








**The Brand You Trust,
The Power You Depend On.**

LSA 47.2 – 380 to 600 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 150 / R 250 (SHUNT)
Terminals	6 /12 (Optional)		R 450 / D 510 C (AREP)
Protection	IP 23	Voltage Regulation (*)	± 0.5%
Altitude	≤ 1000 m	Sustained short-circuit current	300 % of FLC for 10 s (AREP)
Over speed	120% for 2 mins	Total harmonic Distortion (**)	<1.5%
Air flow	0.9 m ³ /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	VS2	VS3	S5	M7	L9
Continuous duty / 40° C	H / 125° C	380	400	455	500	600
	F / 105° C	342	360	405	450	540
Stand by- duty / 27° C	H / 163° C	418	440	495	550	660

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

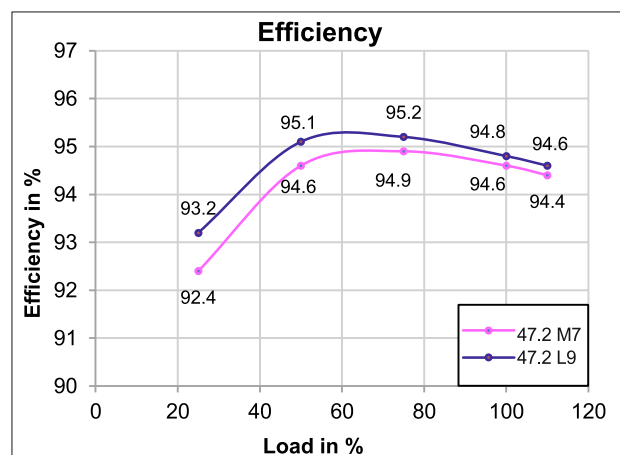
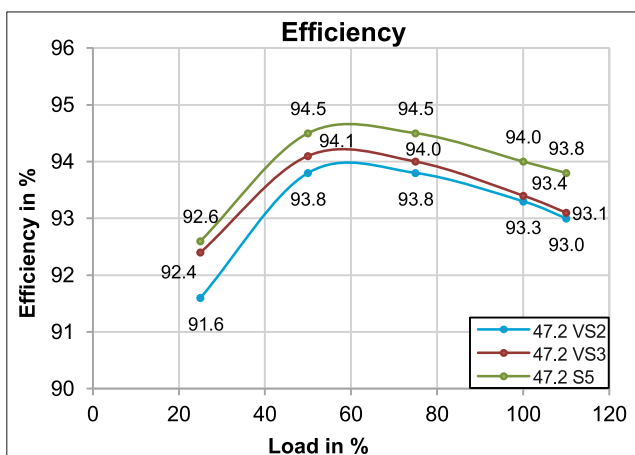
Reactance (%). Time constants (ms) - Class H / 125° C – 415 V

Kcc	Short-circuit ratio	0.418	0.332	0.380	0.450	0.380
Xd	Direct-axis synchro reactance unsaturated	341.7	430.29	372.0	317.4	375.9
Xq	Quadrature-axis synchro reactance unsaturated	165	186	169.2	154	175.4
T'do	No Load Transient time constant	1738	1771	1771	1930	1997
X'd	Direct-axis transient reactance saturated	18.7	20.6	17.9	15.6	17.2
T'd	Short-Circuit transient time constant	100	100	100	100	100
X''d	Direct-axis sub transient reactance saturated	13.1	14.4	12.4	10.9	12.0
T''d	Sub transient time constant	10	10	10	10	10
X''q	Quadrature-axis sub transient reactance saturated	17.8	19.5	16.8	14.5	15.8
Xo	Zero sequence reactance unsaturated	0.9	0.91	0.73	0.75	0.92
X2	Negative sequence reactance saturated	15.4	17	14.7	12.7	14.0
Ta	Armature time constant	15	15	15	15	15

Other data - Class H / 125° C – 415 V

io(A)	No load excitation current	1.0	1	1.1	1.0	1
ic(A)	Full load excitation current	4.3	4.4	4	4.1	4.2
uc(V)	Full load excitation voltage	54	54	50	54	57
ms	Recovery time ($\Delta U = 20\%$ trans.)	≤500	≤500	≤500	≤500	≤500

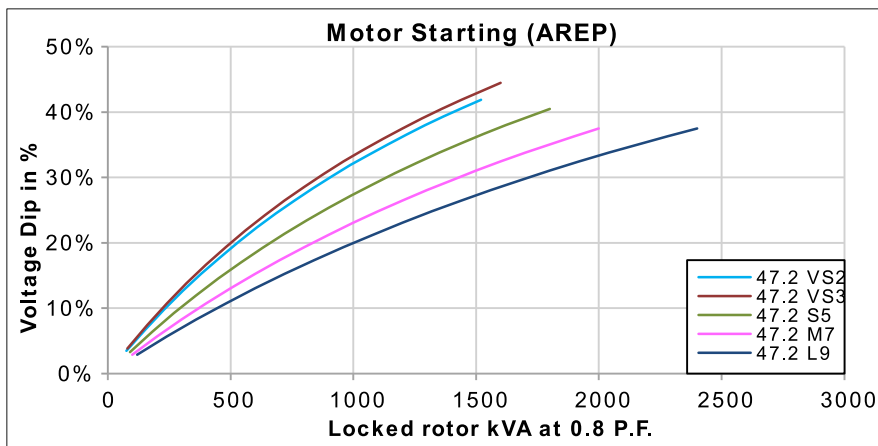
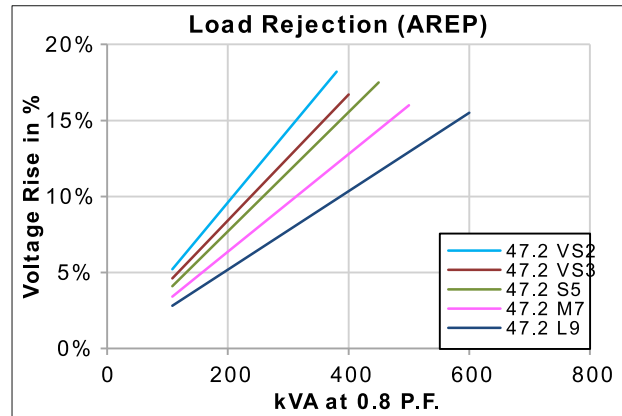
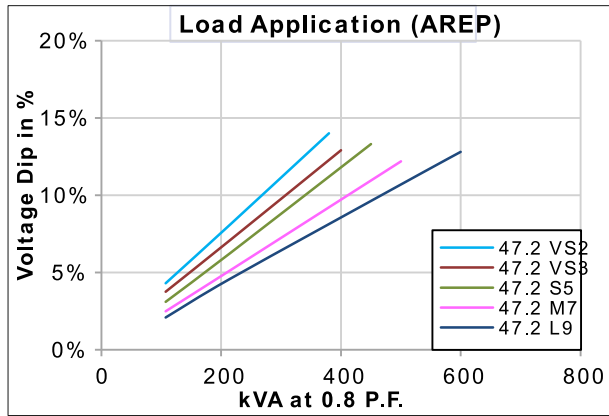
Efficiencies 415 V – 50 HZ (P.F – 0.8)



ELECTRICAL DATA

LSA 47.2 – 4 Pole

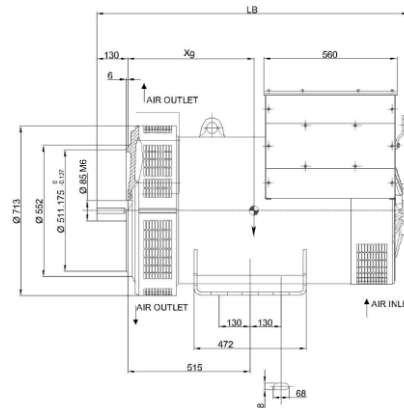
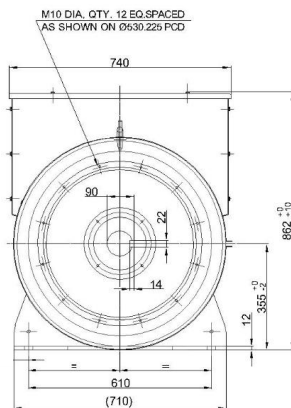
TRANSIENT VOLTAGE VARIATIONS



1. For a starting P.F. differing from 0.6, the starting kVA must be multiplied by $(\text{Sine } \alpha / 0.8)$
2. For voltages other than 415V @ 50 Hz, then kVA must be multiplied by $(415/\text{Other voltage})^2$

MECHANICAL DATA

DOUBLE BEARING

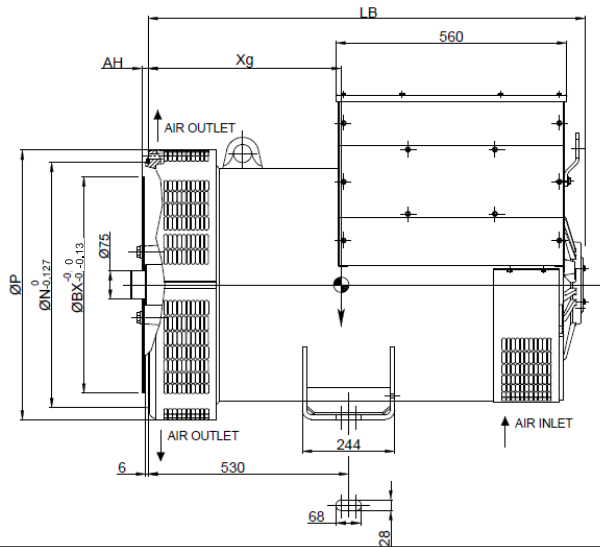
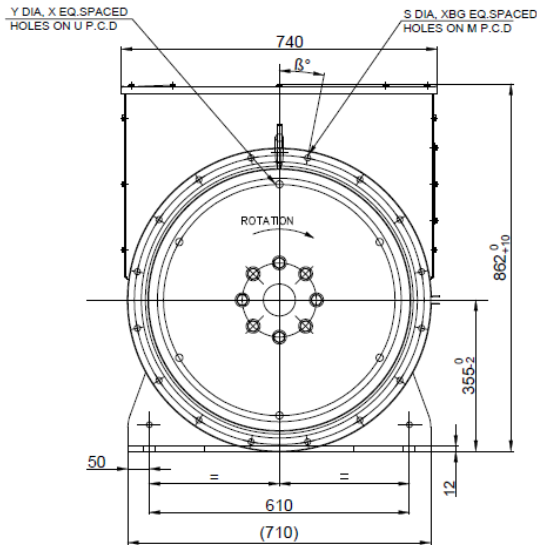


Type	LB	Xg	Weight (Kg) Approx.
LSA 47.2VS2	1151	457	996
LSA 47.2VS3	1151	457	1048
LSA 47.2S5	1211	491	1126
LSA 47.2M7	1311	531	1253
LSA 47.2L9	1331	565	1392

MECHANICAL DATA

LSA 47.2 – 4 Pole

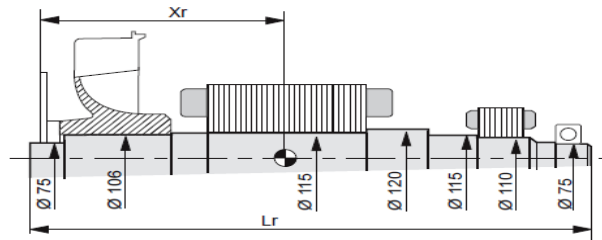
SINGLE BEARING



Frame Dimensions (mm) & Weight				Coupling			
Type	LB	Xg	Weight (Kg) Approx.	Flex Plate	14	18	
LSA 47.2VS2	996	437	976	Flange S.A.E 1	✓	X	
LSA 47.2VS3	996	442	1003	Flange S.A.E 1/2	✓	X	
LSA 47.2S5	1056	471	1113	Flange S.A.E 0	✓		✓
LSA 47.2M7	1156	511	1240				
LSA 47.2L9	1176	545	1372				

Flange (mm)							Flex Plate (mm)					
S.A.E	P	N	M	XBG	S	β°	S.A.E	BX	U	X	Y	AH
1	713	511.175	530.25	12	12	15°	14	466.72	438.15	8	14	25.4
1/2	713	584.2	619.2	12	14	15°	18	571.5	542.92	6	17	15.7
0	713	647.7	679.45	16	14	11°15'						

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. 14				Flex Plate S.A.E. 18			
	Xr	Lr	M	J	Xr	Lr	M	J
LSA 47.2VS2	456	1029	387	6.12	416	1029	387	6.38
LSA 47.2VS3	466	1029	399.7	6.32	-	-	-	-
LSA 47.2S5	496	1089	442	7.03	456	1089	442	7.29
LSA 47.2M7	531	1189	495	7.74	486	1189	486	8
LSA 47.2L9	571	1209	547	8.65	518	1209	518	8.91



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

© Nidec 2017. The information contained in this brochure is for guidance only and does not form part of any contract. The accuracy cannot be guaranteed as Nidec have an ongoing process of development and reserve the right to change the specification of their products without notice.

Nidec Industrial Automation India Private Ltd.

#45, Nagarur, Huskur Road, Off Tumkur Road, Bengaluru - 562 162, India

T +91 80 6726 4800 | F +91 80 2371 7808

Sales Enquiry: sales.epgi@mail.nidec.com | Service Enquiry: service.epgi@mail.nidec.com