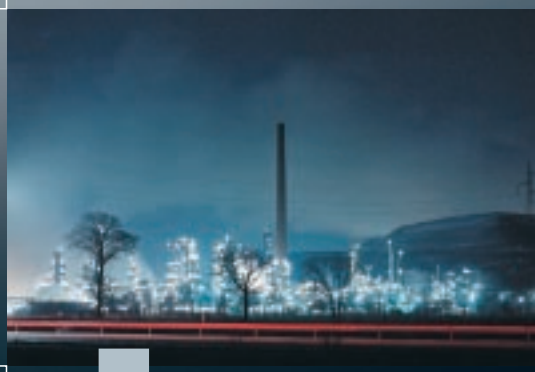
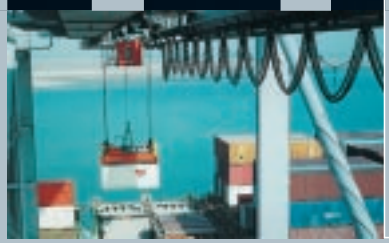

**H-modyn:**
The new platform for a higher degree of individuality



# H-modyn



SIEMENS

# A versatile platform for more applications

Siemens is setting new standards in the large electrical machinery segment – the name: H-modyn. For the first time, asynchronous motors, synchronous motors and synchronous generators utilize a common platform. A modular concept which offers far more possibilities than have been available up until now.



**More possibilities during engineering and production**

As a result of its standardized basis concept, H-modyn can be better adapted to your requirements. In fact, 80% of the assemblies are standard and all of the other components can be engineered as required.

Not only this, we have also completely revised our internal processes. This means that we can now respond even faster and more individually to your inquiries.

**Higher degree of flexibility for your application**

Depending on your requirements, the new H-modyn can now be more precisely adapted to specific customer specifications.

This makes Siemens more flexible in addressing your requirements and your H-modyn is tailored even more to your individual needs.

**Smaller frame sizes for a more compact design**

The H-modyn is shorter and flatter than its predecessor. This has been made possible by optimizing all of the relevant components and assemblies and using center-flanged bearings.

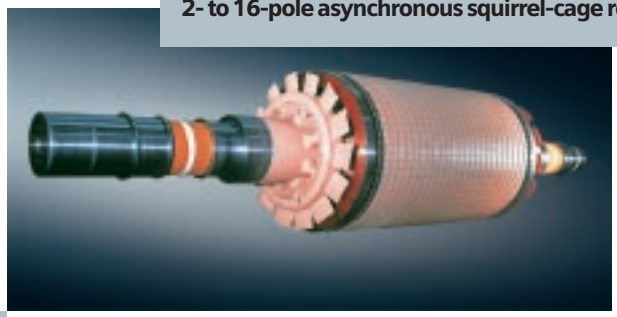
# Modularity which sets a benchmark: **H-modyn**

**Asynchronous motors**

**Synchronous motors**

**Synchronous generators**


**2- to 16-pole asynchronous squirrel-cage rotor**



**Higher performance**

The cooling concept of the H-modyn with an air-to-water cooler and two - for 2-pole synchronous machines also four – inner air cooling circuits guarantee a high power density. Not only this, but the inner cooling circuits ensure that the winding temperature is evenly distributed. When it comes to higher performance, we don't just mean "higher output". This also includes increased performance regarding the various operating data, e.g. improved efficiency, optimum starting-/stall torque, low starting current, low oscillating torques for synchronous motors, low noise, low lifecycle costs, converter operation. It is also important to note that if the standard operating parameters don't match your particular application, then we can optimize them for your particular drive task.

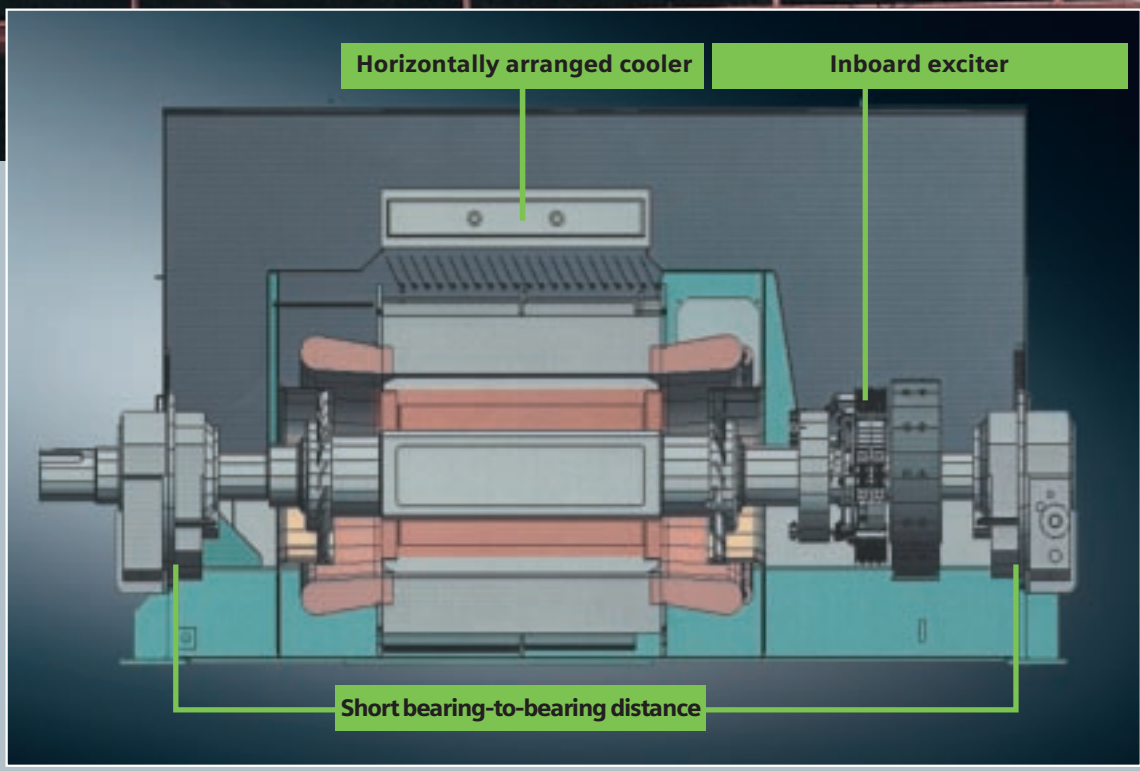
**2-pole synchronous solid rotor**

**4- to 6-pole synchronous salient-pole rotor**

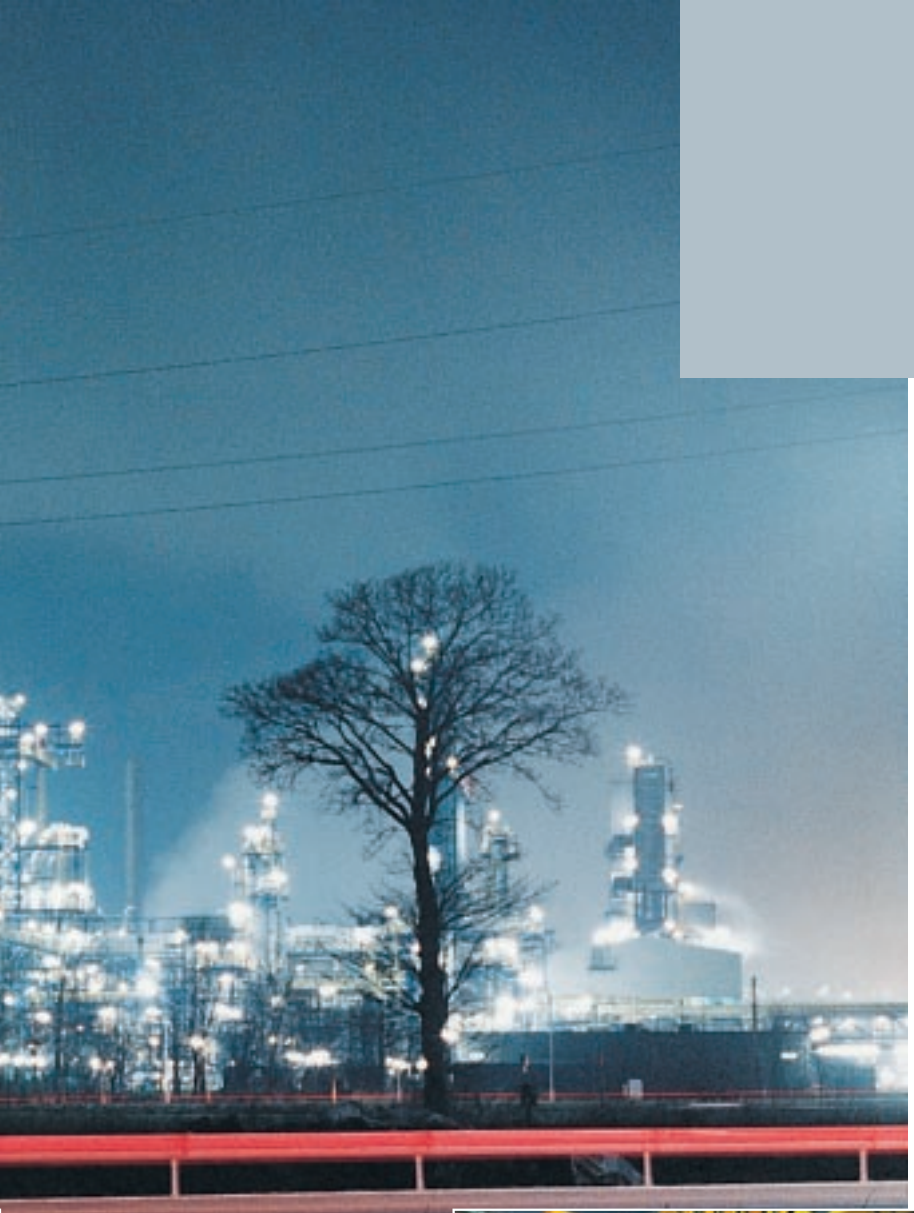
# This is just how compact large machines can be

H-modyn three-phase machines are distinguished by their extremely compact design, which is the result of the optimization of all of the relevant assemblies and components. For instance, by using center-flanged sleeve bearings, we were able to achieve a shorter distance between bearings, which means that the complete machine could be made significantly shorter. And, not only this, the machine height was also able to be significantly reduced by the horizontally arranged coolers.

The H-modyn series is convincing thanks to the high utilization of the active parts. Furthermore a short distance between bearings results in an increase in the 1st critical speed and therefore to an extended operating range.
For all of the salient-pole rotors, an inboard exciter can be used, which means that when required, a second shaft end is available.



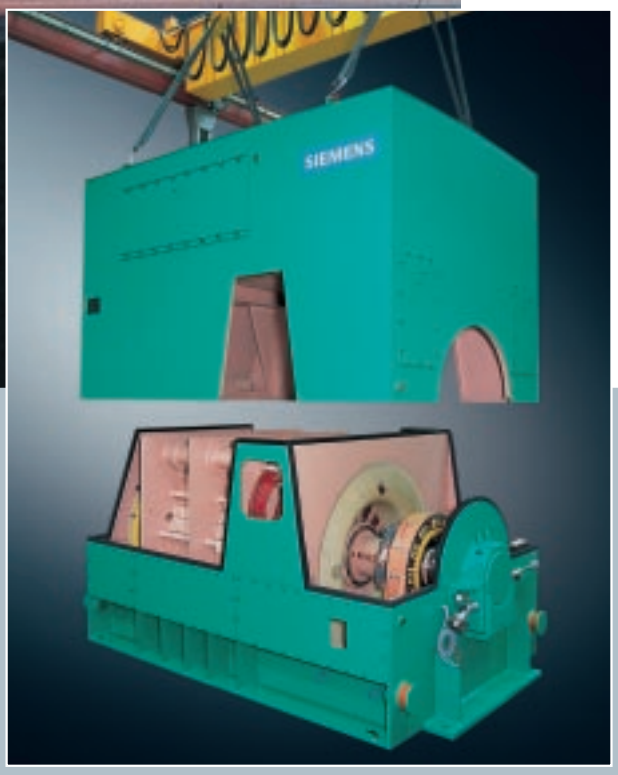

Compact design. Cross-section through H-modyn.



# Installation made easy

With the H-modyn, the main terminal box as well as the auxiliary terminal boxes are mounted on the motor baseframe, without any connections to the mounted cover with the integrated cooler. This means that the winding connections are decoupled from the cover, and the cover can be lifted without releasing the connections.
The favorable ratio between the height of the baseframe and the mounted cover results in an extremely low installation and crane hook height.

**High-stability bearing system**
The center-flanged bearing design not only permits a compact machine design, but the bearing forces are directly transferred to the foundation. This significantly increases the stiffness of the machine.




Low installation height

# **Benefit from well-proven solutions.**
## Also when it comes to the insulation

**No unnecessary experiments**

H-modyn uses the MICALASTIC® insulation system. This has proven itself over many years with high-voltage machines. It uses the VPI (Vacuum Pressure Impregnation) technique which is perfectly harmonized with the insulation design. The insulation system fulfills all requirements such as

- Operation – direct online or with a drive converter
- High switching and reversing strength due to the high stiffness of the winding overhangs
- The insulation is almost void-free
- Excellent corona shielding
- Long lifetime as a result of the thermal endurance and temperature rise class F
- Insensitive to chemically aggressive ambient conditions

**Standardized exciter**

For salient pole machines with 4 poles and higher, an inboard exciter is used as standard. For the cylindrical and solid rotors, the exciter is mounted outboard. Even especially unfavorably starting conditions can be handled reliably using rotating resistors.

# **Service and support worldwide:**
# We are there at your service everywhere

If you select Siemens, then from the word go you can expect the best – this applies to the technical support as well as to quality and service.

Our employees support you in realizing the optimum machine concept and ensure that the subsequent accompanying service fulfills all of your requirements.


**Diagnostics and monitoring concept**

Even the highest quality machines with the best technology can be subject to inadmissible stressing in operation for which they had not been dimensioned. This is the reason that we offer a monitoring system which is optimally coordinated to the particular operating conditions as well as the degree of protection and cooling type.

The machines are equipped, as standard, with resistance thermometers which are used to monitor the following:

- Winding temperature
- Bearing temperatures
- Cold and hot air temperatures

Furthermore, anti-condensation heating is provided as standard.

**In 130 countries throughout the world**

You can always depend on Siemens. We are one of the world's leading electrical engineering companies and we are close to our customers almost everywhere – in 130 countries and in more than 450 cities. We can provide a level of support where you will always be able to find your own personal contact partner.

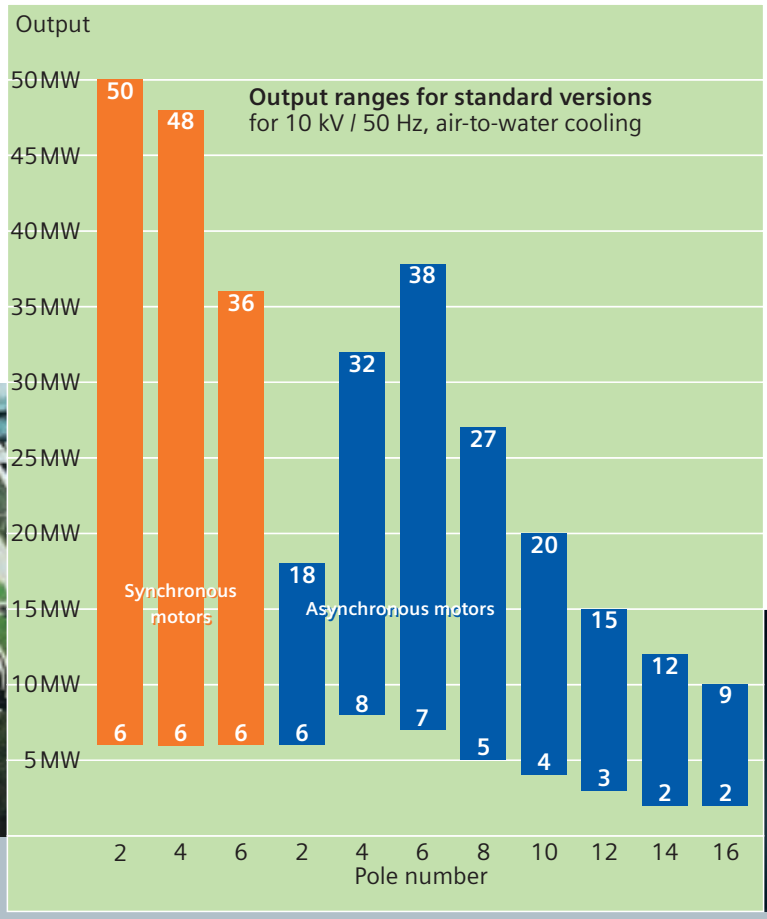
**Optimally aligned to customers**

Our organization is optimally aligned to your requirements – no matter what these may be. We see ourselves as your partner – from technical support through to drawing-up a machine concept, up to the services we can offer after the machine has been shipped, for instance service and maintenance, troubleshooting and much, much more.

Our philosophy and our organization make it a lot easier for you. This is because we offer just more than "only" technology: Thanks to our logistics and production control system, we can flexibly respond to your individual customer requirements – and supply our products, systems, solutions and service in-line with market requirements.

# **Technical data**
## An overview:

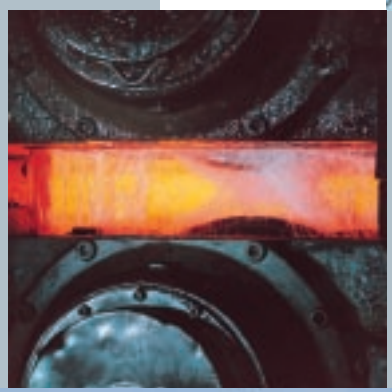
| | |
|---|---|
| Motor types: | Asynchronous motors with squirrel-cage rotor<br>Synchronous motors, synchronous generators with cylindrical and solid salient-pole rotors. |
| Pole numbers: | Asynchronous: 2- to 16-pole;<br>synchronous: 2-to 6-pole |
| Voltages/ frequencies: | 10 kV / 50 Hz<br>6 kV / 50 Hz<br>13.2 kV / 60 Hz |
| Cooling type/ degree of protection | IC81W / IP55 (air-to-water cooling), optional air-to-air cooling |
| Type of construction: | IMB3 (IM 1001) |
| Shaft heights: | 800, 900, 1000, 1120 mm |



# **For every application**
# the optimum solution

Three-phase H-modyn machines, in the form of asynchronous and synchronous motors as well as synchronous generators, are used in the widest range of process industry sectors – for oil and gas, chemical, offshore, marine, air separation, steel, pulp and paper, water/wastewater, power stations – to name just a few. They are used to drive compressors, blowers, refiners, pumps, crushers, compressors and are used as generators. We will be more than happy to provide you with an individual solution based on our standard concept. Not only this, we can also optimize the interfaces between the motor, drive converter and the automation level.

One thing is always true and that is that every H-modyn can be specifically tailored to your requirements. This is the reason that you should profit from our flexibility. We have reference applications in all process industry sectors.



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