

873

**GRID CONTROL MERCURY VAPOR
RECTIFIER
REPLACES 973 AND FG-27**

\$17.25



873

Grid control Rectifier tubes (thyratrons) are the most versatile of electronic tubes. The wide range of usefulness of these tubes is due to remarkable sensitivity, high operating speed, great durability as a rapid-duty contactor and general adaptability to automatic operations. The Taylor 873 has a wide range of uses in the newer industrial electronic apparatus. The new, more rugged design insures successful operation under the most difficult conditions.

GENERAL CHARACTERISTICS

Number of Electrodes.....	3
Filament- Cathode Control:	
Voltage, volts.....	5.0
Current, amps.....	6.75
Heating Time, sec.....	45

Single Phase—Half-Wave Circuit—1 Tube

Anode Voltage:	
Maximum Peak Inverse Voltage, volts.....	3000
Maximum Peak Forward Voltage, volts.....	5000
Maximum Anode Current:	
Instantaneous, amps.....	10.0
Average, amps.....	2.5
Surge (should not last longer than 1 sec.), amps.....	90.0

Single Phase—Full Wave Circuit—2 Tubes

Anode Voltage:	
Maximum Peak Inverse Voltage per tube, volts.....	10000
Maximum Peak Forward Voltage per tube, volts.....	3000
Maximum Anode Current:	
Instantaneous per tube, amps.....	10.0
Average per tube, amps.....	1.25
Surge (should not last longer than 1 sec.), amps.....	90.0
Maximum Time of Averaging Anode Current, sec.....	15

Maximum Grid Current:	
Instantaneous, † amps.....	1.0
Average, amps.....	0.25
Tube Voltage Drop, volts.....	10-15
Approximate Starting Characteristics at Cond. Mercury Temp. of 50° C.	

D. C. Anode Voltage	Grid Voltage
70	0
100	-3
1000	-5.5

Temperature Limits:	
Condensed Mercury Temperature.....	40 to 80 C
Ambient Temperature Range.....	25 to 65 C
Deionization Time—approximate.....	1000 microsec
Ionization Time.....	10 microsec

Dimensions:	
Maximum Length.....	8 1/2"
Diameter.....	2 1/8"
Bulb.....	T-18
Cap.....	Medium metal
Type of Coupling.....	Air
Base.....	4 Pin Jamb

The filament should be allowed to come up to operating temperature before the plate voltage is applied.

†When operating at a frequency of less than 25 cycles, the maximum instantaneous current is reduced to twice the average current rating.

Return leads from anode and grid circuits should be connected to the center tap of the filament transformer winding when A-C is used on the filament. If D-C is used the return should be made to the negative filament terminal.

The deionization time of this type of tube is too long to allow it to be used with satisfaction for inverter circuits.

All mercury vapor or gas filled tubes require protective resistances in the grid and anode circuits to limit the current in these circuits to the rated value.

INSTALLATION

The base of the Taylor 873 is designed for mounting in a standard "50 watt" socket. The tube should always be mounted vertically with ample air space provided for ventilation. The ambient temperature should not be less than 25° C (77° F) and not more than 65° C (149° F) for the maximum peak inverse voltage. When the maximum ambient temperature exceeds these limits, forced ventilation should be used.

The filament of the 873 should be operated on alternating current at the rated value of 5.0 volts. The socket should make good contact to the tube pins and adequate current-carrying capacity leads to the secondary winding of the power transformer should be used. Operation of the filament at less than the rated voltage may result in a high internal voltage drop with subsequent loss of emission. A filament voltmeter should be connected permanently across the filament circuit at the socket terminals in order that the filament voltage can be maintained at 5.0 volts.

Because the mercury may be splashed on the tube elements due to shipment or handling, the filament of the 873 should be operated at rated voltage for approximately 3 minutes without plate voltage in order to distribute the mercury properly when the tube is first placed in service. The above procedure need not be repeated unless the tube is removed from the socket and during handling the mercury becomes splashed on the tube elements.

The condensed mercury temperature should be at least 25° C before the plate voltage is applied. This may be ordinarily accomplished by introducing a time lag of at least 45 seconds between the application of the filament and the plate voltages. In event that arc-back should occur when the plate voltage is applied, the pre-heating time of the filament should be increased.

When the 873 is subjected during operation to external high voltage or high frequency fields, shielding and R-F filter circuits should be provided.

