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## **Type Approval Certificate**

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

Manufacturer	MOTEURS LEROY SOMER	
Address	Boulevard Marcellin Leroy, CS 10015, 16915, Angoulême Cedex 9, France	
Place of Production	MOTEURS LEROY SOMER	
	Nidec Moteurs Leroy-Somer OLO1 Holice Spol s.r.o., Sladkovskeho 43, Olomouc, 77900, Czech Republic	
Place of Production	MOTEURS LEROY SOMER	
	Nidec Moteurs Leroy-Somer OLO2 & 3 M.L.S. Holice Spol s.r.o., Prumyslova 5/740, Olomouc, 77900, Czech Republic	
Place of Production	MOTEURS LEROY SOMER	
	Moteurs Leroy Somer Sillac, Boulevard Marcellin Leroy, CS10015, Angoulême Cedex 9, 16915, France	
Туре	Alternators	
Description	Types: See Appendix	
Trade Name	Electric alternator, also brand labelled for FG Wilson under LL-series and Caterpillar under LC-series.	
Application	Marine and industrial application	

**Gerard Vromans** 

	Service Delivery Manager to Lloyd's Register
71 Fenchurch Street, London, EC3M 4BS, United	EMEA
Kingdom	A member of the Lloyd's Register group

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Specified Standard	IEC60034, Rules and Regulations of ships 2023
Ratings	Insulation class F: 7 till 2087 kVA for 380V/50 Hz 8 till 2323 kVA for 450V/60Hz 29 till 2121 kVA for 690V/60Hz Insulation class H: 7 till 2350 kVA for 380V/50Hz 8 till 2615 kVA for 450V/60Hz 32.5 till 2365 kVA for 690V/60Hz
Other Conditions	<ul> <li>For generators =&gt; 100 kW to be surveyed by LR surveyors in the factory.</li> <li>Generators used for propulsion to be provided with embedded temperature measurement. Part 6 chapter 2 section 9.1.10 refers.</li> <li>When for IP44 extra white filters are installed inside the machine on all ventilation openings and above mentioned power ratings are to be reduced by 10%.</li> <li>Generators above 1500 kVA need to be provided with differential current transformers and avr with remote controlled voltage de-excite contact. Part 6 chapter 2 section 6.8.5</li> <li>Generators with forced lubrication to be provided with high bearing temperature alarm and second stage high temperature safe shutdown to prevent damage. Part 6 chapter 2 section 9.1.11 refers.</li> </ul>

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## **Type Approval Certificate**

This certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid Certificate.

**Previous Version:** 18-30009-04

The Design Appraisal Document RTS-TA-PRJ11100417358/GV and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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