IGNITRON TUBE

NL-5550
IGNITRON TUBE
22.4 Amperes dc

NL-5550 is a mercury pool tube designed especially for resistance welding control. Its rating is approximately equivalent to a 150-ampere magnetic contactor.

NL-5550 can be used to control 25-60 cycle AC at voltages of 250 to 600 volts. It can also be used to control stored electrostatic energy for resistance welding.

NATIONAL ELECTRONICS, INC.
GENEVA, ILLINOIS, U. S. A.

NL-5550 IGNITRON TUBE
TECHNICAL INFORMATION

AC CONTROL APPLICATIONS — ratings are based on full-cycle conduction (no phase delay) regardless of whether or not phase control is used, on frequencies from 25 to 60 cycles, and any voltage between 250 to 600 volts rms.

Maximum clamp temperature, °C	75	50
[1]Maximum demand — kva	150	300
[1]Corresponding maximum average anode current per tube — amps DC	4.9	12.1
[1]Maximum average anode current per tube — amps DC	9.0	22.4
[1]Corresponding maximum demand — kva	50	100

[2]CAPACITOR DISCHARGE RATINGS

Maximum discharges per sec.	60	60		
Peak forward voltage, max.	3000	6000		
Peak inverse volts, max.	3000	3000		
Peak anode current, max. amps.	500	500		
Maximum temp. of cooling clamp, °C	70	40	60	40
Corresponding maximum average current, amps DC	3	15	2.5	8
Maximum averaging time, sec.	3.3	0.66	4.0	1.25

[1]Maximum averaging time — seconds

At 600 volts rms.	11.6	9.2
At 250 volts rms.	27.8	22

Maximum surge current —

Peak amps	280	280
percent of max. rms demand current		

IGNITION REQUIREMENTS (same for both applications)

Ignitor Voltage

Maximum instantaneous allowed, ignitor positive — anode voltage

[3]Maximum instantaneous required, ignitor positive — volts 200

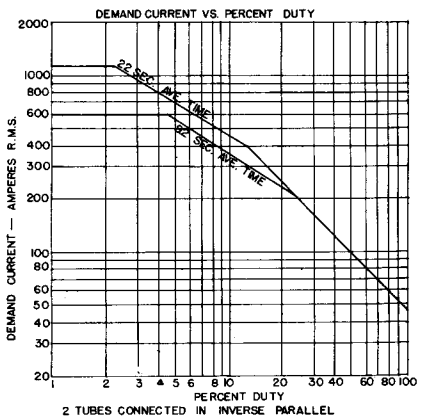
Maximum instantaneous allowed, ignitor negative—volts 5

Ignitor Current

Maximum instantaneous allowed — amperes	100
[3]Maximum instantaneous required — amperes	30
Maximum average allowed — ampere	1
[3]Ignitor ignition time maximum — microseconds	100
Ignitor current averaging time — seconds	5

GENERAL CHARACTERISTICS

Number of anodes	1
Number of ignitors	1
Mounting position	Vertical
Peak arc drop — approximate volts	12
Type of cooling	Water cooled clamp
Minimum inlet water temperature — °C	0
Net weight — lbs.	1.5
Approx. shipping weight — lbs.	8

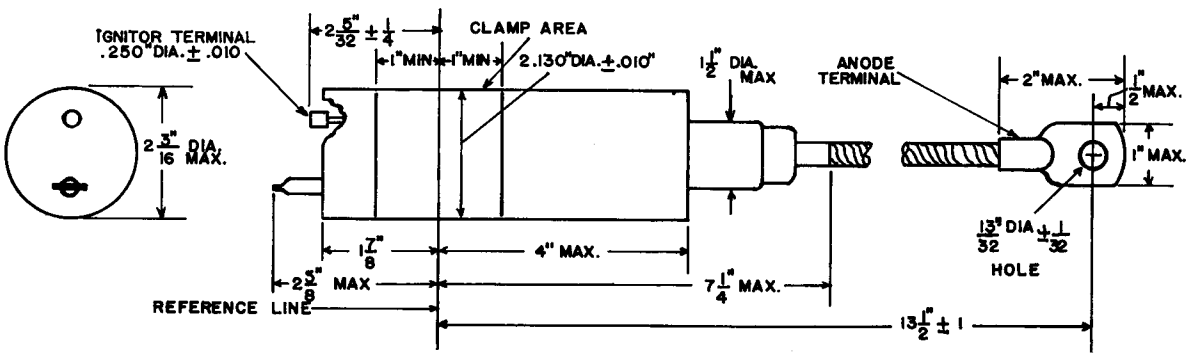


[1]Using log-log paper, straight line interpolation of Demand Current vs. Average Anode Current may be used to determine intermediate ratings.

[2]Using log-log paper, straight line interpolation between listed points may be used to determine intermediate ratings of average anode current and maximum averaging time vs. temperature.

[3]Ignition will occur if either maximum required instantaneous positive potential is applied or maximum required instantaneus current flows for the rated maximum ignitor ignition time.

OUTLINE DRAWING



Printed in USA 5-56 GR

NATIONAL ELECTRONICS, INC.
GENEVA, ILLINOIS, U. S. A.