Applicable to IEC 60270, 60664-1

PARTIAL DISCHARGE MEASURING SYSTEM

This is an integrated PD test system that can perform partial discharge tests on EV motors, IGBTs as well as high-frequency transformer components and insulating materials. Consisting of a partial discharge measuring instrument, a high-voltage test power supply and a test chamber, the system realizes less influence of noise and provides safe automatic testing. In addition to the software for voltage-discharge amount test (V-Qmax) and voltage-time characteristics test (V-T), we also support test programs based on IEC standards.

Features

- Qmax, PDIV, PDEV test with software
- Test Voltage range: 0 - 5kV
  (Consult us for higher voltage)
- Test Frequency: 46Hz - 1kHz
- Design for safe operation
- Shielded from the external noise
- Interlock function
- Warning light
- Emergency Stop function

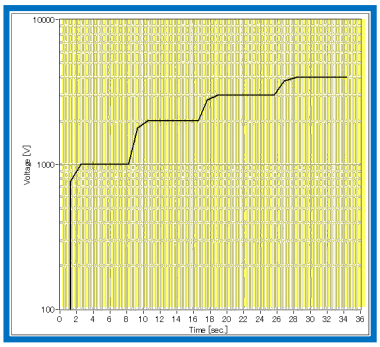


Application

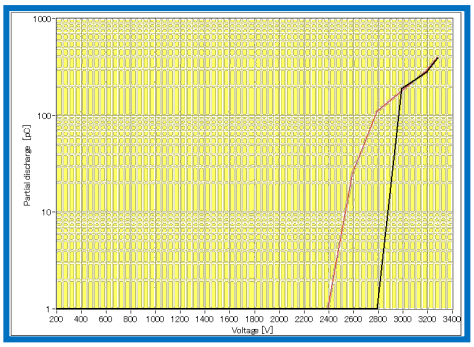
- EV motor
- IGBT
- High-Frequency Transformer
- Ceramic capacitor
- Electrical insulation materials

Test Items

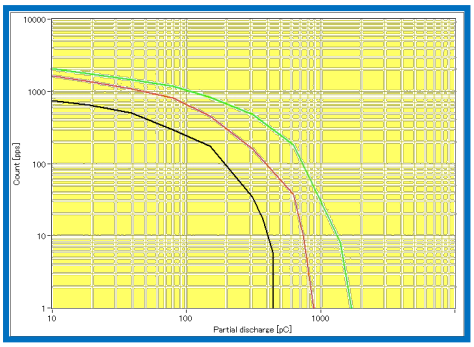
PD Test Voltage — Time



PD Test Voltage — Discharge quantity



PD Occurrence Frequency – Discharge Charge Amount



SOKEN ELECTRIC CO., LTD.
http://www.soken-jp.com

PARTIAL DISCHARGE MEASURING SYSTEM DAC-6021

Integrating a partial discharge measuring instrument, detector, coupling capacitor and a test chamber into a system rack, the PD test system realizes simple and safe operation. The operator can perform test by entering or recalling specific test parameters. The specified test can be repeated, and stored to a database and printed.

System Configuration Example

- Test Item : Qmax, PDIV/PDEV testing
- Test Voltage : AC0 - 5000V
- Test Frequency : 46Hz - 1kHz
- Input Power : AC100V/200V 50/60Hz
- Dimension and weight : W570×H1500×D630(mm) about 100kg

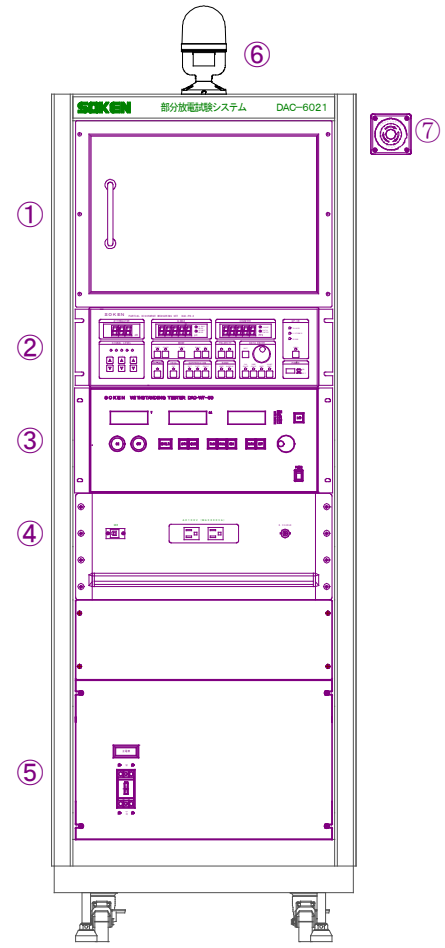
② Partial Discharge Measuring Instrument Model DAC-PD-3

Frequency band width:

Narrow : 10kHz - 200kHz

Wide : 10kHz - 4MHz





① Safety test chamber

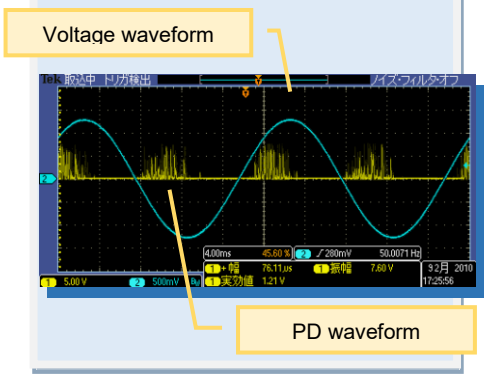
Built-in Detector, Coupling capacitor, Blocking coil type.

By measuring the sample in the chamber, the voltage application part is isolated to realize safe operation. The whole chamber is connected to ground potential, and ambient noise is shielded from the measuring circuit.

④ Output terminal for monitoring waveform

With a slide-table for PC type.

By connecting oscilloscope, Voltage waveform and Partial discharge waveform can be observed.



③ Withstand voltage test set

Model DAC-WT-50T

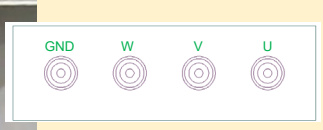
AC 0 – 5000V (<10pC @ 5000V)

Variable Frequency 46Hz - 1kHz



⑤ Main Power breaker
⑥ Warning indication light
⑦ Emergency Stop Switch





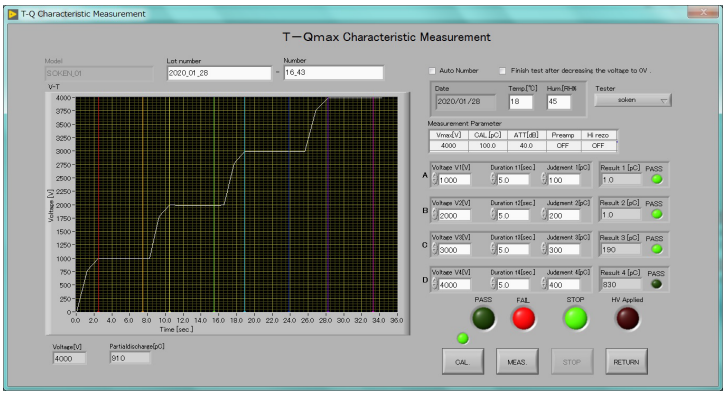
Please consult us for a higher test voltage system.

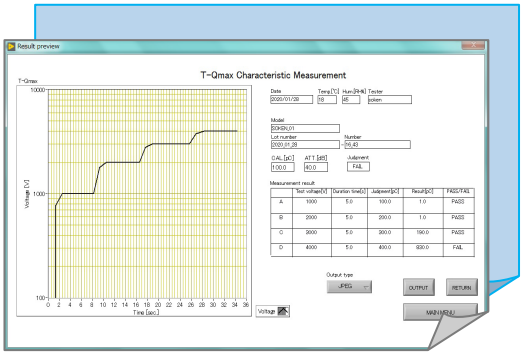
We also propose a system that can switch test points, which is desirable for a 3-phase product such as a 3-phase stator.

SOFTWARE

■ PD Test Voltage – Time Characteristics (T-Qmax)

Apply an optional voltage to the sample for an optional time to obtain the discharge charge amount.
Max 4 types (A, B, C and D) voltage-time measurement patterns can be registered and judgment can be made for each pattern.

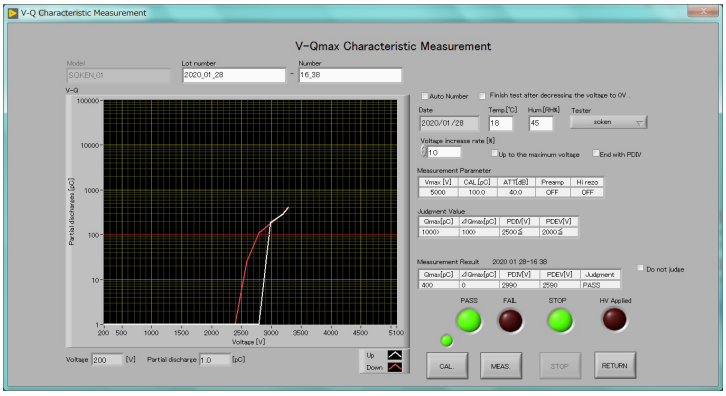


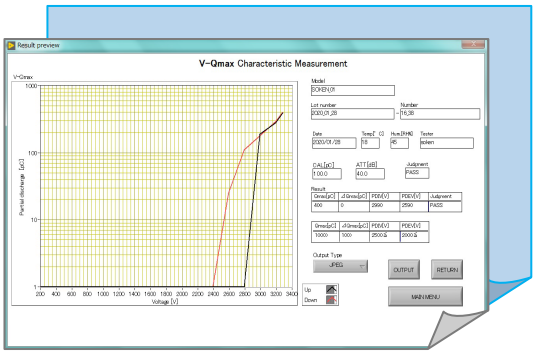


Print Out Display

■ PD Test voltage – Discharge Charge Amount Characteristics（V-Qmax）

Perform PDIV/PDEV test. The voltage applied to the sample is increased at a constant speed to determine the partial discharge inception voltage, and decreased to determine partial discharge extinction voltage.

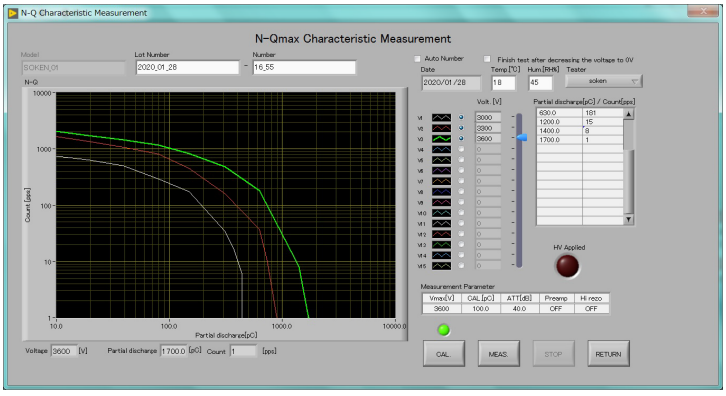


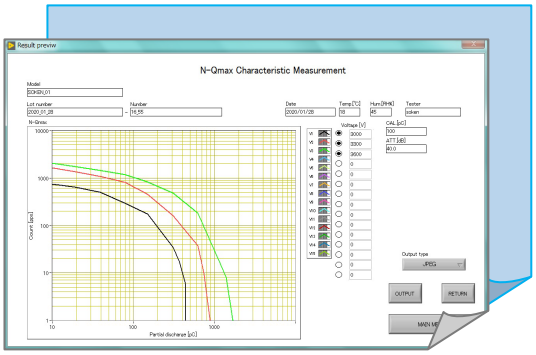


Print Out Display

■ PD Occurrence Frequency – Discharge Charge Amount Characteristics（N-Qmax）

Apply a certain voltage to the sample and count the number of partial discharge occurrences at each charge amount. Test voltage of max 15 levels can be input and data at each test voltage can be obtained.





Print Out Display

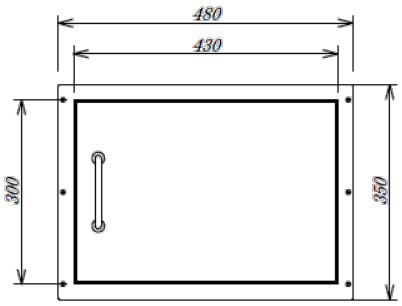
Variable Frequency Withstand Voltage Test Set Model DAC-WT-50T

DAC-WT-50T is a PD Free variable frequency withstand test set for partial discharge measurement. By introducing a linear amplifier, the voltage can be applied to the test sample accurately without being affected by the power supply waveform distortion.

- ●Input Voltage :AC100V/200V 50/60Hz
- ●Output Voltage :AC0 to 5000V
- ●Partial Discharge :10pC or less (at Max output Voltage)
- ●Voltage step :5V step
- ●Output Frequency :46Hz to 1kHz
- ●Waveform :Sine Wave
- ●Waveform Distortion :3% or less
- ●Voltage Variation Rate :1% or less（From zero load to Max load）
- ●Maximum current :70mA (Rated 30 minutes)
- ●Maximum Capacitance Load :10000pF
- ●Interface :GP-IB
- ●Dimension and weight :W430×H200×D380(mm) about 25kg



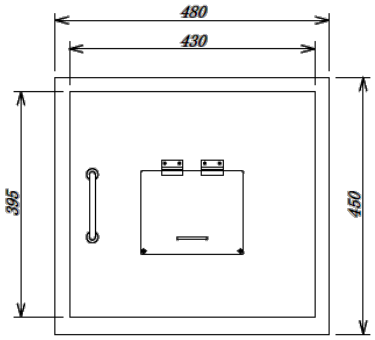
Shielded Test Chamber Line-up



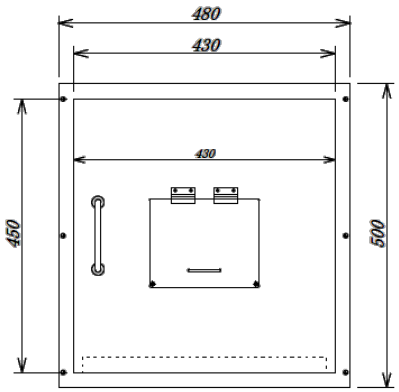
Standard Model
W480xH350xD380mm

Standard Specifications:
Magnet Catch・Insulation board・H/L Measurement Terminals

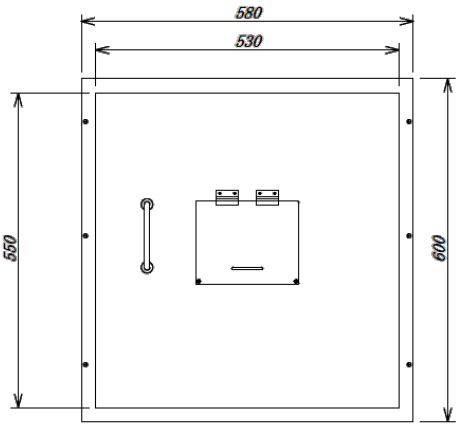
Options:
-Safety switch lock
-Slide Table
-Built-in sensor to monitor environmental conditions (with a separate display)
-Observation window (except the standard model）
-Measurement Terminal (GND,U,V,W) (with a separate exchange unit)



W480xH450xD420mm



W480xH500xD420mm



W580xH600xD540mm

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