

GL-6958
IGNITRON

The GL-6958 is a double-grid ignitron designed for industrial rectifier or inverter applications where it will operate at peak inverse voltages as high as 4000 volts. In such applications six tubes will supply 3000 kilowatts at voltages of 1800 or 3600 volts d-c, depending upon the circuit used.

A particular design feature of this tube makes it especially suitable for use where voltage control by phase retard is in excess of the amounts usually required. In addition, the tube features a coaxial cathode current return which reduces magnetic fields caused by the tube currents.

TECHNICAL INFORMATION

GENERAL

Electrical

Cathode Excitation - Cyclic		
Cathode Spot Starting - Ignitor		
Number of Electrodes		
Main Anodes.	1	
Auxiliary Anodes	1	
Main Cathodes.	1	
Ignitors	2	
Shield Grids	1	
Control Grids.	1	
Arc Drop		
At 1000 Peak Amperes	20.5 ± 2	Volts
At 2000 Peak Amperes	24.0 ± 2	Volts

Mechanical

Envelope Material - Stainless Steel		
Net Weight	95	Pounds

Thermal

Type of Cooling - Water		
Inlet Water Temperature, minimum	30	C
Outlet Water Temperature, maximum.	55	C
Water Flow		
At Continuous Rated Average Current, minimum	10	Gallons per Minute
At No Load, * minimum.	1	Gallons per Minute
Temperature Range.	40 to 45	C
Characteristics for Water Cooling at 10 Gallons per Minute		
Water Temperature Rise, maximum.	6.5	C
Pressure Drop, maximum	1.5	Pounds per Square Inch
Working Pressure - Non Shock, maximum.	100	Pounds per Square Inch

MAXIMUM RATINGS AND TYPICAL OPERATION

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

Maximum Peak Anode Voltage

Inverse.	4000	Volts
Forward.	4000	Volts

Maximum Anode Current

Peak	2000	Amperes
Average		
Continuous	275	Amperes
Two Hours.	350	Amperes
One Minute	570	Amperes

Fault

Forward Direction.	15,000	Amperes
Reverse Direction.	30,000	Amperes
Maximum Duration of Fault Current.	0.15	Seconds

Frequency Range.	25 to 60	Cycles per Second
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Ignitor Characteristics

Maximum Inverse Voltage.	5	Volts
Recommended Pulse Width.	800	Microseconds
Minimum Pulse Width		
Average Anode Current Greater than 8 Amperes	150	Microseconds
Maximum Pulse Width.	4000	Microseconds

Minimum Maximum

Shield-Grid Voltage

Peak Forward	200	500	Volts
Peak Inverse	--	200	Volts

Shield-Grid Current

Peak Forward	0.2	5.0	Amperes
Peak Inverse	--	0.2	Amperes

Control-Grid Voltage

Peak Forward	200	500	Volts
Peak Inverse	100	200	Volts

Control-Grid Current

Peak Forward	0.4	5.0	Amperes
Peak Inverse	0.4	1.0	Amperes

DC Bias.	-90	-110	Volts
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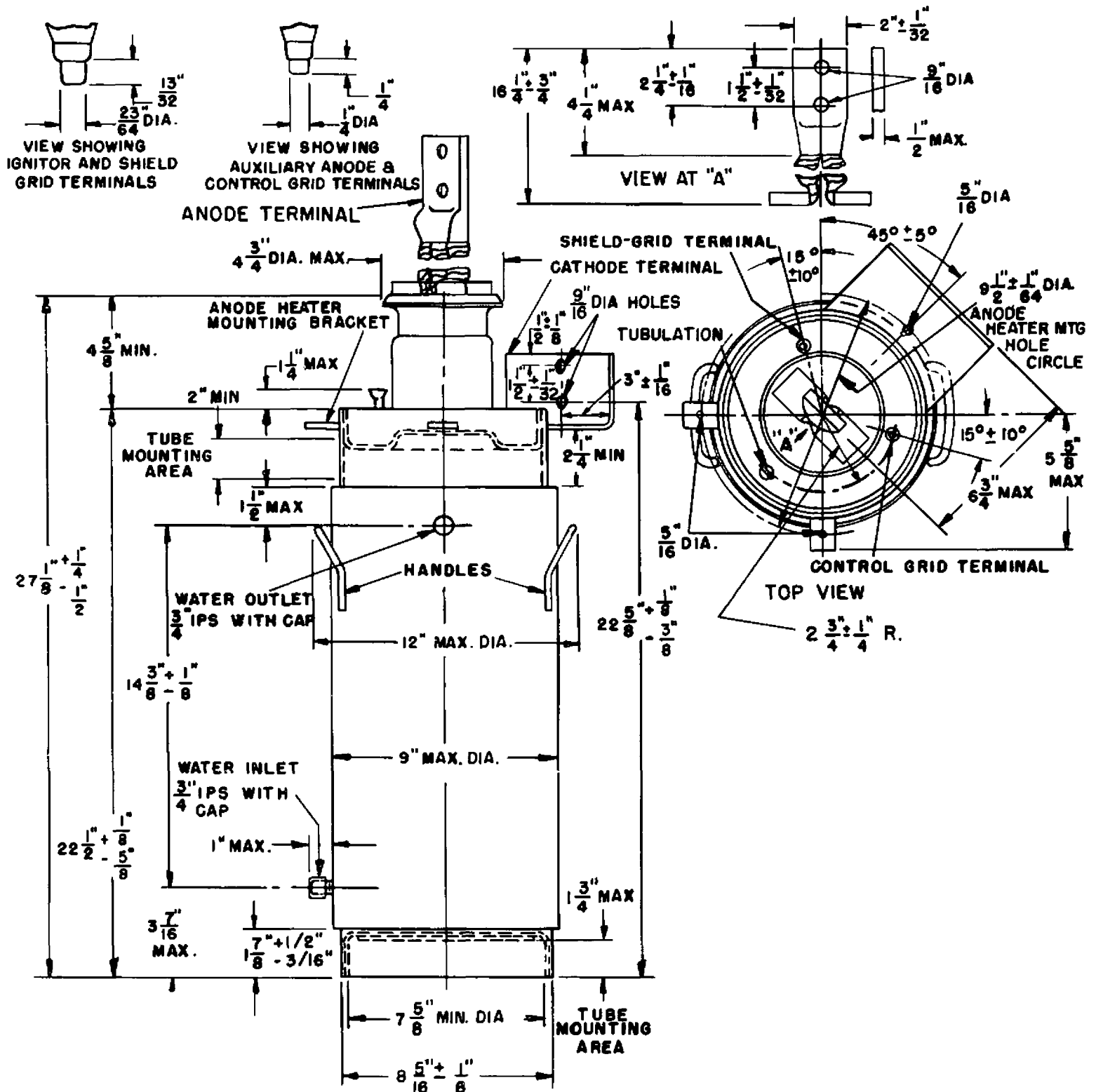
* Water flow should be continued for 30 minutes after removal of anode power.

Electronic Components Division

GENERAL ELECTRIC COMPANY

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OUTLINE



BOTTOM VIEW

