Type PMR, 242 kV, up to 40 kA
Power Circuit Breaker

With a large installed base and proven track record, the PMR breaker offers unequalled performance and reliability.

ABB advantages
- Compact, lightweight design reduces foundation requirements and saves construction costs
- High performance interrupters in a definite purpose breaker reduce potential for overvoltages caused by restrikes during capacitor bank switching
- One-piece interrupter assembly simplifies field change-out whenever end of life is reached by eliminating need for internal tank mounting of separate parts and alignment
- Fully-integrated spring-hydraulic operating mechanism is self-lubricating and self-damping. It is also hermetically sealed to the atmosphere, which eliminates corrosion and helps provide maintenance-free performance with long term stability
- Externally accessible current transformers enable simple field change-out without degassing breaker and bushing removal
- Extensive range of available field services, from technical assistance to turn-key installation, can dramatically reduce construction costs and speed time to commercial operation

Standard features
- Dead tank design, with one 3-cycle 40-kA self blast interrupter per tank on a galvanized steel frame
- National Board certification of interrupter tanks per the ASME Pressure Vessel and Boiler Code
- All tanks factory leak tested in a hard-vacuum chamber with a helium mass spectrometer
- Certified per ANSI C37.04, C37.06, and C37.09 Standards
- Maintenance-free HMB-1.8 spring-hydraulic mechanism
- Frame mounted NEMA-3R steel control cabinet protected with TGIC polyester powdercoat finish
- Single tank-mounted gas density monitor and pressure gauge
- Porcelain bushings
- Continuous current ratings through 4000 A
- Ships fully assembled and factory tested with 5 psig SF₆ gas (bushings removed for export transit)

Options and accessories
- Condition monitoring with the Circuit Breaker Sentinel (CBS)
- Density monitor and temperature-compensated pressure gauge directly-mounted on each tank
- Extra creep and/or extra strike bushings for special applications
- Silicone rubber composite bushings
- Tank heaters for operation in ambient temperatures below -30º C
- High seismic designs

HMB 1.8 mechanisms
The type HMB-1.8 spring-hydraulic mechanism, mounted within the control cabinet, provides the driving force to gang-operate the breaker’s high performance self-blast interrupters. Mechanical energy, stored in a stack of compression disk springs, is hydraulically translated to the operating shaft. Spring charge is automatically maintained by the operation of a universal motor and hydraulic pump. The fully integrated mechanism is self-lubricating, and hermetically sealed to the atmosphere, affording excellent reliability and long term stability.
<table>
<thead>
<tr>
<th>Circuit Breaker Type</th>
<th>Rated Maximum Voltage (kV, rms)</th>
<th>Short Circuit and Short Time Current (kA, rms)</th>
<th>Maximum Continuous Current (A, rms)</th>
<th>Rated Interrupting Time (Cycles)</th>
<th>Full Wave Withstand Voltage (kV, Peak)</th>
<th>Power Frequency Insulation Withstand Voltage (kV, rms)</th>
<th>2 µ-sec Chopped Wave Impulse Voltage (kV, Peak)</th>
<th>Closing and Latching Current (kA, Peak)</th>
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<td>40</td>
<td>2000</td>
<td>3</td>
<td>900§</td>
<td>425§</td>
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<td>104</td>
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