








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	R120 / R150 (SHUNT)
Terminals	6 / 12 (Optional)		R180 / D350 / D510 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

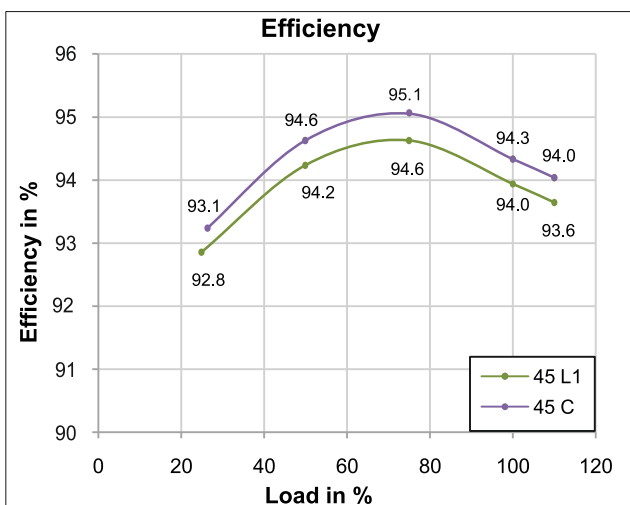
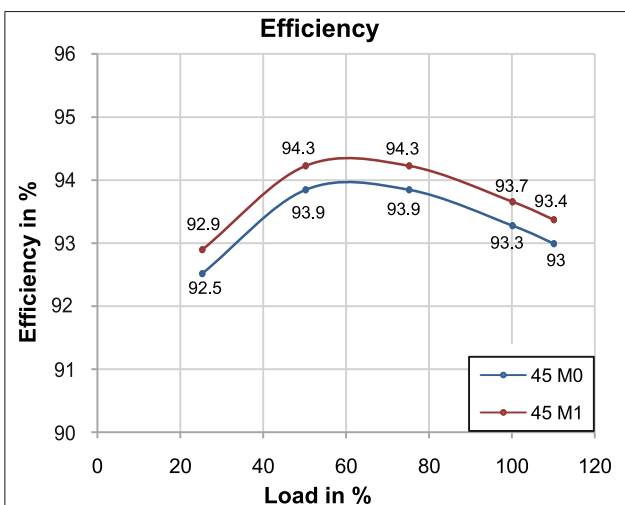
Reactance (%). Time constants (ms) - Class H / 125°C – 415 V

Parameter	Description	M0	M1	L1	C
Kcc	Short-circuit ratio	0.450	0.382	0.430	0.350
Xd	Direct-axis synchro reactance unsaturated	370.3	436.2	387.5	476.2
Xq	Quadrature-axis synchro reactance unsaturated	141.6	195.5	178.8	203.3
T'do	No Load Transient time constant	895	865	992	1540
X'd	Direct-axis transient reactance saturated	18.7	19.4	16.5	18.5
T'd	Short-Circuit transient time constant	93	91	103	173
X''d	Direct-axis sub transient reactance saturated	12.4	12.7	10.2	11.1
T''d	Sub transient time constant	11	15	18	24
X''q	Quadrature-axis sub transient reactance saturated	14.3	14.6	11.5	11.8
Xo	Zero sequence reactance unsaturated	2.3	2.3	1.8	1.8
X2	Negative sequence reactance saturated	13.6	13.5	11.3	11.3
Ta	Armature time constant	20	23	27	31

Other data - Class H / 125°C – 415 V

Parameter	Description	M0	M1	L1	C
io(A)	No load excitation current	1.30	0.93	1.32	122
ic(A)	Full load excitation current	4.80	44	49	4.9
uc(V)	Full load excitation voltage	47	45	54	55
ms	Recovery time (ΔU = 20% trans.)	≤500	≤500	≤500	≤500

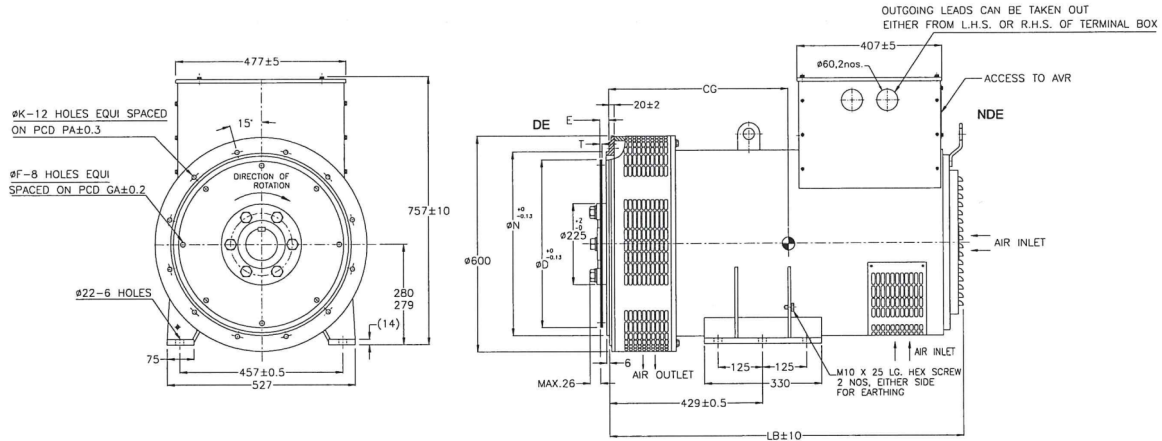
Efficiencies 415 V – 50 HZ (P.F – 0.8)



MECHANICAL DATA

LSAP 45 – 4 Pole

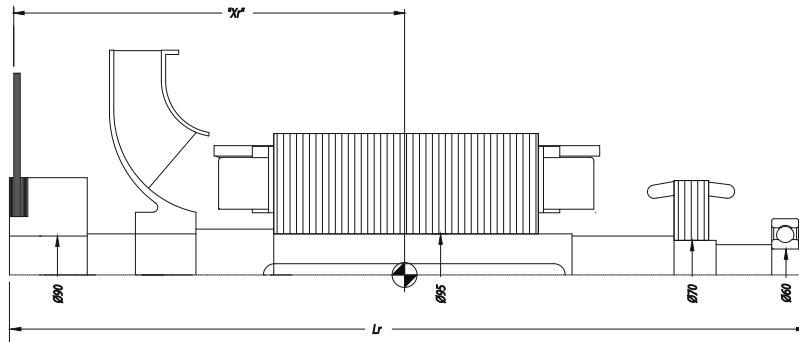
SINGLE BEARING



LSAP 45 M0, M1 & L1

Frame Dimensions (mm) & Weight				Coupling				
Type	LB	T	CG	Weight (Kg) Approx.	S.A.E./ DISC	11 1/2	14	
LSAP 45 M0	915	3	435	556	S.A.E 1	X	✓	
LSAP 45 M1	915	3	440	576	S.A.E 2	✓	X	
LSAP 45 L1	995	4	450	684				
LSAP 45 C	995	5	480	816				
Flange (mm)			Flex Plate (mm)					
S.A.E	N	PA	DISC	E	D	GA	F	K
1	511.18	530.22	11 1/2	39.6	352.42	333.4	11	12.7
2	447.68	466.72	14	25.4	466.65	438.15	14	11

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	399	941	212	2.35	340	927	209	2.4
LSAP 45 M1	405	941	219	2.43	406	927	217	2.48
LSAP 45 L1	436	1021	260	2.92	438	1007	257	2.99
LSAP 45 C	464	1021	286	3.4	465	1007	285	3.41

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

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