

GL-6878

IGNITRON

LOCOMOTIVE RECTIFIER SERVICE - 675 AMPERES

THREE IGNITORS

DESCRIPTION AND RATING

The GL-6878 is a double-grid ignitron designed for railroad locomotive rectifier service.

A coaxial cathode-current return reduces magnetic fields due to tube currents. The tube also features baffles in the mercury pool to assure contact between the mercury and the ignitor points during swaying of the equipment.

A companion tube, the GL-6509 ignitron, has been designed to supply the auxiliary power requirements of applications which use the GL-6878 as the main power source.

TECHNICAL INFORMATION

GENERAL

Electrical

Cathode Excitation - Cyclic

Cathode-Spot Starting - Ignitor

Number of Electrodes

Main Anodes.	1
Main Cathodes.	1
Ignitors	3
Shield Grids	1
Control Grids.	1

Mechanical

Envelope Material - Stainless Steel

Net Weight 190 Pounds

Thermal

Type of Cooling - Water

Inlet Water Temperature, minimum 30 C

Outlet Water Temperature, maximum. 55 C

Water Flow, minimum

At Continuous Rated Average Current. 10 Gallons per Minute

At No Load 1 Gallons per Minute

Temperature Range. 40 to 45 C

from JETEC release #1639, May 7, 1956

G E N E R A L E L E C T R I C C O M P A N Y

Thermal (Cont'd)

Characteristics for Water Cooling at Rated Minimum Flow

Water Temperature Rise, maximum.	10	C
Pressure Drop at 10 Gallons per Minute, maximum	2.5	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

Inverse.	4000	Volts
Forward.	100	Volts

Maximum Anode Current

Peak	2500	Amperes
Average*		
Continuous	675	Amperes
Fifty Minutes.	675	Amperes
Twelve Minutes	750	Amperes
Six Minutes.	810	Amperes
Four Minutes	875	Amperes

Fault

Peak Forward Direction, without damage . . .	20,000	Amperes
Peak Reverse Direction	40,000	Amperes
Maximum Duration of Fault Current.	0.15	Seconds
Frequency Range.	25-60	Cycles per Second

Ignitor

Maximum Inverse Voltage.	5	Volts
Maximum Current		
Root Mean Square	15	Amperes
Average.	2	Amperes
Maximum Averaging Time	10	Seconds

Shield-Grid Voltage

	Minimum	Maximum	
Peak Forward	200	500	Volts
Peak Inverse	---	200	Volts

Shield-Grid Current

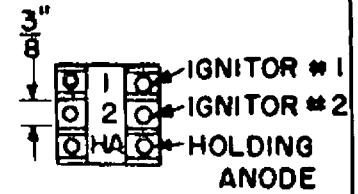
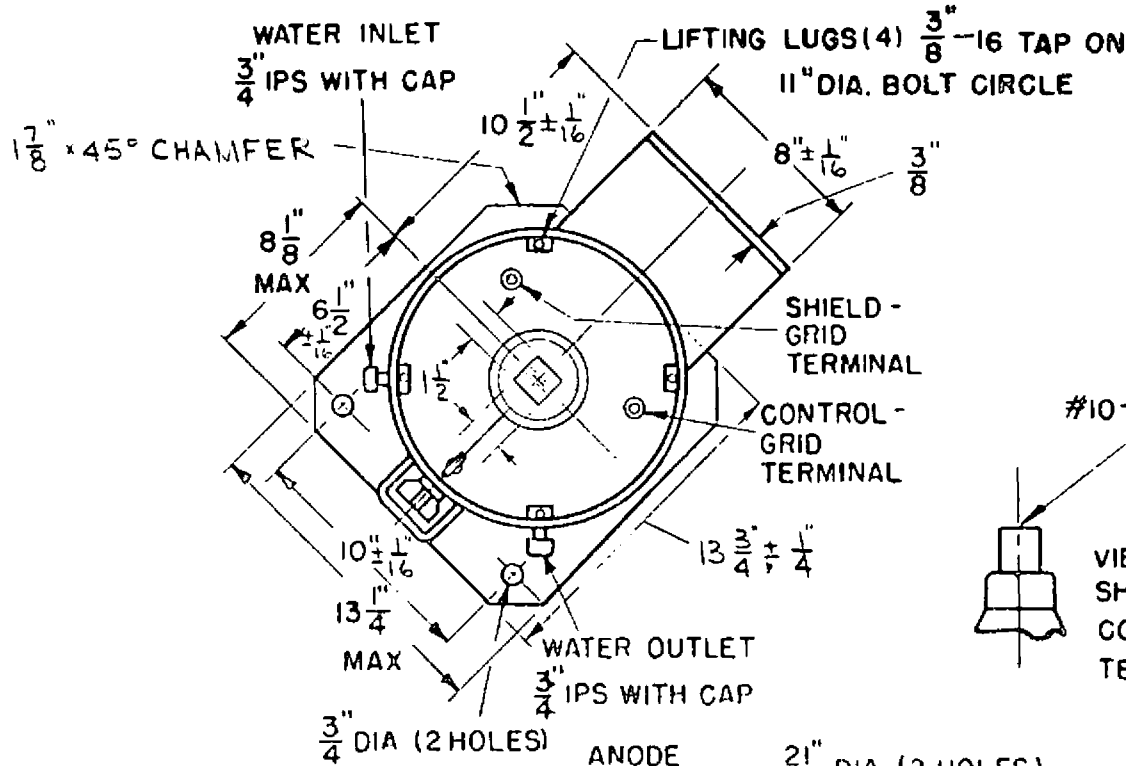
Peak Forward	0.2	5	Amperes
Peak Inverse	---	0.2	Amperes

Ignitor (Cont'd)

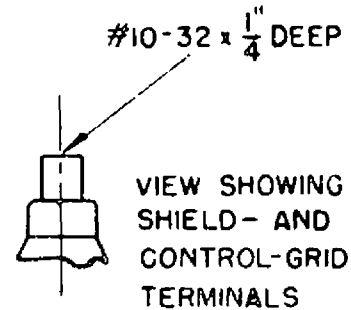
	Minimum	Maximum	
Control-Grid Voltage			
Peak Forward	200	500	Volts
Peak Inverse	100	200	Volts
Control-Grid Current			
Peak Forward	0.4	5	Amperes
Peak Inverse	.0.4	1	Amperes

* Short time loads applied following light load.

OUTLINE GL-6878



VIEW SHOWING IGNITOR AND HOLDING-ANODE TERMINALS



7	Aug 21, 56 DM	1	1/2" DIA. JN-8804
6	Aug 21, 56 DM	2	1/2" DIA. JN-8804
5	Aug 21, 56 DM	3	1/2" DIA. JN-8804
4	Aug 21, 56 DM	4	1/2" DIA. JN-8804
3	Aug 21, 56 DM	5	1/2" DIA. JN-8804
2	Aug 21, 56 DM	6	1/2" DIA. JN-8804
1	Aug 21, 56 DM	7	1/2" DIA. JN-8804

4	Apr 8, 56 DM	1	1/2" DIA. JN-8579
3	Apr 8, 56 DM	2	1/2" DIA. JN-8579

REVISIONS

MADE BY J. STOTE DEC 2, 1957

RE INSPECTED BY APR 2, 56 DM 8226

GENERAL ELECTRIC
ELECTRONICS DIVISION



TUBE DEPARTMENT

K-69087-72A740

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PRINTS TO