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*Institute*  
*4/62*

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## IGNITRON

DATA

## General:

Cathode . . . . .	Pool Type
Number of Ignitors* . . . . .	2
Number of Main Anodes. . . . .	1
Number of Auxiliary Anodes . . . . .	1
Peak Voltage Drop:	
At 100 Amp. Peak-Anode Current . . . . .	12.6 volts
At 300 Amp. Peak Anode Current . . . . .	14.4 volts
At 600 Amp. Peak Anode Current . . . . .	17.3 volts
Cooling:	
Type . . . . .	Water
Typical Flow . . . . .	1.5 to 3 gal./min.
Pressure Drop at Above Flow. . . . .	2 to 5 lb./sq.in.
Temperature Rise at Lower Rate of Flow (150 Amp per Anode) . . . . .	6°C
Mounting Position. . . . .	Vertical, Flexible Lead Up
Maximum Rigid Length (Approx.) . . . . .	17-1/2"
Diameter, Including Cooling Couplings. . . . .	7-1/2" ± 1/8"

RECTIFIER SERVICE

For frequencies from 25 to 60 Cycles, Phase Retard = 0

## Maximum Ratings, Absolute Values:

PEAK FORWARD ANODE VOLTAGE . . . . .	900 max.	2100 max.	volts
PEAK INVERSE ANODE VOLTAGE . . . . .	900 max.	2100 max.	volts
PEAK ANODE CURRENT . . . . .	900 max.	600 max.	amp
AVERAGE CONTINUOUS ANODE CUR. . . . .	100 max.	75 max.	amp
2-HOUR AVERAGE ANODE CURRENT* . . . . .	150 max.	112.5 max.	amp
1-MINUTE AVERAGE ANODE CUR.** . . . .	200 max.	150 max.	amp
SURGE ANODE CURRENT for			
0.15 sec. max. . . . .	6000 max.	4500 max.	amp
OUTLET WATER TEMPERATURE . . . . .	60 max.	45 max.	°C
INLET WATER TEMPERATURE. . . . .	6 min.	6 min.	°C
WATER FLOW, AT CONTINUOUS			
AVERAGE ANODE CUR. RATING. . . . .	1.5 min.	1.5 min.	gpm
WATER FLOW, AT NO LOAD# . . . . .	0.5 min.	0.5 min.	gpm
PEAK INVERSE AUXILIARY ANODE VOLTAGE:			
With Anode Conducting. . . . .	25 max.	25 max.	volts
With Anode Not Conducting. . . . .	150 max.	150 max.	volts
AVERAGE AUXILIARY ANODE CUR. . . . .	5 max.	5 max.	amp
PEAK POSITIVE IGNITOR VOLTAGE. . . . .	900 max.	2100 max.	volts
PEAK NEGATIVE IGNITOR VOLTAGE. . . . .	5 max.	..	volts
PEAK IGNITOR CURRENT . . . . .	100 max.	..	volts
AVERAGE IGNITOR CURRENT## . . . . .	2 max.	..	volts
IGNITION TIME. . . . .	100 max.	..	volts

GENERAL REQUIREMENTS for SELF-EXCITATION and SEPARATE EXCITATION are given on the next page

•, \*, \*\*, #, ##: See next page.

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## IGNITRON

AC WELDER-CONTROL SERVICE

Ratings for 2400 volts,rms, 25 to 60 cycles

**Maximum Ratings, Absolute Values:**

DEMAND . . . . .	1200 max.	kva
CORRESPONDING AVERAGE ANODE CURRENT.	75 max.	amp
AVERAGE ANODE CURRENT. . . . .	113 max.	amp
CORRESPONDING DEMAND . . . . .	600 max.	kva
TIME OF AVERAGING ANODE CURRENT:		
At 2400 v RMS . . . . .	1.5 max.	sec
SURGE ANODE CURRENT, for 0.15 sec. max.	3000 max.	amp
WATER FLOW . . . . .	1.5 min.	gpm
OUTLET WATER TEMPERATURE . . . . .	30 max.	°C
PEAK INVERSE AUXILIARY ANODE VOLTAGE:		
With Anode Conducting. . . . .	25 max.	volts
With Anode Not Conducting. . . . .	150 max.	volts
AVERAGE AUXILIARY ANODE CUR. . . . .	5 max.	amp
PEAK POSITIVE IGNITOR VOLTAGE. . . . .	2400 max.	volts
PEAK NEGATIVE IGNITOR VOLTAGE. . . . .	5 max.	volts
PEAK IGNITOR CURRENT . . . . .	100 max.	amp
AVERAGE IGNITOR CURRENT## . . . . .	2 max.	amp
IGNITION TIME. . . . .	100 max.	µsec

GENERAL REQUIREMENTS for SELF-EXCITATION and  
SEPARATE-EXCITATION are given below

SELF-EXCITATION (ANODE FIRING)

See Circuit 92CS-6722

PEAK IGNITOR VOLTAGE . . . . .	150 min.	volts
PEAK IGNITOR CURRENT . . . . .	40 min.	amp
Ignitor series resistance for anode firing at anode voltages of:		
600 volts or less. . . . .	4	ohms
601 to 1000 volts (Approx.) . . . . .	10	ohms
1001 to 1500 volts (Approx.) . . . . .	20	ohms
1501 to 2000 volts (Approx.) . . . . .	35	ohms
2001 to 2400 volts (Approx.) . . . . .	50	ohms

SEPARATE EXCITATION (CAPACITOR FIRING)

See Circuit 92CS-6722

Minimum volt-ampere requirements are shown on Curve 92CS-6723

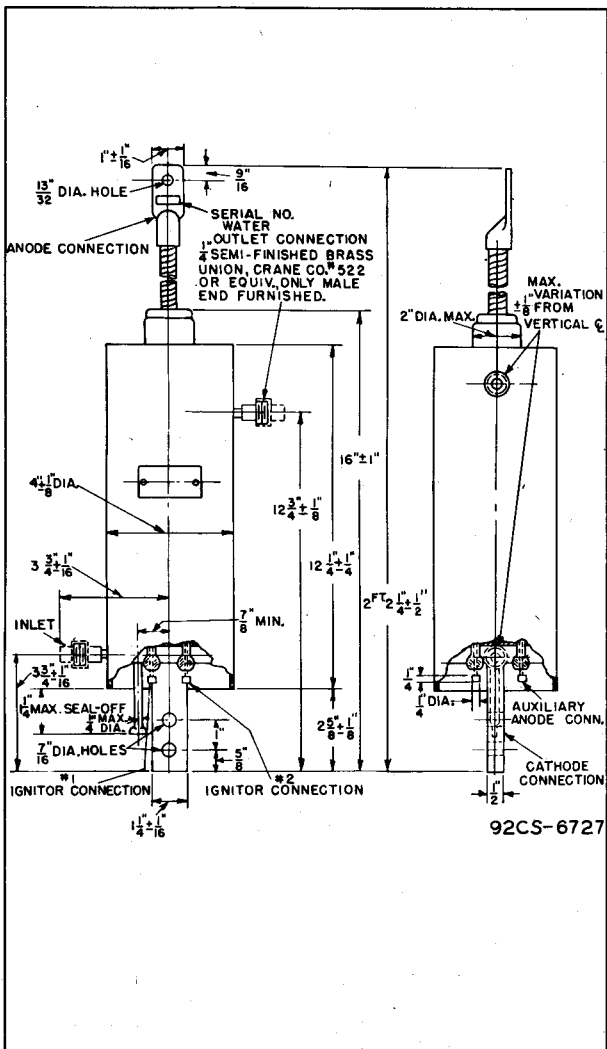
- Use only one ignitor at a time.
- \* Averaged over any 2-minute interval.
- \*\* Averaged over any 1-minute interval.
- # For systems in which the flow of water is controlled by the load.
- ## Averaged over any 10-second interval.



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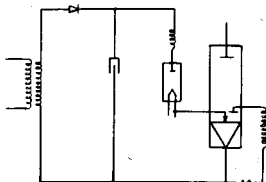
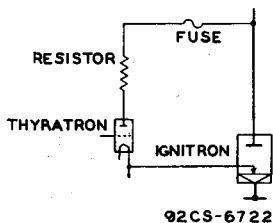
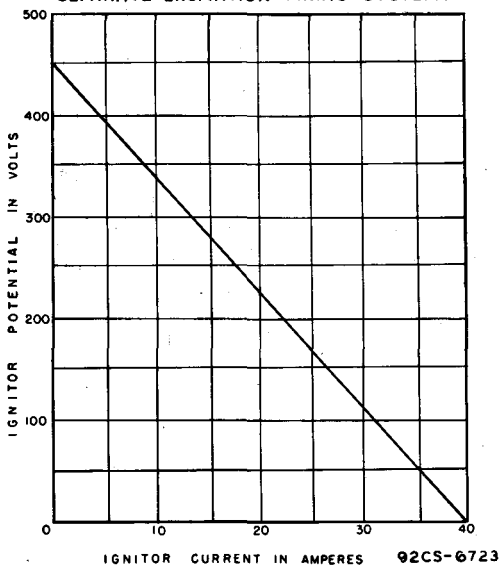


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## IGNITRON

ELEMENTARY CIRCUIT FOR  
CAPACITOR FIRINGELEMENTARY CIRCUIT FOR  
ANODE FIRINGMINIMUM VOLT-AMPERE REQUIREMENTS FOR  
SEPARATE-EXCITATION FIRING SYSTEMS

MAY 1, 1946

TUBE DIVISION  
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

CE-6722-6723



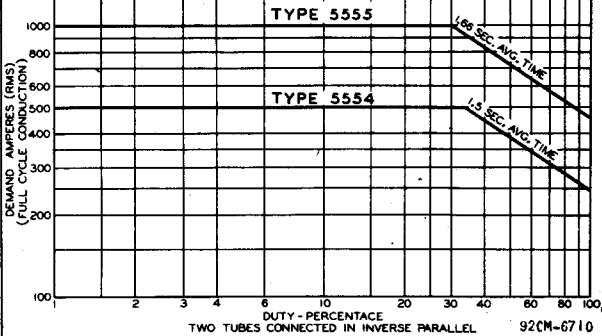
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## WELDER-CONTROL SERVICE

ANODE-SUPPLY VOLTAGE 2400 VOLTS RMS  
 MAX. OUTLET WATER TEMP = 30°C  
 MIN. WATER FLOW 1.5 GAL./MIN.



ARC DROP, OUTLET WATER  
 TEMPERATURE—40 TO 60°C, WATER FLOW—1.5 GPM

