

# GIS Terminations type TF

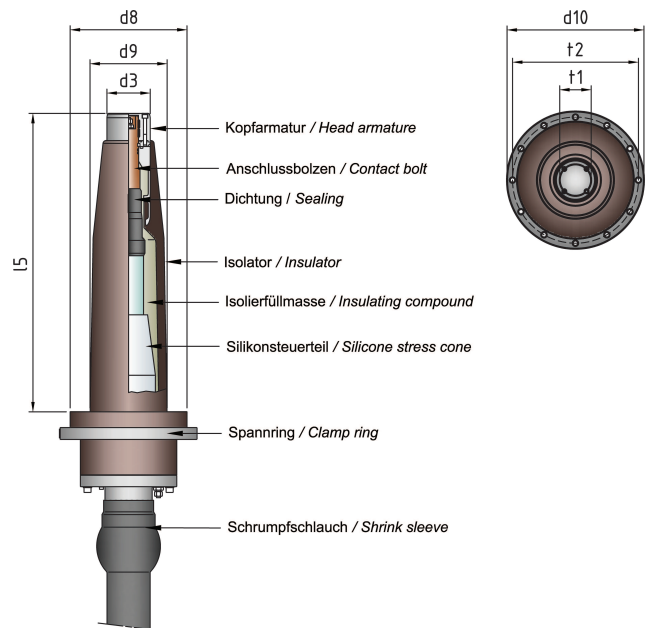
## Fluid filled terminations

### For polymeric cables up to 550 kV

Brugg offers a complete range of fluid filled terminations for gas-insulated switchgears (GIS) for voltage systems up to 550 kV and cross sections up to 2500 mm<sup>2</sup>. Based on the outstanding properties of the prefabricated and electrically tested slip on stress cones, the reliable modular construction of the TF terminations allow its application to all types of polymeric insulated cables independently of the cable manufacturer. The insulators are designed according to IEC 62271-209 allowing its installation to all switchgears independently from the manufacturer. All materials used are UV and corrosion resistant thus allowing the terminations to be applicable for both indoors and outdoors installations. All terminations are type tested according to the international standards IEC 60840 ( $\leq 170$  kV) and IEC 62067 ( $> 170$  kV).

### Product main features

- For all types of polymeric insulated cables
- Wide application range
- Pre-fabricated and factory tested silicon rubber stress cone
- Insulators tested according EN 50089
- Cold pouring silicone oil
- Cable screen connection without plumbing



### Main dimensions according to IEC 62271-209

Type	l5	d3	d8	d9	d10	t1	t2
	mm	mm	mm	mm	mm	mm	mm
TF 1.72-11	583	110	245	196	300	80	270
TF 1.170-11	757	110	298	196	348	80	320
TF 1.170-12	757	110	298	229	348	80	320
TF 1.245-11	960	150	558	360	620	110	582
TF 1.300-11	960	150	558	360	620	110	582
TF 1.420-11	1400	150	616	435	690	110	640
TF 1.550-11	1400	150	616	435	690	110	640

### Technical data

Type	Drawing	Max. operating voltage U <sub>m</sub> kV	Range of diameter over prepared cable insulation, min. - max. mm	Equivalent cable cross-section (Cu/Al) <sup>1</sup> mm <sup>2</sup>	Max. cable dia- l5 meter	
					mm	mm
TF 1.72-11	S1942-4	72.5	35 - 71	240 - 1200	115	583
TF 1.170-11	S1917-4	170.0	57 - 80	240 - 1200	115	757
TF 1.170-12	S1916-4	170.0	80 - 115	1000 - 2500	150	757
TF 1.245-11	S1943-4	245.0	58 - 115	240 - 2500	150	960
TF 1.300-11	S1576-4	300.0	76 - 115	400 - 2500	150	960
TF 1.420-11	S1640-4	420.0	76 - 129	400 - 2500	170	1400
TF 1.550-11	S1491-4	550.0	90 - 129	400 - 2500	170	1400

<sup>1</sup> Values for reference only. The exact application depend on the diameter over the prepared cable insulation.

Note: for installations  $> 45^\circ$  oil expansion tanks type ET-2 are required. For 420 kV and 550 kV ET-2 tanks are necessary.