

New SEW product releases at Hannover Messe. Read more on Page 3.

SEW's new planetary servo gear units lead the way to the future.

Read more on Page 1.



SEW Synchronous CMP Servomotors offer end-toend automation solutions. Read more on Page 2.

Dear Reader

Demand from the market for our products and solutions in India continues to be strong, and we had an all-time record sale in the AMJ quarter. Our local supply issues have improved significantly as a result of the proactive actions we have taken on local (DIB) motors. Conversely, the supply issues from our principals have deteriorated due to significantly ramped up global demand that shows no sign of abating, coupled with shortages on a slew of input material, both raw and finished. On top of this the global freight situation continues to be highly challenging. In the next few months this is going to be felt most specifically in delivery times for fully built or special units from our principals. As a result of building up our component stock, we are more confident on the deliveries of units we assemble ourselves.

Our automation business is growing at a CAGR of 30% even during the last two pandemic-hit years, and we find considerable success working with small technology-driven companies who offer tailormade machines to specific industries. For our customer story we feature Innomation, a Hyderabad-based company. We have worked with them to deliver to an end-customer a fully automated solution for a vacuum cooling system for baking bread.

Our servomotors are the workhorses of our automation offerings, and we are seeing an increasing requirement for the precision and speed that servomotors provide even in heavy-duty applications, like stacker-destacker in the construction pre-fab industry. Our product article features the CMP40-112, the biggest and most powerful servomotor in our CMP range.

The Hannover Messe this year was a digital edition, and our feature story covers some of the new technologies, products and innovations that SEW unveiled at the fair.



I wish you happy reading!

M J Abraham Managing Director, SEW-EURODRIVE India

SEW enables productivity and quality enhancements in industrial bakeries.



For four years now, SEW–EURODRIVE India has worked with the full–service equipment lifecycle company Innomation, partnering with them for everything from simple conveying applications to more complex needs. The most recent of these was the vacuum conditioning application with its four asynchronous servo motors and 54 induction motors with drives.

Innomation is a turn-key tailor-made high-performance automation solutions provider specializing in vacuum cooling systems for baked goods and fresh produce. Its solutions are built for round-the-clock operation with minimal maintenance requirements, and are known for their quick change-overs, flexibility, speed, and robust design. These essential qualities were further improved by inculcating SEW motors, drives, and control systems into their equipment.

At the start.

Innomation approached SEW-EURODRIVE during system design with the task of providing an integrated motor-drive and control system package for their fully automated vacuum cooling systems. The system included multiple lifts, conveyors, and various mechanisms. After studying the requirements of Innomation's engineers, SEW proposed a customized solution that included four asynchronous servo motors and 54 induction motors with the requisite drives and control system components.

The application.

Largescale industrial baking typically uses conveyorized tunnel ovens to bake bread. In the SEW application, the bread loaves pass through the tunnel oven in moulds. There are 12 loaves in each mould. The moulds are conveyed to SEW's vacuum conditioning system, where they are collated into a batch of 12 moulds, and then transferred to one of the four vertically stacked vacuum chambers using a lift system.

The lift carriage, weighing about 6 tons, is about 2.5 m wide and 7 m long. It is guided on either side by rollers that move on vertical columns. The pillars use a chain pulley system, each of which is connected to a SEW asynchronous servo motor. One side is the master, and the opposite side the slave. These master and slave servos pull the lift carriage vertically up or down to the required

chamber level. At present the system is proven with a linear accuracy of +- 2 mm over a vertical travel of 4800 mm.

Diverse usage possibilities.

SEW-EURODRIVE's installation at Innomation offers a model that can be used in various food processing industries like rusk, biscuit, cookies etc.. This solution can also be adapted to applications like auto store, sheet store and vehicle parking, where it can be customised to customer requirements.

Technical specifications.

- Helical Bevel gear box with asynchronous servo motors.
- MOVIDRIVE application version.
- Helical Bevel geared motors for lift subsystem conveyors.

Hurdles on the way.

There were challenges aplenty that the SEW engineers had to work around. One requirement was to sync the master and slave servos to achieve the required position, while the motors were running at high and low speeds within the allowable linear positioning accuracy. The application required extensive on-time service and commissioning support, which the SEW team has consistently delivered on, ensuring the timely success of the project.

Benefits of the SEW application.

- Enables the system to run at high dynamics compared to a normal induction motor in position sync mode, with optimized control and smooth start/stop operation.
- More accurate control.
- Less space required for motor fixing.
- Increased productivity as the system is automated with synchronous system.
- Less tact time for the operation as the system is completely automated with auto lift arrangement to enable precise stop at the required height.
- Standardised application module for master-slave operation.
- Low maintenance.

Everyday problem-solving.

The application became operational in July 2020. It has since been performing as per expectations. Even when there are minor hiccups, timely intervention and support from the SEW team have always been able to address them.

"This is the first time that a vacuum cooling system at this scale was designed in India. With the help of SEW-EURODRIVE, our equipment was able to deliver an average Overall Equipment Effectiveness (OEE) of 98.6% with a Mean Time Between Failures (MTBF) greater than six months."

- Harsha Sripathi, Director - Operations, Innomation

Complete gearmotor system for end-to-end automation needs.

Whether it is labelling or sealing tasks in the food and beverage industry with 1,200 cycles per minute, or stacking heavy loads of 1,200 kg in the construction, automotive and timber industries, almost always there is a CMP servo gearmotor from SEW-EURODRIVE behind it. These powerful, highly dynamic and compact gearmotors provide the basis

for a successful automation solution in a variety of applications.

SYNCHRONOUS CMP SERVOMOTORS

Covering a range up to a peak torque of 320 Nm, these servomotors come in seven sizes: 40, 50, 63, 71, 80, 100, and 112. Of these, size 112 has been out since April 2013, in five different frame lengths. It serves the upper power range and is also available in the BY holding brake option with increased working capacity.



A to Z of automation needs.

In combination with standard or servo gear units, MOVIAXIS[®] multi-axis servo inverters and MOVID-RIVE[®] inverters, prefabricated cables, controllers, and operator terminals from the modular SEW-EURODRIVE concept, the synchronous CMP servomotors are a complete system that provides a range of automation solutions.

- Compact, convection-cooled motor.
- Mountable directly with a positive connection to helical gear units [R], parallel-shaft helical [F], helical-bevel [K], helical-worm [S] and SPIROPLAN[®] gear units [W], and to low backlash planetary [PS.F and PS.C] and hypoid right-angle gear units [BS.F].
- Option for highest dynamics or heavy loads.
- Achieves high angular accelerations using extremely low energy.
- Option of resolver, or scalable Hiperface[®] encoder with electronic nameplate.
- Freedom to select a brake that matches travel cycle and application.
- Compliance with ATEX II3GD.
- High on reliability, availability, durability.

Features of CMP40-112 standard version

- Low-inertia rotor for CMP.
- RH1M resolver.
- Adjustable right-angle flange socket.
- KTY.
- IP65.
- Long bearing service life.
- High permitted overhung loads.
- Stand-alone motor or direct mounting of gear unit.
- Virtually no perceptible torque ripple.

Variety of applications.

The versatile, flexible and scalable CMP40-112 versions come with additional inertia - CMPZ71-100, standstill torques (M0) from 0.5 Nm

to 95 Nm (from 1.7 Nm to 150 Nm with forced cooling fan), a maximum torque (Mpk) of up to 320 Nm, and up to four speed classes: 2,000 rpm, 3,000 rpm, 4,500 rpm and 6,000 rpm. These can be used in labelling machines, multi-axis handling, heavy-duty flying saws, carton erectors, panel gantry, storage/retrieval systems, conveyor belts, profile systems, printing machines and winders.

Advantages of CMP40-112.

- Extremely dynamic accelerations.
 - Very high overload capacity.
 - High cycle times.
- High speed setting range and torque setting range.
- High control quality.
- High positioning accuracy.
- Compact design; minimal weight and

installation space.

- Energy-efficient operation.
- High power density.
- Latest winding and magnet technology.
- Overview of additional benefits:
- SEW Workbench enables quick, reliable project planning for all system components.
- Motor mounted to gear unit and prefabricated cables for quick installation.
- Electronic nameplate for fast, easy start-up.
- Low-inertia rotor minimizes energy required for motor acceleration.
- Powerful rotor of CMPZ controls even extreme loads stiffly, safely, accurately.
- Finely scaled, stepped motor range with 31 levels.
- Powerful spring-loaded brake with working capacity suitable for hoist axes.



SEW presents the future of digital smart factories at Hannover Messe.

The world's biggest industrial technology expo, Hannover Messe, usually held at Hannover, Germany, was rolled out in a special digital edition this year in view of the Covid 19 pandemic. The Hannover Messe Digital Edition, from April 12 to 16, 2021, was themed 'Industrial Transformation', and thought leaders presented their technologies for factories, energy systems and supply chains, SEW-EURODRIVE offered the world a glimpse of on-demand manufacturing in the digital smart factory, through inspiring lectures, expert talks, demos and panel discussions. Here we present three of our most exciting technologies.

DriveRadar[®] — The science of predictive maintenance.



SEW-EURODRIVE, under its DriveRadar® portfolio, presented to a global audience the cutting-edge DriveRadar[®] IoT Suite condition monitoring system. This futuristic technology records and evaluates operating data from industrial gear units, making it possible to reliably determine the behaviour of

Most often factories choose a gearmotor with the motor mounted directly on the gear unit, because this works best for length, weight and costs. But in some special circumstances these motors need to be mounted through an adapter. At Hannover Messe, SEW-EURODRIVE presented its redeveloped adapter series, the AQS.. and AMS.. adapters, with their special user-benefits.

When are they used?

Motor adapters are required when customers need to use a motor without an SEW/LIA interface, or when the system operator prefers rapid replacement without opening up the gear unit. In the second instance, SEW motors can be mounted via an adapter rather than directly.

In case an adapter is used between the gear unit and the motor, the additional length is a key selection criterion, especially in the machine automation context. SEW's adapter series has been drives and system components beforehand, and pre-emptively plan maintenance and repairs. This service is a coordinated package of sensor technology that continually records variables like ambient temperature, gear unit oil temperature, input speed, oil levels, and the vibration in rolling bearings and gearing.

How it works.

An edge processing unit (EPU) records, stores and consolidates data, and then sends via a mobile network the measured values in encrypted form to the SEW data center. Here the system then evaluates and interprets the data. The customers have the option to view the status of all monitored gear units as well as all processed data, and also to be notified directly of any status changes via a

Motor adapters—For special needs.

re-designed to significantly reduce this length.

Two versions available.

The AMS.. adapters are used for IECI and NEMA motors. These can optionally be equipped with a condensation drain hole or reinforced bearing.

Benefits of AMS.. adapters.

- Up to 37% shorter than existing AM.. adapters.
- Simplified motor installation for AMS. adapters (NEMA).
- Sizes AMS225..(IEC) & AMS250..(IEC).
- Fully compatible, interchangeable with existing AM.. adapters.

The AQS.. adapters are used for servomotors. Thanks to new adapter variants, AQS.. adapters can be for a wider range of market-standard synchronous motors.

Suite services. DriveRadar[®] IoT Suite for industrial gear units

smartphone app designed for DriveRadar® IoT

comes pre-installed on the new Generation X.e helical and bevel-helical gear units. But retrofitting is also possible.

Key Benefits.

- · Early warning of critical changes in condition and abnormal operating behavior.
- Recognizing trends through continuous monitoring and intelligent mapping.
- · Preventing downtimes through real time data about the status and operating behavior of gear units.
- Plug & play with all hardware delivered preassembled, parameterized and ready-to-use from the factory.

Benefits of AQS.. adapters.

- Up to 53% shorter than previous AQ.. adapters.
- AQSH.. coupling with spreading function for quicker, easier motor installation.
- Motors can be removed even if the input and output are blocked.
- Fully compatible with the current AQ.. adapter.



MOVI-PLC[®] I/O system C—Readiness redefined.

The MOVI PLC® I/O system C combines high performance with futuristic functions. This sophisticated mechanical concept features a compact design accurately adaptable to the relevant application, module by module. Along with the new

MOVIC® CONTROLLER portfolio, interaction between the product portfolio of SEW and external field units is optimized.

The EtherCAT® and CANopen interface modules enable data exchange with the controller when using this solution. The I/O modules come with a power supply module, and support up to 64 electronics modules on the backplane bus.

Perfect integration.

The I/O system is perfectly integrated into the SEW-EURODRIVE automation portfolio. It offers both analog and digital I/Os plus input and output modules with functional safety, a bus coupler, function modules, and modules for power supply, distribution and accessories.

Compact, sophisticated, adaptable.

- Transmission rate of 48 Mbit/s; very fast response time of up to 20 µs. One terminal module for all signal & function modules.
- Secure sliding mechanism ensures easy installation; click connection for quick mounting of the shield connection on the module. Coding to prevent mixing up modules, etc..
- Compact, step-shaped wiring level with spring clamp technology; easy module replacement, thanks to upright wiring. High modularity due to 2-, 4-, 8-channel modules.
- Display of diagnostics & channel states via LEDs; clear assignment & readability of channel states. Detailed diagnostics of each electronics module in the system.

