

WILLIAM DUBILIER  
339 GARDEN ROAD  
PALM BEACH, FLORIDA 33480

# DUBILIER

## CONDENSERS & RESISTANCES

LIST No. 933 G

|  | Section |
|--|---------|
| Mica Condensers for Radio Receiving Circuits ...                         | M       |
| Paper Condensers for Radio Receiving Circuits ...                        | P       |
| Electrolytic Condensers for Radio Receiving<br>Circuits ... ..           | E       |
| Resistances for use in Radio Apparatus ... ..                            | R       |
| Radio Components ... ..  | C       |
| Anti-Interference Devices and Motor Radio<br>Suppressors ... ..          | A       |
| Condensers for Power Factor Improvement of<br>A.C. Power Circuits ... .. | S       |
| Condensers — all types for Radio Transmitting<br>Circuits ... ..         | T       |

January, 1934

DUBILIER CONDENSER CO. (1925) Ltd.  
DUCON WORKS, VICTORIA ROAD  
NORTH ACTON, LONDON, W.3

Telephones : Acorn 2241 (5 lines)

Telegrams : Hivoltcon, Phone, London. Cables : Hivoltcon, London





## *The House of Dubilier and its Products*

THERE could be no more fitting celebration of twenty-one years' successful business than this comprehensive catalogue, which it is felt will be of service to Radio Set Manufacturers and users of electrical condensers generally.

Never before has such a mass of useful information been compiled on the subject of Condensers, subsequent developments will be dealt with by the supply from time to time of additional pages.

Wherever Condensers are used, the name Dubilier has to be recorded as a Hall Mark of quality and reliability. They are used and specified extensively by British Government Departments, Foreign Governments, and the leading Radio Manufacturers, also designers.

In the production of Dubilier Condensers the accumulated experience of a generation in design, manufacture, and research is turned to account, and to this they owe the high standard of performance attained and maintained under conditions of service which are often very severe.

Dubilier has also built up a world-wide reputation of the highest order for Resistances, of which millions are now used by manufacturers of radio apparatus of repute.

The name Dubilier is, therefore, a sure guarantee where Condensers and Resistances are concerned. Dubilier Condensers and Resistances are British made throughout at North Acton, the factory employing hundreds of workers.

All Dubilier products are backed by a sales service with ramifications throughout the world.

---

---



## MOULDED MICA CONDENSERS FOR RADIO RECEIVERS AND AMPLIFIERS

Types 665, 670, 690 and 691

These Condensers are suitable for all standard uses in radio receivers, e.g., HF, IF, and LF coupling in amplifiers and by-passing HF and IF currents. The moulding-in after assembly provides perfect sealing and protection from moisture and the design is such to ensure a minimum power factor.



Type 670



Type 665

During the past few years these Condensers have proved exceedingly popular with Set Manufacturers and home constructors owing to their lightness, robust construction and reliability.

Type 665 Condensers are particularly useful for suspending in the wiring. The other types are provided with two fixing holes, the size of the Condenser in each instance being dependent on the capacity and working voltage.



Type 690



Type 691

|                             |     |     |     |          |
|-----------------------------|-----|-----|-----|----------|
| Test volts                  | ... | ... | ... | 500 A.C. |
| D.C. peak working volts...  |     |     |     | 250 D.C. |
| Standard Capacity tolerance |     |     |     | ± 15%    |

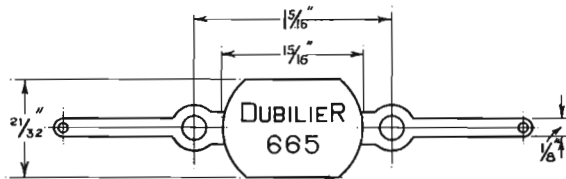
Condensers tested to higher voltages or made to closer tolerances can be supplied upon receipt of detailed requirements.



# MOULDED MICA CONDENSERS

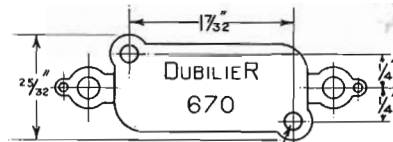
Types 665, 670, 690 and 691

## DIMENSIONS



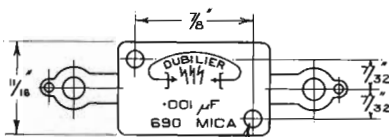
OVERALL LENGTH  $3\frac{3}{16}$ "

Type 665



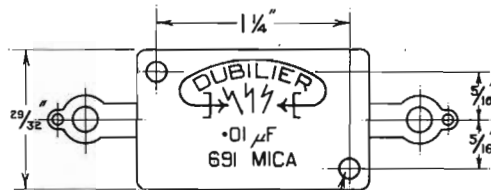
HOLES N°30 DRILL  
OVERALL LENGTH  $2\frac{3}{16}$ "

Type 670



HOLES N°30 DRILL  
OVERALL LENGTH  $2\frac{7}{32}$ "

Type 690



HOLES N°30 DRILL  
OVERALL LENGTH  $2\frac{27}{32}$ "

Type 691

| Type 665      |       | Type 670      |       |
|---------------|-------|---------------|-------|
| Capacity      | PRICE | Capacity      | PRICE |
| .0001 $\mu$ F | 6d.   | .0001 $\mu$ F | 1/-   |
| .0002 $\mu$ F | 6d.   | .0002 $\mu$ F | 1/-   |
| .0003 $\mu$ F | 6d.   | .0003 $\mu$ F | 1/-   |
| .0005 $\mu$ F | 9d.   | .0005 $\mu$ F | 1/3   |
|               |       | .001 $\mu$ F  | 1/3   |
|               |       | .002 $\mu$ F  | 1/3   |
|               |       | .005 $\mu$ F  | 1/6   |
|               |       | .006 $\mu$ F  | 1/6   |
|               |       | .01 $\mu$ F   | 2/-   |

*Special quotations to Radio Set Manufacturers and industrial users.*



## MICA CONDENSERS

### FOR RADIO RECEIVERS AND AMPLIFIERS

Types 610, 620, B770, B771, B772, B775, B776 and B777

These high-grade Mica Condensers are supplied in substantial bakelite mouldings with suitable terminals.

These Condensers are specially recommended for use in HF circuits.



*Type 610*

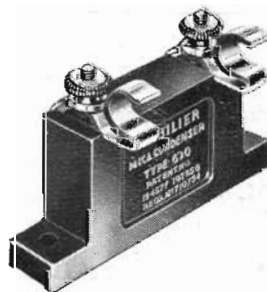
The B775 range is particularly suitable for "talkie" and other high-power amplifiers and for low-power wireless transmitters.

Details of the test voltage and working voltage are given in the following table.

The capacity tolerance is normally  $\pm 15\%$ . Condensers manufactured to a closer tolerance can be supplied at a slightly higher cost.



*Type B775*



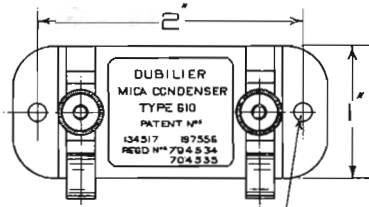
*Type 620*



## MICA CONDENSERS

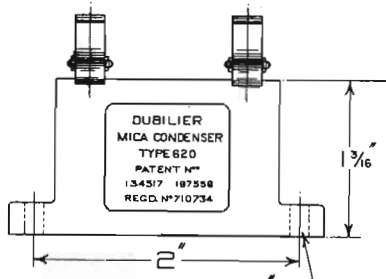
Types 610 and 620, B770, B771, B772, B775, B776 and B777

### DIMENSIONS



HOLES .130 DIA.  
OVERALL LENGTH 2 3/8"

Type 610

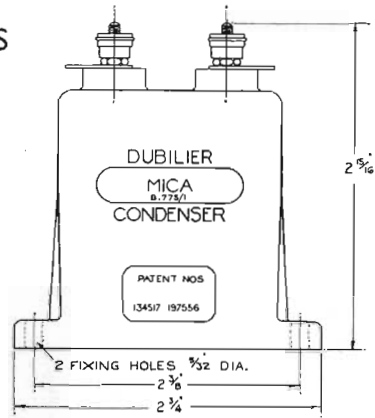


HOLES .144" DIA.  
OVERALL LENGTH 2 3/8"

Type 620

### Types 610 and 620

| Capacity   | Price |
|--|-------|
| .0001--0005 $\mu$ F with grid leak clips ... ..                            | 1/3   |
| .00005--0009 $\mu$ F with grid leak clips and series parallel clips ... .. | 1/8   |
| .001--002 $\mu$ F ... ..   | 2/-   |
| .003, .004, .005 $\mu$ F ... ..  | 2/3   |
| .006 $\mu$ F ... ..  | 2/6   |
| .01 $\mu$ F ... ..   | 3/-   |



Types B775, B776, B777

| Type | Capacity    | Price |
|------|-------------|-------|
| B775 | .01 $\mu$ F | 3/-   |
| B775 | .02 $\mu$ F | 3/6   |
| B775 | .05 $\mu$ F | 5/6   |
| B775 | .1 $\mu$ F  | 8/-   |
| B776 | .2 $\mu$ F  | 14/6  |
| B776 | .25 $\mu$ F | 18/-  |
| B777 | .5 $\mu$ F  | 32/6  |

The above Condensers are designed for 250 volts D.C. peak working.

### Types B770, B771, B772

| Type | Max. Wkg. Voltage 500 D.C. Test Voltage 1000 D.C. | Max. Wkg. Voltage D.C. | Max. Wkg. Voltage D.C. | Max. Wkg. Voltage D.C. | Price |
|------|---|------------------------|------------------------|------------------------|-------|
| B770 | .1  | .05                    | .02                    | .01                    | 12/6  |
| B771 | .2  | .1                     | .04                    | .02                    | 25/-  |
| B772 | .3  | .15                    | .06                    | .03                    | 37/6  |

Thickness of B770 and B775 ... 1 1/16"  
 " " B771 " B776 ... 1"  
 " " B772 " B777 ... 1 1/4"

Special quotations to Radio Set Manufacturers and industrial users.



## NON-INDUCTIVE PAPER CONDENSERS IN CYLINDRICAL CONTAINERS

The Dubilier new type 9200 non-inductive Condenser represents the latest design in Condenser practice and embodies distinct advantages over any other Condenser on the market.

This Condenser embodies the true non-inductive type of construction where the connection is made all along the foil and not by the provision of extra lugs only.

The two lead-in wires form a non-inductive pair, so that the self-inductance of the Condenser is so small as to be masked by that of the external wiring.

The Condenser is fitted into a substantially made and well-finished cylindrical aluminium container, which is of a design lending itself to a simple and effective method of securing the Condenser to the chassis in a minimum of space. Five sizes of containers are available, covering the full range of capacity values.

The standard Condenser is fitted with screw terminals which are fixed in a bakelite moulding forming the top cover of the Condenser, in such a way that no loosening of the connection can take place.

Where required in quantity this type of Condenser can be fitted with solder tags for connection purposes, and it can also be arranged that the can of the Condenser forms the negative connection to the chassis, in which case only the solder tag connection on the top is necessary. In these days of all-metal chassis construction and screened coils, etc., this Condenser lends itself to the general layout and enhances the appearance of a radio chassis.

Not only is the full capacity range of the original and now well-known type 9200 Condenser covered by this new design, but for the smaller capacities a substantial saving in space is shown.

In addition, four large sizes of containers are available in which are fitted Condensers of larger capacities and higher working voltages covering all the requirements of the larger radio sets, power amplifiers, and the more powerful apparatus generally. All the grades of Condensers comprised in the well-known series of Dubilier Paper Condensers, heretofore supplied only in rectangular containers, can now be supplied in this new type.

The accompanying data give details of this range of Condensers, which are available in standard capacities suitable to operate on a range of maximum peak volts between 300 and 900 volts D.C.



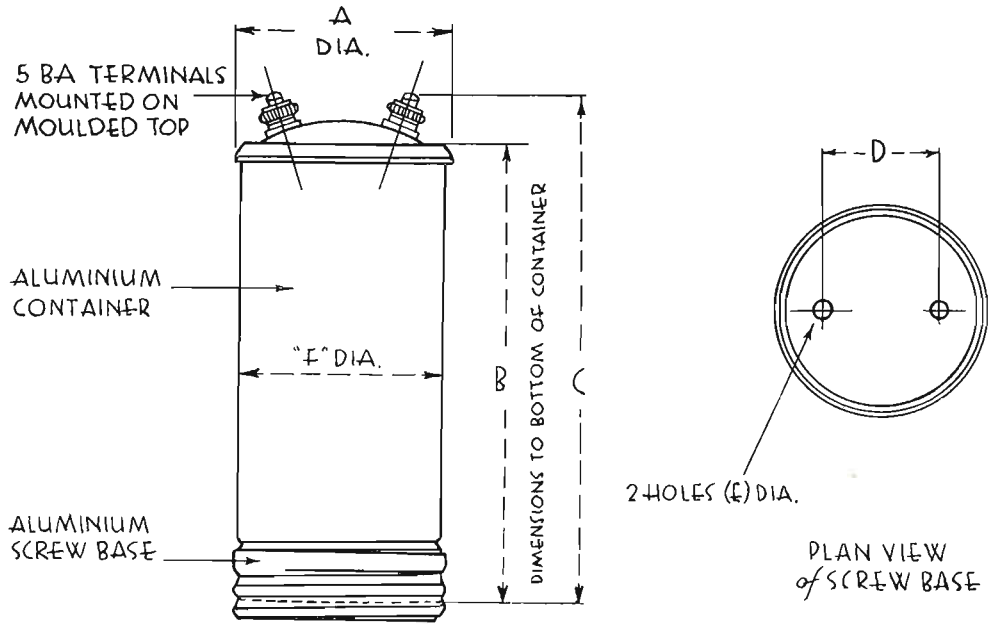
*Type 9200*



*Type LSG*



## NON-INDUCTIVE PAPER CONDENSERS IN CYLINDRICAL CONTAINERS—contd.



| Box Type | A                  | B                  | C                | D               | E                | F                 |
|----------|--------------------|--------------------|------------------|-----------------|------------------|-------------------|
| 9200     | $2\frac{9}{32}$ "  | $2\frac{11}{16}$ " | $3\frac{1}{8}$ " | $\frac{1}{2}$ " | $\frac{9}{64}$ " | $\frac{13}{16}$ " |
| 9201     | $1\frac{13}{32}$ " | $2\frac{11}{16}$ " | $3\frac{1}{8}$ " | $\frac{7}{8}$ " | $\frac{5}{32}$ " | $1\frac{1}{2}$ "  |
| 9202     | $1\frac{13}{32}$ " | $4\frac{15}{16}$ " | $5\frac{3}{8}$ " | $\frac{7}{8}$ " | $\frac{5}{32}$ " | $1\frac{1}{2}$ "  |
| 9203     | $1\frac{33}{32}$ " | $4\frac{15}{16}$ " | $5\frac{3}{8}$ " | $\frac{7}{8}$ " | $\frac{5}{32}$ " | $1\frac{7}{8}$ "  |
| 9204     | $2\frac{11}{32}$ " | $4\frac{15}{16}$ " | $5\frac{3}{8}$ " | $\frac{7}{8}$ " | $\frac{5}{32}$ " | $2\frac{1}{4}$ "  |





## NON-INDUCTIVE PAPER CONDENSERS IN CYLINDRICAL CONTAINERS

Types LEG, LCG, LBG, and LSG

| TYPE ...             | LEG   |         | LCG   |         | LBG   |         | LSG   |         |
|----------------------|-------|---------|-------|---------|-------|---------|-------|---------|
| Working Volts        | 450   |         | 550   |         | 650   |         | 750   |         |
| Max. Peak ,,         | 650   |         | 700   |         | 750   |         | 900   |         |
| Test Volts ...       | 1500  |         | 1750  |         | 2000  |         | 2500  |         |
| Capacity             | Price | Box No. | Price | Box No. | Price | Box No. | Price | Box No. |
| Up to<br>0.1 $\mu$ F | 2/6   | 9200    | 2/6   | 9200    | 2/9   | 9200    | 3/-   | 9200    |
| 0.2 $\mu$ F          | 2/6   | 9200    | —     | 9201    | —     | 9201    | —     | 9201    |
| 0.25 $\mu$ F         | 3/-   | 9201    | 3/6   | 9201    | 4/-   | 9201    | 4/6   | 9201    |
| 0.5 $\mu$ F          | 3/6   | 9201    | 4/6   | 9201    | 5/-   | 9201    | 6/-   | 9202    |
| 1.0 $\mu$ F          | 5/6   | 9202    | 6/6   | 9202    | 7/6   | 9202    | 8/6   | 9203    |
| 2.0 $\mu$ F          | 8/-   | 9203    | 9/-   | 9203    | 10/-  | 9203    | 12/-  | 9204    |
| 3.0 $\mu$ F          | 10/6  | 9204    | 11/6  | 9204    | 12/6  | 9204    | —     | —       |
| 4.0 $\mu$ F          | 10/6  | 9204    | 13/6  | 9204    | —     | —       | —     | —       |

*Special quotations to Radio Set Manufacturers and industrial users.*



## NON-INDUCTIVE PAPER CONDENSERS IN CYLINDRICAL CONTAINERS

Types BS, 9200, LSB, LSA, and LEC

| TYPE         | BS    |         | 9200  |         | LSB   |         | LSA   |         | LEC   |         |
|--------------|-------|---------|-------|---------|-------|---------|-------|---------|-------|---------|
| Wkg. Volts   | 200   |         | 250   |         | 250   |         | 300   |         | 350   |         |
| Max. Pk. .,  | 250   |         | 300   |         | 350   |         | 400   |         | 500   |         |
| Test Volts   | 500   |         | 650   |         | 800   |         | 1000  |         | 1250  |         |
| Capacity     | Price | Box No. | Price | Box No. | Price | Box No. | Price | Box No. | Price | Box No. |
| Up to        |       |         |       |         |       |         |       |         |       |         |
| 0.1 $\mu$ F  | 1/9   | 9200    | 2/-   | 9200    | 2/-   | 9200    | 2/-   | 9200    | 2/6   | 9200    |
| 0.2 $\mu$ F  | 1/9   | 9200    | 2/-   | 9200    | 2/-   | 9200    | 2/-   | 9200    | 2/6   | 9200    |
| 0.25 $\mu$ F | —     | 9201    | 2/-   | 9200    | 2/-   | 9200    | 2/-   | 9200    | 2/6   | 9200    |
| 0.5 $\mu$ F  | —     | 9201    | 2/-   | 9200    | 2/-   | 9200    | 2/6   | 9201    | 3/6   | 9201    |
| 1.0 $\mu$ F  | 2/-   | 9202    | 2/6   | 9201    | 2/9   | 9201    | 3/-   | 9201    | 4/-   | 9201    |
| 2.0 $\mu$ F  | 2/6   | 9202    | 3/6   | 9201    | 4/-   | 9201    | 4/6   | 9202    | 6/-   | 9202    |
| 3.0 $\mu$ F  | 3/9   | 9203    | 5/6   | 9202    | 6/-   | 9202    | 6/6   | 9202    | 8/-   | 9202    |
| 4.0 $\mu$ F  | 5/-   | 9204    | 7/-   | 9202    | 7/6   | 9202    | 8/-   | 9203    | 10/-  | 9203    |
| 5.0 $\mu$ F  | —     | —       | 8/6   | 9203    | 9/6   | 9203    | 10/-  | 9203    | 12/-  | 9203    |
| 6.0 $\mu$ F  | —     | —       | 10/6  | 9203    | 11/6  | 9203    | 12/-  | 9204    | 14/-  | 9204    |
| 7.0 $\mu$ F  | —     | —       | 11/6  | 9203    | 12/6  | 9203    | 13/6  | 9204    | 16/-  | 9204    |
| 8.0 $\mu$ F  | —     | —       | 13/-  | 9204    | 14/-  | 9204    | 15/-  | 9204    | —     | —       |
| 9.0 $\mu$ F  | —     | —       | 14/6  | 9204    | 15/6  | 9204    | —     | —       | —     | —       |
| 10.0 $\mu$ F | —     | —       | 16/-  | 9204    | 17/-  | 9204    | —     | —       | —     | —       |

*Special quotations to Radio Set Manufacturers and industrial users.*



## PAPER DIELECTRIC CONDENSERS IN RECTANGULAR METAL CONTAINERS

### TERMINAL AND TAG TYPES

Dubilier Paper Condensers are known throughout the world for their unfailing reliability, and the various Condensers detailed on the next few pages embody the latest improvements in the design of Paper Dielectric Condensers in a manner which facilitates the choice of the most suitable Condenser for the particular operating condition while allowing an adequate factor of safety.

The accompanying data give details of Condensers fitted with either terminal or tag connections, the latter type usually being preferred in the case of the Radio Set Manufacturer and commercial user. Condensers for use under tropical conditions are supplied against special order with a compound having specially high melting point to withstand extreme conditions.

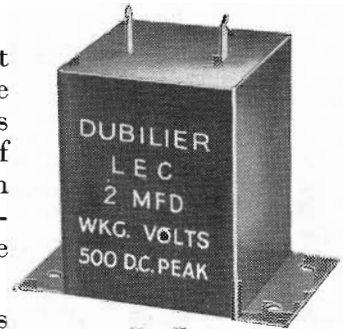
Dubilier Paper Condensers are made with the highest-grade aluminium foil and the best quality paper, and are thoroughly impregnated in vacuum and completely sealed into the containers against moisture penetration or damage by atmospheric conditions.

Where terminals are fitted they are of substantial dimensions adequate to meet usual requirements, the alternative range being fitted with metal solder tags thoroughly cleaned and tinned ready for use.

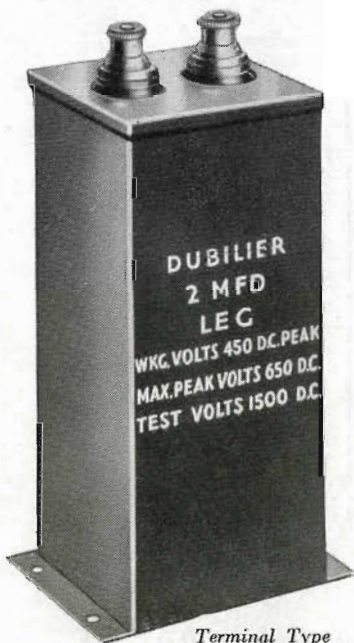
The accompanying tables give details of Condensers suitable for use in circuits where the voltage does not exceed 200 D.C., and of other grades of Condensers suitable to operate up to 900 volts D.C. peak, tested at 2,500 volts D.C.

In addition to the Condensers enumerated on this schedule, special types of Paper Condensers suitable to operate under much more severe conditions can be supplied.

For customers' special requirements the Dubilier Research Department is always at their disposal.



*Tag Type*

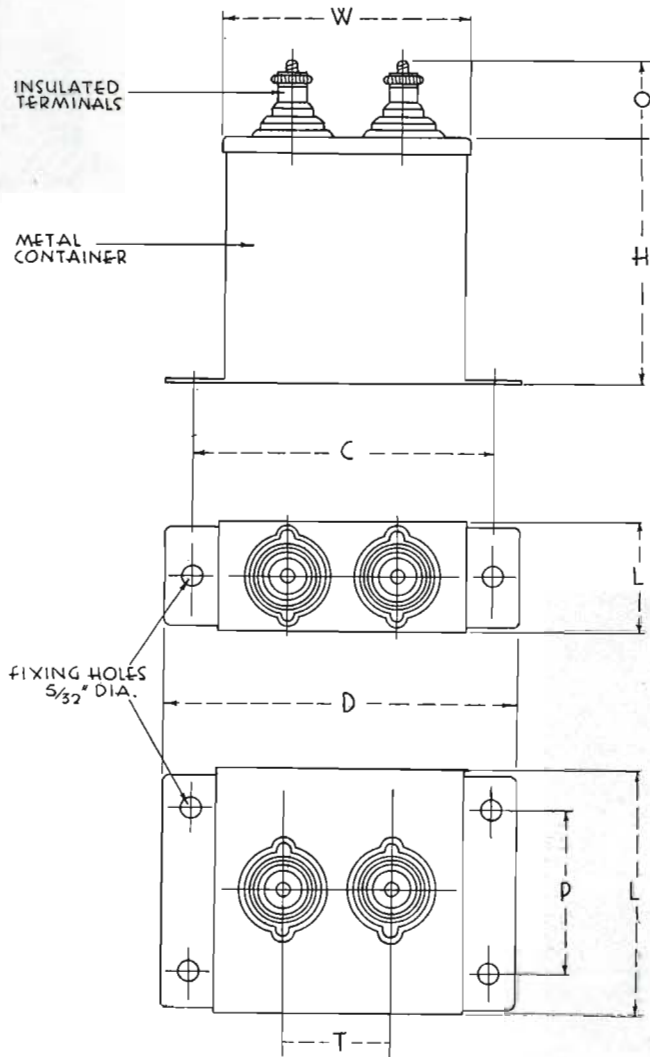


*Terminal Type*



# PAPER DIELECTRIC CONDENSERS IN RECTANGULAR METAL CONTAINERS

DIMENSIONS FOR TERMINAL AND SOLDER TAG TYPES



NOTE.—In the case of Condensers fitted with solder tags, the dimension  $O$  is  $\frac{1}{2}$  inch.



**PAPER DIELECTRIC CONDENSERS**  
**IN RECTANGULAR METAL CONTAINERS**  
**BOX SIZES OF SOLDER TAG TYPES**

| Box No. | W                 | L                 | H                 | T                 | D                 | C                 | P                 |
|---------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 16565   | 1 $\frac{1}{4}$ " | 1"                | 2 $\frac{1}{2}$ " | 1"                | 2 $\frac{3}{4}$ " | 2 $\frac{1}{2}$ " | —                 |
| 16604   | 1 $\frac{1}{4}$ " | 1 $\frac{3}{8}$ " | 2 $\frac{1}{4}$ " | 1"                | 2 $\frac{3}{4}$ " | 2 $\frac{1}{4}$ " | 1"                |
| 16654   | 1 $\frac{1}{4}$ " | 1 $\frac{3}{8}$ " | 4 $\frac{3}{8}$ " | 1"                | 2 $\frac{3}{4}$ " | 2 $\frac{1}{4}$ " | —                 |
| 16943   | 2 $\frac{1}{8}$ " | 2 $\frac{1}{4}$ " | 4 $\frac{3}{8}$ " | 1"                | 2 $\frac{7}{8}$ " | 2 $\frac{1}{4}$ " | 1 $\frac{1}{4}$ " |
| 16944   | 4 $\frac{1}{4}$ " | 2 $\frac{3}{8}$ " | 4 $\frac{3}{8}$ " | 2"                | 5 $\frac{1}{4}$ " | 4 $\frac{3}{8}$ " | 1 $\frac{1}{4}$ " |
| 16945   | 6 $\frac{1}{4}$ " | 2 $\frac{3}{8}$ " | 4 $\frac{3}{8}$ " | 3"                | 7 $\frac{1}{4}$ " | 6 $\frac{3}{8}$ " | 1 $\frac{1}{4}$ " |
| 17122   | 2 $\frac{1}{2}$ " | 1"                | 4 $\frac{1}{2}$ " | 1"                | 3 $\frac{1}{4}$ " | 2 $\frac{3}{8}$ " | —                 |
| 17123   | 2 $\frac{1}{2}$ " | 1"                | 4 $\frac{3}{8}$ " | 1"                | 3 $\frac{1}{4}$ " | 2 $\frac{3}{8}$ " | —                 |
| 17124   | 2 $\frac{1}{2}$ " | 1 $\frac{1}{2}$ " | 4 $\frac{1}{2}$ " | 1"                | 3 $\frac{1}{4}$ " | 2 $\frac{3}{8}$ " | —                 |
| 17125   | 2 $\frac{1}{2}$ " | 1 $\frac{1}{2}$ " | 4 $\frac{1}{2}$ " | 1"                | 3 $\frac{1}{4}$ " | 2 $\frac{3}{8}$ " | —                 |
| 17126   | 2 $\frac{1}{2}$ " | 2 $\frac{1}{8}$ " | 2 $\frac{1}{4}$ " | 1"                | 3 $\frac{1}{4}$ " | 2 $\frac{3}{8}$ " | 1 $\frac{3}{4}$ " |
| 17127   | 2 $\frac{1}{2}$ " | 2 $\frac{1}{8}$ " | 2 $\frac{1}{4}$ " | 1"                | 3 $\frac{1}{4}$ " | 2 $\frac{3}{8}$ " | 1 $\frac{3}{4}$ " |
| 17128   | 1 $\frac{1}{4}$ " | 1 $\frac{1}{4}$ " | 4 $\frac{3}{8}$ " | 1"                | 2 $\frac{3}{4}$ " | 2 $\frac{1}{4}$ " | 1"                |
| 17129   | 2 $\frac{3}{8}$ " | 1 $\frac{3}{8}$ " | 4 $\frac{3}{8}$ " | 1 $\frac{1}{2}$ " | 3 $\frac{3}{8}$ " | 3 $\frac{3}{8}$ " | 1 $\frac{3}{4}$ " |
| 17130   | 2 $\frac{3}{8}$ " | 2 $\frac{3}{8}$ " | 4 $\frac{3}{8}$ " | 1 $\frac{1}{2}$ " | 3 $\frac{3}{8}$ " | 3 $\frac{3}{8}$ " | 1 $\frac{3}{4}$ " |
| 17131   | 3 $\frac{3}{8}$ " | 2 $\frac{3}{8}$ " | 4 $\frac{3}{8}$ " | 1 $\frac{1}{2}$ " | 4 $\frac{3}{8}$ " | 3 $\frac{3}{8}$ " | 1 $\frac{3}{4}$ " |
| 17132   | 1 $\frac{1}{4}$ " | 1"                | 4 $\frac{3}{8}$ " | 1"                | 2 $\frac{1}{4}$ " | 2 $\frac{1}{4}$ " | —                 |
| 17133   | 1 $\frac{1}{4}$ " | 1"                | 4 $\frac{3}{8}$ " | 1"                | 2 $\frac{1}{4}$ " | 2 $\frac{1}{4}$ " | —                 |
| 17134   | 1 $\frac{1}{4}$ " | 1 $\frac{3}{8}$ " | 4 $\frac{3}{8}$ " | 1"                | 2 $\frac{3}{4}$ " | 2 $\frac{1}{4}$ " | —                 |
| 17135   | 1 $\frac{1}{4}$ " | 1"                | 2 $\frac{1}{4}$ " | 1"                | 2 $\frac{1}{4}$ " | 2 $\frac{1}{4}$ " | —                 |
| 17136   | 1 $\frac{1}{4}$ " | 1 $\frac{3}{8}$ " | 2 $\frac{1}{4}$ " | 1"                | 2 $\frac{3}{4}$ " | 2 $\frac{1}{4}$ " | 1"                |
| 17137   | 2 $\frac{1}{4}$ " | 2 $\frac{1}{4}$ " | 2 $\frac{1}{4}$ " | 1"                | 3 $\frac{1}{4}$ " | 2 $\frac{1}{4}$ " | 1 $\frac{3}{4}$ " |
| 17138   | 2 $\frac{1}{4}$ " | 2 $\frac{1}{4}$ " | 2 $\frac{1}{4}$ " | 1"                | 3 $\frac{1}{4}$ " | 2 $\frac{1}{4}$ " | 1 $\frac{3}{4}$ " |
| 17139   | 2 $\frac{1}{4}$ " | 2 $\frac{3}{8}$ " | 2 $\frac{1}{4}$ " | 1"                | 3 $\frac{1}{4}$ " | 2 $\frac{3}{8}$ " | 1 $\frac{3}{4}$ " |
| 17140   | 3"                | 2 $\frac{3}{8}$ " | 2 $\frac{1}{4}$ " | 1"                | 4"                | 3 $\frac{1}{8}$ " | 1 $\frac{3}{4}$ " |
| 17141   | 3"                | 3 $\frac{1}{4}$ " | 2 $\frac{1}{4}$ " | 1"                | 4"                | 3 $\frac{1}{8}$ " | 2 $\frac{1}{2}$ " |
| 17142   | 1 $\frac{3}{8}$ " | 1"                | 2 $\frac{1}{4}$ " | 1"                | 2 $\frac{3}{4}$ " | 2 $\frac{1}{4}$ " | —                 |
| 17143   | 1 $\frac{3}{8}$ " | 1 $\frac{1}{2}$ " | 2 $\frac{1}{4}$ " | 1"                | 2 $\frac{3}{4}$ " | 2 $\frac{1}{4}$ " | 1"                |
| 17144   | 2 $\frac{3}{8}$ " | 1 $\frac{3}{8}$ " | 2 $\frac{1}{4}$ " | 1"                | 3 $\frac{3}{8}$ " | 3 $\frac{1}{4}$ " | 1"                |
| 17145   | 2 $\frac{3}{8}$ " | 2 $\frac{1}{2}$ " | 2 $\frac{1}{4}$ " | 1"                | 3 $\frac{3}{8}$ " | 3 $\frac{1}{4}$ " | 1 $\frac{3}{4}$ " |
| 17146   | 3"                | 3"                | 2 $\frac{1}{4}$ " | 1 $\frac{1}{2}$ " | 4"                | 3 $\frac{1}{4}$ " | 2"                |
| 17147   | 3"                | 3 $\frac{5}{8}$ " | 2 $\frac{1}{4}$ " | 1 $\frac{1}{2}$ " | 4"                | 3 $\frac{1}{8}$ " | 2 $\frac{1}{2}$ " |
| 17148   | 4"                | 3 $\frac{5}{8}$ " | 2 $\frac{1}{4}$ " | 2"                | 5"                | 4 $\frac{1}{2}$ " | 2 $\frac{1}{2}$ " |
| 17149   | 4 $\frac{1}{4}$ " | 4 $\frac{1}{4}$ " | 2 $\frac{1}{4}$ " | 2 $\frac{1}{2}$ " | 5 $\frac{1}{2}$ " | 5"                | 3"                |
| 17150   | 2 $\frac{3}{8}$ " | 1 $\frac{3}{8}$ " | 4 $\frac{3}{8}$ " | 1"                | 2 $\frac{7}{8}$ " | 2 $\frac{1}{2}$ " | —                 |
| 17151   | 2 $\frac{3}{8}$ " | 1 $\frac{3}{8}$ " | 4 $\frac{3}{8}$ " | 1"                | 2 $\frac{7}{8}$ " | 2 $\frac{1}{2}$ " | —                 |
| 17152   | 3 $\frac{1}{4}$ " | 2 $\frac{1}{4}$ " | 4 $\frac{3}{8}$ " | 1 $\frac{1}{2}$ " | 4 $\frac{1}{4}$ " | 3 $\frac{3}{4}$ " | 1 $\frac{1}{4}$ " |
| 17153   | 5 $\frac{1}{4}$ " | 2 $\frac{3}{8}$ " | 4 $\frac{3}{8}$ " | 2 $\frac{1}{2}$ " | 6 $\frac{1}{4}$ " | 5 $\frac{1}{4}$ " | 1 $\frac{1}{4}$ " |
| 17154   | 4 $\frac{1}{4}$ " | 4 $\frac{1}{4}$ " | 4 $\frac{3}{8}$ " | 2"                | 5 $\frac{1}{4}$ " | 4 $\frac{3}{4}$ " | 2 $\frac{1}{4}$ " |
| 17249   | 1 $\frac{3}{8}$ " | 1"                | 2 $\frac{1}{4}$ " | 1"                | 2 $\frac{3}{4}$ " | 2 $\frac{1}{4}$ " | —                 |
| 17250   | 2 $\frac{3}{8}$ " | 1"                | 2 $\frac{1}{4}$ " | 1"                | 3 $\frac{1}{2}$ " | 3"                | —                 |
| 17251   | 2 $\frac{1}{2}$ " | 1 $\frac{1}{2}$ " | 2 $\frac{1}{4}$ " | 1"                | 3 $\frac{1}{2}$ " | 3"                | 1"                |
| 17252   | 2 $\frac{1}{2}$ " | 2 $\frac{3}{8}$ " | 2 $\frac{1}{4}$ " | 1"                | 3 $\frac{1}{2}$ " | 3"                | 2"                |
| 17253   | 2 $\frac{3}{8}$ " | 3 $\frac{7}{8}$ " | 2 $\frac{1}{4}$ " | 1"                | 3 $\frac{1}{2}$ " | 3"                | 3"                |
| 17272   | 2 $\frac{1}{2}$ " | 2 $\frac{1}{4}$ " | 2 $\frac{1}{4}$ " | 1"                | 3 $\frac{1}{2}$ " | 3"                | 1 $\frac{1}{2}$ " |
| 17273   | 2 $\frac{1}{2}$ " | 3 $\frac{3}{8}$ " | 2 $\frac{1}{4}$ " | 1"                | 3 $\frac{1}{2}$ " | 3"                | 2 $\frac{3}{4}$ " |
| 17274   | 2 $\frac{1}{2}$ " | 4 $\frac{3}{4}$ " | 2 $\frac{1}{4}$ " | 1"                | 3 $\frac{1}{2}$ " | 3"                | 3 $\frac{3}{4}$ " |
| 17275   | 2 $\frac{1}{2}$ " | 5 $\frac{1}{4}$ " | 2 $\frac{1}{4}$ " | 1"                | 3 $\frac{1}{2}$ " | 3"                | 4"                |



## PAPER DIELECTRIC CONDENSERS IN RECTANGULAR METAL CONTAINERS BOX SIZES OF SCREWED TERMINAL TYPES

| Box. No. | W      | L      | H      | T      | D      | C      | P      | O      |
|----------|--------|--------|--------|--------|--------|--------|--------|--------|
| 3314     | 1 3/4" | 1"     | 2 1/4" | 1"     | 2 3/4" | 2 1/4" | —      | 1 1/8" |
| 3315     | 1 3/4" | 1 3/4" | 2 1/4" | 1"     | 2 3/4" | 2 1/4" | 1"     | 1 1/8" |
| 3316     | 2 1/4" | 2 1/4" | 2 1/4" | 1"     | 3 1/4" | 2 3/4" | 1 3/8" | 1 1/8" |
| 3317     | 2 1/4" | 2 1/4" | 2 1/4" | 1"     | 3 1/4" | 2 3/4" | 1 3/8" | 1 1/8" |
| 3318     | 1 3/4" | 1 3/4" | 4 3/4" | 1"     | 2 3/4" | 2 1/4" | 1"     | 1 1/8" |
| 3319     | 2 3/8" | 1 3/8" | 4 3/4" | 1 3/8" | 3 3/8" | 3 1/8" | 1"     | 1 1/8" |
| 3320     | 2 3/8" | 2 2/8" | 4 3/8" | 1 1/8" | 3 3/8" | 3 1/8" | 1 3/4" | 1 1/8" |
| 3327     | 1 3/4" | 1 3/4" | 4 3/4" | 1"     | 2 3/4" | 2 1/4" | 1"     | 1 1/8" |
| 3347     | 2 1/4" | 2 1/4" | 4 3/4" | 1"     | 2 3/4" | 2 1/4" | —      | 1 1/8" |
| 3348     | 2 1/4" | 1 3/8" | 4 3/8" | 1"     | 2 3/8" | 2 1/8" | —      | 1 1/8" |
| 3349     | 2 5/8" | 2 1/4" | 4 3/4" | 1"     | 2 5/8" | 2 1/8" | 1 1/4" | 1 1/8" |
| 3350     | 3 1/4" | 2 1/4" | 4 3/4" | 1 1/2" | 4 1/4" | 3 3/8" | —      | 1 1/8" |
| 3351     | 4 1/4" | 2 1/8" | 4 3/8" | 2"     | 5 1/4" | 4 3/4" | 1 1/4" | 1 1/8" |
| 3352     | 5 1/4" | 2 1/8" | 4 3/4" | 2 1/2" | 6 1/4" | 5 3/4" | 1 1/4" | 1 1/8" |
| 3353     | 6 1/4" | 2 1/4" | 4 3/4" | 3"     | 7 1/4" | 6 3/8" | 1 1/4" | 1 1/8" |
| 16564    | 2 1/4" | 2 1/4" | 2 1/4" | 1"     | 3 1/4" | 2 3/4" | 1 3/4" | 1 1/8" |
| 16580    | 2 3/4" | 1"     | 4 1/2" | 1"     | 3 1/4" | 2 7/8" | —      | 1 1/8" |
| 16581    | 2 1/4" | 1 1/4" | 4 1/2" | 1"     | 3 1/4" | 2 7/8" | —      | 1 1/8" |
| 16582    | 1 3/4" | 1 1/4" | 4 3/4" | 1"     | 2 3/4" | 2 1/4" | —      | 1 1/8" |
| 16606    | 1 3/4" | 1 1/4" | 2 1/4" | 1"     | 2 3/4" | 2 1/4" | 1"     | 1 1/8" |
| 16620    | 1 3/4" | 1 1/4" | 4 3/4" | 1"     | 2 3/4" | 2 1/4" | —      | 1 1/8" |
| 16621    | 1 3/4" | 1 1/4" | 4 3/4" | 1"     | 2 3/4" | 2 1/4" | —      | 1 1/8" |
| 16699    | 3 3/8" | 2 1/8" | 4 3/4" | 1 1/8" | 4 3/8" | 3 7/8" | 1 3/4" | 1 1/8" |
| 16700    | 2 3/8" | 1 3/8" | 4 3/8" | 1 1/8" | 3 3/8" | 3 1/8" | 1"     | 1 1/8" |
| 16745    | 4"     | 3"     | 2 1/4" | 2"     | 5"     | 4 1/2" | 2 1/2" | 1 1/8" |
| 16746    | 3"     | 3"     | 2 1/4" | 1 1/2" | 4"     | 3 1/2" | 2"     | 1 1/8" |
| 16747    | 4 1/4" | 4 1/4" | 2 1/4" | 2 1/2" | 5 1/4" | 5"     | 3"     | 1 1/8" |
| 16788    | 2 5/8" | 2 1/8" | 4 3/8" | 1 1/8" | 3 5/8" | 3 1/8" | 1 3/4" | 1 1/8" |
| 16822    | 2 1/4" | 1"     | 2 1/4" | 1"     | 3 1/4" | 3 1/4" | 1"     | 1 1/8" |
| 16889    | 2 1/4" | 4 1/2" | 4 1/2" | 1"     | 3 1/4" | 2 7/8" | —      | 1 1/8" |
| 17027    | 1 3/4" | 1"     | 2 1/4" | 1"     | 2 3/4" | 2 1/4" | —      | 1 1/8" |
| 17111    | 2 3/8" | 1 1/8" | 4 3/8" | 1"     | 3 1/4" | 2 7/8" | —      | 1 1/8" |
| 17112    | 1 3/4" | 1"     | 4 3/4" | 1"     | 2 3/4" | 2 1/4" | —      | 1 1/8" |
| 17113    | 1 3/4" | 1"     | 2 1/4" | 1"     | 2 3/4" | 2 1/4" | —      | 1 1/8" |
| 17114    | 2 1/4" | 2 1/4" | 2 1/4" | 1"     | 3 1/4" | 2 3/4" | 1 3/4" | 1 1/8" |
| 17115    | 2 1/4" | 2 3/8" | 2 1/4" | 1"     | 3 1/4" | 2 3/4" | 1 3/4" | 1 1/8" |
| 17116    | 3"     | 2 3/8" | 2 1/4" | 1"     | 4"     | 3 1/2" | 1 3/4" | 1 1/8" |
| 17117    | 3"     | 3 1/4" | 2 1/4" | 1"     | 4"     | 3 1/2" | 2 1/2" | 1 1/8" |
| 17118    | 1 3/4" | 1 3/8" | 2 1/4" | 1"     | 2 3/4" | 2 1/4" | —      | 1 1/8" |
| 17119    | 2 3/4" | 2 1/4" | 2 1/4" | 1"     | 3 3/4" | 3 1/4" | 1 3/4" | 1 1/8" |
| 17120    | 3"     | 3 3/8" | 2 1/4" | 1 1/8" | 4"     | 3 3/2" | 2 1/8" | 1 1/8" |
| 17121    | 4 1/4" | 4 1/4" | 4 3/4" | 2"     | 5 1/4" | 4 3/4" | 2 1/4" | 1 1/8" |
| 17254    | 1 3/4" | 1"     | 2 1/4" | 1"     | 2 3/4" | 2 1/4" | —      | 1 1/8" |
| 17255    | 2 1/4" | 1"     | 2 1/4" | 1"     | 3 1/4" | 3"     | —      | 1 1/8" |
| 17256    | 2 1/4" | 1 1/8" | 2 1/4" | 1"     | 3 3/8" | 3"     | 1"     | 1 1/8" |
| 17257    | 2 1/4" | 2 3/8" | 2 1/4" | 1"     | 3 3/8" | 3"     | 2"     | 1 1/8" |
| 17258    | 2 1/4" | 3 7/8" | 2 1/4" | 1"     | 3 1/8" | 3"     | 3"     | 1 1/8" |
| 17276    | 2 1/4" | 2 1/4" | 2 1/4" | 1"     | 3 3/8" | 3"     | 1 1/2" | 1 1/8" |
| 17277    | 2 1/4" | 3 3/8" | 2 1/4" | 1"     | 3 3/8" | 3"     | 2 1/2" | 1 1/8" |
| 17278    | 2 1/4" | 4 3/8" | 2 1/4" | 1"     | 3 1/8" | 3"     | 3 3/4" | 1 1/8" |
| 17279    | 2 1/4" | 5 1/4" | 2 1/4" | 1"     | 3 3/8" | 3"     | 4"     | 1 1/8" |



**PAPER DIELECTRIC CONDENSERS**  
**MOUNTED IN RECTANGULAR METAL CANS WITH**  
**SCREWED TERMINAL CONNECTIONS**  
 Types BS, LSB, LSA, and LEC

| TYPE ... ..                | BS    |         | LSB   |         | LSA   |         | LEC   |         |
|----------------------------|-------|---------|-------|---------|-------|---------|-------|---------|
| Working Volts              | 200   |         | 250   |         | 300   |         | 350   |         |
| Max. Peak „                | 250   |         | 350   |         | 400   |         | 500   |         |
| Test Volts ...             | 500   |         | 800   |         | 1000  |         | 1250  |         |
| Capacity                   | Price | Box No. | Price | Box No. | Price | Box No. | Price | Box No. |
| Up to<br>0.1 $\mu\text{F}$ | —     | 16889   | 2/-   | 3314    | 2/-   | 16621   | 3/-   | 17113   |
| 0.2 $\mu\text{F}$          | —     | 16889   | 2/2   | 3314    | 2/2   | 16621   | 3/6   | 17113   |
| 0.25 $\mu\text{F}$         | —     | 16889   | 2/4   | 3314    | 2/4   | 16621   | 3/6   | 17113   |
| 0.5 $\mu\text{F}$          | —     | 16889   | 2/6   | 3314    | 2/6   | 16621   | 4/3   | 17113   |
| 1.0 $\mu\text{F}$          | 2/-   | 16889   | 3/-   | 3314    | 3/-   | 16621   | 5/-   | 17113   |
| 2.0 $\mu\text{F}$          | 2/8   | 16580   | 4/6   | 3315    | 4/6   | 16620   | 7/-   | 16606   |
| 3.0 $\mu\text{F}$          | —     | 17111   | —     | 3316    | —     | 17112   | —     | 17114   |
| 4.0 $\mu\text{F}$          | 5/-   | 16581   | 8/-   | 3317    | 8/-   | 16582   | 12/6  | 16564   |
| 5.0 $\mu\text{F}$          | —     | —       | —     | 3318    | —     | 3327    | —     | 17115   |
| 6.0 $\mu\text{F}$          | —     | —       | 12/-  | 3319    | 12/-  | 16700   | 18/-  | 17115   |
| 7.0 $\mu\text{F}$          | —     | —       | —     | 3320    | —     | 16788   | —     | 17116   |
| 8.0 $\mu\text{F}$          | —     | —       | —     | 3320    | —     | 16788   | —     | 17116   |
| 10.0 $\mu\text{F}$         | —     | —       | —     | 16699   | 18/-  | 16699   | —     | 17117   |

*Special quotations to Radio Set Manufacturers and industrial users.*



PAPER DIELECTRIC CONDENSERS MOUNTED IN  
RECTANGULAR METAL CANS WITH SCREWED  
TERMINAL CONNECTIONS—contd.

Types LEG, LCG, LBG, and LSG

| TYPE...            | LEG   |         | LCG   |         | LBG   |         | LSG   |         |
|--------------------|-------|---------|-------|---------|-------|---------|-------|---------|
| Working Volts      | 450   |         | 550   |         | 650   |         | 750   |         |
| Max. Peak ..       | 650   |         | 700   |         | 750   |         | 900   |         |
| Test Volts ...     | 1500  |         | 1750  |         | 2000  |         | 2500  |         |
| Capacity           | Price | Box No. | Price | Box No. | Price | Box No. | Price | Box No. |
| Up to              |       |         |       |         |       |         |       |         |
| 0.1 $\mu\text{F}$  | 4/-   | 17254   | 5/-   | 17027   | 5/6   | 3347    | 6/-   | 3347    |
| 0.2 $\mu\text{F}$  | 4/-   | 17254   | 5/-   | 17027   | 5/6   | 3347    | 6/-   | 3347    |
| 0.25 $\mu\text{F}$ | 4/6   | 17254   | 5/6   | 17027   | 6/-   | 3347    | 6/6   | 3347    |
| 0.5 $\mu\text{F}$  | 5/-   | 17254   | 6/-   | 17027   | 6/6   | 3347    | 7/-   | 3347    |
| 1.0 $\mu\text{F}$  | 5/10  | 17255   | 7/6   | 17118   | 8/-   | 3348    | 8/6   | 3348    |
| 2.0 $\mu\text{F}$  | 8/6   | 17256   | 10/-  | 16822   | 11/-  | 3349    | 12/6  | 3349    |
| 3.0 $\mu\text{F}$  | —     | 17276   | —     | 17119   | —     | 3350    | —     | 3350    |
| 4.0 $\mu\text{F}$  | 16/-  | 17257   | 19/4  | 16746   | 22/-  | 3351    | 24/6  | 3351    |
| 5.0 $\mu\text{F}$  | —     | 17277   | —     | 17120   | —     | 3352    | —     | 3352    |
| 6.0 $\mu\text{F}$  | 23/-  | 17258   | 28/6  | 16745   | 32/-  | 3353    | 35/-  | 3353    |
| 7.0 $\mu\text{F}$  | —     | 17278   | —     | 16747   | —     | 17121   | —     | 17121   |
| 8.0 $\mu\text{F}$  | —     | 17279   | —     | 16747   | —     | 17121   | —     | 17121   |

*Special quotations to Radio Set Manufacturers and industrial users.*





**PAPER DIELECTRIC CONDENSERS**  
**MOUNTED IN RECTANGULAR METAL CANS,**  
**WITH SOLDER TAG CONNECTIONS**

Types BS, LSB, LSA, and LEC

| TYPE ... ..                | BS    |         | LSB   |         | LSA   |         | LEC   |         |
|----------------------------|-------|---------|-------|---------|-------|---------|-------|---------|
| Working Volts              | 200   |         | 250   |         | 300   |         | 350   |         |
| Max. Peak ..               | 250   |         | 350   |         | 400   |         | 500   |         |
| Test Volts ...             | 500   |         | 800   |         | 1000  |         | 1250  |         |
| Capacity                   | Price | Box No. | Price | Box No. | Price | Box No. | Price | Box No. |
| Up to<br>0.1 $\mu\text{F}$ | —     | 17122   | —     | 16565   | 1/10  | 16654   | 2/-   | 17135   |
| 0.2 $\mu\text{F}$          | —     | 17122   | —     | 16565   | 2/-   | 16654   | 2/2   | 17135   |
| 0.25 $\mu\text{F}$         | —     | 17122   | —     | 16565   | 2/-   | 16654   | 2/2   | 17135   |
| 0.5 $\mu\text{F}$          | —     | 17122   | —     | 16565   | 2/2   | 16654   | 2/4   | 17135   |
| 1.0 $\mu\text{F}$          | —     | 17122   | —     | 16565   | 2/6   | 16654   | 2/9   | 17135   |
| 2.0 $\mu\text{F}$          | —     | 17123   | —     | 16604   | 3/6   | 17132   | 3/9   | 17136   |
| 3.0 $\mu\text{F}$          | —     | 17124   | —     | 17126   | —     | 17133   | —     | 17137   |
| 4.0 $\mu\text{F}$          | —     | 17125   | —     | 17127   | 6/-   | 17134   | 6/9   | 17138   |
| 5.0 $\mu\text{F}$          | —     | —       | —     | 17128   | —     | 17128   | —     | 17139   |
| 6.0 $\mu\text{F}$          | —     | —       | —     | 17129   | —     | 17129   | —     | 17139   |
| 7.0 $\mu\text{F}$          | —     | —       | —     | 17130   | —     | 17130   | —     | 17140   |
| 8.0 $\mu\text{F}$          | —     | —       | —     | 17130   | —     | 17130   | —     | 17140   |
| 10.0 $\mu\text{F}$         | —     | —       | —     | 17131   | —     | 17131   | —     | 17141   |

*Special quotations to Radio Set Manufacturers and industrial users.*



PAPER DIELECTRIC CONDENSERS MOUNTED  
IN RECTANGULAR METAL CANS,  
WITH SOLDER TAG CONNECTIONS

Types LEG, LCG, LBG, and LSG

| TYPE ... ..          | LEG   |         | LCG   |         | LBG   |         | LSG   |         |
|----------------------|-------|---------|-------|---------|-------|---------|-------|---------|
| Working Volts        | 450   |         | 550   |         | 650   |         | 750   |         |
| Max. Peak „          | 650   |         | 700   |         | 750   |         | 900   |         |
| Test Volts ...       | 1500  |         | 1750  |         | 2000  |         | 2500  |         |
| Capacity             | Price | Box No. | Price | Box No. | Price | Box No. | Price | Box No. |
| Up to<br>0.1 $\mu$ F | 2/2   | 17249   | 2/9   | 17142   | 3/-   | 17150   | —     | 17150   |
| 0.2 $\mu$ F          | 2/4   | 17249   | 3/-   | 17142   | 3/6   | 17150   | —     | 17150   |
| 0.25 $\mu$ F         | 2/4   | 17249   | 3/-   | 17142   | 3/6   | 17150   | —     | 17150   |
| 0.5 $\mu$ F          | 2/6   | 17249   | 4/-   | 17142   | 4/6   | 17150   | —     | 17150   |
| 1.0 $\mu$ F          | 3/-   | 17250   | 5/-   | 17143   | 6/-   | 17151   | —     | 17151   |
| 2.0 $\mu$ F          | 4/-   | 17251   | 7/-   | 17144   | 8/9   | 16943   | —     | 16943   |
| 3.0 $\mu$ F          | —     | 17272   | —     | 17145   | —     | 17152   | —     | 17152   |
| 4.0 $\mu$ F          | 7/3   | 17252   | 12/6  | 17146   | 16/-  | 16944   | —     | 16944   |
| 5.0 $\mu$ F          | —     | 17273   | —     | 17147   | —     | 17153   | —     | 17153   |
| 6.0 $\mu$ F          | —     | 17253   | 18/-  | 17148   | 22/6  | 16945   | —     | 16945   |
| 7.0 $\mu$ F          | —     | 17274   | —     | 17149   | —     | 17154   | —     | 17154   |
| 8.0 $\mu$ F          | —     | 17275   | 23/-  | 17149   | —     | 17154   | —     | 17154   |

*Special quotations to Radio Set Manufacturers and industrial users.*



## PAPER CONDENSERS IN MOULDED BAKELITE CASES

### TYPE BB



Type BB Condensers are primarily designed for use in battery-operated receivers where the voltage does not exceed 250 volts D.C. peak, the test voltage being 500 volts D.C. ensures a certain factor of safety.

The Condensers are of the non-inductive type fitted into moulded bakelite containers of attractive design complete with suitable terminals.

| Capacity                    | Size                                    | PRICE    |
|-----------------------------|---|----------|
| Up to $\cdot 09\mu\text{F}$ | $\frac{11}{16}'' \times 2'' \times 3''$ | 1/9 each |
| $\cdot 1 \mu\text{F}$       | $\frac{11}{16}'' \times 2'' \times 3''$ | 1/10 „   |
| $\cdot 2 \mu\text{F}$       | $\frac{11}{16}'' \times 2'' \times 3''$ | 2/- „    |
| $\cdot 25\mu\text{F}$       | $\frac{11}{16}'' \times 2'' \times 3''$ | 2/3 „    |
| $\cdot 5 \mu\text{F}$       | $\frac{11}{16}'' \times 2'' \times 3''$ | 2/6 „    |
| $1\cdot 0 \mu\text{F}$      | $1'' \times 2'' \times 3''$             | 2/6 „    |
| $2\cdot 0 \mu\text{F}$      | $1'' \times 2'' \times 3''$             | 3/6 „    |
| $4\cdot 0 \mu\text{F}$      | $2'' \times 2'' \times 3''$             | 5/6 „    |

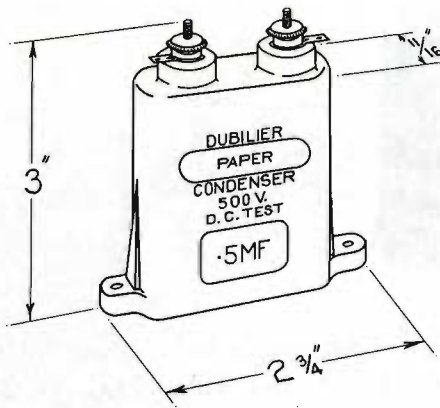
*Special quotations to Radio Set Manufacturers and industrial users.*



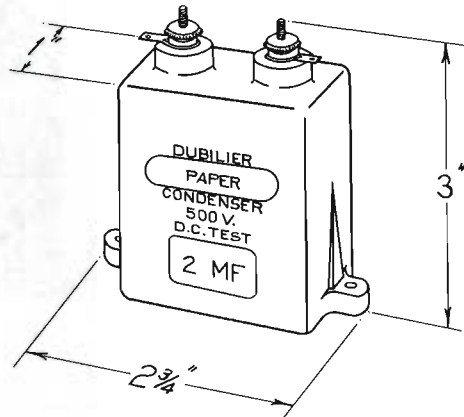
# PAPER DIELECTRIC CONDENSERS

Type BB

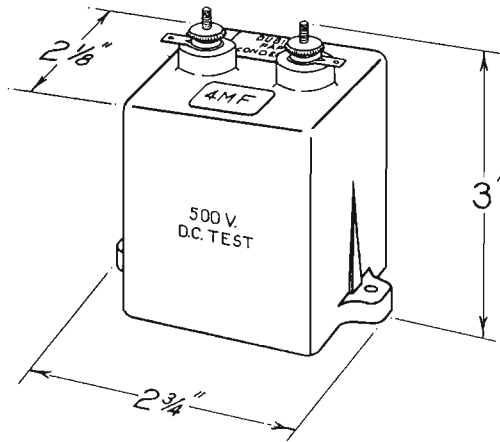
## DIMENSIONS



All Type BB Condensers of capacities up to 0.5  $\mu$ F have the above dimensions.



Dimensions of 1  $\mu$ F and 2  $\mu$ F Type BB Condensers.

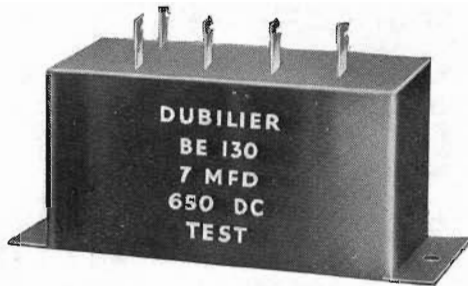


Dimensions of 4  $\mu$ F Type BB Condenser.



## PAPER CONDENSER BLOCKS

The accompanying tables give details of the most popular combination of Condensers made up into Condenser Blocks.



If a Condenser Block suitable to any specific requirement is not shown, quotations can be given on receipt of particulars, which should include details of the exact operating conditions.

Details are also appended of Condenser Blocks recommended for use in conjunction with certain of the Westinghouse Metal Rectifiers and voltage doubler circuits. Other suitable Condenser Blocks for use in conjunction with Rectifiers which are not included in this list can be supplied against specific requirements.

### CONDENSER BLOCKS FOR USE IN CONJUNCTION WITH WESTINGHOUSE RECTIFIERS IN VOLTAGE DOUBLING CIRCUITS.

| Rectifier Type No. | Reservoir Condenser, Capacity | D.C. Working Voltage | Condenser Type No. | Dimensions (in inches) |                 |                 | PRICE |
|--------------------|-------------------------------|----------------------|--------------------|------------------------|-----------------|-----------------|-------|
|                    |                               |                      |                    | Width                  | Length          | Height          |       |
| HT5                | 4+4 $\mu$ F                   | 200                  | BE316              | 3                      | 2               | 2 $\frac{1}{4}$ | 8/-   |
| HT6                | 4+4 $\mu$ F                   | 300                  | BE185              | 3 $\frac{1}{8}$        | 2 $\frac{1}{4}$ | 2 $\frac{1}{4}$ | 9/6   |
| HT7                | 4+4 $\mu$ F                   | 325                  | BE156              | 4                      | 2               | 2 $\frac{1}{4}$ | 11/-  |
| HT8                | 4+4 $\mu$ F                   | 350                  | BE355              | 3                      | 2 $\frac{3}{4}$ | 2 $\frac{1}{4}$ | 13/-  |
| HT9                | 4+4 $\mu$ F                   | 400                  | BE360              | 3 $\frac{1}{2}$        | 3               | 2 $\frac{1}{4}$ | 15/-  |
| HT10               | 8+8 $\mu$ F                   | 250                  | BE361              | 4                      | 2 $\frac{1}{2}$ | 4 $\frac{3}{4}$ | 20/-  |
| HT11               | 8+8 $\mu$ F                   | 500                  | BE362              | 4                      | 4 $\frac{1}{2}$ | 4 $\frac{3}{4}$ | 27/6  |
| HT12               | 4+4 $\mu$ F                   | 200                  | BE316              | 3                      | 2               | 2 $\frac{1}{4}$ | 8/-   |
| HT13               | 8+8 $\mu$ F                   | 350                  | BE362              | 4                      | 4 $\frac{1}{2}$ | 4 $\frac{3}{4}$ | 27/6  |

*Special quotations to Radio Set Manufacturers and industrial users.*



## BLOCK CONDENSERS

| Test Voltage<br>D.C.  | Total Capacity | Ref. No. | Arrangement<br>of Tags | Arrangement of<br>Capacity Tappings | Dimensions (in inches) |                 |                 | PRICE |
|-----------------------|----------------|----------|------------------------|-------------------------------------|------------------------|-----------------|-----------------|-------|
|                       |                |          |                        |                                     | Width                  | Length          | Height          |       |
| 500                   | 6 $\mu$ F      | BE1      | Top                    | 2+2+2                               | 3 $\frac{3}{8}$        | 1 $\frac{3}{8}$ | 2 $\frac{1}{4}$ | 6/3   |
| 500                   | 2 $\mu$ F      | BE110    | Top                    | 1+1                                 | 1 $\frac{3}{8}$        | 1 $\frac{3}{8}$ | 2 $\frac{1}{4}$ | 3/6   |
| 500                   | 4 $\mu$ F      | BE117    | Top                    | 2+2                                 | 1 $\frac{3}{8}$        | 2 $\frac{3}{8}$ | 2 $\frac{1}{4}$ | 5/6   |
| 500                   | 6 $\mu$ F      | BE135    | Top                    | 2+2+1+1                             | 2 $\frac{1}{2}$        | 2               | 2 $\frac{1}{4}$ | 6/3   |
| 500                   | 7 $\mu$ F      | BE141    | Top                    | 3+2+1+1                             | 2 $\frac{1}{2}$        | 2               | 2 $\frac{1}{4}$ | 7/6   |
| 500                   | 12 $\mu$ F     | BE260    | Side                   | 4, 4+2+1+1                          | 2 $\frac{3}{4}$        | 2 $\frac{1}{4}$ | 3               | 12/6  |
| 650                   | 6 $\mu$ F      | BE133    | Top                    | 2+2+2                               | 3 $\frac{1}{8}$        | 1 $\frac{3}{8}$ | 2 $\frac{1}{4}$ | 8/6   |
| 650                   | 9.2 $\mu$ F    | BE172    | Top                    | 1+1+1+2+0.1+0.1,<br>1, 1, 2         | 3 $\frac{3}{4}$        | 3               | 2 $\frac{1}{4}$ | 11/6  |
| 650                   | 16 $\mu$ F     | BE266    | Side                   | 1+1+2+4+4-4                         | 4 $\frac{1}{2}$        | 2 $\frac{1}{2}$ | 4               | 21/-  |
| 800                   | 16 $\mu$ F     | BE267    | Side                   | 1+1+2+4+4-4                         | 4 $\frac{1}{2}$        | 2 $\frac{1}{2}$ | 4               | 25/-  |
| 500 A.C.<br>1500 A.C. | 10.2 $\mu$ F   | BE34     | Side                   | 4, 6, 0.1, 0.1                      | 3 $\frac{3}{4}$        | 2               | 4 $\frac{7}{8}$ | 14/3  |
| 1000                  | 4 $\mu$ F      | BE253    | Top                    | 1+1+2                               | 2 $\frac{1}{4}$        | 1 $\frac{5}{8}$ | 2 $\frac{1}{4}$ | 5/6   |
| 1000                  | 12 $\mu$ F     | BE74     | Side                   | 4+4+4                               | 2 $\frac{1}{2}$        | 4               | 5 $\frac{1}{2}$ | 20/-  |
| 1250                  | 0.2 $\mu$ F    | BE256    | Top                    | 0.1+0.1                             | 1 $\frac{13}{16}$      | 1               | 2 $\frac{3}{4}$ | 2/6   |
| 1250                  | 0.3 $\mu$ F    | BE245    | Top                    | 0.1+0.1+0.1                         | 1 $\frac{13}{16}$      | 1               | 1 $\frac{1}{8}$ | 3/4   |
| 1500                  | .02 $\mu$ F    | BE328    | Top                    | .01+.01                             | 1 $\frac{3}{4}$        | 2 $\frac{3}{4}$ | 2 $\frac{1}{4}$ | 2/6   |
| 1500                  | 0.2 $\mu$ F    | BE311    | Top                    | 0.1+0.1                             | 1 $\frac{3}{4}$        | 2 $\frac{3}{4}$ | 2 $\frac{1}{2}$ | 3/-   |
| 1500                  | 2 $\mu$ F      | BE273    | Top                    | 1+1                                 | 2 $\frac{1}{8}$        | 1 $\frac{3}{8}$ | 4 $\frac{3}{4}$ | 8/6   |
| 5500                  | 12 $\mu$ F     | BE73     | Top                    | 6+6                                 | 5 $\frac{1}{2}$        | 10              | 12              | 100/- |

In this table we have used different signs to designate the different connection arrangements of the multiple capacity Condensers as follows :

+ designates common negative connection for the sections so separated.

- designates series connection for voltage doubler circuits.

, designates sections with entirely separate connection leads.

*Special quotations to Radio Set Manufacturers and industrial users.*



## NON-INDUCTIVE TUBULAR PAPER DIELECTRIC CONDENSERS IN WAXED PAPER TUBES WITH PROJECTING END WIRES

Types 4401, 4402, 4403, 4404, 4405 and 4406

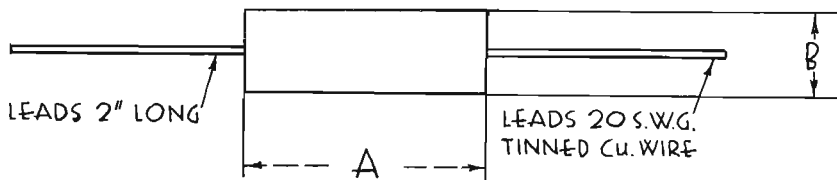
This type of Condenser has become increasingly popular with the Radio Set Manufacturer, and adequately fulfils the requirements of economy, compactness and reliability.

Dubilier Tubular Paper Condensers are made with the highest grade aluminium foil and the best quality paper, and are thoroughly impregnated in vacuum and completely sealed into substantial impregnated cardboard tubes with 20 s.w.g. connecting wires.



These Condensers are suitable for use in HF, IF, LF amplifier and decoupling circuits, according to the operating voltage.

In addition they are also suitable for use in capacity coupled band pass circuits, owing to the internal construction being such that a very low self-inductance value is obtained.



| Type No. | Dim. A             | Dim. B                 |
|----------|--------------------|------------------------|
| 4401     | 1 $\frac{3}{8}$ "  | $\frac{7}{16}$ " dia.  |
| 4402     | 1 $\frac{9}{16}$ " | $\frac{7}{16}$ " dia.  |
| 4403     | 1 $\frac{9}{16}$ " | $\frac{9}{16}$ " dia.  |
| 4404     | 2 $\frac{1}{16}$ " | $\frac{9}{16}$ " dia.  |
| 4405     | 2 $\frac{1}{16}$ " | $\frac{11}{16}$ " dia. |
| 4406     | 2 $\frac{1}{16}$ " | 1" dia.                |



NON-INDUCTIVE  
TUBULAR PAPER DIELECTRIC CONDENSERS  
IN WAXED PAPER TUBES  
WITH PROJECTING END WIRES

Types 4401, 4402, 4403, 4404, 4405 and 4406

| Working Volts  | 200   | 300      | 400   | 500      | 600   |          |       |          |       |          |
|----------------|-------|----------|-------|----------|-------|----------|-------|----------|-------|----------|
| Max. Peak ..   | 300   | 400      | 500   | 650      | 750   |          |       |          |       |          |
| Test Volts ... | 650   | 1000     | 1250  | 1600     | 2000  |          |       |          |       |          |
| Capacity       | Price | Type No. | Price | Type No. | Price | Type No. | Price | Type No. | Price | Type No. |
| ·001 $\mu$ F   | —     | 4401     | 1/-   | 4401     | —     | 4401     | —     | 4401     | —     | 4401     |
| ·002 $\mu$ F   | —     | 4401     | 1/-   | 4401     | —     | 4401     | —     | 4401     | —     | 4401     |
| ·005 $\mu$ F   | —     | 4401     | 1/3   | 4401     | —     | 4401     | —     | 4401     | —     | 4401     |
| ·01 $\mu$ F    | —     | 4401     | —     | 4401     | —     | 4401     | —     | 4401     | —     | 4402     |
| ·015 $\mu$ F   | —     | 4401     | 1/3   | 4401     | —     | 4401     | —     | 4402     | —     | 4402     |
| ·02 $\mu$ F    | —     | 4401     | 1/4   | 4401     | —     | 4402     | —     | 4402     | —     | 4403     |
| ·025 $\mu$ F   | —     | 4401     | —     | 4402     | —     | 4402     | —     | 4403     | —     | 4403     |
| ·03 $\mu$ F    | —     | 4401     | —     | 4402     | —     | 4402     | —     | 4403     | —     | 4403     |
| ·04 $\mu$ F    | —     | 4402     | 1/4   | 4403     | —     | 4403     | —     | 4403     | —     | 4404     |
| ·05 $\mu$ F    | —     | 4402     | 1/4   | 4403     | —     | 4403     | —     | 4403     | —     | 4404     |
| ·075 $\mu$ F   | —     | 4403     | —     | 4403     | —     | 4403     | —     | 4404     | —     | 4405     |
| ·1 $\mu$ F     | —     | 4403     | 1/4   | 4403     | —     | 4404     | —     | 4404     | —     | 4405     |
| ·15 $\mu$ F    | —     | 4404     | 1/6   | 4404     | —     | 4405     | —     | 4405     | —     | 4406     |
| ·2 $\mu$ F     | —     | 4404     | 1/9   | 4404     | —     | 4405     | —     | 4405     | —     | 4406     |
| ·25 $\mu$ F    | —     | 4405     | 1/9   | 4405     | —     | 4406     | —     | 4406     | —     | 4406     |
| ·3 $\mu$ F     | —     | 4405     | —     | 4405     | —     | 4406     | —     | 4406     | —     | 4406     |
| ·4 $\mu$ F     | —     | 4405     | —     | 4406     | —     | 4406     | —     | 4406     | —     | —        |
| ·5 $\mu$ F     | —     | 4406     | 2/-   | 4406     | —     | 4406     | —     | 4406     | —     | —        |
| ·75 $\mu$ F    | —     | 4406     | —     | 4406     | —     | —        | —     | —        | —     | —        |
| 1·0 $\mu$ F    | —     | 4406     | —     | —        | —     | —        | —     | —        | —     | —        |

*Special quotations to Radio Set Manufacturers and industrial users.*

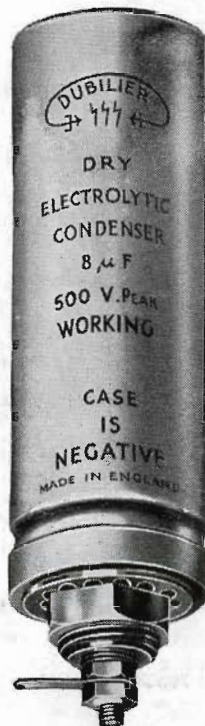




## DRY ELECTROLYTIC CONDENSERS

HIGH AND LOW VOLTAGE TYPES  
IN TUBULAR ALUMINIUM CONTAINERS

Types 0281 and 0283.



Type 0281

### PRICES

|           |           |     |               |
|-----------|-----------|-----|---------------|
| 4 $\mu$ F | Type 0283 | ... | 4s. 6d. each. |
| 6 $\mu$ F | Type 0281 | ... | 5s. 0d. ,,    |
| 8 $\mu$ F | Type 0281 | ... | 5s. 6d. ,,    |

*Special quotations to Radio Set Manufacturers and industrial users.*

Condensers designed for a maximum peak voltage of 500 D.C.

*General Specification.* Inverted type for under chassis wiring.

|   |     |     |                |
|---|-----|-----|----------------|
| Diameter 8 $\mu$ F and 6 $\mu$ F        | ... | ... | 1½ in.         |
| Diameter 4 $\mu$ F                      | ... | ... | 1 in.          |
| Height                                  | ... | ... | 5½ overall     |
| Height projecting (from panel mounting) | ... | ... | 4½ in.         |
| Fixing—One Hole                         | ... | ... | ¾ in. diameter |
| Weight 8 $\mu$ F and 6 $\mu$ F          | ... | ... | 6 oz.          |
| Weight 4 $\mu$ F                        | ... | ... | 2¾ oz.         |

### *Special Features.*

|                            |                    |
|----------------------------|--------------------|
| Entirely sealed.           | Constant capacity. |
| No liquid.                 | Rapid re-forming.  |
| No leakage of electrolyte. | Low Power Factor.  |

This latest type of High Voltage Dry Electrolytic Condenser incorporates certain internal improvements which place it still further ahead of any others in this category. Already there are hundreds of thousands in use by the leading set makers, and this, coupled with the fact of the prolonged tests which have taken place before placing the Condenser on the market, assures the constructor of the finest value possible.



### DRY ELECTROLYTIC CONDENSERS—contd.

This Condenser is designed specially for use as a smoothing Condenser for rectifiers, filter and decoupling circuits, such as are used in mains radio apparatus, etc., and can be used in all circuits where there is a polarising D.C. voltage, which with the addition of any alternating or ripple voltage is below the specified maximum safe peak voltage for the Condensers. The Condenser may be mounted in any position.



Type 0283

*Construction.* The Condenser consists of a positive and a negative electrode with a separator impregnated with the electrolyte. The whole is mounted inside a sealed aluminium container fitted with a moulded terminal insulator. The insulated terminal must always be connected to the positive pole of the circuit; the metal container forming the negative terminal. The terminal bushing is fitted with a nut of large diameter for mounting the Condenser through a hole in a baseboard or metal chassis. With this arrangement the negative connection to the Condenser is made automatically to the metal chassis and the connections to the positive terminal are taken beneath the metal panel or chassis. Care must be taken that this correct polarity is observed so as to avoid damage to the Condenser.

In the standard form of these Condensers, two separators are used between the metal electrodes of the Condensers. This form has the highest breakdown voltage. Where specially required, however, these Condensers can be manufactured (provided the quantities ordered are sufficient) with a single separator only. This alteration not only enables a larger capacity Condenser to be put into the containers, but also somewhat lowers the power factor. The single separator form has therefore some advantages for use with voltage doubler circuits where the amount of A.C. ripple current passing through the Condenser may be considerable.



DRY ELECTROLYTIC CONDENSER—contd.

**Voltage Rating.** The maximum D.C. peak voltage (D.C. plus A.C. peak) on these Condensers must not exceed 500 volts. The actual A.C. ripple voltage impressed may be as high as 70 volts R.M.S. at 50 cycles.

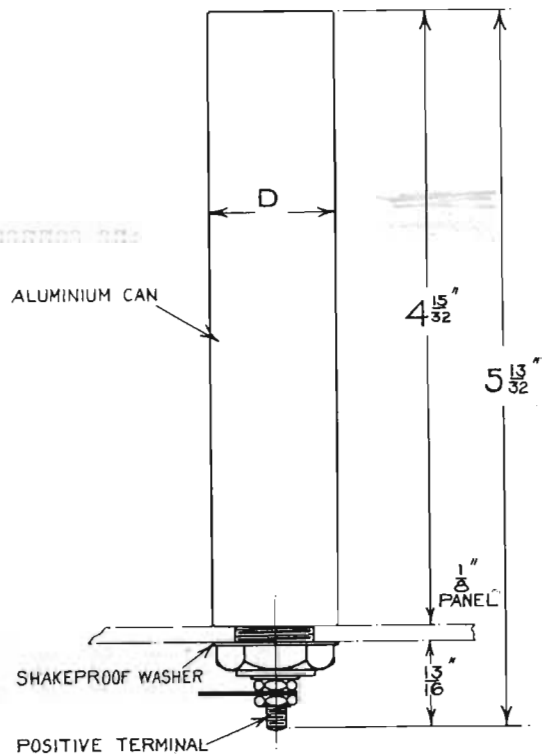
**Overload.** If Dubilier Electrolytic Condensers are subjected to a transient over voltage, they re-form on restoration of normal voltage. A permanent overload will, of course, destroy the Condenser.

**Leakage.** The D.C. leakage current of these Condensers is very low. It drops to a fraction of a milliampere after a short period on load. The recovery after a period of rest is also very rapid.

**Power Factor.** The power factor of these Condensers is about 8 per cent., which is less than half of that of the "wet" types.

**Temperature Range.** The electrolyte in these Condensers contains no free water and since it is not liquid there can be no splashing or creeping of the electrolyte outside. It will not freeze and the Condensers are undamaged by exposure to any extremes of cold. An increase of temperature causes an increase of capacity, namely decrease of impedance and decrease of power factor. Slight variations in loading are, therefore, automatically compensated. If Condensers are consistently used at a temperature in the neighbourhood of 110° F. the total peak voltage on the Condensers as defined above should not exceed 450 volts.

| Type No. | D   |
|----------|-----|
| 0281     | 1½" |
| 0283     | 1"  |





DUBILIER ELECTROLYTIC CONDENSERS IN ALUMINIUM CANS FOR INVERTED MOUNTING WITH POSITIVE TERMINAL IN CENTRE AND NEGATIVE TO CAN

| Maximum D.C. Peak Voltage... | 10       |       | 25       |       | 50       |       | 100      |       | 200      |       | 250      |       | 500      |          |
|------------------------------|----------|-------|----------|-------|----------|-------|----------|-------|----------|-------|----------|-------|----------|----------|
|                              | Capacity | Price | Type No. | Price | Type No. | Price | Type No. | Price | Type No. | Price | Type No. | Price | Type No. | Type No. |
| 4 $\mu$ F                    | —        | —     | —        | —     | —        | —     | —        | —     | —        | —     | —        | —     | —        | 0283     |
| 6 $\mu$ F                    | —        | —     | —        | —     | —        | —     | —        | —     | —        | —     | —        | —     | —        | 0281     |
| 8 $\mu$ F                    | —        | —     | —        | —     | —        | —     | —        | —     | —        | —     | —        | —     | —        | 0281     |
| 10 $\mu$ F                   | —        | —     | —        | —     | —        | —     | —        | —     | —        | —     | —        | —     | —        | 0281     |
| 20 $\mu$ F                   | —        | —     | —        | —     | —        | —     | —        | —     | —        | —     | —        | —     | —        | 0281     |
| 25 $\mu$ F                   | —        | —     | —        | —     | —        | —     | —        | —     | —        | —     | —        | —     | —        | 0281     |
| 40 $\mu$ F                   | —        | —     | —        | —     | —        | —     | —        | —     | —        | —     | —        | —     | —        | 0281     |
| 50 $\mu$ F                   | —        | —     | —        | —     | —        | —     | —        | —     | —        | —     | —        | —     | —        | 0281     |
| 80 $\mu$ F                   | —        | —     | —        | —     | —        | —     | —        | —     | —        | —     | —        | —     | —        | 0281     |
| 100 $\mu$ F                  | 4/6      | 0283  | —        | —     | —        | —     | —        | —     | —        | —     | —        | —     | —        | 0281     |
| 200 $\mu$ F                  | 4/6      | 0283  | —        | —     | —        | —     | —        | —     | —        | —     | —        | —     | —        | 0281     |
| 500 $\mu$ F                  | —        | 0281  | —        | —     | —        | —     | —        | —     | —        | —     | —        | —     | —        | 0281     |

Special quotations to Radio Set Manufacturers and industrial users.



## LOW VOLTAGE DRY ELECTROLYTIC CONDENSERS

In small Aluminium Containers arranged for Single Hole Chassis Mounting.

### Types 401 and 402

Types 401 and 402 Condensers are designed to meet the requirements for medium voltage filter and by-pass purposes, the smaller capacities being suitable for use in high voltage by-pass and automatic grid bias circuits.

The Condenser is fitted into a cylindrical aluminium container designed for one-hole fixing, requiring a minimum amount of space on the chassis.

The case of the Condenser forms the negative connection, a suitable flexible lead being fitted for the positive connection. Some of the principal features of this Condenser are as follows :



No leakage of electrolyte possible.

Low power factor.

Minimum capacity change with temperature changes.

Greater ability to withstand high operating temperatures.

### Types 401 and 402

| Maximum D.C.<br>Peak Voltage... | 12    |          | 25    |          | 50    |          | 60    |          |
|---------------------------------|-------|----------|-------|----------|-------|----------|-------|----------|
|                                 | Price | Type No. | Price | Type No. | Price | Type No. | Price | Type No. |
| 2 $\mu$ F                       | —     | —        | —     | —        | —     | —        |       | 401      |
| 3 $\mu$ F                       | —     | —        | —     | —        | —     | —        |       | 401      |
| 4 $\mu$ F                       | —     | —        | —     | —        | —     | —        |       | 401      |
| 5 $\mu$ F                       | —     | —        | —     | —        |       | 401      |       | 401      |
| 6 $\mu$ F                       | —     | —        | —     | —        | 2/6   | 401      |       | 401      |
| 8 $\mu$ F                       | —     | —        | —     | —        |       | 401      |       | 401      |
| 10 $\mu$ F                      | —     | —        | 2/6   | 401      | 2/6   | 401      |       | 402      |
| 15 $\mu$ F                      | —     | —        |       | 401      |       | 402      |       | 402      |
| 20 $\mu$ F                      | 2/6   | 401      | 2/6   | 401      | 3/-   | 402      | —     | —        |
| 40 $\mu$ F                      |       | 401      |       | 402      | —     | —        | —     | —        |
| 50 $\mu$ F                      | 3/-   | 402      | —     | —        | —     | —        | —     | —        |
| 75 $\mu$ F                      |       | 402      | —     | —        | —     | —        | —     | —        |

*Special quotations to Radio Set Manufacturers and industrial users.*

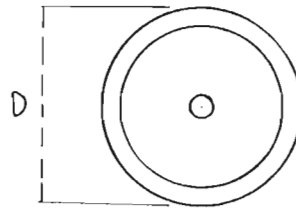
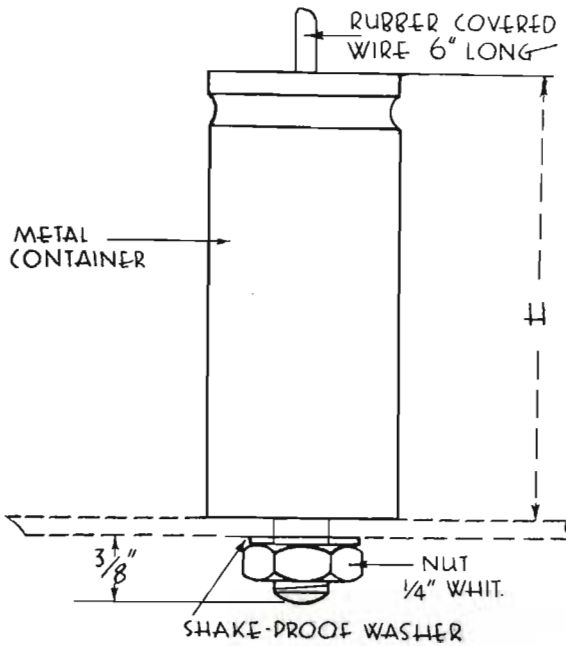


DRY ELECTROLYTIC CONDENSERS  
 IN SMALL SIZE ALUMINIUM CANS ARRANGED FOR  
 SINGLE HOLE CHASSIS MOUNTING—contd.

Types 401 and 402

| Maximum D.C. Peak Voltage... | 100   |          | 150   |          | 250   |          | 500   |          |
|------------------------------|-------|----------|-------|----------|-------|----------|-------|----------|
| Capacity                     | Price | Type No. | Price | Type No. | Price | Type No. | Price | Type No. |
| 1 $\mu$ F                    |       | 401      |       | 401      |       | 401      |       | 401      |
| 2 $\mu$ F                    |       | 401      |       | 401      |       | 401      |       | 402      |
| 3 $\mu$ F                    |       | 401      |       | 401      |       | 402      | —     | —        |
| 4 $\mu$ F                    |       | 401      |       | 402      |       | 402      | —     | —        |
| 5 $\mu$ F                    |       | 401      |       | 402      | —     | —        | —     | —        |
| 6 $\mu$ F                    |       | 402      |       | 402      | —     | —        | —     | —        |
| 8 $\mu$ F                    |       | 402      | —     | —        | —     | —        | —     | —        |
| 10 $\mu$ F                   |       | 402      | —     | —        | —     | —        | —     | —        |

Special quotations to Radio Set Manufacturers and industrial users.



| Container Type No. | Dimensions         |    |
|--------------------|--------------------|----|
|                    | H                  | D  |
| 401                | 1 $\frac{7}{16}$ " | 1" |
| 402                | 2 $\frac{7}{16}$ " | 1" |



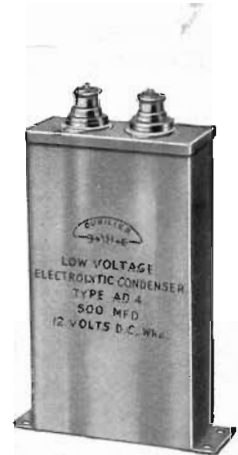
## LOW VOLTAGE DRY ELECTROLYTIC CONDENSERS IN RECTANGULAR METAL CONTAINERS

### Type AD

Dubilier Low Voltage Electrolytic Condensers of the AD type are supplied in rectangular metal containers of sound construction fitted with substantial terminals, and the polarity of which is indicated and must be strictly observed.

The specification of these Condensers is exactly similar to those of the other types of Dry Electrolytic Condensers such as types 0281 and 0283 as described on sheet 1, section E.

Details of the capacities and sizes of these Condensers are given here-with, and the design is such that they are particularly suited for use in connection with the smoothing out of hum due to rectified A.C. supply on low voltage moving coil loud speakers.

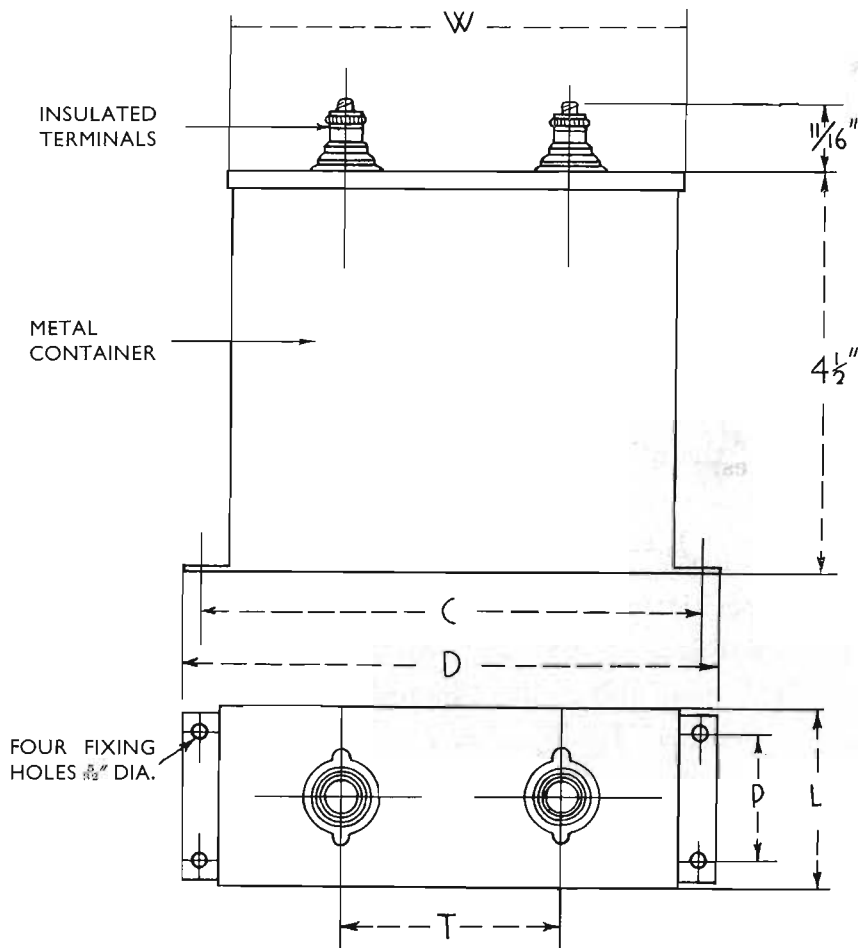


| D.C. PEAK VOLTAGE 12    |       |                  |
|-------------------------|-------|------------------|
| Capacity                | Price | Type No.         |
| 500 $\mu\text{F}$       | 7/6   | AD4              |
| 1000 $\mu\text{F}$      | 10/-  | AD5              |
| 2000 $\mu\text{F}$      | 15/-  | AD6              |
| 4000 $\mu\text{F}$      | 26/-  | AD7              |
| 2000+2000 $\mu\text{F}$ | 27/6  | AD7              |
|                         |       | with 3 terminals |

*Special quotations to Radio Set Manufacturers and industrial users.*



## TYPE AD LOW VOLTAGE DRY ELECTROLYTIC CONDENSERS IN RECTANGULAR METAL CONTAINERS



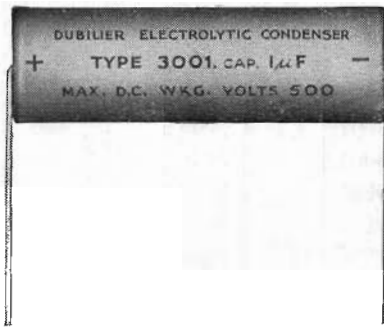
| Type No. | W                | L                | C                | D                | P                | T                |
|----------|------------------|------------------|------------------|------------------|------------------|------------------|
| AD4      | $2\frac{1}{2}$ " | 1"               | $2\frac{7}{8}$ " | $3\frac{1}{4}$ " | $\frac{5}{8}$ "  | 1"               |
| AD5      | $2\frac{1}{2}$ " | $1\frac{1}{2}$ " | $2\frac{7}{8}$ " | $3\frac{1}{4}$ " | 1"               | 1"               |
| AD6      | 3"               | $2\frac{1}{2}$ " | $3\frac{3}{8}$ " | $3\frac{3}{4}$ " | $1\frac{7}{8}$ " | $1\frac{1}{2}$ " |
| AD7      | 5"               | 3"               | $5\frac{3}{8}$ " | $5\frac{3}{4}$ " | $2\frac{3}{8}$ " | 3"               |





## DRY ELECTROLYTIC CONDENSERS

IN CARDBOARD TUBES. Types 3001, 3002, 3003 and 3046



Dubilier Dry Electrolytic Condensers of the above types are fitted into wax impregnated cardboard tubular containers, suitable connecting wires being provided, the negative and positive connections being clearly marked on the tubes.

The characteristics of these Condensers are exactly similar to the various other types of Dubilier Dry

Electrolytic Condensers, some of the principal features being :

- Adequate sealing to prevent any leakage of electrolyte.
- Low power factor.
- Minimum capacity change with temperature variation.

The range of Condensers available includes the most suitable types for medium voltage filter and by-pass purposes, the smaller capacities being suitable for use in high voltage by-pass and automatic grid bias circuits.

| Maximum D.C.<br>Peak Voltage ... | 6     |          | 15    |          | 25    |          |
|----------------------------------|-------|----------|-------|----------|-------|----------|
|                                  | Price | Type No. | Price | Type No. | Price | Type No. |
| Capacity                         |       |          |       |          |       |          |
| 1 $\mu$ F                        | —     | —        |       | 3001     | —     | —        |
| 2 $\mu$ F                        | —     | —        |       | 3001     | —     | —        |
| 3 $\mu$ F                        | —     | —        |       | 3001     | —     | —        |
| 4 $\mu$ F                        | —     | —        |       | 3001     | —     | —        |
| 5 $\mu$ F                        | —     | —        |       | 3001     | —     | —        |
| 6 $\mu$ F                        | —     | —        |       | 3001     | —     | —        |
| 8 $\mu$ F                        | —     | —        |       | 3001     | —     | —        |
| 10 $\mu$ F                       |       | 3001     |       | 3001     |       | 3001     |
| 12 $\mu$ F                       |       | 3001     |       | 3001     |       | 3001     |
| 16 $\mu$ F                       |       | 3001     |       | 3001     |       | 3046     |
| 20 $\mu$ F                       |       | 3001     |       | 3001     |       | 3046     |
| 25 $\mu$ F                       |       | 3001     | 2/-   | 3001     | 2/6   | 3046     |
| 50 $\mu$ F                       |       | 3001     | 2/6   | 3002     | 4/-   | 3003     |

*Special quotations to Radio Set Manufacturers and industrial users.*



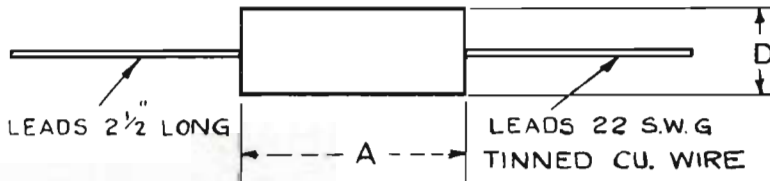
## DRY ELECTROLYTIC CONDENSERS IN CARDBOARD TUBES

### Types 3001, 3002, 3003 and 3046

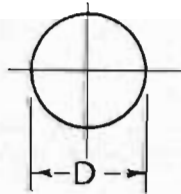
| Maximum D.C. Peak Voltage... | 30    |          | 50    |          | 60    |          | 100   |          | 150   |          |
|------------------------------|-------|----------|-------|----------|-------|----------|-------|----------|-------|----------|
| Capacity                     | Price | Type No. | Price | Type No. | Price | Type No. | Price | Type No. | Price | Type No. |
| 2 $\mu$ F                    | —     | —        | —     | —        | —     | —        | —     | —        | —     | 3001     |
| 3 $\mu$ F                    | —     | —        | —     | —        | —     | —        | —     | —        | —     | 3046     |
| 4 $\mu$ F                    | —     | —        | —     | —        | —     | 3001     | —     | 3046     | —     | 3002     |
| 5 $\mu$ F                    | —     | —        | —     | —        | —     | 3001     | —     | 3046     | —     | 3002     |
| 6 $\mu$ F                    | —     | —        | —     | 3001     | —     | 3001     | —     | 3002     | —     | 3002     |
| 8 $\mu$ F                    | —     | —        | —     | 3046     | —     | 3002     | —     | 3002     | —     | 3002     |
| 10 $\mu$ F                   | —     | 3001     | —     | 3046     | —     | 3002     | 2/6   | 3002     | —     | 3003     |
| 12 $\mu$ F                   | —     | 3001     | —     | 3002     | —     | 3002     | —     | 3003     | —     | 3003     |
| 16 $\mu$ F                   | —     | 3046     | —     | 3002     | —     | 3002     | —     | 3003     | —     | —        |
| 20 $\mu$ F                   | —     | 3002     | 4/-   | 3002     | —     | 3003     | —     | 3003     | —     | —        |
| 25 $\mu$ F                   | —     | 3002     | —     | 3003     | —     | 3003     | 4/-   | 3003     | —     | —        |
| 50 $\mu$ F                   | —     | 3003     | 4/-   | 3003     | —     | —        | —     | —        | —     | —        |

| Maximum D.C. Peak Voltage... | 200   |          | 250   |          | 300   |          | 450   |          | 500   |          |
|------------------------------|-------|----------|-------|----------|-------|----------|-------|----------|-------|----------|
| Capacity                     | Price | Type No. | Price | Type No. | Price | Type No. | Price | Type No. | Price | Type No. |
| 1 $\mu$ F                    | —     | —        | —     | —        | —     | —        | —     | 3046     | —     | 3046     |
| 2 $\mu$ F                    | —     | 3046     | —     | 3002     | —     | 3002     | —     | 3002     | —     | 3002     |
| 3 $\mu$ F                    | —     | 3002     | —     | 3003     | —     | —        | —     | 3003     | —     | 3003     |
| 4 $\mu$ F                    | —     | 3002     | —     | 3003     | —     | 3003     | —     | 3003     | —     | 3003     |
| 5 $\mu$ F                    | —     | 3002     | —     | 3003     | —     | —        | —     | —        | —     | —        |
| 6 $\mu$ F                    | —     | 3002     | —     | —        | —     | —        | —     | —        | —     | —        |
| 8 $\mu$ F                    | —     | 3003     | —     | 3003     | —     | 3003     | —     | —        | —     | —        |
| 10 $\mu$ F                   | —     | 3003     | —     | —        | —     | —        | —     | —        | —     | —        |

*Special quotations to Radio Set Manufacturers and industrial users.*



| Type No. | A      | D      |
|----------|--------|--------|
| 3001     | 2 1/4" | 5/8"   |
| 3002     | 2 3/4" | 1 1/8" |
| 3003     | 2 3/4" | 1 1/4" |

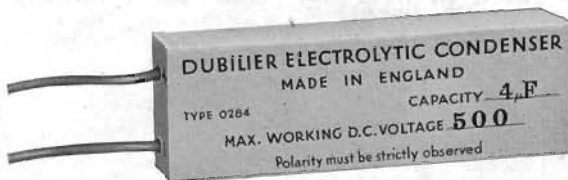




## DRY ELECTROLYTIC CONDENSERS IN WAX IMPREGNATED CARDBOARD CONTAINERS

This type of Condenser is becoming increasingly popular with Radio Set Manufacturers, and in order to meet this demand Dubilier Dry Electrolytic Condensers covering these requirements have been developed on an extensive scale and are now available manufactured in several different constructional forms.

A few of the outstanding merits of this type of Condenser are as follows :—



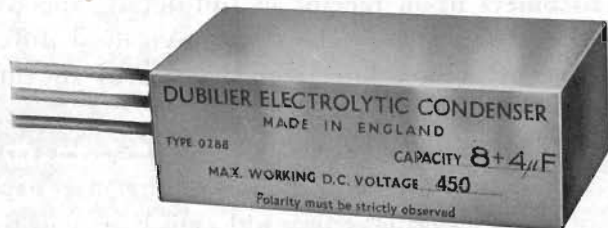
- Entirely dry.
- Constant capacity.
- Rapid re-forming.
- Low power factor.
- Ease of mounting (the Condensers can be mounted in any position).

These Condensers are suitable for use in all circuits where a steady D.C. voltage has a ripple voltage superimposed on it such as rectifier and filter circuits. They are also used for decoupling anode and screen voltages and by-passing grid bias resistances in low-frequency amplifiers.

The Condenser consists of a positive and negative electrode separated by a layer of gauze impregnated by electrolyte, the whole assembly being sealed and waxed into the cardboard container. Positive and negative leads are provided, coloured red and black respectively. Care must be taken to observe the correct polarity, as otherwise the Condenser will be permanently damaged.

The various types of Condensers available come under the headings of single or multiple section types, common cathode types, and reversible type Condensers. The latter type is specially constructed so that it is not damaged by accidental reversal of polarity, and which is a valuable feature where the operating conditions are such that this is likely to occur. Details of these Condensers can be obtained against requirements.

The common cathode type of construction is a Condenser in which two or more sections are wound together in a single unit, and in which case the rated voltage of all sections of the Condenser should be identical. When specially required, a similar type of Condenser to the common cathode Condenser can be provided with two or more sections concentrically wound with a common anode, which arrangement is sometimes useful for grid bias by-passing Condensers. This type of construction is not standard, but can be supplied against special orders providing the quantities justify production.





## GENERAL SPECIFICATION OF CONDENSERS

*Standard Temperature.* The capacities quoted are the nominal values at 15° C. (or 60° F.) In general this type of condenser is more suited for use over a wider range of temperatures than the standard can type in that it has smaller capacity changes under such conditions.

*Standard Capacity Tolerances.* For Condensers rated at 150 volts or lower —10%+100%. For Condensers rated between 150 and 200 volts —10%+50%. For Condensers rated at over 200 volts the following are the normal capacity limits :—

| Nominal Value | Capacity Limits     |
|---------------|---------------------|
| 2 $\mu$ F     | 1.5 — 2.9 $\mu$ F   |
| 4 $\mu$ F     | 3.0 — 4.9 $\mu$ F   |
| 6 $\mu$ F     | 5.0 — 6.9 $\mu$ F   |
| 8 $\mu$ F     | 7.0 — 9.4 $\mu$ F   |
| 10 $\mu$ F    | 9.5 — 11.4 $\mu$ F  |
| 12 $\mu$ F    | 11.5 — 13.9 $\mu$ F |
| 16 $\mu$ F    | 14.0 — 18.0 $\mu$ F |

In the case of Condensers containing multiple sections these figures will apply to the total capacity of the Condenser Block.

*Power Factor.* The power factor of these Condensers in the cardboard box containers (and also of those enclosed in the types 401 and 402 Cans, and the 3001, 3002 and 3003 tubes, which are of identical electrical types) averages from 3 to 4% at 50 cycles. At 100 cycles the values tend to be slightly higher, but are sensibly the same.

The following tables give details of some of the various types of Condensers we have manufactured. This will be supplemented from time to time. We are always pleased to quote against specific requirements of customers upon receipt of full details specifying the exact working conditions. In these tables we have used different signs to designate the different connection arrangements of the multiple capacity Condensers as follows :

- + designates common negative connection for the sections so separated.
- designates series connection for voltage doubler circuits.
- designates sections with entirely separate connection leads.



## DRY ELECTROLYTIC CONDENSERS IN CARDBOARD BOX CONTAINERS

Types 0280, 0284, 0286, 0288, 302, and 304

| Max. D.C.<br>Peak Voltage | 50    |          | 60    |          | 100   |          | 150   |          | 200   |          | 250   |          | 300   |          | 450   |          | 500   |          |     |
|---------------------------|-------|----------|-------|----------|-------|----------|-------|----------|-------|----------|-------|----------|-------|----------|-------|----------|-------|----------|-----|
|                           | Price | Type No. | Price | Type No. | Price | Type No. | Price | Type No. | Price | Type No. | Price | Type No. | Price | Type No. | Price | Type No. | Price | Type No. |     |
| 1 $\mu$ F                 | —     | —        | —     | —        | —     | —        | —     | —        | —     | —        | —     | —        | —     | —        | —     | —        | —     | —        | 302 |
| 2 $\mu$ F                 | —     | —        | —     | —        | —     | —        | —     | —        | 302   | —        | —     | 0284     | —     | 0284     | —     | 0284     | —     | 0284     | 302 |
| 3 $\mu$ F                 | —     | —        | —     | —        | —     | —        | —     | —        | 302   | —        | —     | 0284     | —     | 0284     | —     | 0284     | —     | 0284     | 302 |
| 4 $\mu$ F                 | —     | —        | —     | —        | —     | 302      | —     | 302      | 302   | —        | —     | 0284     | —     | 0284     | —     | 0284     | —     | 0284     | 302 |
| 5 $\mu$ F                 | —     | —        | —     | —        | —     | 302      | —     | 302      | 302   | —        | —     | 0280     | —     | 0280     | —     | 0280     | —     | 0280     | 302 |
| 6 $\mu$ F                 | —     | —        | —     | —        | —     | 302      | —     | 302      | 302   | —        | —     | 0280     | —     | 0280     | —     | 0280     | —     | 0280     | 302 |
| 8 $\mu$ F                 | —     | —        | —     | —        | —     | 302      | —     | 302      | 302   | —        | —     | 0280     | —     | 0280     | —     | 0280     | —     | 0280     | 302 |
| 10 $\mu$ F                | —     | 302      | —     | 302      | —     | 302      | —     | 0284     | 0284  | —        | —     | 0280     | —     | 0280     | —     | 0280     | —     | 0280     | 302 |
| 12 $\mu$ F                | —     | 302      | —     | 302      | —     | 0284     | —     | 0284     | 0284  | —        | —     | 0280     | —     | 0280     | —     | 0280     | —     | 0280     | 302 |
| 16 $\mu$ F                | —     | 302      | —     | —        | —     | 0284     | —     | 0280     | 0280  | —        | —     | 0286     | —     | 0286     | —     | 0286     | —     | 0286     | 302 |
| 20 $\mu$ F                | —     | 0280     | —     | 0280     | —     | 0280     | —     | 0280     | 0286  | —        | —     | 0288     | —     | 0288     | —     | 0288     | —     | 0288     | 302 |
| 25 $\mu$ F                | —     | 0280     | —     | —        | —     | 0280     | —     | —        | —     | —        | —     | 0288     | —     | 0288     | —     | 0288     | —     | 0288     | 302 |

*Special quotations to Radio Set Manufacturers and industrial users.*



# DRY ELECTROLYTIC CONDENSERS

## MULTIPLE CAPACITY TYPE

### IN CARDBOARD BOX CONTAINERS

Types 0280, 0284, 0286, 0288, 301, 302A, 303, 304, and 305

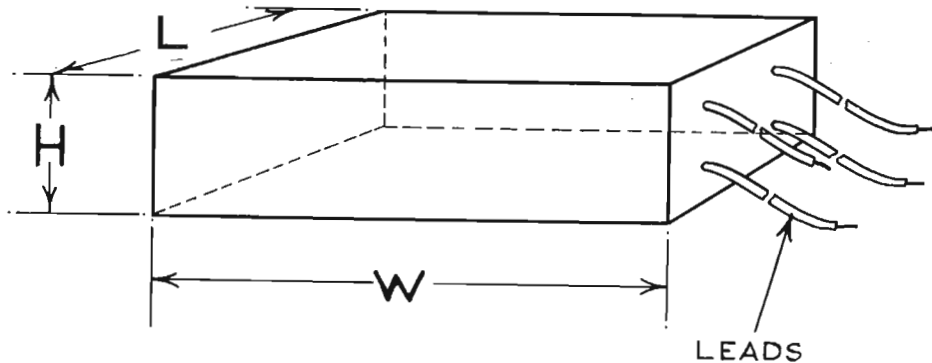
| Maximum D.C.<br>Peak Voltage... | 35    |          | 50    |          | 175   |          | 250   |          | 300   |          | 500   |          |
|---------------------------------|-------|----------|-------|----------|-------|----------|-------|----------|-------|----------|-------|----------|
|                                 | Price | Type No. | Price | Type No. | Price | Type No. | Price | Type No. | Price | Type No. | Price | Type No. |
| 2 + 6 $\mu$ F                   |       | 301      |       | 302A     |       | 0284     |       | 0280     |       |          |       | 0286     |
| 2 + 8 $\mu$ F                   |       | 301      |       | 302A     |       | 0284     |       | 0280     |       |          |       | 0286     |
| 2 + 10 $\mu$ F                  |       | 302A     |       | 302A     |       | 0284     |       | 0280     |       |          |       | 0288     |
| 4 + 4 $\mu$ F                   |       | 301      |       | 302A     |       | 0284     |       | 0286     |       |          |       | 0286     |
| 4 + 6 $\mu$ F                   |       | 301      |       | 302A     |       |          |       |          |       |          |       | 0286     |
| 4 + 8 $\mu$ F                   |       | 302A     |       | 302A     |       |          |       |          |       |          |       | 0288     |
| 4 + 10 $\mu$ F                  |       |          |       |          |       |          |       |          |       |          |       | 0288     |
| 4 + 12 $\mu$ F                  |       |          |       |          |       |          |       |          |       |          |       | 0288     |
| 5 + 5 $\mu$ F                   |       | 301      |       | 302A     |       | 0284     |       |          |       |          |       | 0288     |
| 6 + 6 $\mu$ F                   |       | 302A     |       | 302A     |       |          |       |          |       |          |       |          |
| 6 + 8 $\mu$ F                   |       |          |       | 302A     |       |          |       |          |       |          |       |          |
| 6 + 10 $\mu$ F                  |       |          |       | 302A     |       |          |       |          |       |          |       |          |
| 8 + 8 $\mu$ F                   |       |          |       | 302A     |       |          |       |          |       |          |       |          |
| 4 + 4 + 4 $\mu$ F               |       | 303      |       | 302A     |       | 0280     |       | 0286     |       | 0286     |       | 0288     |
| 4 + 4 + 8 $\mu$ F               |       | 303      |       | 302A     |       | 0280     |       | 304      |       | 305      |       | 0288     |
| 6 + 6 + 6 $\mu$ F               |       | 303      |       | 302A     |       | 0280     |       | 304      |       | 305      |       |          |
| 2 + 2 + 4 + 4 $\mu$ F           |       | 303      |       | 302A     |       | 0280     |       | 0286     |       | 305      |       | 0288     |
| 4, 4                            |       |          |       |          |       |          |       | 304      |       | 305      |       |          |
|                                 |       |          |       |          |       |          |       | 0280     |       | 0280     |       | 0286     |

Special quotations to Radio Set Manufacturers and industrial users.



## DRY ELECTROLYTIC CONDENSERS IN CARDBOARD BOX CONTAINERS

Types 0280, 0284, 0286, 0288,  
301, 302, 302a, 303, 304 and 305



| Type No. | W                 | L                  | H                   | Remarks                              |
|----------|-------------------|--------------------|---------------------|--------------------------------------|
| 0280     | 4 $\frac{1}{8}$ " | 1 $\frac{3}{8}$ "  | $\frac{7}{8}$ "     | Cotton and Rubber Covered Flex Leads |
| 0284     | 4 $\frac{1}{8}$ " | 1 $\frac{3}{8}$ "  | 1 $\frac{11}{16}$ " | " " "                                |
| 0286     | 4 $\frac{1}{8}$ " | 1 $\frac{3}{8}$ "  | 1 $\frac{1}{8}$ "   | " " "                                |
| 0288     | 4 $\frac{1}{8}$ " | 1 $\frac{3}{8}$ "  | 2 $\frac{1}{4}$ "   | " " "                                |
| 302      | 2 $\frac{3}{8}$ " | 1 $\frac{1}{16}$ " | 1 $\frac{1}{16}$ "  | " " "                                |
| 302A     | 2 $\frac{3}{8}$ " | 1 $\frac{1}{16}$ " | 1 $\frac{1}{16}$ "  | 22SWG Tinned Copper Leads            |
| 303      | 3"                | 1"                 | 1 $\frac{11}{16}$ " | Cotton and Rubber Covered Flex Leads |
| 301      | 1 $\frac{5}{8}$ " | $\frac{7}{8}$ "    | $\frac{9}{16}$ "    | 22SWG Tinned Copper Leads            |
| 304      | 2 $\frac{3}{4}$ " | 1 $\frac{3}{4}$ "  | 1 $\frac{3}{8}$ "   | Cotton and Rubber Covered Flex Leads |
| 305      | 3"                | 2 $\frac{1}{4}$ "  | 1 $\frac{1}{4}$ "   | " " "                                |



## DRY ELECTROLYTIC CONDENSERS

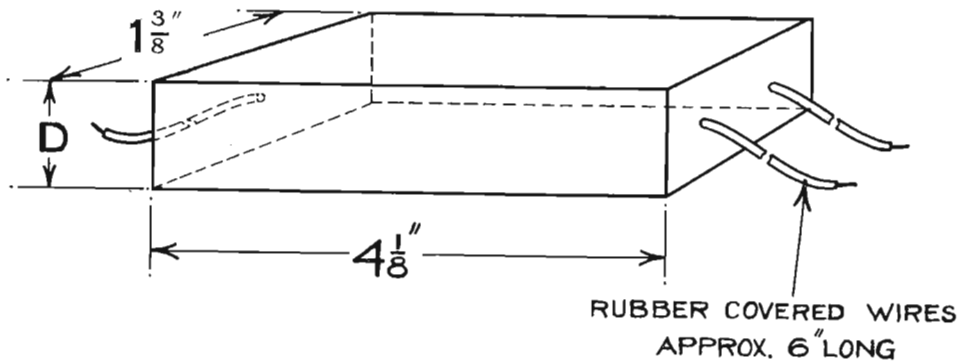
### IN CARDBOARD BOX CONTAINERS

### FOR VOLTAGE DOUBLING CIRCUITS

Types 0280, 0286, and 0288

| Maximum D.C. Peak Voltage... | 300   |          | 450   |          | 500   |          |
|------------------------------|-------|----------|-------|----------|-------|----------|
| Capacity                     | Price | Type No. | Price | Type No. | Price | Type No. |
| 4 - 4 $\mu$ F                |       | 0280     |       | 0286     |       | 0286     |
| 6 - 6 $\mu$ F                |       | 0280     |       | 0286     |       | 0286     |
| 8 - 8 $\mu$ F                | —     | —        |       | 0288     |       | 0288     |

*Special quotations to Radio Set Manufacturers and industrial users.*

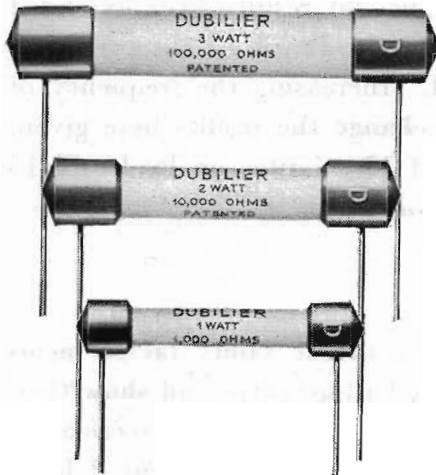


| Type No. | D.               |
|----------|------------------|
| 0280     | $\frac{7}{8}$ "  |
| 0286     | $1\frac{1}{8}$ " |
| 0288     | $2\frac{1}{4}$ " |





## DUBILIER METALLIZED RESISTANCES



### PRICES :

|                |     |      |
|----------------|-----|------|
| One Watt ...   | 1/- | each |
| Two Watt ...   | 2/- | „    |
| Three Watt ... | 3/- | „    |

*Special quotations to  
Radio Set Manufacturers and industrial users.*

Dubilier Metallized Resistances, which have proved so eminently successful for the past two years, have undergone certain internal improvements which place them still farther ahead of any other Resistances at present on the market. Already there are millions of these Resistances being used, and the data on the following pages will indicate their special characteristics and bear out the claims made.

The charts relate to the performance characteristics of two representative ranges in the one watt size, 100,000 ohms as representative of the power range and 1 M $\Omega$  as representative of the grid leak range where power requirements are low. The half watt

and other sizes give the same high quality performance. The maximum voltages employed on any test are 500 volts for the one watt size and 250 volts for the half watt size.

### Permanence

The permanence characteristics show the performance to be expected of these improved Dubilier Metallized Resistances when operated intermittently at full rated load. The operating cycle consists of a 1½ hour period on load and half hour off load. Resistance measurements are made at intervals at the end of each period of the cycle, and are plotted separately as hot and cold readings. At any time the difference between



## DUBILIER METALLIZED RESISTANCES—contd.

these two curves shows the change to be expected due to the load. This change is seen to be very small, of the order of 2 or 3 per cent. Of greater importance is the uniformity and constancy of results over extended time, the curves being substantially horizontal. It will be observed that the permanent change is purely nominal. Increasing the frequency of the heating and cooling cycle does not change the results here given. Tests made, for example, with a cycle of 15 minutes on load and 15 minutes off load show no difference in performance.

## Overload Characteristics

The overload characteristics are a measure of the safety factor incorporated in the improved Dubilier Metallized Resistances and show their ability to stand heavy overloads. One hundred per cent. overload is applied to units continuously for 100 hours and resistance measured daily. At the end of the 100 hour period units are allowed to cool and a final resistance measurement made to determine the permanent change. In the power ranges they show a change of resistance under double load not exceeding 10 per cent., and recover to within 2 per cent. or 3 per cent. of their initial value.

## Humidity Characteristics—No Load Applied

The humidity characteristics show the ability of Dubilier Metallized Resistances to withstand conditions of high humidity when no load is applied. The units are initially measured for resistance and placed in humidifiers in which temperature and humidity are controlled at 40° C. and 90 per cent. relative humidity. Resistances are measured from day to day to determine effect on range. Over extended periods of time these improved Metallized Resistances do not change more than about 10 per cent. This behaviour under severe humidity conditions is due to use of water resistant materials in the manufactures of filament and moisture proof treatment of the finished resistance.

---

---



## DUBILIER METALLIZED RESISTANCES—contd.

### Humidity Characteristics—Load Applied

These characteristics show the behaviour when direct current voltages are applied as indicated on the curves. Very light load is applied because operation at normal loads develops sufficient heat to reduce appreciably the humidity of the air around the resistance.

The combined effects of humidity and load are obtained more rapidly under light load operation. The conditions of test are the same as in the preceding test. Polarity of voltage applied to the resistance is kept the same throughout the test. The behaviour of the improved Metallized Resistances under this test is substantially the same as under no load.

### Voltage Coefficient

The "Voltage Characteristics" are indices of the behaviour of the improved Metallized Resistances when subjected to varying potentials. It will be observed that the resistance shows a negligible change with voltages up to and beyond normal rating.

### Noise

The noise level of the improved Metallized Resistances has been reduced to an absolute minimum, and they compare very favourably with wire-wound resistances in this respect. Where there is a by-pass Condenser as in anode feed and grid bias circuits, the noise, even after several stages of amplification, is too small to be measured.

### Mechanical Strength

The Dubilier Metallized Resistances are very strong and are in no way liable to damage by being supported from their connecting wires. Their strength both as regard the ceramic tube in which they are constructed and as regards the wire tails is ample to meet every requirement.

---

---



## DUBILIER METALLIZED RESISTANCES—contd.

## Shelf Life

Tests extending over thousands of hours show that the change in resistance due to shelf life is less than 1 per cent. with the power types and under 2 per cent. in the grid leak types.

## Radio Frequency Characteristics

Dubilier Metallized Resistances are sensibly non-inductive at radio frequencies as they consist of a single straight conductor only. Further, owing to their unique construction, the ratio of high frequency resistance to D.C. resistance is almost unity. Measurements of Resistances made at D.C. may therefore be used at broadcast radio frequencies with negligible error. For example, a number of 1 megohm resistances measured at 750 kc showed resistances between 95 per cent. to 100 per cent. of their D.C. values, the differences being no greater than the probable order of magnitude of errors of measurement.

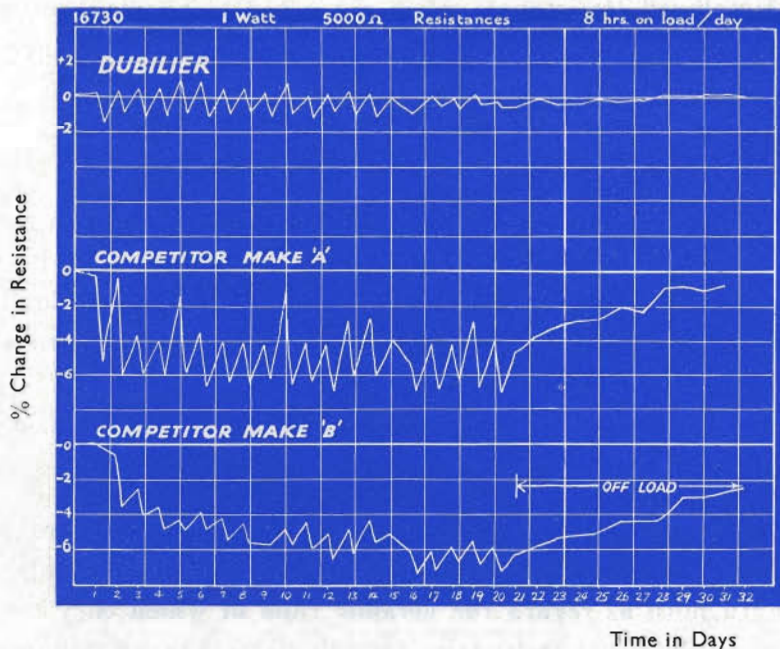
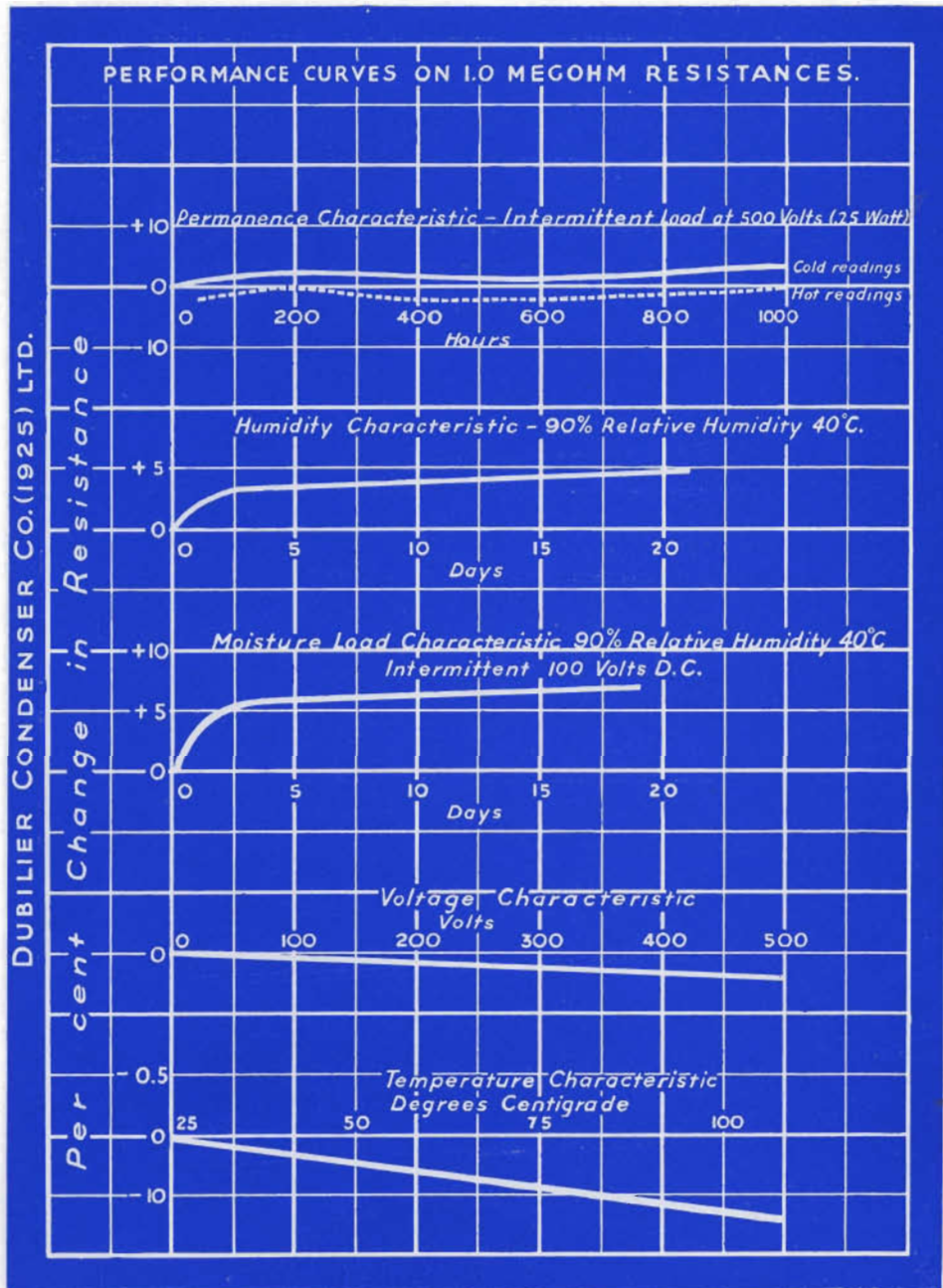


Chart illustrating superior load characteristics of Dubilier Metallised Resistances.

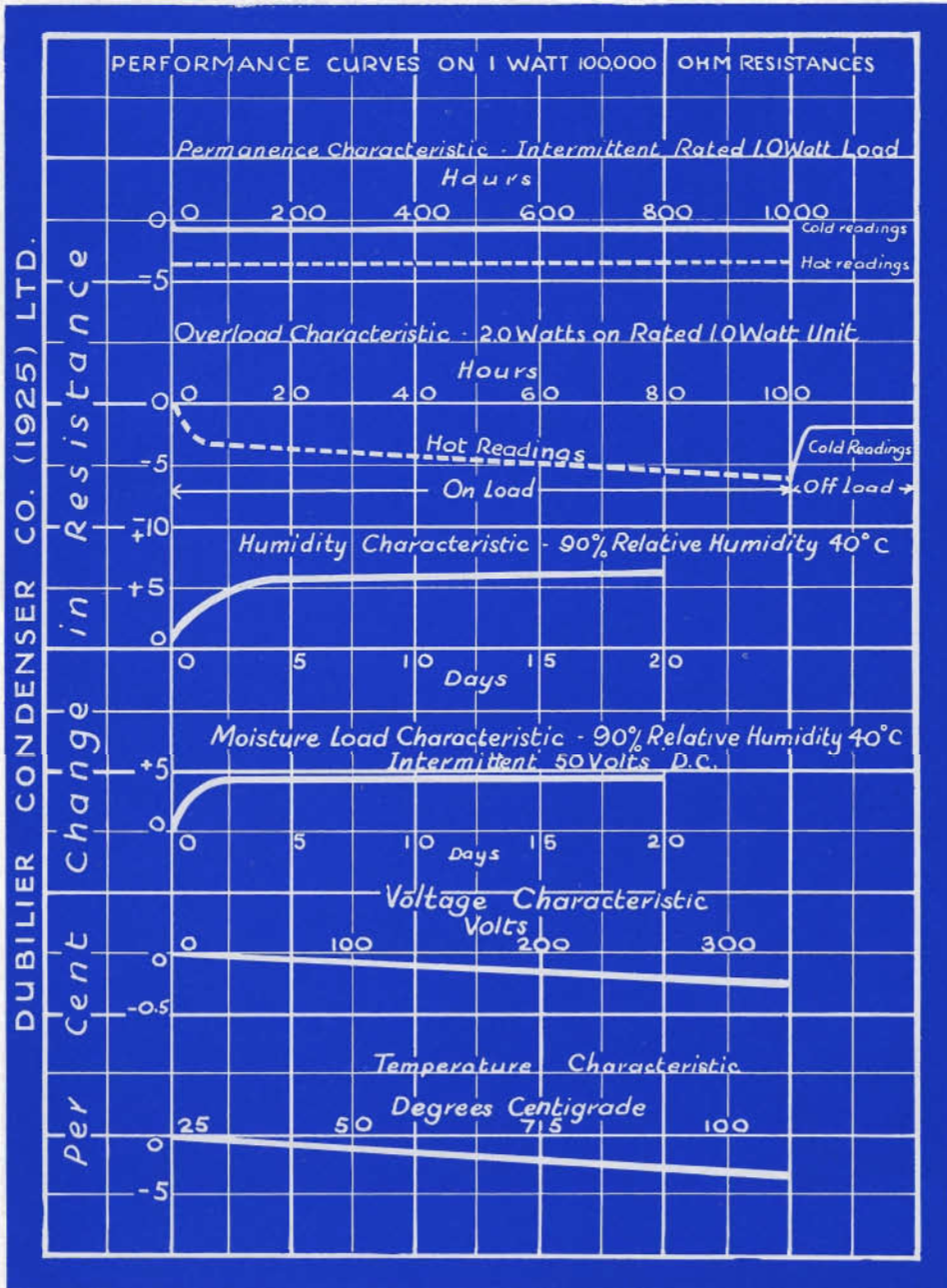


## Dubilier Metallized Resistances—contd.



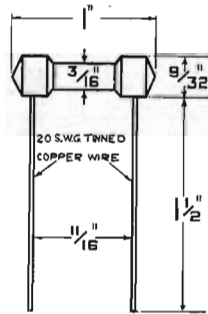


Dubilier Metallized Resistances—contd.

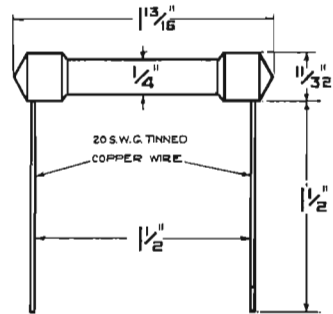




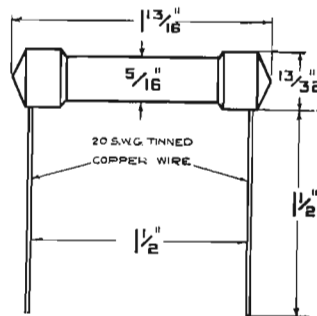
# DUBILIER METALLIZED RESISTANCES



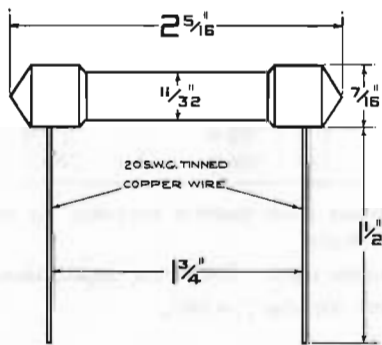
1/2 Watt Resistance



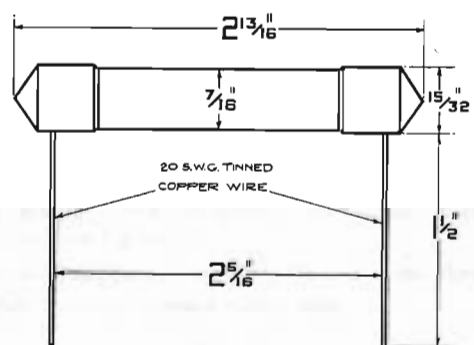
1 Watt Resistance



1 1/2 Watt Resistance



2 Watt Resistance



3 Watt Resistance



## DUBILIER METALLIZED RESISTANCES

| Resis-<br>tance<br>ohms | HALF WATT<br><i>see note below</i> |                 | ONE WATT<br>Price 1/- each |                 | 1½ WATT<br><i>see note below</i> |                 | TWO WATT<br>Price 2/- each |                 | THREE WATT<br>Price 3/- each |                 |
|-------------------------|------------------------------------|-----------------|----------------------------|-----------------|----------------------------------|-----------------|----------------------------|-----------------|------------------------------|-----------------|
|                         | Max.<br>Current<br>mA              | Max.<br>Voltage | Max.<br>Current<br>mA      | Max.<br>Voltage | Max.<br>Current<br>mA            | Max.<br>Voltage | Max.<br>Current<br>mA      | Max.<br>Voltage | Max.<br>Current<br>mA        | Max.<br>Voltage |
| 100                     | 70.0                               | 7.0             | 100.0                      | 10.0            | 122.4                            | 12.2            | 141.4                      | 14.1            | 173.0                        | 17.3            |
| 250                     | 44.7                               | 11.2            | 63.2                       | 15.8            | 77.5                             | 19.3            | 89.3                       | 23.3            | 108.0                        | 27.3            |
| 500                     | 31.6                               | 15.8            | 44.8                       | 22.3            | 54.4                             | 27.2            | 60.3                       | 31.6            | 76.0                         | 38.7            |
| 1000                    | 22.3                               | 22.3            | 31.6                       | 31.6            | 38.7                             | 38.7            | 44.7                       | 44.7            | 55.0                         | 54.7            |
| 1500                    | 18.3                               | 27.4            | 25.8                       | 38.7            | 33.3                             | 50.0            | 36.4                       | 54.7            | 45.0                         | 67.0            |
| 2000                    | 15.8                               | 31.6            | 22.3                       | 44.7            | 27.3                             | 54.7            | 31.6                       | 63.2            | 39.0                         | 77.4            |
| 2500                    | 14.3                               | 35.4            | 20.0                       | 50.0            | 24.4                             | 61.2            | 28.2                       | 70.7            | 34.5                         | 86.6            |
| 3000                    | 12.9                               | 38.7            | 18.2                       | 54.7            | 22.3                             | 67.0            | 25.8                       | 77.4            | 31.5                         | 95.0            |
| 3500                    | 11.9                               | 41.7            | 16.9                       | 59.1            | 20.7                             | 72.4            | 23.9                       | 83.6            | 28.0                         | 102.0           |
| 4000                    | 11.1                               | 44.7            | 15.8                       | 63.2            | 19.3                             | 77.4            | 22.3                       | 89.4            | 27.5                         | 110.0           |
| 5000                    | 10.0                               | 50.0            | 14.1                       | 70.7            | 17.3                             | 86.6            | 20.0                       | 100.0           | 24.4                         | 122.0           |
| 6000                    | 9.1                                | 54.7            | 12.9                       | 77.4            | 15.8                             | 94.8            | 18.2                       | 109.5           | 22.3                         | 134.0           |
| 7000                    | 8.4                                | 59.2            | 11.9                       | 83.6            | 14.6                             | 102.4           | 16.9                       | 118.3           | 20.7                         | 145.0           |
| 8000                    | 7.9                                | 63.3            | 11.1                       | 89.4            | 13.6                             | 109.5           | 15.8                       | 126.4           | 19.3                         | 155.0           |
| 9000                    | 7.4                                | 67.1            | 10.5                       | 94.8            | 12.9                             | 116.1           | 14.9                       | 134.1           | 18.2                         | 164.0           |
| 10000                   | 7.0                                | 70.7            | 10.0                       | 100.0           | 12.2                             | 122.4           | 14.1                       | 141.4           | 17.3                         | 173.0           |
| 12000                   | 6.4                                | 77.4            | 9.1                        | 109.5           | 11.1                             | 134.1           | 12.9                       | 154.9           | 15.8                         | 190.0           |
| 12500                   | 6.3                                | 79.0            | 8.9                        | 111.8           | 10.9                             | 136.9           | 12.6                       | 158.1           | 15.5                         | 194.0           |
| 15000                   | 5.7                                | 86.5            | 8.1                        | 122.4           | 10.0                             | 150.0           | 11.5                       | 173.2           | 14.2                         | 212.0           |
| 17500                   | 5.3                                | 93.4            | 7.5                        | 132.2           | 9.2                              | 161.8           | 10.7                       | 187.0           | 13.0                         | 229.0           |
| 20000                   | 5.0                                | 100.0           | 7.0                        | 141.4           | 8.6                              | 173.2           | 10.0                       | 200.0           | 12.2                         | 245.0           |
| 25000                   | 4.4                                | 110.0           | 6.3                        | 158.1           | 7.7                              | 193.6           | 8.9                        | 223.6           | 11.2                         | 273.0           |
| 30000                   | 4.1                                | 123.0           | 5.7                        | 173.2           | 7.0                              | 212.1           | 8.1                        | 244.9           | 10.0                         | 300.0           |
| 40000                   | 3.5                                | 141.4           | 5.0                        | 200.0           | 6.1                              | 244.9           | 7.0                        | 282.8           | 8.6                          | 345.0           |
| 50000                   | 3.1                                | 158.1           | 4.4                        | 223.6           | 5.4                              | 273.8           | 6.0                        | 316.2           | 7.7                          | 385.0           |
| 75000                   | 2.5                                | 193.6           | 3.6                        | 273.8           | 4.4                              | 335.4           | 5.1                        | 387.3           | 6.3                          | 474.0           |
| 100000                  | 2.2                                | 220.0           | 3.1                        | 310.0           | 3.8                              | 380.0           | 4.4                        | 440.0           | 5.5                          | 550.0           |
| 150000                  | 1.8                                | 270.0           | 2.5                        | 375.0           | 3.3                              | 500.0           | 3.6                        | 540.0           | 4.5                          | 670.0           |
| 200000                  | 1.5                                | 300.0           | 2.2                        | 440.0           | 2.7                              | 540.0           | 3.1                        | 630.0           | 3.5                          | 700.0           |
| 250000                  | 1.4                                | 350.0           | 2.0                        | 500.0           | 2.4                              | 600.0           | 2.8                        | 700.0           | 2.8                          | 700.0           |
| 300000                  | 1.2                                | 360.0           | 1.8                        | 540.0           | 2.2                              | 660.0           | 2.3                        | 700.0           | 2.3                          | 700.0           |
| 400000                  | 1.1                                | 440.0           | 1.5                        | 600.0           | 1.7                              | 700.0           | 1.7                        | 700.0           | 1.7                          | 700.0           |
| 500000                  | 1.0                                | 500.0           | 1.4                        | 700.0           | 1.4                              | 700.0           | 1.4                        | 700.0           | 1.4                          | 700.0           |

½ watt and 1 watt resistances are available also in values from quarter megohm up to 10 megohms for use as grid leaks.

½ watt and 1½ watt resistances supplied to manufacturers only. Prices on application.

*Sold under limited licence. British Patent Number 254,894.*

*Special quotations to Radio Set Manufacturers and industrial users.*





## COLOUR CODED RESISTANCES

To meet the convenience of radio set manufacturers, Dubilier Metallized Resistances can be supplied with their ohmic value indicated by means of distinctive colour markings in place of the usual figures stamped on the body of the Resistance. This "colour coding" affords an easy method of identifying the various values of the Resistances used in a radio receiver.

The code is quite simple to understand and Resistances are identified by means of three markings, referred to as "body," "end," and "dot." "Body" is the main colour of the Resistance and represents the first figure of its ohmic value. The coloured "end" of the Resistance takes the form of a ring of colour round the Resistance and represents the second figure; while the "dot" colour indicates the number of ciphers which follow the first two figures.

We have produced an indicator chart which can be easily operated to ascertain the value of any specific Resistance which is Colour Coded, copies of which can be had by application.

To enable the set designer or manufacturer to identify these Resistances, the following list of colours gives their corresponding ohmic values.



*Dubilier Colour Coded  
Metallized Resistance*

| 1st Figure, "Body" | 2nd Figure, "End" | Ciphers. "Dot" |
|--------------------|-------------------|----------------|
| 0 = Black          | 0 = Black         | None = Black   |
| 1 = Brown          | 1 = Brown         | 0 = Brown      |
| 2 = Red            | 2 = Red           | 00 = Red       |
| 3 = Orange         | 3 = Orange        | 000 = Orange   |
| 4 = Yellow         | 4 = Yellow        | 0000 = Yellow  |
| 5 = Green          | 5 = Green         | 00000 = Green  |
| 6 = Blue           | 6 = Blue          | 000000 = Blue  |
| 7 = Violet         | 7 = Violet        |                |
| 8 = Grey           | 8 = Grey          |                |
| 9 = White          | 9 = White         |                |

Example :—A Resistance having a green body, black end ring and orange dot has a value of 50,000 ohms.

A Resistance having a red body, green end ring and green dot has a value of 2.5 megohms.

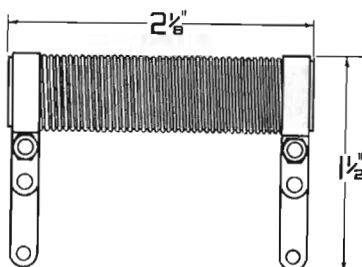
A Resistance with a brown body, a black end ring and an orange dot has a value of 10,000 ohms.

Colour Coded Resistances are now available in kits containing twenty Resistances of the most popular values of the one watt type, the price of which is 20/- per kit, full details being given with each kit as to the method of utilising the Resistance to obtain alternative values and wattage ratings.



## SPIROHM TEN-WATT WIREWOUND RESISTANCES

These Resistances are constructed with high resistance wire spiralled on to asbestos insulation and supported by a grooved porcelain former. They are particularly suited for the higher loadings required for certain Resistances used in high-power amplifiers, electric gramophones and radio gramophones, etc., the standard size being capable of a continuous dissipation of 10 watts. A larger size capable of dissipating 20 watts can be supplied to order.



### SPIROHM

The resistance range for Dubilier Spirohms lies between 100 ohms and 50,000 ohms, the maximum current-carrying capacity depending upon the resistance value, so that the maximum energy dissipation rating is not exceeded. These Resistances can be adjusted accurately to the specified value, and intermediate tappings can be provided by means of extra clips.

| Resistance ohms | Milliamps | Price |
|-----------------|-----------|-------|
| 200             | 200       | 3/-   |
| 500             | 140       | 3/-   |
| 1000            | 100       | 3/-   |
| 2500            | 60        | 3/-   |
| 5000            | 45        | 3/-   |
| 7500            | 35        | 3/6   |
| 10000           | 30        | 3/6   |
| 20000           | 20        | 4/-   |
| 30000           | 15        | 4/-   |
| 50000           | 10        | 5/-   |

*Special quotations to Radio Set Manufacturers and industrial users.*



## CHOOSING THE CORRECT WATTAGE RATING AND RESISTANCE VALUE

As an aid to set designers and users of Dubilier Resistances, we illustrate overleaf a Resistance Calculator by means of which it is possible to solve quickly and without recourse to mathematics a number of problems that occur every day in the use of resistances.

For example, suppose it is necessary to arrive at the correct value of voltage dropping resistance required to drop 100 volts with a current of five milliamperes flowing in a circuit.

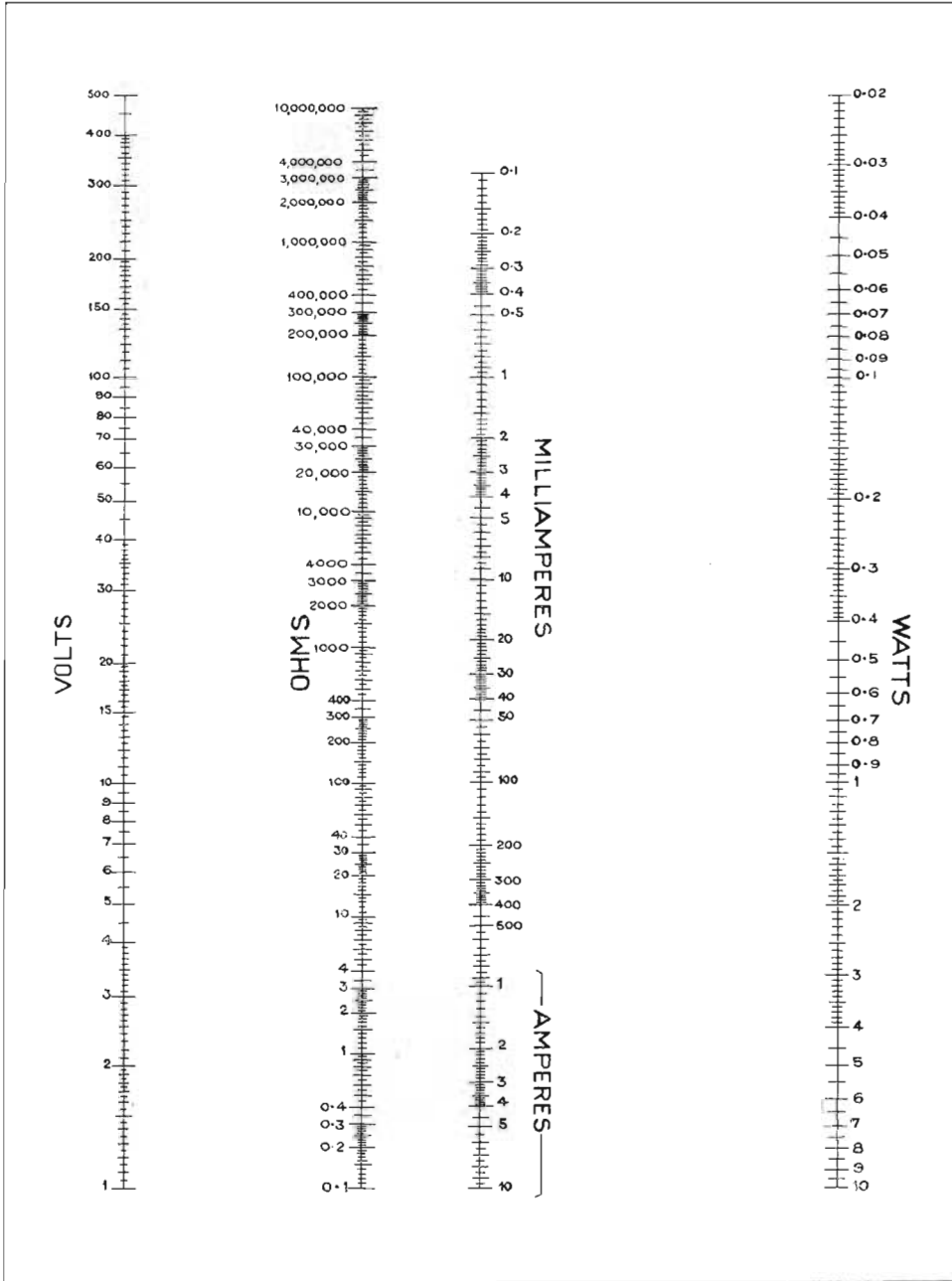
By means of a straight edge or ruler join the marking 100 on the voltage scale to the figure 5 on the milliamp scale, and where the straight edge intersects the ohms scale the correct value of resistance is noted, in this instance 20,000 ohms. The wattage rating (0.5) can be seen at a glance where the straight edge intersects the scale marked watts.

In cases where the intersection falls between the 0.5 and one watt marking a one-watt resistance should be used, and similarly for the other ratings.

If you desire to know the maximum current a Dubilier Resistance of a certain wattage will handle safely, this can be ascertained immediately. Supposing you wish to know the maximum current that can be carried by a resistance, say, of 40,000 ohms rated at one watt. By joining the point 40,000 on the ohms scale to the figure one on the watts scale by means of a straight line, the current can be read off where the line passes through the milliamp scale (*i.e.*, 5 milliamps). The maximum voltage is shown where the straight line joins the voltage scale (200 volts).



# DUBILIER RESISTANCE CALCULATOR





## RESISTANCE CAPACITY COUPLING UNITS

Dubilier R.C. Coupling Units are designed to give uniform amplification over the entire range of audible sounds. They are supplied complete with two Metallized Resistances which have values particularly suited for use with the special valves sold for R.C. coupled amplifiers. (It is



essential that the valve preceding the Unit should be one having a high amplification factor.) The Metallized Resistances are detachable, so that the user may substitute other values should he so desire.

### DIMENSIONS

|                                      | Model No. 1                            | Model No. 2<br>(with valve holder)     |
|--------------------------------------|--|--|
| Plan, overall ... ..                 | $2\frac{5}{8}'' \times 2\frac{3}{4}''$ | $2\frac{5}{8}'' \times 3\frac{1}{2}''$ |
| Overall height ... ..                | $1\frac{1}{8}''$                       | $1\frac{1}{8}''$                       |
| Distance between fixing hole centres | 2"                                     | $2\frac{3}{8}''$ (diagonally)          |

Price, complete with two Resistances, 5s.

*Special quotations to Radio Set Manufacturers and industrial users.*



## DUCON LIGHT SOCKET AERIAL

The Ducon is a simple piece of apparatus which enables those having electric light to receive Wireless Broadcasting by the utilisation of the lighting circuit as an aerial, it is perfectly safe to use, each one being tested to 2,500 volts A.C. and no current is consumed, nor does the Ducon affect the lighting socket in any way.

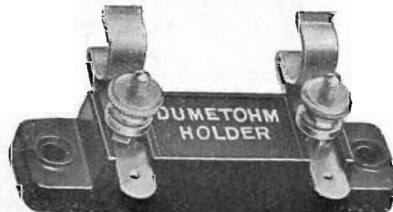


Price 2/6 each

With present-day Receivers the Ducon affords the handiest means of reception in view of the fact that it is only necessary to plug same in the ordinary lampholder and connect to the Receiver when very satisfactory results can be obtained, and it also offers the distinct advantage of being available for use in any room where electric light is available, thereby acting as a medium for making the radio set readily transportable.

Already there are more than 50,000 of these Ducons in use, and we recommend the use of the Ducon to fulfil the additional requirements usually called for in homes where radio is installed and electric light is available.

## RESISTANCE HOLDERS

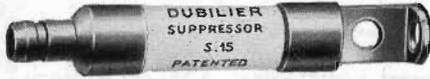


Dubilier Resistance Holder, suitable to accommodate Metallized Resistances, one watt type, or Grid Leaks. Price 1s. each.

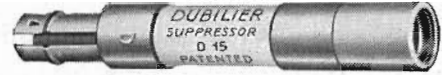
*Special quotations to Radio Set Manufacturers and industrial users.*



## MOTOR RADIO SUPPRESSORS



Plug type, 2/6 each



Distributor type, 3/- each

*Special quotations to Radio Set Manufacturers and industrial users.*

Complete satisfaction from motor radio can be obtained only by the elimination of all sources of noise originating in the motor vehicle. Some sources of noise are best eliminated by the use of suitable suppressors and filters, in other cases it is necessary to make adjustments to the parts causing the noise. The following notes will be of assistance to the constructor who is interested in the installation of radio in motor cars.

*Motor Dynamo Noise.* The battery charging dynamo is a common source of interference, due to poor commutation and sparking at the brushes. The most effective way to suppress this form of interference is to use a Dubilier Type B Auto-Suppressor Condenser connected across the two terminals of the dynamo. For best results this Condenser should be located as close to the dynamo as convenient; at the dynamo terminals if possible. This Condenser is shown in the diagram on sheet A2 at C1. Sandpapering the commutator to clean it and to reduce high spots also helps.

*Coil Interrupter Noise.* The spark occurring at the break of the contact breaker also causes noise. This is best eliminated by filtering with a Type B Auto-Suppressor Condenser C2, connected as shown in the diagram from one terminal of the coil primary to ground.

*Spark Plug Ignition Noise.* By far the greatest amount of noise is caused by the ignition of the spark plugs. When a spark plug ignites, the spark so formed generates radio waves. These waves are transmitted by the spark-plug cables acting as antennæ. The waves so radiated are picked up



## MOTOR RADIO SUPPRESSORS—contd.

by the radio set and heard as noise. It has been found that the most economical and efficient way to eliminate these noises is by the use of Dubilier Motor Radio Suppressors, properly designed resistances placed in series with each spark plug and the distributor. This suppressor acts in such a manner that it chokes out the radio oscillations generated by the spark. The circuit diagram shows the proper position for these suppressors. One spark plug suppressor is used in series with each spark plug and is mounted in the manner shown in the diagram. In some cars there may not be sufficient space to mount the suppressor vertically as shown. In such cases the suppressor can be mounted horizontally by using the mounting hole located in the long portion of the mounting lug. One distributor suppressor is also used in series with the common lead to the distributor, as shown in the diagram. The flexible spring terminal on the distributor suppressor is pushed into the distributor socket until it snaps into position. The common distributor cable is then plugged into the socket terminal of the suppressor.

*Advantage of Dubilier Motor Radio Suppressors.* The use of any kind of resistance in a motor vehicle for suppressing ignition noise will not prove satisfactory unless the resistance is able to withstand the specially severe requirements which they are subjected to. For example :

1. They must withstand severe mechanical shock and vibration.
  2. They must be unaffected by temperature and moisture, since they are located near the hot engine and are subjected to all sorts of weather conditions.
  3. They must be able to suppress ultra short waves generated by the spark, otherwise noise will not be eliminated, etc.
- 
-





## MOTOR RADIO SUPPRESSORS—contd.

Dubilier Motor Radio Suppressors have been made with these requirements in mind, and their advantages may be stated as follows :—

1. Will fit most makes of cars.
2. Moisture-proof. Suppressors are impregnated in a special compound to seal against moisture.
3. Shock-proof. Terminals are designed to withstand severe vibration.
4. Fire-proof and heat-resistant. The resistance is embedded in a high-grade ceramic which is unaffected by heat and is non-combustible.
5. Low capacity. Dubilier Radio Suppressors have almost negligible capacity—less than  $\frac{1}{2} \mu\mu\text{F}$ —enabling the suppressor to choke out ultra short waves and eliminate all spark-plug noise.
6. Positive contact is ensured by the moulded contact used between the resistance element and terminals.
7. Long life. Resistance element made of special filament which has already been proved by long life tests under most stringent conditions.

Packed in cartons suitable for use on four-cylinder cars—price 10s. 6d. per set of four plug resistances and one distributor resistance.

Ditto, for six-cylinder cars, including six plug resistances and one distributor resistance—price 15s. per set.

Price of Single Suppressor :

Plug Type ... 2s. 6d.                      Distributor Type ... 3s. 0d.

*Special quotations to Radio Set Manufacturers and industrial users.*



MOTOR RADIO SUPPRESSORS—contd.

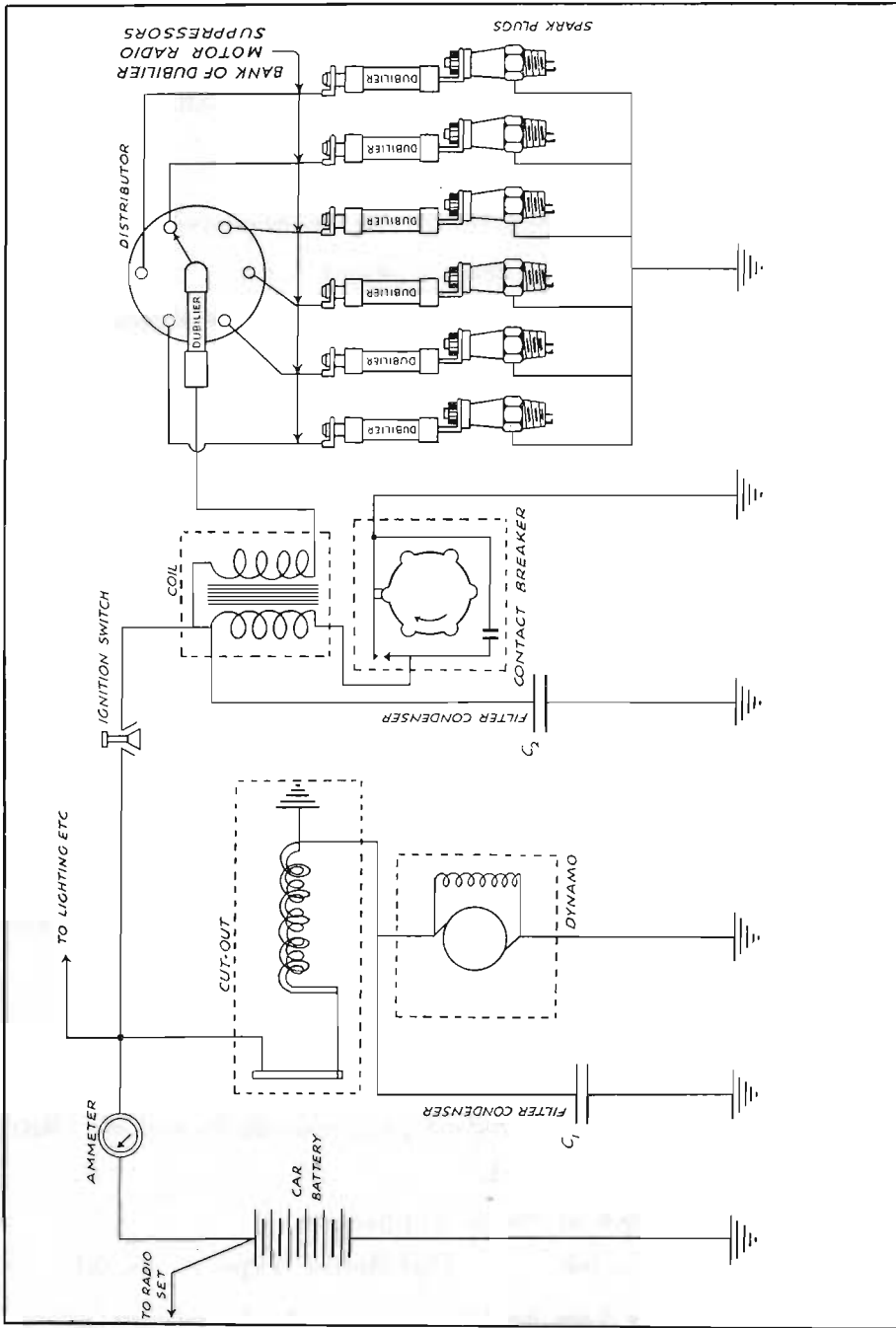


DIAGRAM OF CAR IGNITION SYSTEM



## ANTI-INTERFERENCE CONDENSERS FOR MOTOR CARS AND MOTOR BOATS

The installation of radio receiving apparatus on a motor car or motor boat usually necessitates certain precautions being taken to obviate or minimise the interference caused by electrical disturbances from the ignition and lighting system.

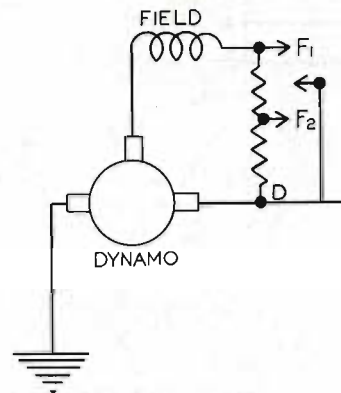
The interference is generally in the form of crackling noises which are amplified by the receiver, the noise being similar to machine-gun fire. Whilst the use of Dubilier Spark Plug and Distributor Suppressors as described on Sheets 1 and 2 cut out the interference from the high tension portion of the ignition system, there is the possibility of interference due to radiation from the low tension side.

In order to overcome this form of interference Dubilier Suppressor Condensers have been designed and are available in two sizes, Type A  $0.5 \mu\text{F}$ , and Type B  $1 \mu\text{F}$ , which should be fitted in the positions marked C1 and C2 on diagram shown on Sheet 2, Section A. Experience has so far shown that Type B Suppressor Condenser usually proves the most suitable to obtain satisfactory results.



*Suppressor Condenser*

Type A - 2/6 each  
Type B - 3/- each



*Diagram of Dynamo Connections*

*Special quotations to Radio Set Manufacturers and industrial users.*

An additional source of interference may be the Dynamo which is identified as a whine, the pitch of which rises and falls with the engine speed. The fitting of suitable condensers between earth and points D, F1, and F2 on the dynamo terminal block will minimise this source of interference.

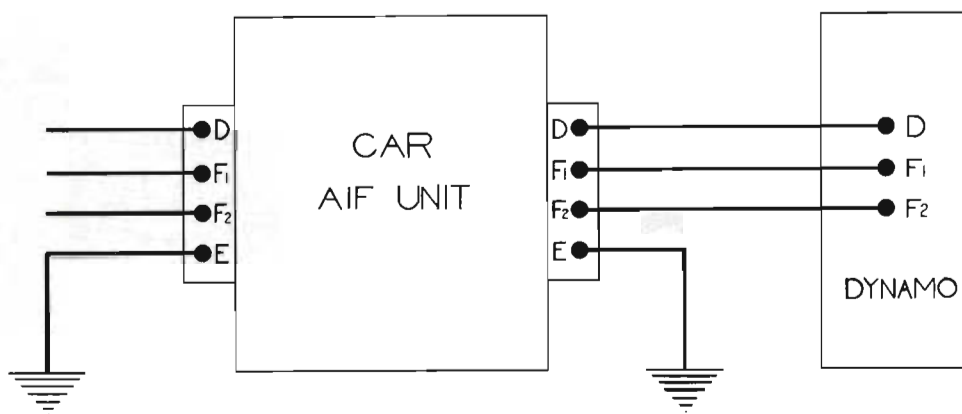
Dubilier Auto-Suppressor Condensers are of robust construction designed to function satisfactorily under the extreme conditions they are subjected to.

One side of the Condenser is connected internally to the container which forms the earth connection when Condenser is fixed to the chassis—the lead being fixed in each instance to the point indicated above according to requirements.



## ANTI-INTERFERENCE UNITS FOR CARS

When Suppressor Condensers have been fitted to the dynamo and the interference persists, this indicates that the inherent low impedance of the machine itself renders the Condenser ineffective, and a choke-condenser type of unit such as the Dubilier Car A.I.F. Unit is called for.



Type 56034. A.I.F. Car Unit £3 0 0

*Special quotations to Radio Set Manufacturers and industrial users.*

The Dubilier Car A.I.F. Unit should be interposed between the Dynamo terminal block and the switchboard, leads DD should be joined in the main (charging) current lead, and F1, F1 and F2, F2 should be connected in the field current leads. EE are earth terminals, one or both of which should be connected to the chassis as dictated by results. The leads between the A.I.F. Unit and the dynamo should be as short as possible.

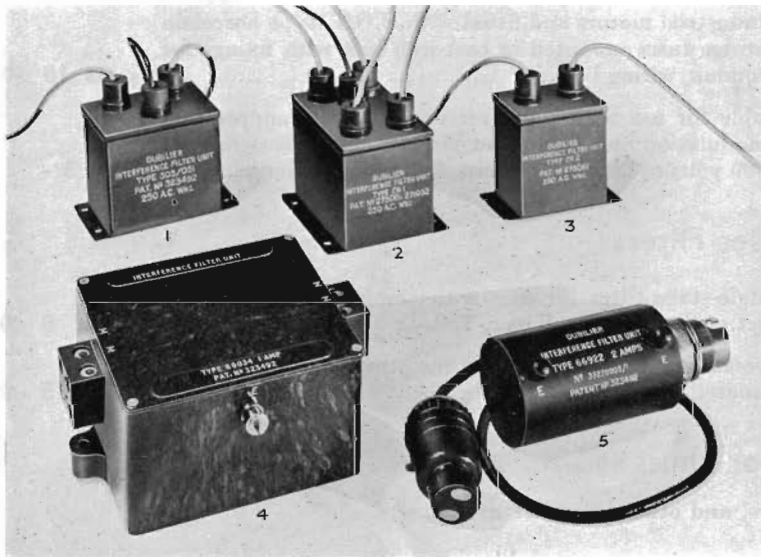
When ordering, please mention make, year, and type of dynamo, to enable us to supply the most suitable unit.



## DUBILIER INTERFERENCE FILTER UNITS

Ordinary household apparatus, such as refrigerators, fans, bells, and sewing machines, often cause crackles and other noises in radio receiving sets.

Interference may be carried both along the main leads and through space. Generally to stop interference, it is necessary to apply the cure to the offending source. This may be done by connecting a Dubilier Filter Unit of a type appropriate to the nature of the interfering apparatus as close to that apparatus as possible. The Dubilier Interference Filters comprise various types adapted to deal with different interfering sources, and the most useful of these are illustrated below.



*A Range of Dubilier  
Interference Filter  
Units*

1. Type 305/051
2. Type CR1
3. Type CR2
4. Type 69034
6. Type 66922

In many cases with mains operated radio sets, noise is introduced into the set via the mains. In such cases it will be worth while trying a choke condenser filter or a condenser filter unit, described herein, in the mains supply lead to the set. This often provides the desired cure for local sources of interference, but a suitable unit should be fitted at the source wherever possible, in cases where the foregoing procedure is not satisfactory.



## DUBILIER INTERFERENCE FILTER UNITS

FOR USE WITH MAINS APPARATUS RATED AT  
250 VOLTS A.C. OR UNDER

### Single Stage Condenser Filters

|   | EACH    |
|---|---------|
| Type 301/851. For use with small motors such as sewing machines ...   | 5/-     |
| Type 205/001. For use with the majority of household appliances ...   | 6/6     |
| Type 305/051. For use with the majority of household appliances ...   | 7/6     |
| Type 220/001. Suitable for machines up to about 1 kw. capacity ...  | 9/6     |
| Type 320/051. Suitable for machines up to about 1 kw. capacity ...  | 10/6    |
| Type AIM3. For industrial motors and fitted with B.O.T. type porcelain bridge fuses mounted in cast-iron box with fixings for conduit wiring ... ..                               | £2 10 0 |
| Type BE31L. Suitable for use with radio receiving sets for suppressing modulation hum and other mains noises. Designed for 500 volts or 300 + 300 volts A.C. transformer windings | 3/-     |

### Choke Condenser Filters

|  |         |
|--|---------|
| Type 66922. A single-stage filter for use in the mains lead of a radio set or domestic appliance, 1, 2, or 3 amp. rating ... | £2 0 0  |
| Type 69034. A two-stage filter for use where the previous type is inadequate. 1, 2, or 3 amp. rating ... ..                  | £2 15 0 |

### Spark Suppressor Units

For Buzzers, Flashers, and other intermittent contacts.

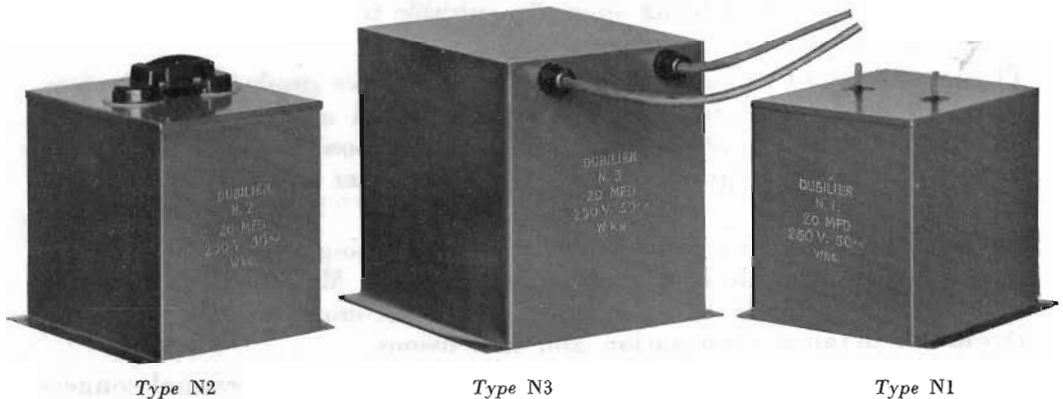
|   |      |
|---|------|
| Type CR22. For connection across sparking contacts ... ..   | 5/-  |
| Type CR2. For connection across sparking contacts ... ..  | 5/6  |
| Type CR3. For connection across sparking contacts ... ..  | 6/-  |
| Type CR1. Incorporates a spark suppressor unit (leads C, C) and condenser filter (leads L, E, L). Suitable for motors with associated thermostat switch, also for flashers where an additional mains filter may be found desirable ... .. | 10/- |

*Special quotations to Radio Set Manufacturers and industrial users.*



## POWER FACTOR CORRECTION OF NEON SIGNS

BY MEANS OF DUBILIER STATIC CONDENSERS



Generally speaking, the Neon Sign in its present form operating from an alternating current supply has a poor power factor which can be effectively dealt with only by the utilisation of suitable Condensers.

Electrical supply undertakings generally stipulate that the power factor of such Signs must be corrected to not less than  $\cdot 8$  lagging, although in certain instances a power factor of  $\cdot 75$  lagging is permitted.

By far the simplest and most reliable manner in which to deal with this matter of power factor correction is by means of the Dubilier Condensers which have been designed specifically for this use with Neon Signs. These Condensers have been designed in a range of sizes to suit the operating conditions of Neon Signs of various sizes.

In the case of large Signs, where the total capacity required is more than the standard capacity of any individual Condenser Unit, two or more standard units may be connected in parallel. The Condenser Units with ordinary terminal connections can be used in protected positions or be assembled in groups in a weatherproof box or other enclosure. Alternatively, the condenser units themselves can be furnished with weatherproof terminal connections for outdoor use.

Dubilier Static Condensers for the power factor correction of Neon Signs are of the solid filled and impregnated paper dielectric type fitted into suitably finished sheet-metal containers, into which the condenser



## POWER FACTOR CORRECTION OF NEON SIGNS—contd.

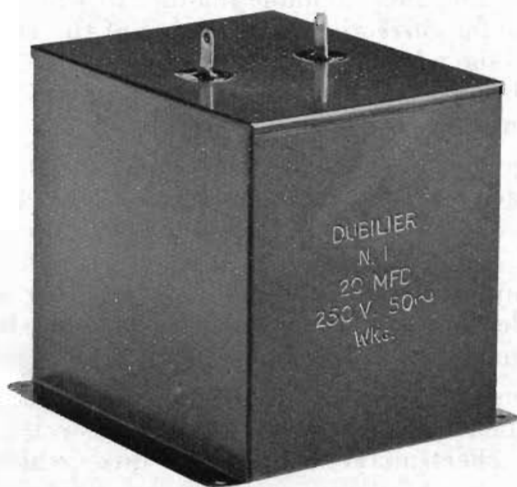
elements are hermetically sealed by high melting point compound. Two substantial soldering lugs are provided for connection purposes, or alternatively screw type terminals are fitted. These can, if desired, be of the protected type complete with cover to accommodate conduit cable connections, while a further type is available with flexible insulated leads fitted, the latter being specially suitable for outdoor use or under damp conditions.

These Condenser Units are liberally designed to have ample factor of safety to give long service and reliable operation when used in this manner; and the construction of the cases and terminal connections is such that ample protection is provided for the Condenser against damage by moisture.

On the standard units provision is made for fixing brackets or lugs as shown by the details in the appended tables. Modifications of these details can be made to meet individual customer's requirements on receipt of detailed information and dimensions.

The standard units are available with three alternative terminal connection arrangements, which also introduce changes in the case dimensions as detailed in the following tables. These three types are as follows:—

- Type N1. Indoor type with terminal lugs for soldered connections.
- Type N2. Indoor type with protected screw terminals.
- Type N3. Weatherproof type with tough rubber insulated flexible connections.



Type N1





## POWER FACTOR CORRECTION OF NEON SIGNS—contd.

## TYPE N1. INDOOR TYPE WITH TERMINAL LUGS FOR SOLDERED CONNECTIONS

Standard Capacities available for use up to 250 volts 50 cycles.

All dimensions are given in inches

| Capacity     | Length         | Width          | Height         | Height over solder tags | Width over fixing lugs | No. and size of fixing holes | Fixing hole centres                |
|--------------|----------------|----------------|----------------|-------------------------|------------------------|------------------------------|------------------------------------|
| 1.0 $\mu$ F  | $3\frac{3}{4}$ | $2\frac{1}{8}$ | $4\frac{3}{4}$ | $5\frac{1}{4}$          | $2\frac{7}{8}$         | $2 \times \frac{5}{32}$      | $2\frac{1}{2}$                     |
| 2.0 $\mu$ F  | $1\frac{3}{8}$ | $2\frac{1}{8}$ | $4\frac{3}{4}$ | $5\frac{1}{4}$          | $2\frac{7}{8}$         | $2 \times \frac{5}{32}$      | $2\frac{1}{2}$                     |
| 3.0 $\mu$ F  | $1\frac{7}{8}$ | $2\frac{1}{8}$ | $4\frac{3}{4}$ | $5\frac{1}{4}$          | $2\frac{7}{8}$         | $4 \times \frac{5}{32}$      | $2\frac{1}{2} \times 1\frac{3}{8}$ |
| 4.0 $\mu$ F  | $2\frac{1}{4}$ | $2\frac{1}{8}$ | $4\frac{3}{4}$ | $5\frac{1}{4}$          | $2\frac{7}{8}$         | $4 \times \frac{5}{32}$      | $2\frac{1}{2} \times 1\frac{3}{4}$ |
| 5.0 $\mu$ F  | $2\frac{5}{8}$ | $2\frac{1}{8}$ | $4\frac{3}{4}$ | $5\frac{1}{4}$          | $2\frac{7}{8}$         | $4 \times \frac{5}{32}$      | $2\frac{1}{2} \times 2\frac{3}{8}$ |
| 6.0 $\mu$ F  | $3\frac{1}{8}$ | $2\frac{1}{8}$ | $4\frac{3}{4}$ | $5\frac{1}{4}$          | $2\frac{7}{8}$         | $4 \times \frac{5}{32}$      | $2\frac{1}{2} \times 2\frac{5}{8}$ |
| 8.0 $\mu$ F  | $4\frac{1}{4}$ | $2\frac{1}{8}$ | $4\frac{3}{4}$ | $5\frac{1}{4}$          | $2\frac{7}{8}$         | $4 \times \frac{5}{32}$      | $2\frac{1}{2} \times 3\frac{3}{4}$ |
| 10.0 $\mu$ F | 5              | $2\frac{1}{8}$ | $4\frac{3}{4}$ | $5\frac{1}{4}$          | $2\frac{7}{8}$         | $4 \times \frac{5}{32}$      | $2\frac{1}{2} \times 4\frac{1}{2}$ |
| 12.0 $\mu$ F | $3\frac{1}{2}$ | $4\frac{1}{8}$ | $4\frac{3}{4}$ | $5\frac{1}{4}$          | $5\frac{1}{8}$         | $4 \times \frac{5}{32}$      | $4\frac{5}{8} \times 3$            |
| 14.0 $\mu$ F | 4              | $4\frac{1}{8}$ | $4\frac{3}{4}$ | $5\frac{1}{4}$          | $5\frac{1}{8}$         | $4 \times \frac{5}{32}$      | $4\frac{5}{8} \times 3\frac{1}{2}$ |
| 16.0 $\mu$ F | $4\frac{1}{4}$ | $4\frac{1}{8}$ | $4\frac{3}{4}$ | $5\frac{1}{4}$          | $5\frac{1}{8}$         | $4 \times \frac{5}{32}$      | $4\frac{5}{8} \times 3\frac{3}{4}$ |
| 18.0 $\mu$ F | $4\frac{3}{4}$ | $4\frac{1}{8}$ | $4\frac{3}{4}$ | $5\frac{1}{4}$          | $5\frac{1}{8}$         | $4 \times \frac{5}{32}$      | $4\frac{5}{8} \times 4\frac{1}{4}$ |
| 20.0 $\mu$ F | $5\frac{1}{4}$ | $4\frac{1}{8}$ | $4\frac{3}{4}$ | $5\frac{1}{4}$          | $5\frac{1}{8}$         | $4 \times \frac{5}{32}$      | $4\frac{5}{8} \times 4\frac{3}{4}$ |

Prices on Application

TYPE N2  
INDOOR TYPE WITH PROTECTED SCREW TERMINALS

Standard Capacities available for use up to 250 volts 50 cycles

All dimensions are given in inches

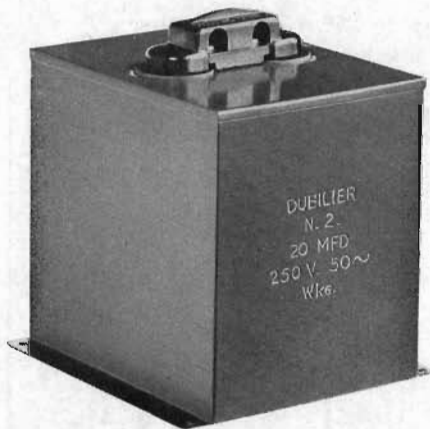
| Capacity     | Length         | Width          | Height | Height over terminals | Width over fixing lugs | No. and size of fixing holes | Fixing hole centres                |
|--------------|----------------|----------------|--------|-----------------------|------------------------|------------------------------|------------------------------------|
| 1.0 $\mu$ F  | 2              | $4\frac{1}{8}$ | 5      | 6                     | $5\frac{1}{8}$         | $4 \times \frac{5}{32}$      | $4\frac{5}{8} \times 1\frac{1}{2}$ |
| 2.0 $\mu$ F  | 2              | $4\frac{1}{8}$ | 5      | 6                     | $5\frac{1}{8}$         | $4 \times \frac{5}{32}$      | $4\frac{5}{8} \times 1\frac{1}{2}$ |
| 3.0 $\mu$ F  | 2              | $4\frac{1}{8}$ | 5      | 6                     | $5\frac{1}{8}$         | $4 \times \frac{5}{32}$      | $4\frac{5}{8} \times 1\frac{1}{2}$ |
| 4.0 $\mu$ F  | 2              | $4\frac{1}{8}$ | 5      | 6                     | $5\frac{1}{8}$         | $4 \times \frac{5}{32}$      | $4\frac{5}{8} \times 1\frac{1}{2}$ |
| 5.0 $\mu$ F  | 2              | $4\frac{1}{8}$ | 5      | 6                     | $5\frac{1}{8}$         | $4 \times \frac{5}{32}$      | $4\frac{5}{8} \times 1\frac{1}{2}$ |
| 6.0 $\mu$ F  | $2\frac{1}{2}$ | $4\frac{1}{8}$ | 5      | 6                     | $5\frac{1}{8}$         | $4 \times \frac{5}{32}$      | $4\frac{5}{8} \times 2$            |
| 8.0 $\mu$ F  | $2\frac{1}{2}$ | $4\frac{1}{8}$ | 5      | 6                     | $5\frac{1}{8}$         | $4 \times \frac{5}{32}$      | $4\frac{5}{8} \times 2$            |
| 10.0 $\mu$ F | 3              | $4\frac{1}{8}$ | 5      | 6                     | $5\frac{1}{8}$         | $4 \times \frac{5}{32}$      | $4\frac{5}{8} \times 2\frac{1}{2}$ |
| 12.0 $\mu$ F | $3\frac{1}{2}$ | $4\frac{1}{8}$ | 5      | 6                     | $5\frac{1}{8}$         | $4 \times \frac{5}{32}$      | $4\frac{5}{8} \times 3$            |
| 14.0 $\mu$ F | 4              | $4\frac{1}{8}$ | 5      | 6                     | $5\frac{1}{8}$         | $4 \times \frac{5}{32}$      | $4\frac{5}{8} \times 3\frac{1}{2}$ |
| 16.0 $\mu$ F | $4\frac{1}{4}$ | $4\frac{1}{8}$ | 5      | 6                     | $5\frac{1}{8}$         | $4 \times \frac{5}{32}$      | $4\frac{5}{8} \times 3\frac{3}{4}$ |
| 18.0 $\mu$ F | $4\frac{3}{4}$ | $4\frac{1}{8}$ | 5      | 6                     | $5\frac{1}{8}$         | $4 \times \frac{5}{32}$      | $4\frac{5}{8} \times 4\frac{1}{4}$ |
| 20.0 $\mu$ F | $5\frac{1}{4}$ | $4\frac{1}{8}$ | 5      | 6                     | $5\frac{1}{8}$         | $4 \times \frac{5}{32}$      | $4\frac{5}{8} \times 4\frac{3}{4}$ |

Prices on Application

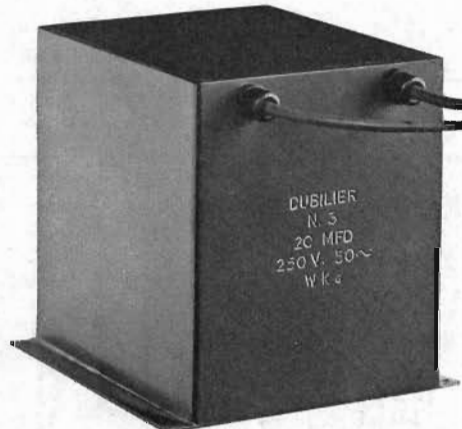
Special quotations to Radio Set Manufacturers and industrial users.



## POWER FACTOR CORRECTION OF NEON SIGNS—contd.



Type N2



Type N3

## TYPE N3

## WEATHERPROOF TYPE WITH TOUGH RUBBER INSULATED FLEXIBLE CONNECTIONS

Standard Capacities available for use up to 250 volts 50 cycles

All dimensions are given in inches

| Capacity     | Length          | Width           | Height | Width over fixing lugs | No. and size of fixing holes | Fixing hole centres                      |
|--------------|-----------------|-----------------|--------|------------------------|------------------------------|--|
| 1.0 $\mu$ F  | 1 $\frac{3}{8}$ | 3 $\frac{1}{8}$ | 6      | 4 $\frac{1}{8}$        | 4 $\times$ $\frac{5}{32}$    | 3 $\frac{5}{8}$ $\times$ 1 $\frac{1}{4}$ |
| 2.0 $\mu$ F  | 2 $\frac{3}{8}$ | 3 $\frac{1}{8}$ | 6      | 4 $\frac{1}{8}$        | 4 $\times$ $\frac{5}{32}$    | 3 $\frac{5}{8}$ $\times$ 1 $\frac{7}{8}$ |
| 3.0 $\mu$ F  | 2 $\frac{7}{8}$ | 3 $\frac{1}{8}$ | 6      | 4 $\frac{1}{8}$        | 4 $\times$ $\frac{5}{32}$    | 3 $\frac{5}{8}$ $\times$ 2 $\frac{3}{8}$ |
| 4.0 $\mu$ F  | 3 $\frac{1}{4}$ | 3 $\frac{1}{8}$ | 6      | 4 $\frac{1}{8}$        | 4 $\times$ $\frac{5}{32}$    | 3 $\frac{5}{8}$ $\times$ 2 $\frac{3}{4}$ |
| 5.0 $\mu$ F  | 3 $\frac{5}{8}$ | 3 $\frac{1}{8}$ | 6      | 4 $\frac{1}{8}$        | 4 $\times$ $\frac{5}{32}$    | 3 $\frac{5}{8}$ $\times$ 3 $\frac{1}{8}$ |
| 6.0 $\mu$ F  | 4 $\frac{1}{8}$ | 3 $\frac{1}{8}$ | 6      | 4 $\frac{1}{8}$        | 4 $\times$ $\frac{5}{32}$    | 3 $\frac{5}{8}$ $\times$ 3 $\frac{5}{8}$ |
| 8.0 $\mu$ F  | 5 $\frac{1}{4}$ | 3 $\frac{1}{8}$ | 6      | 4 $\frac{1}{8}$        | 4 $\times$ $\frac{5}{32}$    | 3 $\frac{5}{8}$ $\times$ 4 $\frac{3}{4}$ |
| 10.0 $\mu$ F | 6               | 3 $\frac{1}{8}$ | 6      | 4 $\frac{1}{8}$        | 4 $\times$ $\frac{5}{32}$    | 3 $\frac{5}{8}$ $\times$ 5 $\frac{1}{2}$ |
| 12.0 $\mu$ F | 4 $\frac{1}{2}$ | 5 $\frac{1}{8}$ | 6      | 6 $\frac{1}{8}$        | 4 $\times$ $\frac{5}{32}$    | 5 $\frac{5}{8}$ $\times$ 4               |
| 14.0 $\mu$ F | 5               | 5 $\frac{1}{8}$ | 6      | 6 $\frac{1}{8}$        | 4 $\times$ $\frac{5}{32}$    | 5 $\frac{5}{8}$ $\times$ 4 $\frac{1}{2}$ |
| 16.0 $\mu$ F | 5 $\frac{1}{4}$ | 5 $\frac{1}{8}$ | 6      | 6 $\frac{1}{8}$        | 4 $\times$ $\frac{5}{32}$    | 5 $\frac{5}{8}$ $\times$ 4 $\frac{3}{4}$ |
| 18.0 $\mu$ F | 5 $\frac{3}{4}$ | 5 $\frac{1}{8}$ | 6      | 6 $\frac{1}{8}$        | 4 $\times$ $\frac{5}{32}$    | 5 $\frac{5}{8}$ $\times$ 5 $\frac{1}{4}$ |
| 20.0 $\mu$ F | 6 $\frac{1}{4}$ | 5 $\frac{1}{8}$ | 6      | 6 $\frac{1}{8}$        | 4 $\times$ $\frac{5}{32}$    | 5 $\frac{5}{8}$ $\times$ 5 $\frac{3}{4}$ |

*Prices on Application**Special quotations to Radio Set Manufacturers and industrial users.*



## DUBILIER CONDENSERS FOR RADIO TRANSMITTING CIRCUITS

The uses of condensers in the various circuits associated with radio transmitters, oscillating valves, amplifiers, and the modulating circuits of broadcast and other radio telephone transmitting stations, are many and various. The range of types and sizes of condensers needed to meet these varied requirements fall mainly into a few classes as follows :

- (a) Mica dielectric oil-filled condensers.
- (b) Mica dielectric solid-filled condensers.
- (c) Oil dielectric condensers.
- (d) Paper dielectric condensers.

The types of containers, terminal arrangements, and general construction of these condensers differ with their size and rating and use. The following pages detail particulars of some of the more important types which are used in these various circuits, together with an indication of the main uses of the different types and the most important ratings for them. These particulars are set out in three groups, the first of these indicating the more important uses and types of condensers which are recommended as most suitable to meet these uses ; the second section giving constructional specifications of some of the leading types of Dubilier transmitting condensers ; and the third section giving tables summarising the ratings of the smaller sizes of these condensers in a form in which it is simple to choose the type of condenser to be used corresponding to various capacity, voltage, and current ratings. The latter are given for four frequencies covering the main range of transmitting wavelengths, and from the figures given in the table the corresponding quantities for other frequencies can be readily estimated.

These tables may be of assistance in those cases where it is essential to choose a condenser type from a catalogue list with a rating near to that required, without the necessity for obtaining special quotations.

It should be understood, however, that other ratings than the specific ones listed are possible for many of the condenser sizes which are shown,



DUBILIER CONDENSERS FOR RADIO TRANSMITTING CIRCUITS—contd.

and that to meet special requirements a wide variety of other condensers can be supplied beyond those which are specifically listed and illustrated.

Whenever possible a special quotation should be obtained for the condenser recommended as most economically meeting the desired operating conditions, and to assist in making such enquiries it is desirable to furnish the fullest possible data on the lines set out below.

## DATA REQUIRED *for* QUOTATION PURPOSES

The type of Condenser desired and details of its use should be stated, as fully as possible.

The classification of condenser uses set out in the following pages may be referred to as a guide.

The following information should be given :

1. Capacity in microfarads or centimetres.
2. Maximum capacity tolerance.
3. Radio frequency voltage or current.
4. Operating frequency or wavelength.
5. If a condenser is required to work with superimposed voltage, as in the case of anode feed condensers, the nature of this voltage should be specified, and also the amount and frequency of the superimposed current.
6. Whether the voltage or current applied to the condenser is subject to telephone modulation or to interrupted continuous wave (I.C.W.) or plain C.W. conditions.
7. Whether one terminal only or both terminals are required to be insulated, and for what working voltage.

It is desirable that a diagram showing the circuit and the position in which the condenser is to be used should be submitted with the enquiry.

---

---



## MAIN USES OF CONDENSERS IN TRANSMITTING CIRCUITS

### (a) Oscillation or Tank Circuit Condenser

This Condenser usually carries only radio frequency currents and in many circuits one side can be earthed. Only one insulated terminal is then required. For spark transmitting circuits and where necessary for C.W. or telephone transmitters, these condensers can be supplied with both terminals insulated.

#### RECOMMENDED TYPES OF DUBILIER CONDENSERS :

|   |             |        |
|---|-------------|--------|
| <i>Oil-filled Mica dielectric ... ..</i>            | 6126L2      | 1179L  |
|   | 4126/4129D4 | 1126L  |
|   | 192L1/3     | 194L   |
| <i>Solid-filled Mica dielectric, metal cased...</i> | 258P        | 180    |
|   | 158P        | 2581PD |
| <i>Ditto, porcelain cased ... ..</i>                | P150        | P700   |
|   | P750        | P650   |
|   | P800        |        |

### (b) Anode Stopping or Anode Feed Condenser

This Condenser has both terminals fully insulated and has to sustain an audio frequency voltage (in the case of I.C.W. or telephone transmission) or a direct current voltage (in the case of pure C.W.) plus a radio frequency current, which is generally of comparatively small magnitude.

#### RECOMMENDED TYPES OF DUBILIER CONDENSERS :

|   |          |       |
|---|----------|-------|
| <i>Solid-filled Mica dielectric in porcelain cases ... ..</i> | P3S800AF | AF750 |
|   | P2S800AF | AF700 |
|   | P800AF   | AF650 |
|   | AF800    | AF77  |
| <i>Solid Mica dielectric in bakelite cases ...</i>            | B1503    | B1203 |

### (c) Grid Condenser

This has both terminals insulated for the full rated voltage and has to sustain a D.C. voltage with a small radio frequency current superimposed.

#### RECOMMENDED TYPES OF DUBILIER CONDENSERS :

In general, the same types of condensers as used for anode feed condensers may be employed in this group, but usually a smaller size of condenser is required.



MAIN USES OF CONDENSERS IN TRANSMITTING CIRCUITS—contd.

(d) High Tension Bypass Condenser

These work under similar conditions to the anode stopping condenser, but as in general one side of the condenser is connected to earth, only one terminal is insulated.

RECOMMENDED TYPES OF DUBILIER CONDENSERS :

|   |              |              |
|---|--------------|--------------|
| <i>Solid-filled Mica dielectric in metal cases</i>            | 258P         | 158P<br>180  |
| <i>Solid-filled Mica dielectric in porcelain cases</i> ... .. | P800<br>P750 | P700<br>P650 |

(e) Filament or Low Tension Bypass Condenser

This condenser sustains the filament supply voltage plus radio frequency current developed in the anode circuit of the valve which may be completed through this condenser.

RECOMMENDED TYPES OF DUBILIER CONDENSERS :

|   |                      |                      |
|---|----------------------|----------------------|
| <i>Solid-filled Mica dielectric in moulded bakelite cases</i> ... ..        | B770<br>B771<br>B772 | B775<br>B776<br>B777 |
| <i>Solid-filled Mica dielectric in nickel-plated brass container</i> ... .. | 577                  |                      |
| <i>Solid-filled Mica dielectric in porcelain container</i> ... ..           | AF 77                |                      |

(f) Antenna Shortening Condenser

The operating conditions for these are generally similar to those in the the tank circuit, but firstly it is necessary that both terminals of the condenser should be insulated from earth, usually for at least the full working voltage of the condenser, and secondly the condenser should be able to withstand voltage surges of considerable magnitude.

RECOMMENDED DUBILIER CONDENSERS :

*Oil dielectric types*

(g) High Tension Smoothing Condenser

These are used only in circuits working with D.C. anode potential, and form a storage condenser and bypass for the low frequency ripple supplied from the rectifier circuit.

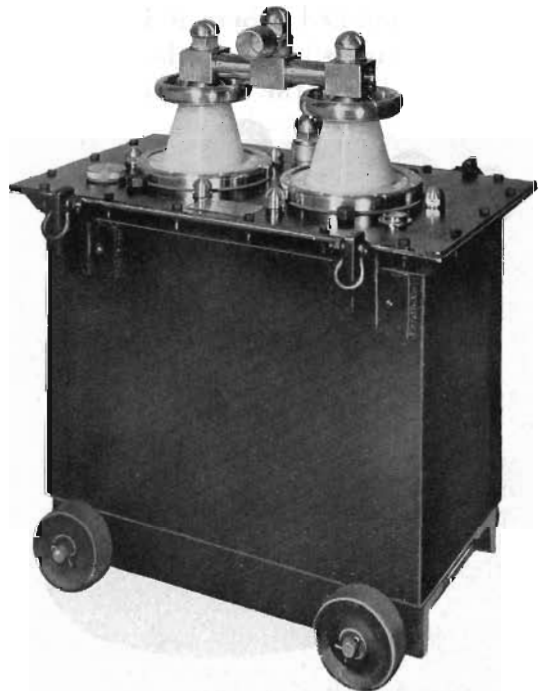
*See separate sheet detailing capacities and ratings.*



## CONSTRUCTIONAL SPECIFICATIONS OF DUBILIER TRANSMITTING CONDENSERS

### (a) Oil Immersed Mica Dielectric Condenser

In the larger sizes these condensers are of the circular "Ring Type," but for the smaller units rectangular clamping members are employed. In the ring form, the condenser is built up on a central spindle supported from a porcelain insulated terminal bushing. From this spindle radiate a number of arms which are held in place and rendered self-supporting by a gunmetal clamping ring. The arms are each built up with mica dielectric condenser sections arranged in series connection separated by mica division plates. By the connections to the spindle and the ring, groups of sections forming the arms are connected in parallel. The ring in the case of a condenser with only one insulated terminal



*Type 6126L2*



*Type 4126/4129D4*

is connected to the container. In the case of condensers with both terminals insulated two or more such rings are used connected in series and supported by the central spindles from porcelain bushings which thereby form the insulated terminals of the condensers.



## TYPES OF DUBILIER TRANSMITTING CONDENSERS—contd.

An alternative form of condenser having both terminals insulated is provided by the live case type just described, but with tank supported from earth by porcelain insulators. This form is generally lower in price and smaller than the equivalent type with both terminals insulated and with the tank dead.

The tanks used for the smaller types are of cast aluminium alloy, and the larger sizes of sheet steel. If required, non-magnetic metal tanks can be supplied, where it is necessary to reduce eddy current losses in the containers, due to their being mounted in close proximity to the inductances of the oscillation circuit.



Type 192L1/3



Type 1126L

The illustrations depict some typical forms, while the ratings detailed below indicate some of the fields of use for these types.

| Type        | Capacity      | Voltage | Current | Frequency or Wavelength |
|-------------|---------------|---------|---------|-------------------------|
| 6126L2      | .002 $\mu$ F  | 17500   | 130     | 600 kc.                 |
| 4126/4129D4 | .002 $\mu$ F  | —       | 62      | 3000 m.                 |
|             | .004 $\mu$ F  | —       | 51      | 4000 m.                 |
|             | .008 $\mu$ F  | —       | 42      | 6000 m.                 |
| 192L1/3     | .01 $\mu$ F   | —       | 100     | 100-400 m.              |
| 1179L       | .0001 $\mu$ F | 30000   | —       | 2500 m.                 |
| 1126L       | .001 $\mu$ F  | —       | 35      | 600 m.                  |
| 194L        | .01 $\mu$ F   | —       | 50      | 200 kc.                 |





TYPES OF DUBILIER TRANSMITTING CONDENSERS—contd.

(b) Solid-filled Mica Dielectric Condensers in Metal Cases

These are used generally for condensers of medium or low radio frequency rating. In the form supplied with one terminal insulated, the case, which is of cast aluminium alloy, forms the other terminal. A lid of the same material is used on which a porcelain or mica insulated terminal bushing is fitted. This terminal is mounted centrally and supports two sets of series connected condenser sections rendered self-supporting and clamped to it by means of a special spring clamp, which connects the two sets of sections in parallel and which is connected to the case to form the other terminal.



Type 158P

When both terminals are insulated the condenser sections are arranged in a single group supported from the terminals and held in position by a fully insulated spring clamp.

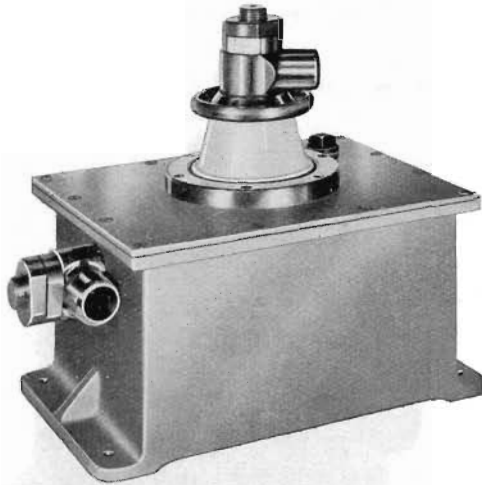
The filling used is normally high grade paraffin wax, but in cases where the condenser has to work in the tropics or in a high ambient temperature special fillings are used (such for example as sulphur).

In certain cases a mycalex lid can be supplied in lieu of the metal lid and porcelain insulated terminal.



Type 2582PD

TYPE 2582PD, W 5000000  
CAPACITY 0.00025P  
MAX WORKING VOLTAGE 6000  
CURRENT 10.3A, 10.7A, 13.2A  
FREQUENCY 350 kc, 400 kc, 500 kc



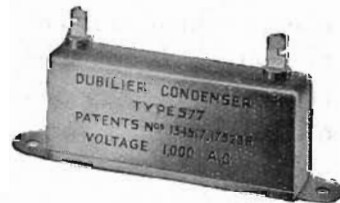
Type 258P



Type 180

The smallest metal cased mica dielectric condenser for by-pass purposes, and for use in low power circuits (e.g., amateur transmitters), is Type 577.

This Condenser is of the wax-filled mica dielectric type and is fitted into a highly-finished nickel-plated brass container. The terminals are of strong soldering lug pattern projecting from the top of the case and insulated from it by means of moulded ebonite bushings.



Type 577

If large quantities are ordered this condenser can be supplied in plain brass container and fitted with flexible lead connections if required.

|        |     |     |                                   |                  |     |     |                                    |
|--------|-----|-----|-----------------------------------|------------------|-----|-----|------------------------------------|
| Weight | ... | ... | 2½ oz.                            | Height           | ... | ... | 1 <sup>7</sup> / <sub>16</sub> in. |
| Length | ... | ... | 3 in.                             | Terminal centres | ... | ... | 1 <sup>3</sup> / <sub>4</sub> in.  |
| Width  | ... | ... | 1 <sup>3</sup> / <sub>8</sub> in. | Fixing centres   | ... | ... | 2 <sup>5</sup> / <sub>8</sub> in.  |
|        |     |     |                                   | Size of hole     | ... | ... | 1/8 in.                            |

*A few typical ratings for Solid-filled Mica Dielectric Condensers.*

| Type   | Capacity  | Voltage          | Current  | Frequency or Wavelength |
|--------|-----------|------------------|----------|-------------------------|
| 258P   | ·005 μF   | 3800             | 36 amps. | 1000 m.                 |
| 158P   | ·00025 μF | 5000 + 100% mod. | —        | 500–1500 kc.            |
| 180    | ·001 μF   | 3200             | 10 amps. | 500 kc.                 |
| 2581PD | ·0007 μF  | 6000             | —        | 380–490 kc.             |
| 577    | ·01 μF    | 1000             | 0·5 amp. | 400 m.                  |



TYPES OF DUBILIER TRANSMITTING CONDENSERS—contd.

(c) Solid Filled Mica Dielectric Condensers in Insulating Cases

These are supplied with a cylindrical porcelain case with either a metal base and top plate forming the terminals, or else with a porcelain lid with two terminals



Type P800

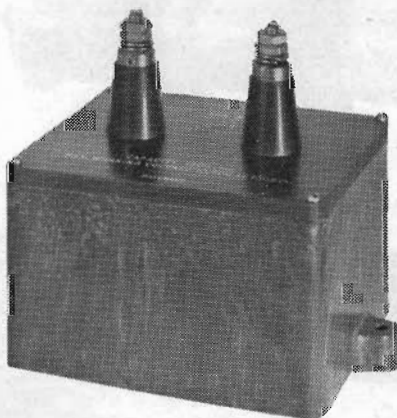
mounted on it where condensers are required with both poles insulated. The internal construction is similar to (b) above, but a clamp of ring shape is employed instead of the rectangular spring clamp used for metal cased types. For condensers which have to withstand



Type AF800

only a small radio frequency loading, condensers with moulded bakelite or wooden containers can be supplied.

The condenser sections used in the construction of these, as in all Dubilier Mica Condensers, are built up with the highest grade Indian ruby mica and metal foil, and subjected to a special impregnation process under high vacuum to remove air and moisture, thereby ensuring the lowest possible power factor and losses under working conditions.



Type B1503

Various filling compounds are employed, as dictated by the type of the condensers and their ratings and conditions of use. Special fillings for use in



Type AF77



TYPES OF DUBILIER TRANSMITTING CONDENSERS—contd.

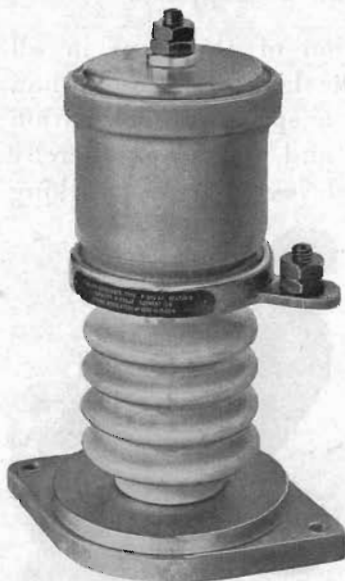
tropical climates can be supplied if required, and the porcelain cased condensers included in this group are then very particularly suited for such strenuous conditions of use.



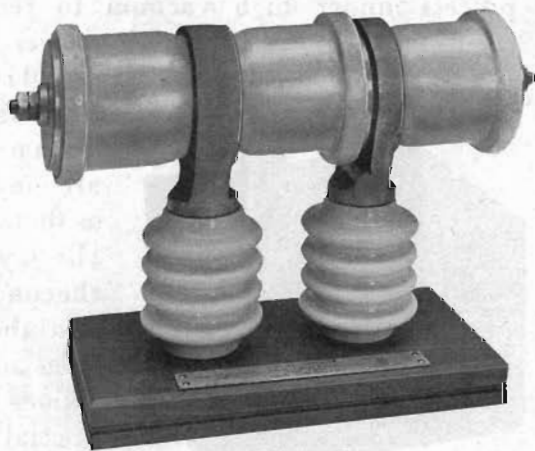
Type P2S800AF



Type P150



Type 800AF



Type P3S800AF



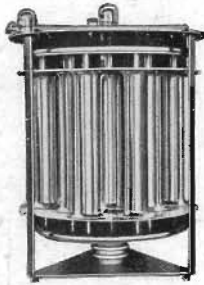
TYPES OF DUBILIER TRANSMITTING CONDENSERS—contd.

A few Typical Ratings for Solid-filled Mica Dielectric Condensers  
in Insulating Cases

| Type     | Capacity      | Voltage    | Current               | Frequency<br>or Wavelength |
|----------|---------------|------------|-----------------------|----------------------------|
| P150     | ·0005 $\mu$ F | —          | 10 amps.              | 600 m                      |
| P800     | ·0003 $\mu$ F | 3000 D.C.  | —                     | 2500 m                     |
| P750     | ·0005 $\mu$ F | —          | 3·8 amps. + 100% mod. | 300 m                      |
| P700     | ·0006 $\mu$ F | 1300 D.C.  | 3 amps.               | 600 kc                     |
| P650     | ·0003 $\mu$ F | —          | 1·6 amps. + 100% mod. | 1500 kc                    |
| P3S800AF | ·002 $\mu$ F  | 15000 D.C. | 4 amps.               | 1000 m                     |
| P2S800AF | ·001 $\mu$ F  | 10000 D.C. | 9 amps.               | 1000 kc                    |
| P800AF   | ·01 $\mu$ F   | 5000 D.C.  | 7·5 amps.             | 1500 kc                    |
| AF800    | ·003 $\mu$ F  | 5000 D.C.  | 9·5 amps.             | 300 m                      |
| AF750    | ·0015 $\mu$ F | 4000 D.C.  | 3·5 amps.             | 600 m                      |
| AF700    | ·0006 $\mu$ F | 3000 D.C.  | 3 amps.               | 200 m                      |
| AF650    | ·002 $\mu$ F  | 2000 D.C.  | 2 amps.               | 400 m                      |
| AF77     | ·003 $\mu$ F  | 2000 D.C.  | 1 amp.                | 100 m                      |
| B1503    | ·0014 $\mu$ F | 10000 D.C. | 2 amps.               | 1000 m                     |
| B1203    | ·002 $\mu$ F  | 9000 D.C.  | 3 amps.               | 500 m                      |



## DUBILIER OIL DIELECTRIC TRANSMITTING CONDENSERS



*Interior view of Oil Dielectric Condenser showing tubular electrode construction.*



*Exterior view of Oil Dielectric Condenser showing insulation from earth.*

Aerial shortening condensers being connected directly in series with the aerial circuit of transmitting stations are liable to be subjected at times to voltages in excess of their nominal rated operating voltages. These excess voltages may arise from induced voltages from lightning discharges and from the accumulation of static charges on the aerial arising from charged rain, wind, sand, etc. Particularly in tropical climates where such conditions are exaggerated should special care be taken in the liberal rating of aerial shortening condensers.

The Dubilier Oil Dielectric Condensers have been designed to overcome the difficulties arising from such excess voltages, which with ordinary types of mica dielectric condensers are liable to cause damage to or breakdown of the condenser dielectric.

With the oil dielectric condenser any such discharge passes harmlessly through the oil, and even when the latter has become carbonised by such discharges, it is the matter of but a few minutes to change it.

The condensers are of the tubular construction using aluminium electrodes, which are enclosed and supported in an aluminium container which forms one terminal of the condenser. The container is insulated from earth by means of porcelain insulators.

The illustration is a typical example of this type of condenser and has a rating of 20 amperes plus 100 per cent. modulation at 260 metres, and peak voltage of 15,500 volts. Condensers for this and other ratings can be quoted for on receipt of full particulars.

## DUBILIER MICA CONDENSERS FOR USE IN THE OSCILLATORY CIRCUIT

| Condenser Type | Container   | Filling | Weight lbs. | Length ins. | Width ins. | Height ins. | Fixing Centres ins. | Fixing Holes, in. | Max. K.V.A. | Max. RMS volts | Max. RMS amps. | Max. peak volts | Max. D.C. test volts | PRICE |
|----------------|-------------|---------|-------------|-------------|------------|-------------|---------------------|-------------------|-------------|----------------|----------------|-----------------|----------------------|-------|
| 158P           | Aluminium   | Solid   | 9           | 7½          | 4½         | 8           | 6½ × 2½             | ¼                 | 60          | 7000           | 20             | 10000           | 20000                |       |
| 258P           | "           | "       | 17          | 10          | 6¾         | 9 9/16      | 9 × 4½              | ¼                 | 120         | 7000           | 20             | 10000           | 20000                |       |
| 258IPD         | "           | "       | 17          | 10          | 6¾         | 8¼          | 9 × 4½              | ¼                 | 60          | 7000           | 20             | 10000           | 20000                |       |
| 180            | "           | "       | 4           | 4⅝          | 4          | 5¾          | 4 × 2½              | ⅜/16              | 40          | 5000           | 15             | 7000            | 12000                |       |
| 1124L          | "           | Oil     | 125         | 16          | 17         | 16¾         | 10 1/16 × 10 5/16   | 7/16              | 360         | 10000          | 50             | 15000           | 28000                |       |
| 1126L          | "           | "       | 224         | 19          | 19         | 20½         | 12 × 17¾            | 7/16              | 360         | 15000          | 70             | 26000           | 40000                |       |
| 1176L          | Sheet metal | "       | 448         | 23          | 23         | 22          | 18 × 21¾            | 7/16              | 720         | 15000          | 70             | 26000           | 40000                |       |
| 1179L          | "           | "       | 448         | 23          | 23         | 26½         | 18 × 21¾            | 7/16              | 720         | 20000          | 80             | 28000           | 50000                |       |
| P150           | Porcelain   | Solid   | —           | —           | —          | —           | —                   | —                 | 50          | 7000           | 25             | 10000           | 20000                |       |
| P800           | "           | "       | 2.75        | 5           | 4¾         | 4⅝          | 4¼                  | ¼                 | 20          | 3000           | 15             | 5000            | 10000                |       |
| P750           | "           | "       | 2.75        | 5           | 4¾         | 4⅝          | 4¼                  | ¼                 | 10          | 3000           | 10             | 4000            | 8000                 |       |
| P700           | "           | "       | 2.0         | 4¼          | 3 11/16    | 3¾          | 3½                  | ¼                 | 3.6         | 2000           | 7              | 3000            | 6000                 |       |
| P650           | "           | "       | 2.0         | 4¼          | 3 11/16    | 3¾          | 3½                  | ¼                 | 2.0         | 1750           | 7              | 2500            | 5000                 |       |



## DUBILIER MICA CONDENSERS

### INTENDED FOR USE IN ANODE AND GRID STOPPING POSITIONS

| Condenser Type | Container | Filling | Weight lbs. | Length ins.      | Width ins.      | Height ins.      | Fixing Centres ins.        | Fixing Holes in. | D.C. working volts | D.C. test volts | Max. superimposed current amperes | PRICE |
|----------------|-----------|---------|-------------|------------------|-----------------|------------------|----------------------------|------------------|--------------------|-----------------|-----------------------------------|-------|
| AF77           | Porcelain | Solid   | 0.5         | 4 $\frac{3}{4}$  | 2 $\frac{1}{8}$ | 1 $\frac{3}{4}$  | 2 $\frac{1}{4}$            | $\frac{3}{16}$   | 2000               | 3000            | 3                                 |       |
| AF650          | "         | "       | 2.0         | 4 $\frac{1}{4}$  | 3               | 3 $\frac{3}{4}$  | 3 $\frac{1}{2}$            | $\frac{1}{4}$    | 2500               | 5000            | 5                                 |       |
| AF700          | "         | "       | 2.0         | 4 $\frac{1}{4}$  | 3               | 3 $\frac{3}{4}$  | 3 $\frac{1}{2}$            | $\frac{1}{4}$    | 3000               | 6000            | 6                                 |       |
| AF750          | "         | "       | 3.0         | 5                | 3 $\frac{3}{4}$ | 4 $\frac{9}{16}$ | 4 $\frac{1}{4}$            | $\frac{1}{4}$    | 4000               | 8000            | 7                                 |       |
| AF800          | "         | "       | 3.0         | 5                | 3 $\frac{3}{4}$ | 4 $\frac{9}{16}$ | 4 $\frac{1}{4}$            | $\frac{1}{4}$    | 5000               | 10000           | 8                                 |       |
| P2S800AF       | "         | "       | 8.0         | 9 $\frac{1}{2}$  | 3 $\frac{3}{4}$ | 10               | 5 $\frac{1}{4}$            | $\frac{1}{4}$    | 10000              | 20000           | 10                                |       |
| P3S800AF       | "         | "       | 12.0        | 13 $\frac{1}{4}$ | 3 $\frac{3}{4}$ | 10 $\frac{3}{8}$ | 8 $\frac{5}{8}$            | $\frac{7}{16}$   | 15000              | 30000           | 10                                |       |
| AF150          | "         | "       | 10.0        | 5 $\frac{3}{4}$  | 7               | 7 $\frac{3}{4}$  | 6                          | $\frac{7}{16}$   | 10000              | 20000           | 20                                |       |
| AF250          | "         | "       | 20.0        | 10 $\frac{1}{4}$ | 7               | 7 $\frac{3}{4}$  | 6 $\times$ 5 $\frac{1}{4}$ | $\frac{7}{16}$   | 20000              | 40000           | 20                                |       |
| B1203          | Bakelite  | "       | 5.0         | 4                | 4 $\frac{1}{2}$ | 4 $\frac{1}{2}$  | 5 $\frac{1}{16}$           | $\frac{3}{16}$   | 10000              | 20000           | 5                                 |       |

When the above types are used with superimposed radio frequency voltage, the sum of the D.C. and peak radio frequency must not exceed the maximum D.C. working figure indicated in the table.





## MAXIMUM CURRENT RATINGS OF SOME STANDARD TYPES OF DUBILIER MICA DIELECTRIC CONDENSERS

The ratings indicated in the following tables are maximum values which must not be exceeded. For condensers to work at other frequencies than those tabulated, full details should be submitted with the enquiry to enable a special quotation to be given.

The standard capacity tolerance is plus or minus 5 per cent. Closer tolerances can be supplied at slightly increased prices. The values of voltage and current given are for plain continuous wave (C.W.) only. If the conditions are either interrupted continuous wave (I.C.W.) or C.W. subject to 100 per cent. telephone modulation, the values given for R.M.S. voltage and current must be multiplied by a factor not exceeding 0.7.

| Capacity       | Low Frequency Test Voltage | R.M.S. Unmodulated Radio Frequency Amperes |         |        |        | Type | PRICE |
|----------------|----------------------------|--|---------|--------|--------|------|-------|
|                |                            | 3000 kc                                    | 1000 kc | 300 kc | 100 kc |      |       |
| 0.0001 $\mu$ F | 15000                      | 9.5  | 6.3     | 1.9    | 0.63   | 158P |       |
|                | 15000                      | 8.5  | 5.7     | 1.9    | 0.63   | P150 |       |
|                | 8000                       | 6.0  | 2.2     | 0.66   | 0.22   | 180  |       |
|                | 8000                       | 5.0  | 2.2     | 0.66   | 0.22   | P800 |       |
|                | 7000                       | 3.6  | 1.9     | 0.57   | 0.19   | P750 |       |
|                | 5000                       | 2.5  | 1.4     | 0.41   | 0.14   | P700 |       |
|                | 4000                       | 1.6  | 1.1     | 0.34   | 0.12   | P650 |       |
|                | 2000                       | 1.15                                       | 0.7     | 0.21   | 0.07   | AF77 |       |
| 0.0002 $\mu$ F | 15000                      | 13.2                                       | 8.8     | 3.8    | 1.25   | 158P |       |
|                | 15000                      | 12.0                                       | 7.9     | 3.8    | 1.25   | P150 |       |
|                | 8000                       | 8.2  | 4.5     | 1.35   | 0.45   | 180  |       |
|                | 8000                       | 7.2  | 4.5     | 1.35   | 0.45   | P800 |       |
|                | 7000                       | 5.1  | 3.4     | 1.2    | 0.38   | P750 |       |
|                | 5000                       | 3.2  | 2.2     | 0.83   | 0.27   | P700 |       |
|                | 4000                       | 2.25                                       | 1.5     | 0.70   | 0.23   | P650 |       |
|                | 2000                       | 1.50                                       | 1.0     | 0.4    | 0.14   | AF77 |       |



| Capacity       | Low Frequency Test Voltage | R.M.S. Unmodulated Radio Frequency Amperes |         |        |        | Type | PRICE |
|----------------|----------------------------|--|---------|--------|--------|------|-------|
|                |                            | 3000 kc                                    | 1000 kc | 300 kc | 100 kc |      |       |
| 0.0003 $\mu$ F | 15000                      | 16.0                                       | 11.0    | 5.70   | 1.90   | 158P |       |
|                | 15000                      | 14.0                                       | 9.5     | 5.40   | 1.90   | P150 |       |
|                | 8000                       | 10.0                                       | 6.6     | 2.0    | 0.66   | 180  |       |
|                | 8000                       | 8.8  | 5.8     | 2.0    | 0.66   | P800 |       |
|                | 7000                       | 6.2  | 4.2     | 1.7    | 0.57   | P750 |       |
|                | 5000                       | 4.0  | 2.6     | 1.25   | 0.40   | P700 |       |
|                | 4000                       | 2.8  | 1.9     | 1.0    | 0.34   | P650 |       |
|                | 2000                       | 2.0  | 1.3     | 0.63   | 0.21   | AF77 |       |
| 0.0005 $\mu$ F | 15000                      | 20.0                                       | 14.0    | 8.5    | 3.2    | 158P |       |
|                | 15000                      | 19.0                                       | 12.5    | 7.1    | 3.2    | P150 |       |
|                | 8000                       | 13.0                                       | 8.8     | 3.3    | 1.1    | 180  |       |
|                | 8000                       | 11.0                                       | 7.5     | 3.3    | 1.1    | P800 |       |
|                | 7000                       | 8.0  | 5.3     | 2.8    | 0.94   | P750 |       |
|                | 5000                       | 5.0  | 3.5     | 2.0    | 0.7    | P700 |       |
|                | 4000                       | 3.3  | 2.2     | 1.25   | 0.57   | P650 |       |
|                | 2000                       | 2.4  | 1.6     | 0.9    | 0.3    | AF77 |       |
| 0.001 $\mu$ F  | 15000                      | 20.0                                       | 20.0    | 11.5   | 6.0    | 158P |       |
|                | 15000                      | 25.0                                       | 17.5    | 10.0   | 5.3    | P150 |       |
|                | 8000                       | 15.0                                       | 12.5    | 6.6    | 2.2    | 180  |       |
|                | 8000                       | 15.0                                       | 10.0    | 6.0    | 2.2    | P800 |       |
|                | 7000                       | 11.0                                       | 7.5     | 4.3    | 1.9    | P750 |       |
|                | 5000                       | 6.6  | 4.4     | 2.5    | 1.3    | P700 |       |
|                | 4000                       | 4.7  | 3.1     | 1.8    | 0.95   | P650 |       |
|                | 2000                       | 3.8  | 2.5     | 1.4    | 0.63   | AF77 |       |
| 0.002 $\mu$ F  | 15000                      | 20.0                                       | 20.0    | 15.0   | 8.3    | 158P |       |
|                | 15000                      | 25.0                                       | 25.0    | 14.0   | 7.5    | P150 |       |
|                | 8000                       | 15.0                                       | 15.0    | 9.5    | 5.2    | 180  |       |
|                | 8000                       | 15.0                                       | 15.0    | 8.7    | 4.5    | P800 |       |
|                | 7000                       | 15.0                                       | 10.0    | 5.7    | 3.0    | P750 |       |
|                | 5000                       | 9.5  | 6.2     | 3.6    | 1.9    | P700 |       |
|                | 4000                       | 7.5  | 5.0     | 2.8    | 1.5    | P650 |       |
|                | 2000                       | 5.0  | 3.8     | 2.1    | 1.1    | AF77 |       |



| Capacity      | Low Frequency Test Voltage | R.M.S. Unmodulated Radio Frequency Amperes |         |        |        | Type | PRICE |
|---------------|----------------------------|--|---------|--------|--------|------|-------|
|               |                            | 3000 kc                                    | 1000 kc | 300 kc | 100 kc |      |       |
| 0.003 $\mu$ F | 15000                      | 20.0                                       | 20.0    | 20.0   | 10.0   | 158  |       |
|               | 15000                      | 25.0                                       | 25.0    | 17.0   | 9.0    | P150 |       |
|               | 8000                       | 15.0                                       | 15.0    | 12.0   | 6.2    | 180  |       |
|               | 8000                       | 15.0                                       | 15.0    | 10.0   | 5.7    | P800 |       |
|               | 7000                       | 15.0                                       | 13.0    | 7.5    | 4.0    | P750 |       |
|               | 5000                       | 10.0                                       | 7.5     | 4.3    | 2.2    | P700 |       |
|               | 4000                       | 8.5  | 5.6     | 3.2    | 1.7    | P650 |       |
|               | 2000                       | 5.0  | 3.7     | 2.2    | 1.7    | AF77 |       |
| 0.005 $\mu$ F | 15000                      | 20.0                                       | 20.0    | 20.0   | 13.0   | 158  |       |
|               | 15000                      | 25.0                                       | 25.0    | 22.0   | 11.0   | P150 |       |
|               | 8000                       | 15.0                                       | 15.0    | 15.0   | 8.5    | 180  |       |
|               | 8000                       | 15.0                                       | 15.0    | 14.0   | 7.5    | P800 |       |
|               | 7000                       | 15.0                                       | 15.0    | 8.5    | 4.7    | P750 |       |
|               | 5000                       | 10.0                                       | 9.5     | 5.3    | 2.8    | P700 |       |
|               | 4000                       | 9.5  | 6.3     | 3.6    | 1.9    | P650 |       |
|               | 2000                       | 4.7  | 3.1     | 1.8    | 0.95   | AF77 |       |
| 0.01 $\mu$ F  | 15000                      | 20.0                                       | 20.0    | 20.0   | 19.0   | 158  |       |
|               | 15000                      | 25.0                                       | 25.0    | 25.0   | 17.5   | P150 |       |
|               | 8000                       | 15.0                                       | 15.0    | 15.0   | 11.4   | 180  |       |
|               | 8000                       | 15.0                                       | 15.0    | 15.0   | 9.4    | P800 |       |
|               | 7000                       | 15.0                                       | 15.0    | 14.0   | 7.5    | P750 |       |
|               | 3000                       | 10.0                                       | 10.0    | 7.2    | 3.8    | P700 |       |
|               | 2000                       | 7.5  | 7.5     | 5.0    | 2.5    | P650 |       |
|               | 1000                       | 5.0  | 5.0     | 3.6    | 1.9    | AF77 |       |
| 0.02 $\mu$ F  | 10000                      | 20.0                                       | 20.0    | 20.0   | 20.0   | 158P |       |
|               | 8000                       | 25.0                                       | 25.0    | 25.0   | 22.5   | P150 |       |
|               | 6000                       | 15.0                                       | 15.0    | 15.0   | 15.0   | 180  |       |
|               | 5000                       | 15.0                                       | 15.0    | 15.0   | 15.0   | P800 |       |
|               | 4000                       | 15.0                                       | 15.0    | 15.0   | 11.5   | P750 |       |
|               | 2000                       | 10.0                                       | 10.0    | 10.0   | 7.5    | P700 |       |
|               | 1000                       | 10.0                                       | 10.0    | 7.0    | 3.8    | P650 |       |

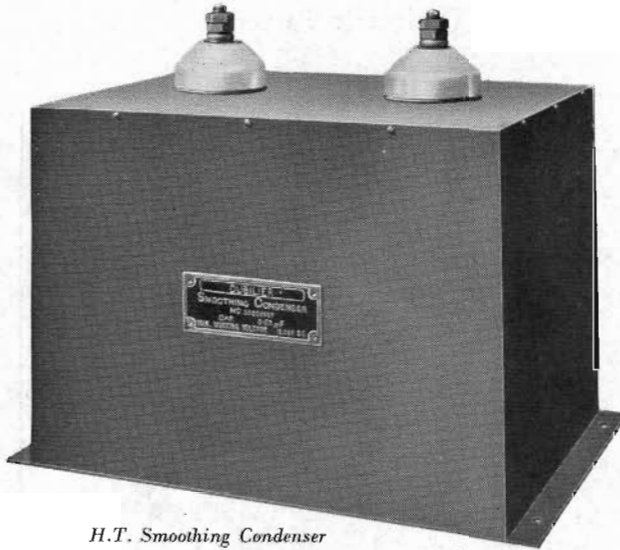


| Capacity     | Low Frequency Test Voltage | R.M.S. Unmodulated Radio Frequency Amperes |         |        |        | Type | PRICE |
|--------------|----------------------------|--|---------|--------|--------|------|-------|
|              |                            | 3000 kc                                    | 1000 kc | 300 kc | 100 kc |      |       |
| 0.03 $\mu$ F | 8000                       | 20.0                                       | 20.0    | 20.0   | 20.0   | 158P |       |
|              | 6000                       | 25.0                                       | 25.0    | 25.0   | 25.0   | P150 |       |
|              | 5000                       | 15.0                                       | 15.0    | 15.0   | 15.0   | 180  |       |
|              | 4000                       | 15.0                                       | 15.0    | 15.0   | 15.0   | P800 |       |
|              | 2000                       | 15.0                                       | 15.0    | 15.0   | 11.5   | P750 |       |
|              | 1000                       | 10.0                                       | 10.0    | 10.0   | 5.6    | P700 |       |
| 0.05 $\mu$ F | 6000                       | 20.0                                       | 20.0    | 20.0   | 20.0   | 158P |       |
|              | 5000                       | 25.0                                       | 25.0    | 25.0   | 25.0   | P150 |       |
|              | 4000                       | 15.0                                       | 15.0    | 15.0   | 15.0   | 180  |       |
|              | 2000                       | 10.0                                       | 10.0    | 10.0   | 10.0   | P800 |       |
|              | 1000                       | 10.0                                       | 10.0    | 10.0   | 9.5    | P650 |       |
| 0.1 $\mu$ F  | 4000                       | 20.0                                       | 20.0    | 20.0   | 20.0   | 158P |       |
|              | 3000                       | 25.0                                       | 25.0    | 25.0   | 25.0   | P150 |       |
|              | 2000                       | 15.0                                       | 15.0    | 15.0   | 15.0   | 180  |       |
|              | 1000                       | 15.0                                       | 15.0    | 15.0   | 15.0   | P750 |       |
| 0.2 $\mu$ F  | 2000                       | 20.0                                       | 20.0    | 20.0   | 20.0   | 158P |       |
|              | 2000                       | 25.0                                       | 25.0    | 25.0   | 25.0   | P150 |       |
|              | 1000                       | 15.0                                       | 15.0    | 15.0   | 15.0   | 180  |       |
|              | 1000                       | 15.0                                       | 15.0    | 15.0   | 15.0   | P750 |       |
| 0.3 $\mu$ F  | 2000 DC.                   | 20.0                                       | 20.0    | 20.0   | 20.0   | 158P |       |
| 0.3 $\mu$ F  | 1000 "                     | 15.0                                       | 15.0    | 15.0   | 15.0   | 180  |       |
| 0.3 $\mu$ F  | 1000 "                     | 15.0                                       | 15.0    | 15.0   | 15.0   | P800 |       |
| 0.5 $\mu$ F  | 1000 "                     | 15.0                                       | 15.0    | 15.0   | 15.0   | 180  |       |
| 0.5 $\mu$ F  | 1000 "                     | 15.0                                       | 15.0    | 15.0   | 15.0   | P800 |       |
| 1.0 $\mu$ F  | 1000 "                     | 20.0                                       | 20.0    | 20.0   | 20.0   | 158P |       |

*Ratings for Larger Condensers.* When Condensers are required for higher voltage or heavier current ratings than given in the above table, the Oil-Filled Mica Dielectric types of Condensers are recommended. Some typical ratings are tabulated in that Section; others will be furnished against specific enquiries.



## DUBILIER HIGH TENSION SMOOTHING CONDENSERS



*H.T. Smoothing Condenser*

The condensers listed in the following table are of the standard Dubilier wax impregnated type in suitably finished sheet metal containers hermetically sealed with high melting point compound. Two porcelain bushings are fitted to insulate the terminals for the full rated voltage. For the larger containers lifting handles can be supplied, if specially ordered.

These condensers are built up with a number of condenser elements arranged in a series parallel connected assembly. The elements are treated with a high vacuum impregnation ensuring the highest possible insulation resistance. In certain types equi-partition of the voltage between the various sections of the condenser is ensured by a special patented arrangement of equi-potential resistances. This arrangement is customarily fitted to the largest sizes of condensers.

The condensers are normally supplied with a capacity tolerance of plus or minus 10 per cent., but somewhat closer tolerances can be supplied at an extra charge.

The condensers are designed to pass a low frequency ripple amounting to not more than 10 per cent. of the D.C. working voltage and of frequency not greater than 1000 cycles per second.

Where specially required we can quote for and supply condensers to take a higher proportion of superimposed audio frequency voltage; we also supply smoothing condensers of the oil impregnated paper dielectric and mica dielectric types. Particulars will be furnished on application.



A Typical Range of  
**DUBILIER HIGH TENSION SMOOTHING CONDENSERS**  
 Wax Impregnated Paper Dielectric Pattern

| Capacity     | D.C. Voltage |       | Container Dimensions in inches |                 |                 | PRICE |
|--------------|--------------|-------|--------------------------------|-----------------|-----------------|-------|
|              | Working      | Test  | Length                         | Width           | Height          |       |
| 1.0 $\mu$ F  | 1000         | 2000  | 5                              | 1 $\frac{1}{2}$ | 6               | T     |
| 2.0 $\mu$ F  | 1000         | 2000  | 5                              | 2               | 6               | T     |
| 4.0 $\mu$ F  | 1000         | 2000  | 5                              | 2 $\frac{3}{4}$ | 6               | T     |
| 1.0 $\mu$ F  | 2000         | 4000  | 5 $\frac{1}{2}$                | 3               | 6               | T     |
| 2.0 $\mu$ F  | 2000         | 4000  | 5 $\frac{1}{2}$                | 5               | 6               | T     |
| 4.0 $\mu$ F  | 2000         | 4000  | 5 $\frac{1}{2}$                | 8               | 6               | T     |
| 0.5 $\mu$ F  | 3000         | 6000  | 5                              | 5               | 6               | T     |
| 1.0 $\mu$ F  | 3000         | 6000  | 5 $\frac{1}{2}$                | 5 $\frac{1}{2}$ | 6               | T     |
| 2.0 $\mu$ F  | 3000         | 6000  | 5 $\frac{1}{2}$                | 10              | 6               | T     |
| 4.0 $\mu$ F  | 3000         | 6000  | 6                              | 15              | 6               | T     |
| 6.0 $\mu$ F  | 3000         | 6000  | 11                             | 6 $\frac{3}{4}$ | 6               | T     |
| 10.0 $\mu$ F | 3000         | 6000  | 15                             | 17              | 9               | L     |
| 1.0 $\mu$ F  | 4000         | 8000  | 8                              | 5 $\frac{1}{2}$ | 6               | T     |
| 2.0 $\mu$ F  | 4000         | 8000  | 11                             | 11              | 7               | L     |
| 2.0 $\mu$ F  | 5000         | 10000 | 14                             | 11              | 6               | L     |
| 2.0 $\mu$ F  | 6000         | 12000 | 14                             | 10              | 7 $\frac{1}{2}$ | L     |
| 0.15 $\mu$ F | 7500         | 15000 | 7 $\frac{1}{4}$                | 6 $\frac{1}{2}$ | 8               | L     |
| 0.25 $\mu$ F | 7500         | 15000 | 10                             | 6               | 8               | L     |
| 0.15 $\mu$ F | 8700         | 17400 | 7 $\frac{1}{4}$                | 6 $\frac{1}{2}$ | 8               | L     |
| 1.0 $\mu$ F  | 10000        | 20000 | 14                             | 18              | 9               | L     |
| 2.0 $\mu$ F  | 10000        | 20000 | 22                             | 22              | 9               | L     |
| 0.02 $\mu$ F | 12000        | 24000 | 9                              | 9               | 9               | L     |
| 0.15 $\mu$ F | 12000        | 24000 | 15                             | 15              | 9               | L     |
| 0.25 $\mu$ F | 12000        | 24000 | 15                             | 15              | 9               | L     |
| 2.0 $\mu$ F  | 12000        | 24000 | 17                             | 24              | 12              | L     |

T = Terminals mounted on top of container projecting 1 in.

L = " " " side of container, increasing width by 2 $\frac{1}{2}$  in.