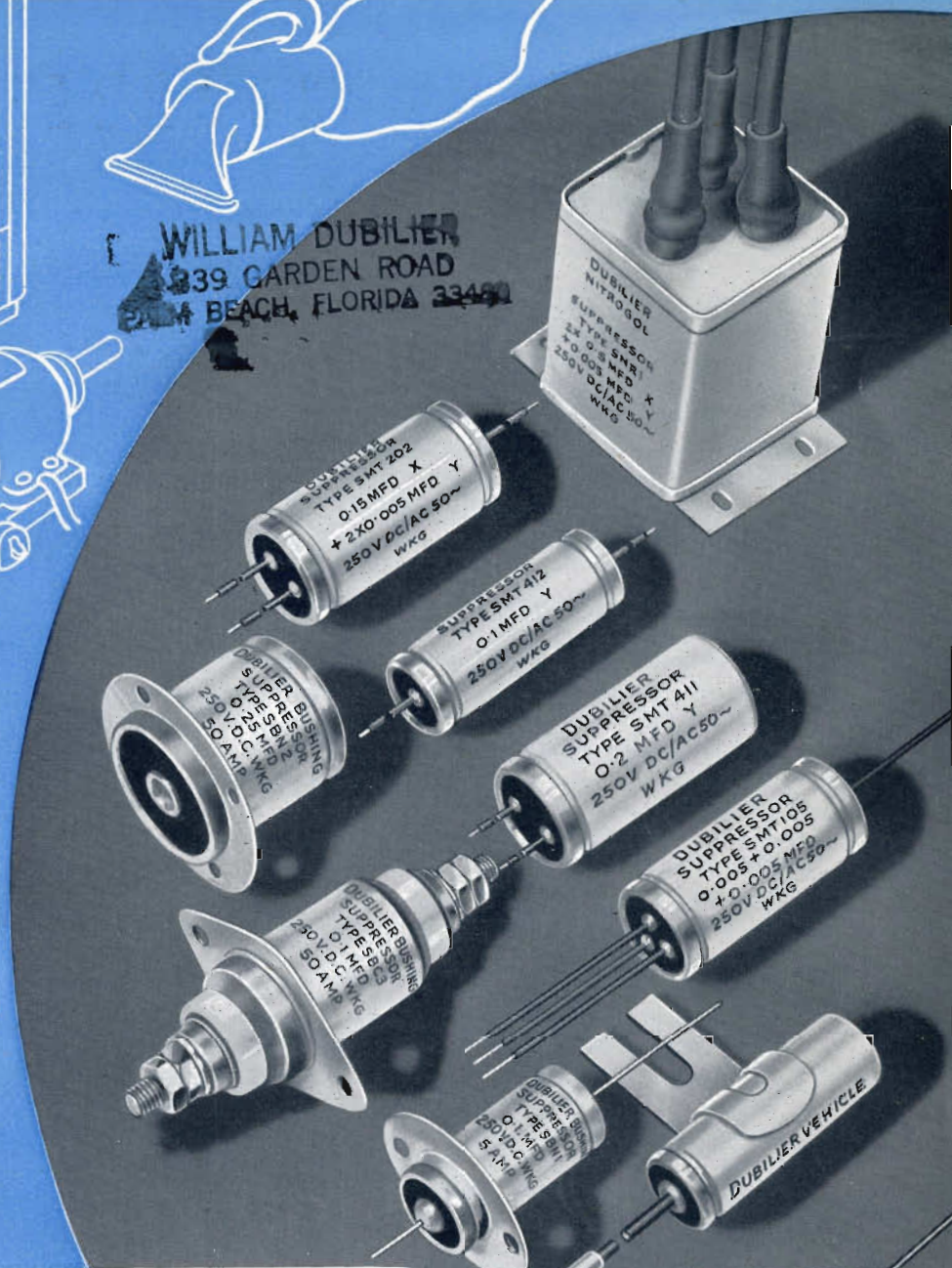
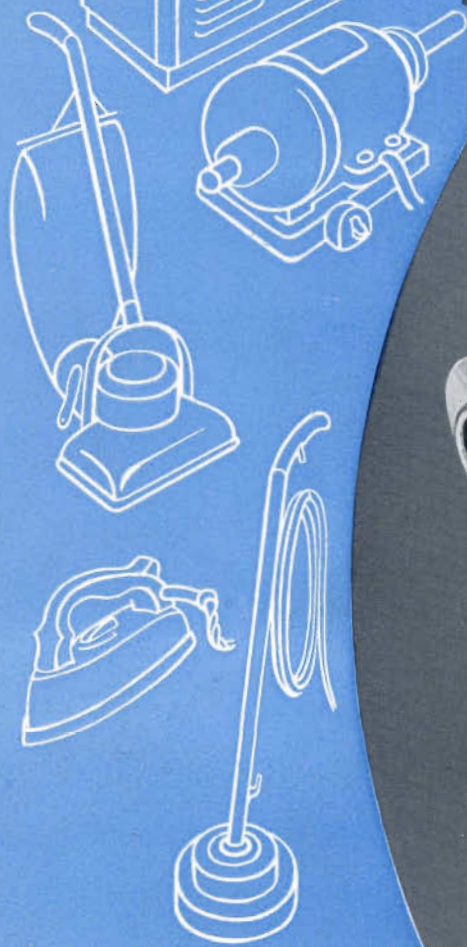


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WILLIAM DUBILIER
339 GARDEN ROAD
BEACH, FLORIDA 33480



DUBILIER
CONDENSER CO. (1925) LTD.

INTERFERENCE
Suppressor
CAPACITORS

for incorporation in electrical equipment
by the manufacturers



DUBILIER SUPPRESSORS

FOR more than a quarter of a century the design and manufacture of Suppressor Capacitors has been an outstanding feature in our activities. Large quantities have been sold and are giving satisfactory service.

The wide technical and engineering experience accumulated thereby, enables us to offer a comprehensive selection of suppressor capacitors, suitable for incorporation in electrical equipment by the manufacturers thereof in anticipation of the Wireless Telegraphy Bill (1948) coming into force.

This catalogue is intended to give a brief outline of the subject together with details of the units now available. Our engineers are at the disposal of customers who wish to discuss their particular problems with us.

The suppression of interference to radio receivers, and particularly to television receivers, is becoming of increasing importance at the present time. Interference may be conducted to the receiver either through the mains connection or it may be radiated and picked up as a signal by the aerial of the receiver.

Interference can be caused by any piece of electrical apparatus employing commutator type motors, or when the normal operating current of the apparatus is suddenly varied or interrupted. Interference may be radiated by the apparatus itself or its associated wiring.

Interference caused by most domestic electric appliances can be readily suppressed by means of a simple capacitor network directly connected to the offending appliance. Appliances such as vacuum cleaners, hair dryers, floor polishers, sewing machine motors, refrigerators, electrical smoothing irons, paint sprayers and electrical drills, nearly all cause radio interference, but can readily be suppressed if fitted with suitable Dubilier suppressor units.

The current British Standard Specification for "Components for Radio Interference Suppression Devices No. 613" was issued in 1940 and nearly all Dubilier suppressor units comply with the requirements of this specification.

All electrical appliances naturally cannot be suppressed with one type of capacitor network, and the list on page 8 contains a selection of the suppressor units which we manufacture.

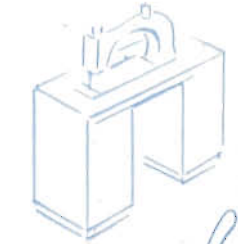
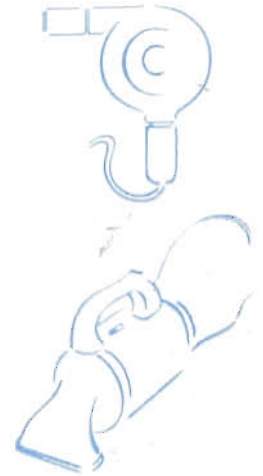
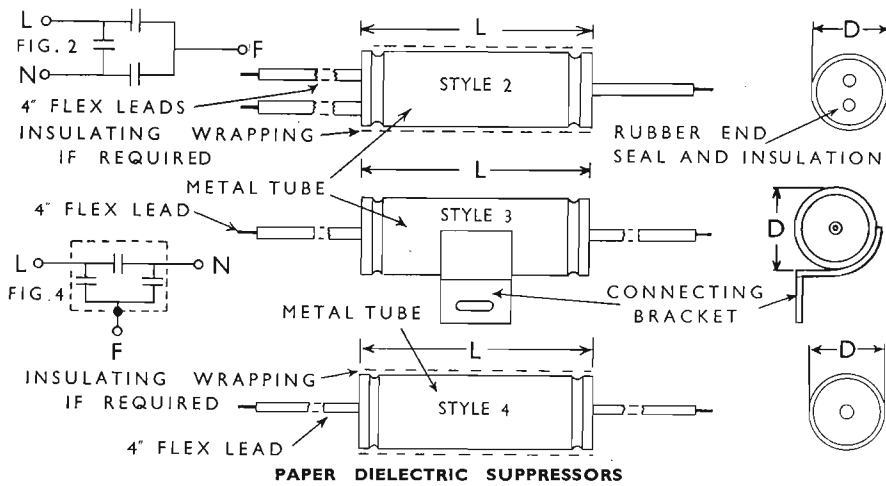
In accordance with the wiring regulations of the Institution of Electrical Engineers all domestic electrical appliances are required to be connected to the supply mains by means of a three-core cable so that an adequate earth is provided; but at the present time there are a large number of domestic appliances in use where a two-core flexible only is fitted and the appliance is then not earthed. If, therefore, there is any doubt about the provision of an adequate earth, a suppressor that will be effective for the two-core and the three-core connection should be employed. It should be noted in general that the most efficient suppression will be secured if the suppressor unit is fitted as closely as possible to the offending appliance terminals, with the shortest possible connecting leads. Diagrams are included herein showing the internal connections of the different styles of suppressor capacitors listed. The units of Styles 2, 3 and 4, having internal connections as shown in Figures 2 and 4, represent the most generally useful arrangement in which the terminals marked in the diagrams L and N are connected to the supply lines to the electrical apparatus, and the terminal F is connected to the casing of the appliance, if metallic.

The Dubilier bushing capacitors are specially designed to provide extremely efficient suppression in the higher frequency and television bands as well as for the frequencies used in normal sound broadcasting. They are intended for mounting through the casing of an appliance, if this casing is metallic, to replace the normal terminations and therefore the "live" terminal of the suppressor carries the main current into or out of the apparatus. Owing to the low intrinsic inductance of this mode of connection these suppressors constitute the most effective means of suppression, particularly for the larger motors and generators.

To assist in the selection of the most suitable suppressor unit for any particular appliance the following notes are appended illustrating typical examples.

VACUUM CLEANERS, FLOOR POLISHERS, HAIR DRYERS, SEWING MACHINES, ELECTRIC DRILLS AND PAINT SPRAYERS

Rated at 250 V. DC. or AC. 50 c/s.



| Type | Size inches | | Capacitance | Internal Connections | Style |
|---------|---------------|-----------------|--|----------------------------|-------|
| | Dia. D | Length L | | | |
| SMT 202 | 1 | 2 $\frac{1}{8}$ | } 0.1 μ F (X) + 2 \times 0.005 μ F (Y) { | Fig. 2 Fig. 4 Fig. 4 | 2 |
| SMT 302 | $\frac{3}{4}$ | 2 $\frac{3}{8}$ | | | 3 |
| SMT 402 | $\frac{3}{4}$ | 2 $\frac{3}{8}$ | | | 4 |

See Note (X) and (Y), page 8.

The above suppressors are suitable for use at temperatures up to 85°C. If required for temperatures up to 100°C. similar units can be supplied at slightly higher cost.

Vacuum Cleaners and Floor Polishers

Where a three-core cable is used and the metal case of the vacuum cleaner (or polisher) is earthed, one of the SMT 202, 302 or 402 types of suppressor is usually satisfactory and can be fitted inside the case of the appliance. They may also be used where the appliance is employed with only a two-core cable.

Small Vacuum Cleaners

Where vacuum cleaners are constructed with a plastic case more interference may be experienced. The fitting of suppressors suggested in the previous paragraph may prove inadequate and they are usually difficult to house inside the appliance. In such instances special precautions are necessary, such as the use of small mica suppression capacitors.

Hair Dryers

Metal cased hair dryers may be treated in the same manner as vacuum cleaners and again where manufactured with a plastic case, special precautions must be taken.

Sewing Machine Motors

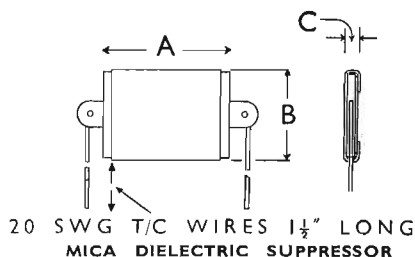
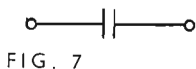
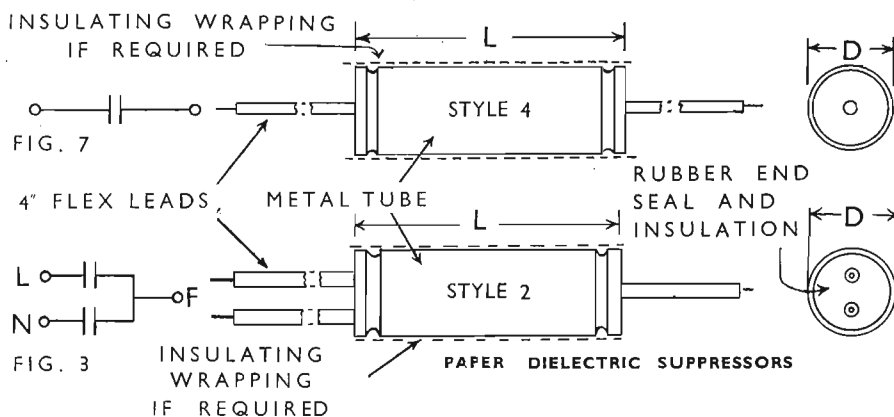
Where the suppressor may be fitted externally to the motor casing, one of the types SMT 202, 302 or 402 suppressors is suitable. Where internal fitting is essential separate capacitors of a suitable type can be supplied.

Electric Drills and Paint Sprayers

Where the suppressor may be fitted internally one of the type SMT 202, 302 or 402 suppressors is suitable, but in many cases owing to physical limitation of space separate capacitors may have to be used.

SMOOTHING IRONS, ELECTRIC BLANKETS AND OTHER THERMOSTATIC CONTROLS

Rated at 250 V. DC. or AC. 50 c/s.



| Type | Size in ins. | | | | | Capacitance | Internal Connections | Style |
|----------|----------------|-----------------|----------------|---------------|----------------|------------------------------|----------------------|-----------------|
| | A Width | B Depth | C Height | D Dia. | L Length | | | |
| *SMT 410 | — | — | — | $\frac{3}{8}$ | $2\frac{1}{2}$ | 0.1 μ F (Y) | Fig. 7 | 4 |
| *SMT 207 | — | — | — | 1 | $2\frac{1}{2}$ | $2 \times 0.005 \mu$ F (Y) | Fig. 3 | 2 |
| †SM 6802 | $1\frac{1}{8}$ | $1\frac{3}{16}$ | $\frac{3}{16}$ | — | — | 0.01 μ F—1500 V DC. T | Fig. 7 | Mica Dielectric |
| †SM 6912 | 1 | $\frac{3}{4}$ | $\frac{5}{32}$ | — | — | 0.01 μ F—750 V DC. T | Fig. 7 | Mica Dielectric |

See note (X) and (Y), page 8.

*These suppressors are suitable for use at temperatures up to 85°C. If required for use at temperatures up to 100°C. similar units can be supplied at slightly higher cost.

†These suppressors are suitable for use at temperatures up to 200°C.

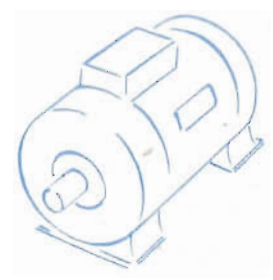
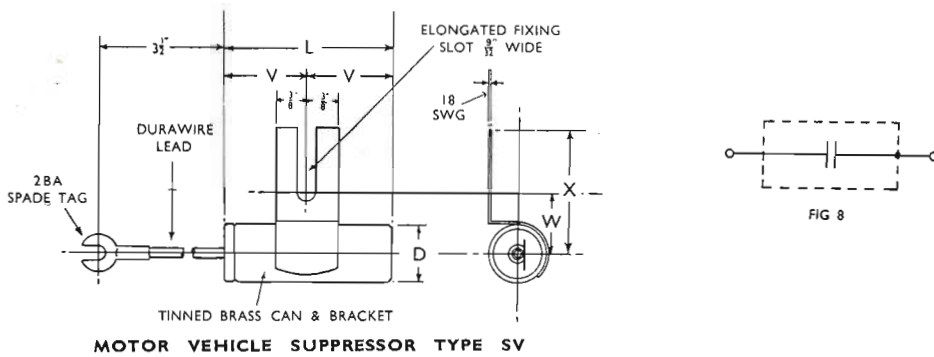
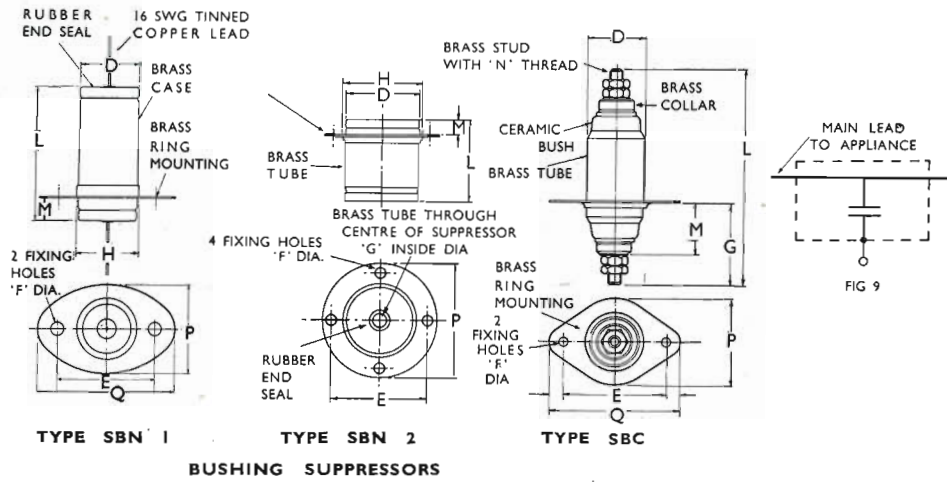
Smoothing Irons

Where these appliances are not fitted with thermostatic controls no suppressors are required. Where, however, thermostats are fitted to control the temperature of the iron two suppressors may be required, one of the type SMT 410 and one of type SMT 207. Alternatively, special mica dielectric suppressors may be fitted. These are designed to operate in a position where the temperature rises considerably (i.e. over 100°C.). Suppressors of this type may also be used across the contacts of the thermostat of the iron for operation on D.C. supplies.

Electric Blankets

Where these are fitted with thermostatic controls, one of the type SM 6802 or SM 6912 suppressors can normally be used as they are particularly suitable where the temperature of the capacitors may exceed 100°C.

ELECTRIC MOTORS AND D.C. GENERATORS



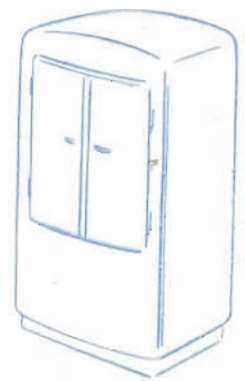
The above suppressors are suitable for use at temperatures up to 85°C. If required for temperatures up to 100°C. similar units can be supplied at slightly higher cost.

Electric Motors and DC. Generators

The type of suppressor to be used will naturally depend on the voltage and size of the generator, ranging from the small machine such as the car dynamo where type SV 1 or SV 2 may be used, to large D.C. generators or motors where one of the SBN or SBC types may be fitted directly to the machine and provide full suppression.

Refrigerators

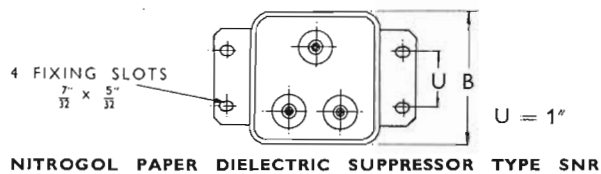
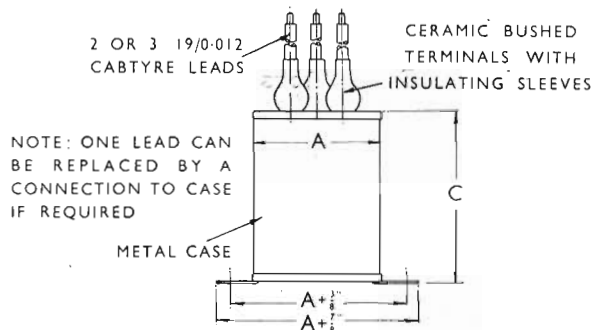
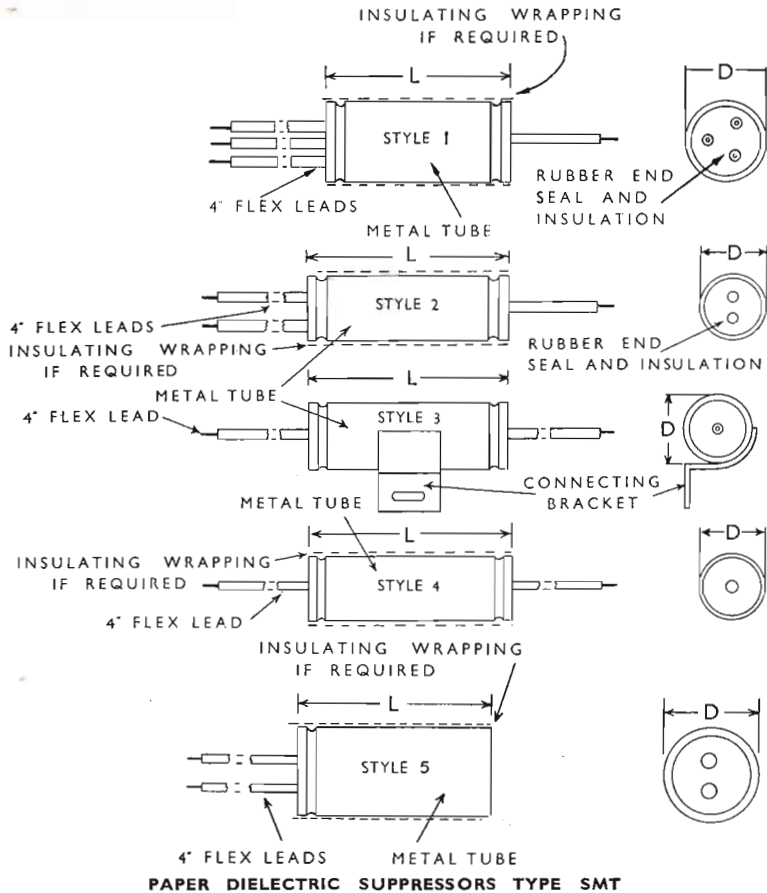
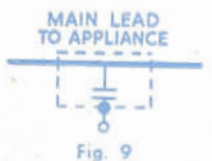
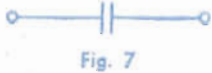
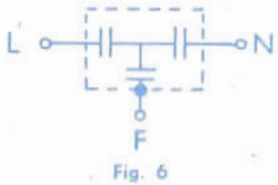
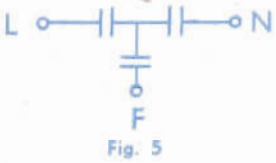
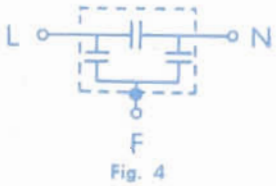
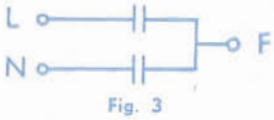
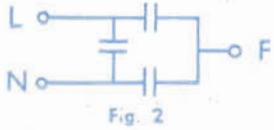
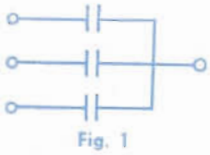
In this case the type of suppressor depends largely on the size and make of the motor and a definite recommendation cannot, therefore, be made without test of the machine. Where refrigerators are used on D.C. supplies one of the SNR range of suppressors may prove satisfactory. (See Table, Drawings, etc.)



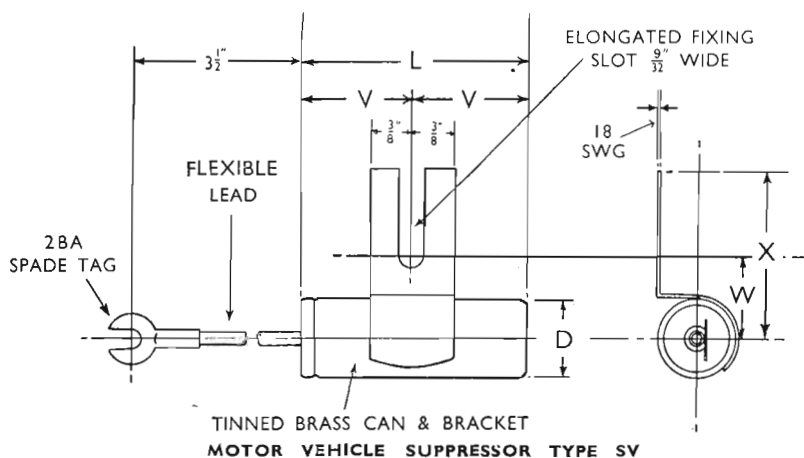
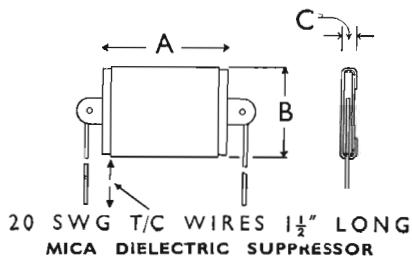
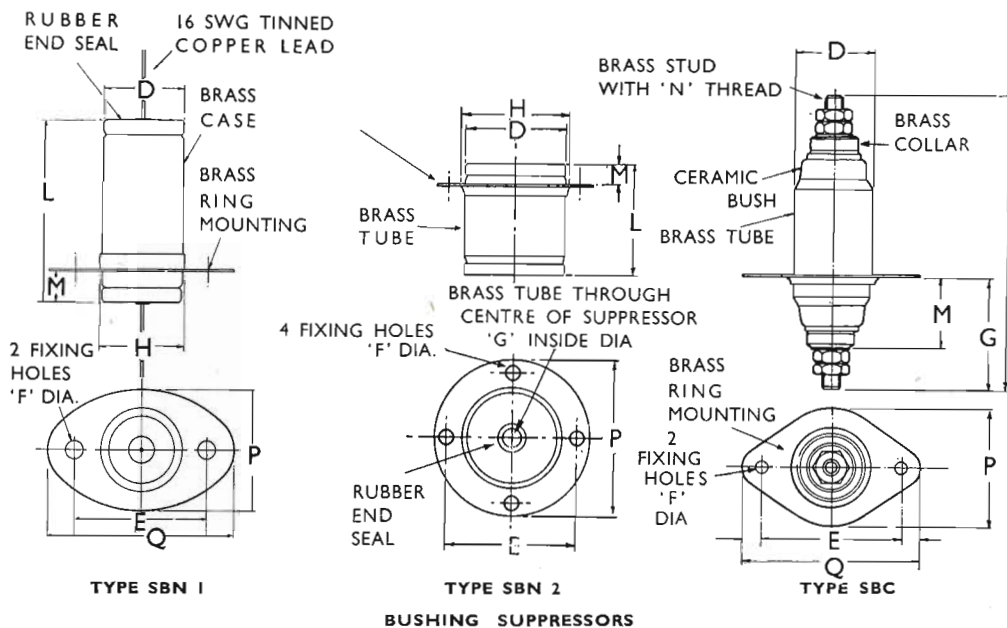
The above examples illustrate some of the applications of Dubilier Interference Suppressors. Where manufacturers are in any doubt as to the type of suppressor to be used, we shall be pleased to test a sample of the appliance to be suppressed and quote for the quantity supply of the suppressor best suited for the particular application.

We are fully alive to all the requirements proposed in the new Wireless Telegraphy Bill at present before Parliament and our Interference Suppressor Service for the examination of existing and new appliances is always available.

DUBILIER SUPPRESSORS



DUBILIER SUPPRESSORS



Dubilier Suppressor Capacitors for use with Electrical Appliances Rated up to 250V. D.C. or A.C. (50c/s)

| Type Number | Dimensions in inches | | | | | Capacitance | Internal Connections of Suppressors | Style |
|-------------|----------------------|----------------|-----------------|----------------|------------------|---|-------------------------------------|---------------------|
| | A Width | B Depth | C Height | D Diam. | L Length | | | |
| SMT.301 | — | — | — | $\frac{3}{4}$ | $1\frac{15}{16}$ | 0.14 μ F + 2 \times 0.02 μ F | Figure 4 | 3* |
| SMT.401 | — | — | — | $\frac{3}{4}$ | $1\frac{15}{16}$ | | Figure 4 | 4* |
| SMT.202 | — | — | — | 1 | $2\frac{1}{8}$ | 0.1 μ F (X) + 2 \times 0.005 μ F (Y) | Figure 2 | 2 |
| SMT.302 | — | — | — | $\frac{3}{4}$ | $2\frac{1}{8}$ | | Figure 4 | 3 |
| SMT.402 | — | — | — | $\frac{3}{4}$ | $2\frac{1}{8}$ | | Figure 4 | 4 |
| SMT.203 | — | — | — | 1 | $2\frac{1}{8}$ | 0.25 μ F (X) + 2 \times 0.005 μ F (Y) | Figure 2 | 2 |
| SMT.303 | — | — | — | 1 | $2\frac{1}{8}$ | | Figure 4 | 3 |
| SMT.403 | — | — | — | 1 | $2\frac{1}{8}$ | | Figure 4 | 4 |
| SMT.204 | — | — | — | 1 | $2\frac{1}{8}$ | 2 \times 0.1 μ F (X) + 0.005 μ F (Y) | Figure 5 | 2 |
| SMT.304 | — | — | — | 1 | $2\frac{1}{8}$ | | Figure 6 | 3 |
| SMT.404 | — | — | — | 1 | $2\frac{1}{8}$ | | Figure 6 | 4 |
| SMT.105 | — | — | — | $\frac{7}{8}$ | 2 | 3 \times 0.005 μ F (Y) | Figure 1 | 1* |
| SMT.106 | — | — | — | 1 | $2\frac{3}{8}$ | 3 \times 0.1 μ F (X) | Figure 1 | 1 |
| SMT.207 | — | — | — | 1 | $2\frac{1}{8}$ | 2 \times 0.005 μ F (XX) | Figure 3 | 2 |
| SMT.208 | — | — | — | $\frac{3}{4}$ | $2\frac{1}{8}$ | 0.06 μ F + 0.002 μ F | Figure 3 | 2* |
| SMT.209 | — | — | — | 1 | $2\frac{1}{8}$ | 0.25 μ F (X) + 0.005 μ F (Y) | Figure 3 | 2 |
| SMT.410 | — | — | — | $\frac{3}{4}$ | $2\frac{1}{8}$ | 0.1 μ F (Y) | Figure 7 | 4 |
| SMT.510 | — | — | — | 1 | $2\frac{1}{8}$ | | Figure 7 | 5 |
| SMT.411 | — | — | — | 1 | $2\frac{1}{8}$ | 0.2 μ F (Y) | Figure 7 | 4 |
| SMT.511 | — | — | — | 1 | $2\frac{1}{8}$ | | Figure 7 | 5 |
| SMT.412 | — | — | — | $1\frac{1}{2}$ | $2\frac{1}{8}$ | 0.5 μ F (Y) | Figure 7 | 4 |
| SMT.512 | — | — | — | $1\frac{1}{2}$ | $2\frac{1}{8}$ | | Figure 7 | 5 |
| SNR.1 | $1\frac{7}{8}$ | $1\frac{7}{8}$ | $2\frac{7}{16}$ | — | — | 2 \times 0.5 μ F (X) + 0.005 μ F (Y) | Figure 5 | Nitrogol Suppressor |
| SNR.2 | $1\frac{7}{8}$ | $1\frac{7}{8}$ | $2\frac{7}{16}$ | — | — | | Figure 6 | |
| SNR.3 | $1\frac{7}{8}$ | $1\frac{7}{8}$ | $2\frac{7}{16}$ | — | — | 2 \times 1.0 μ F (X) + 0.005 μ F (Y) | Figure 5 | Nitrogol Suppressor |
| SNR.4 | $1\frac{7}{8}$ | $1\frac{7}{8}$ | $2\frac{7}{16}$ | — | — | | Figure 6 | |
| SNR.5 | $1\frac{5}{8}$ | $1\frac{5}{8}$ | $4\frac{7}{16}$ | — | — | 2 \times 2.0 μ F (X) + 0.005 μ F (Y) | Figure 5 | Nitrogol Suppressor |
| SNR.6 | $1\frac{7}{8}$ | $1\frac{7}{8}$ | $4\frac{9}{16}$ | — | — | | Figure 6 | |

| Type Number | D | E | F | G | H | L | M | N | P | Q | | | |
|-------------|-----------------|----------------|----------------|-----------------|------------------|-----------------|---------------|-----|------------------|----------------|---|----------|--------------------|
| SBN.1 | $\frac{3}{4}$ | $1\frac{1}{4}$ | $\frac{5}{16}$ | — | $1\frac{13}{16}$ | $1\frac{1}{16}$ | $\frac{1}{4}$ | — | $1\frac{1}{4}$ | $1\frac{1}{4}$ | 0.1 μ F (for motors up to 250V, 5A) | Figure 9 | Bushing Suppressor |
| SBN.2 | $1\frac{1}{4}$ | $1\frac{5}{8}$ | $\frac{5}{32}$ | $\frac{1}{4}$ | $1\frac{5}{16}$ | $1\frac{3}{8}$ | $\frac{1}{4}$ | — | $1\frac{15}{16}$ | — | 0.25 μ F (for motors up to 250V, 50A) | Figure 9 | Bushing Suppressor |
| SBC.1 | $\frac{11}{16}$ | $1\frac{1}{8}$ | $\frac{5}{32}$ | $1\frac{3}{8}$ | — | $3\frac{1}{2}$ | 1 | 2BA | 1 | $1\frac{1}{2}$ | 0.05 μ F (for generators up to 250V, 20A) | Figure 9 | Bushing Suppressor |
| SBC.2 | $\frac{11}{16}$ | $1\frac{1}{8}$ | $\frac{5}{32}$ | $1\frac{3}{8}$ | — | $3\frac{1}{2}$ | 1 | 2BA | 1 | $1\frac{1}{2}$ | 0.1 μ F (for motors up to 250V, 20A) | Figure 9 | Bushing Suppressor |
| SBC.3 | 1 | $1\frac{1}{4}$ | $\frac{3}{16}$ | $1\frac{7}{16}$ | — | $3\frac{3}{4}$ | $\frac{7}{8}$ | 0BA | $1\frac{1}{2}$ | $2\frac{1}{4}$ | 0.1 μ F (for generators up to 250V, 50A) | Figure 9 | Bushing Suppressor |
| SBC.4 | 1 | $1\frac{1}{4}$ | $\frac{3}{16}$ | $1\frac{7}{16}$ | — | $3\frac{3}{4}$ | $\frac{7}{8}$ | 0BA | $1\frac{1}{2}$ | $2\frac{1}{4}$ | 0.25 μ F (for motors up to 250V, 50A) | Figure 9 | Bushing Suppressor |

NOTE.—All the above suppressors are suitable for use at temperatures up to 85°C. If required for use at temperatures up to 100°C., similar units can be supplied at slightly higher cost.

| | | | | | | | | | | | | | |
|---------|----------------|-----------------|----------------|---|---|---|---|---|---|---|----------------------------|----------|-----------------------------|
| SM.6801 | A | B | C | | | | | | | | 0.005 μ F — 1500V DC.T | Figure 7 | Mica Dielectric Suppressor* |
| SM.6802 | $1\frac{1}{8}$ | $1\frac{3}{16}$ | $\frac{3}{16}$ | — | — | — | — | — | — | — | 0.01 μ F — 1500V DC.T | Figure 7 | Mica Dielectric Suppressor* |
| SM.6911 | 1 | $\frac{3}{4}$ | $\frac{3}{32}$ | — | — | — | — | — | — | — | 0.005 μ F — 750 V DC.T | Figure 7 | Mica Dielectric Suppressor* |
| SM.6912 | 1 | $\frac{3}{4}$ | $\frac{5}{32}$ | — | — | — | — | — | — | — | 0.01 μ F — 750 V DC.T | Figure 7 | Mica Dielectric Suppressor* |

NOTE.—All the above suppressors are suitable for use at temperatures up to 200°C.

Dubilier Motor Vehicle Suppressor Capacitors

| Type No. | D | L | V | W | X | | | | | | | | |
|----------|-----------------|---|---|---------------|----------------|---|---|---|---|---|---|----------|--------------------|
| SV.1 | $\frac{11}{16}$ | 2 | 1 | $\frac{3}{4}$ | $1\frac{1}{2}$ | — | — | — | — | — | 0.5 μ F (for generators up to 100V) | Figure 8 | Vehicle Suppressor |
| SV.2 | 1 | 2 | 1 | $\frac{5}{8}$ | $1\frac{5}{8}$ | — | — | — | — | — | 1.0 μ F (for generators up to 100V) | Figure 8 | Vehicle Suppressor |

NOTE.—The above Suppressors are suitable for use at temperatures up to 85°C. If required for use at temperatures up to 100°C., similar units can be supplied at slightly higher cost.

The suppressors marked * do not fully meet the requirements of British Standard Specification No. 613—1940 but their use has often proved desirable to meet the special requirements of the products of certain manufacturers.

(X) and (Y)—For full definition and specification of Class X and Y capacitors see BSS.613—1940.

DUBILIER CONDENSER CO. (1925) LTD., VICTORIA ROAD, LONDON, W.3, ENGLAND.

Phone : ACOrn 2241. Grams : Hivoltcon, Phone, London.

Cables : Hivoltcon, London. Marconi International Code.