



The Brand You Trust, The Power You Depend On.



LSAP 45 – 180 to 320 kVA

Low Voltage Alternators - 4 Pole



-  Compact & Rigid
-  Industry best Efficiency
-  Better motor starting capability
-  High power density (Lighter weight)
-  Superior thermal life

LEROY-SOMER™

Nidec
All for dreams

General Characteristics

Insulation Class	H	Excitation System	SHUNT / AREP (Optional)
Winding pitch	2 / 3	AVR Model	R 120 / R 150 (SHUNT)
Terminals	6 / 12 (Optional)		R 450 / D 510 C (AREP)
Protection	IP 23	Voltage Regulation (*)	±1%
Altitude	≤ 1000 m	Sustained short-circuit current	300% of FLC for 10 s (AREP)
Over speed	120% for 2 mins	Total harmonic Distortion (**)	< 2.5%
Air flow	0.26 m3/s	Wave form : TIF (**)	< 50

(*) Steady state duty. (**) Total harmonic content line to line, at no load or full rated linear and balanced load.

Ratings kVA @ 0.8 P.F**3 Phase 415 V, 50 Hz – 1500 RPM*****

Duty	Class/Temp. Rise	M0	M1	L1	C
Continuous duty / 40° C	H / 125°C	180	200	250	320
	F / 105°C	162	180	225	288
Stand-by duty / 27° C	H / 163°C	198	220	275	352

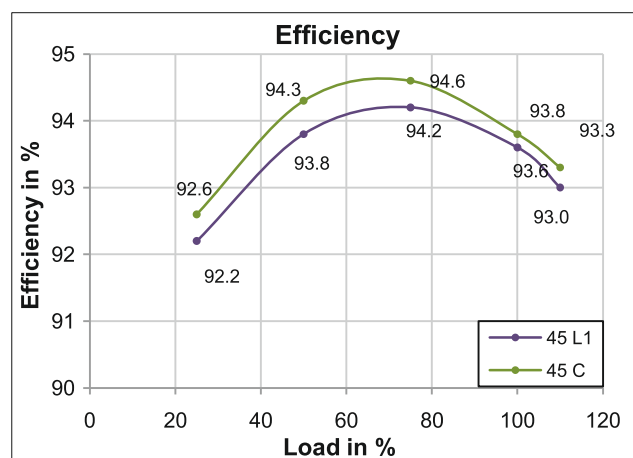
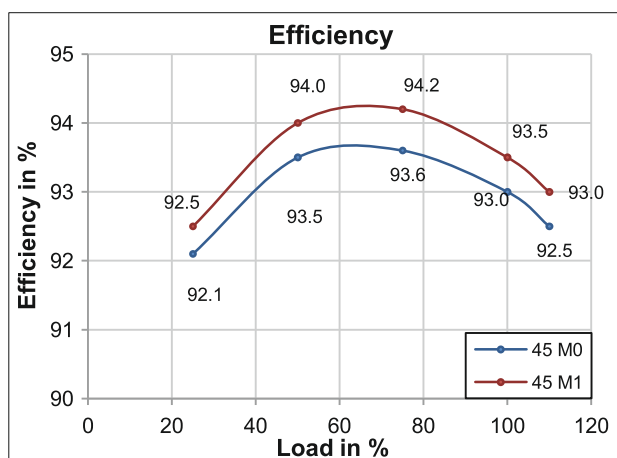
(***) Also offering multi-voltage/60 Hz/1800 RPM

Reactance (%). Time constants (ms) - Class H / 125°C – 415 V

Kcc	Short-circuit ratio	0.400	0.382	0.430	0.555
Xd	Direct-axis synchro reactance unsaturated	416.6	436.1	387.5	300.1
Xq	Quadrature-axis synchro reactance unsaturated	96.33	143.6	125.0	141.6
T'do	No Load Transient time constant	666	865	992	1540
X'd	Direct-axis transient reactance saturated	16.8	19.0	16.5	20.2
T'd	Short-Circuit transient time constant	100	100	100	100
X''d	Direct-axis sub transient reactance saturated	9.10	10.30	8.4	11.1
T''d	Sub transient time constant	10	10	10	10
X''q	Quadrature-axis sub transient reactance saturated	12.3	14.1	11.4	15.0
Xo	Zero sequence reactance unsaturated	3.3	3.8	3.0	4.0
X2	Negative sequence reactance saturated	11.8	13.4	10.9	14.3
Ta	Armature time constant	15	15	15	15

Other data - Class H / 125°C – 415 V

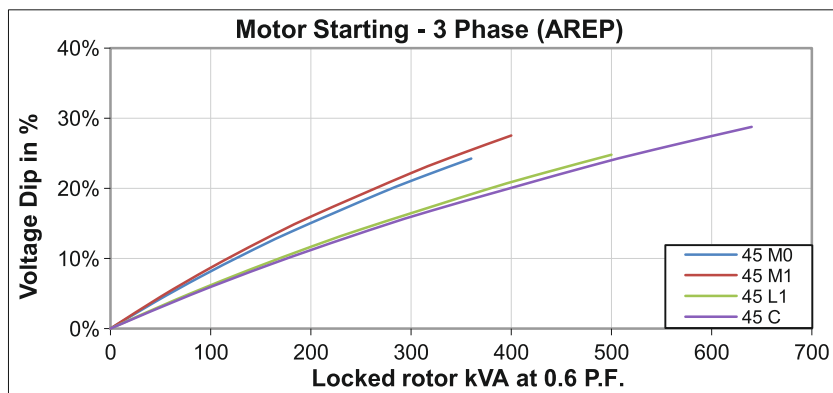
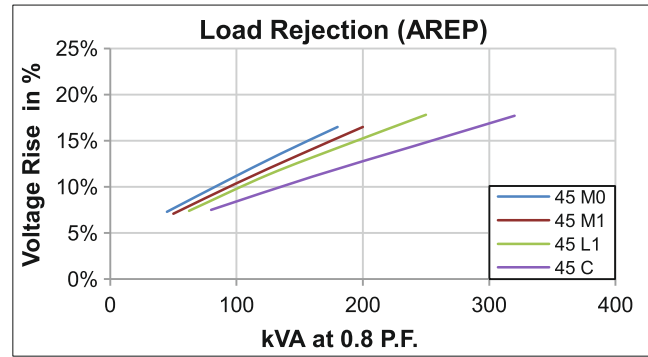
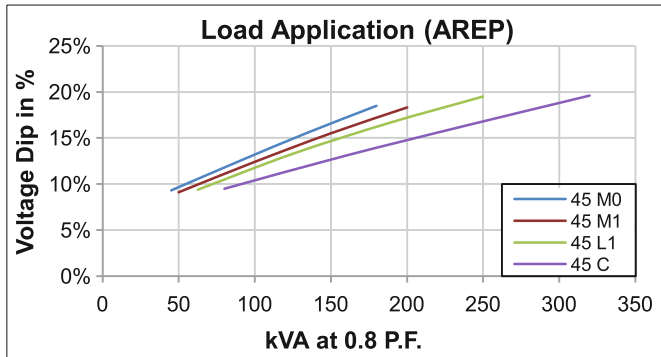
io(A)	No load excitation current	0.98	0.90	1.05	1.0
ic(A)	Full load excitation current	4.20	4.40	4.30	4.0
uc(V)	Full load excitation voltage	56	57	55	60
ms	Recovery time (ΔU = 20% trans.)	≤500	≤500	≤500	≤500

Efficiencies 415 V – 50 HZ (P.F – 0.8)

ELECTRICAL DATA

LSAP 45 – 4 Pole

TRANSIENT VOLTAGE VARIATIONS

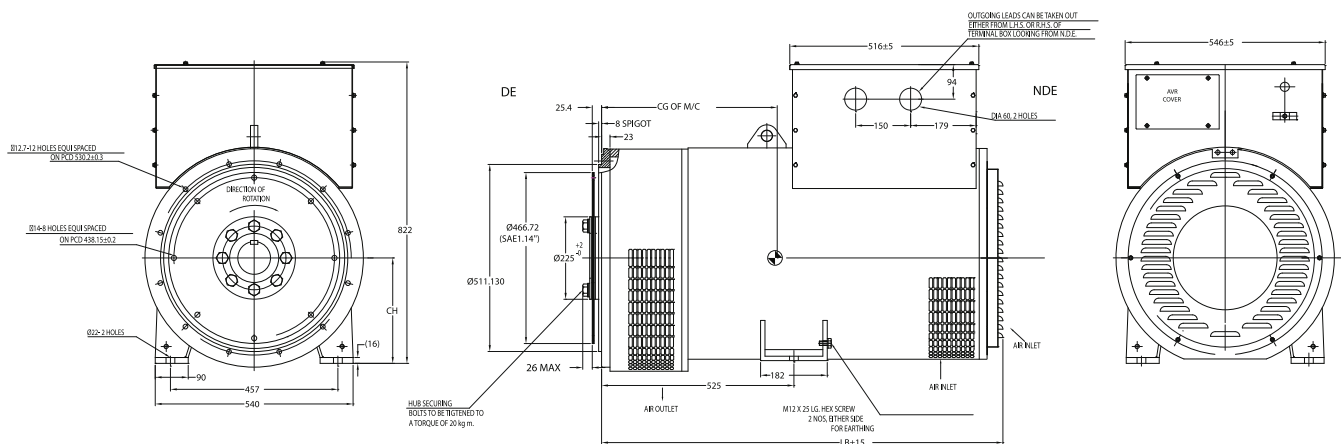


1. For a starting P.F. differing from 0.6, the starting kVA must be multiplied by $(\text{Sine } \phi / 0.6)$
2. For voltages other than 415V(Y) at 50 Hz, then kVA must be multiplied by $(415/\text{Other voltage})^2$

MECHANICAL DATA

LSAP 45 – 4 Pole

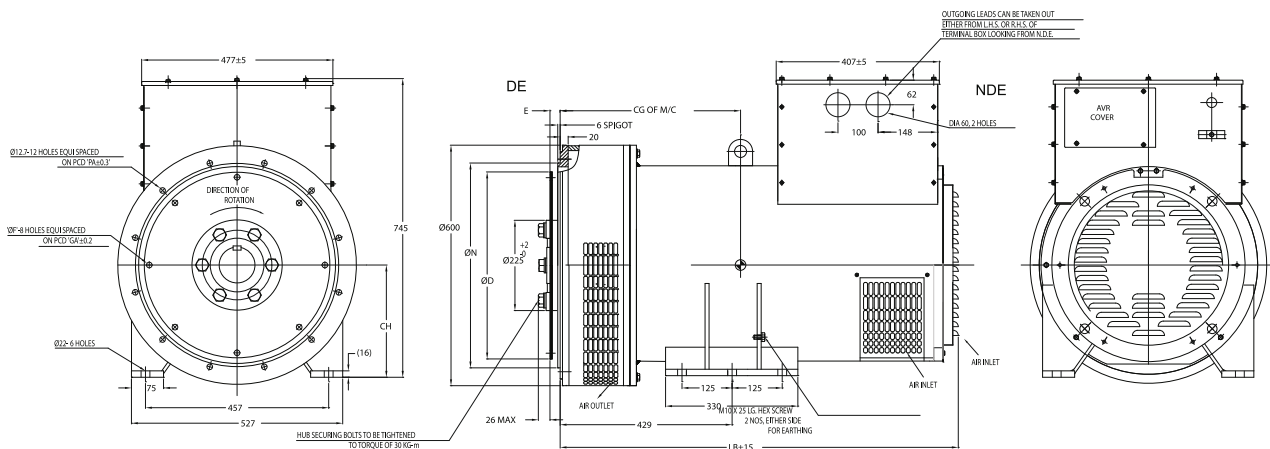
SINGLE BEARING



LSAP 45 C

LSAP 45 – 4 Pole

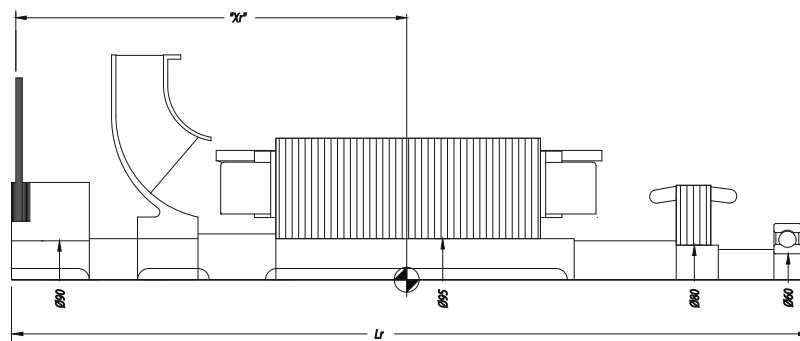
SINGLE BEARING



LSAP 45 M0, M1 & L1

Frame Dimensions (mm) & Weight					Coupling			
Type	LB	CH	CG	Weight (Kg) Approx.	Flex Plate	11 1/2	14	
LSAP 45 M0	915	250	445	548	Flange S.A.E 1	X	✓	
LSAP 45 M1	915	250	455	568	Flange S.A.E 2	✓	X	
LSAP 45 L1	995	280	450	684				
LSAP 45 C	1085	280	490	816				
Flange (mm)				Flex Plate (mm)				
S.A.E	N	PA		S.A.E	E	D	GA	F
1	511.130	530.218		11 1/2	39.6	352.42	333.38	11
2	447.675	466.725		14	25.4	466.72	438.15	14

Torsional Analysis Data



Centre of gravity: Xr (mm), Rotor length: Lr (mm), Weight: M (kg), Moment of inertia: J (kgm ²): (4J = MD ²)								
Type	Flex Plate S.A.E. 11 1/2				Flex Plate S.A.E. 14			
	Xr	Lr	M	J	Xr	Lr	M	J
LSAP 45 M0	461	935	238	1.79	447	921	235	1.75
LSAP 45 M1	472	935	250	1.95	458	921	247	1.93
LSAP 45 L1	503	1012	320	2.38	489	998	318	2.35
LSAP 45 C	602	1203	391	3.50	588	1189	388	3.45

According to IS : 13364, I.E.C. 60034-1/34-2. The values indicated are typical.

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