

DATA SHEETS - HP Series

242kV/40kA - 2000A

1.	Voltage Rating	
1.1	Normal System Voltage	230kV
1.2	Rated Maximum Voltage	242kV
1.3	Voltage Range Factor	1.0
2.	Interrupting Current Rating	
2.1	Symmetrical Short Circuit Capability	40kA
2.2	Three second short-time current carrying capability	40kA
2.3	Close and Latching Capability	108 kA
2.5	Capacitance Switching	
2.5.1	Line Charging Current	1000A
2.5.2	Isolated Shunt Capacitor Bank Current	1000A
2.5.3	Back to Back Shunt Capacitor Bank Current	1000A
2.6	Out of Phase Switching	10KA
2.7	Percent interrupting capability after 0-0 sec-CO-15 sec-CO duty cycle	100%
3.	Continuous Current Rating	2000A
4.	Operating Time (60 Hz basis)	
4.1	Permissible Tripping Delay	1 sec.
4.2	Interrupting Time	3 cycles
4.3	Opening Time	1.8 cycles
4.4	Closing time	7 cycles
4.5	Minimum allowable reclosing time	20 cycles
4.6	Reclosing range	20-120 cycles
5.	Temperature Range	
5.1	Maximum Ambient	40°C
5.2	Minimum Ambient	
5.2.1	Without Tank Heaters	-30°C
5.2.2	With Tank Heaters	-40°C
5.2.3	Special Heaters	-50°C
5.3	Contact temperature rise (max.)	65°C

6.	Insulation Level	
6.1	One minute dry withstand (60 HZ)	425kV
6.2	Ten second wet withstand	350kV
6.3	Full wave lightning impulse (BIL)	950kV
6.4	2 μsec chopped wave withstand	1160kV
6.4	3 μsec chopped wave withstand	1040kV
7.	Dielectric Strength at Atmospheric Pressure	1.2 times
8.	Pre-insertion Resistor	None
9.	Voltage Grading Capacitors	300pf/pole
10.	TRV Control Capacitors	No
11.	Breaks per Phase	1
12.	Operating Mechanism	
12.1	Type	Pneumatic/Spring
12.2	Individual or common mechanism	Common
13.	Air System	
13.1	Operating range of air pressure	228 - 256 psig
13.2	Low air pressure alarm	236 psig
13.3	Low air pressure lockout	228 psig
13.4	Overpressure relief valve open at	303 psig
13.5	Compressor	
	13.5.1 Manufacturer	EMGLO
	13.5.2 Horsepower	1.5
13.6	Number of close-open operations stored in air receiver	4
13.7	Pump up from atmospheric to operating pressure	1.7 hrs.
13.8	Pump up from lockout to operating pressure	30 min.
13.9	Compressor motor	
	13.9.1 Manufacturer	Dayton
	13.9.2 Voltage	230/115AC single phase
	13.9.3 Speed	1725 rpm
	13.9.4 Class of insulation	B
13.10	Air storage volume	17.9 cu. ft.

14.	SF6 System	
14.1	Normal operating pressure at 20°C	75 psig
14.2	Minimum operating pressure with full rating	64 psig
14.3	Temperature compensated gas density alarm	69 psig
14.4	Temperature compensated gas density lockout	64 psig
14.5	Overpressure relief valve	105 psig
14.6	Weight of SF6 gas	240 lbs.
15.	Trip Coil	
15.1	Voltage	125V DC
15.2	Allowable Voltage Range	70-140V DC
15.3	Current	10.4A
15.4	Number of trip coils	2
16.	Close Coil	
16.1	Voltage	125V DC
16.2	Voltage Range	90-140V DC
16.3	Current	3.3A
16.4	Number of close coils	1
17.	Bushings	
17.1	Manufacturer	Locke
17.2	Insulation Medium	SF6
17.3	Creepage distance	142 inches
17.3.1	Extra creepage distance	221 inches
17.4	Additional Height required to remove bushing	3.5 feet
17.5	Insulation Class (BIL)	950kV
17.6	Permissible safe cantilever strength of installed bushing	300 lbs.
17.7	Strike distance	64.3"
18.	Control Cabinet Heaters	
18.1	Number & Wattage of heaters	(4) - 160 Watt
18.2	Location	1-mechanism 2-compressor motor 1-control cabinet
18.3	Voltage	120/240V AC

19.	Breaker Dimensions	
19.1	Height of breaker to top of terminal	14'-6"
19.2	Total length	22' 4"
19.3	Width	9' 3"
19.4	Weight	21,000 lbs.
19.5	Impact loading for foundation design	None
19.6	Phase spacing	8'
20.	CT Standard Ratings	
20.1	Max. number available per bushing	3
20.2	Number proposed per bushing	per spec
20.3	Relaying or metering accuracy	per spec
20.4	Ratio	per spec
20.5	Thermal Rating Factor	1.5
21.	Maintenance Requirements	
21.1	Arcing contact material	Copper-Tungsten
21.2	Number of short circuits before internal maintenance check	10
21.3	Number of rated continuous current interruptions before internal maintenance check recommended	2000
22.	Applicable Standards	
22.1	ANSI	C37
22.2	NEMA	SG4
22.3	IEC	56