



## Cogeneration alternators



### LSAC alternators Class F High efficiency and reliability

9 to 1475 kVA - 50 Hz  
11.5 to 1800 kVA - 60 Hz

**LEROY-SOMER**<sup>™</sup>

***Nidec***  
All for dreams

# Products features and options

## Long-lasting performance

Over the last few years, distributed power generation has grown fast, especially in areas such as cogeneration, combined heat & power, biomass, biogas or waste-to-energy.

This new, decentralized approach to power generation has put new requirements on small-size alternators. They are now more and more expected to operate 24/7, with an ever increasing level of reliability and efficiency. These new requirements also include a solid capability of living within smart grids and to cope with all the constraints of mains paralleling.

At Nidec Leroy-Somer, we designed a complete offering to address these new challenges.

Drawing from our long expertise and strong product lineup, we selected the best solution to fit power plants requirements.

## Reliability

Our alternators are Class H insulated.

Best materials are sourced from certified suppliers to guarantee a product with superior heat resistance.

## Lifespan

LSAC alternators are Class F specified.

They are optimized for continuous operation and specially sized to operate for 9 years (80 000 hours) or more.

## Performance

Class F also ensures that you benefit from the best available efficiency at full load.

## Standard configuration

### Optimized for cogeneration and prime power generation

- Class H insulation
- Class F temperature rise
- AREP excitation
- D550 digital regulator with integrated Cos Phi regulation
- C.T. for alternators paralleling
- 3 x PT100 sensors on stator
- Single-bearing configuration

### Options

- Remote voltage potentiometer
- Remote P.F. potentiometer
- Temperature sensors for bearings PT100
- Regreasable bearings
- Two-bearing configuration
- Space heaters
- Filters on air inlet (5% derating)
- IP 44 enclosure on air inlet and air outlet (10% derating)
- Protection for harsh environments and relative humidity above 95%
- PMG excitation (not available on LSA 40)

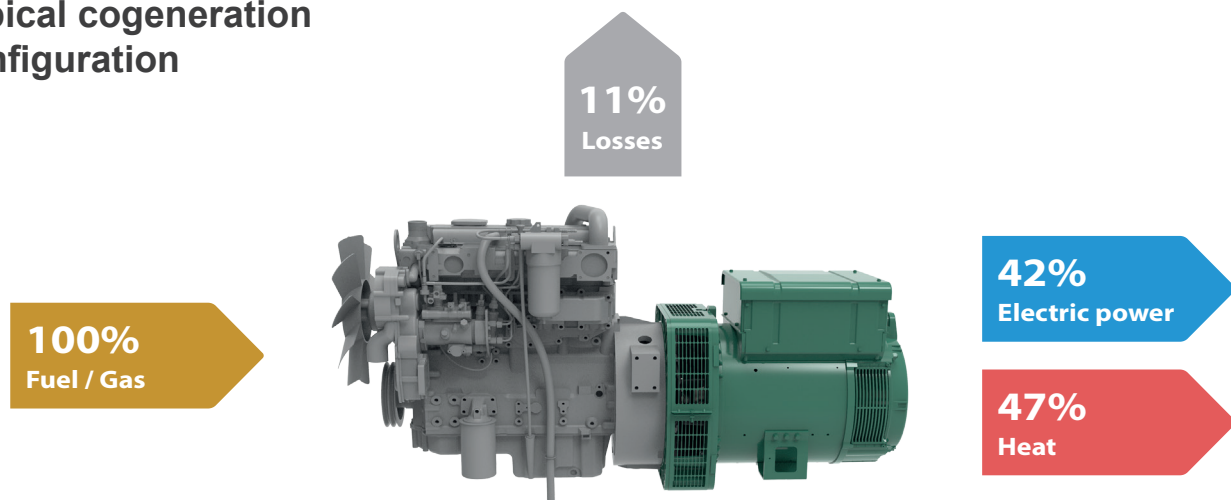
**Nidec Leroy-Somer LSAC alternators meet all key international standards and regulations, including IEC 60034, NEMA MG 1.32-33, ISO 8528-3, CSA C22.2 n°100-14 and UL 1446. Also compliant with IEC 61000-6-2, IEC 61000-6-3, IEC 61000-6-4, VDE 0875G, VDE 0875N and EN 55011, group 1 class A for European zone.**

**Compliant with national grid code standards: Germany VDE-AR-N 4105:201108, VDE-AR-N 4110 and BDEW, and Italy IEC 0-16 & 0-21.**

**Nidec Leroy-Somer LSAC alternators can be integrated in EC marked generator sets, and bear EC, UKCA and CMIM markings.**

**They are designed, manufactured and marketed in an ISO 9001 and ISO 14001 quality assurance environment.**

## Typical cogeneration configuration



# Ratings and efficiencies - Class F

Model		400 V - 50 Hz - 1500 R.P.M.										480 V - 60 Hz - 1800 R.P.M.									
Excitation	AREP	Ratings		Efficiency								Ratings		Efficiency							
		kVA	kWe	P.F. = 0.8				P.F. = 1				kVA	kWe	P.F. = 0.8				P.F. = 1			
				1/4	2/4	3/4	4/4	1/4	2/4	3/4	4/4			1/4	2/4	3/4	4/4	1/4	2/4	3/4	4/4
LSAC 40VS1	C6/4	9	7.2	77.1	83.4	84.7	84.5	79.4	86.9	88.9	89.4	11.5	9.2	76.4	83.4	85.1	85.1	78.4	86.4	88.8	89.5
LSAC 40VS2	C6/4	11.5	9.2	79.3	85.1	86.1	85.8	81.5	88.2	90	90.4	14.5	11.6	78.6	85	86.4	86.4	80.4	87.7	89.8	90.4
LSAC 40S3	C6/4	14	11.2	81.3	86.2	86.8	86.2	83.5	89.3	90.6	90.7	17.5	14	80.5	86.2	87.2	86.9	82.3	88.8	90.5	90.9
LSAC 40S4	C6/4	16	12.8	82.2	86.9	87.5	87.1	84.2	89.8	91.1	91.2	20.5	16.4	81.6	87	87.9	87.6	83.3	89.4	91	91.3
LSAC 40M5	C6/4	18.5	14.8	83.1	87.7	88.4	87.9	84.9	90.3	91.6	91.8	23	18.4	82.2	87.6	88.7	88.6	83.7	89.8	91.5	91.9
LSAC 42.3 VS1	C6/4	22.8	18.2	84.7	88.4	88.6	87.7	86.6	91.2	92.1	92	28.7	23	84	88.4	89	88.5	85.6	90.7	92	92.1
LSAC 42.3 VS2	C6/4	24.6	19.7	85.7	89	89.1	88.2	87.5	91.6	92.4	92.2	30.7	24.6	84.9	89	89.5	88.9	86.4	91.2	92.3	92.4
LSAC 42.3 VS3	C6/4	29.1	23.3	86.8	89.8	89.7	88.8	88.5	92.3	92.9	92.6	36.4	29.1	86.1	89.8	90.1	89.5	87.5	91.9	92.8	92.8
LSAC 42.3 S4	C6/4	32	25.6	87.2	90.7	91	90.5	88.5	92.6	93.5	93.5	39.8	31.8	86.3	90.5	91.2	90.9	87.4	92.1	93.4	93.6
LSAC 42.3 S5	C6/4	36.4	29.1	88.1	90.9	90.8	90.1	89.6	93	93.6	93.4	45.5	36.4	87.4	90.8	91.1	90.6	88.6	92.7	93.5	93.5
LSAC 42.3 M7	C6/4	41	32.8	89	91.4	91.3	90.4	90.4	93.5	93.9	93.6	51.4	41.1	88.3	91.4	91.5	90.9	89.5	93.1	93.8	93.8
LSAC 42.3 M8	C6/4	45.5	36.4	88.6	91.3	91.3	90.5	90	93.3	93.9	93.7	57	45.6	88	91.3	91.5	91	89.1	93	93.8	93.8
LSAC 42.3 L9	C6/4	54.6	43.7	89.4	91.8	91.7	90.8	90.8	93.8	94.2	94	68.3	55	88.8	91.8	92	91.4	90	93.5	94.2	94.1
LSAC 44.3 S2	C6/4	64	51	85.6	90.6	91.7	91.9	86.6	92	93.6	94.1	80	64	84.1	89.9	91.5	91.9	84.9	91.1	93.1	93.9
LSAC 44.3 S3	C6/4	73	58	86.9	91.1	91.9	91.8	88	92.6	93.9	94.2	91	73	85.5	90.5	91.8	91.9	86.4	91.9	93.5	94
LSAC 44.3 S4	C6/4	82	66	87.3	91.5	92.4	92.4	88.3	92.9	94.2	94.6	102	82	85.9	90.9	92.2	92.5	86.7	92.1	93.8	94.4
LSAC 44.3 S5	C6/4	91	73	88.1	91.8	92.5	92.3	89.2	93.3	94.4	94.7	114	91	87	91.4	92.4	92.4	87.8	92.7	94.1	94.5
LSAC 44.3 M6	C6/4	114	91	90	92.8	93	92.6	91	94.3	95	95	142	114	89	92.5	93.1	92.9	89.8	93.7	94.7	94.9
LSAC 44.3 M8	C6/4	123	98	90.5	93.2	93.4	93	91.4	94.5	95.2	95.3	154	123	89.5	92.9	93.4	93.3	90.2	94	95	95.2
LSAC 44.3 L10	C6/4	137	110	90.1	93.1	93.5	93.2	91	94.4	95.2	95.4	171	137	89.1	92.8	93.5	93.4	89.9	93.9	95	95.3
LSAC 44.3 L12	C6/4	150	120	90.6	93.2	93.4	93	91.5	94.6	95.3	95.3	187	150	89.6	92.9	93.4	93.2	90.4	94.1	95	95.2
LSAC 46.3 S2	C6/4	164	131	90.5	93	93	92.5	91.4	94.3	94.8	94.7	205	164	89.2	92.4	92.9	92.6	89.9	93.6	94.5	94.6
LSAC 46.3 S3	C6/4	182	146	90.5	93.2	93.4	93	91.4	94.4	95.1	95	228	182	89.3	92.7	93.3	93.1	90	93.8	94.7	94.9
LSAC 46.3 S4	C6/4	209	167	91.1	93.6	93.8	93.4	91.9	94.8	95.4	95.3	262	210	89.9	93.1	93.7	93.5	90.6	94.2	95.1	95.2
LSAC 46.3 S5	C6/4	228	182	91.6	93.7	93.7	93.2	92.4	95	95.4	95.3	284	227	90.5	93.3	93.7	93.4	91.2	94.4	95.1	95.2
LSAC 46.3 M7	C6/4	250	200	91	93.7	94	93.7	91.8	94.8	95.5	95.6	313	250	90	93.3	93.9	93.8	90.6	94.3	95.2	95.5
LSAC 46.3 M8	C6/4	273	218	91.5	93.8	94	93.6	92.3	95	95.6	95.5	337	270	90.5	93.5	93.9	93.8	91.2	94.5	95.3	95.5
LSAC 46.3 L10	C6/4	300	240	91.9	94.4	94.7	94.4	92.6	95.4	96	96	370	296	90.9	93.9	94.5	94.5	91.4	94.8	95.7	95.9
LSAC 46.3 L11	C6/4	332	266	92.5	94.5	94.6	94.2	93.2	95.6	96	95.9	415	332	91.6	94.2	94.6	94.3	92.2	95.1	95.8	95.9
LSAC 47.2 VS2	C6/4	330	264	91.6	94	94.2	93.8	92.3	95.1	95.7	95.7	410	328	90.1	93.4	94	93.8	90.8	94.4	95.3	95.5
LSAC 47.2 S4	C6/4	370	296	92.2	94.5	94.8	94.5	92.9	95.5	96.1	96.1	465	372	90.9	94	94.6	94.5	91.5	94.8	95.7	95.9
LSAC 47.2 S5	C6/4	405	324	92.7	94.7	94.8	94.4	93.4	95.7	96.1	96.1	518	414	91.6	94.2	94.6	94.4	92.2	95.1	95.8	95.9
LSAC 47.2 M7	C6/4	465	372	92.8	94.9	95.1	94.9	93.4	95.9	96.4	96.4	590	472	91.7	94.5	95	94.9	92.3	95.3	96.1	96.2
LSAC 47.2 M8	C6/4	500	400	93.5	95.2	95.2	94.8	94.1	96.2	96.5	96.4	632	506	92.5	94.8	95.1	94.8	93.1	95.7	96.2	96.3
LSAC 47.2 L9	C6/4	535	428	93.4	95.2	95.3	95	94	96.1	96.6	96.5	675	540	92.4	94.8	95.2	95	92.9	95.6	96.3	96.4
LSAC 49.3 S4	C6S/4	595	476	92.8	94.8	94.9	94.6	93.5	95.8	96.3	96.3	743	594	91.7	94.4	94.8	94.6	92.3	95.3	96	96.1
LSAC 49.3 M6	C6S/4	660	528	92.2	94.6	94.9	94.7	92.8	95.6	96.2	96.3	825	660	91	94.1	94.7	94.7	91.6	95	95.9	96.1
LSAC 49.3 M8	C6S/4	760	608	93.6	95.3	95.4	95	94.2	96.2	96.6	96.5	925	740	92.5	94.9	95.2	95.1	93	95.7	96.3	96.4
LSAC 49.3 L9	C6S/4	820	656	93.1	95.3	95.7	95.5	93.7	96.1	96.7	96.8	1025	820	92.1	94.9	95.5	95.5	92.6	95.6	96.4	96.7
LSAC 49.3 L10	C6S/4	900	720	94	95.7	95.9	95.6	94.5	96.5	96.9	96.9	1125	900	93.1	95.4	95.7	95.6	93.6	96.1	96.7	96.8
LSAC 50.2 M6	C6S/4	1125	900	93.6	95.5	95.7	95.4	94.1	96.3	96.7	96.7	1405	1124	92.5	95	95.4	95.3	92.9	95.7	96.4	96.5
LSAC 50.2 L7	C6S/4	1215	972	93.7	95.6	95.8	95.6	94.1	96.3	96.8	96.8	1510	1208	92.5	95.1	95.6	95.5	92.9	95.7	96.4	96.6
LSAC 50.2 L8	C6S/4	1350	1080	94.2	95.9	96	95.8	94.6	96.6	97	97	1685	1348	93.1	95.4	95.8	95.7	93.5	96	96.6	96.8
LSAC 50.2 VL10	C6S/4	1475	1180	94.3	96	96.2	96	94.7	96.7	97.1	97.1	1800	1440	93.2	95.5	96	95.9	93.5	96.1	96.8	96.9

**LEROY-SOMER**<sup>™</sup>

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