

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 IEC60859 and IEC62271-209
- 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

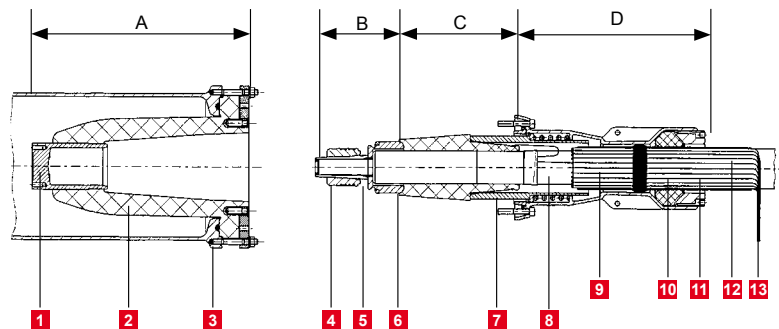
B Contact system

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

C Insulating and field-control part

D Housing

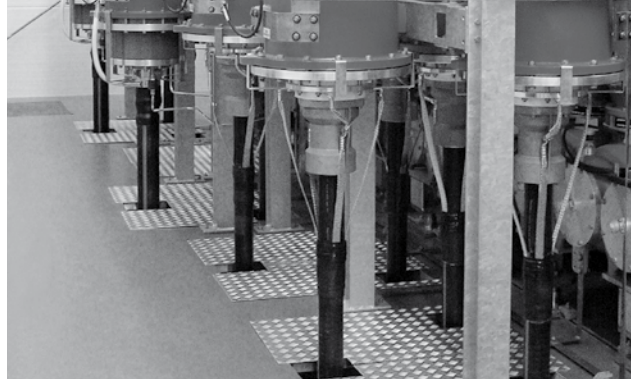
- 7 pressure sleeve
- 8 pressure spring
- 9 bell flange
- 10 gasket
- 11 threaded counter ring
- 12 heat-shrink
- 13 cable screen



Sample drawing: Cable connecting System Size 5-S

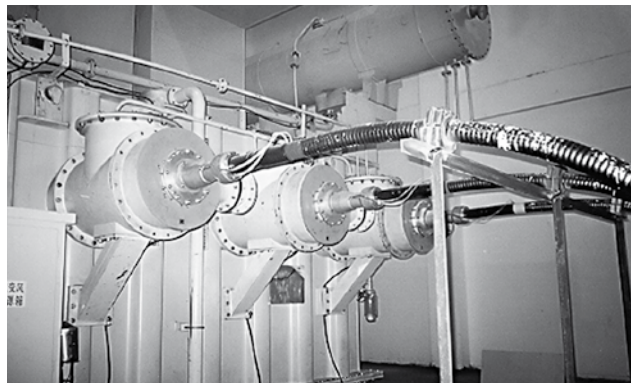
GIS Equipment

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.



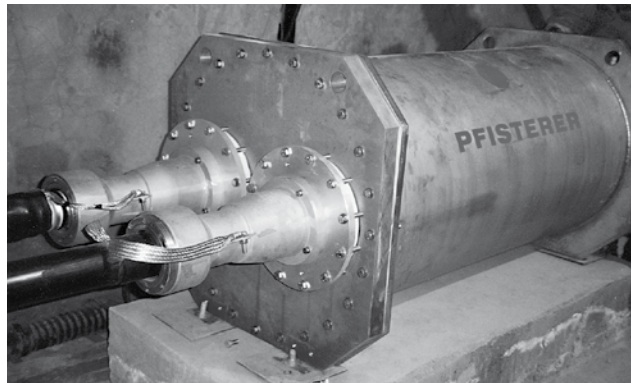
Transformers

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.



HV-CONNEX Pluggable Connection System



HV-CONNEX Separable Connector Size 4 - 6-S Technical Data and Size Classification List

¹⁾ Packing Unit = 1 piece

Size		4	5-S	6	6-S
Max. operating voltage	U_m (kV)	72.5	145	170	245
Nominal current	I_N (A)	2500	2500	2500	2500
Cross section range	(mm ²)	95 - 1600	95 - 1600	240 - 2000	240 - 2000
Minimum conductor diameter	\varnothing (mm)	9.3	9.3	15.3	15.3
Max. conductor diameter	\varnothing (mm)	50.4	50.4	58.4	58.4
Min. diameter over insulation	\varnothing (mm)	33.0	36.0	53.0	53.0
Max. diameter over insulation	\varnothing (mm)	71.0	76.0	110.0	110.0
Gross weight per packing unit ¹⁾	(kg)	18.5	22.0	27.0	27.0
Rated power frequency withstand voltage	1min (kV)	140	275	325	460
Partial discharge	$2 \times U_0$ (pC)	≤ 2	≤ 2	≤ 2	≤ 2
Rated lightning impulse withstand voltage (BIL)	(kV)	325	650	750	1050
DC voltage test	15 min $6 \times U_0$ (kV)	144	304	348	508
Rated short-time withstand current	0,5 s (kA)	63	63	63	63
Rated short-time withstand current	1 s (kA)	50	50	50	50
Rated impulse current	(kA)	160	160	160	160