

Cunningham RADIO TUBES

BULLETIN

Type CX-380

FULL WAVE RECTIFIER

The CX-380 is a full-wave rectifying tube intended for use in power supply devices that operate from an alternating current supply.

FILAMENT

The filament of this tube is of the oxide coated type and is designed to operate at 5 volts. The filament current is supplied from one of the windings of a power transformer, the leads to which should be of high current carrying capacity.



PLATE

There are two plates in the CX-380, both designed to operate at voltages *no higher than* 550 volts A.C. each, which value is permissible only with filter circuits having an input choke of at least 20 henries. Under these conditions it is possible to obtain a D.C. load current of 135 milliamperes. Where ordinary type filters are used lower ratings are indicated below and should all be carefully observed, otherwise the life and performance of the tube may be seriously affected.

CIRCUIT RECOMMENDATIONS

The most generally used full-wave rectifier circuit employing the CX-380 is shown in fig. 2A. The filter used may be either of the condenser or choke input types. With condenser input (as shown in fig. 2B) care must be taken that this input condenser should have a rating sufficiently high to withstand the instantaneous peak value of the A.C. input voltage.

In the case of the choke input method (fig. 2C) where the input condenser of fig. 2B is omitted, there will be a somewhat lower available D.C. output voltage for a given A.C. plate voltage than with the condenser input method. However, improved regulation with lower peak current will be obtained. When using 550 volts

per plate, this type of filter is necessary as mentioned before and an input choke of at least 20 henries must be used. If desired, a condenser of not more than 0.1 mfd. may be used across the input.

OPERATING CONDITIONS

Filament Voltage 5.0 volts

Filament Current 2.0 amperes

A.C. Voltage per Plate with

135 m.a. D.C. Output Current (max.) 550 volts (R.M.S.)—permissible only with filter circuits having an input choke of at least 20 henries. If desired, a condenser of not more than 0.1 mfd. may be used across the input of the filter.

125 m.a. D.C. Output Current (max.) 350 volts (R.M.S.)

110 m.a. D.C. Output Current (max.) 400 volts (R.M.S.)

DIMENSIONS

Maximum Overall Length 5 5/8"

Maximum Overall Diameter 2 3/16"

BASE

Standard Large CX

AVERAGE CHARACTERISTIC CURVES

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Filament Characteristic—Fig. 1 shows the change of filament current with various filament voltages.

Output Characteristics—Fig. 3 shows the relation of load current to the rectified voltage at various plate voltages when using a condenser input filter.

Fig. 4 shows the relation of load current to the rectified voltage when using a choke input filter.

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AVERAGE CHARACTERISTICS

FILAMENT CHARACTERISTIC

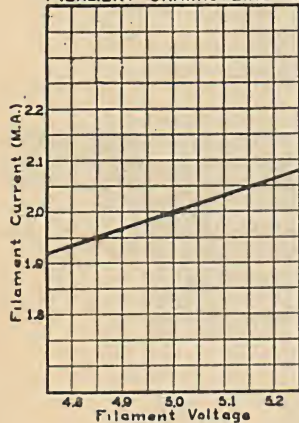


Fig. 1

TYPICAL OPERATING CIRCUIT

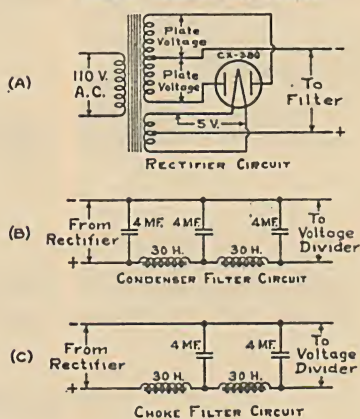


FIG. 2

OUTPUT CHARACTERISTICS
(CONDENSER INPUT FILTER)

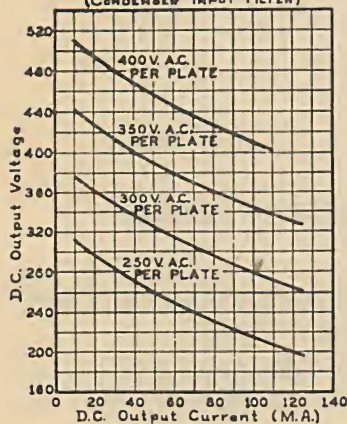


Fig. 3

OUTPUT CHARACTERISTICS
(CHOKE INPUT FILTER)

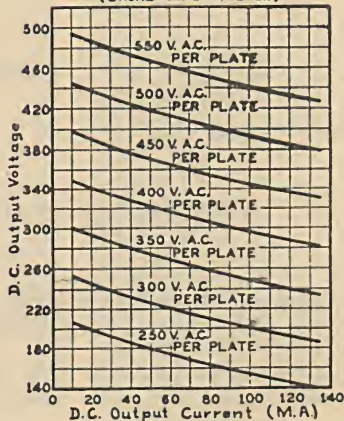
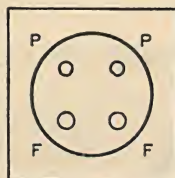
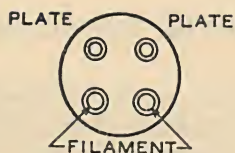


Fig. 4



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BASE AND SOCKET CONNECTIONS