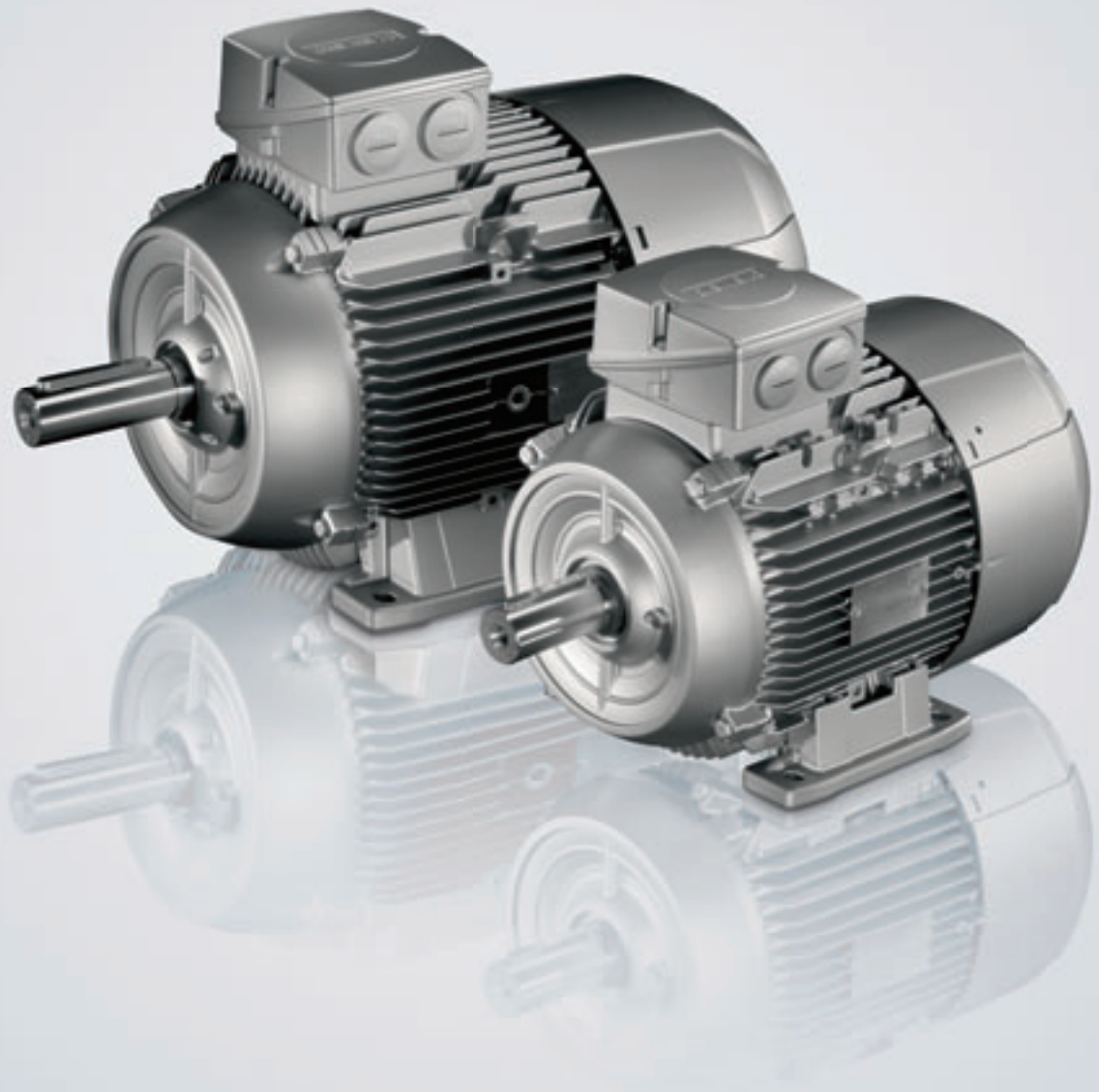


The new 1LE1 motor range –  
even more drive through innovation  
and efficiency

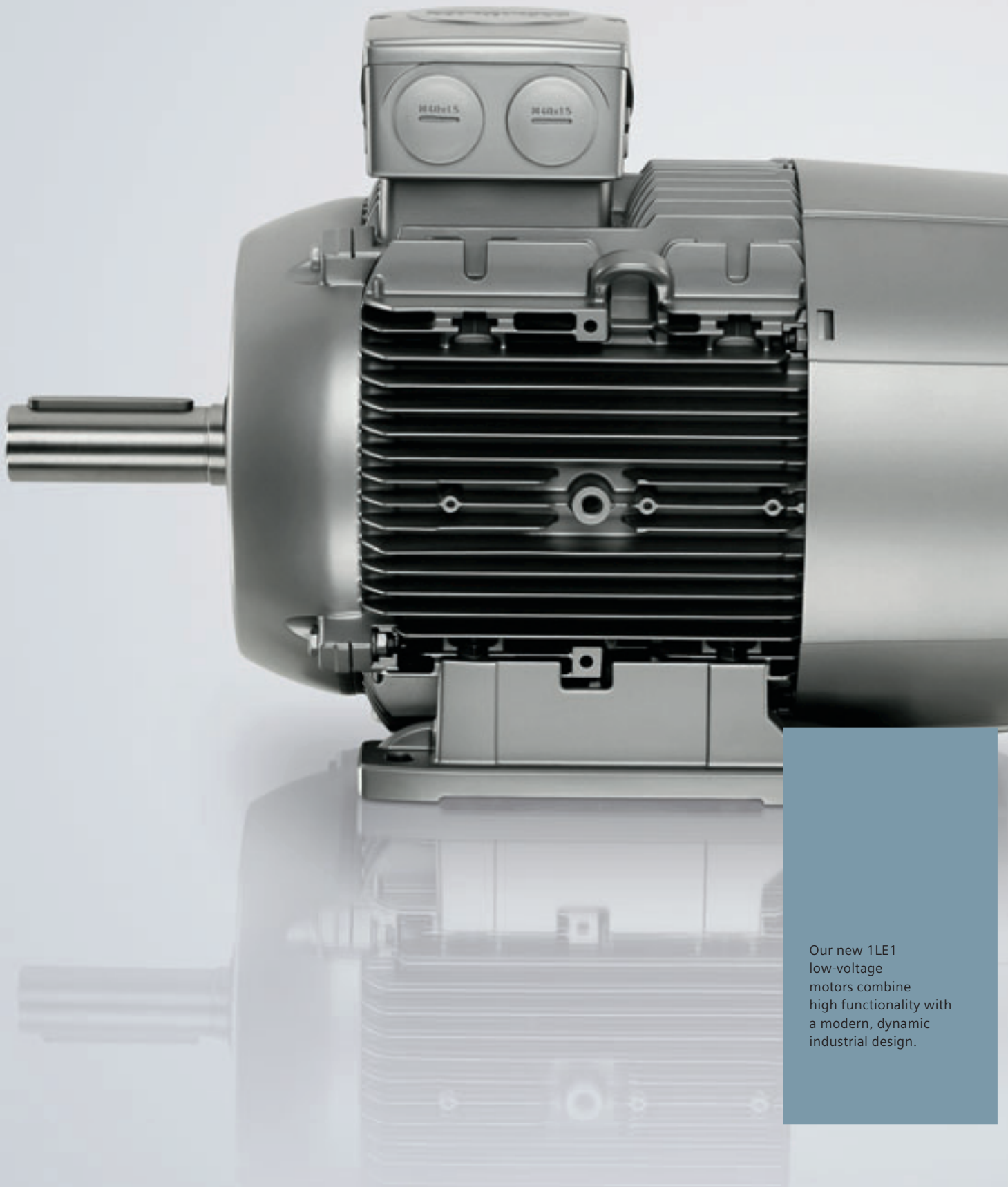


# Motors

Answers for industry.

**SIEMENS**

Attractive design –  
and highly functional



Our new 1LE1  
low-voltage  
motors combine  
high functionality with  
a modern, dynamic  
industrial design.

# Added value in every respect – overview of the new features

Our new 1LE1 low-voltage motor range has a lot of potential. The 1LE1 motor is a further development of our existing motor and offers a whole raft of advantages:

## Increased efficiency

State-of-the-art production technologies allow efficient copper technology now to be used in IE2 motors instead of aluminum die cast rotors. As a result, the motors have considerably smaller dimensions. The IE1 and IE2 motors are thus based on the same housing. When changing to the higher class of efficiency – from IE1 to IE2 – it is no longer necessary to redesign the machine. Thus saving time and costs. Even more: with our IE2 motors you can significantly save energy because they have up to 40% less power losses in comparison to IE1 motors. Energy-saving potential and life cycle costs of the motors can be calculated using our SinaSave software™. In addition, our 1LE1 motors distinguish themselves as a result of their very long lifetime. And not only this, their low weight has a positive impact on the static design of the complete motor-driven load unit.

## Better design

The new, optimized frame in a modern EMC design offers increased functionality and is optically attractive. This is ensured by means of easily accessible terminal boxes, integrated lifting eyebolts, screw-on type mounting feet and reinforced bearing shields.

## More power

Our motors with increased power offer a full power increment as defined in the Standard from the same shaft height. And even better, we are committed to continually increasing the efficiency of our motors. The motors are available in high-efficiency (IE2) and improved efficiency (IE1) versions according to DIN IEC 60034-30.

## Higher flexibility

The optimized design and architecture of the motors facilitate installation. As an option, terminal boxes and feet can be freely mounted and attached. In addition encoders, brakes and external fans can be added with minimal effort. The low number of different parts means that inventory is simplified and motor partners can react more quickly to customer demands. All motors can be operated up to a maximum of 460 V + 10% either connected to the line supply or fed from an inverter – without having to apply any additional measures.

IE1 = Standard Efficiency

IE2 = High Efficiency

1



2



1 Dynamic air-optimized industrial design

2 Large terminal box that makes it easy to connect up with an angled split cover and a captive seal

# Data, facts and details – the new generation of motors

## Innovation teamed up with what has already been proven. Trust in the technology leader

Although our 1LE1 motor represents an innovative product loaded with new features – many things will stay just as they are: our tried and tested, reliable and global service in more than 130 countries. Profit from our complete product families, from the motor to

the controller – for integrated systems from a single source. Also, as one of the world leaders in automation and drives technology we know the needs of our customers and incorporate these into all of our new developments. Be one of the first to gain more drive with our 1LE1 low-voltage motors!

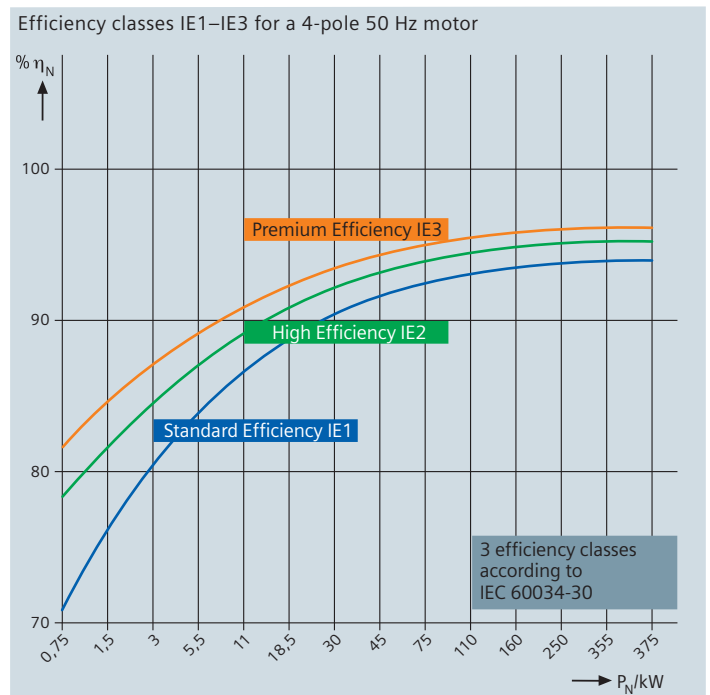
1LE1 motors – technical overview	
Frame size	100L to 160L
Power range	0.75 kW to 22 kW, 1 HP to 25 HP
Number of poles	2/4/6/8
Versions	Self-ventilated energy-saving motors with standard efficiency (IE1) Self-ventilated energy-saving motors with high efficiency (IE2) Self-ventilated energy-saving motors with increased output power and standard efficiency (IE1) Self-ventilated energy-saving motors with increased output power and high efficiency (IE2) Forced-air-cooled motors without external fan and fan cover with standard efficiency (IE1) Forced-air-cooled motors without external fan and fan cover with high efficiency (IE2) Self-cooled motors without external fan and fan cover in standard and high efficiency (IE1 and IE2)
Designation	– Classified according to DIN IEC 60034-30: IE1, IE2, 2, 4 and 6 poles – EPACT US federal law: 2, 4 and 6 poles
Degree of protection	IP55
Voltages	All standard voltages
Frequency	50 Hz and 60 Hz
Type of construction	All standard types
Cooling type	Surface cooling
Heat class	155 (F) utilized in accordance with 130 (B)
Isolation	DURIGNIT® IR 2000, inverter-proof up to a rated voltage of 460 V
Modular mounting concept	Rotary pulse encoder, brake, external fan or prepared for fittings
Integrated concept	Integral cast housing feet, optionally screwed on and exchangeable. Terminal boxes diagonally split and rotatable by 4 x 90 degrees. Identical bearings on DE and NDE, optionally bearing size 63

# Efficiency and drive – profit from new technology

Increasing energy costs mean that energy consumption is of increasing significance in drive technology. It is essential to fully exploit potential for minimizing these costs in order to remain competitive now and in the future. Lower energy consumption also benefits the environment.

It is against this background that we are developing a new generation of low-voltage motors, enabling you to do more with your motors. Innovative copper rotors developed and produced by us create the very best basis for highly efficient motors. The new motors for IE2 (high efficiency) thereby offer large energy savings and are better for the environment. Also, the modular design concept provides full flexibility: each motor is based on a standardized concept for all international markets.

Our motors are produced according to the most modern ecological perspectives and give machines and plants more drive – around the world and for every application. The ecological balance sheet over the entire life cycle of our motors clearly speaks in favor of these new motors, especially to use the 1LE1 in the IE2 version. And everyone is in a position to profit from this – machine engineers, plant operators, but also, of course, the environment.



Our 1LE1 motors are available in efficiency classes IE1 (Standard Efficiency) and IE2 (High Efficiency). IE3 (Premium Efficiency) on request.

1 Optimized housing concept – standardized across all shaft heights

2 Innovative copper rotor technology for high-efficiency motors in extremely small housings



## Interested?

You can find additional information on our products relating to industrial drives on the Internet at:

### Motors

[www.siemens.com/lowvoltagemotors](http://www.siemens.com/lowvoltagemotors)  
[www.siemens.com/gearedmotors](http://www.siemens.com/gearedmotors)

### Inverters

[www.siemens.com/sinamics-g110](http://www.siemens.com/sinamics-g110)  
[www.siemens.com/sinamics-g120](http://www.siemens.com/sinamics-g120)  
[www.siemens.com/micromaster](http://www.siemens.com/micromaster)

### Distributed drive technology

[www.siemens.com/sinamics-g120d](http://www.siemens.com/sinamics-g120d)  
[www.siemens.com/et200s-fc](http://www.siemens.com/et200s-fc)  
[www.siemens.com/et200pro-fc](http://www.siemens.com/et200pro-fc)  
[www.siemens.com/combimaster](http://www.siemens.com/combimaster)

### Energy-efficient drives

[www.siemens.com/energysaving](http://www.siemens.com/energysaving)

### Tools

[www.siemens.com/sd-configurator](http://www.siemens.com/sd-configurator)  
[www.siemens.com/sinasave](http://www.siemens.com/sinasave)

### Contacts

[www.siemens.com/automation/partners](http://www.siemens.com/automation/partners)

### Current catalog for download

[www.siemens.com/motors/printmaterial](http://www.siemens.com/motors/printmaterial)

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Industry Sector  
Drive Technologies

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