

# Power Circuit Breaker

## 121 kV through 169 kV Type PM

Descriptive Bulletin  
33-300B



**The PM breaker is designed with components and experience gained through other quality ABB SF<sub>6</sub> breakers. This experience and the unequalled performance records of ABB breakers stands as a model for this design.**

**The 121/145/169PM breaker consists of three cast aluminum tanks containing interrupter units that are mounted on a single support frame. Moving contacts are operated by an FSA (40 kA) spring mechanism or HMB-1 hydraulic spring operating mechanism (50/63 kA).**

### Options and Accessories

- high-creep and high-altitude bushings
- condition monitoring
- synchronous switching
- spring-hydraulic mechanism (HMB, ref. 33-901B) for synchronous switching
- high seismic design
- suitable down to -50°C ambient (tank heaters required for operation below -30°C)

### Standard Features

- dead tank design
- reliable FSA-2 spring operating mechanism (std. at 40 kA), or HMB-1 hydraulic spring operating mechanism (50/63 kA) (ref. 33-901B, 33-902B)
- three-cycle interrupting time
- single self-blast interrupter per phase
- ASME pressure vessel certification for unfired pressure vessels
- three tank construction
- exterior bushing current transformers
- control cabinet houses the mechanism, current transformer terminal blocks and the electrical control components
- porcelain or composite bushings that meet or exceed all applicable ANSI and NEMA design specifications
- porcelain or composite bushings
- isolated gas systems provided per pole with mini-gas monitor and pressure gauge
- design tested to meet or exceed ANSI standards

### The ABB Advantage . . .

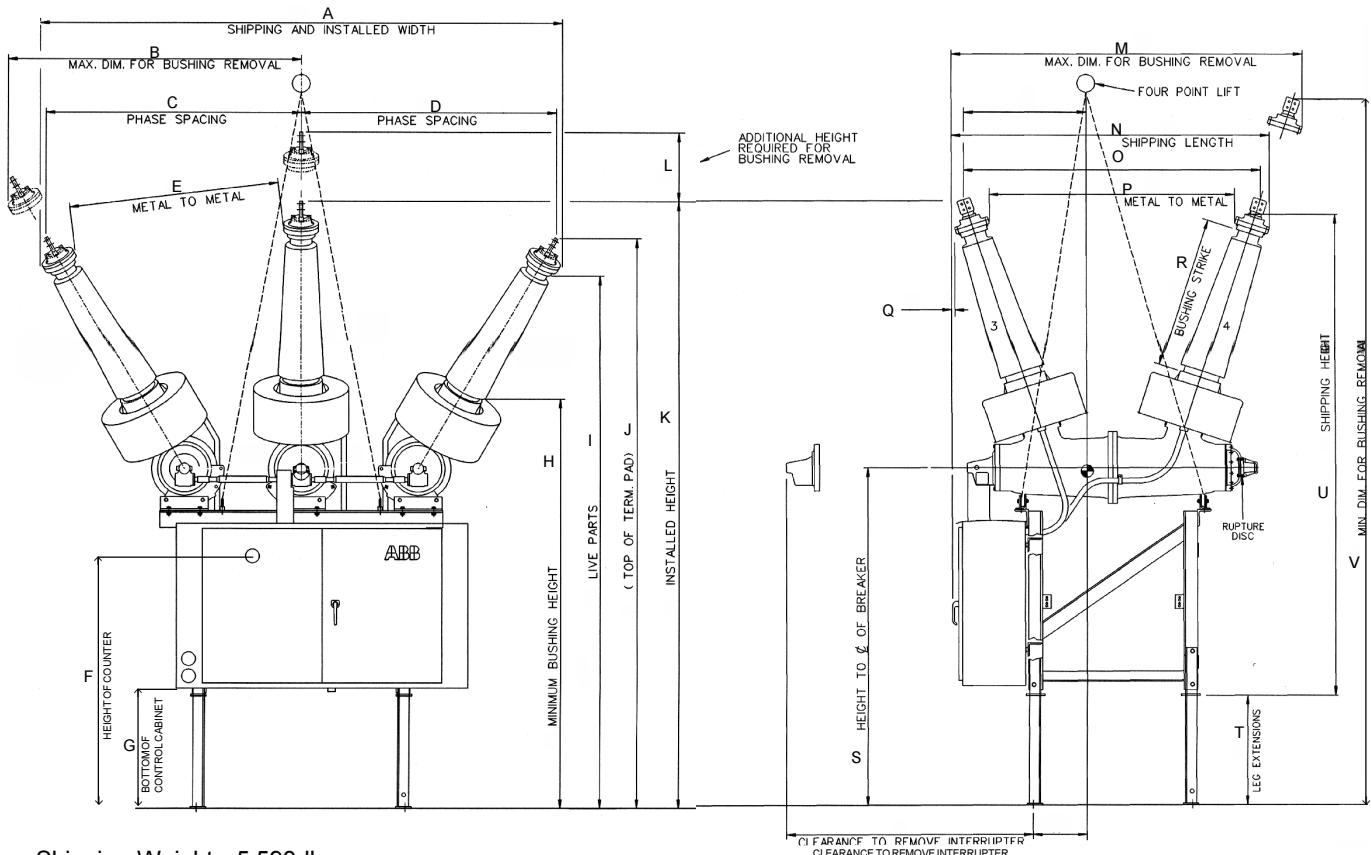
- Light-weight design reduces foundation requirements and saves construction cost.
- Gas monitor on each phase eliminates gas tubing to reduce or eliminate gas leaks.
- Current transformers can be replaced or changed in the field without removing the bushings, minimizing replacement costs.
- Available composite bushings eliminate the cost to hot-wash bushings in the field.
- Simple, low-energy mechanism results in lower mechanical stresses during breaker operation, reducing maintenance costs.
- Shipped fully assembled and factory tested with 5 psig SF<sub>6</sub> gas pressure.
- High-performance interrupter rated 40 kA without capacitors saves on initial cost of the breaker and reduces application engineering concerns.
- Installation services available ranging from complete turn-key to technical assistance can minimize installation costs.

**ABB stands ready to work with you, the customer, to provide technical expertise, training and support to reduce your total cost of ownership.**



## Shipping and Installation

The 121/145/169PM power circuit breaker is shipped fully assembled. By extending the breaker legs, mounting the breaker on the pad and adding the required quantity of SF<sub>6</sub> gas, the breaker is ready for testing and service.



Shipping Weight: 5,590 lbs.

Installed Weight: 5,654 lbs.

DIMENSION IN INCHES										
A	B	C	D	E	F	G	H	I	J	K
150½	85	73½	73½	61	72¾	36-7/8	118	155	166¾	177½

DIMENSION IN INCHES										
L	M	N	O	P	Q	R	S	T	U	V
20	98½	92	84	69	1-7/8	46	98½	31	142	197½

Breaker	Maximum kV, RMS	Continuous A, RMS	Interrupting kA, RMS	60 Hz Freq. kV	BIL KV Crest	Chopped Wave kV Crest 2μ 3μ
121PM40 50/63	121	2000, 3000 4000, 5000	40, 50/63*	260	550	710 632
145PM40 50/63	145	2000, 3000 4000, 5000	40, 50/63*	310	650	838 748
169PM40 50	169	2000, 3000 4000, 5000	40, 50*	365	750	968 862

\* 50/63 kA requires 12 nF shunt capacitors for 90% short-line fault performance.

ABB Inc.

125 Theobold Avenue  
Greensburg, PA 15601  
Phone: (724) 838-5204  
Fax: (724) 838-5299  
[www.abbhvsg.com](http://www.abbhvsg.com)

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