



Crane and hoist solutions

Reliable, safe and performing solutions
to maximize crane productivity

LEROY-SOMER[™]

Nidec
All for dreams

Leroy-Somer

Globally organized expertise, solutions development and support

One single supplier with 70 years of expertise in the field of crane and hoist solutions for all your requirements

Leroy-Somer, a brand of Nidec group, operates globally providing unparalleled motor, brake, gear and drive technology, local technical expertise, engineering & manufacturing resources, and round-the-clock customer care in a wide range of industries including crane and hoist solutions.

For the crane automation, 70 years of experience and references such as a famous bridge in France, the highest tower in Dubai or Hydroelectric centrals in China allow us to be a one stop source to meet all your expectations.

Whether industrial, tower or port cranes, permanently located or mobile, we know they have specific challenges relating to their environment, application and the material they transport.

To respond to these challenges, we offer compact and flexible solutions with the power and control required to move materials and goods efficiently and safely. Our systems maximize the automation, speed and reliability of your cranes and material handling equipments.

Any of our system is provided with 2 years warranty and all the required worldwide certifications.

In addition, our powerful industrial organization provides you peace of mind local customer service.



Innovative, reliable and efficient to meet your application needs in industrial, tower or port cranes

The automated material handling system offers a wide range of benefits including space savings, lower building costs, improved productivity, more efficient material flow, accurate positioning, safer operations, reductions in inventory, increased reliability, reduced operating costs, and better return on investment (ROI).

Knowing the importance of those benefits, we offer you through our dedicated organization:

Enhanced performance, safety and energy efficiency with our highly technological **motors & drives packages** to meet your requirements with best-in-class reliability.

Scalable Solutions – from simple drive and motor hoist control up to complete electrical turnkey installations for either new or retrofit crane projects. Local teams are backed by our full organization's global design & engineering expertise and resources.

Customized local services – ensuring all elements of your crane system are supported throughout its operational lifetime, including consultation, installation, commissioning, training, maintenance and repairs.

OEM account management – jointly developed customized solutions and strategic operations to meet the specific market requirements of our OEM customers.

Tower cranes

Safety

On construction sites, safety is essential to protect users and machines.

- IP23 and IP55 dedicated brake motors range for hoisting movements
- Maintain the loads through the brake when stopped, but also during an overspeed operation phase
- Redundancy management of safety information via brakes equipped with inductive sensors, encoders and micro-switches
- Manual or electric release of brake for maintenance operations or setting the crane in free-slew mode

Productivity

Optimising the productivity of tower cranes is essential to meet shorter production deadlines.

- Motor and drive sizing based on crane hook performance
- Precise movement control through eddy current motor or variable speed drive
- Optimised power control through the drive
- Capacity to accelerate a load and increase the descent speed
- Fast and easy replacement of wearing parts to limit downtime

Robustness

The intensive use of transported, assembled and disassembled cranes, and the harsh environments in which they operate, require robust equipment.

- Compact, cast-iron gearboxes
- Slewing drive through integrated pinion in planetary geared motor
- Anticorrosion protection for mechanical brake elements
- Easy disassembly and procurement of wearing parts
- Reinforcement and protection of motor winding for increased service life



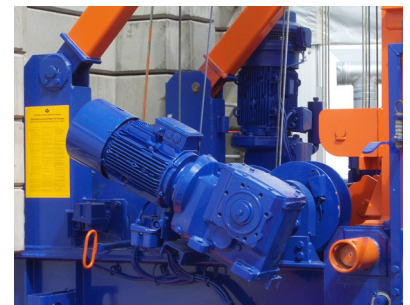
Hoisting movement

Integrated brake motor with forced ventilation for operation at constant power over a large speed range



Slewing movement

Planetary gearmotors with integrated brake, equipped with a release system for free-slew mode



Trolleying movement

Helical geared motor with integrated brake



Port cranes

Reliability

Port crane condition of use and environment are very demanding. It is therefore necessary to have reliable equipment, avoiding high costs of production downtime.

- Long-lasting lubrication of our geared motor
- Special seaside finish: anticorrosion protection of brake, special paint and stainless steel fasteners
- Lower operating mode with modular drives

Energy savings

As there is an increase in the total power used for the equipment on site, there is a higher demand for solutions enabling energy savings.

- Range of motors with or without brake (IP23 or IP55) and efficiency levels up to IE4
- Range of gearboxes with low-loss, helical gears
- Optimisation of motor-drive sizing to limit energy consumption

Automation

Improving the productivity and safety of equipment implies a supervision, a choice in technologies, and a remote control of the main functions.

- Modular AC drive technology for equipping new cranes
- Retrofit handling machinery with a latest-generation of DC motor and drive
- Brake supervision through electronic control and mechanical micro-switch
- Increased equipment service life through motor thermal control (probes) and mechanical monitoring of bearings (sensors)



Hoisting movement

Low-inertia, compact, dedicated to variable-speed, induction motor



Gantry movement

Helical geared motors with integrated brake, driven via shrink disc



Drive cabinet

Use of AFE drive for crane movement management



Industrial cranes

Productivity and performance

A strategic handling equipment, the industrial crane is central when it comes to productivity and performance.

- High reliability level to guarantee optimum productivity of the installation
- Large range of highly efficient induction motors (IE2, IE3 and IE4)
- Control via latest-generation drive, meeting the strict handling constraints
- Know-how associated with a high level of expertise for optimised performance

Management of the movement

Managing movements means taking into account flexibility, precision, rapidity, dynamics and safety.

- Ranges of multiple-voltage single and two-speed induction motors
- Failsafe brake systems integrated on the motor, guaranteeing high safety levels
- Large range of gearboxes with reliable, robust and modular helical gears
- Variable speed drives, integrated on the motor or in cabinet, to manage all the movements

Compact, light and robust

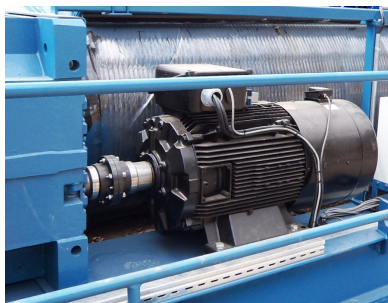
Improving performance involves optimising the on-board loads while guaranteeing the reliability of the drive systems.

- Range of aluminium motors to save installation weight
- Use of ribbed cast iron on motor flanges and gearbox housings provide high robustness and resistance against shocks and vibrations
- Choice between hollow shaft with key-way or shrink disc, keyed or splined solid shaft, guaranteeing optimised sizing for an integration closest to the shafts
- Mechanical braking systems designed to provide continuously maximum performances



Travelling movement

Helical geared motors with integrated brake, driven via shrink disc



Hoisting movement

Dedicated variable speed induction motor with integrated safety brake and axial forced ventilation



Trolleying movement

Helical geared motors with integrated brake, parallel output with hollow shaft



The widest range of drive and motor technology

The combination of a motor-drive package made by a single manufacturer ensures excellent performance of components designed for optimum operation, backed up by a comprehensive warranty from a single source.

Induction motors

Robust motors with different IP protection (23 & 55) and housing, in liquid and air cooling to face any rugged crane operating conditions, whether high air humidity or high wind conditions.

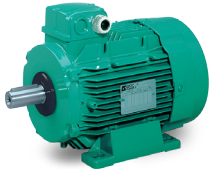



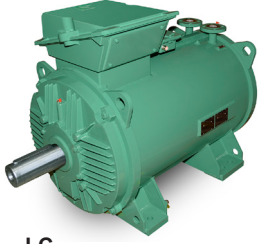
Permanent magnet motors

Premium efficiency motors specifically designed for variable speed. They guarantee optimum torque over the whole speed range, offering significantly better performance than conventional technologies, lowering level noise and optimizing the process flow. The compact version of those motors allow a higher power to weight ratio.

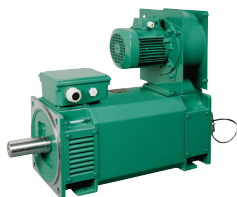
DC motors

DC motors are both efficient and robust and offer year upon year of service, good performances for the most demanding applications.

AC induction IMfinity® motor platform

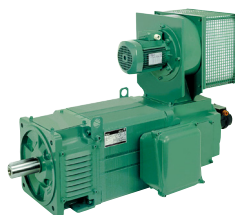
				
LS Non IE Aluminium IP55 Frame size 56 up to 225 mm 2, 4 & 6 poles 0.09 up to 45 kW	LSES IE2 - IE3 Aluminium IP55 Frame size 80 up to 315 mm 2, 4 & 6 poles 0.75 up to 200 kW	FLSES IE2 - IE3 - IE4 Cast iron IP55 Frame size 80 up to 450 mm 2, 4 & 6 poles 0.75 up to 900 kW	PLSES IE2 - IE3 ODP / IP23 Frame size 225 up to 450 mm 2, 4 & 6 poles 55 up to 900 kW	LC IE3 Liquid cooled / IP55 Frame size 315 up to 500 mm 2, 4 & 6 poles 150 up to 1500 kW

AC induction motor



CPLS
Aluminium IP23
Frame size 132 up to 250 mm
7.5 up to 560 kW
Speed up to 6,000 rpm

DC industrial motor

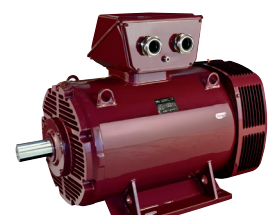


LSK
IP23S, IP44R, IP55R, IP55
with exchangers
Frame size 112 up to 355 mm
2 up to 750 kW
Speed 50 up to 6,600 Nm

Dyneo® permanent magnet motors



LSRPM
Higher than IE4
Aluminium IP55
Frame size 90 up to 315 mm
Up to 5,500 rpm
3 up to 350 kW



PLSRPM
Higher than IE4
Aluminium IP23
Frame size 315 mm
Up to 5,500 rpm
315 up to 500 kW

Gearboxes

Wide range of helical gearboxes with inline, perpendicular, parallel output or planetary, dedicated to slewing. It offers high robustness and reliability for resistance to vibrations and harsh environments (cast-iron ribbed housing, bearings designed for high radial and axial loads, proven sealing system and long-life lubrication). Perfect integration of motors and brake motors (IP55 and IP23). The variable-speed motor-drive solutions offer gains in productivity and energy performance.

Brakes

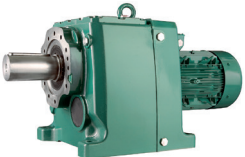
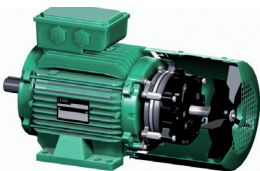


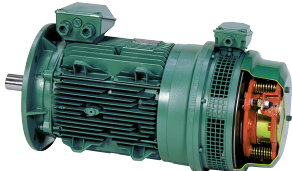




Range of safety brakes meeting dynamic and static operating requirements, totally integrated and protected against corrosion. Low-inertia product design for better dynamics when starting and braking. Available in version IP23 or IP55, possible to associate with an Eddy current motor, or control via variable speed drive to manage start/stop phases. Secure brake function via wear sensor, brake indicator, and manual or electric release system for maintenance purposes or crane jib free-slew mode.

AC Variable Frequency Drives

Equipped with the latest generation of IGBTs and powerful micro-processors with flash memory, our drives ensure any type of control motor including sensor-less control. They provide greater reliability; enhance performance and energy savings; improve production throughput; prolong equipment life; and reduce maintenance costs and parts. Flexibility and networking capabilities of Programmable Logic Controllers (PLCs) allow easy system integration.

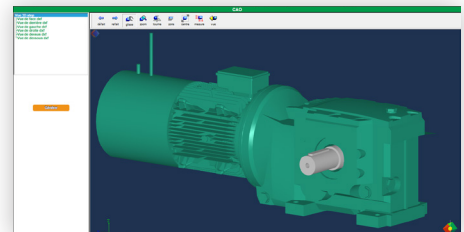
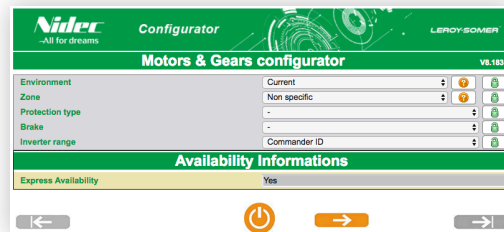
Integrated drive

Safety is built into the drive providing the highest safety level which is one of the most important requirements of any crane. It reaches Sil3/PLE levels, certified by TÜV.

Geared motors	Brake motors	Drives
 <p>Compabloc up to 14,500 Nm</p>	 <p>FFB 0.12 - 15 kW 4.5 up to 200 N.m</p>	 <p>Unidrive M 0.25 - 2.8 MW</p>
 <p>Orthobloc up to 23,000 Nm</p>	 <p>FCPL 11 - 400 kW 160 up to 5000 N.m</p>	 <p>Powerdrive MD2 45 kW - 2.8 MW</p>
 <p>Manubloc up to 14,500 Nm</p>	 <p>OLS up to 18000 N.m</p>	 <p>Commander ID300 Integrated drive 0.25 - 7.5 kW</p>

Configurator

An online tool to assist you in the selection of motors, brake motors or geared motors combined with variable speed drives.



Industrial and commercial organisation

Local, permanent and personalised assistance

- Audit and advice
- Installed base audit by an industry leader
- Optimisation of energy savings and return on investment
- Systems adaptation and upgrade
- Installation and commissioning
- Comprehensive training
- Maintenance
- Installations and resources the world over



Extensive worldwide presence for the benefit of all our customers

Through our integrated organisation and our 7300 employees, our global presence is assured. Our technical assistance services and local services comprise:



27 industrial sites

Producing complete ranges of high quality products, optimised for the requirements of specific industries.



40 centres of expertise

Offering an excellent customer assistance service for any product, any automation solution or any request for service.



8 engineering and design platforms

Developing market-leading products and sets of functionalities using the latest cutting-edge techniques.



3 regional dispatch centres

Guaranteeing rapid delivery of our products.



Count on our Expertise from diagnostics to turnkey Solutions & Maintenance



Complete Offering

- IMfinity® high premium efficiency induction motors IE2, IE3, IE4 and Non IE motors
- Dyneo® best-in-class efficiency (>IE4) permanent magnet motors
- Geared motor execution for low speed, high torque applications
- Large choice of brakes pre-equipped on our motor range to ensure higher safety
- DC motors and drives range is our compact and cost effective regenerative solution for variable speed applications
- Unidrive M and Powerdrive standard and customized drives. Scalable solutions – from small machine automation projects up to complete automation and electrical turnkey solutions
- High performance soft starter range
- Express availability: an offer to deliver products with a guaranteed short lead time



OEM and System integrator partnerships

- Deliver unique customer-specific value that can be sustained and leveraged, resulting in profitable growth
- Align with our customers' globalization to jointly develop products & solutions from small scale custom-designed solutions such as mechanically adapted products or standard products fitted with tailored options to suit application requirements, up to developing new product designs (e.g. unique drives, motors or cabinet layouts)
- Bring new technology and designs to market quickly with reduced time and effort, by providing:
 - core crane control technology, that can be customized for new designs
 - customer equipment for testing and training
 - technically detailed proven success stories
 - technical support with dedicated engineers



Scalable solution executed at local level

- Dedicated team to design, manage and implement global Automation Solutions projects, including all technical aspects & system components
- Retrofit project management especially the electrical parts to reduce modernization costs and minimize completion time while offering industry leading performance, communication and programming capability
- Customized solution: standard core, globally deployed with knowledge of local practices
- Optimization of:
 - resources with efficient knowledge sharing & reduced development time
 - quality: tested & qualified applications along with maximized functionality/performance



Installation & Commissioning

- Accredited personnel ensure reliability and safety of equipment
- Installation in compliance with local technical regulations and safety standards
- On site commissioning
- Extended system guarantee
- Installation and maintenance



After Sales & spare parts

- Emergency services: 24/7 telephone and web support, onsite technical assistance
- Express round-the-clock delivery of replacement products or spare parts and urgent repairs
- Capabilities for ongoing maintenance work (replacement, retrofit and upgrades)
- Maintenance contracts on equipment

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Nidec
All for dreams

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Moteurs Leroy-Somer SAS. Headquarters: Bd Marcellin Leroy, CS 10015, 16915 Angoulême Cedex 9, France. Share Capital: 65 800 512 €, RCS Angoulême 338 567 258.