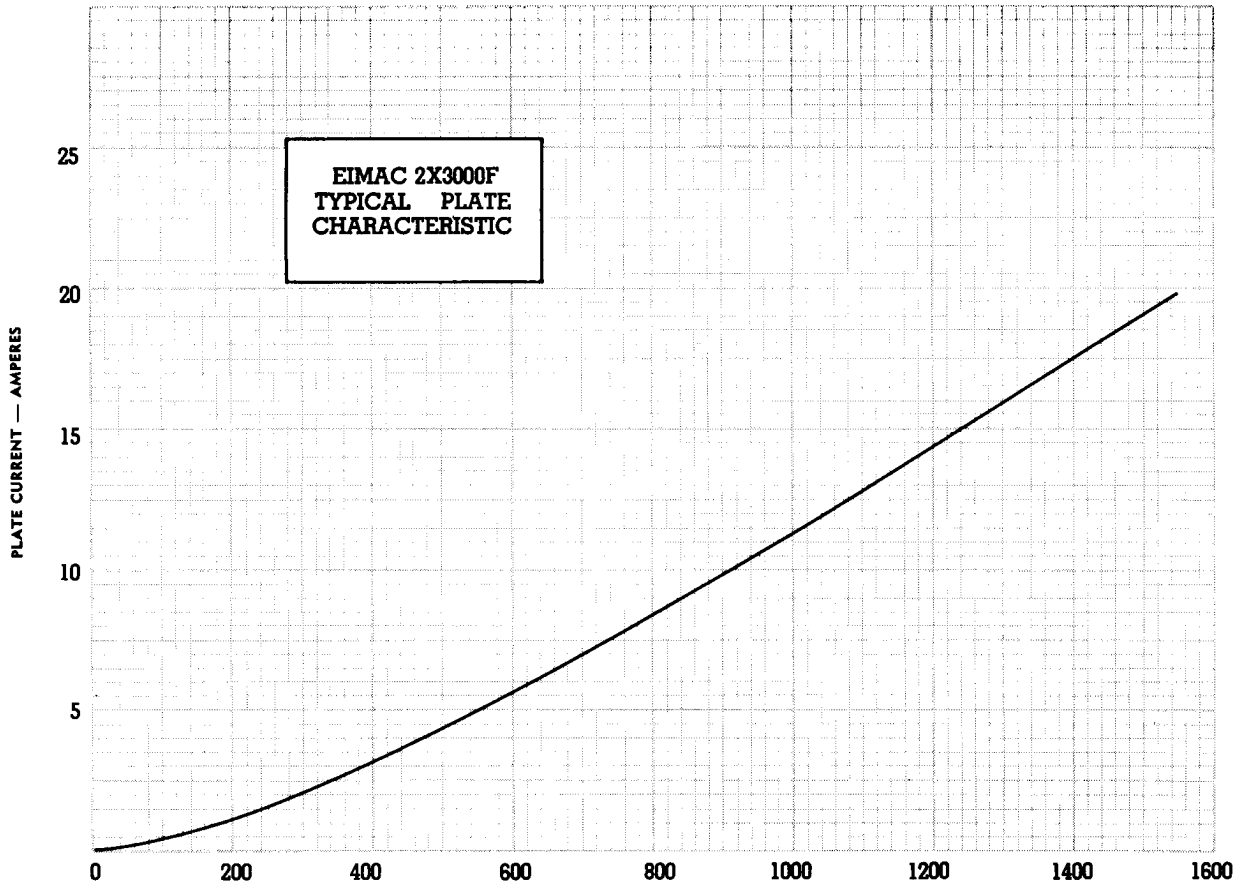
Note: An extra 375 watts have been added to these plate dissipation figures in preparing this tabulation, to compensate for filament dissipation.

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.





2X3000F



ALL DIMENSIONS
IN INCHES