



# 3388/100/25

## Compressed gas standard Capacitor



### GENERAL

The compressed gas standard capacitor is an indispensable instrument in every high voltage laboratory and test field where it occupies a wide range of important functions. The compressed gas capacitor is used as capacitance standard in bridge circuits to measure the dielectric dissipation factor  $\tan \delta$ , the dielectric constant  $\epsilon_r$  respectively the capacitance of cables, ducts, insulators, transformer windings and insulates.

### ADVANTAGES

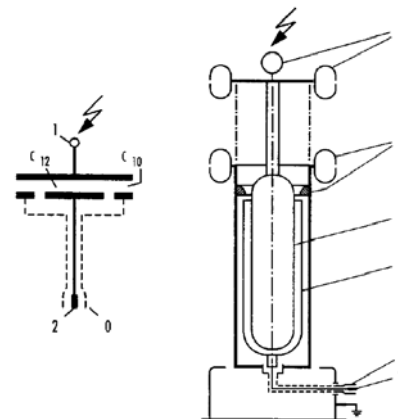
- Excellent capacitance constancy Changes in atmospheric pressure and humidity without influence on capacitance
- Small dielectric dissipation factor  $\tan \delta$
- Partial discharge free
- Possibility to neutralize partial capacitances influencing measurements with voltage regulator

### DESIGN FEATURES

The capacitor consists of the following main elements:

- high-polished cylindrical electrodes
- casing serving as pressure vessel, high voltage connection, duct for test electrode and shield, gas inlet valve
- mental base with shielded plug and ground screw

The compressed gas capacitor is filled with sulphur hexafluoride SF<sub>6</sub> and under pressure



- 0 → Guard electrode  
1 → High Voltage electrode  
2 → Test electrode

### APPLICATION

In combination with a C  $\tan \delta$  measuring bridge the standard capacitor is used to measure loss factor and capacitance of a high-voltage test object. By using type 2801 the interfering stray capacitances can be eliminated completely by adjusting the screen system to the input potential of the bridge.

## TECHNICAL SPECIFICATION

Type	3388/100/25
Max. operation voltage EN	25 kV RMS
Test voltage (1 min.)	30 kV RMS
Rated capacitance C12	100 pF + 5% – 0%
Time constancy of capacitance calibration	
value after 1 year	< 0.01%
Partial capacitances C10	±20 pF
Test frequency	50/60 Hz
Dissipation factor tan $\delta$ of C12	$2 \cdot 10^{-5}$
Partial discharge up to rated voltage	< 5 pC
Gas filling	SF6
Operating pressure Pabs at 20 °C	250 ± 50 kPa
Test pressure P <sub>abs</sub>	1100 kPa
Temperature coefficient	<1·10 <sup>-4</sup> /°C
Voltage coefficient (0...EN)	<2·10 <sup>-5</sup>
Admissible temperature range	-20...+ 70 °C
Relative humidity (at rated voltage EN) max.	75%
Volume pressure vessel	0,8 l
Max. height	500 mm (19,7) ins
Max. diameter	180 mm (7 ins)
Weight	5.3 kg (11.77 lbs)

## ORDER SPECIFICATION

### SCOPE OF SUPPLY

- Compressed gas standard capacitor, 100 pF, 25 kV type 388/100/25
- 1 shielded unipolar plug

### OPTIONAL SUPPLY

- 1 cable, unipolar, shielded, with angular plug, type 101 W
- 1 cable unipolar, double shielded with angular plug type 111 W
- Sockets, unipolar, shielded, for above cables
- Socket without insulation no. 7-10691-00
- Socket with insulation no. 41-12361-00

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