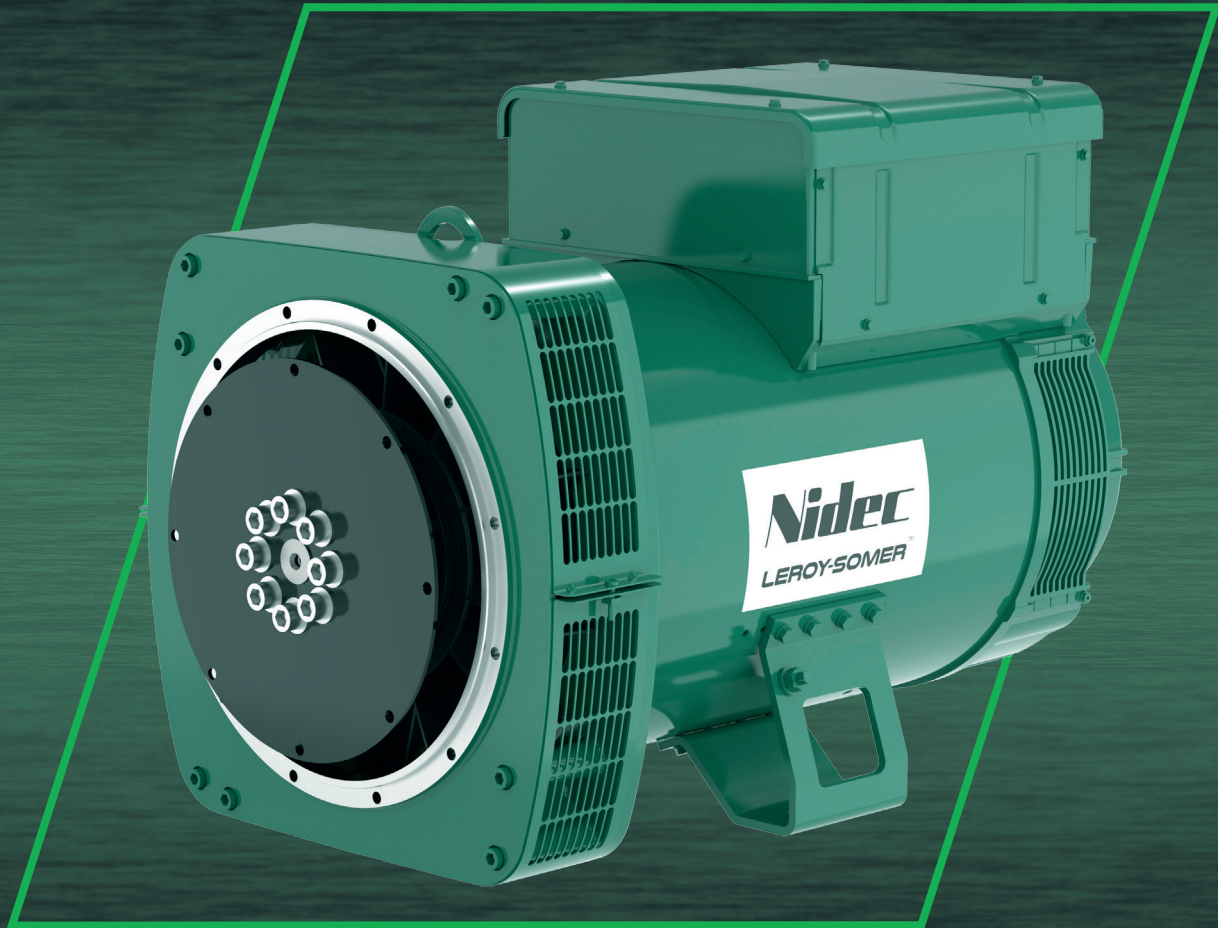


Nidec

Power



LSA 44.3

Low Voltage Alternator - 4 poles

Dedicated single-phase

57 to 82 kVA - 50 Hz / 80 to 125 kVA - 60 Hz

Electrical and mechanical data

LERROY-SOMER[™]

LSA 44.3

The best of performance

The Leroy-Somer™ single-phase LSA 44.3 alternator has been designed to offer you the best power generation performances. With its meticulous design and optimized architecture, the single-phase LSA 44.3 strikes the perfect balance between compactness, reliability, performance and longevity.

The Leroy-Somer™ single-phase LSA 44.3 alternator is a machine with a dedicated single-phase winding. It has 10 to 40% more power than an equivalent three-phase alternator connected with the same single-phase voltage.

Standards

The Leroy-Somer™ single-phase LSA 44.3 alternator meets all key international standards and regulations such as IEC 60034, NEMA MG 1.32-33, ISO 8528-3, CSA C22.2 n°100-14, UL 1446, UL 1004-1 and UL 1004-4.

EC, UKCA, CMIM, CSA, UL 1446, UL recognized and UL listed declarations and certifications are available for the LSA 44.3. The standards IEC 61000-6-2, IEC 61000-6-3, IEC 61000-6-4, VDE 0875G, VDE 0875N and EN 55011 allow compliance with group 1 class A for the European zone.

The Leroy-Somer™ single-phase LSA 44.3 alternator is designed, manufactured and marketed in an ISO 9001 and ISO 14001 quality assurance environment.

Electrical characteristics and performances

- Class H insulation
- 2/3 pitch winding, dedicated single-phase, 4-wire (M or M1) reconnectable (optimized for 240 V / 60 Hz, P.F. = 1) (15% derating for use at PF = 0.8) (PF = 1 corresponds to general use for single-phase voltage)
- Possible voltages:
 - 50 Hz: 230 V in series
 - 60 Hz: 240 V in series

Excitation and regulation system

Excitation system		Regulation options		
AVR	SHUNT	C.T. Current transformer for paralleling	Mains paralleling	Remote voltage potentiometer
R251	Standard			√

Protection system and options

- Degree of protection: IP 23
- Complete winding protection for clean environments with relative humidity $\leq 95\%$, including indoor marine environments
- Options:
 - Filters on air inlet: derating 5%
 - Filters on air inlet and air outlet (IP 44): derating 10%
 - Reinforced winding protection for harsh environments and relative humidity greater than 95%
 - Space heater
 - Thermal protection for stator windings
 - Shaft height: H = 225 mm (to be specified when ordering)

Mechanical construction

- Compact rigid assembly to better withstand generator vibrations
- Steel frame and terminal box
- Aluminum flanges and shields
- Two-bearing and single-bearing versions designed to be suitable for commercially-available heat engines
- Half-key balancing two-bearing
- Greased for life bearings (20 000h)
- Direction of rotation: clockwise and anti-clockwise (without derating)

Terminal box design

- Easy access to the voltage regulator (lid) and to the connections
- 4-way terminal block for reconnecting the voltage
- Predrilled holes for cable gland

Frame dimensions

- Dimensions, weight and coupling are identical to LSA 44.3 three-phase (see catalogue ref. 5028)

LSA 44.3 - Dedicated single-phase 57 to 82 kVA - 50 Hz / 80 to 125 kVA - 60 Hz

General characteristics

Insulation class	H	Excitation system	SHUNT
Winding pitch	2/3 (wind. M 50 Hz, M1 60 Hz)	AVR type	R251
Number of wires	4	Voltage regulation (*)	± 0.5 %
Protection	IP 23	Short-circuit current	-
Altitude	≤ 1 000 m	Total Harmonic Distortion THD (**) in no-load	< 3 %
Overspeed	2 250 R.P.M.	Total Harmonic Distortion THD (**) on linear load	< 5 %
Air flow	0.25 m ³ /s (50 Hz) / 0.30 m ³ /s (60 Hz)	Waveform: NEMA = TIF (**)	< 50

(*) Steady state (**) Total harmonic distortion between phases, no-load or on-load (non-distorting)

Ratings : 50 Hz - 1 500 R.P.M. - Winding M

kVA / kW - Power factor = 1				
Duty / T° C	Continuous/40°C		Stand-by/40°C	Stand-by/27°C
Class / T° K	H / 125° K	F / 105° K	H / 150° K	H / 163° K
1 phase series	230 V	230 V	230 V	230 V
LSA 44.3 S3	57	51	60	63
LSA 44.3 S5	69	62	73	76
LSA 44.3 M6	-	-	-	-
LSA 44.3 M8	82	74	87	90
LSA 44.3 L10	-	-	-	-

60 Hz - 1 800 R.P.M. - Winding M1

kVA / kW - Power factor = 1			
Continuous/40°C		Stand-by/40°C	Stand-by/27°C
H / 125° K	F / 105° K	H / 150° K	H / 150° K
240 V	240 V	240 V	240 V
80	73	85	88
100	91	106	110
115	105	122	127
-	-	-	-
125	114	133	138

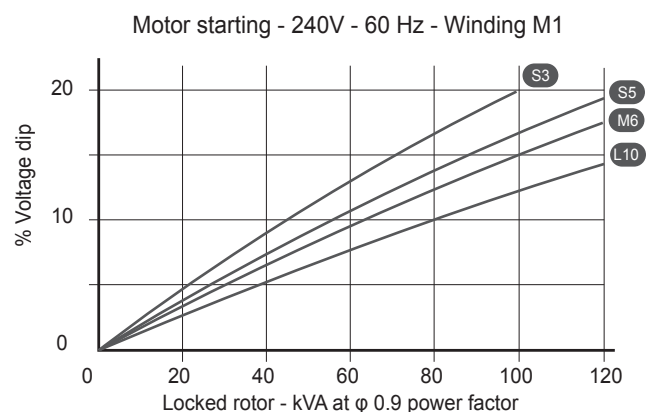
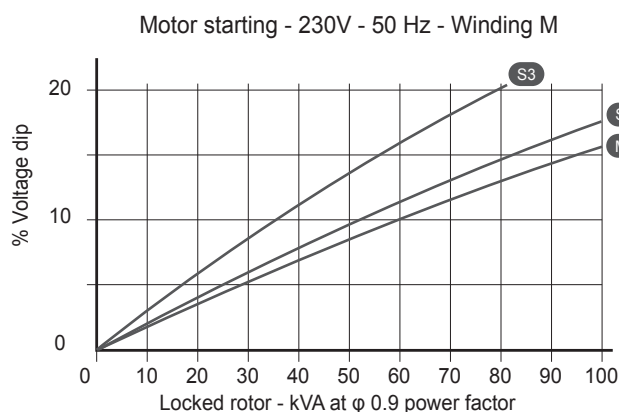
Rating kVA at P.F. 0.8 = rating kVA/kW at P.F. 1 x 0.85 - Derating (kVA) cl B = rating (kVA) class H x 0.80

Efficiencies (%)

Class H / 40°C - Power factor = 1 - Winding M					
Single-phase: 230 V - 50 Hz					
	1/4	2/4	3/4	4/4	Stand-by
LSA 44.3 S3	87.3	91.1	91.5	91	90.7
LSA 44.3 S5	88.3	91.7	92	91.5	91.1
LSA 44.3 M6	-	-	-	-	-
LSA 44.3 M8	89.6	92.6	92.8	92.3	92
LSA 44.3 L10	-	-	-	-	-

Class H / 40°C - Power factor = 1 - Winding M1					
Single-phase: 240 V - 60 Hz					
	1/4	2/4	3/4	4/4	Stand-by
	85	89.7	90.4	90	89.7
	84.5	89.5	90.4	90	89.7
	89.7	92	91.7	90.7	90.2
	-	-	-	-	-
	88.6	92	92.3	91.7	91.4

Transient voltage variation





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