



# NITTOCON

ニットーコンは当社が長年研究の結果、厳選された酸化チタン、チタン酸バリウムを主原料として成形・焼成された磁器コンデンサの商品名で、高周波電力機器として放送機、無線通信機、超音波応用機械、各種電子機器、高周波焼入装置、高周波加熱装置等の各回路内に欠くことのできない部品となり、その他、多方面に広い用途を持ち、躍進エレクトロニクス界の発展に伴なって、ますますその利用範囲も拡大されています。

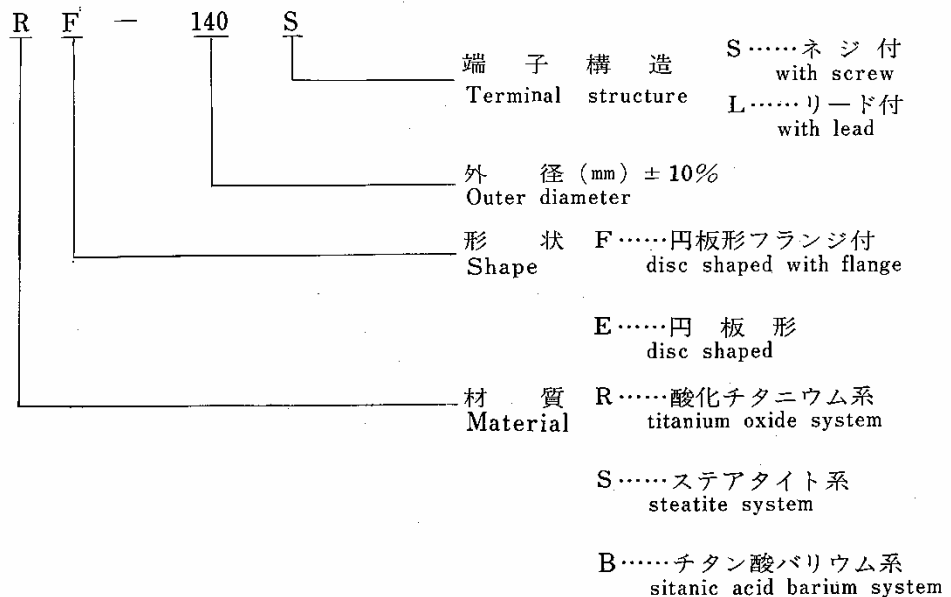
NITTOCON is the trade name we have chosen for the ceramic capacitors produced by our company. They are manufactured through the process of molding and sintering rigidly selected titanium oxide and barium titanate, as the main materials the result of many years of research conducted at our company laboratory. NITTOCON ceramic capacitors have become an indispensable part of the intricate circuits of broadcasting equipment, radio communications equipment, supersonic-applied equipment, various electronic equipment, high-frequency type baking equipment, high-frequency type heating equipment, and so forth.

NITTOCON ceramic capacitors serve in a broad range of applications, and along with the skyrocketing development of the electronics industry, their range of usefulness has been continuously expanding and diversified.

## 種類 Verieties of NITTOCON

1. 高周波電力用コンデンサ RF・RE・SF・SE  
Capacitors for high-frequency power
2. 側路用コンデンサ BE・RE・SE  
Capacitors for by-pass

## 命名 Code System



## 特 長

### 高周波電力用 (RF・RE・SF・SE)

1. インダクタンスがきわめて少ない。
2. 小形軽量で電力負荷能力が大きい。
3. 絶縁抵抗がきわめて高い。
4. 耐熱, 耐湿に優れ, 湿気による損失の増加・絶縁抵抗の劣化がきわめて少ない。
5. 静電容量の温度係数が直線的, 可逆的である。
6. 電気的性能が経年変化せず, きわめて安定している。
7. 多品種が標準化されている。
8. 取り付けが簡単である。

### 側路用 (BE・RE・SE)

1. 材質Bは誘電率がきわめて大きいため, 小形で大容量のものが得られ, 残留インダクタンスを極度に小さくできる。
2. 絶縁抵抗および耐湿性は半永久的である。
3. 多品種が標準化されている。

## Distinguished Features

### For high-frequency power (RF・RE・SF・SE)

1. Surprisingly small inductance.
2. Small-sized and light weight, but large in capacitance.
3. Outstanding insulation resistance.
4. Superb heat-resistant and moistureproof characteristics minimize an increase of loss due to moisture as well as degradation of insulation resistance.
5. Temperature coefficient of electrostatic capacity is straight-lined and reversible.
6. Free from aging and perfectly stabilized in electrical performance.
7. Products of various models are standardized.
8. Easily installed.

### For By-Pass (BE・RE・SE)

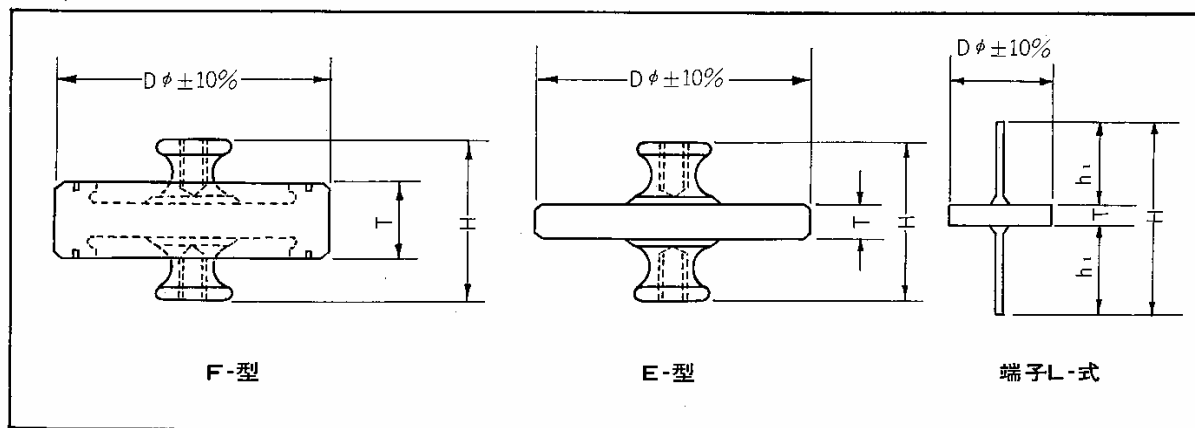
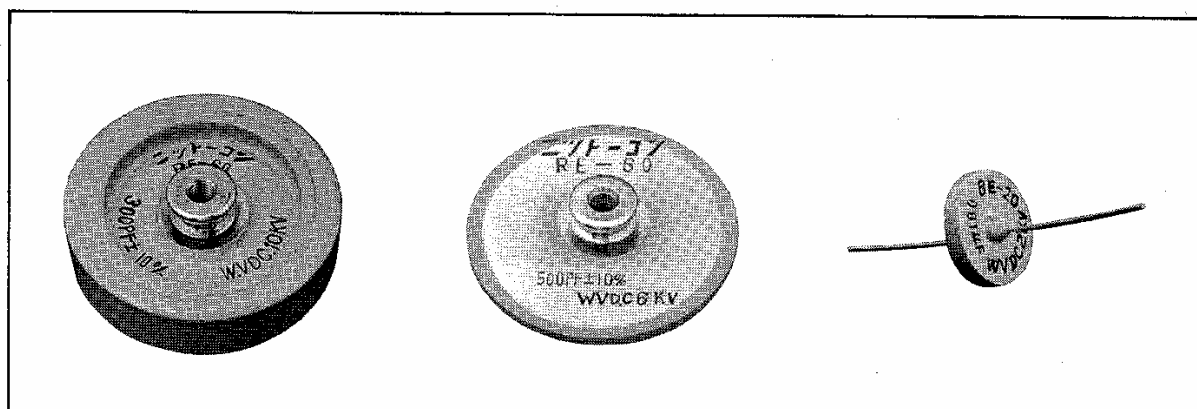
1. Material B, with its outstandingly high dielectric constant, not only enables large currents to be carried considering their relatively small size but also extremely minimizes residual inductance.
2. Insulation resistance and moisture-resistant characteristic are semi-permanent.
3. Products of various models are standardized.

# ニットーコンの構造

## Structure of NITTOCON :

ニットーコンは形状により第1図のように磁器素体と銀電極端子とで形成されるきわめて簡単な構造です。磁器素体は 1,200℃以上の高温で焼結し直接銀電極を焼付、その上に端子をハンダ付けし、端子以外の電極表面磁器素体に特殊塗装をほどこしたものです。

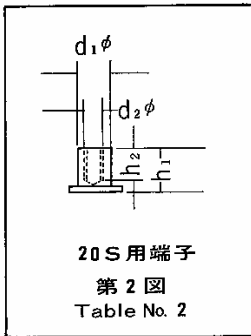
NITTOCON has an outstandingly simple structure formed by ceramic main material and silver electrode terminals as shown in Figure 1. The ceramic main material is sintered at a high temperature such as 1200°C or more, and directly baked together with the silver electrode terminal, upon which terminals are welded. The ceramic main material on the surface of the electrode other than terminals is specially coated.



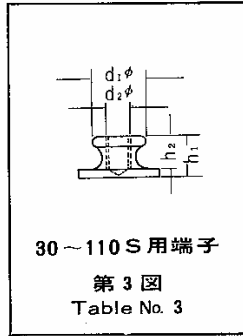
第1図 Table No. 1

## 端子構造 Terminal Structure

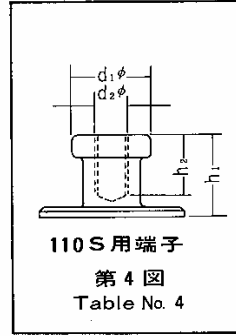
20 S



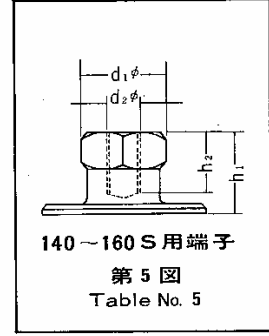
30~110 S



110 S



140~160 S



S式 S-type

| 材質<br>Material<br>型名<br>Type<br>寸法<br>Size<br>記号<br>Mark | R-S     | R-S | R-S  | R-S | R-S-B | R-S-B | R-S-B |
|--|---------|-----|------|-----|-------|-------|-------|
|  | F       | F   | E    | FE  | FE    | FE    | E     |
| 寸法<br>Size<br>記号<br>Mark                                 | 160 140 | 110 | 110  | 80  | 60 50 | 40 30 | 20    |
| $d_1 \phi$   | 21      | 22  | 22   | 18  | 15    | 11    | 6     |
| $d_2 \phi$   | 8       | 8   | 6    | 6   | 6     | 4     | 3     |
| $h_1$  | 20      | 20  | 12.5 | 12  | 10    | 10    | 8     |
| $h_2$  | 15      | 15  | 10   | 10  | 8     | 8     | 6     |

L式 L-type

| 材質<br>Material<br>型名<br>Type<br>寸法<br>Size<br>記号<br>Mark | R-S-B |
|--|-------|
|  | E     |
|  | 30 20 |
| $d_1 \phi$   | 1     |
| $h_1$  | 30    |

(單位mm)

### L端子使用規格一覽表

#### Standard Table for Using L - Terminal

| 定格電圧 (KV)<br>Rated voltage |                            | 標準静電容量 Standard electrostatic capacity (PF) |    |    |    |    |        |     |        |        |     |     |        |     |        |       |        |        |  |
|----------------------------|----------------------------|---|----|----|----|----|--------|-----|--------|--------|-----|-----|--------|-----|--------|-------|--------|--------|--|
| 直流電圧<br>DC voltage<br>50°C | 直流電圧<br>DC voltage<br>70°C | 5   | 10 | 15 | 20 | 25 | 50     | 100 | 150    | 200    | 250 | 300 | 400    | 500 | 1,000  | 2,000 | 5,000  | 10,000 |  |
| 5                          | 4                          |   |    |    |    |    | RE-30L |     |        |        |     |     |        |     |        |       |        |        |  |
| 3                          | 2.5                        | SE-30L                                      |    |    |    |    | RE-20L |     |        | RE-30L |     |     |        |     | BE-30L |       |        |        |  |
| 2                          | 1.5                        | SE-20L                                      |    |    |    |    |        |     | RE-20L |        |     |     | RE-30L |     | BE-20L |       | BE-30L |        |  |
| 1                          | 0.8                        |   |    |    |    |    |        |     |        |        |     |     |        |     |        |       |        | BE-30L |  |

# 電気的特性

| 材質 | 絶縁抵抗               | 容量偏差<br>at 20°C            | 誘電体<br>損失角<br>at IMC               | 温度上昇<br>IMC |            | 静電容量<br>温度係数                    | 耐湿特性<br>40°C湿度90%以上<br>100h放置 |                                     | 使用温度<br>範囲  |
|----|--------------------|----------------------------|------------------------------------|-------------|------------|---------------------------------|-------------------------------|-------------------------------------|-------------|
|    |                    |                            |                                    | at 50°C     | at 70°C    |                                 | 絶縁抵抗                          | 誘電体<br>損失角                          |             |
| R  | 10,000<br>MΩ<br>以上 | 200PF未満±20%<br>200PF以上±10% | 5×10 <sup>-4</sup> 以下<br>(Q>2,000) | 50°C<br>以下  | 30°C<br>以下 | (-650±150)<br>×10 <sup>-6</sup> | 5,000<br>MΩ<br>以上             | 10×10 <sup>-4</sup> 以下<br>(Q>1,000) | -10°C+100°C |
| S  | 10,000<br>MΩ<br>以上 | 50PF未満±20%<br>50PF以上±10%   | 5×10 <sup>-4</sup> 以下<br>(Q>2,000) | 50°C<br>以下  | 30°C<br>以下 | (+100±60)<br>×10 <sup>-6</sup>  | 5,000<br>MΩ<br>以上             | 10×10 <sup>-4</sup> 以下<br>(Q>1,000) | -10°C+100°C |

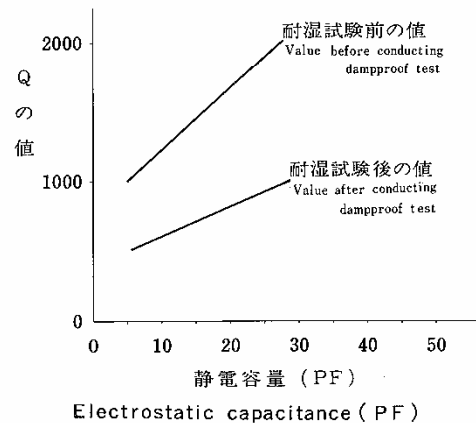
| 材質 | 絶縁抵抗              | 容量偏差<br>at 25°C | Q                | 静電容量<br>温度係数      | 耐湿特性<br>40°C湿度90%以上<br>50H放置 |      | 使用温度<br>範囲      |
|----|-------------------|-----------------|------------------|-------------------|------------------------------|------|-----------------|
|    |                   |                 |                  |                   | 絶縁抵抗                         | Q    |                 |
| B  | 2,000<br>MΩ<br>以上 | ±50%            | Q>40<br>(at 1kc) | 25°Cの値の<br>±50%以内 | 1,000<br>MΩ<br>以上            | Q>20 | -10°C~<br>+75°C |

材質S系で静電容量が30PF未満のQは第6図になります

## Electrical Characteristics

| Material | Insulation resistance | Deflection of capacity at 20°C           | Dielectric loss angle at IMC              | Temperature rise IMC |                | Electrostatic capacitance temperature coefficient | Moisturaproof characteristic after being left intact at 40°C, 90% or more humidity for 100 hrs consecutively |  | Temperature limits used |
|----------|-----------------------|--|---|----------------------|----------------|---|--|--|-------------------------|
|          |                       |  |   | at 50°C              | at 70°C        |   | insulation resistance  | Dielectric loss angle                      |                         |
| R        | More than 10,000 M/Ω  | Less than 200PF±20%<br>More than 200PF   | Less than 5×10 <sup>-4</sup><br>(Q>2,000) | Less than 50°C       | Less than 30°C | (-650±150)<br>×10 <sup>-6</sup>                   | More than 5,000MΩ  | Less than 10×10 <sup>-4</sup><br>(Q>1,000) | -10°C+100°C             |
| S        | More than 10,000 MΩ   | Less than 50PF±20%<br>More than 50PF±10% | Less than 5×10 <sup>-4</sup><br>(Q>2,000) | Less than 50°C       | Less than 30°C | (+100±60)<br>×10 <sup>-6</sup>                    | More than 5,000MΩ  | Less than 10×10 <sup>-4</sup><br>(Q>1,000) | -10°C+100°C             |

| Material | Insulation resistance | Deflection of capacity at 25°C | Q                | Electrostatic capacitance temperature coefficient | Moistureproof characteristic after being left intact at 40°C, 90% or more humidity for 50 hrs consecutively |      | Temperature limits used |
|----------|-----------------------|--------------------------------|------------------|---|---|------|-------------------------|
|          |                       |                                |                  |   | Insulation resistance   | Q    |                         |
| B        | More than 2000 MΩ     | ±50%                           | Q>40<br>(at 1kc) | Less than the value at 25°C±50%                   | More than 1000MΩ  | Q>20 | -10°C~<br>+75°C         |



As for the Q with electrostatic capacitance of below 30PF using the S material, please refer to the Table No. 6.

第 6 図  
Table No. 6

## 用 途

中波放送機、無線通信機、TV放送機、超音波応用機械、誘電加熱（高周波マシン）誘導加熱（高周波焼入れ、溶融炉）などの発振、共振、結合回路用

## 参考事項

本製品は、材質を表示するため、円板上に下記の色別塗装しています。

R (ルチル系) ……緑      S (ステアタイト系)  
 ……青      B (バリウム系) ……黄

## ■ニットーコン型名と他社相当品比較

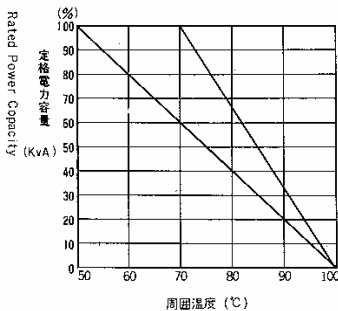
| 〔当社型名〕         | 〔他社相当品〕 |
|----------------|---------|
| RF型 (旧名DF) ……  | RDF・DC  |
| RE型 ( # DE) …… | RD・DA   |
| SF型 ( # DF) …… | SDF・DC  |
| SE型 ( # DE) …… | SD・DA   |
| BE型 ( # RB) …… | DA      |

## 取り扱い上のご注意

- ニットーコンには必要以上の外力（S型約60kg以上、L型約20kg以上）を加えないでください。
- ニットーコンの平面方向間隔は、たがいに20%以上になるよう考慮してください。
- 自然空冷式のため通風の必要はありませんが、強制空冷する場合は均一に空冷できるよう考慮してください。
- 完全焼結品ですから湿度に対する劣化はありませんが、表面に水滴が付着すると表面コロナの原因となりますので、特に水冷管を使用する装置等に使用する場合、水がかからないようにしてください。
- ニットーコンの定格、電圧及び定格電力容量は50℃の値を表示します。
- ニットーコンの定格電力容量は、周囲温度50℃～70℃の値を示していますが、50℃～100℃で使用する場合は第7図により軽減してください。

## 温度対負荷軽減曲線

Reducing curve of temperature against load



第7図  
Table No. 7

## Application

For oscillating, resonant, and coupling circuits of medium-wave broadcasting equipment, wireless communication equipment, TV broadcasting equipment, supersonic-applied equipment, dielectric heating (high-frequency machines), inductive heating (high-frequency quenching, melting furnaces), and so forth.

## Reference

The disc of this product is painted in order to identify its material as follows :

R (Rutile) ……Green  
 S (Steatite) ……Blue  
 B (Barium) ……Yellow

## ■NITTOCON Models Compared with Other Firm's Similar Products

〔Our models〕    〔Other firm's models〕

|                           |        |
|---------------------------|--------|
| Model RF (Formerly DF) …… | RDF・DC |
| RE ( # DE) ……             | RD・DA  |
| SF ( # DF) ……             | SDF・DC |
| SE ( # DE) ……             | SD・DA  |
| BE ( # RB) ……             | DA     |

## Precautions on Handling

- Do not apply an external force more than necessary to NITTOCON (approximately 60 kg or more to S-type and approximately 20 kg or more to L-type).
- Give due consideration to keeping NITTOCON at intervals of 20mm or more on the plane.
- Although air circulation is unnecessary because of its natural air-cooling system, adopt measures to cool it evenly with air in case of applying a compulsory air-cooling system.
- Although free from moisture degradation because of its processing by complete sintering, keep NITTOCON away from water especially when it is utilized for equipment which uses water-cooling pipes (drips water clinging to the surface may result in surface corona).
- The rated voltage and the rated capacity of NITTOCON are values at 50°C.
- Although the rated capacity of NITTOCON indicates the value at 50~70°C ambient temperature, decrease the rate according to Figure 7 when using it at 50~100°C.

材 質 R (酸化チタニウム系) 規格表 Material - R (Rutile) Rating Table

| 形 名<br>Model | 端子形<br>Terminal<br>Shape | 標準静電容量<br>Standard Ele-<br>ctrostatic Capa-<br>city (PF) |             | 定格電圧 (KV)<br>Rated Voltage |                 |                 | 定格電力容量<br>Rated Power Capacity<br>(KVA) |                 | D $\phi$<br>$\pm 10\%$<br>(mm) | T<br>(mm) | H<br>(mm) | 備 考<br>Remarks |
|--------------|--------------------------|--|-------------|----------------------------|-----------------|-----------------|---|-----------------|--------------------------------|-----------|-----------|----------------|
|              |                          |  |             | H・F<br>尖頭値<br>Peak Value   | D.C.            |                 | 50 $^{\circ}$ C                         | 70 $^{\circ}$ C |                                |           |           |                |
|              |                          |  |             |                            | 50 $^{\circ}$ C | 70 $^{\circ}$ C |   |                 |                                |           |           |                |
| RF-140       | S                        | 500  | 600         | 30                         | 25              | 20              | 90                                      | 60              | 140                            | 33~27     | 53~46     |                |
| "            | "                        | 700  | 800         | 25                         | 21              | 17              | 90                                      | 60              | 140                            | 33~27     | 52~45     |                |
| "            | "                        | 1500   |             | 15                         | 13              | 10              | 90                                      | 60              | 140                            | 33~27     | 50~43     |                |
| "            | "                        | 2000   |             | 9                          | 8               | 7               | 67.5                                    | 45              | 140                            | 30~22     | 47~42     |                |
| RF-110       | S                        | 200  |             | 25                         | 21              | 17              | 45                                      | 30              | 110                            | 24~18     | 55~50     |                |
| "            | "                        | 300  | 400         | 30                         | 25              | 20              | 90                                      | 60              | 110                            | 24~18     | 53~48     |                |
| "            | "                        | 500  | 600         | 18                         | 15              | 12              | 45                                      | 30              | 110                            | 24~18     | 51~45     |                |
| "            | "                        | 700  | 800         | 14                         | 12              | 10              | 30                                      | 20              | 110                            | 24~18     | 49~44     |                |
| "            | "                        | 1000   |             | 12                         | 10              | 8               | 30                                      | 20              | 110                            | 18~13     | 48~43     |                |
| "            | "                        | 1200   | 1500        | 10                         | 8               | 7               | 22                                      | 14              | 110                            | 18~13     | 47~41     |                |
| "            | "                        | 2000   |             | 9                          | 7               | 6               | 15                                      | 10              | 110                            | 18~13     | 46~40     |                |
| RF-80        | S                        | 100  |             | 16                         | 13              | 11              | 22                                      | 14              | 80                             | 24~18     | 40~35     |                |
| "            | "                        | 200  | 250 300     | 18                         | 15              | 12              | 30                                      | 20              | 80                             | 24~18     | 39~29     |                |
| "            | "                        | 400  | 500         | 14                         | 12              | 10              | 15                                      | 10              | 80                             | 20~14     | 32~26     |                |
| "            | "                        | 600  | 700         | 12                         | 10              | 8               | 15                                      | 10              | 80                             | 20~14     | 31~25     |                |
| "            | "                        | 800  | 1000        | 9                          | 8               | 7               | 15                                      | 10              | 80                             | 17~12     | 30~24     |                |
| "            | "                        | 1200   |             | 7                          | 6               | 5               | 15                                      | 10              | 80                             | 17~12     | 29~24     |                |
| RF-60        | S                        | 150  | 100 250     | 14                         | 12              | 10              | 15                                      | 10              | 60                             | 24~14     | 32~22     |                |
| "            | "                        | 300  | 400         | 12                         | 10              | 8               | 7.5                                     | 5               | 60                             | 20~14     | 27~20     |                |
| "            | "                        | 500  | 600 700     | 7                          | 6               | 5               | 7.5                                     | 5               | 60                             | 18~12     | 26~20     |                |
| "            | "                        | 800  | 1000        | 6                          | 5               | 4               | 7.5                                     | 5               | 60                             | 15~10     | 25~20     |                |
| RF-50        | S                        | 100  | 150 200     | 13                         | 11              | 9               | 10                                      | 6.5             | 50                             | 17~12     | 30~21     |                |
| "            | "                        | 250  | 300         | 7                          | 6               | 5               | 6                                       | 4               | 50                             | 17~12     | 26~21     |                |
| "            | "                        | 400  | 500         | 6                          | 5               | 4               | 6                                       | 4               | 50                             | 15~10     | 26~20     |                |
| RF-40        | S                        | 50   | 100 150     | 12                         | 10              | 8               | 6                                       | 4               | 40                             | 21~10     | 36~22     |                |
| "            | "                        | 200  | 250 300     | 6                          | 5               | 4               | 4.5                                     | 3               | 40                             | 15~10     | 26~20     |                |
| RF-30        | S                        | 50   | 100 150     | 6                          | 5               | 4               | 3                                       | 2               | 30                             | 15~10     | 29~22     |                |
| RE-110       | S                        | 400  | 500 600 700 | 2                          | 11              | 8.5             | 10                                      | 6.5             | 110                            | 10~6      | 35~30     |                |
| "            | "                        | 800  | 1000        | 2                          | 8.5             | 7               | 10                                      | 6.5             | 110                            | 8~4       | 33~28     |                |
| "            | "                        | 1200   | 1500 2000   | 2                          | 6               | 5               | 10                                      | 6.5             | 110                            | 7~3       | 32~27     |                |
| RE-80        | S                        | 300  | 400 600     | 2                          | 8.5             | 7               | 7                                       | 4.5             | 80                             | 8~3       | 28~22     |                |
| "            | "                        | 700  | 800 1000    | 2                          | 7               | 5.5             | 7                                       | 4.5             | 80                             | 6~2       | 30~25     |                |
| "            | "                        | 1200   | 1500        | 2                          | 6               | 5               | 7                                       | 4.5             | 80                             | 5~1       | 29~24     |                |
| RE-60        | S                        | 200  | 250 300     | 2                          | 7               | 5.5             | 5                                       | 3.5             | 60                             | 10~5      | 30~24     |                |
| "            | "                        | 400  | 500 600     | 2                          | 6               | 5               | 5                                       | 3.5             | 60                             | 7~3       | 27~22     |                |
| "            | "                        | 700  | 800 1000    | 2                          | 5               | 4               | 5                                       | 3.5             | 60                             | 5~1       | 25~20     |                |
| RE-50        | S                        | 100  | 150 200 300 | 2                          | 6               | 5               | 4                                       | 2.8             | 50                             | 12~8      | 32~27     |                |
| "            | "                        | 400  | 500 600     | 2                          | 5               | 4               | 4                                       | 2.8             | 50                             | 5~1       | 25~20     |                |
| RE-40        | S                        | 50   | 100 150 300 | 2                          | 5               | 4               | 3                                       | 2               | 40                             | 8~1       | 28~20     |                |
| "            | "                        | 400  | 500         | 2                          | 3.5             | 3               | 2.2                                     | 1.5             | 40                             | 3~1       | 23~20     |                |
| RE-30        | S-L                      | 50   | 100 200     | 2                          | 5               | 4               | 2                                       | 1.2             | 30                             | 7~1       | 27~20     |                |
| "            | "                        | 250  | 300         | 2                          | 3               | 2.5             | 2                                       | 1.2             | 30                             | 4~1       | 24~20     |                |
| "            | "                        | 400  | 500         | 2                          | 2               | 1.5             | 1.5                                     | 1               | 30                             | 3~0.5     | 23~19     |                |
| RE-20        | S-L                      | 50   | 100         | 2                          | 3               | 2.5             | 1.5                                     | 1               | 20                             | 5~1       | 21~16     |                |
| "            | "                        | 150  | 200         | 2                          | 2               | 1.5             | 1.5                                     | 1               | 20                             | 3~0.5     | 19~15     |                |

材 質 S (ステアタイト系) 規格表  
Material-S (Steatite) Rating Table

| 形 名<br>Model | 端子形<br>Terminal<br>Shape | 標準静電容量<br>Standard Ele-<br>ctrostatic Capa-<br>city<br>(PF) | 定格電圧 (KV)<br>Rated Voltage |      |      | 定格電力容量<br>Rated Power Capacity<br>(KVA) |     | D<br>±10%<br>(mm) | T<br>(mm) | H<br>(mm) | 備 考<br>Remarks |
|--------------|--------------------------|---|----------------------------|------|------|---|-----|-------------------|-----------|-----------|----------------|
|              |                          |   | H・F<br>尖頭値<br>Peak value   | D.C. |      | 50℃                                     | 70℃ |                   |           |           |                |
|              |                          |   |                            | 50℃  | 70℃  |   |     |                   |           |           |                |
| SF-160       | S                        | 50  | 36                         | 34   | 27   | 135                                     | 90  | 160               | 33~27     | 53~47     |                |
| //           | //                       | 100   | 32                         | 32   | 25   | 135                                     | 90  | 160               | 31~25     | 51~45     |                |
| //           | //                       | 150   | 30                         | 30   | 24   | 90                                      | 60  | 160               | 31~25     | 51~45     |                |
| //           | //                       | 200   | 27                         | 27   | 21   | 90                                      | 60  | 160               | 30~22     | 48~42     |                |
| SF-140       | S                        | 50  | 32                         | 34   | 27   | 90                                      | 60  | 140               | 33~27     | 53~47     |                |
| //           | //                       | 100   | 30                         | 32   | 25   | 90                                      | 60  | 140               | 31~25     | 51~45     |                |
| //           | //                       | 150   | 27                         | 30   | 24   | 60                                      | 40  | 140               | 30~22     | 50~44     |                |
| //           | //                       | 200   | 24                         | 24   | 19   | 60                                      | 40  | 140               | 30~22     | 47~41     |                |
| SF-110       | S                        | 30 40 50  | 26                         | 28   | 22   | 67.5                                    | 45  | 110               | 24~18     | 49~44     |                |
| //           | //                       | 60 70   | 22                         | 24   | 19   | 67.5                                    | 45  | 110               | 24~18     | 48~43     |                |
| //           | //                       | 80 100  | 22                         | 24   | 19   | 45                                      | 30  | 110               | 24~18     | 47~43     |                |
| //           | //                       | 150   | 16                         | 18   | 14.5 | 45                                      | 30  | 110               | 22~15     | 46~42     |                |
| SF-80        | S                        | 20 25 30  | 23                         | 25   | 20   | 45                                      | 30  | 80                | 21~14     | 33~28     |                |
| //           | //                       | 40 50   | 20                         | 22   | 17.5 | 30                                      | 20  | 80                | 21~14     | 31~27     |                |
| //           | //                       | 60  | 16                         | 18   | 14.5 | 22.5                                    | 15  | 80                | 17~12     | 30~26     |                |
| //           | //                       | 70 80   | 13                         | 15   | 12   | 22.5                                    | 15  | 80                | 17~12     | 30~25     |                |
| SF-60        | S                        | 10 15 20  | 18                         | 20   | 16   | 22.5                                    | 15  | 60                | 18~13     | 32~22     |                |
| //           | //                       | 25 30   | 16                         | 18   | 14.5 | 15                                      | 10  | 60                | 17~12     | 26~22     |                |
| //           | //                       | 40  | 14                         | 16   | 12.5 | 12                                      | 8   | 60                | 17~12     | 25~21     |                |
| //           | //                       | 50 60   | 9                          | 11   | 9    | 8                                       | 6   | 60                | 15~10     | 25~20     |                |
| SF-50        | S                        | 10 15 20  | 14                         | 16   | 12.5 | 12                                      | 8   | 50                | 17~12     | 25~21     |                |
| //           | //                       | 25 30   | 12                         | 14   | 11   | 10                                      | 7   | 50                | 15~10     | 25~21     |                |
| //           | //                       | 40  | 9                          | 11   | 9    | 8                                       | 6   | 50                | 15~10     | 25~20     |                |
| SF-40        | S                        | 5 10 15 20  | 12                         | 14   | 11   | 7.5                                     | 5   | 40                | 17~10     | 27~21     |                |
| //           | //                       | 25 30   | 8                          | 10   | 8    | 7.5                                     | 5   | 40                | 15~10     | 25~20     |                |
| SF-30        | S                        | 5 10 15 20  | 6                          | 8    | 7    | 5                                       | 3.5 | 30                | 15~8      | 27~20     |                |
| SE-110       | S                        | 50 60 70  | 4                          | 14   | 11   | 21                                      | 14  | 110               | 10~1      | 35~25     |                |
| SE-80        | S                        | 50 60 70  | 4                          | 10   | 8    | 11                                      | 7.5 | 80                | 7~1       | 31~24     |                |
| SE-60        | S                        | 10 20 25 30 40 50   | 4                          | 8    | 6.5  | 6                                       | 4   | 60                | 10~1      | 30~20     |                |
| SE-50        | S                        | 10 20 30 40   | 4                          | 6.5  | 5    | 4.5                                     | 3   | 50                | 8~1       | 28~20     |                |
| SE-40        | S                        | 10 15 20 25 30  | 4                          | 5    | 4    | 3                                       | 2   | 40                | 6~1       | 26~20     |                |
| SE-30        | S-L                      | 5 10 15 20 25   | 2                          | 3    | 2.5  | 2                                       | 1.5 | 30                | 5~0.5     | 25~20     |                |
| SE-20        | S-L                      | 5 10 15 20  | 2                          | 2    | 1.5  | 1.5                                     | 1   | 20                | 3~0.5     | 19~15     |                |



材 質 B (チタン酸バリウム系) 規格表  
 Material-B (Barium) Rating Table

| 形 名<br>Model | 端子形<br>Terminal<br>Shape | 静 電 容 量<br>Electrostatic Capacity<br>±50%<br>(PF) | 直 流 電 圧 (常 温)<br>D. C Voltage    |                                 | D <sup>φ</sup><br>±10%<br>(mm) | T<br>(mm) | H<br>(mm) | 備 考<br>Remarks |
|--------------|--------------------------|---|----------------------------------|---------------------------------|--------------------------------|-----------|-----------|----------------|
|              |                          |   | 定 格 電 圧<br>Rated Voltage<br>(KV) | 試 験 電 圧<br>Test Voltage<br>(KV) |                                |           |           |                |
| BE-60        | S                        | 20,000  | 4                                | 8                               | 60                             | 4~1       | 23~20     |                |
| //           | //                       | 10,000  | 5                                | 10                              | 60                             | 8~4       | 27~23     |                |
| //           | //                       | 5,000   | 6                                | 12                              | 60                             | 9~5       | 28~24     |                |
| BE-50        | S                        | 15,000  | 2.5                              | 5                               | 50                             | 4~1       | 23~20     |                |
| //           | //                       | 8,000   | 3                                | 6                               | 50                             | 6~2       | 25~21     |                |
| //           | //                       | 5,000   | 4                                | 8                               | 50                             | 7~2       | 26~21     |                |
| //           | //                       | 3,000   | 5                                | 10                              | 50                             | 7~3       | 26~22     |                |
| //           | //                       | 2,000   | 5                                | 10                              | 50                             | 7~3       | 26~22     |                |
| BE-40        | S                        | 10,000  | 2.5                              | 5                               | 40                             | 4~1       | 23~20     |                |
| //           | //                       | 5,000   | 3                                | 6                               | 40                             | 5~1       | 24~20     |                |
| //           | //                       | 3,000   | 4                                | 8                               | 40                             | 5~1       | 24~20     |                |
| //           | //                       | 2,000   | 4                                | 8                               | 40                             | 6~2       | 25~21     |                |
| //           | //                       | 1,000   | 4                                | 8                               | 40                             | 6~2       | 25~21     |                |
| BE-30        | S-L                      | 10,000  | 1                                | 2                               | 30                             | 3~0.5     | 22~19     |                |
| //           | //                       | 5,000   | 2                                | 4                               | 30                             | 4~1       | 23~20     |                |
| //           | //                       | 3,000   | 3                                | 6                               | 30                             | 5~1       | 24~20     |                |
| //           | //                       | 2,000   | 3                                | 6                               | 30                             | 5~1       | 24~20     |                |
| //           | //                       | 1,000   | 3                                | 6                               | 30                             | 5~1       | 24~20     |                |
| BE-20        | S-L                      | 2,000   | 2                                | 4                               | 20                             | 5~1       | 20~16     |                |
| //           | //                       | 1,000   | 2                                | 4                               | 20                             | 4~1       | 19~16     |                |

# 材 質 (R) Material

| 定格電圧 (kv)<br>Rated Voltage |              | 定格電力容量<br>Rated Electric Capacity<br>50°C (KVA) | 標 準 静 電 容 量 (PF)<br>Standard Electrostatic Capacity |       |       |        |     |       |        |        |        |       |        |        |        |        |        |  |
|----------------------------|--------------|---|---|-------|-------|--------|-----|-------|--------|--------|--------|-------|--------|--------|--------|--------|--------|--|
| H.F<br>尖頭值<br>Peak value   | D.C.<br>50°C |   | 50  | 100   | 150   | 200    | 250 | 300   | 400    | 500    | 600    | 700   | 800    | 1000   | 1200   | 1500   | 2000   |  |
| 30                         | 25           | 90  |   |       |       |        |     |       | RF-110 |        | RF-140 |       |        |        |        |        |        |  |
| 25                         | 21           | 90  |   |       |       |        |     |       |        |        |        |       |        | RF-140 |        |        |        |  |
|                            | 21           | 45  |   |       |       | RF-110 |     |       |        |        |        |       |        |        |        |        |        |  |
| 18                         | 15           | 45  |   |       |       |        |     |       |        | RF-110 |        |       |        |        |        |        |        |  |
|                            | 15           | 30  |   |       |       | RF-80  |     |       |        |        |        |       |        |        |        |        |        |  |
| 16                         | 13           | 22  |   |       | RF-80 |        |     |       |        |        |        |       |        |        |        |        |        |  |
| 15                         | 13           | 90  |   |       |       |        |     |       |        |        |        |       |        |        |        | RF-140 |        |  |
| 14                         | 12           | 30  |   |       |       |        |     |       |        |        | RF-110 |       |        |        |        |        |        |  |
|                            | 12           | 15  |   | RF-60 |       |        |     |       | RF-80  |        |        |       |        |        |        |        |        |  |
| 13                         | 11           | 10  |   | RF-50 |       |        |     |       |        |        |        |       |        |        |        |        |        |  |
| 12                         | 10           | 30  |   |       |       |        |     |       |        |        |        |       |        | RF-110 |        |        |        |  |
|                            | 10           | 15  |   |       |       |        |     |       |        | RF-80  |        |       |        |        |        |        |        |  |
|                            | 10           | 7.5   |   |       |       |        |     | RF-60 |        |        |        |       |        |        |        |        |        |  |
|                            | 10           | 6   |   | RF-40 |       |        |     |       |        |        |        |       |        |        |        |        |        |  |
| 10                         | 8            | 22  |   |       |       |        |     |       |        |        |        |       |        |        |        | RF-110 |        |  |
| 9                          | 8            | 67.5  |   |       |       |        |     |       |        |        |        |       |        |        |        |        | RF-140 |  |
|                            | 8            | 15  |   |       |       |        |     |       |        |        |        |       | RF-80  |        |        |        |        |  |
| 7                          | 7            | 15  |   |       |       |        |     |       |        |        |        |       |        |        |        | RF-110 |        |  |
|                            | 6            | 15  |   |       |       |        |     |       |        |        |        |       |        |        |        | RF-80  |        |  |
|                            | 6            | 7.5   |   |       |       |        |     |       |        | RF-60  |        |       |        |        |        |        |        |  |
| 6                          | 6            | 6   |   |       |       |        |     | RF-50 |        |        |        |       |        |        |        |        |        |  |
|                            | 5            | 7.5   |   |       |       |        |     |       |        |        |        |       | RF-60  |        |        |        |        |  |
|                            | 5            | 6   |   |       |       |        |     |       | RF-50  |        |        |       |        |        |        |        |        |  |
|                            | 5            | 4.5   |   |       |       | RF-40  |     |       |        |        |        |       |        |        |        |        |        |  |
| 2                          | 5            | 3   |   | RF-30 |       |        |     |       |        |        |        |       |        |        |        |        |        |  |
|                            | 11           | 10  |   |       |       |        |     |       |        | RE-110 |        |       |        |        |        |        |        |  |
|                            | 8.5          | 10  |   |       |       |        |     |       |        |        |        |       | RE-110 |        |        |        |        |  |
|                            | 8.5          | 7   |   |       |       |        |     |       | RE-80  |        |        |       |        |        |        |        |        |  |
|                            | 7            | 7   |   |       |       |        |     |       |        |        |        | RE-80 |        |        |        |        |        |  |
|                            | 7            | 5   |   |       |       | RE-60  |     |       |        |        |        |       |        |        |        |        |        |  |
|                            | 6            | 10  |   |       |       |        |     |       |        |        |        |       |        |        | RE-110 |        |        |  |
|                            | 6            | 7   |   |       |       |        |     |       |        |        |        |       |        |        | RE-80  |        |        |  |
|                            | 6            | 5   |   |       |       |        |     |       |        | RE-60  |        |       |        |        |        |        |        |  |
|                            | 6            | 4   |   | RE-50 |       |        |     |       |        |        |        |       |        |        |        |        |        |  |
|                            | 5            | 5   |   |       |       |        |     |       |        |        |        | RE-60 |        |        |        |        |        |  |
|                            | 5            | 4   |   |       |       |        |     |       |        | RE-50  |        |       |        |        |        |        |        |  |
|                            | 5            | 3   |   | RE-40 |       |        |     |       |        |        |        |       |        |        |        |        |        |  |
|                            | 5            | 2   |   | RE-30 |       |        |     |       |        |        |        |       |        |        |        |        |        |  |
|                            | 3.5          | 2.2   |   |       |       |        |     |       |        | RE-40  |        |       |        |        |        |        |        |  |
| 3                          | 2            |   |   |       |       |        |     | RE-30 |        |        |        |       |        |        |        |        |        |  |
| 3                          | 1.5          |   | RE-20   |       |       |        |     |       |        |        |        |       |        |        |        |        |        |  |
| 2                          | 1.5          |   |   |       | RE-20 |        |     |       |        | RE-30  |        |       |        |        |        |        |        |  |

## 材 質 Material (S)

| 定格電圧 (kv)<br>Rated voltage |                            | 定格電力容量<br>Rated Power Capacity<br>50℃ (KVA) | 標準 静電容量 (pF)<br>Standard electrostatic capacity |    |       |    |       |        |        |        |        |        |    |        |     |        |
|----------------------------|----------------------------|---|---|----|-------|----|-------|--------|--------|--------|--------|--------|----|--------|-----|--------|
| 高周波<br>尖頭値<br>Peak value   | 直流電圧<br>D.C voltage<br>50℃ |   | 5   | 10 | 15    | 20 | 25    | 30     | 40     | 50     | 60     | 70     | 80 | 100    | 150 | 200    |
| 36                         | 34                         | 135   |   |    |       |    |       |        | SF-160 |        |        |        |    |        |     |        |
| 32                         | 34                         | 90  |   |    |       |    |       | SF-140 |        |        |        |        |    | SF-160 |     |        |
|                            | 32                         | 135   |   |    |       |    |       |        |        |        |        |        |    | SF-140 |     |        |
| 30                         | 32                         | 90  |   |    |       |    |       |        |        |        |        |        |    | SF-160 |     |        |
|                            | 30                         | 90  |   |    |       |    |       |        |        |        |        |        |    | SF-140 |     |        |
| 27                         | 30                         | 60  |   |    |       |    |       |        |        |        |        |        |    | SF-160 |     |        |
|                            | 27                         | 90  |   |    |       |    |       |        |        |        |        |        |    | SF-140 |     |        |
| 26                         | 28                         | 67.5  |   |    |       |    |       | SF-110 |        |        |        |        |    |        |     |        |
| 24                         | 24                         | 60  |   |    |       |    |       |        |        |        |        |        |    |        |     | SF-140 |
| 23                         | 25                         | 45  |   |    |       |    | SF-80 |        |        |        |        |        |    |        |     |        |
| 22                         | 24                         | 67.5  |   |    |       |    |       |        |        |        | SF-110 |        |    |        |     |        |
|                            | 24                         | 45  |   |    |       |    |       |        |        |        |        | SF-110 |    |        |     |        |
| 20                         | 22                         | 30  |   |    |       |    |       |        | SF-80  |        |        |        |    |        |     |        |
| 18                         | 20                         | 22.5  |   |    | SF-60 |    |       |        |        |        |        |        |    |        |     |        |
|                            | 18                         | 45  |   |    |       |    |       |        |        |        |        |        |    |        |     | SF-110 |
| 16                         | 18                         | 22.5  |   |    |       |    |       |        |        |        | SF-60  |        |    |        |     |        |
|                            | 18                         | 15  |   |    |       |    | SF-60 |        |        |        |        |        |    |        |     |        |
| 14                         | 16                         | 12  |   |    | SF-50 |    |       |        | SF-60  |        |        |        |    |        |     |        |
| 13                         | 15                         | 22.5  |   |    |       |    |       |        |        |        |        | SF-80  |    |        |     |        |
| 12                         | 14                         | 10  |   |    |       |    |       | SF-50  |        |        |        |        |    |        |     |        |
|                            | 14                         | 7.5   |   |    | SF-40 |    |       |        |        |        |        |        |    |        |     |        |
| 9                          | 11                         | 8   |   |    |       |    |       |        | SF-50  | SF-60  |        |        |    |        |     |        |
| 8                          | 10                         | 7.5   |   |    |       |    |       | SF-40  |        |        |        |        |    |        |     |        |
| 6                          | 8                          | 5   |   |    | SF-30 |    |       |        |        |        |        |        |    |        |     |        |
|                            | 14                         | 21  |   |    |       |    |       |        |        | SE-110 |        |        |    |        |     |        |
|                            | 10                         | 11  |   |    |       |    |       |        |        | SE-80  |        |        |    |        |     |        |
| 4                          | 8                          | 6   |   |    |       |    |       |        |        | SE-60  |        |        |    |        |     |        |
|                            | 6.5                        | 4.5   |   |    |       |    |       |        |        | SE-50  |        |        |    |        |     |        |
|                            | 5                          | 3   |   |    |       |    |       |        |        | SE-40  |        |        |    |        |     |        |
| 2                          | 3                          | 2   |   |    |       |    |       |        |        | SE-30  |        |        |    |        |     |        |
|                            | 2                          | 1.5   |   |    |       |    |       |        |        | SE-20  |        |        |    |        |     |        |

## 材 質 Material (B)

| W.V<br>D.C | 静電容量<br>Electrostatic<br>capacitance | 1,000<br>PF | 2,000<br>PF | 3,000<br>PF | 5,000<br>PF | 8,000<br>PF | 10,000<br>PF | 15,000<br>PF | 20,000<br>PF |
|------------|--------------------------------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|
|            | 6 k                                  |             |             |             | BE-60       |             |              |              |              |
|            | 5 k                                  |             | BE-50       | BE-50       |             |             | BE-60        |              |              |
|            | 4 k                                  | BE-40       | BE-40       | BE-40       | BE-50       |             |              |              | BE-60        |
|            | 3 k                                  | BE-30       | BE-30       | BE-30       | BE-40       | BE-50       |              |              |              |
|            | 2.5 k                                |             |             |             |             |             | BE-40        | BE-50        |              |
|            | 2 k                                  | BE-20       | BE-20       |             | BE-30       |             |              |              |              |
|            | 1 k                                  |             |             |             |             |             | BE-30        |              |              |