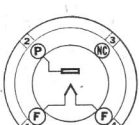


Sylvania

TYPE 81

HALF-WAVE RECTIFIER

CHARACTERISTICS

Filament Voltage AC	7.5 Volts
Filament Current	1.25 Amperes
Maximum Over-all Length	5⅜"
Maximum Diameter	2¼"
Bulb	ST-16
Base—Medium 4-Pin	4-B

Operating Conditions and Characteristics:

HALF-WAVE OPERATION (One Tube)

Filament Voltage	7.5 Volts
A-C Plate Voltage (RMS)	700 Volts Max.
D-C Output Current	85 Ma. Max.

FULL-WAVE OPERATION (Two Tubes)

Filament Voltage	7.5 Volts
A-C Plate Voltage (RMS)	700 Volts Max.
D-C Output Current	170 Ma. Max.

NOTE: For rectifier curve data see Page 156.

CIRCUIT APPLICATION

Sylvania 81 is a half-wave vacuum type rectifier for use in supplying direct current power from an a-c power supply line.

The coated ribbon filament of the 81 is designed to operate on alternating current from a 7.5 volt winding on the power transformer. The filament should be held close to its rated value. Since the filament current is rather high (1.25 amperes) it is necessary to employ wire of the proper current carrying capacity. It is usually unnecessary to center tap the filament winding.

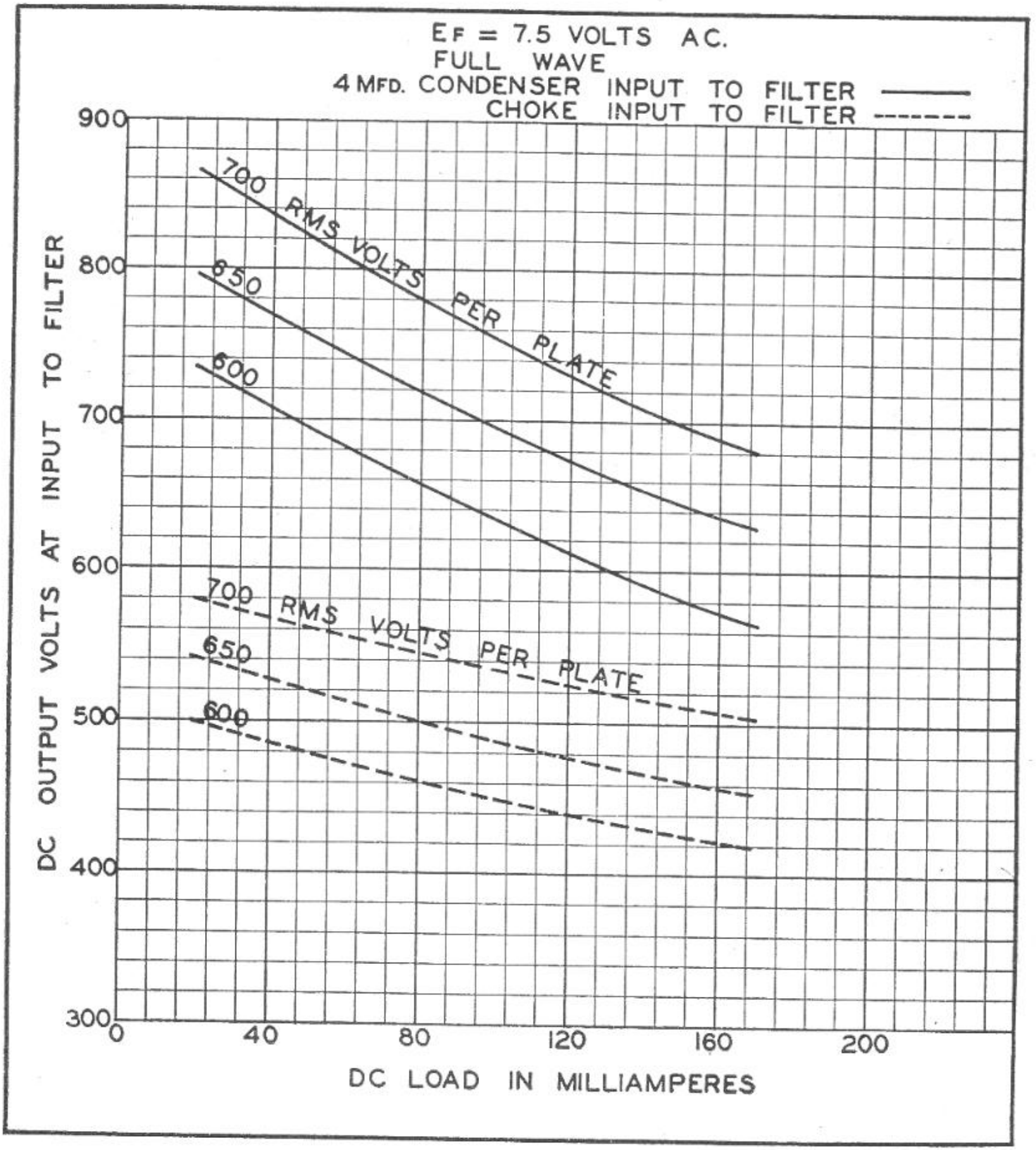
The 81 may be employed in a half-wave rectifier circuit, or two may be employed in a full-wave rectifier circuit.

In the case of the half-wave circuit, the high voltage winding of the power transformer is designed to supply to the plate a voltage generally between 600 and 700 volts r-m-s, depending upon the d-c output voltage and current desired, as well as upon the constants of the associated equipment.

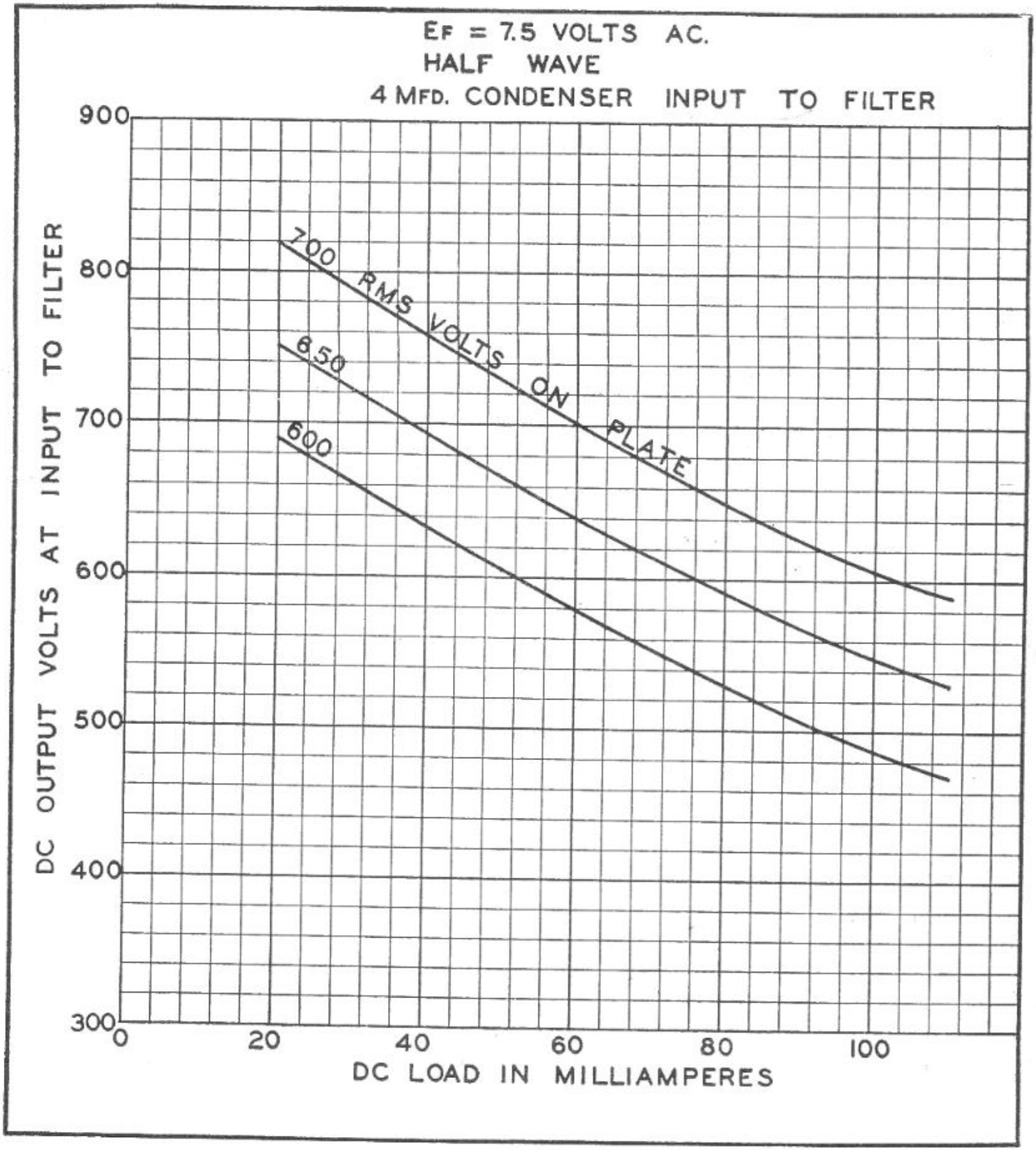
In the full-wave circuit, each half of the high voltage winding of the power transformer is designed to supply a voltage usually between 600 and 700 volts depending upon the load requirements. There will thus be a total a-c voltage from 1200 to 1400 volts r-m-s across both halves of the transformer winding.

For use with the half-wave circuit, the filter should be of the condenser-input type. Filter condensers whose rating is sufficient to withstand the high voltages encountered must be employed. For use with full-wave circuit either condenser or choke-input may be employed.

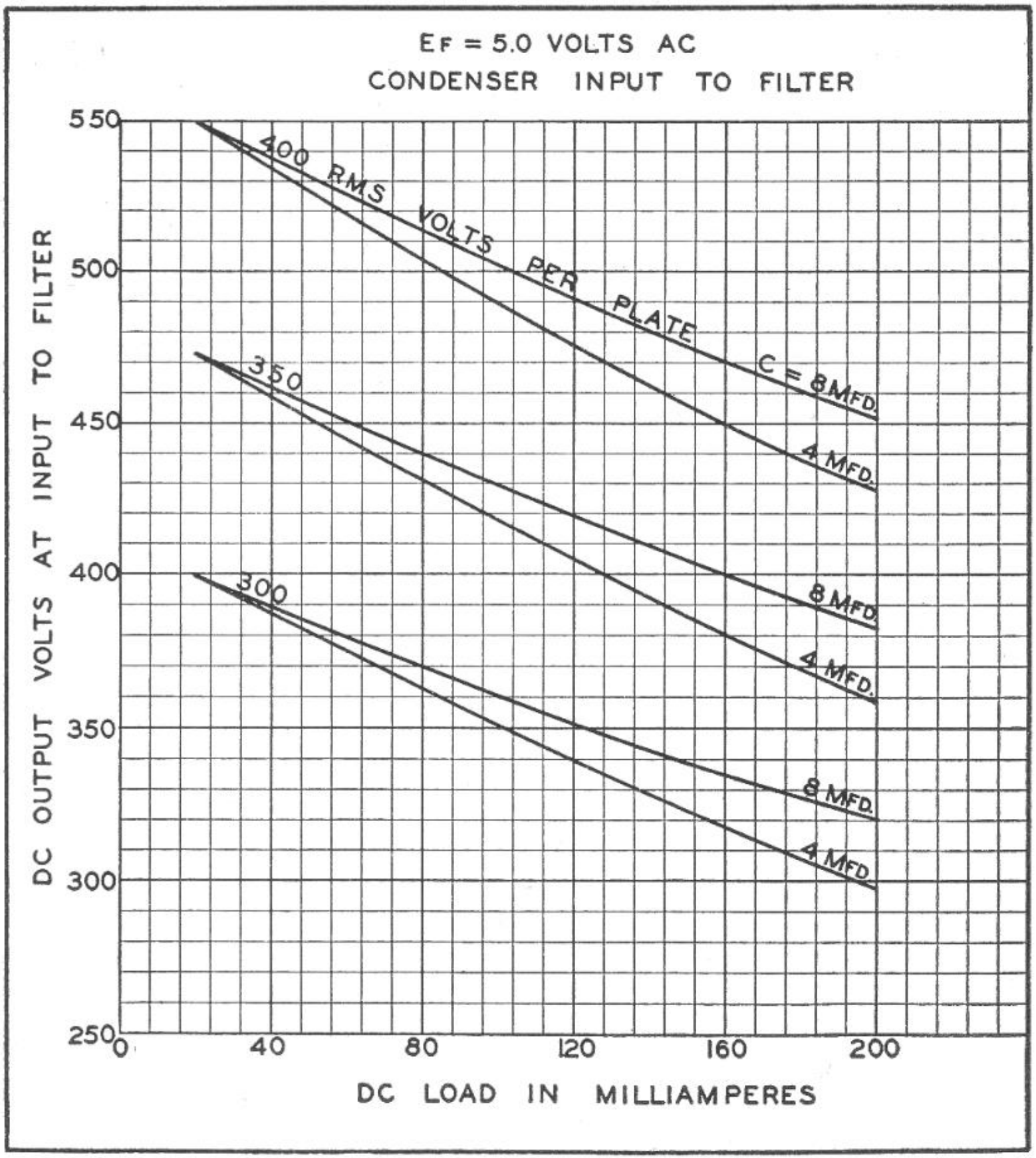
TYPE 81


EF = 7.5 VOLTS A.C.
FULL WAVE
4 MFD. CONDENSER INPUT TO FILTER
CHOKE INPUT TO FILTER
700 RMS VOLTS PER PLATE
650
600
700 RMS VOLTS PER PLATE
650
600
DC OUTPUT VOLTS AT INPUT TO FILTER
900
800
700
600
500
400
300
0
40
80
120
160
200
DC LOAD IN MILLIAMPERES

TYPE 81


EF = 7.5 VOLTS AC.
HALF WAVE
4 MFD. CONDENSER INPUT TO FILTER
DC OUTPUT VOLTS AT INPUT TO FILTER
900
800
700
600
500
400
300
0
20
40
60
80
100
DC LOAD IN MILLIAMPERES
700 RMS VOLTS ON PLATE
650
600

TYPES 83V, 5V4G



TYPES 83V, 5V4G