The 123 - 170 PM40-B breaker is designed with interrupter, mechanism, and bushing technology that have been field proven through extensive application on a variety of ABB type PM SF₆ power circuit breaker configurations.

ABB advantages
- High performance interrupter complies with IEC/ANSI C2 capacitive current switching, which allows greater flexibility in utility applications
- Single-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
- Simple, motor-charged spring-spring operating mechanism has fewer impacted components and low mechanical stresses, resulting in lower maintenance demands
- Externally accessible current transformers enable simple field change-out without degassing breaker and bushing removal
- Standard side location of control cabinet with respect to bushings ideally suits application as direct replacement for oil circuit breakers
- Extensive range of available field services, from technical assistance to turn-key installation, can dramatically reduce construction costs and time to commercial operation

Standard features
- Dead tank, with one 3-cycle self-blast interrupter per phase
- Continuous current ratings through 3150 A
- Performance certified per IEC 62271-100 and ANSI C37.04, C37.06, and C37.09
- Galvanized steel frame, tested per ASTMB-117
- NEMA-3R steel control cabinet with TGIC polyester powdercoat finish
- BLK-222 rated IEC class M1 for mechanical endurance
- 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
- Single tank-mounted gas density monitor and pressure gauge
- Porcelain bushings
- Ships fully assembled and factory tested with positive SF₆ gas pressure and standard bushings

Options and accessories
- Condition monitoring with the Circuit Breaker Sentinel (CBS)
- Density monitor and temperature compensated pressure gauge mounted on each tank for independent gas monitoring
- Extra creep and/or extra strike bushings
- Silicone rubber composite bushings
- Tank heaters for ambient temperatures below -30º C
- High seismic designs
- Customized control designs
- IP55 or NEMA 4X control cabinet construction

BLK-222 mechanism
BLK-222 spring-spring minimum-maintenance operating mechanism, located within a dedicated housing, provides the driving force to gang-operate the breaker’s high performance interrupters. Mechanical energy, stored in the flat spiral tension closing spring, is mechanically translated to the operating shaft to simultaneously close the breaker and charge the trip spring. Close spring charge is automatically maintained by the operation of a universal motor. The unit stores an Open-Close-Open operating sequence, and it is recharged within 15 seconds. There are over 28,000 of these popular mechanisms installed world wide in various breaker configurations operating in a variety of environmental conditions.
<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 Withstand Voltage (kV, rms)</th>
<th>2 µ-sec Chopped Wave Impulse Voltage (kV, Peak)</th>
<th>Closing and Latching Current (kA, Peak)</th>
</tr>
</thead>
<tbody>
<tr>
<td>123PM40-20B</td>
<td>123</td>
<td>40</td>
<td>2000</td>
<td>3</td>
<td>550</td>
<td>280</td>
<td>710</td>
<td>104</td>
</tr>
<tr>
<td>123PM40-30B</td>
<td>123</td>
<td>40</td>
<td>3150</td>
<td>3</td>
<td>550</td>
<td>280</td>
<td>710</td>
<td>104</td>
</tr>
<tr>
<td>145PM40-20B</td>
<td>145</td>
<td>40</td>
<td>2000</td>
<td>3</td>
<td>650</td>
<td>310</td>
<td>838</td>
<td>104</td>
</tr>
<tr>
<td>145PM40-30B</td>
<td>145</td>
<td>40</td>
<td>3150</td>
<td>3</td>
<td>650</td>
<td>310</td>
<td>838</td>
<td>104</td>
</tr>
<tr>
<td>170PM40-20B</td>
<td>170</td>
<td>40</td>
<td>2000</td>
<td>3</td>
<td>750</td>
<td>365</td>
<td>968</td>
<td>104</td>
</tr>
<tr>
<td>170PM40-30B</td>
<td>170</td>
<td>40</td>
<td>3150</td>
<td>3</td>
<td>750</td>
<td>365</td>
<td>968</td>
<td>104</td>
</tr>
</tbody>
</table>

For more information please contact:

ABB Inc.
High Voltage Products
Westmoreland Distribution Park East
100 Distribution Circle
Mount Pleasant, Pennsylvania, USA
Phone: +1 (724) 696-1500
Fax: +1 (724) 696-1502

www.abb.com/highvoltage