



## HV-CONNEX 72.5 kV – 245 kV

The advantages of the CONNEX system come to the fore in particular in the area of high-voltage systems: simple on-site installation and factory-tested components save money and provide additional safety. Plug-in HV-CONNEX systems make costly oil and gas work during the installation and commissioning of transformers and gas-insulated switchgear a thing of the past. Thanks to their plug-in connectors, cable joints from the HV-CONNEX range are much more flexible than traditional solutions when it comes to building and converting electrical systems. Needless to say, the range includes all the connection components needed to test the system and the attached equipment.

### Advantages

- approx. 50 % shorter mounting length compared with conventional systems in accordance with IEC 60 859 and 62271-209
- no opening of the cable termination and associated costly gas or oil work
- horizontal, vertical and angled versions for connection to GIS and transformers
- considerably reduced installation times
- the use of pre-assembled and tested components means maximum safety and efficiency
- installation errors are minimised
- if a fault does arise, rapid separation of cable and equipment

#### A Bushing

- 1 female contact part
- 2 insulating bushing
- 3 housing

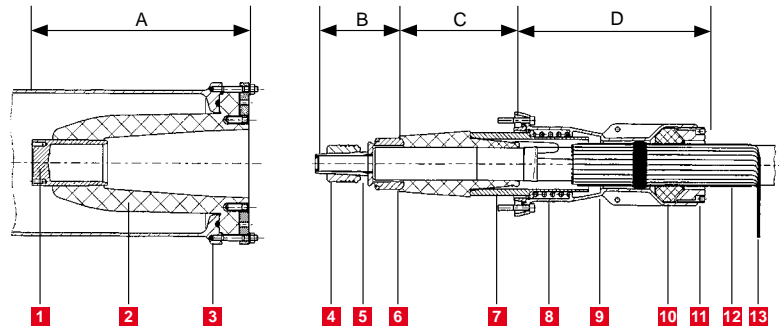
#### B Contact system

- 4 contact ring
- 5 tension cone
- 6 thrust piece

#### C Insulating and field-control part

#### D Housing

- 7 pressure sleeve
- 8 pressure spring
- 9 bell flange
- 10 gasket
- 11 threaded counter ring
- 12 heat-shrink
- 13 cable screen



Sample drawing: Cable connecting System Size 5-S

Test standard: TNT 10.97		CONNEX cable connection system			
		Size 4	5-S	6	6-S
Current rating	$I_N$ (A)	2500	2500	2500	2500
Max. working voltage	$U_m$ (kV)	72.5	145	170	245
AC voltage test	50 Hz/1 min (kV)	140	275	325	460
Nominal withstand lightning impulse voltage	1.2/50 $\mu$ s (kV)	325	650	750	1050
Partial discharge	$2 \times U_0$ (pC)	$\leq 2$	$\leq 2$	$\leq 2$	$\leq 2$
DC voltage test	15 min $6 \times U_0$ (kV)	144	304	348	508
Nominal short-time current	0.5 sec (kA)	63	63	63	63
Nominal short-time current	1 sec (kA)	50	50	50	50
Nominal surge current	(kA)	160	160	160	160

## GIS Equipment

HV-CONNEX bushings require less space than conventional type connectors. All well-known manufacturers have since begun to offer equipment which exploits this advantage. An extension adapter for conventional cable connector modules is required when HV- CONNEX is used with traditional GIS equipment.



## Transformers

The installation of two connectors on the equipment makes it possible to have one cable connector on the side, facing down. If it is necessary to connect this kind of transformer using an overhead line, an HV-CONNEX plug-in insulator for overhead lines can be installed and the downward facing cable connector then terminated with a dummy connector. This plug-in insulator also makes it very easy to carry out simple voltage tests on transformers fitted with HV-CONNEX equipment connectors, either in the factory or on site.



## Plug-in Joint Boxes

The HV-CONNEX cable connection system means plug-in joint boxes for various geometric configurations can be assembled using fewer components. The advantage of these joint boxes is that the joint body is a single unit which is completely manufactured and tested at the factory. Solutions of this kind bring enormous benefits if, for example, cables need to be bent back multiple times during the installation and conversion phase.



## CONNEX 170 kV Plug-in Bushing

The HV plug-in bushing can be used wherever high-voltage equipment needs to be connected to overhead lines. A CONNEX plug-in bushing provides the connection to the equipment. If the plug-in bushing is used, the high-voltage equipment can be operated immediately without having to open and test it again at the installation site. In addition, plug-in HV versions can be installed at any angle. And the bushing can, of course, be swapped for a cable connector at any time.



## The conventional alternative: IXOSIL ESG and IXOSIL ESU

IXOSIL ESG and IXOSIL ESU also provide conventional terminations in accordance with IEC ESG: IEC 60840, 60859, 62271 and ESU: IEC 60840, EN 50299 for the direct introduction of XLPE insulated high voltage cables in oil- or gas-insulated equipment. For IXOSIL ESU we offer customized adapters. Both types are available in vertical, horizontal or overhead versions from 72,5 kV to 170 kV.

