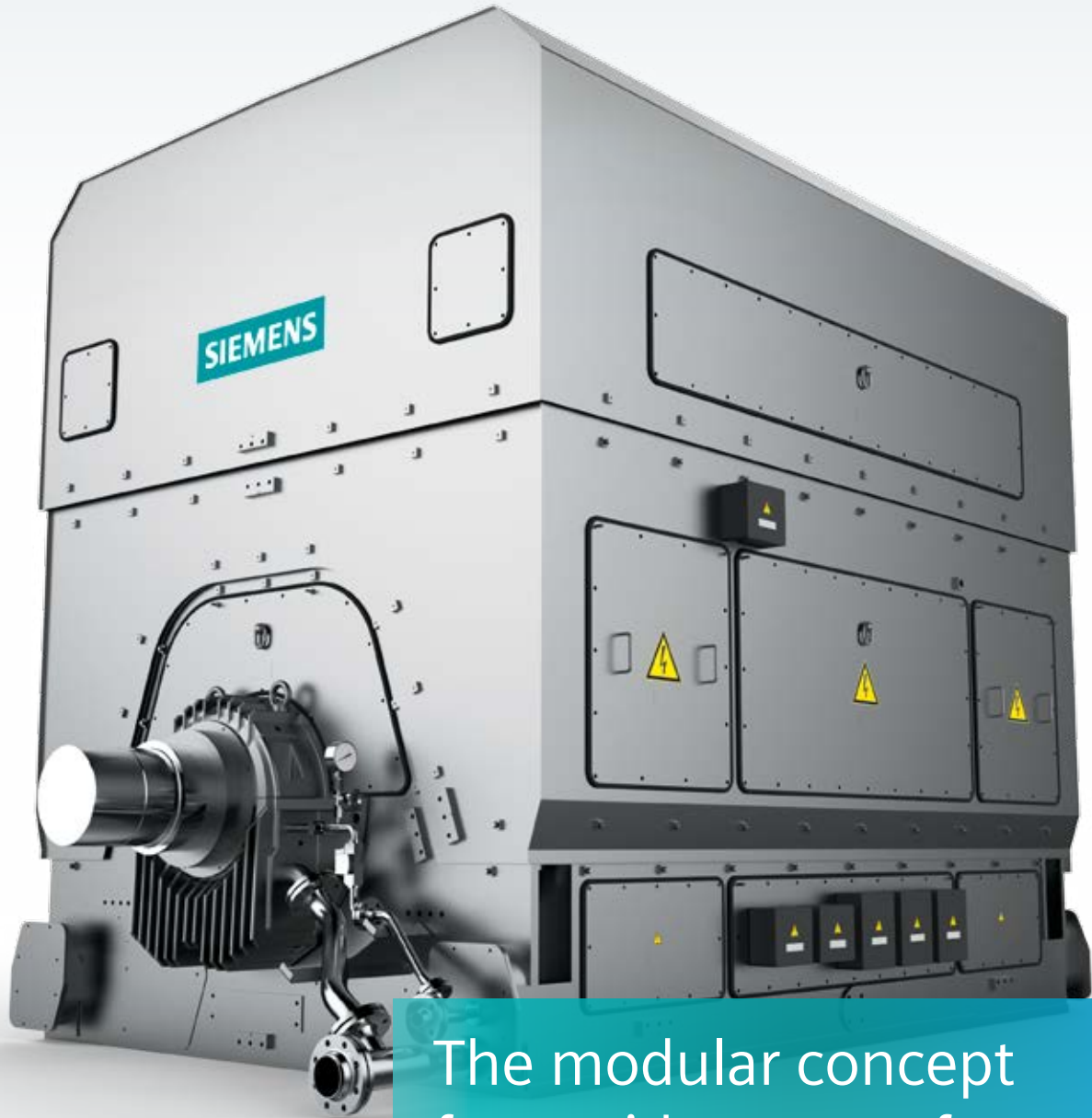


SIEMENS

Ingenuity for life



The modular concept for a wide range of applications

The new SIMOTICS HV HP
high-voltage motors up to 70 MW

[siemens.com/high-voltage-motors](https://www.siemens.com/high-voltage-motors)



SIMOTICS HV HP: The new fast track to success!

As a plant engineering company and OEM, you face specific challenges in your markets. You need to achieve shorter project execution times, higher quality, and higher safety, all while reducing costs. How can you manage it? Through rigorous optimization of design, engineering, and production, with a mechanically optimized, low-vibration baseframe, with system planning that incorporates the 3D design data of the Siemens PLM software, with standardized interfaces, and with simplified selection and configuration using Siemens standard IT tools for the power range up to 70 MW.

For you, that means shorter time-to-market with a reliable, optimally dimensioned motor as the heart of the plant, and increased reliability in the interaction of SIMOTICS HV HP and SINAMICS MV converters within an integrated drive system (IDS).



Low production costs

High percentage of standard components, 20 percent customization



Quality and availability

Condition monitoring for the early detection of central component wear



Protection and safety

Lower risk of error because the same components/motor systems are used for a variety of applications



Optimized OPEX costs

Low maintenance costs thanks to standardized components and a service-friendly design



Optimized integration

Standardized interfaces for motors and components as well as for automation



Reduced time-to-market

High degree of standardization, quicker offer and order processing, data transfer from PLM software

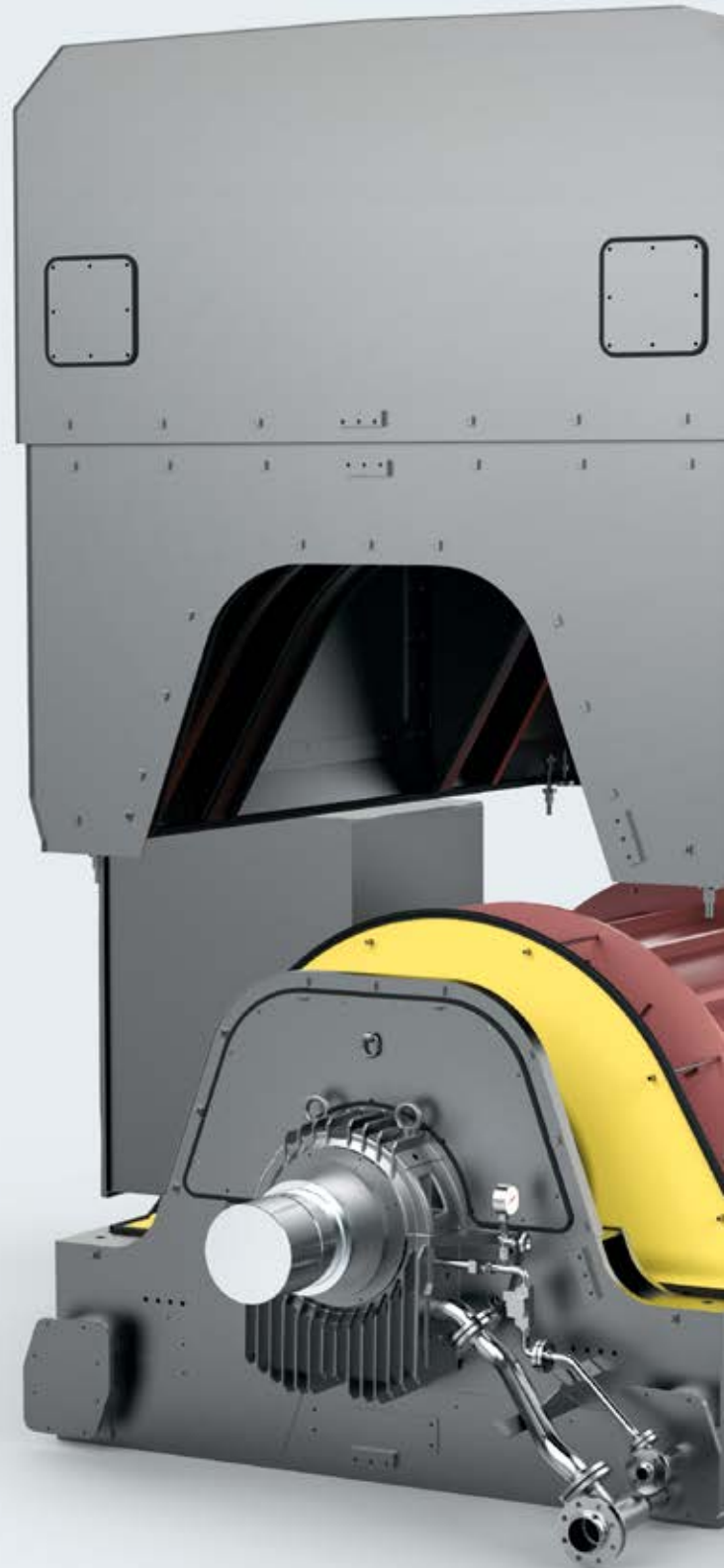
Lots of good ideas for your success

A broad range of applications

Motors in the SIMOTICS HV HP series are available as asynchronous or synchronous machines. Both are optimally tailored to operating with SINAMICS medium-voltage converters.

SIMOTICS HV HP motors are typically used as drives for pumps, reciprocating and centrifugal compressors, and high-performance extruders and blowers. The main areas of application are the oil and gas industry, the petrochemical industry, the chemical industry and air separation plants, the steel industry (with sinter blowers, blast furnace blowers, and rolling mill drives), and power plant engineering (pumps, compressors and blowers).

SIMOTICS HV HP motors are also used in marine applications as main propulsion drives with very high power ratings.





Customer-specific serial machines

Although SIMOTICS HV HP motors were developed as a serial product for industrial use, they are produced like customized motors. The large number of series-produced components (up to 80 percent) helps to drastically reduce the lead time in production and offers you distinct advantages as a mechanical and plant engineering company. The electrical and mechanical data of standard machines is established in no time at all, as are the dimension drawings and prices. In addition to quicker offer and order processing, this also means an up to 30 percent shorter delivery period and a simplified work for your maintenance team as well as spare parts stockpiling.

Better performance through integration

Respond to the higher demand for integrated drive systems: Our SIMOTICS HV HP motors and SINAMICS MV drives are perfectly coordinated and can also be tested together at the production site in Berlin. Integrated drive systems (IDS) from Siemens are the world's first offering of complete drivetrains from a single source. IDS can be seamlessly integrated into any drive task, any automation environment, and throughout the life of the machine, resulting in a shorter time-to-market and faster profits.

Maximum efficiency at minimal operating costs

Thanks to their optimized design, SIMOTICS HV HP motors are highly efficient with an efficiency rate of up to 98.8 percent. In daily operation, they reward your customers with maximum availability and reliability, thanks to the usual high product quality and especially to predictive condition monitoring, for which a wide range of motor-specific tools is available. It allows you, for example, to observe vibrations in the driveshaft or fluctuations in temperature and draw conclusions about the current state of the motor. The early detection of potential maintenance needs not only increases the motor's efficiency but also reduces downtimes due to unscheduled downtimes.

The right technology for maximum performance

Reliability through proven quality

The new SIMOTICS HV HP series is uncompromising in its choice of materials. Proven MICALASTIC insulation – optimally tailored for use in conjunction with a SINAMICS MV drive – is employed throughout for extreme reliability and a long service life. When designing the baseframe, particular attention was also given to high rigidity, short distances between bearings, and the decoupling of the stator. The result: significantly reduced vibrations in the frame, quieter operation, and greater reliability even in harsh ambient conditions.

Small size, high performance

Two important design criteria that make the new SIMOTICS HV HP motors so attractive is their low weight and minimal space requirements. For example, the pipes of the cooling system are installed in the enclosure in a space-saving configuration and the dimensions of the baseframe were specially developed for extremely compact construction in order to permit easy integration into your particular application. As an additional option, the position of the supply terminals and electrical connections can be flexibly altered later on, in the event that adaptations are required in the plant at some later date.

Modular and versatile

Thanks to the series' modular design and a multitude of possible options, SIMOTICS HV HP motors can be adapted to a wide variety of tasks and national requirements with a minimum of effort. Thus they conform to numerous national certificates as needed and are also available with explosion-proof non-sparking or pressurized enclosures. The result is individual motors on a common platform that meet your challenges with superior performance data.

Service-friendly design

Easily accessible inspection and access openings as well as an easily raised motor cover facilitate the work of your service technicians. Your customers also benefit from shorter plant downtimes because the high percentage of standardized components simplifies and accelerates the procurement of spare parts from anywhere in the world.

Technical data

	SIMOTICS HV HP synchronous IEC Design variants	SIMOTICS HV HP asynchronous IEC Design variants
Output power	3 to 70 MW	1.8 to 38 MW
Number of poles	2 to 24	2 to 16
Voltages	3 to 13.8 kV	3 to 13.2 kV
Frequency	50 Hz / 60 Hz	
Standards	IEC, NEMA, API or other specifications	
Shaft heights	900 to 1,600 mm	
Degree of protection	IP54 – IP56	
Cooling type	Water cooled: IC 81W / IC 86W Air cooled: IC 616 / IC 666 / IC01 / IC31 / WP11	
Type of construction	IM1001, IM1101, IM1205, IM1305	IM1001, IM1101
Bearings	Sleeve bearing	
Drive converters	DOL, VFD (e.g. SINAMICS MV Converter GM150, SM150, PH GH150, PH GH180, SM120)	
Enclosure	Welded Steel	
Explosion protection	Non sparking: Ex n (Zone 2) / Cl. 1 Div. II Pressurized: Ex p (Zone 1) Dust: Ex pD (Zone 22)	
Speed	Up to 3,600 rpm	
Torque	Up to 700 kNm	Up to 370 kNm
Efficiency	Up to 98.8%	Up to 98.2%

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