

SG2901 and SG2905/1000

Dissipation Factor $\tan\delta$ Standards



Resistance units Series **SG2901** for **SG2905/1000** standard capacitors.

General

Dissipation factor $\tan\delta$ standards are designed for checking the accuracy of capacitance and a $\tan\delta$ standard is basically a standard capacitor in series with a resistor. To avoid excessive resistance values, a 1000pF capacitor with a negligible dissipation factor is used. Samgor has determined the following $\tan\delta$ values for a measuring frequency of 50Hz.

However, the actual standard-unit resistor values differ from these theoretical values. Owing to quite considerable scatter of the partial calibrated jointly with the standard capacitor.

Design

The **SG2901** resistance unit contains the resistors for all four $\tan\delta$ values accommodated in a sheet-metal casing. Four sockets for No.101 cable are provided on one side of the casing and two plugs on the other. The resistance unit plugs directly into the top of the SG2905/1000 standard capacitor (see illustration on left).

Type 3722 resistance unit resistors for each $\tan\delta$ value are accommodated in a separate casing. Each casing plugs directly into the top of the type SG2905/1000/20/(25) standard capacitor(see illustration on right).

Technical specification

Dissipation factor $\tan\delta$ values:

$$5 \times 10^{-5}, 1 \times 10^{-4}, 5 \times 10^{-4}, 1 \times 10^{-5}$$

Operating voltage/capacitance:

3320/1000 with SG2901: max 2kV/1000pF

SG2905/1000 with 3722: max 20(25) kV/1000pF

Accuracy

This depends on the following:

- Dissipation factor of standard capacitor $\tan\delta \leq 1 \times 10^{-5}$

- Accuracy and constant value of resistors.

Accuracy class 0.1

Overall accuracy of dissipation factor $\tan\delta$:

$$\pm 1\% \text{ of indicated value } \pm 1 \times 10^{-5}$$

Technical data for **SAMGOR** standard capacitors are specified in leaflets 3320 and 3385.

General indications on measuring accuracy in connection with capacitance and $\tan\delta$ measuring bridges are to be found in **SAMGOR** INFORMATION No.22.

Dimensions

SG2901 W150×H60×L115mm

Type 3722 W38×H32×L130mm(each unit)

Weight

SG2901 0.85kg

Type 3722 0.65kg complete set of 4

Order specification

- Dissipation factor $\tan \delta$ standard, comprising:

1 Standard air capacitor type 3320/1000

And

1 Resistance unit type 3721

- Dissipation loss $\tan \delta$ standard for up to 20(25)kV, 50Hz,

Comprising:

1 Compressed gas

Capacitor type 3385/1000/20

Or type 3385/1000/25

And

1 Set of four resistance units type 3722

Dissipation factor standards for 60 Hz or with other $\tan \delta$ values are available on request.

For further information please contact:

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