



PHATRON

DESCRIPTION

The FG-166 half-wave, all-metal mercury-vapor rectifier is capable of carrying peak currents as high as 75 amperes. It is suitable for rectifiers that supply 125 or 250 to 600 volts in capacities of 15 to 50 kilowatts. The sturdy all-metal construction combines mechanical strength with simplicity of design.

TECHNICAL INFORMATION

These data are for reference only. For design information refer to specifications.

GENERAL CHARACTERISTICS

Number of electrodes.....2

Electrical

- Cathode—Filamentary type
- Filament voltage.....2.5 volts
- Filament current, approx.....100 amperes
- Filament heating time, typical.....2 minutes
- Optimum phase of filament voltage with respect
 - to anode voltage.....90 degrees
- Peak voltage drop.....9 volts
- Rise of tube temperature above ambient without forced-air circulation
- Average anode current 0 amperes
 - Condensed mercury temperature.....30 centigrade
 - Temperature of side of tube.....100 centigrade
- Average anode current 20 amperes
 - Condensed mercury temperature.....35 centigrade
 - Temperature of side of tube.....150 centigrade



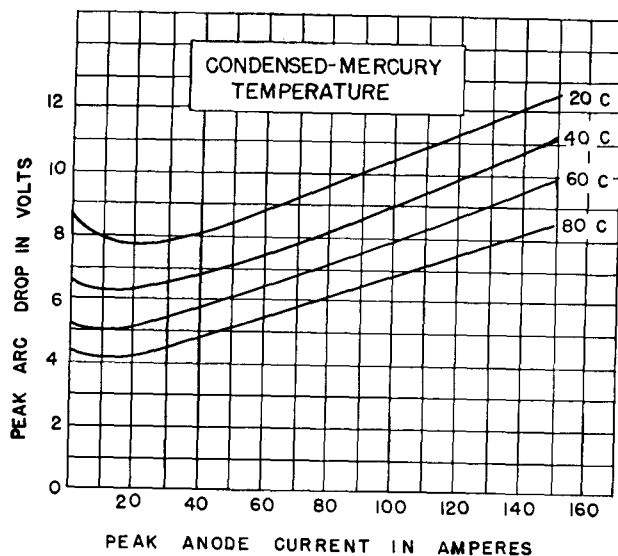
TECHNICAL INFORMATION (CONT'D)

Mechanical

Net weight, approx.....	5.5 pounds
Shipping weight, approx.....	14 pounds
Mounting position.....	vertical, with radiator down

MAXIMUM RATINGS

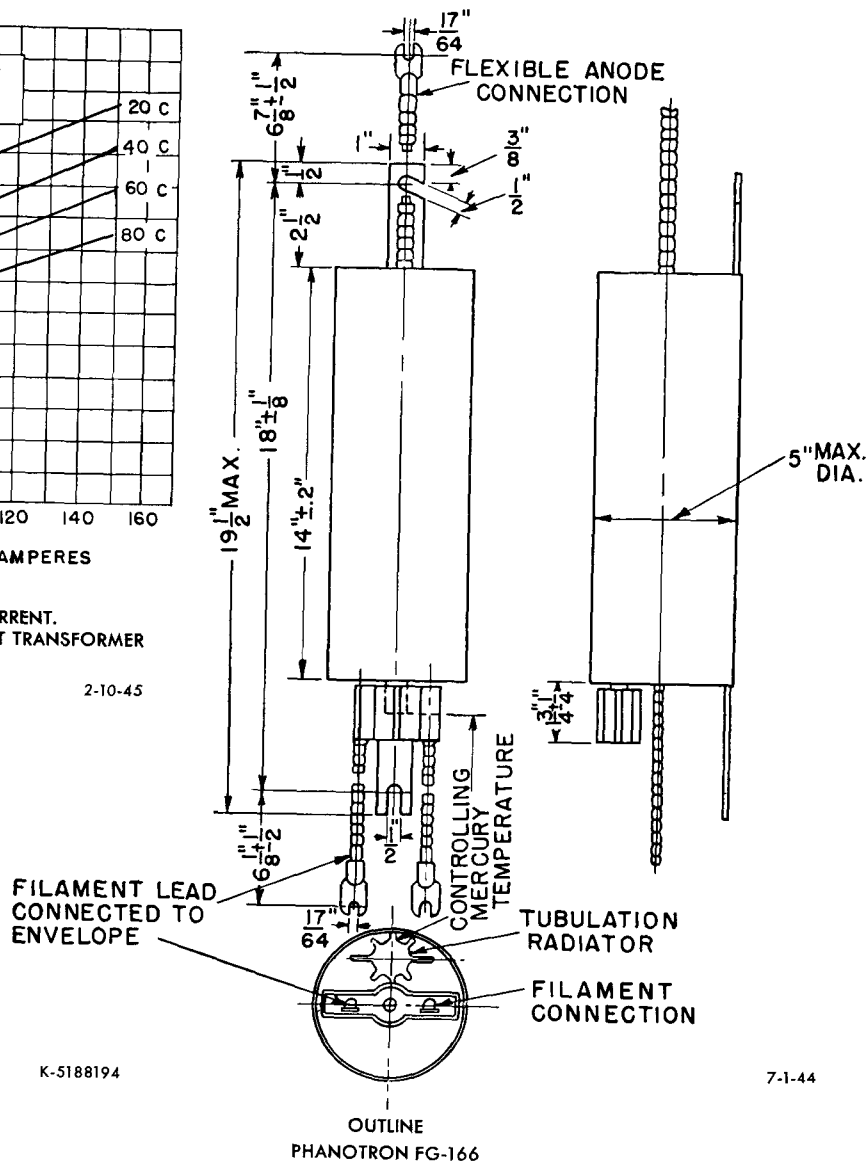
Maximum peak anode voltage	
20 to 60 C condensed mercury.....	1500 volts
20 to 70 C condensed mercury.....	800 volts
Maximum anode current	
Instantaneous.....	75 amperes
Average.....	20 amperes
Surge, for design only.....	750 amperes
Maximum time of averaging current.....	30 seconds
Temperature limits, condensed mercury.....	+40 to +60 centigrade



FG-166 PHANOTRON
PEAK DROP VS PEAK ANODE CURRENT.
AVERAGE VALUES MEASURED FROM FILAMENT TRANSFORMER
MIDTAP TO ANODE

K-6917484

2-10-45



K-5188194

7-1-44