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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	2.5	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

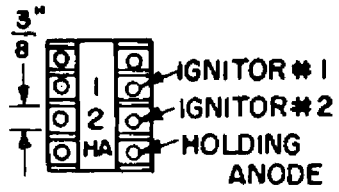
To prevent excessive condensation of mercury on the inside of the glass, heat should be externally applied to the anode glass-seal area.

Electronic Components Division

GENERAL ELECTRIC COMPANY

Schenectady 5, N. Y.

OUTLINE GL-7179



VIEW SHOWING IGNITOR AND HOLDING ANODE TERMINALS