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MARSENERGO
INSTRUMENTS FOR POWER INDUSTRY

Making energy visible

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Instrument High-Voltage capacitors

IHC

(rated voltage: 10, 35, 110, 220, 330 kV)

Application

Capacitors of IHC series are typically applied as components of:

- Test (calibration) systems meant for testing measuring voltage transformers of 0.2–0.5 accuracy classes
- High-voltage capacitance, tangent delta and insulation test sets
- High-voltage measurements systems (kilvoltmeters) in conjunction with a peak voltmeter.

Customers

High-voltage labs, bureaus of metrology and other customers interested in high-voltage tests.

Design

Cylindrical electrodes are placed inside a shielded and grounded case. The insulation gas between the electrodes: SF_6 (sulfur hexafluoride).

The capacitor is designed as a hand-held monoblock and utilizes a 3-pole connection principle.

45 (42.2) kg

330 (220) kV

Accuracy class 0.1; 0.05

National Registry N 49532-12

15 kg

110 kV

12 kg

35 kV

Patent N 128725

5.5 kg

10 kV

General and Accuracy Specifications Common to All IHC Models

Parameter	Value
Rated (nominal) capacitance, pF	50, 100
Maximum deviation from the nominal value, pF	±2.5
Limits of permissible relative error in measuring capacitance, %	±0.1 ±0.05 (optional)
Tangent of loss angle (maximum)	$0.5 \cdot 10^{-4}$
Operating conditions: - Ambient temperature, °C	–10 ... +40
- Atmospheric pressure, kPa (mm Hg)	84–106.7 (630–800)
- Relative humidity at 25 °C (maximum), %	80
Apparent charge of partial discharge (maximum), pC	5
Capasitance-vs-voltage coefficient (maximum), %	0.01

General and Accuracy Specifications Dependent on a Model

Model	IHC-10	IHC-35	IHC-110	IHC-220	IHC-330
Rated voltage, kV	10	35	110/√3	220/√3	330/√3
Test voltage (applied for 5 min), kV	22	60	100	183	267
Temperature coefficient of capacitance, 10^{-6} K^{-1}	160	60	120	40	100
Excessive pressure of SF_6, MPa nominal	0.1	0.3	0.3	0.3	0.35
minimal	0.0	0.2	0.2	0.2	0.25
Dimensions (Height × Diameter), mm	350 × 140	485 × 200	550 × 220	1175 × 505	1100 × 350
Weight (maximum), kg	5.5	12	15	42.5	45

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