CBD 72.5 – 550 kV Centre Break disconnector
Our range of centre break disconnectors is designed to ensure the highest performance, with reliability resulting from our 50-year experience. Over 50,000 disconnecting switches installed in more than 100 countries worldwide give the guarantee of a best-buy.

The CBD centre break disconnecting switch

The CBD centre break disconnector is formed by three poles, operated simultaneously either by a single operating mechanism and mechanical linkages between the poles or by one mechanism for each pole.

Its versatility and weatherability are considered as a reference: the CBD has been installed in virtually any possible layout throughout the world and under the harshest environmental conditions: from -50°C to +50°C, in icy or desert countries and even in the most seismic regions of the planet.

The simplicity of the design of the centre break disconnector makes it the most commonly used in the world. From the use of only two insulators for each pole it is an economic solution for general purpose disconnecting function.

The horizontal motion and the design of contacts allow the actuation torque to be as low as possible for a smooth and fast operation.

The insulating columns used for the CBD can comply with either IEC or ANSI standard. Special heights and creepage distances are also available on request.

To adapt to various layouts of substations, the poles can be erected traditionally (horizontal) or wall-mounted, and even upside down.

Like all our models, the CBD meets the latest international standards (IEC, ANSI) but can also be customised according to particular specification.

Earthing switch

Integrated earthing switches are available for mounting at each or both sides of the pole, with the same short-time current withstand capability.

The earthing switch is actuated by the same types of operating mechanisms as the disconnector, either manually or electrically, single-pole or 3-pole. It can be electrically and/or mechanically interlocked with the main blade.
**Construction features**

The arms are made of drawn aluminium profiles with silver plated copper contacts bolted at the central ends (number of fingers and silver thickness are according to rated current).

The rotary contacts are bolted on the top of the insulators. Depending on the voltage and current, they are either built around fingers, loaded by stainless steel springs or made with flexible aluminium straps.

The springs ensuring contact pressure, as well as the hardware of live parts, are made of stainless steel.

The HV terminals are made of copper or aluminium.

Where necessary, the live part is protected from corona effects by suitable corona shields, according to rated voltage.

The base frame and the rotary support are made of hot-dip galvanised steel profiles. The bearings are sealed and greased for a lifetime of maintenance free operation.

All our design and manufacturing process is ruled by ISO 9001 certified procedures to guarantee a perfect reproducibility of the performances from the type-testing to the delivery of series.

**Operating principle**

The base frame supports two rotating insulators which support and operate the arms.

The live part is very simple in its design and motion. From the open position, the arms rotate together, synchronised by their linkage bar to join in the middle of the pole, and to close the main contact.

The HV terminals are as per the next page figure. Customised terminals are also available upon request.
Due to lifetime greased or self-lubricated hinges, and self-wiping contact, the maintenance of the CBD metallic parts is ensured by its own motion. The use of corrosion-free or protected materials for all the components induces an exceptional reliability over many years of service.

The mechanical endurance performance exceeds the IEC standard requirements.

Upon request, the disconnector can be equipped with a bus-transfer current switching device, according to IEC 62271-102 (annex B).

The integrated earthing switch can also be fitted with an optional induced current switching device, as per IEC 62271-102 (annex C).

For operation under severe ice conditions (up to 20 mm), ice shields are available to protect the parts, where needed.

<table>
<thead>
<tr>
<th>Rated voltage</th>
<th>Ur (kV)</th>
<th>72.5</th>
<th>123</th>
<th>145</th>
<th>170</th>
<th>245</th>
<th>300</th>
<th>362</th>
<th>420</th>
<th>550</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated power frequency withstand voltage</td>
<td>TE Ud (kV)</td>
<td>140</td>
<td>250</td>
<td>275</td>
<td>325</td>
<td>395</td>
<td>460</td>
<td>580</td>
<td>450</td>
<td>520</td>
</tr>
<tr>
<td>AID Ud (kV)</td>
<td>160</td>
<td>265</td>
<td>315</td>
<td>375</td>
<td>460</td>
<td>530</td>
<td>610</td>
<td>520</td>
<td>610</td>
<td>800</td>
</tr>
<tr>
<td>Rated lightning impulse withstand voltage</td>
<td>TE Up (kV)</td>
<td>725</td>
<td>450</td>
<td>550</td>
<td>650</td>
<td>750</td>
<td>900</td>
<td>1050</td>
<td>1175</td>
<td>1425</td>
</tr>
<tr>
<td>AID Up (kV)</td>
<td>375</td>
<td>600</td>
<td>750</td>
<td>860</td>
<td>1050</td>
<td>1200</td>
<td>1050 (+170)</td>
<td>1175 (+205)</td>
<td>1425 (+240)</td>
<td>1550 (+315)</td>
</tr>
<tr>
<td>Rated switching impulse withstand voltage</td>
<td>TE Us (kV)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>700 (+245)</td>
<td>800 (+295)</td>
<td>900 (+345)</td>
</tr>
<tr>
<td>AID Us (kV)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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</tr>
</tbody>
</table>

**Reliability and maintenance**

Due to lifetime greased or self-lubricated hinges, and self-wiping contact, the maintenance of the CBD metallic parts is ensured by its own motion. The use of corrosion-free or protected materials for all the components induces an exceptional reliability over many years of service. The mechanical endurance performance exceeds the IEC standard requirements.

**Optional devices**

Upon request, the disconnector can be equipped with a bus-transfer current switching device, according to IEC 62271-102 (annex B).

The integrated earthing switch can also be fitted with an optional induced current switching device, as per IEC 62271-102 (annex C).

For operation under severe ice conditions (up to 20 mm), ice shields are available to protect the parts, where needed.