

GL-7179

IGNITRON

RECTIFIER SERVICE - 670 AMPERES

TWO IGNITORS

AUXILIARY ANODE

DESCRIPTION AND RATING

The GL-7179 is a 12-inch single-grid ignitron designed for industrial rectifier service. In such applications, six tubes in a double-wye circuit will supply 1000 kilowatts continuously at 250 volts d-c. In addition it will withstand the normal industrial overloads.

TECHNICAL INFORMATION

GENERAL

Electrical

Cathode Excitation - Cyclic	
Cathode Spot Starting - Ignitor	
Number of Electrodes	
Main Anodes . . . . .	1
Auxiliary Anodes . . . . .	1
Ignitors . . . . .	2
Control Grids . . . . .	1
Arc Drop at 200 Peak Amperes . . . . .	20 Volts

Mechanical

Envelope Material - Stainless Steel	
Net Weight, approximate. . . . .	.190 Pounds

Thermal

Type of Cooling - Water	
Inlet Water Temperature, minimum . . . . .	30 C
Outlet Water Temperature, maximum. . . . .	50 C
Water Flow, minimum *	
At Continuous Rated Load . . . . .	10 Gallons per Minute
At No Load . . . . .	1 Gallons per Minute
Characteristics for Water Cooling at 10 Gallons per Minute	
Water Temperature Rise, maximum. . . . .	9 C
Pressure Drop, maximum . . . . .	.25 Pounds per Square Inch
Maximum Working Water Pressure . . . . .	.100 Pounds per Square Inch

MAXIMUM RATINGS AND TYPICAL OPERATION

Power Rectifier Service, Continuous Duty  
Ratings are for Zero-Phase Control Angle

Maximum Peak Anode Voltage . . . . .	700	Volts
Maximum Anode Current		
Peak . . . . .	2500	Amperes
Average		
Continuous . . . . .	670	Amperes
Two Hours, Averaged Over Any Two-Minute Interval. . . . .	840	Amperes
One Minute, Averaged Over Any One-Minute Interval. . . . .	1340	Amperes
Fault		
Peak Forward Direction . . . . .	20,000	Amperes
Peak Reverse Direction . . . . .	40,000	Amperes
Maximum Duration of Fault Current. . . . .	0.15	Seconds
Frequency. . . . .	.25 - 60	Cycles per Second
Ignitor Characteristics		
Maximum Inverse Voltage. . . . .	5	Volts
Recommended Pulse Length . . . . .	800	Microseconds
Minimum Pulse Length, average anode current greater than 20 Amperes. . . . .	150	Microseconds
Maximum Pulse Length . . . . .	4000	Microseconds
	Minimum	Maximum
Grid		
Peak Forward Voltage . . . . .	200	500 Volts
Peak Inverse Voltage . . . . .	100	200 Volts
Peak Forward Current . . . . .	0.4	5 Amperes
Peak Inverse Current . . . . .	0.4	1 Amperes
Excitation Anode Characteristics		
Recommended Peak Forward Voltage . . . . .	75 - 150	Volts
Maximum Peak Inverse Current . . . . .	0.1	Amperes
Recommended Forward Current, average . . . . .	3 - 10	Amperes

\* Water flow should be continued for one hour after removal of anode power.

APPLICATION NOTES

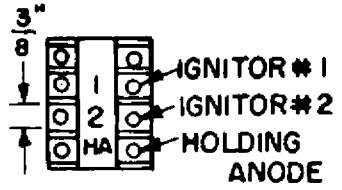
To prevent excessive condensation of mercury on the inside of the glass, heat should be externally applied to the anode glass-seal area.

Electronic Components Division

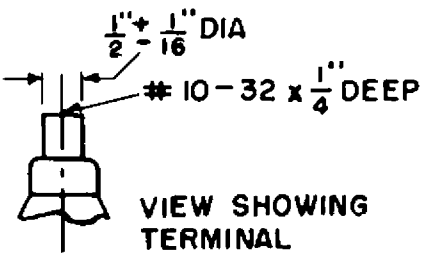
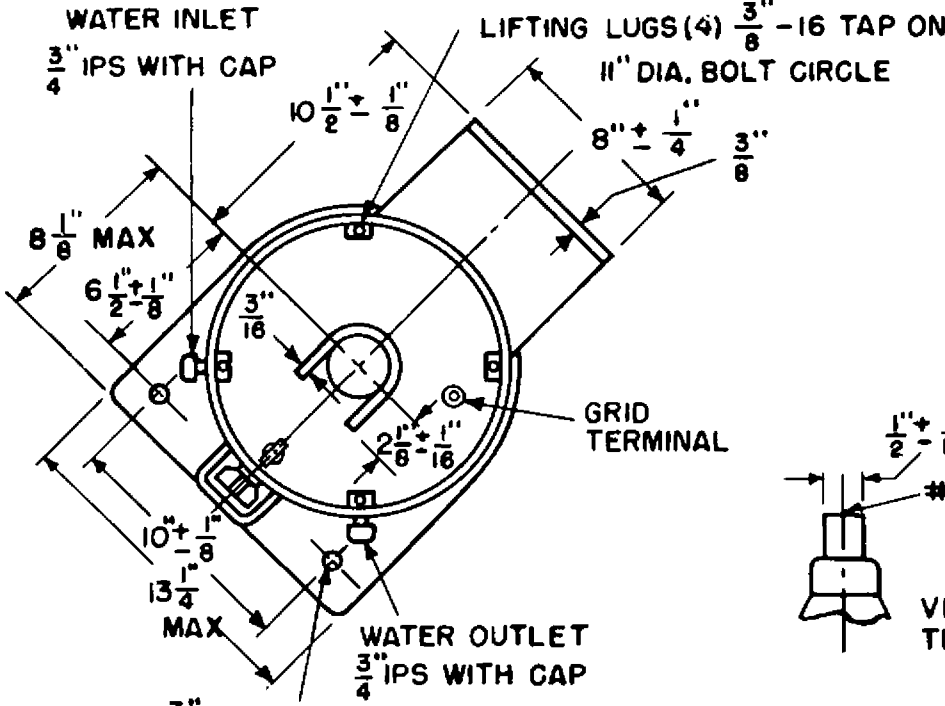
GENERAL ELECTRIC COMPANY

Schenectady 5, N. Y.

# OUTLINE GL-7179



VIEW SHOWING IGNITOR AND HOLDING ANODE TERMINALS



VIEW SHOWING TERMINAL

