

Data Sheet 1.74/4

Blocking Impedance, for Metal-Clad, Gas-Insulated HVAC Test System Type LSG

Application

Blocking impedances are indispensable components of metal-clad, gas-insulated HVAC test systems (see Catalog Sheet 1.70) for two reasons:

- They protect the test transformer or reactor against high transient voltages in case of the breakdown of the test object.
- They block the partial discharge (PD) measuring loop from noise signals conducted via the power supply and the HV generator. Together with adjacent neighboring capacitances (e. g. HV bushing of the transformer or stray capacitances to the enclosure), the blocking impedance acts as a low-pass HV filter.

The HIGHVOLT blocking impedances, type LSG, fulfill both functions.

Design

The blocking impedances are built into the connection and junction elements (see Data Sheet 1.72) instead of the inner conductor. Their inductance is optimized with respect to noise signal suppression (which requires high inductance), breakdown protection without flashover of the impedance (which requires lower inductance) and thermal behavior (resistance of the impedance), for details see table 1.

The blocking impedance does not include the field grading electrodes. They have to be adapted to each test system and enclosure. The enclosure is not part of the blocking impedance, for that see Data Sheet 1.72. For air-insulated blocking impedances see Data Sheet 1.35.

Table 1: Main parameters

Type	Rated voltage kV	Current A	Inductance mH	Dimensions (approx.)		Weight (approx.) kg
				Diameter (D) mm	Length (L) mm	
LSG 325-1.5/65	325	1.5	65	120	450	6
LSG 325-2.5/65	325	2.5	65	120	450	6
LSG 510-1.5/32	510	1.5	32	120	450	6
LSG 680-1.5/100	680	1.5	100	190	635	10
LSG 800-1/100	800	1.0	100	190	635	11
LSG 800-2.5/65	800	2.5	65	190	635	11
LSG 800-6/40	800	6.0	40	190	835	12
LSG 1000-2/140	1000	2.0	140	240	890	16

Type designation

LSG a-b/c

a = rated voltage in kV

b = current in A

c = inductance in mH