

# 3388

## Compressed Gas Standard Capacitor

■ 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 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

- Perfect as nominal capacitor in high voltage calibration laboratories. Rated values are temperature/humidity independent in the range of use.
- Perfect for high accuracy dissipation factor ( $\tan \delta$ ) Measurements due to its negligible losses.
- Partial discharge free.
- Stray capacitances are eliminated from the main circuit by using a guards electrode.
- Maintenance free due to sealed capacitor compartment

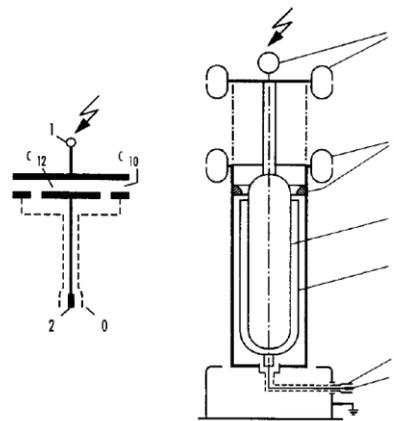


### DESIGN FEATURES

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
- Metallic circular base with lemo type shielded measuring plug and grounding point.

The compressed gas capacitor is filled with sulphur hexafluoride SF6 under pressure for high stability.



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

### APPLICATIONS

- As nominal capacitor in combination with a dissipation factor ( $\tan \delta$ ) measuring bridge.
- As reference capacitor for voltage measurements

**TECHNICAL SPECIFICATIONS**

|  |                           |
|--|---------------------------|
| Type   | 3388/100/25               |
| Max. operation voltage EN                                    | 25 kV RMS                 |
| Test voltage (1 min.)  | 30 kV RMS                 |
| Rated capacitance C12  | 100 pF ± 5%               |
| Time constancy of capacitance calibration value after 1 year | < 0.01%                   |
| Partial capacitances C10 ≈                                   | ≈20 pF                    |
| Test frequency   | 50/60 Hz                  |
| Dissipation factor tan δ of C12                              | 2 · 10 <sup>-5</sup>      |
| Partial discharge @ rated voltage                            | < 5 pC                    |
| Gas filling  | SF6                       |
| Operating pressure P <sub>abs</sub> 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**

- **Lemo-Lemo/Oran/10** - Lemo-Lemo measuring cable 10m length to be used together with Tettex measuring bridges.
- **Lemo-Banana** – Adaptor Lemo to Banana to be used together with above cable for non Tettex measuring bridges.

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