Live Tank Circuit Breaker HPL B 72.5 to 1,200 kV
Maximum capability and highest performance

This robust breaker delivers reliably in the most extreme conditions. With the highest ratings in the industry, the breaker is most suitable for applications requiring high short-circuit currents and for HVDC. HPL B can handle 63 kA without the need for grading capacitors and 80 kA with only two breaking elements.

Why ABB?
- Highest interruption capability in the industry of 80 kA with only two breaking elements
- Meets a large variety of challenging requirements such as delayed current zero, switching of series compensated lines and high TRV requirements
- Available with polymeric insulators for higher safety, reliability and availability
- BLG spring operating mechanism for total reliability
- Global service organization, local everywhere

Design features
The HPL B is a high-performance circuit breaker designed for a maximum breaking current of up to 80 kA at rated voltages from 72.5 kV up to 1,200 kV. The HPL B is available for single- or three-pole operation. Thanks to the excellent current-carrying design, the circuit breaker can handle rated loads of 5,000 A of continuous current.

It is suitable for all applications and proven in extreme locations including deserts, the tropics and cold climates withstanding natural disasters from hurricanes to major earthquakes.

During the past 30 years, the HPL B circuit breaker has provided reliability to power systems worldwide.

Applications
- Switching in HVDC-applications
- Switching in SVC-applications (when high short-circuit and high rated currents are required)
- Large power plant switchyard applications, delayed current zero (high X/R)
- Switching of series compensated lines, high TRV requirements (Transient Recovery Voltage)
- High altitudes – suitable for high altitudes due to the decreased need for maintenance
- Seismic applications - reinforced porcelain, robust support structures and dampers that stand the test of earth quakes
- Line, transformer, reactor and capacitor switching

Controlled switching by Switchsync™
The live tank circuit breakers supplied by ABB are particularly well suited for controlled switching due to their good stability in regards to mechanical operating time and dynamic dielectric behavior. Controlled switching is used for elimination of harmful electrical transients upon planned switching of mainly capacitor banks, shunt reactors and power transformers.

The method is also gaining acceptance for re-energizing of EHV transmission lines, and replacing traditional pre-insertion resistors. Since 1986, thousands of Switchsync™ controllers have been delivered all over the world.
Reliable operating mechanism
For many years, ABB has used operating mechanisms with energy mechanically stored in springs. This solution offers considerable advantages in that the energy in the tensioned springs is always available. The spring operating mechanism used for HPL 72.5 to 1,200 kV is BLG.

With over 55,000 BLG operating mechanisms delivered, ABB is confident that the design is one of the most reliable on the market.

The BLG design ensures a high degree of total reliability and minimal need for maintenance for the operating mechanism and, thus, the circuit breaker as a whole.

After sales and service
ABB has a long history of supporting utilities’ needs for expanded breaker performance in response to the growing demands of a continuously evolving power grid.

As a globally operating technology corporation and a manufacturer of products and systems, we complement these offerings with a comprehensive spectrum of round-the-clock support service capabilities.

Our approach to product support is to offer services that improve reliability and extend the operating life of a customer’s circuit breaker, while reducing operation and maintenance costs at each life cycle phase. We offer the most comprehensive and cost-effective alternatives to the purchase of new power equipment.

More information?
Detailed information can be found in our Buyer’s Guide, Live Tank Circuit Breakers, Catalogue No 1HSM 9543 22-00en Ed.6.

<table>
<thead>
<tr>
<th>Technical data</th>
<th>HPL 72.5–300</th>
<th>HPL 362–550</th>
<th>HPL 800</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installation</td>
<td>Outdoor/(Indoor)</td>
<td>Outdoor/(Indoor)</td>
<td>Outdoor/(Indoor)</td>
</tr>
<tr>
<td>Design</td>
<td>SF6, Puffer interrupter</td>
<td>SF6, Puffer interrupter</td>
<td>SF6, Puffer interrupter</td>
</tr>
<tr>
<td>Operating mechanism</td>
<td>BLG, Spring operated</td>
<td>BLG, Spring operated</td>
<td>BLG, Spring operated</td>
</tr>
<tr>
<td>Standards</td>
<td>IEC, IEEE</td>
<td>IEC, IEEE</td>
<td>IEC, IEEE</td>
</tr>
<tr>
<td>Rated voltage</td>
<td>72.5 to 300 kV</td>
<td>362 to 550 kV</td>
<td>800 kV</td>
</tr>
<tr>
<td>Rated current</td>
<td>Up to 5,000 A*</td>
<td>Up to 5,000 A*</td>
<td>Up to 5,000 A*</td>
</tr>
<tr>
<td>Circuit-breaking capacity</td>
<td>Up to 80 kA</td>
<td>Up to 80 kA</td>
<td>Up to 80 kA</td>
</tr>
<tr>
<td>Type of operations</td>
<td>Single- or three-pole</td>
<td>Single- or three-pole</td>
<td>Single- or three-pole</td>
</tr>
</tbody>
</table>

Service conditions:
- Ambient temperature: -30 to 40 °C (Operation in temperatures down to -60 or up to +70 °C on request)
- Design altitude: 1,000 m.a.s.l. (Higher altitude on request)

* Higher currents available on request.
** Higher voltages available on request.