

high voltage transmission
conventional
substations
72.5 to 800 kV
HV circuit-breaker
range



 **MERLIN GERIN**
mastering electrical power

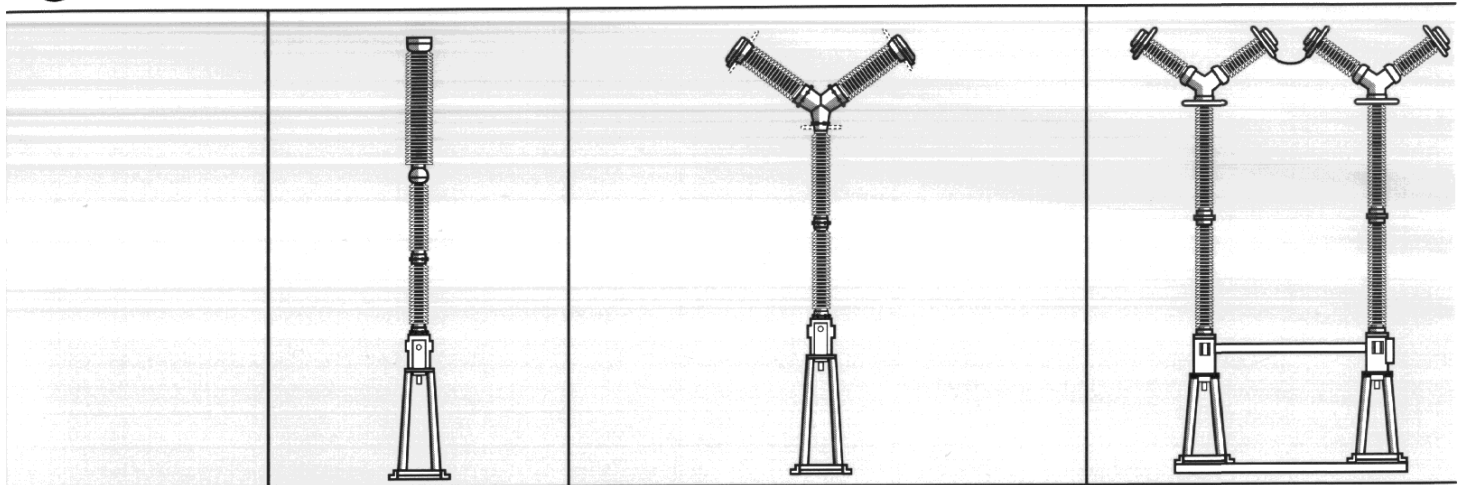
GRUPE SCHNEIDER

72.5 to 800 kV HV circuit-breaker range

circuit-breakers ⁽¹⁾ type		PFA1		SB6	SB6				MHMe-1P	
		72.5	100	72.5	123	145	170	245	123	145
main characteristics										
interrupting units (per pole)		1	1	1	1	1	1	1	1	1
rated voltage (kV)	IEC	72.5	100	72.5	123	145	170	245	123	145
	ANSI	72.5		72.5	121	145	169	242	121	145
insulation level										
kV rms 50/60 Hz-1min	IEC	140	185	140	230	275	325	460	230	275
	ANSI	160		160	260	310	365	425	260	310
kV 1.2/50 μs impulse	IEC	325	450	325	550	650	750	1050	550	650
	ANSI	350		350	550	650	750	900	550	650
kV switching impulse	IEC									
	ANSI									
rated frequency (Hz)	50-60	■	■	■	■	■	■	■	■	■
rated current (A)	800	■		■						
	1250	■	■	■						
	1600	■	■	■						
	2000	■	■	■	■	■	■	■	■	■
	3150				■	■	■	■	■	■
4000								■	■	
max. breaking capacity (kA rms)	50 Hz	31.5	20	31.5	31.5	31.5	31.5	31.5	50	50
	60 Hz	31.5		25	31.5	31.5	31.5	31.5	40	40
max. making capacity (kA peak)	IEC	79	50	79	79	79	79	79	125	125
	ANSI	85		85	85	85	85	85	108	108
max. short time withstand current (kA rms - 3 s)		31.5	20	31.5	31.5	31.5	31.5	31.5	40 - 50	40 - 50
rated operating sequence										
O - 0.3 s - CO - 1 min - CO		■	■	■	■	■	■	■	■	■
CO - 15 s - CO		■	■	■	■	■	■	■	■	■
interrupting time (ms)		50	50	60	55	55	55	55	50	50
other characteristics										
operating mechanism	spring type	■	■	■						
	spring lock				■	■	■	■		
	SF6 drive								■	■
	air drive									
min. creepage distance to earth (mm)		1160	1600	1813	2056	2760	3230	4785	2056	2500
dimensions (mm)	H (height)	4475	4900	4011	5630	6030	6225	7398	5210	5620
	L (min. width)	2365	2865	2490	4980	4980	5280	7450	5000	5000
	D (depth)	800	800	650	1370	1370	1370	2065	1800	1800
approximate weight (kg) of the complete 3-pole circuit breaker		760	810	800	1250	1450	1550	2200	2450	2600

(1) The characteristics given in this table correspond to IEC and ANSI standards.

(2) The second value corresponds to the input/output insulation level.



		MXM-1P			MHMe-2Y					MHMe-4Y		
170	245	245	300	362	245	300	362	420	550	420	550	765
1	1	1	1	1	2	2	2	2	2	4	4	4
170	245	245	300	362	245	300	362	420	550	420	550	800
169	242	242		362	242		362		550		550	800
325	460	460	380/435 ⁽²⁾	450/520 ⁽²⁾	460	380/435 ⁽²⁾	450/520 ⁽²⁾	520/610 ⁽²⁾	620/760 ⁽²⁾	520/610 ⁽²⁾	620/760 ⁽²⁾	830/1100 ⁽²⁾
365	425	425		555	425		555		860		860	960
750	1050	1050	1050	1175	1050	1050	1175	1425	1550	1425	1550	2100
750	900	900		1300	900		1300		1800		1800	2050
			850	950		850	950	1050	1175	1050	1175	1425
				825/900 ⁽²⁾		825/900 ⁽²⁾		1175/1300 ⁽²⁾		1175/1300 ⁽²⁾	1425/1550 ⁽²⁾	
■	■	■	■	■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■	■	■	■	■
50	50	50	50	50	63	63	63	63	50	63	63	63
40	40	50	50	50	63	63	63	63	50	63	63	63
125	125	125	125	125	158	158	158	158	125	158	158	158
108	108	135		135	170		170		135		170	170
40 - 50	40 - 50	50	50	50	63	63	63	63	50	63	63	63
■	■	■	■	■	■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■	■	■	■	■	■
50	50	33 - 40	33 - 40	33 - 40	33 - 40	33 - 40	33 - 40	33 - 40	33 - 40	33 - 40	33 - 40	33 - 40
■	■	■	■	■	■	■	■	■	■	■	■	■
2860	4785	4785	4785	5520	4510	4510	6450	7575	8936	7735	8936	12200
5955	6640	7180	7180	8060	6330	6330	7660	8400	8960	8160	8720	10730
5600	7000	7485	7485	9250	9060	9660	13310	14310	15310	14310	15310	27310
1800	1800	2300	2300	2300	3070	3070	3715	4255	4255	6470	6470	8760
3050	3400	4350	4350	5100	4500	4500	5300	6500	6800	10800	11000	14800

a reliable technique

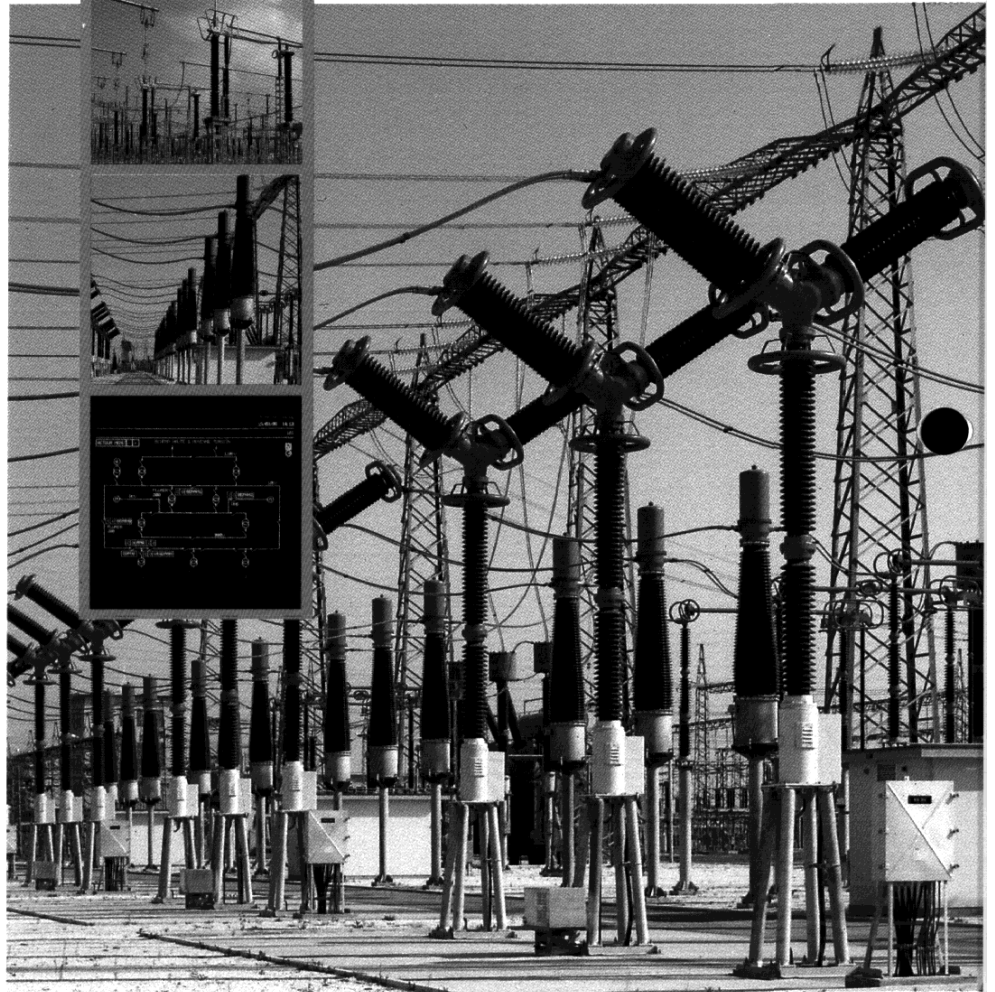
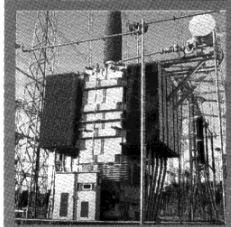
The entire range of HV circuit breakers from 72.5 to 800 kV uses SF6 gas for current interruption and insulation.

The result is switchgear offering proven reliability and performance:

- SF6 type interruption unit;
- interruption of capacitive currents without restrike;
- interruption of magnetizing currents with overvoltage factors less than 2 p.u.;
- operating mechanism:
 - 3-pole spring type mechanical mechanism for models PFA1 and SB6 72;
 - 1-pole SF6 drive with spring lock operating mechanism for SB6 123 to 245;
 - 1-pole low pressure air drive with spring lock operating mechanism for the "M" line;
- SF6 pressure monitoring switch;
- easy, fast and economical installation;
- possibility of equipping the circuit breakers with closing resistors to limit switching surges on long transmission lines under no-load conditions;
- materials and treatments selected to avoid corrosion;
- strict factory quality control;
- high operating reliability;
- low longterm maintenance costs.

other HV products and activities

- disconnectors;
- instrument transformers;
- gas-insulated substations;
- power transformers;
- shunt coils;
- control, monitoring and protection systems;
- turnkey HV substations;
- commissioning;
- maintenance;
- training.



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