Power Products

Continuously adjustable arc suppression coil
Up to 145 kV and 30 MVA
Arc suppression coils (Petersen coils)

Arc suppression coils are used to compensate for capacitive currents when ground faults occur on an electrical network. They are connected to the starpoint of the feeding power transformer or by a starpoint build by a separate earthing transformer.

Arc suppression coils are continuously adjustable reactors covering:

- Nominal network voltages from 6 kV to 145 kV
- Rated power from 125 kVA to 30 000 kVA
- 2 h duty time or continuous operation

The basic requirements conform to the IEC 60076-6 standard. The design is based on ABB development work utilizing modern production technique and materials.

<table>
<thead>
<tr>
<th>Power range</th>
<th>125 kVA - 30 MVA</th>
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</thead>
<tbody>
<tr>
<td>Voltage range</td>
<td>up to 145/3 kV</td>
</tr>
<tr>
<td>Insulation level</td>
<td>Rated voltage up to 36 kV: Fully insulated or graded insulated</td>
</tr>
<tr>
<td>Duty</td>
<td>2 hours short time duty</td>
</tr>
<tr>
<td>Current regulation range</td>
<td>10% - 100%</td>
</tr>
<tr>
<td>Rated frequency</td>
<td>50 Hz (60 Hz on request)</td>
</tr>
<tr>
<td>Cooling method</td>
<td>ONAN (self cooling)</td>
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<tr>
<td>Installation</td>
<td>Indoor or outdoor</td>
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</table>

Connection diagram
Standard design / Equipment up to 2 MVAr
- Iron cored, oil insulated coil with continuously variable air gap adjustment in on-load condition by means of a radial core
- Suitable for automatic earthfault compensation
- Oil level indicator with alarm contacts
- Pressure relief device with tripping contact
- Oil filled hermetic corrugated steel tank without cushion up to 2 MVA
- Oil-filling: mineral oil on naphthenic basis, PCB-free, according to IEC 60296
- Porcelain bushing as per DIN; for Um > 36 kV condenser bushings
- Voltage measuring winding 100 V/3 A
- Pressure relief device with tripping contact
- Oil gauge
- Measurement current transformer 15VA, secondary 1A

Motor drive
230/400 V, 50 Hz (control voltage 230 V, 50 Hz), mounted on top of the tank, with hand-crank for emergency service and potentiometer for remote position indication, with separate control cabinet mounted on the side wall of the tank at operational height.

Routine test
- Measurement of winding resistance
- Measurement of current over the whole adjustment range
- Measurement of voltage ratio between main winding and secondary windings
- Separate-source powerfrequency voltage test
- Induced overvoltage test
- Operation tests of core air gap mechanism

Typetest
- On request, as per agreement

Optional features
- Power auxiliary winding (500 V, 5 % of coil power, 30 s short time duty) for connection of shunt resistor
- Shunt resistor in stainless steel enclosure to A.m rating with thermal protection relay and switching contactors
- Ester based alternative insulation liquids
- Plug-in bushings

Standard Design / Equipment from 2 MVA up to 30 MVAr
- Iron cored, oil insulated coil with continuously variable air gap adjustment in on-load condition by means of a radial core
- Suitable for automatic earthfault compensation
- Radiator tank with oil conservator
- Oil level indicator with alarm contacts
- Buchholz relay with alarm and tripping contacts
- Pressure relief device with tripping contact
- Oil-filling: mineral oil on naphthenic basis, PCB-free, accord. to IEC 60296
- Base with bidirectional rollers
- Porcelain bushing as per DIN; for Um > 36 kV condenser bushings
- Voltage measuring winding 100 V/3 A
- Measurement current transformer 15VA, secondary 1A