

The image features a row of Siemens SIMOTICS Severe Duty Motors in a factory setting. The motors are overlaid with a blue wireframe mesh, and the background is filled with a digital grid and binary code (0s and 1s).

SIEMENS

Ingenuity for life

Performance redefined

SIMOTICS Severe Duty Motors

[siemens.com/simotics-sd-nextgeneration](https://www.siemens.com/simotics-sd-nextgeneration)

SIMOTICS SD next generation

Performance meets digitalization

With its motors SIMOTICS SD next generation, Siemens introduced the first representative of a new series of Severe Duty Motors. Now, with SIMOTICS SD Add, the second variant of this new generation has been launched.

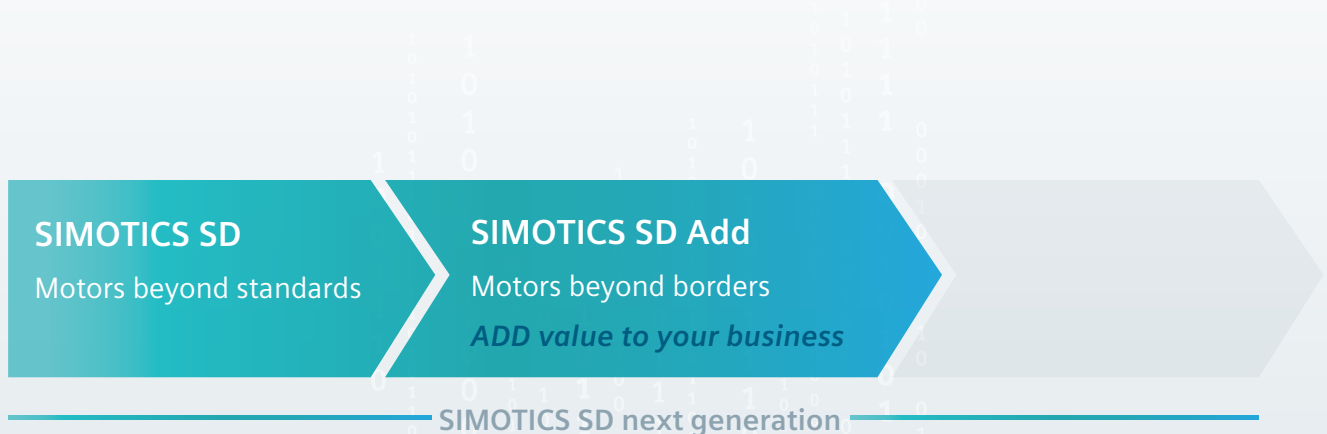
But why launch a new platform at all? Because the demands placed on motors have changed enormously, both in technical terms as well as for economic reasons. Discover the logical answer to the challenges that arise as motors become increasingly digitalized.

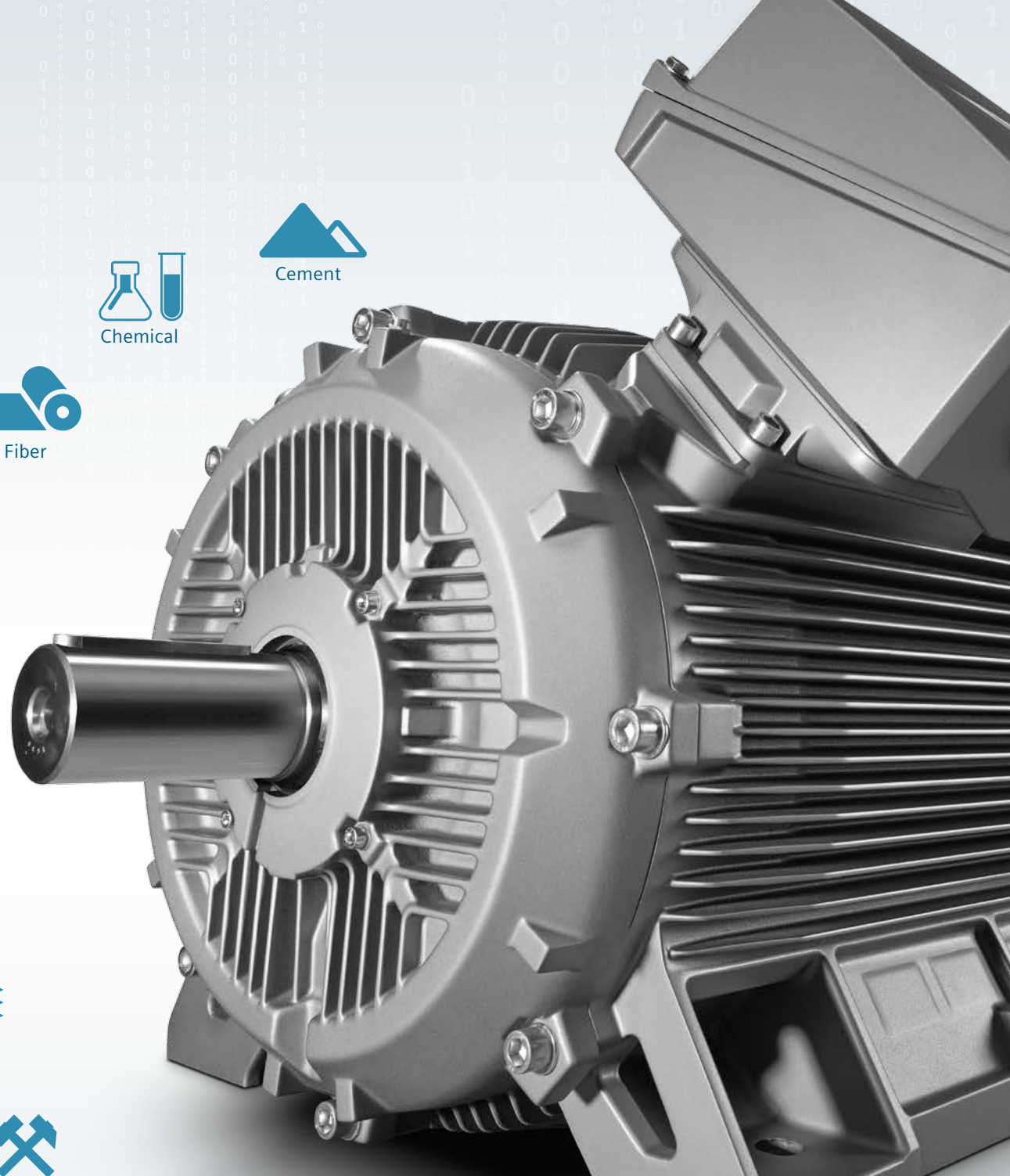
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Digitalization and the growing demand for higher efficiency and performance

Digitalization is creating new challenges for motors. They need to help making systems and processes more transparent, for example, and support preventive data-based service concepts. At the same time, the requirements placed on performance and energy efficiency are rising. Our new series of Severe Duty Motors has been developed to meet precisely these demands – while offering maximum flexibility for different areas of application with an extremely compact design and significantly accelerated processes.

There are also technical restrictions that our new SIMOTICS SD motors can overcome with a sophisticated combination of optimized performance and digital features. Whether your specific application requires high starting or breakaway torque, or whether certain specifications or grid conditions dictate reduction of starting currents. Our two design variants provide you with optimum solutions to meet all of these needs.





Chemical



Cement



Fiber



HVAC



Marine



Metals



Mining



Oil and gas



Water and
wastewater

Your benefits at a glance

Optimization through digitalization:

Increase process transparency and optimize serviceability with the digital pioneer.

Best-in-class design:

Gain more efficiency and flexibility in assembly.

Future-oriented energy efficiency concepts:

Boost your competitiveness thanks to energy savings.

Easy business, fast delivery:

Take your own performance to the next level along the entire value chain.

SIMOTICS SD

Motors beyond standards

Reliable and powerful performance, even under toughest environmental conditions: This is where our rugged Severe Duty Motors excel. The first design variant of SIMOTICS SD next generation was outstanding with its high torque characteristic. With the SIMOTICS SD next generation and a whole package of convincing advantages, we take these cast-iron motors to an even higher level – motors beyond standards.

Benefits for today, ready for tomorrow

One of the key assets of the new SIMOTICS SD motor series is its digitalization-readiness. This means that you can connect this motor with your digital enterprise and optimize your processes.

The compact and future-proof design is the next remarkable benefit. Until now, added power density meant added space requirements. Thanks to its smaller cover size, this is a thing of the past.

Another important feature is the future-oriented energy efficiency concept of the new motor generation. Because it fulfills IE3 and even IE4 efficiency classes, the SIMOTICS SD motors will literally boost your competitiveness due to their significant advances in energy savings.

For high demands and tough challenges

When it comes to torque, the higher torque characteristic of SIMOTICS SD in comparison to the variant SIMOTICS SD Add ensures that higher starting and breakaway torques are available. Whether it's dust loads, shock loads, vibration, or harsh environments – whenever conditions are demanding, the robust SIMOTICS SD Severe Duty motors truly demonstrate their capabilities.

Technical data and details

Size	SH 315 – 355
Power output	2-pole: 250 – 500 kW 4-pole: 250 – 500 kW 6-pole: 200 – 400 kW 8-pole: 160 – 315 kW
Type of construction	B3, V5, V6, B5, V1, V3, B35, B6, B7 and B8
Efficiency class	IE3, IE4 System efficiency class IES2 with SINAMICS converter
Number of poles	2-pole, 4-pole, 6-pole and 8-pole

Voltages	Line operation: 380 – 690 V Converter operation: 380 – 480 V
Certificates	CE, TR-CU, UL-S and CSA-S Marine (ABS, BV, DNV-GL, KR, LRS, RINA, RS) In preparation: CEL
Degree of protection	Standard IP55; optional: IP56 and IP65
Temperature class	155(F) according to 130(B)
Cooling method	IC411, IC416, IC418
Main applications	Pumps, compressors, fans, cranes and hoists

SIMOTICS Severe Duty Motors

Motors go digital

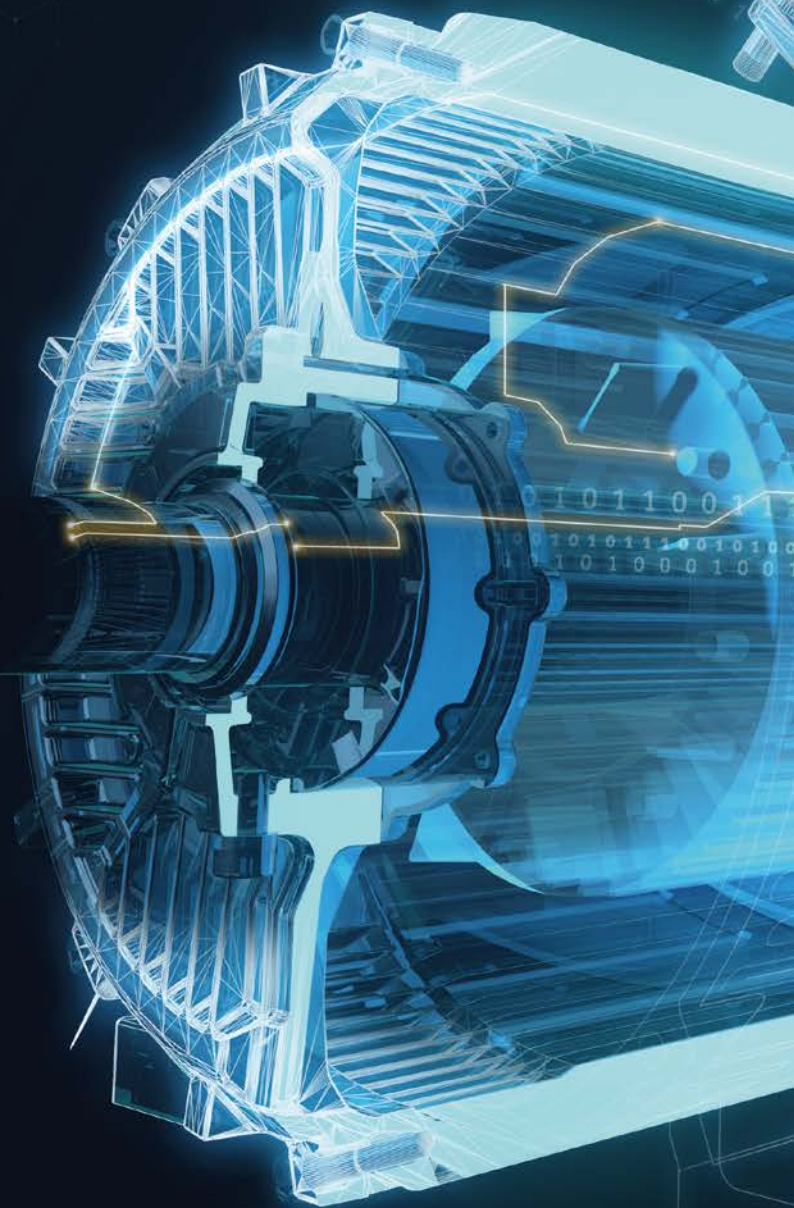
Optimization through digitalization



Increase process transparency and optimize serviceability with the digital pioneer.

- **Digital Twin:**
Make your design and engineering process faster and more flexible.
- **SIMOTICS Digital Data App:**
 - Enable access to technical data, spare parts, operating manuals and instructions.
 - Scan the Data Matrix Code affixed to the motor, and you'll receive the unit's electrical and mechanical data.
 - Enhance transparency and make commissioning easier
[siemens.com/digitaldataapp](https://www.siemens.com/digitaldataapp)
- **SIMOTICS IQ*:**
 - Cloud connection to MindSphere.
 - Transmit operating data to MindSphere by means of Internet of things (IoT) connectivity.
 - Motor performance analysis via MindApp.
 - Increase availability, improve performance and optimize service activities
[siemens.com/simotics-iq](https://www.siemens.com/simotics-iq)

* already implemented in the basic variant, in planning for the "Add" variant





Best-in-class design

Gain more efficiency and flexibility in assembly.

- **Compact and future-proofed design:**
For higher power density at comparable power output.
 - **Smaller cover size:**
For easy replacement and less space required.
 - **New terminal box concept:**
For higher flexibility in assembly.
-
- **High performance at low starting currents and low ratio of starting current to rated current I_A/I_N**



Future-oriented energy efficiency concepts

Boost your competitiveness thanks to energy savings.

- **Fulfillment of efficiency classes IE3 and IE4:**
Realize maximum energy savings and a significant reduction in total cost of ownership.
- **Compliance with IES2 acc. to EN 50598 for Siemens drive systems:**
Obtain precise knowledge about how low system losses are for SIMOTICS SD motors in combination with SINAMICS converters.



Easy business, fast delivery

Take your own performance to the next level along the entire value chain.

- **Delivery time only 15 – 20 days:**
Gain time and flexibility in your planning process.
 - **More configuration possibilities:**
Employ a wider range of standardized options, resulting in faster quotations and shorter response times.
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- **Compliance with the most important global certification requirements and regional requirements.**

- Applies only for SIMOTICS SD Add

SIMOTICS SD Add

Motors beyond borders

Convincing performance and additional flexibility in its range of applications: SIMOTICS Severe Duty motors, a scalable motor series in terms of performance characteristics and functionality, now has a second variant – SIMOTICS SD Add. In addition to sharing identical characteristics with the SIMOTICS SD motors in terms of digitalization, design, energy efficiency concepts and processes, the SIMOTICS SD Add motors are distinguished by two essential features: Their low starting currents, achieved through design adjustments, and their global certificates for fulfilling the requirements applicable in the respective region of use. These motors thus ensure additional added value across regional boundaries – as motors that go beyond borders.

Expanded use, unlimited benefits

SIMOTICS SD Add motors are outstanding with their low starting currents. These low starting currents not only fulfill industry-specific requirements and process industry specifications, but also positively impact operational quality. Torque shocks, for example, from high inrush currents at startup cause stress loading of the motor windings both thermally as well as through electrodynamic forces. Reducing these inrush currents can increase motor service lifetime thanks to the lower electrical and mechanical loads. Lowering the starting currents also leads to reduced loading of the grid from disruptive voltage dips, thus enhancing grid stability. This brings tremendous advantages in regions with weak power grids and inadequate grid infrastructure. What's more, thanks to the availability of country-specific certificates, these motors can be used in all major global regions and markets.

Scalability reduces costs

The benefits from low starting currents aren't just technical but also financial. The lower current levels cause less thermal loading (reduced $i^2 \times t$ fraction), thereby directly affecting the dimensioning of the used components (such as switching devices, cables and cabinets), all of which translates directly into cost savings.

Technical data and details

Size	SH 315 – 355 SH 400 – 450 as of 2018
Power output	2-pole: 250 – 500 kW 4-pole: 250 – 500 kW 6-pole: 200 – 400 kW 8-pole: 160 – 315 kW
Type of construction	B3, V5, V6, B5, V1, V3, B35, B6, B7 and B8
Efficiency class	IE3, IE4 NEMA Premium Efficient System efficiency class IES2 with SINAMICS converter
Number of poles	2-pole, 4-pole, 6-pole and 8-pole

Voltages	Line operation: 380 – 690 V Converter operation: 380 – 480 V
Certificates	CE, UL-S, CSA-S, CC-no., CSA EEV, TR-CU Marine (ABS, BV, DNV-GL, KR, LRS, RINA, RS) In preparation: CEL, KEMCO
Degree of protection	Standard IP55; optional: IP56 and IP65
Temperature class	155(F) according to 130(B)
Cooling method	IC411, IC416, IC418
Main applications	Pumps, compressors, fans, cranes and hoists, conveyors, chippers, coils, grinders, shears, rolling stands

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