

CONNEX

The Plug-in Connection System for
Power Transformers and Gas-Insulated Switchgear

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Safety and Versatility in Substations

Power grids are changing dynamically around the world as the energy revolution and restructuring of loads give rise to new challenges for operators of power transformers and switchgear. Substations are therefore becoming more compact and space saving, since power systems must be versatile and potentially even mobile. In this context, transformers and switchgear should be capable of being installed and replaced quickly and used in a variety of long-term applications both indoors and outdoors. The dry, pluggable CONNEX connection system from PFISTERER makes substations fit for both current and future challenges.

What is CONNEX?

CONNEX is a pluggable connection system for all voltage levels from 6 to 550 kV – on cables, gas-insulated switchgear (GIS) and transformers. With the widest range of pluggable cable connections and terminations on the market as well as system extensions for test purposes, CONNEX offers the ideal solution for every requirement.

CONNEX makes power transformers and GIS equipment pluggable and therefore offers unprecedented flexibility in design, commissioning and use. After all, thanks to the plug-in principle using standardized interfaces, the cables or overhead line connections, test adapters or solid-insulated surge arresters can be installed, maintained or replaced in next to no time. On the secondary side of the transformer, only CONNEX offers solid-insu-

lated surge arresters and multiple connections in different configurations in addition to the conventional plug-and-socket combination and voltage testing systems.

The Advantages

- Fast installation
- Requires minimum space in outdoor installations and buildings
- Mobile setup for versatile application
- Can be used in long-term applications for changes in infrastructure



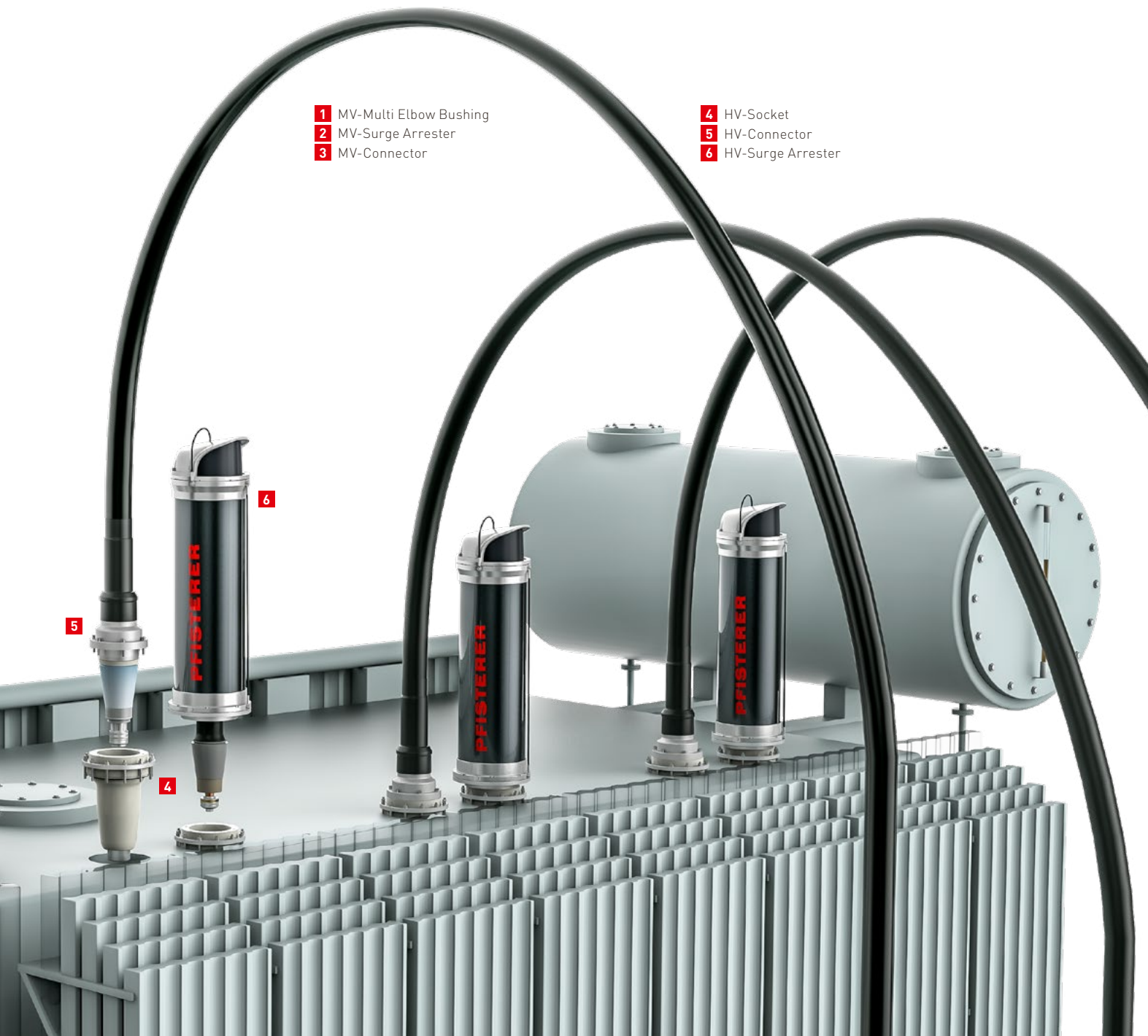
The Heart of the System

The CONNEX device connection part is a permanently integrated component of the transformer or gas-insulated switchgear (GIS). This component forms the basis for all dry and pluggable CONNEX connection solutions. The connection system is the product of more than 100 years of contact technology expertise at PFISTERER and is characterized in particular by its high current-carrying capacity.



Efficient Use of Space

Space is in especially short supply in metropolitan areas, which is why substations need to become smaller and more compact and even be installed on several levels below ground or in buildings. Transformers equipped with solid insulated, fully encapsulated CONNEX components require no minimum distances between the phase connections. The encapsulation also improves reliability and makes all system interfaces safe to the touch. This, in turn, allows substations to be realized in a safe and highly space-saving manner.



- 1** MV-Multi Elbow Bushing
- 2** MV-Surge Arrester
- 3** MV-Connector

- 4** HV-Socket
- 5** HV-Connector
- 6** HV-Surge Arrester

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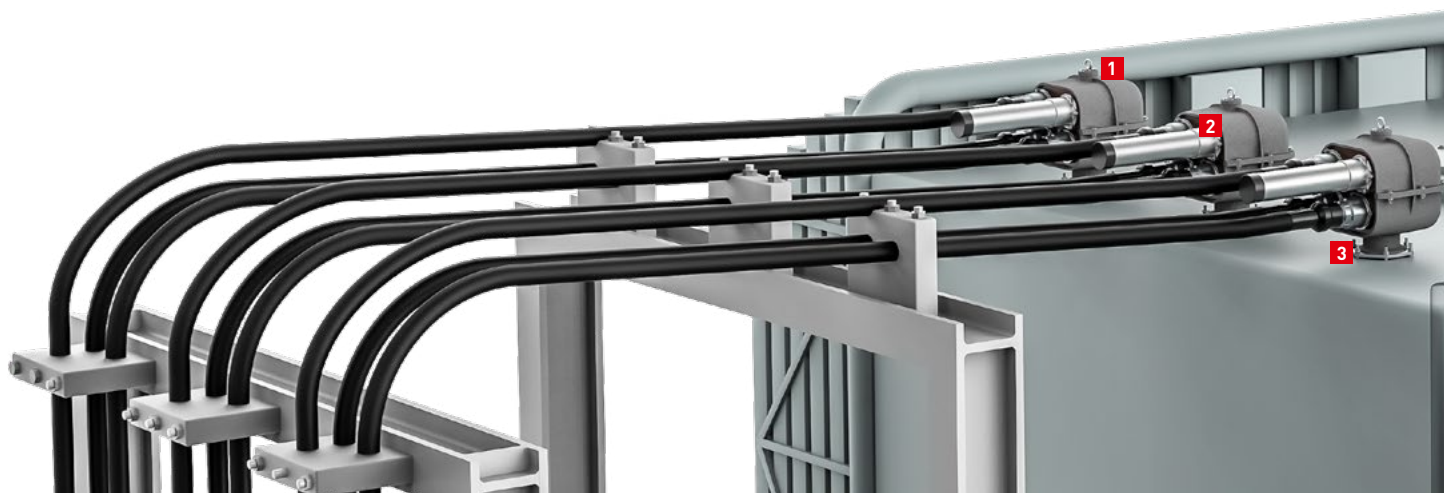
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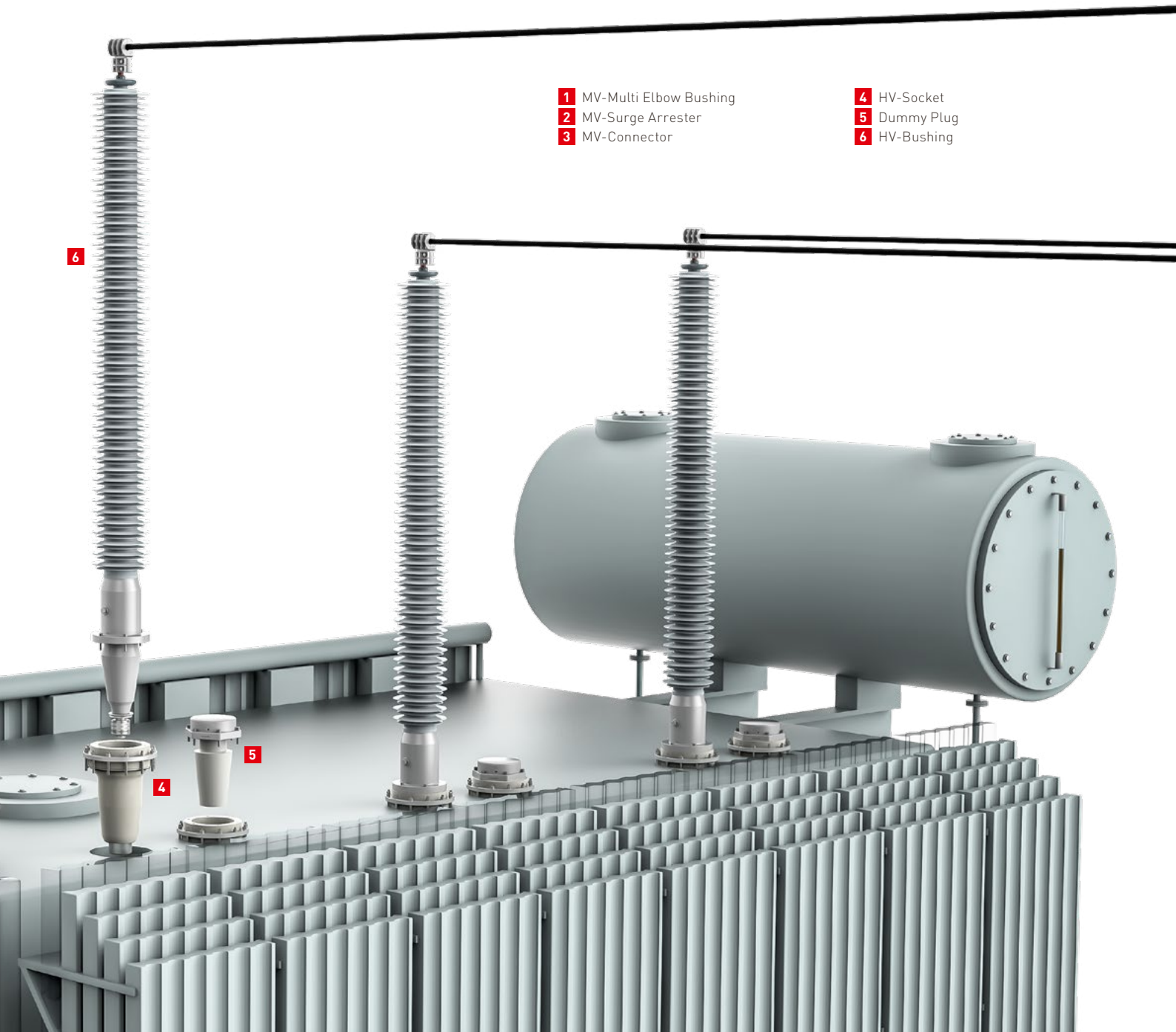


Made for Change

The service lives of transformers are calculated at 40 to 50 years. Complicating matters is the fact that changes to infrastructure networks in the medium to long term cannot be predicted. No one can possibly know how and where systems currently installed will be used in 20 or 30 years. With CONNEX, power transformers and GIS equipment remain highly versatile across their entire service life when it comes to connection options.

Alternating Locations

When a power failure occurs, transformers must be transported to the application site and connected in minimal time. CONNEX makes transformers mobile. Thanks to their compact design, they are easy to transport and quick to connect due to their pluggable components.



- 1 MV-Multi Elbow Bushing
- 2 MV-Surge Arrester
- 3 MV-Connector

- 4 HV-Socket
- 5 Dummy Plug
- 6 HV-Bushing

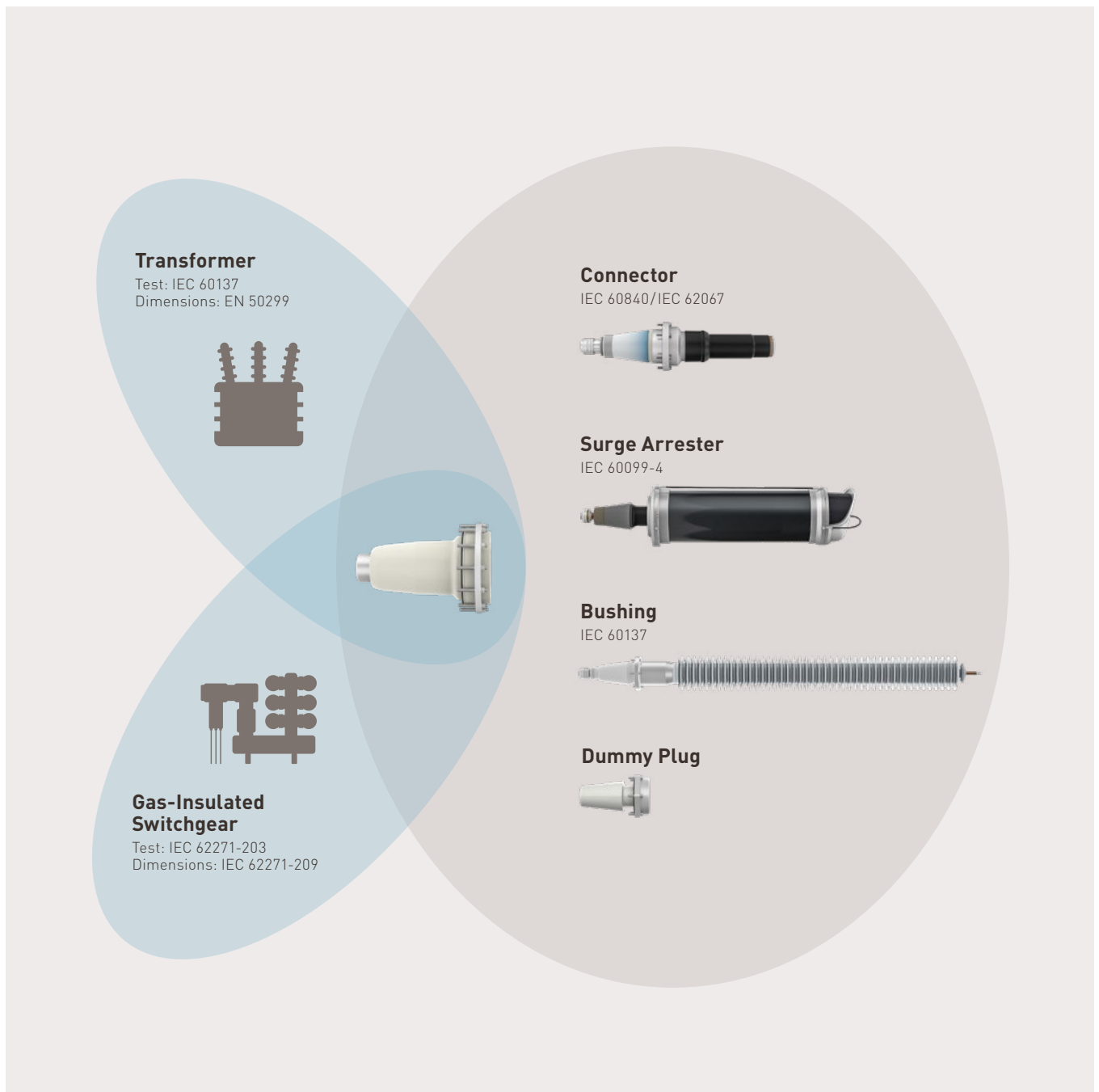
Time Savings of 75 %

Time is money. Quick installation and expedited maintenance minimize downtime. Systems equipped with CONNEX are factory tested on shipment and do not need to be opened on site; gas or oil operations and field testing are therefore not required. Installation is kept to a simple plug-in procedure. This, in turn, reduces installation time by up to 75 percent during initial installation and commissioning and pays for itself every time maintenance is carried out.

Certified Safety

The CONNEX system has been tested to be compliant with all international standards for the following three system connection areas:

- Cable fittings to IEC 60840
- Gas-insulated switchgear to IEC 62271-203
- Plug-in bushings to IEC 60137



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100
YEARS
PFISTERER
SINCE 1921

In 1921, Karl Pfisterer founded his factory in Stuttgart for special electrical products with the aim of improving the world of power transmission. The PFISTERER Group has pursued this goal of quality and technological leadership for more than 100 years. Today, PFISTERER is one of the world's leading specialists and system suppliers for energy infrastructure – with a complete range of cable accessories, overhead line technology and components along the entire transmission chain from power generation to consumption. With state-of-the-art manufacturing processes and 1,200 employees at 18 international locations, PFISTERER not only connects the power grids of today and tomorrow, but also makes an important contribution to a sustainable and secure energy supply.