THYRATRON

DESCRIPTION

The FG-172 is a double-grid, mercury-vapor thyratron. Double-grid tubes are designed for applications where the grid is actuated from a high-impedance source and where the available grid power is very small. The all-metal construction results in a sturdy tube for industrial applications.

TECHNICAL INFORMATION

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

GENERAL CHARACTERISTICS

Number of electrodes 4

Electrical	Continuous Service		Welder-Control Service		
Cathode—Indirectly heated type					
Voltage	5.0		5.5		volts
Current, approx	10.0		11.0		amperes
Heating time, typical	5		5		minutes
Peak voltage drop, typical	16		16		volts
Approximate control characteristics					
Anode voltage	100	2000	100	2000	volts
Shield-grid voltage	0	0	0	0	volts
Control-grid voltage	+1.0	−14	+1.0	−14	volts
Anode to grid capacitance, approx	0.07			0.07	micromicrofarad
Ionization time, approx	10			10	microseconds
Deionization time, approx	1000			1000	microseconds

GE Electronic TUBE

TECHNICAL INFORMATION (CONT'D)

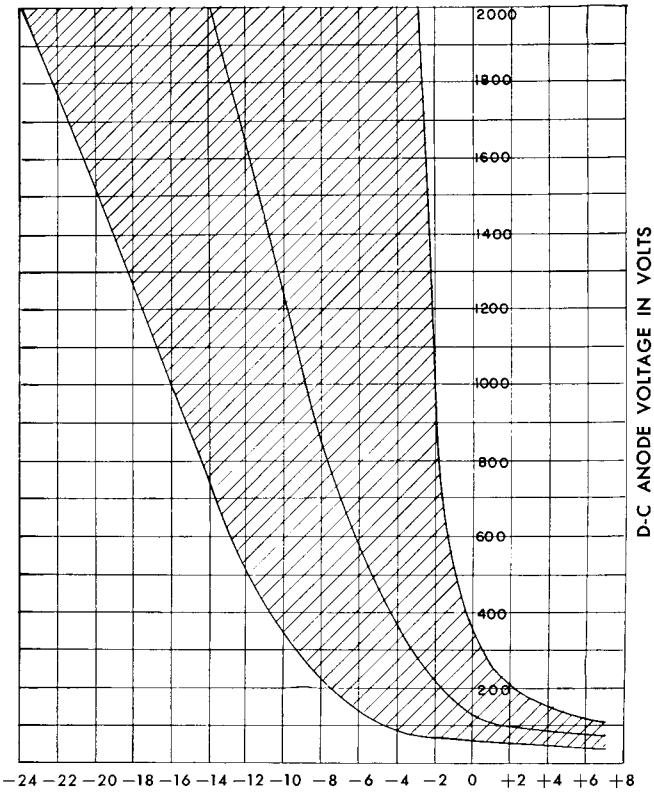
Mechanical

Net weight, approx	22 ounces
Shipping weight, approx	7 pounds
Mounting position	vertical, radiator down

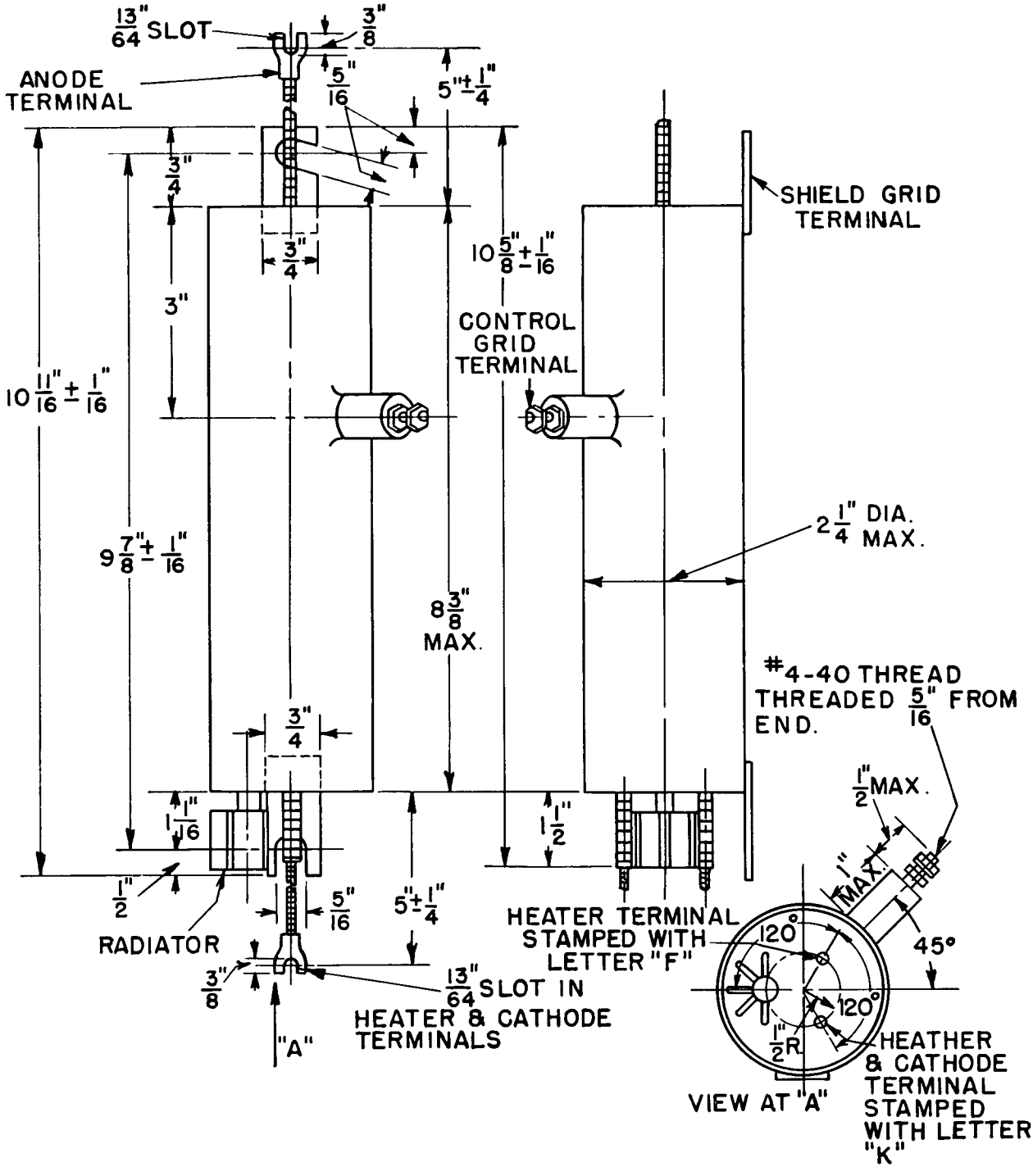
MAXIMUM RATINGS

	Continuous Service	Welder-Control Service	
Maximum peak anode voltage			
Inverse	2000	750	volts
Forward	2000	750	volts
Maximum negative control-grid voltage			
Before conduction	1000	1000	volts
During conduction	10	10	volts
Maximum negative shield-grid voltage			
Before conduction	300	300	volts
During conduction	5.0	5.0	volts
Maximum anode current			
Instantaneous, 25 cycles and above	40	77	amperes
Instantaneous, below 25 cycles	13.0	13.0	amperes
Average	6.4	2.5	amperes
Surge, for design only	400	400	amperes
Duration of surge current	0.1	0.1	second
Maximum control-grid current			
Instantaneous	1.0	1.0	ampere
Average	0.25	0.25	ampere
Maximum shield-grid current			
Instantaneous	2.0	2.0	amperes
Average	0.50	0.50	ampere
Maximum time of averaging current	15	15	seconds
Temperature limits, condensed mercury	+40 to +80	+30 to +95	centigrade
Recommended temperature, condensed mercury	40	40	centigrade

FG-172 TYPICAL CONTROL CHARACTERISTIC
SHADED AREA SHOWS RANGE OF CHARACTERISTIC
CONDENSED-MERCURY TEMP 40 C, SHIELD GRID CONNECTED TO CATHODE



K-8639645 6-27-44



OUTLINE
FG-172 THYRATRON

K-5185243

8-10-44

Electronics Department
GENERAL ELECTRIC
Schenectady, N. Y.

4-45 (4M)
Filing No. 8850