Reduced to the best. Well-proven quality for pumps and fans with the highest power ratings

A-modyn synchronous and induction motors
The all-rounder for drive solutions: A-modyn

For your pumps and fans, do you rely on a drive solution that is absolutely flexible and at the same time complies 100% with your individual requirements? That offers you leading edge, latest technology but only has the features that you actually require? With the highest quality and high degree of availability – but at the same time with a unique favorable price? There is a simple solution: A-modyn.

The No. 1 when it comes to efficiency

A-modyn combines well-proven quality and high reliability with an excellent price-performance ratio. The first-class drive solution for pumps and fans with high power ratings up to over 20 MW is extremely compact and cost-saving. Not only this, it can be simply commissioned and serviced and spare parts stocking is straightforward. It can also be flexibly adapted to the individual application as a result of the modular platform concept.

At home in the process industry

A-modyn is the first choice when it comes to drive solutions for pumps and fans – it has been specifically tailored to their typically high moments of inertia and average speeds. The best proof: Well-proven in the widest range of sectors in the process industry – whether the power utility area, pulp & paper, water/wastewater, energy generation, the steel industry or the chemical industry.
Unique performer ...

Unnecessarily complex and very complicated? Not with A-modyn. Our drive solution permits standard engineering for a straightforward, uncomplicated design — thus securing short commissioning times and fast service. Thanks to the rugged and well-proven mechanical design and the high-quality MICALASTIC® high-voltage insulation using VPI technology, A-modyn is extremely reliable and has a long service life. The optimized efficiency together with the high efficiency of the cooling system ensures low operating costs. A high power density and compact design save space as well as weight — and the compact active part design results in a short motor.

Further, A-modyn distinguishes itself as a result of its smooth running properties and with low noise levels fulfills the high demands relating to safety at work.

... for each and every application

Not only can A-modyn motors be optimally adapted for each and every plant configuration: As a result of the modular cooling system, the shaft heights can comply with individual user specifications. Additional advantages: The motor is optimized for special starting conditions and integration into drive systems.

The result: A motor that is individually tailored to the particular application.

A-modyn at a glance:

- Tailored to pumps and fans with the highest ratings
- From 2 to 20 MW
- For synchronous and induction motors
- Well-proven quality
- High reliability
- Line supply and converter operation

Typical applications:

- Large pumps in the process and water industries
- Boiler feed pumps in power stations
- All types of fan applications
- Extruders
- Refiners
### Standard A-modyn version

**Induction motors / synchronous motors**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Line voltage/frequency</td>
<td>10 kV / 50 Hz and 13.2 kV / 60 Hz</td>
</tr>
<tr>
<td>Type of construction</td>
<td>IMB3 (IM1001)</td>
</tr>
<tr>
<td>Degree of protection</td>
<td>IP54</td>
</tr>
<tr>
<td>Cooling type</td>
<td>IC81W</td>
</tr>
<tr>
<td>Shaft height</td>
<td>900, 1060, 1180 mm</td>
</tr>
<tr>
<td>Bearings</td>
<td>Sleeve bearings flanged on the side</td>
</tr>
<tr>
<td>Operation</td>
<td>Fixed speed, VFD</td>
</tr>
<tr>
<td>Standards</td>
<td>IEC, EN, DIN, VDE</td>
</tr>
</tbody>
</table>

### Optional basis data

**Induction motors / synchronous motors**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of protection</td>
<td>IP56, WP II</td>
</tr>
<tr>
<td>Type of construction</td>
<td>IMB20 (IM1101)</td>
</tr>
<tr>
<td>Cooling type</td>
<td>IC01</td>
</tr>
<tr>
<td>Explosion protection</td>
<td>EEx nA II, Class 1 Division II</td>
</tr>
<tr>
<td>Standards</td>
<td>NEMA, specifications (e.g. industry, energy)</td>
</tr>
</tbody>
</table>
Perfectly conceived – down to the finest detail

The modular platform concept for maximum flexibility

A-modyn uses a common basis platform – both for induction as well as synchronous motors. The motor is adapted to the particular application based on this platform. Your advantage: Not only are service and spare parts stocking simplified – but what is especially important is that project-specific requirements can be fulfilled faster and with a higher degree of flexibility.

According to your specifications, the required standard machine is precisely adapted to your particular requirements – electrically and mechanically – and using 3-D CAD modeling.

Patented and proven worldwide: The MICALASTIC® insulation system

MICALASTIC – the insulation system for high-rating high-voltage motors that has proven itself worldwide – is also used for A-modyn. The VPI technique (Vacuum Pressure Impregnation) is an important component that is coordinated with the overall insulation design. This insulation technique fulfills all of the requirements, such as:

- The motor can be connected directly to the line supply or fed from a drive converter
- High switching and reversing strength as a result of the high stiffness of the winding overhangs
- Excellent corona shielding.

In conjunction with the extraordinary high mechanical strength and thermal endurance, these factors ensure a long winding lifetime – even under the toughest of conditions.
Perfectly conceived – energy saving using variable-speed operation

High degree of ruggedness and compact – thanks to the innovative rotor technology

The sophisticated rotor technology for both induction and synchronous motors is a basic feature for the unique mechanical design of the A-modyn: The rotor for the induction motors distinguishes itself as a result of its high ruggedness. There are no additional parts such as slip rings or excitation equipment. It comprises a laminated core with copper bars as well as short-circuit rings and is shrunk onto a spider shaft.

With the synchronous motor version, the rotor distinguishes itself as a result of the high power density – with a compact design. Its components include the laminated rotor core, field/excitation winding, damping winder, rotating rectifier and an excitation generator.

For every requirement – the variable fan concept

The A-modyn cooling can be optimally adapted to every plant configuration. For instance, with optional single-sided or double-sided cooling. Air/water heat exchangers are used as standard. A horizontally arranged water cooler for X-cooling is also possible (two internal cooling circuits) or a vertically arranged water cooler for single-sided cooling (one internal cooling circuit). The higher degree of availability that is achieved increases the productivity and cost-effectiveness of the plant.

Absolutely safe – connecting to the line supply

For A-modyn, the subject of safety is given utmost priority from every perspective – and last but not least, when it comes to connecting to the line supply. The terminal box that is designed for currents up to 3600 A is generally dimensioned for all of the usual connecting cables. Its pressure relief membrane provides short-circuit protection – and it is also short-circuit proof at 41 kA for 0.2 seconds.

Up to 70% energy-saving potential – with variable-speed operation

Especially for fluid flow and positive displacement machines such as pumps and fans, you can save up to 50% energy by using variable-speed operation – in fact, in extreme cases even up to 70% energy can be saved. The reason: With mechanical control devices, the motor always operates at full speed – even if the maximum possible flow rate is not required. The excess quantity is then throttled using mechanical actuators. On the other hand, when fed from a frequency converter, the motor speed can be precisely adapted to the actual flow required and therefore the power drawn. This represents an enormous cost-saving potential.

Additional advantages of variable-speed operation:
The more precise process control for shorter response times as well as soft, continuous starting and stopping that in turn reduces the stress on the mechanical system.

The ROBICON Perfect Harmony and SINAMICS GM150 medium-voltage drive converters are the optimum system partners for A-modyn.
Service and Support worldwide – Your contact partner for all questions

Service & Support

Our strong team of experienced specialists supports you worldwide – locally in more than 100 countries. They offer an extensive range of services in the marketplace. This means that we provide you with competent and professional service & support over the complete life cycle.

Our organization is consequentially aligned to your requirements from every perspective. We see ourselves as your partner over the complete lifetime of the motor that you purchased from us. This extends from the technical support and drawing-up a motor concept up to providing services after the motor has been shipped. This includes service & maintenance, spare parts/repairs and troubleshooting. However, it also goes without saying that innovative subjects such as optimization and modernization, technical consulting and support are also included e.g. when it comes to expanding the plant or retrofitting it.
### Technical data

#### A-modyn synchronous motors and induction motors for IP54 IC81W, 10 kV/50 Hz

<table>
<thead>
<tr>
<th>Power</th>
<th>Induction motors</th>
<th>Synchronous motors</th>
</tr>
</thead>
<tbody>
<tr>
<td>20,000 kW</td>
<td>19,200</td>
<td>16,750</td>
</tr>
<tr>
<td>18,000 kW</td>
<td>15,300</td>
<td>16,200</td>
</tr>
<tr>
<td>16,000 kW</td>
<td>12,800</td>
<td>15,600</td>
</tr>
<tr>
<td>14,000 kW</td>
<td>10,600</td>
<td>15,300</td>
</tr>
<tr>
<td>12,000 kW</td>
<td>6,800</td>
<td>12,000</td>
</tr>
<tr>
<td>10,000 kW</td>
<td>4,450</td>
<td>8,700</td>
</tr>
<tr>
<td>8,000 kW</td>
<td>3,700</td>
<td>6,000</td>
</tr>
<tr>
<td>6,000 kW</td>
<td>2,500</td>
<td>4,700</td>
</tr>
<tr>
<td>4,000 kW</td>
<td>1,800</td>
<td>3,700</td>
</tr>
<tr>
<td>2,000 kW</td>
<td>1,200</td>
<td>2,100</td>
</tr>
</tbody>
</table>

#### A-modyn synchronous motors and induction motors for IP54 IC81W, 13.2 kV/60 Hz

<table>
<thead>
<tr>
<th>Power</th>
<th>Induction motors</th>
<th>Synchronous motors</th>
</tr>
</thead>
<tbody>
<tr>
<td>20,000 kW</td>
<td>19,200</td>
<td>20,250</td>
</tr>
<tr>
<td>18,000 kW</td>
<td>15,300</td>
<td>15,000</td>
</tr>
<tr>
<td>16,000 kW</td>
<td>12,800</td>
<td>16,200</td>
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<tr>
<td>14,000 kW</td>
<td>10,600</td>
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<td>6,000</td>
</tr>
<tr>
<td>6,000 kW</td>
<td>2,500</td>
<td>4,700</td>
</tr>
<tr>
<td>4,000 kW</td>
<td>1,800</td>
<td>3,700</td>
</tr>
<tr>
<td>2,000 kW</td>
<td>1,200</td>
<td>2,100</td>
</tr>
</tbody>
</table>
A-modyn synchronous motors and induction motors
for IPW24 ICOA1, 13.2 kV/60 Hz

Induction motors
Synchronous motors

Power
20,000 kW
18,000 kW
16,000 kW
14,000 kW
12,000 kW
10,000 kW
8,000 kW
6,000 kW
4,000 kW
2,000 kW

Number of poles
4       6       8       10       12       14       16

A-modyn synchronous motors and induction motors
for IPW24 ICOA1, 4.16 kV/60 Hz

Induction motors
Synchronous motors

Power
20,000 kW
18,000 kW
16,000 kW
14,000 kW
12,000 kW
10,000 kW
8,000 kW
6,000 kW
4,000 kW
2,000 kW

Number of poles
4       6       8       10       12       14       16
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