

Data Sheet no. 2.13/1

## DC Voltage Charging & Test Systems up to 900 kV, Series M, Type GP.../...M

### Description:

#### Application

for quick charging of pure capacitive loads of some 10  $\mu$ F, as e.g. capacitor banks and furthermore with additional smoothing capacitor for isolation tests on dry or wet HV insulations with output currents of some 100 mA,

#### DC Voltage Generator

##### Circuitry:

Single-stage doubler circuitry acc. Greinacher

**Stage no-load voltage:** 500, 600 or 900 kV

##### Mechanical construction:

Two-column structure with a vertical rectifier column, example see Fig. 1

##### Polarity change-over:

automatically within some sec.

##### Discharging/earthing:

automatically and with additional earthing bars

#### Feeding

Voltage 230/400 V

Power max. 240 kVA

Frequency 50/60 Hz

#### Regulation unit:

power module with thyristor controller in a cubicle

#### HV transformer:

single-phase, cylinder-type HV transformer, type PEOI, see Data Sheet 1.11

### Voltage measurement

**Voltage divider:** resistive divider, 0.5 mA

**Peak voltmeter:** MU 18, see Data Sheet 5.56, integrated in the BG 5 G

Remark: For systems with fast polarity reversal mixed resistive capacitive dividers can be quoted.

#### Control

Basic control BC 5 (Data Sheet 1.52) with operator device BG 5 G (Data Sheet 2.53)

Operator device using SIMATIC components, separate buttons for the main switch, the operation switch and the emergency switch-off, contacts for warning lamps and safety loop.

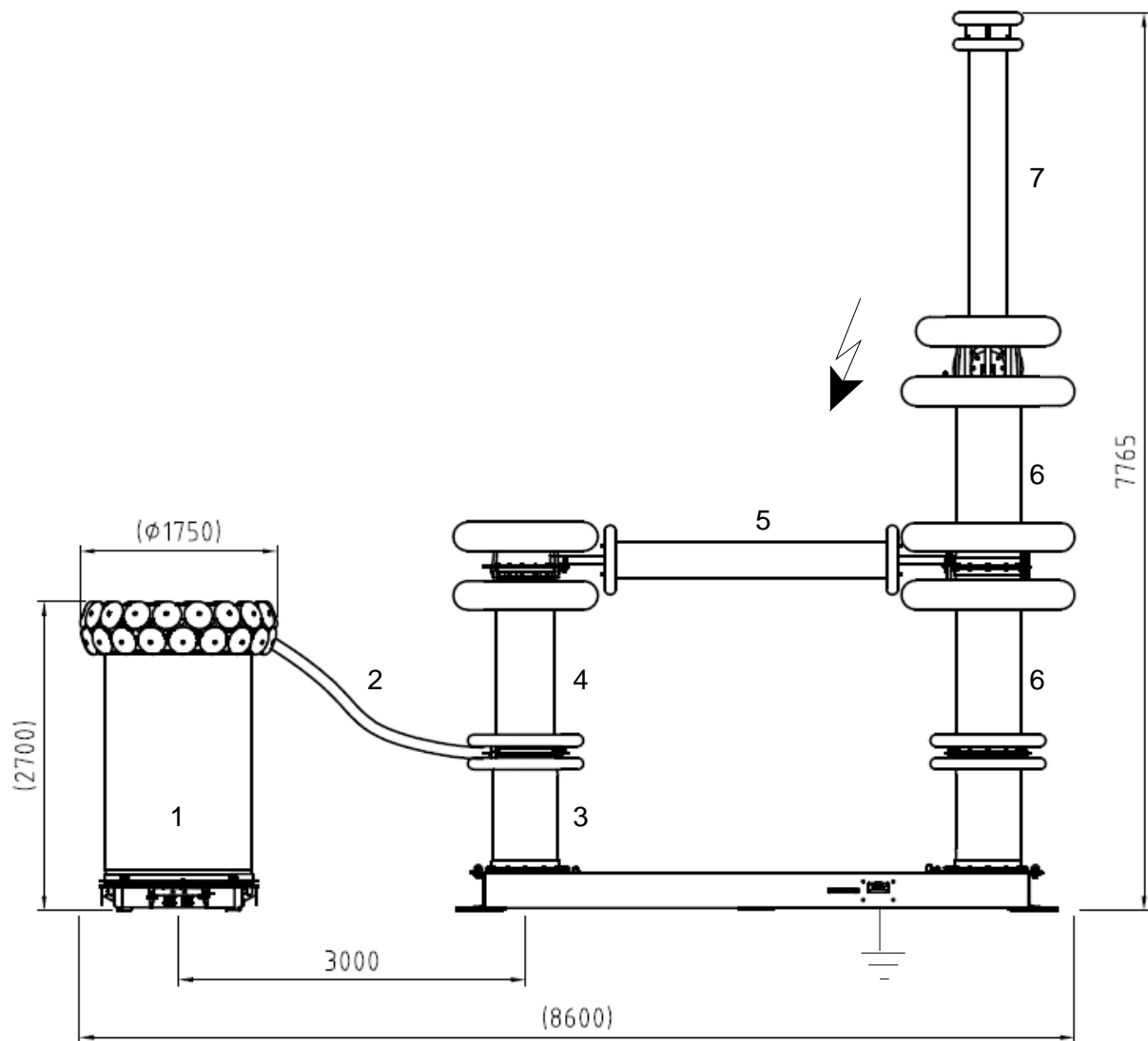
Optionally a Computer-aided Control and Measuring System CMS 22 or 23 G with the related software GMS is available (see Data Sheets 1.52 and 1.55).

#### Technical data

For the nominal data and main dimensions of the standard types of DC voltage test systems series M see the table below.

**Type designation:** GP x/y M  
 x - Nominal current in mA  
 y - Nominal voltage in kV  
 M - Series

Type	Nominal voltage	Continuous operation			Dimensions (without transformer)		Weight (without transformer)	Feeding for Type GP
		Nominal current	at a voltage	with a ripple	Height	Floor area		
	kV	mA	kV	%	m	m x m	kg	
GP 300/500 M	500	300	500	< 3	6.4	5.5 x 2.5	2000	PEOI 250/250
GP 200/600 M	600	200	600	< 3	7.7	7.3 x 2.5	2500	PEOI 250/250
GP 200/900 M	900	200	900	< 3	11.5	5.2 x 3	3000	PEOI 200/400



- |   |                    |   |                           |
|---|--------------------|---|---------------------------|
| 1 | HV transformer     | 5 | Damping resistor          |
| 2 | HV lead            | 6 | Rectifier units           |
| 3 | Post insulator     | 7 | Resistive voltage divider |
| 4 | Doubling capacitor |   |                           |

**Fig. 1: DC charging system GP 200/600 M ( $I_{DC} = 200 \text{ mA}$  ,  $U_{DC} = 600 \text{ kV}$  , Series M)**

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