

## PHG 70 portable / PHG 80 portable

### BAUR VLF test system



### Portable, high performance test generator with VLF truesinus® technology

- 3 voltage shapes in one device:  
VLF truesinus®, VLF square wave and DC voltage
- For medium-voltage cables of up to 50 kV operating voltage
- Cable testing, fault conditioning, cable sheath testing
- With PD-TaD 80: extendable to a partial discharge and dissipation factor diagnostics system

The BAUR PHG 70/80 portable VLF test systems are used for cable and cable sheath testing of medium-voltage cables of up to 50 kV and electrical equipment. The programmable high-voltage generators offer 3 tried and tested voltage shapes:

#### VLF truesinus® and VLF square wave

BAUR VLF truesinus® digital technology enables the most reliable detection of damage and offers the comparability of measurement results by means of load-independent voltage generation with digital control. Unlike other voltage shapes, the voltage is exact, symmetrical and continuous. The cable length has no influence on the test level. Medium-voltage cables are tested with utmost care and in compliance with the standards.

#### DC voltage

For DC voltage testing, e.g. for earth cables, the PHG 70/80 provides a stabilised DC voltage with positive and negative polarity of up to 80 kV.

The PHG system satisfies the highest requirements with regard to safety, robustness, operational convenience and automation. Customised test sequences can be defined and saved via the self-explanatory menu control. High-voltage electrical breakdowns are automatically recognised during the test. The system either switches off automatically or goes into burn mode after the breakdown according to how it is programmed.

#### Applications

- VLF truesinus® up to 38 / 57 kV<sub>rms</sub>
- VLF square wave up to 57 / 80 kV
- DC voltage up to ±70 / ±80 kV
- Cable testing according to:  
IEC 60502, DIN VDE 0276-620/621  
(CENELEC HD 620/621), IEC 60060.3,  
IEEE 400.2-2013, IEEE 400-2012
- Cable sheath testing according to  
IEC 60229
- Testing of generators, transformers and  
switchgear

#### Features

- High performance test generator (3 kW)  
with adjustable output voltage
- Compact, in a 19" housing
- Control via laptop
- Load-independent, reproducible  
sinusoidal high voltage by means of VLF  
truesinus® technology
- Adjustable test frequency: 0,01 Hz – 1 Hz
- Individually programmable, fully  
automatic test sequences
- Greater flexibility via "Manual test" mode
- Automatic breakdown detection
- Burn mode or safe shutdown on  
breakdown
- Control of test generator with professional,  
self-explanatory software in 23 languages
- Cable database for management of  
cable data and structured, easy to search  
storage of logs
- Safety control unit in compliance with  
EN 50191
- Reverse voltage protection 50 Hz – 16 kV
- Variable connection options to cable  
stations of different models
- Standalone system or for installation in  
cable test vans

## Technical data

| Output voltage          | PHG 70  | PHG 80   |
|-------------------------|---|--|
| Frequency range         | 0.01 – 1 Hz   | 0.01 – 1 Hz  |
| VLF truesinus®          | 1 – 38 kV <sub>rms</sub><br>1.4 – 53.7 kV <sub>peak</sub> | 1 – 57 kV <sub>rms</sub><br>1.4 – 80.6 kV <sub>peak</sub>  |
| VLF square wave voltage | 1 – 57 kV   | 1 – 80 kV  |
| DC voltage              | 0 to ±70 kV   | 0 to ±80 kV  |
| Max. capacitive load    | Up to 20 µF   | Up to 20 µF<br>1.2 µF @ 0.1 Hz @<br>57 kV <sub>rms</sub><br>3 µF @ 0.1 Hz @ 38 kV <sub>rms</sub><br>4 µF @ 0.1 Hz @ 30 kV <sub>rms</sub> |
| Resolution              | 0.1 kV  | 0.1 kV   |
| Accuracy                | 1%  | 1%   |
| Output current          | PHG 70  | PHG 80   |
| Measurement range       | 0 – 200 mA  | 0 – 200 mA   |
| Output current          | 10 mA @ 70 kV<br>60 mA @ 50 kV<br>90 mA @ 20 kV           | 1.8 mA @ 80 kV<br>60 mA @ 50 kV<br>90 mA @ 20 kV   |
| Max. burn current       | 120 mA  | 120 mA   |
| Resolution              | 10 µA   | 10 µA  |
| Accuracy                | 1%  | 1%   |

## Standard delivery

- PHG 70/80 portable BAUR VLF test system
  - PHG 70 or PHG 80 HV generator
  - SCU safety control unit
  - Laptop with pre-installed Windows 7 Ultimate, BAUR system software and MS Office, incl. carrying bag
  - GDR 80-500 discharge and earth rod
  - 19" rack for PHG 70/80 portable incl. HV connection cable, earth cable and mains supply cord, cable lengths of 10 m respectively
  - Set of 4 wheels for 19" rack, mounted
  - Carry handles for 19" rack
  - User manual

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| Laptop                              |   |
|-------------------------------------|---|
| Processor                           | Intel Core i5   |
| Operating system                    | Windows 7 Ultimate 32-bit (or higher)   |
| Working memory                      | At least 4 GB   |
| Hard disk                           | At least 256 GB SSD   |
| General                             |   |
| Power supply                        | 200 – 260 V, 50/60 Hz   |
| Option                              | 100 – 140 V, 50/60 Hz<br>(with auto transformer)  |
| Max. power consumption              | 3,500 VA  |
| Degree of protection                | IP22  |
| Dimensions HV generator (W x H x D) | approx. 755 x 850 x 991 mm (19", 15 RU)   |
| Weight HV generator                 | Approx. 199 kg, incl. rack and connection cable   |
| Ambient temperature (HV generator)  | -20°C to +55°C*   |
| Storage temperature (HV generator)  | -30°C to +70°C  |
| Relative humidity                   | Non-condensing  |
| Safety and EMC                      | CE-compliant in accordance with Low Voltage Directive (2014/35/EU), EMC Directive (2014/30/EU), EN 60068-2-ff Environmental testing   |
| Software available in 23 languages  | English, Arabic, Chinese (CN), Chinese (TW), Czech, Danish, Dutch, German, Finnish, French, Greek, Italian, Korean, Malay, Norwegian, Polish, Portuguese, Romanian, Russian, Serbian, Swedish, Spanish, Turkish |

\* from 45°C with reduction in performance

## Options

- External auto transformer, 110/230 V; 3.0 kVA
- BAUR PD-TaD 80 portable PD diagnostics system:
  - PD testing up to 57 kV<sub>rms</sub>
  - Integrated dissipation factor measurement up to 57 kV<sub>rms</sub>