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Ingenuity for life



SIMOTICS HV C – revolutionary design, outstanding performance

The ultra-compact, up to 3.2 MW high-voltage
motor series with innovative cooling systems

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SIMOTICS HV C

The secret is in the construction

Thanks to their innovative design, the new SIMOTICS HV C high-voltage motors are uniquely compact, extremely rugged, and extraordinarily powerful. The air-cooled versions – both the standard version and the version for fields of application with increased risk of explosion (increased safety and flameproof) – are revolutionizing the market: Their power density is currently setting benchmarks. The water-jacket-cooled version also offers a significant improvement in performance with no change in unit size, thanks to computational fluid dynamics (CFD).

All SIMOTICS HV C motors offer maximum reliability even under harsh conditions, optimized vibration characteristics, and quiet operation, as well as extremely short delivery times and high delivery reliability for the particular performance class. And that's not all: Optional integration into the SIDRIVE IQ digital platform via the SIMOTICS CONNECT 600 connection box permits, among other things, the cloud-based analysis of condition data and the resulting optimization of the entire drive system.

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Technical details at a glance

| | |
|----------------------|-------------------------------|
| Power output | up to 3.2 MW |
| Voltage | 380 V – 11 kV |
| Shaft height | 355 – 560 mm |
| Protection type | IP55 – IP66 |
| Cooling types | IC411, IC416, IC71W |
| Explosion protection | Ex db, Ex db eb, Ex ec, Ex tc |

Application range: from standard to extreme

A compact design and high level of reliability are sought after in all industries – for traditional applications such as pumps, fans, compressors, extruders, mixers, mills, and conveyor belts, and for challenging applications with water-jacket cooling or pressure-resistant enclosures. The rugged HV C design is also suitable for extremely low temperatures down to -50°C and high-temperature applications up to $+60^{\circ}\text{C}$.

Out with the heat, up with the power: air cooling

Better and more reliable heat dissipation – for unique power density and sturdiness: The revolutionary concept of the SIMOTICS HV C air-cooled motor versions works with a state-of-the-art fan design and cooling tubes incorporated near the motor feet. For decades, this tube system has stood the test in other applications under the most extreme conditions. The dramatically improved heat dissipation of the IC411 motor permits an unusually compact and light-weight design and significantly extends the service life of the components. The result: Longer service intervals and shorter service times increase the availability of the drive system and of the system as a whole. The new compact, pressure-resistant connection box also conforms to the concept: Sharing the same structure for 6 kV and 11 kV connection, its design also enables weight savings of several hundred kilograms, depending on the size of the unit.

Same size, more power: with water cooling

The innovative cooling system also makes the water-jacket-cooled motor version so much stronger – thanks to the optimized use of materials, the ingenious design of the welded steel enclosure, improved temperature distribution, and much greater heat dissipation. The result is a marked increase in power, combined with reduced space requirements and a lower weight relative to performance. This version's extreme ruggedness and rigidity are further aspects that greatly expand the overall range of application of the SIMOTICS HV C motors. An additional benefit: Internally arranged wiring ducts not only protect the wiring from outside influences but also reduce the wiring expense.



Chemicals



Cement



Fiber



Marine



Metals



Mining



Oil and gas



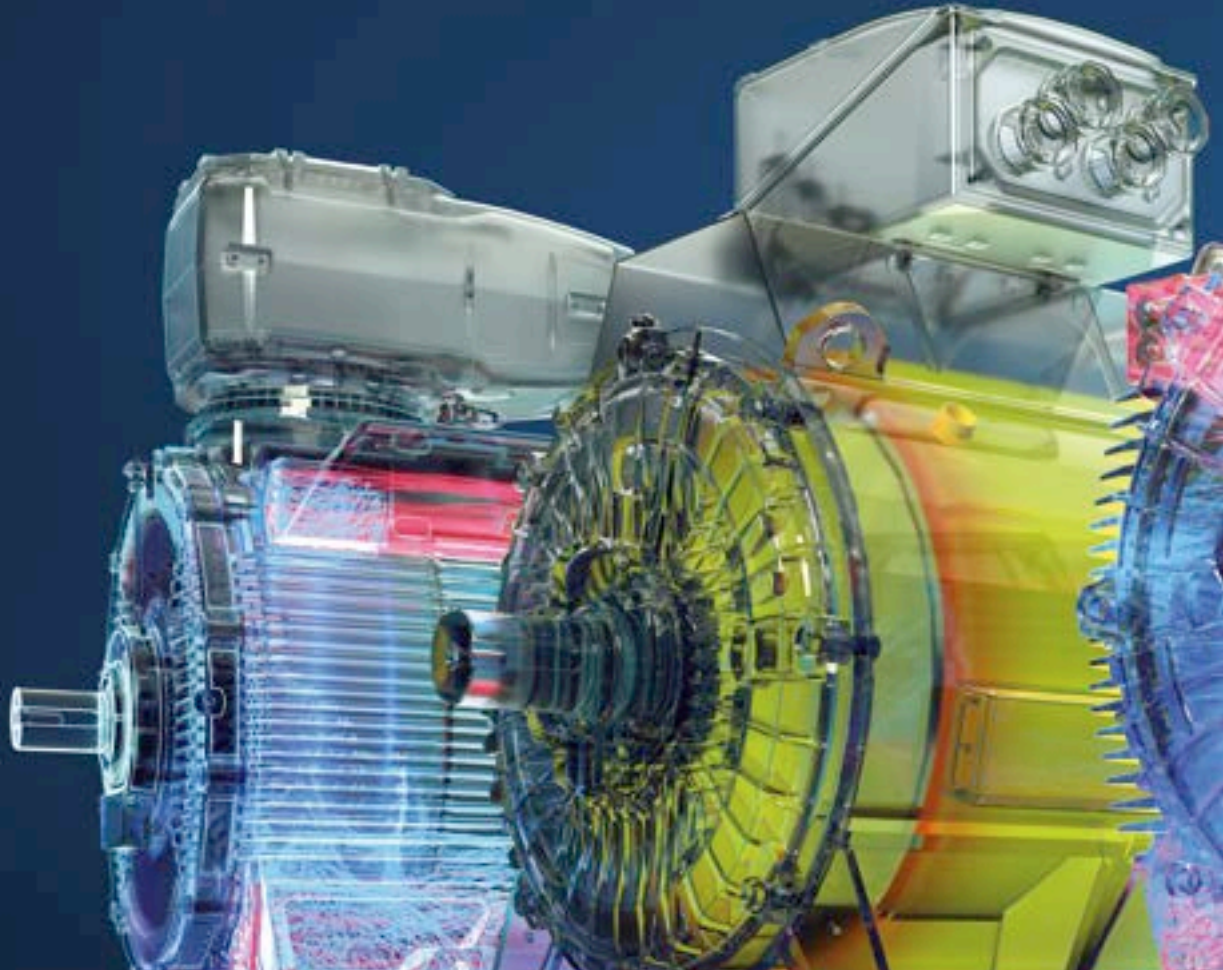
Water and
Wastewater

Your benefits at a glance

- Unique power density saves space and facilitates system integration
- Highly reliable, even under extreme environmental conditions
- Extraordinarily durable and low-maintenance
- Reduced wiring expense
- New foot design optimizes vibration characteristics
- Minimized noise emissions save on noise insulation effort and expenditure
- Flexible main terminal box to ensure easy system integration
- Very short delivery times for a rapid time-to-market
- Integration into the digital enterprise via SIDRIVE IQ for optimized drive systems and maximum system availability
- An extremely wide range of applications enables tailored drive solutions
- System perfectly coordinated with SINAMICS frequency converters

SIMOTICS HV C

The design makes the difference



Maximum flexibility of customer interfaces

A large number of possible terminal box systems as well as compact and service-optimized connection boxes simplify system integration.

Improved vibration characteristics

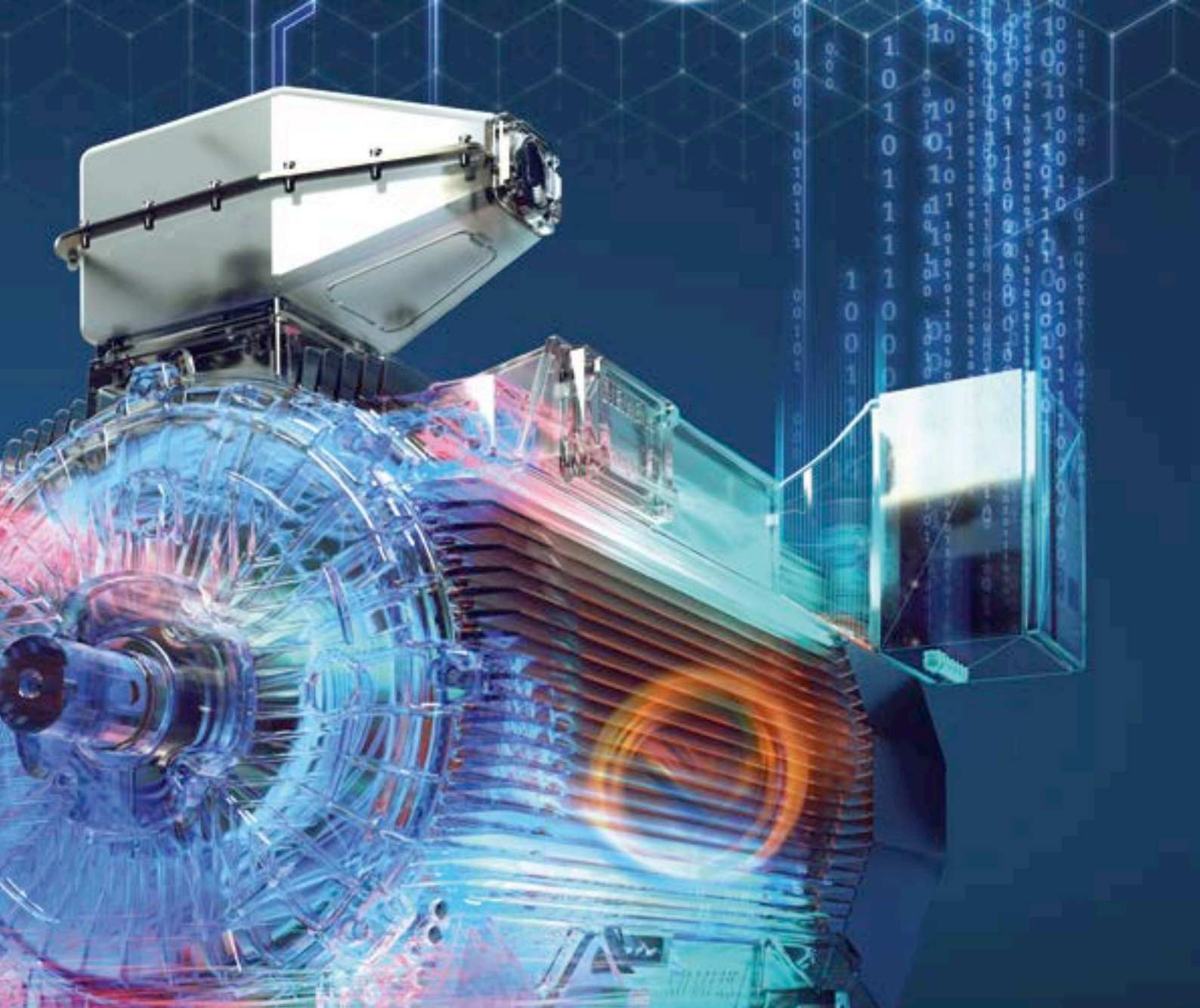
Vibration-optimized motor foot design to ensure minimum vibration by the SIMOTICS HV C high-performance motors in operation.

Higher power density

The SIMOTICS HV C motors offer more power and torque with no change in shaft height and more compact dimensions overall.

Versatile: typical applications

- Pumps, fans, and compressors
- Refiners and extruders
- Mixers, rolling mills, and presses
- Bow thrusters and marine main drives



Revolutionary air-cooling system

Cooling pipes integrated into the fin-cooled housing ensure much-improved cooling for the IC411 motor.

Ready for digital integration

Cloud-based analysis of condition data via SIDRIVE IQ and rapid access to all relevant motor data via mobile terminals ensure a substantial increase in plant availability, combined with reduced maintenance expenditure.

Innovative water-cooling system

Greatly improved heat dissipation and temperature distribution enables a significant improvement in performance, and a broader range of application, too.

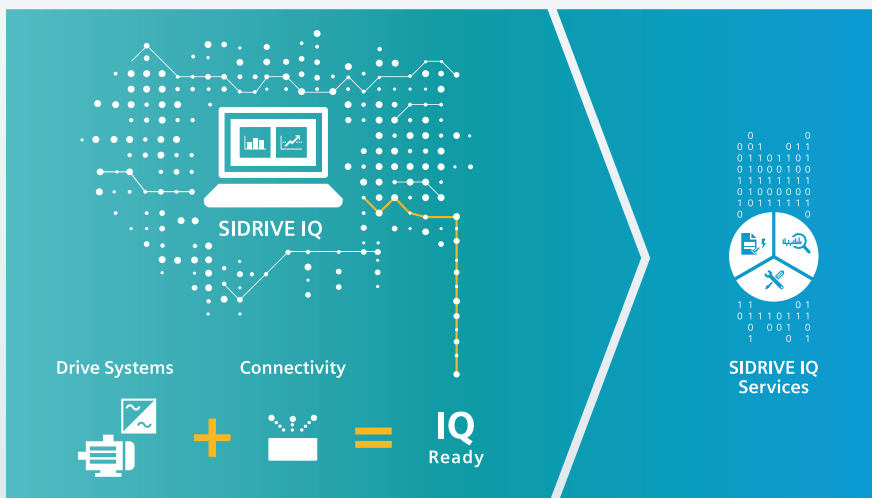
Optimized wiring

Interior routing provides better protection for sensitive cabling.

Fast and easy integrated into the digital enterprise – with SIDRIVE IQ

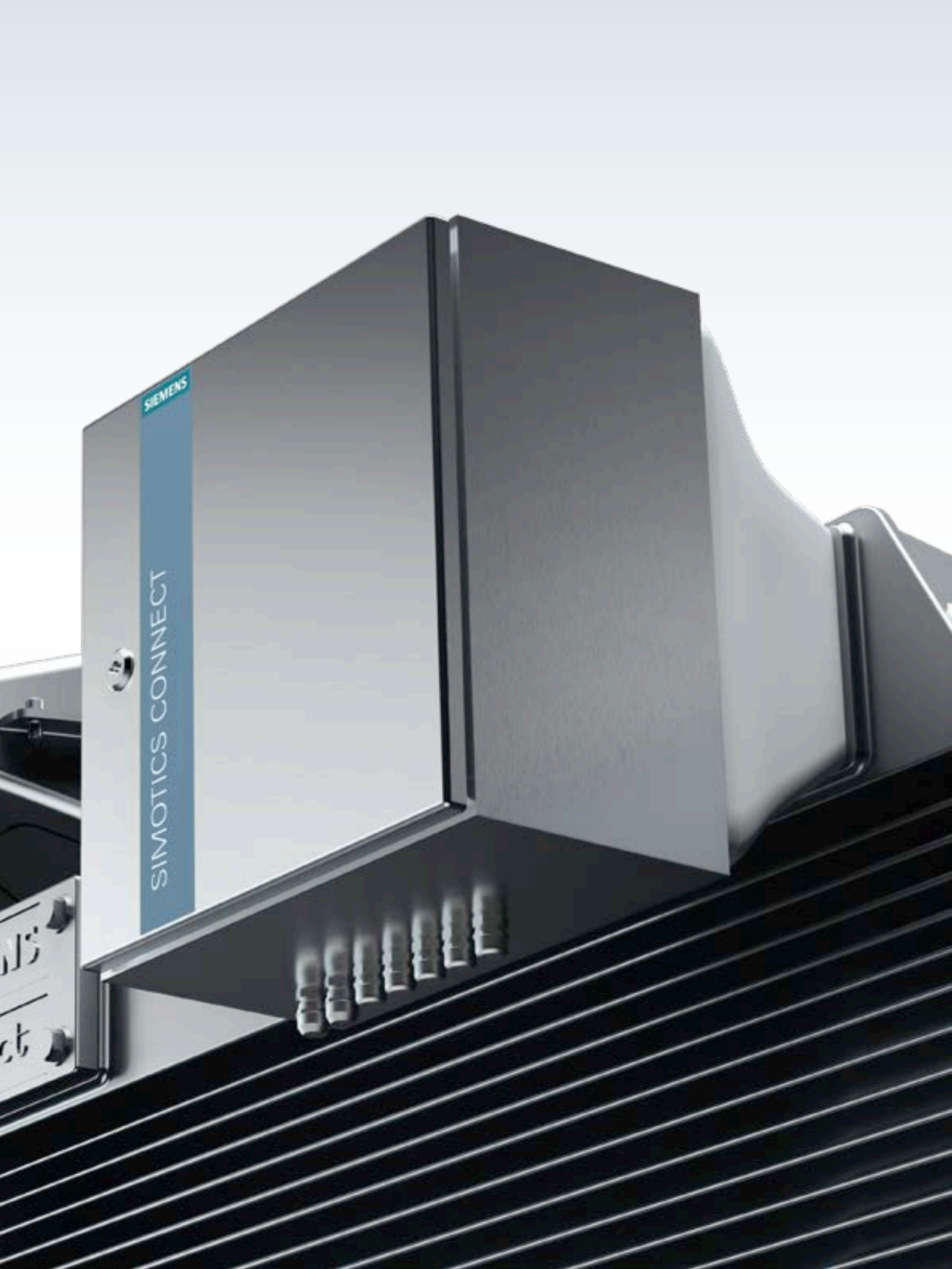
In no time at all, the optional SIMOTICS CONNECT 600 connection box makes SIMOTICS HV C motors an integral part of SIDRIVE IQ, the digital platform for optimizing drive systems. The SIMOTICS CONNECT 600 connection box acquires and records the most important condition data from the SIMOTICS HV C – including bearing temperatures, winding temperatures, and structural vibrations – processes it, and transfers it for analysis – for example, to MindSphere, the open IoT operating system from Siemens.

Based on the data that is transferred, SIDRIVE IQ takes over the monitoring, analysis, and optimization of drive systems and thereby improves the system availability, efficiency, performance, and serviceability of SIMOTICS HV C high-voltage and trans-standard motors. Because these large drives are often essential for the core processes of the overall system, transparency and productivity are significantly increased.



SIDRIVE IQ – the recipe for success for digitalizing your drive systems





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SIMOTICS CONNECT

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