

Advanced DAC Test System H300

Compact, lightweight, and versatile DAC cable test system featuring withstand voltage test, PD analysis, and PD localization

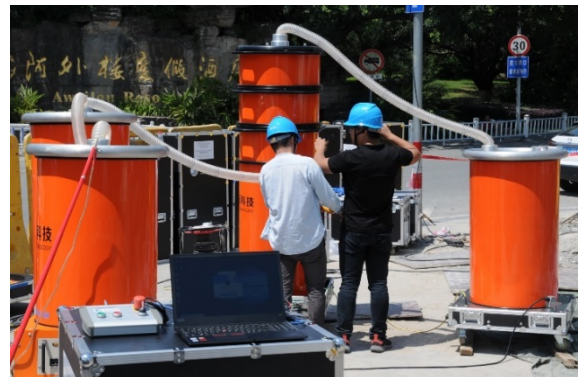
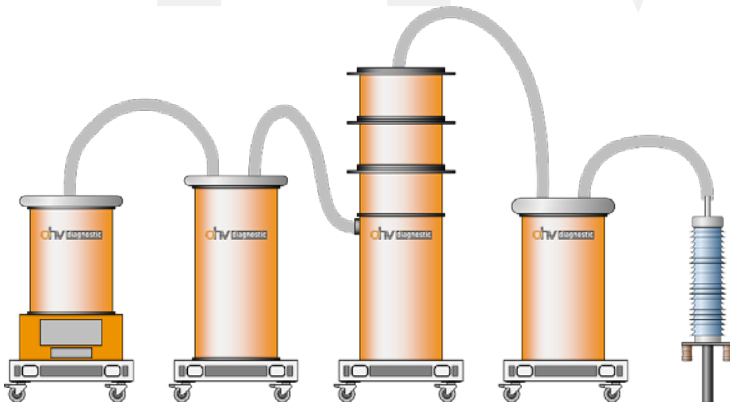
The Damped Alternating Current (DAC) high voltage H300 is an exceptionally compact, lightweight, and versatile system for testing and diagnosis of high voltage transmission cables. It is programmable and features automatic withstand voltage test, partial discharge (PD) measurement and analysis as well as PD localization. Control and analysis are user-friendly using the intuitive software.

DAC cable testing is not only a basic “good or bad” measurement tool but an advanced analysis and diagnosis concept. It allows to assess the cable insulation condition of newly installed, repaired, or service-aged cable systems and thus supports asset management. The measuring modes include:

- Voltage withstand test
- Partial discharge measurement, analysis, and location along complete length of cable
- Estimation of loss factor (tan delta)

DAC voltage test and PD analysis allow reliable detection of:

- Insulation deficiencies from poor workmanship during installation or laying
- Deficiencies of the cable accessories, such as joints and terminations
- Cable insulation deterioration due to ageing processes



The DAC cable test systems are designed to meet the specific maximum test voltage as per request. The test systems are supplied and delivered with rugged and robust transportation and storage cases, which are easy to ship to the cable test site.

Features:

- Withstand voltage testing and PD analysis as per IEC 60060-3 and IEEE 400.4
- Loss factor estimation (tan delta)
- Maximum charging and peak voltage 288 kV
- Includes 4 units, approx. 700 kg total
- Rugged and robust transportation and storage cases
- Easy and intuitive operation with included diagnostic software

Technical Data:

System Layout	
Unit 1	High voltage direct current (HVDC) generator
Unit 2	High voltage switch
Unit 3	Oscillator impedance
Unit 4	Measuring and coupling capacitor
Voltages and Operation	
Power Supply	3 phase, 380 V, 48 – 63 Hz, 4 kVA
DAC Output Voltage	Max. 288 kV _{peak} / 204 kV _{rms} (rating adaptable to customer request)
DAC Frequency Range	30 – 500 Hz
Operation	
Test Object Capacity	30 nF – 3 μF (approx. 13 km / 8 miles of cable)
Joint Locating	Integrated in calibration mode
PD Measuring Range	5 pC – 100 nC
PD Measuring Resolution	1 pC
PD Location	Wideband, 100 kHz – 20 MHz, automatic adjustment
Software	Diagnostic Suite included
Safety	Grounding rod & Voltage control
Environmental Sensors	Humidity and Temperature
Operating Range	Temperature: 0 – 50°C (32 – 122°F) Humidity: 5 – 90% RH, non-condensing
Weight (4 Units)	700 kg (1,540 lbs), depending on voltage rating
Dimensions	4 units in transportation and storage boxes, each 800 x 800 mm (32 x 32 in.) footprint and 1200 – 2100 mm (47 – 83 in.), depending on voltage rating

Scope of Supply:

- DAC system including HVDC power supply, HV switch, oscillator coil, and measuring/coupling capacitor in 4 rugged cases
- Cable set including power supply, ground, HV connection cable, and grounding rod
- Calibrator
- Rugged case for cables and accessories
- Diagnostic software and operating manual