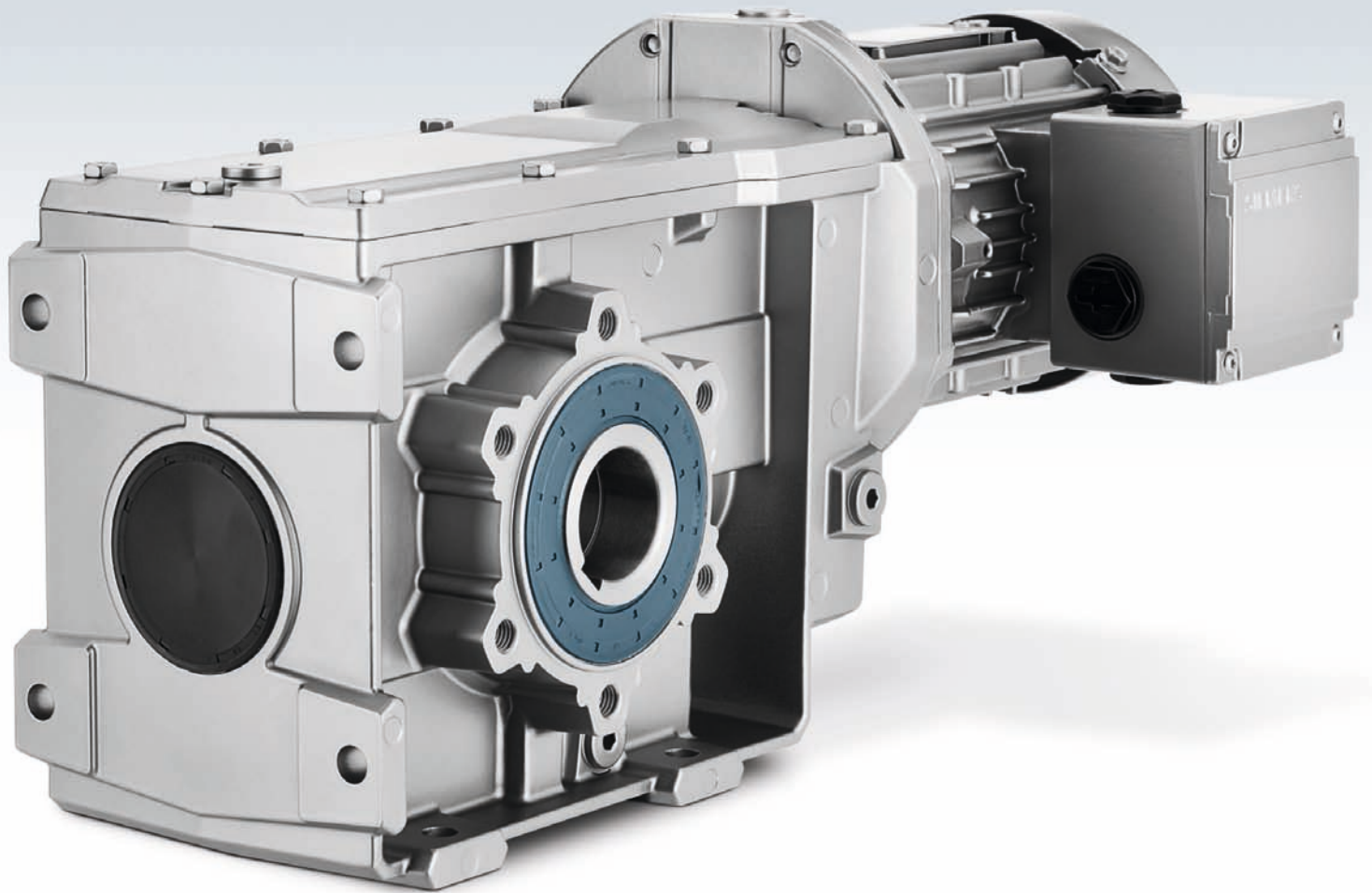


**SIEMENS**



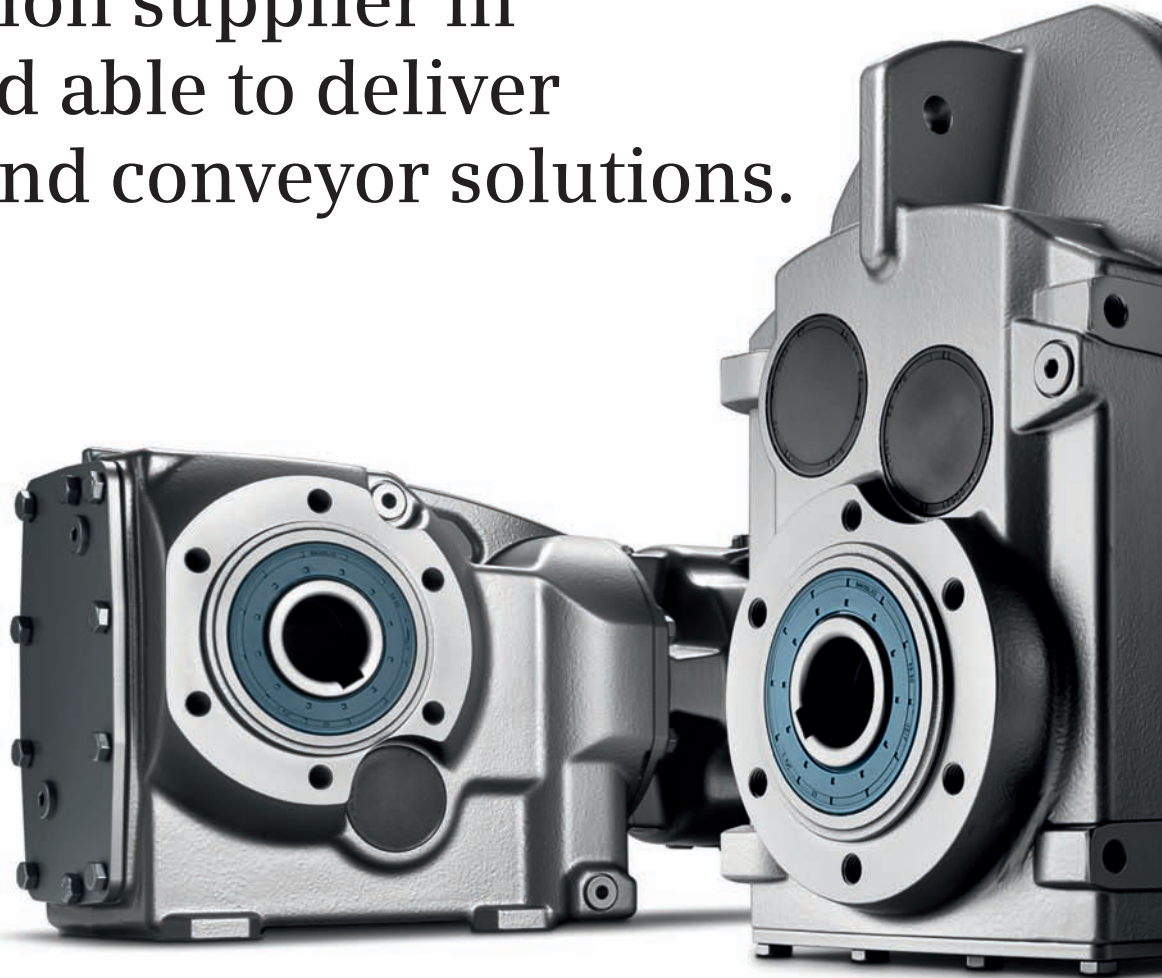
# Raising the bar on end-to-end conveyor solutions

SIMOGEAR High-efficiency Geared Motors

[www.usa.siemens.com/SIMOGEAR](http://www.usa.siemens.com/SIMOGEAR)

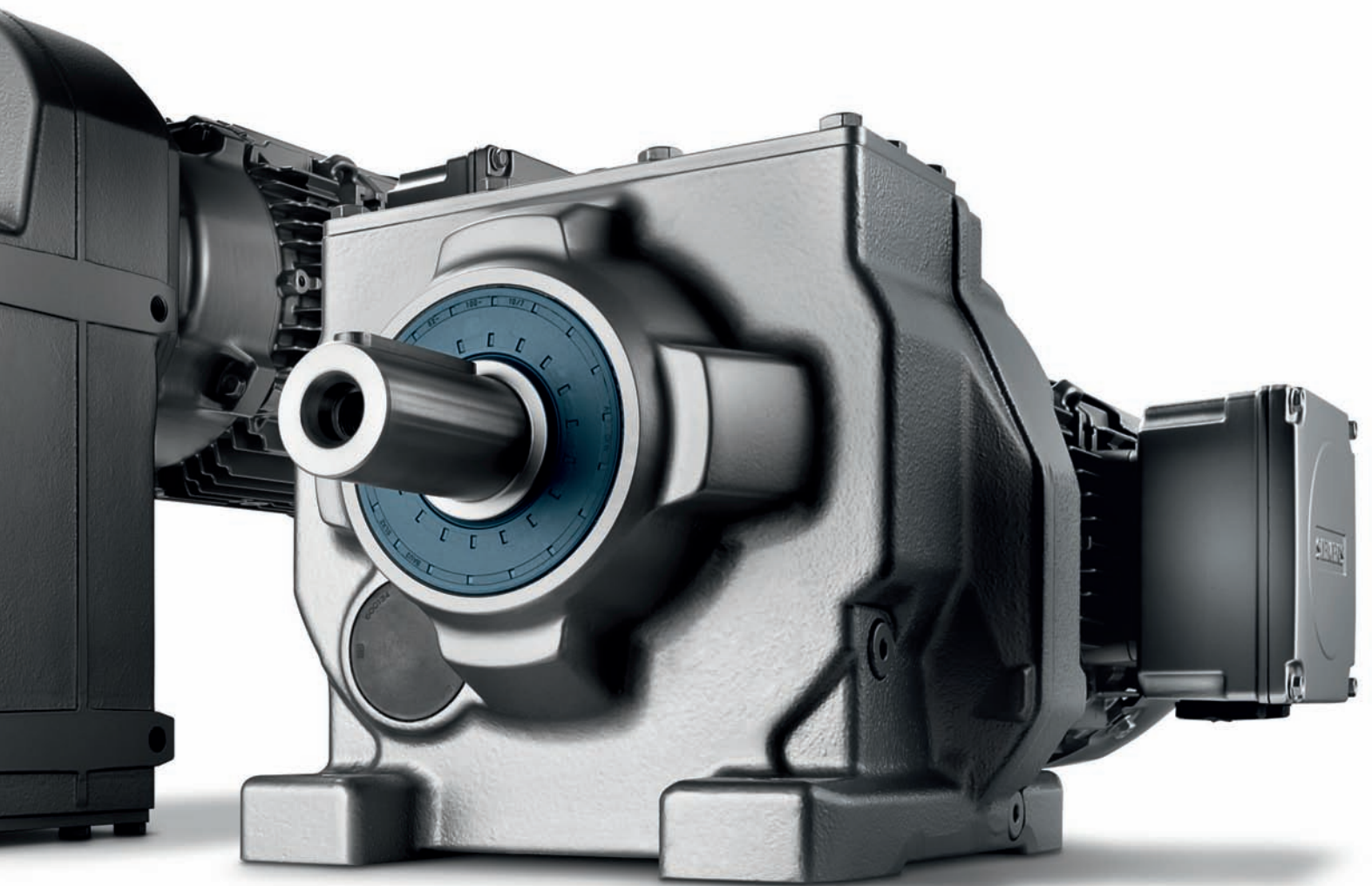
# SIMOGEAR extends the portfolio and expertise of the only automation supplier in the world able to deliver end-to-end conveyor solutions.

From left to right:  
Bevel geared motor  
Parallel shaft geared motor  
Helical geared motor



The new SIMOGEAR® geared motor series encompasses an intricately stepped line of geared motors. Optimally designed for conveyor applications, the series features helical, parallel shaft and bevel gear unit types plus high efficient and NEMA Premium® efficient motors. As one example of engineered efficiencies, our two-stage helical bevel unit averages 2% higher efficiency than competitive three-stage units.

SIMOGEAR geared motors smoothly integrate with other Siemens drive train components. You benefit from this high level of innovation, quality and expertise. These drive systems are specifically designed for the U.S. market. We've responded to what we know our customers want with compact and highly efficient geared motors, short delivery times from our new South Carolina assembly plant and long-term, single-source service. Discover all these advantages and more by visiting [www.usa.siemens.com/SIMOGEAR](http://www.usa.siemens.com/SIMOGEAR).



### SIMOGEAR geared motors: We've raised the bar on efficiency.

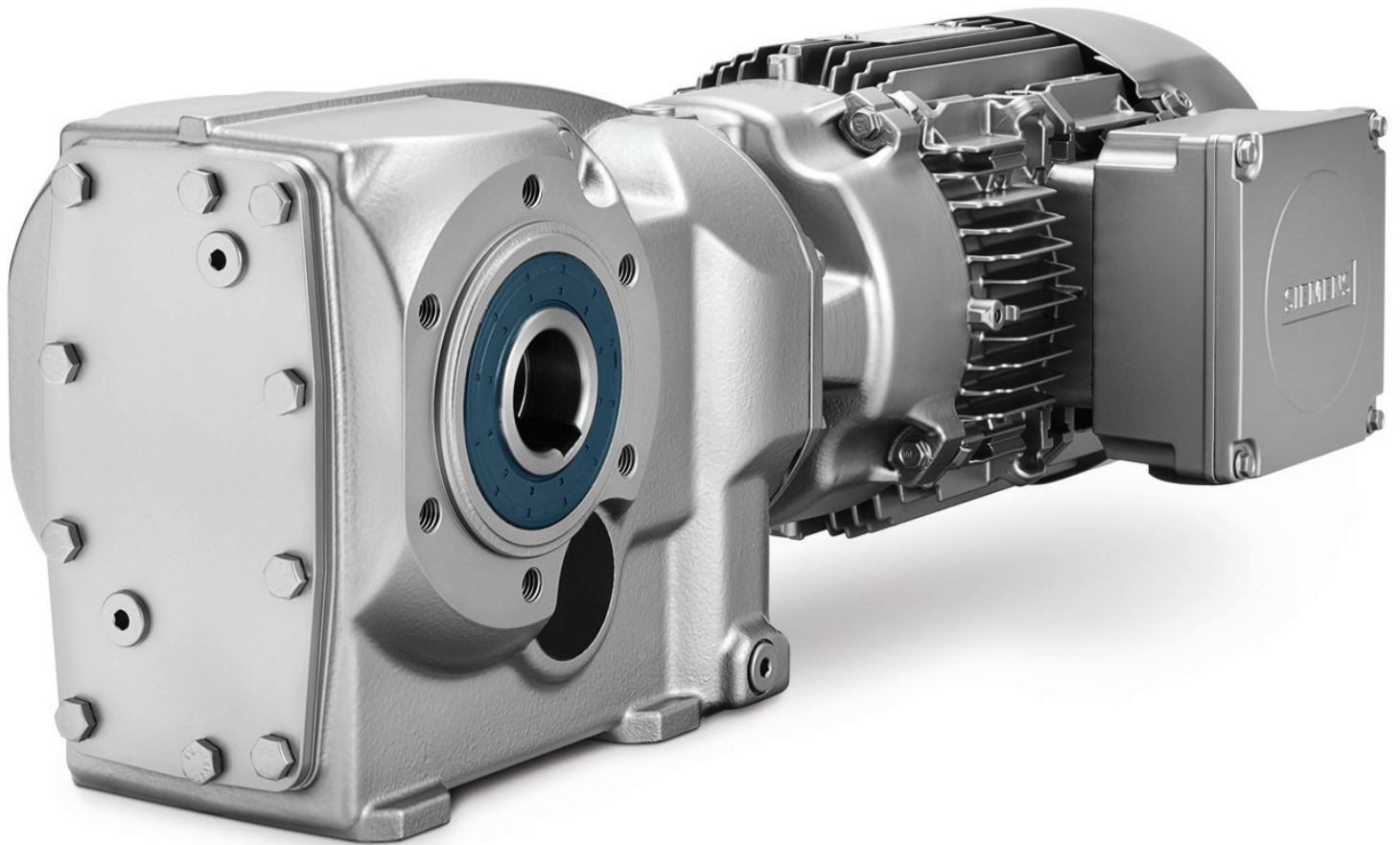
- An optimum design on the gear side and new, energy efficient motors translate to immediate energy savings
- A finely scaled range of 1/3 to 20 HP and 442 to 16,372 lb-in in torque outputs
- Compact NEMA Premium and NEMA Energy Efficient motors that integrate into the smallest spaces or into the largest systems
- Our two-stage helical bevel gear unit averages 2% higher efficiency than competitive three-stage units. ( $\eta \approx 96\%$ )



# The fine-tuned portfolio: part of the world's most comprehensive automation offering.

With SIMOGEAR, we offer you a complete range of geared motors in all standard gear unit types.

All told, the series is part of the most comprehensive, integrated drive and automation systems offering in the world and, by specifying SIMOGEAR, you'll get the best solution.



With SIMOGEAR, you get the same or higher rated gear unit torques.

# SIMOGEAR geared motors. An overview.



	Helical geared motors	Parallel shaft geared motors	Bevel helical geared motors 2-stage	Bevel helical geared motors 3-stage
<b>Gear unit designation</b>	Z19 ... Z89 (2-stage) D19 ... D89 (3-stage)	FZ29 ... FZ89 (2-stage) FD29 ... FD89 (3-stage)	B29 ... B49 (2-stage)	K39 ... K89 (3-stage)
<b>Number of gear unit frame sizes</b>	8	6	4	5
<b>Rated gear unit torque [lb-in]</b>	796 ... 14,868	1,327 ... 16,372	442 ... 3,982	1,947... 14,160
<b>Gear unit ratio</b>	3.40 ... 60.97 (2-stage) 39.34 ... 330.23 (3-stage)	3.57 ... 65.21 (2-stage) 46.36 ... 357.00 (3-stage)	3.47 ... 59.28	5.17 ... 244.25
<b>Motor power range [HP]</b>	1/3 ... 20	1/3 ... 20	1/3 ... 10	1/3 ... 20

## Efficient and balanced

Helical, parallel shaft and bevel gear unit types are fully available, extending from 1/3 to 20 HP. Within the SIMOGEAR series, the rated gear unit torque, permissible overhung load, output shaft diameter, bearing lifetime, housing stiffness, gearing reliability and shaft stiffness appropriately balance each other.

As a result, you benefit from higher ratios and the same or higher rated gear unit torques in contrast with competitive geared motors of equivalent sizes. The result: the optimum drive for most any application. SIMOGEAR provides a matching solution for nearly every job.

## A world-class world standard

Our geared motors meet or surpass all applicable international regulations.

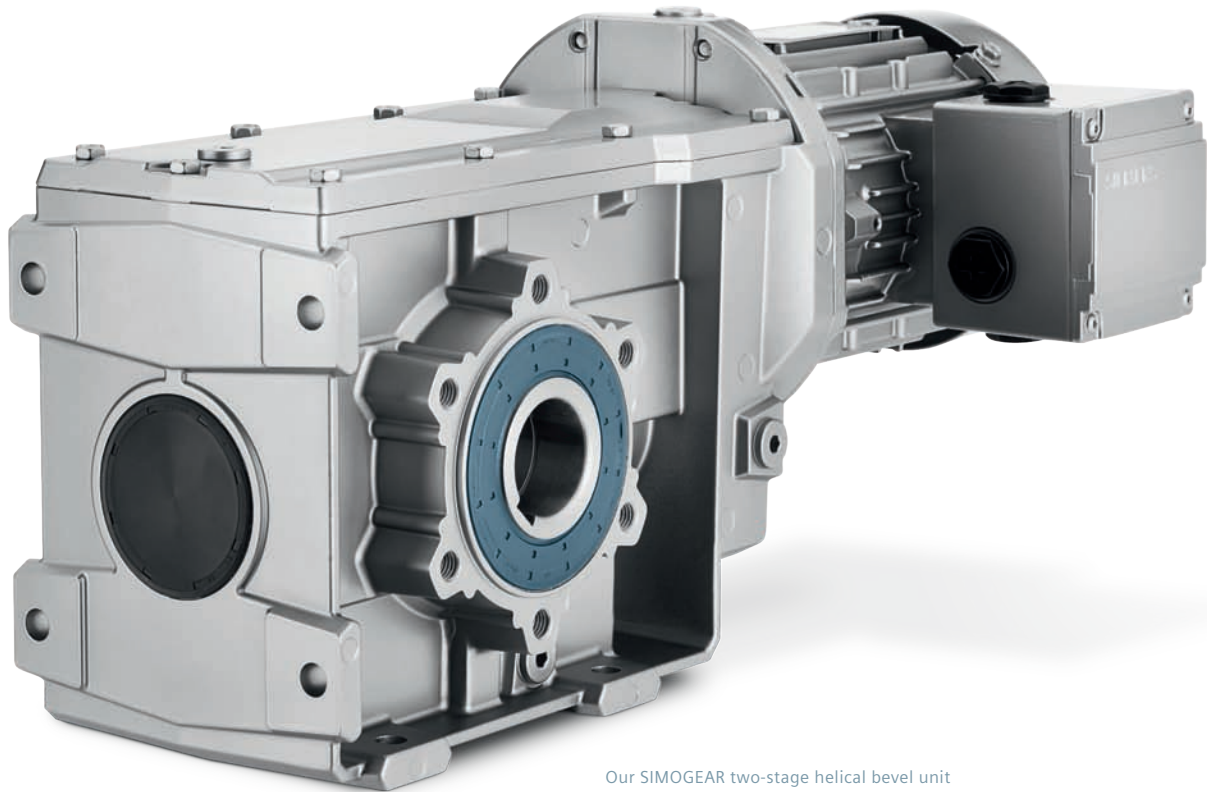
- NEMA high efficient, NEMA Premium, UL and CSA specifications for use across North America
- For Europe, energy saving motors matching or exceeding IE2 and IE3 efficiency specifications set forth in IEC 60034-30



NEMA Premium® is a certification mark of the National Electrical Manufacturers Association. (US DOE CC# 032A)

# A leading edge in efficiency. (Think 96%).

Our SIMOGEAR geared motors set themselves apart as a result of their across-the-board high energy efficiency. One example: In typical high-speed conveyor applications, our two-stage bevel gear unit has an efficiency of more than 96%.



Our SIMOGEAR two-stage helical bevel unit

Our two-stage helical and parallel shaft gear units also have efficiencies of more than 96%. Because the motor pinion of a SIMOGEAR motor is in the form of a plug-in, higher ratios can be engaged in the first gear unit stage than in competitive units with traditional designs.

## **Robust competitive advantages**

For many applications, higher ratios result in a more cost-effective solution since one gear stage often can be eliminated. For example, in conveying applications, our two-stage helical bevel unit averages 2% higher efficiency

than competitive three-stage units. And, because of higher ratios, you can get the same output speeds and the advantage of using standard four-pole motors.

Such efficiency carries over to motor credentials: NEMA Energy Efficient and NEMA Premium Efficient. Notably, stepping up from the NEMA Energy Efficient motor to the NEMA Premium does not involve an increase in the motor diameter or frame size.





#### The power of 2%:

Our SIMOGEAR two-stage helical bevel unit, with its plug-in pinion, gives you higher ratios in the first unit gear stage than traditional

designs. All told, the unit averages 2% higher efficiency than three-stage units. For any continuous duty application, that translates to substantial energy savings over the long term. To learn more about potential savings, visit:

[www.usa.siemens.com/energysavingsestimator](http://www.usa.siemens.com/energysavingsestimator)



# Geared motors with an optimal level of performance.

It adds up in an excellent way. Outstanding technical performance with highest power density. Higher input speeds and finer ratio steps. An optimized housing design using FEM analysis. The end result: SIMOGEAR geared motors set themselves apart when responding to the demands of critical applications. They meet and exceed NEMA Premium Efficient standards as well as requirements set forth in Canada, Europe, China and other countries.



In your world, less is often more. With SIMOGEAR, you gain greater torque density in a smaller package. This welcome turn of events translates to smaller footprints, greater efficiencies and operational savings over the long term. You get robust units, easier to install, with well-shaped, finite advantages that include those shown below.

Small gear unit frame sizes are permanently lubricated to provide extensive service life.

Numerous flange, seal and shaft options.

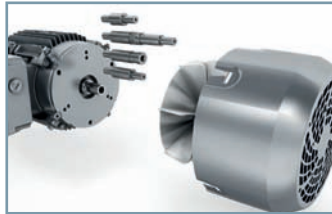
SIMOGEAR geared motors fit well with Siemens emphasis on environmentally friendly design: Up to 90% of series components can be completely recycled.

Rugged aluminum or cast iron housings for durability.

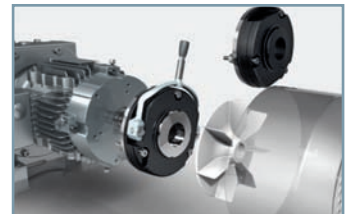
Reduced oil churning losses resulting from our plug-in pinion design naturally bring about higher efficiencies.

Operating SIMOGEAR geared motors with Siemens SINAMICS G120D energy-recovering inverters saves energy and brings down operating costs.

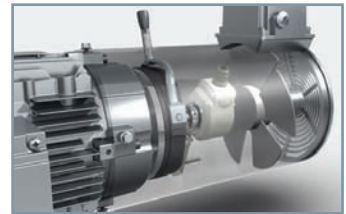




SIMOGEAR benefits from Siemens patented MODULOG® modular concept. Using various mounting shafts, options such as a brake, a separately driven fan and/or an encoder can be field retrofitted to the basic motor after the geared motor has been installed.



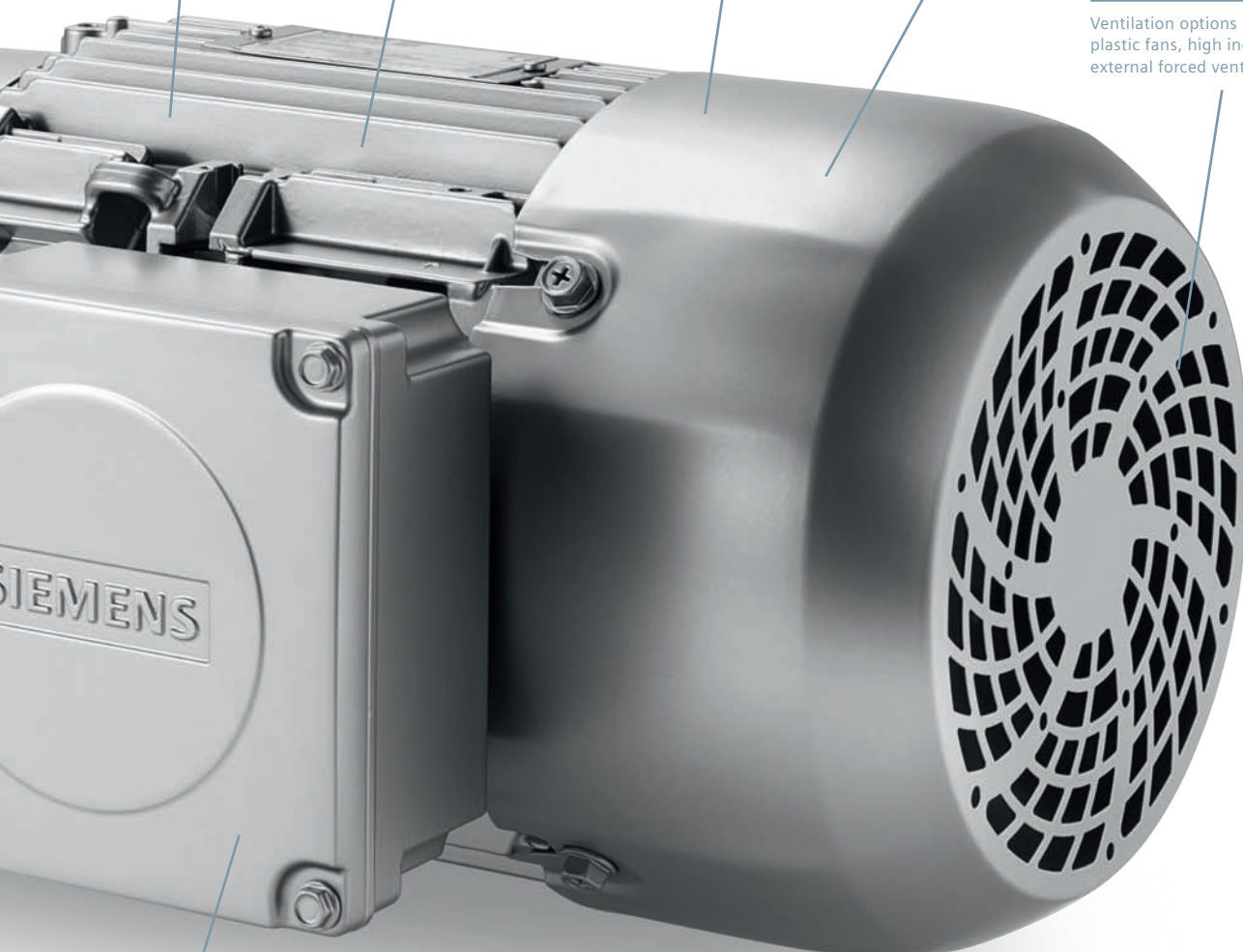
Brake options include reduced torque, reduced noise, wear sensors and more.



Ventilation options include standard plastic fans, high inertia fans and external forced ventilation.

Numerous thermal protection options.

Copper rotor technology for improved efficiency.



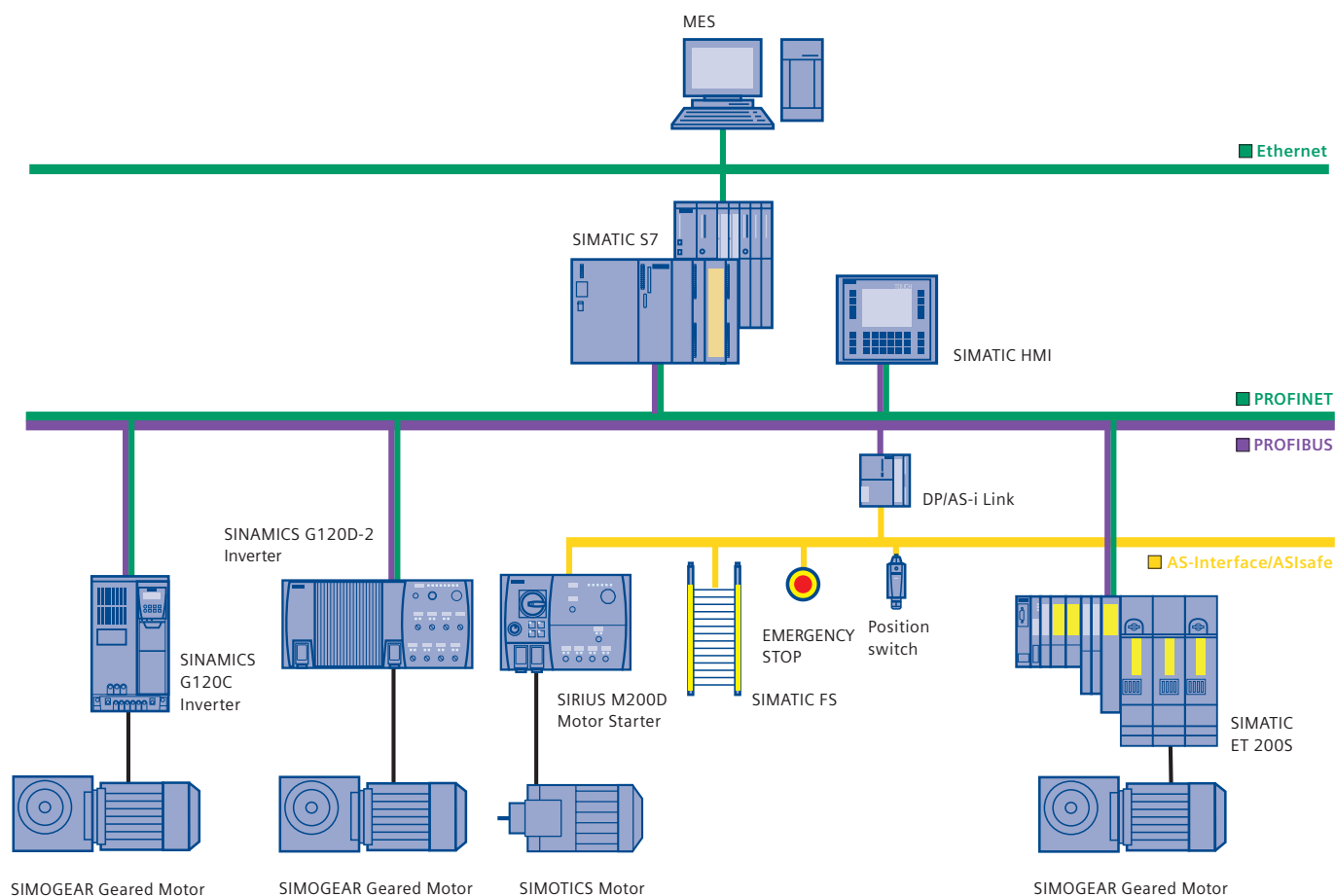
Sturdy terminal box has NPT-tapped conduit entry holes as standard.

# Tapping into the power of Totally Integrated Automation.

SIMOGEAR geared motors are an integral component of Siemens Totally Integrated Automation (TIA), representing products and systems within Siemens automation in all sectors. As a result of this unique and high level of integration, TIA plays a decisive role in your business. It reduces total cost of ownership, shortens time to market and increases investment security. Over the long term, it becomes a full-time partner in sustaining and improving your position in the marketplace.

## Everything for the drive train from a single source.

Standard automation and drive solutions are increasingly becoming center stage in importance. With Siemens as your TIA single source, you can integrate energy efficient motors, motor starters, soft starters and variable frequency drives, as well as power management and multi-function measuring devices. All these components are field tested and coordinated with each other to save energy and extend operational life—and all are equipped with standard interfaces for communication bus systems.



SIMOGEAR Geared Motors: a perfect fit with Siemens Totally Integrated Automation.



## Intelligent software tools and dedicated, long-term service.

With our work-flow-based Siemens Configurator you can quickly and reliably find the optimum geared motor, call up 2-D and 3-D CAD data in all of the usual file formats and directly process this data in your design. Technical feasibility is automatically checked. So, in just a few configuring steps, you can determine the matching geared motor for frequently encountered applications (as in traveling and hoisting drives, for example) using our integrated ARCHIMEDES engineering tool.

Using Siemens SIZER tool for your drive application, you navigate through various engineering steps, from line supply through inverter and geared motors to control systems. Using this tool allows you to handle the configuring of simple drives to complex multi-axis applications in an identical fashion.

With SinaSave, you can discover the payback time of your investment in energy efficient drives or how much you might save compared to conventional components. The use of calculations and graphics makes choosing the most efficient system a worthwhile and simple process.



SinaSave

## High service quality that's a standard with every geared motor and part.

Siemens can support you where and when you need us—with a network of 3,000+ service engineers and technical professionals who are on call, on-site, and on-line 24/7.

We offer a single point of access to a breadth of automation knowledge, experience and skills, including experts who know your SIMOGEAR geared motors and other drive system components.

Even better, we've enhanced our spare part logistics and stock inventories of our highly standardized SIMOGEAR series. Now, you can quickly obtain spare parts or replacement drives anywhere in the nation or world.

As your trusted partner, we can tailor a service contract that supports you fully—from commissioning and troubleshooting to maintenance and retrofits.

Call us today, and make our expertise your competitive advantage. 1-800-241-4453.



Additional information:  
[www.usa.siemens.com/simogear](http://www.usa.siemens.com/simogear)

You can find additional information brochures and a technical description on our internet pages under "Support".

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