

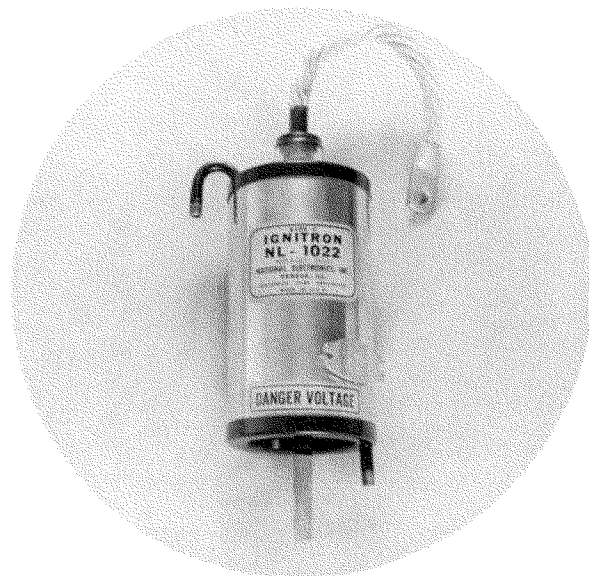
NL-1022 IGNITRON

Size C

70 Amperes dc

National Ignitron NL-1022 is a metal, water cooled, mercury pool tube designed especially for frequency-changer resistance welders. NL-1022 baffle reduces the deionization time so that it will operate satisfactorily in applications involving severe conditions of commutation.

NL-1022 utilizes an all-copper cooling coil construction with thermostat mount that provides exceptional cooling efficiency. The cooling coil is self flushing and prevents sediment deposits. The mercury-pool cathode permits the tube to handle extremely high currents on an intermittent basis.



TECHNICAL INFORMATION

Frequency-Changer Resistance Welding Applications or Intermittent Power-Rectifier Applications

Maximum Ratings: Ratings are based on full cycle conduction (no phase delay) regardless of whether or not phase control is used and frequencies from 50 to 60 cycles. When phase control is used, current ratings are reduced correspondingly. Values are for one tube.

Maximum Peak Anode Voltage -- Volts:

Inverse	1200	1500
Forward	1200	1500

*Anode Current -- Amps:

Maximum peak	1500	1200
Corresponding maximum average per tube	20	16
Maximum average per tube	70	56
Corresponding maximum peak	420	336
Maximum averaging time, seconds	6.25	6.25
Max. Ratio of average to peak current, maximum averaging time 0.2 sec.	0.166	0.166
Max. Ratio of peak surge to peak current	12.5	12.5
Maximum duration of surge current, sec.	0.15	0.15

Cooling Requirements:

Type of cooling	Water
Minimum inlet water temperature, °C	0
Maximum cooling system temperature (measured at thermostat mount), °C	45
Approximate water flow required at continuous full load, GPM	1/2 to 1
Water flow may be reduced at light loads if cooling system temperature (measured at thermostat mount) is maintained within limits.	
Pressure drop per tube at 1 GPM, lbs. per sq. in.	4
Water temperature rise (at 1 GPM and full load), °C	5
Approx. temperature rise, water at inlet to thermostat mount (at 1 GPM and full load), °C	4

Ignition Requirements:

Ignitor Voltage —

Maximum instantaneous allowed, ignitor positive, volts	Anode Voltage
**Maximum instantaneous required, ignitor positive, volts	200
Maximum instantaneous allowed, ignitor negative, volts	5

Ignitor Current —

Maximum instantaneous allowed, amperes	100
**Maximum instantaneous required, amperes	30
Maximum RMS allowed, amperes	10
Maximum average allowed, ampere	1
**Ignitor ignition time, maximum microseconds	100
Ignitor averaging time, seconds	5

General Characteristics:

Number of anodes	1
Number of ignitors	1
Mounting position	Vertical
Peak arc drop at 1500 amperes peak, approximate volts	25
Net weight — lbs.	10
Approx. shipping weight — lbs.	12

*Using log-log paper, straight line interpolation may be used to determine intermediate ratings. See curve for details.

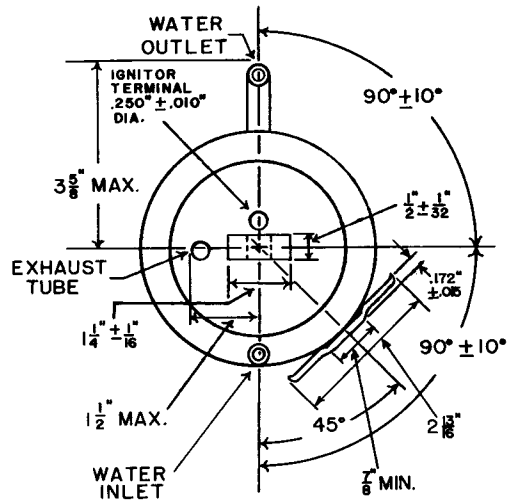
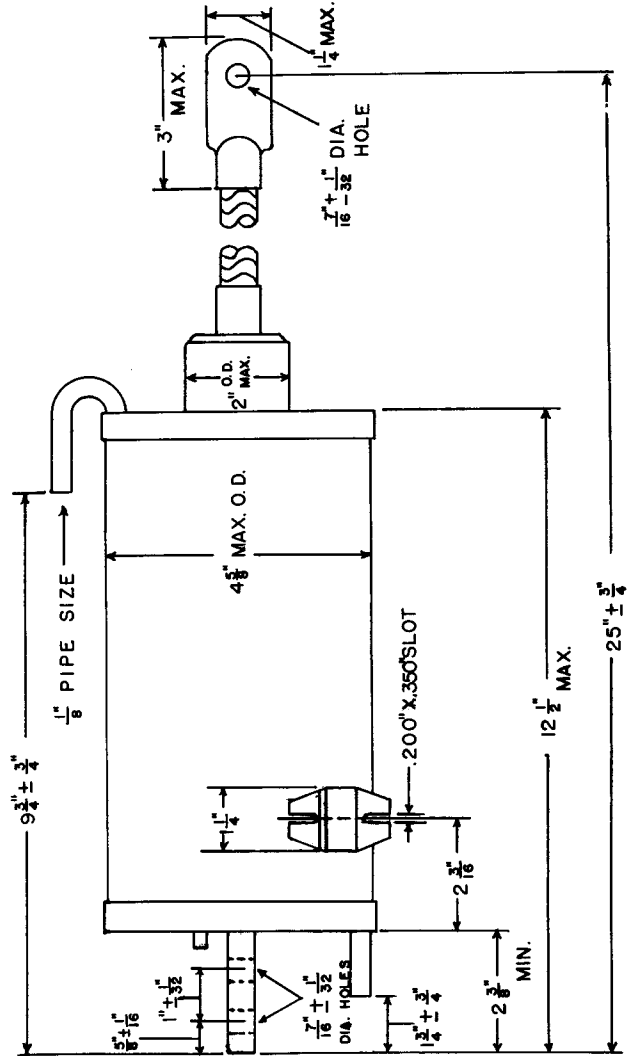
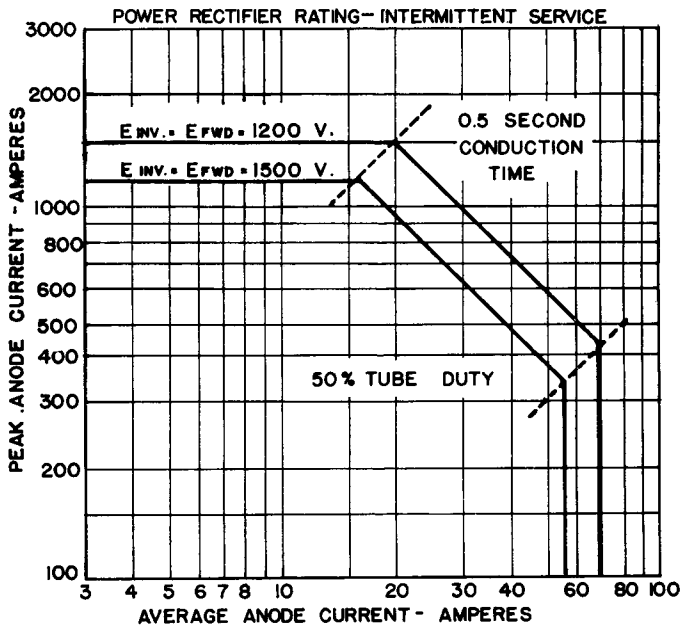
**Ignition will occur if either maximum required instantaneous positive potential is applied or maximum instantaneous current flows for the rated maximum ignition time.

Printed in USA 10/58

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GENEVA, ILLINOIS, U. S. A.

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