

**NEMA & IEC**  
Energy Saving Innovation



# low voltage MOTORS

**SIEMENS**

## NEMA & IEC — Competitive Advantage

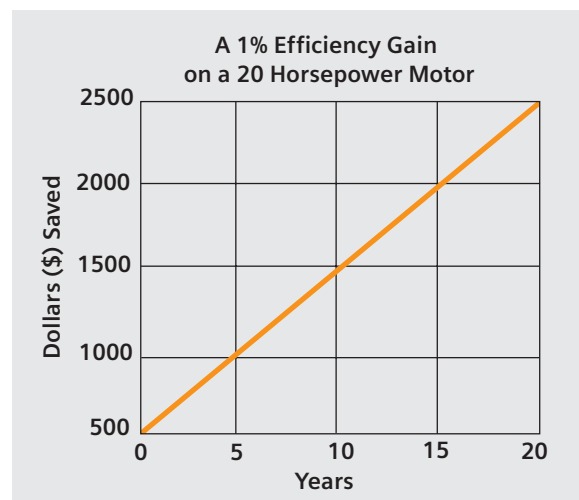
Lower your energy costs today with the world's most energy efficient line of motors. New regulatory standards and rising energy costs create increasing pressure to maximize energy efficiency and reduce your carbon footprint. Siemens high quality, low voltage NEMA and IEC motors help you meet the challenge by delivering the ideal combination of energy savings and performance for thousands of applications worldwide.

Our NEMA and IEC motors offer you more than power. They are backed by the number one supplier of motors worldwide. Siemens, our people and our resources, back you up all the way. We have the expertise to help you meet the challenges of your industry today and into tomorrow.

Our energy-efficient line up of motors supports applications no matter what your industry:

- Food & Beverage
- Pharmaceutical
- Chemical
- Pulp & Paper
- Water & Wastewater
- Metal Producing & Processing
- Cement
- Mining
- Glass

Each of these industries require special solutions to maximize efficiency and ensure consistent quality of your product. Predictable and precise performance, initial and long-term value and tremendous energy efficiencies allow you to plan and budget for your plant's future.



A 1% efficiency gain on a 20 horsepower motor can lead to over \$2500 of energy savings over the 20-year normal life of a motor. Multiplied by the number of motors used in a single facility, it becomes easy to see how energy savings can build up rapidly.

### Calculate Your Savings Today at: [www.siemens.com/energysaving](http://www.siemens.com/energysaving)

Use our SinaSave™ software to calculate payback periods by factoring pricing, energy savings, and other cost-cutting effects, such as improved power and machine-friendly operation. It is the ideal tool to help you rapidly determine the value of installing higher efficiency motors from Siemens in order to reduce costs and improve productivity in your facility. Put us to the test today.

Parameter	1. Premium Motor (IE2311-2MA1)	2. High Efficient Motor (IE2301-2MA1)
Motor output in hp	7.5	7.5
RPM	3600	3600
Motor type	Severe Duty	Severe Duty
Motor load	4/4	4/4
Efficiency in %	89.7	88.5
Operating hours p.a.	8760	8760
Energy costs in USD/wh	0.08	0.08
Electrical power consumption p.a. in kWh	52427	55289
Energy costs p.a. in USD	4274	4428
List price in USD	669	736
Discount in %	50.00	50.00
Customer price in USD	334	368

3. Calculation of amortization

Number of motors	1	Saving p.a. in kWh	1932
Payback time of the additional motor price in operating hours	3741	Saving costs p.a. in USD	155

### A Higher Standard Of Quality

Siemens motors are built to meet or exceed all applicable industrial agency standards including CE, CSA, IEEE, EPC, NEMA Premium, UL, and other applicable standards. Our advanced motor designs are manufactured in a state-of-the-art ISO 9001 certified facility. Every motor is subjected to more than 100 separate quality inspections before it leaves the plant. But what is truly significant is that we have pushed the frontiers of quality and created motors that exceed standard quality measures. We are committed to designing, manufacturing, and delivering motors that run quietly, with minimal vibrations, and that produce the highest levels of energy efficiency regardless of the application demands.

### Motors as Individual as Your Process

Every process has its own challenges. Siemens meets each challenge by bringing a team of experts to create the right solution for your particular situation. We stand ready to provide advice and expertise acquired during countless installations in an extensive range of individual applications. The experience and industry-specific expertise of our people facilitates a consultative procurement process that searches for the ideal solution for every unique environment.

### Innovation that Delivers Results

In order to succeed, you look for advancements that can make a genuine difference in your business. Siemens has a well-earned reputation for innovation and we have the awards to back it up. The readers and editors of *Industry Week*, *Plant Engineering*, and *Control Engineering* magazines all have honored our new line of NEMA motors. Our award-winning copper-rotor motors have been recognized as a significant advancement that provides substantial energy savings and lower operating costs. If you are looking for the ultimate return on investment, rely on ground-breaking NEMA motors from Siemens.

## Siemens offers the world's most energy efficient product line of motors

NEMA Premium  
89.5% Efficiency\*



Ultra Efficient Motors  
91.7% Efficiency\*



EPC Efficient Motors  
88.5% Efficiency\*



\* 7.5 HP, 3600 RPM







## Performance for Thousands of Applications Worldwide

We listen to our customers and understand your needs and how you use motors. The result is a line of motors designed and manufactured to provide maximum value, energy efficiency, performance, and return on investment.

### General Purpose

General Purpose NEMA motors are suitable for a wide range of applications, such as HVAC, material handling, pump, fan, compressor and other industrial uses in non-hazardous environments.

### Severe Duty

If you require an industry workhorse, our Severe Duty motors are ideal for use in the toughest chemical processing, mining, foundry, pulp and paper, waste management and petrochemical applications.

### Hazardous Duty

Explosion-proof motors from Siemens meet the highest standards. These highly efficient motors are UL® listed for hazardous environments including Class I, Group D; Class II, Groups F & G, Division 1; or Class I, Groups C & D, Division 1. Class II, Group E, Division 1 motors also available.

### Inverter Duty

Rugged, high efficiency Inverter Duty motors are manufactured for severe duty adjustable speed drive applications.

### Definite Purpose

Hundreds of satisfied customers have chosen Definite Purpose NEMA motors that are designed to handle specific applications for many industrial sectors such as mining, conveying, and cooling. We can provide motors for applications that require more than one base speed, brake motors, and high starting torque motors.



General Purpose – TEFC



Inverter Duty – 1,000:1 Constant Torque



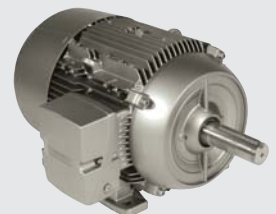
Vertical P-Base



Explosion Proof



Severe Duty



General Purpose – TEFC, Lightweight



## IEC Low Voltage Motors

If you require IEC motors, we have models for every sector, every application, and for worldwide use. Choose from our complete range of low-voltage, standard, three-phase motors, which satisfy diverse requirements and are also offered in custom designs.

Our customers select these designs because they typically want to see a significant reduction in operating costs and a longer service life. Additionally, apart from the excellent price/performance ratio and the high degree of operational reliability, they are looking for a well matched motor for a specific application. IEC motors are designed to fit in every drive system concept and cover more than 90% of all imaginable applications worldwide.

### ■ Standard Motors

### ■ Non-Standard Motors

### ■ Variable Speed Motors

### ■ Explosion-Proof Motors

### ■ Definite Purpose Motors

- Smoke Extraction Motors
- Marine Motors
- Roller Table Motors
- Variable Speed Motors

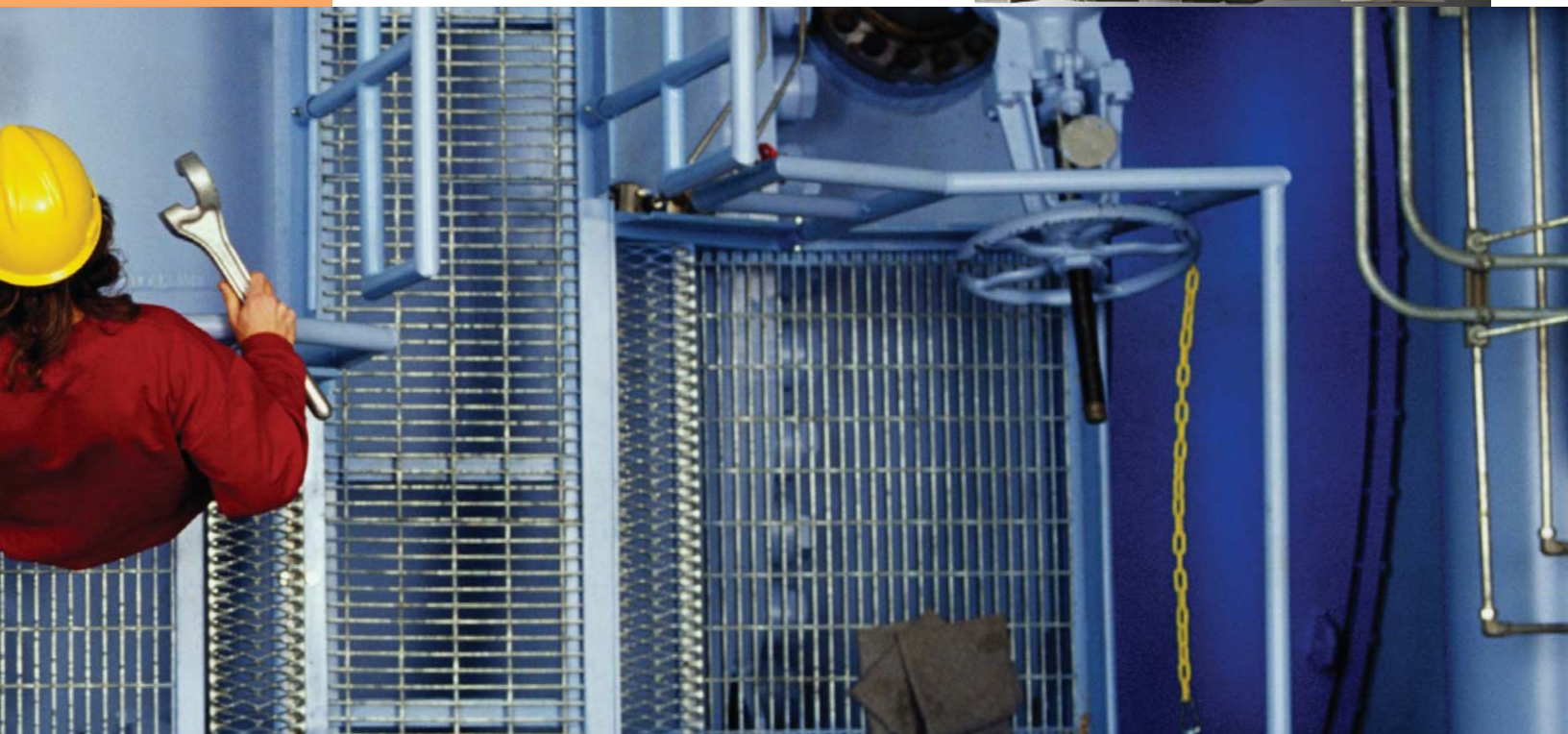
### ■ Custom Motors

- High-speed motors for textile machines and compressors
- Motors with increased output/size ratio
- Liquid-cooled motors
- Synchronous generators for stand-by supply systems
- Motors for wood processing plants
- Built-in motors for refrigerating motors/compressors (freeze-proof)
- Pump motors with special shafts/ special materials
- Lifting gear motors



### **Availability**

We know you expect convenience and rapid turnaround. That is why—with so many motors available to meet so many application needs—Siemens has created a world class distribution capability supported by the most knowledgeable people in the industry. Our customers enjoy the accessibility of hundreds of distributor stocking locations throughout North America with a wide selection of NEMA motor sizes and ratings. Motors are available same day from a local source you can trust. Our new QuikMOD program offers two day deliveries available for a wide selection of stock motor modifications. We offer just-in-time manufacturing, short lead times, and thousands of customized configurations.



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