



Compact axes

Series AC

THE KNOW-HOW FACTORY



SERIES AC COMPACT AXES

LINEAR DRIVE FOR YOUR HANDLING PROCESSES

MAXIMUM PERFORMANCE IN MINIMAL SPACE

Compact axes are a crucial element in modern automation technology. The space-saving design of the AC series enables a high level of manufacturing flexibility and efficiency in the most varied application areas. It combines precise linear movement with powerful, integrated drives – and in a tiny amount of space. This allows it to be easily integrated into existing systems and combined together without

problems, and thus increases the cost-effectiveness and performance of your automated processes. High speed and rapid acceleration also mean that you do not have to make any compromises in performance, even in tight space conditions. Discover the advantages of the AC series and learn how you can upgrade your production efficiency to a new level.

Installation size	Technical data	
	ACS40	ACS60
Stroke [mm]	100	150
Max. feed force [N]	170	270
Speed [m/s]	0,8	1,0
Max. acceleration [m/s ²]	20	17
Repeatability +/- [mm]	0,01	0,01



SIMPLE CONFIGURATION

Two installation sizes: 40 and 60.

Two types of control: IO-Link or CANopen.

Optionally available with or without clamping element.



OUR EXPERTISE – YOUR ADVANTAGES

Flexible control:

IO-Link for simple commissioning and implementation of simple applications or CANopen for interaction with other machine elements in real time.

Standard ball screw with BLDC motor:

For rapid and powerful movements with high precision.

Standard Safe-Torque-OFF function:

Maximum safety thanks to fast and reliable torque shutoff.

High load capacity and service life:

Thanks to a linear guide with a double rail carriage and one-piece slide milled from solid material.

Customized movement profiles:

Freely configurable parameters allow movement that is perfectly adjusted to your application.

Low space requirement:

Compact design without interference contours with unbeatable installation size and stroke ratio.

Absolute precision:

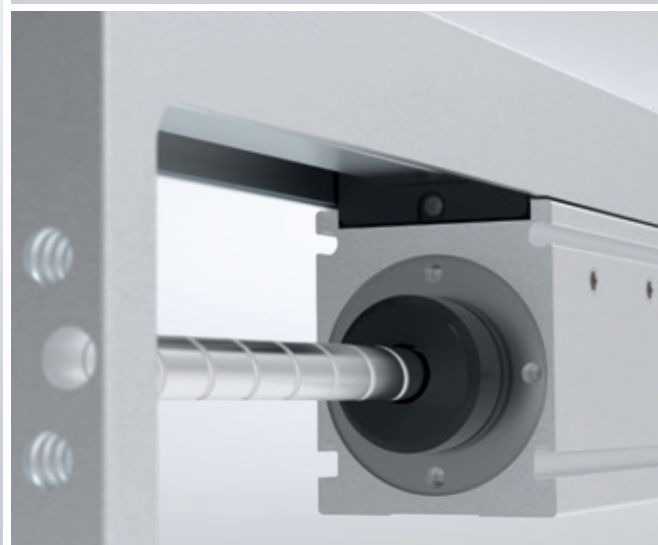
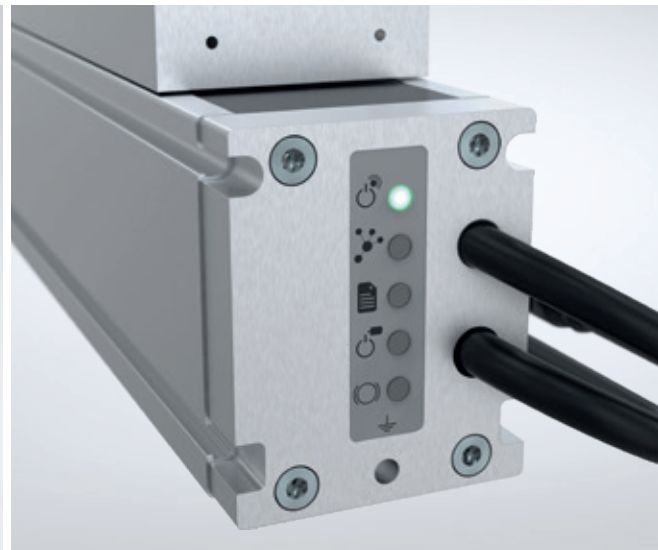
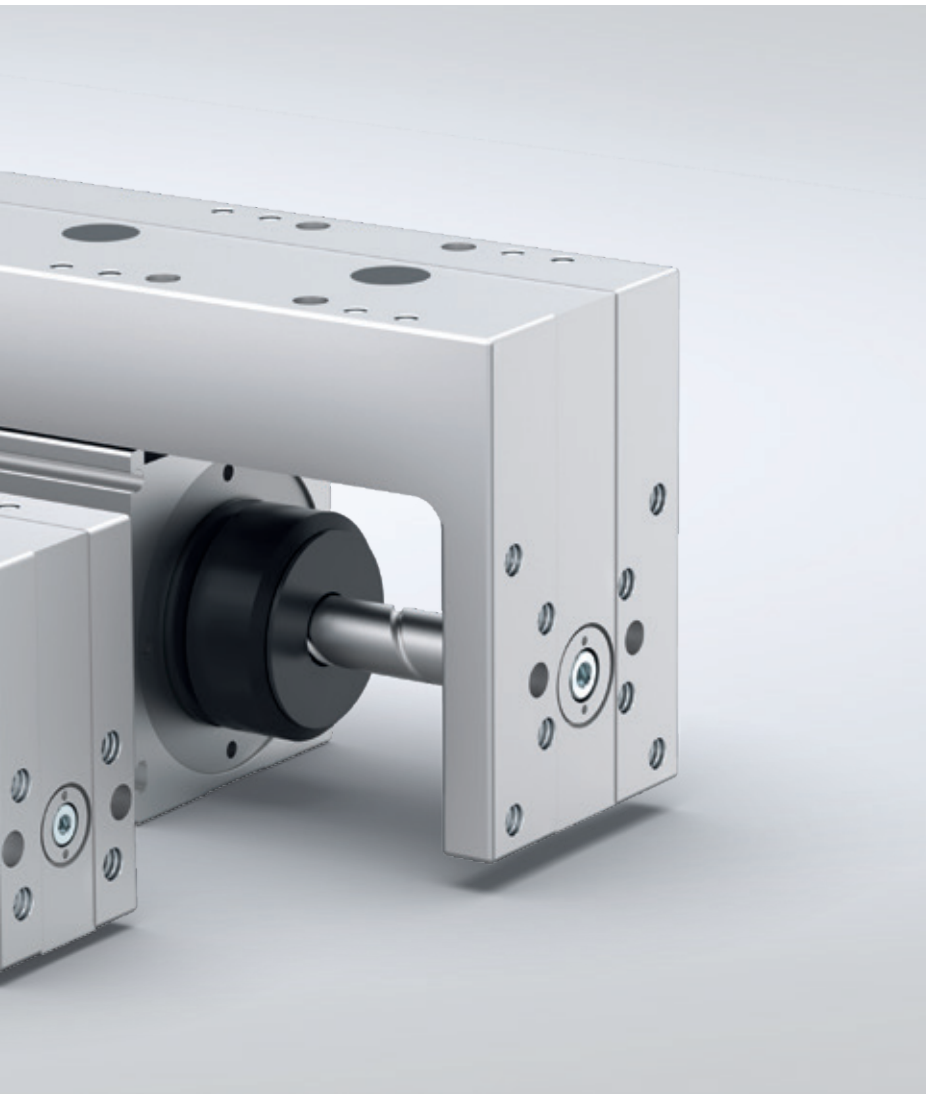
High positioning and repeat accuracy without reference runs thanks to an integrated, absolute position measuring system.

Minimal maintenance requirement:

Lubrication intervals from up to 5 million cycles at up to 100 million-cycle service life.

Low operating costs:

Motor shutoff at a standstill even in vertical applications possible by combining it with a clamping element.

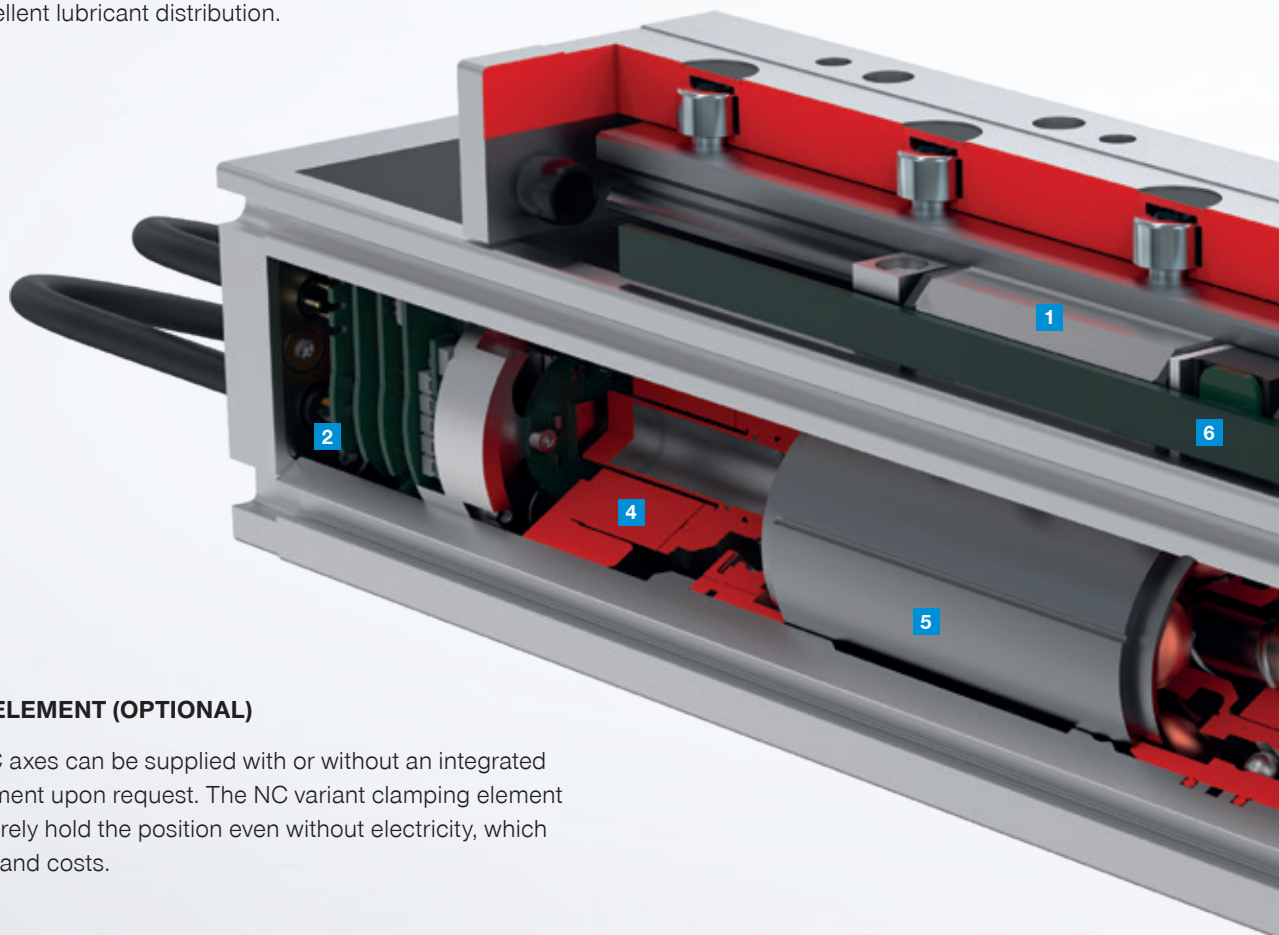


WHAT'S INSIDE

THE TECHNICAL FEATURES IN DETAIL

1 TWO RAIL CARRIAGES

Two rail carriages, combined with the one-piece slide, offer maximum load capacity and precision in a tiny amount of space. The advantages are easily seen in the short strokes through shorter recirculating ball travel paths and the resulting excellent lubricant distribution.



4 CLAMPING ELEMENT (OPTIONAL)

The series AC axes can be supplied with or without an integrated clamping element upon request. The NC variant clamping element can also securely hold the position even without electricity, which saves energy and costs.

5 STANDARD BALL SCREW WITH BLDC MOTOR

High-efficiency standard ball screw with servomotor – a drive solution that has been developed specifically for our compact axes. This drive type stands out thanks to high dynamics and force and is widely used in various fields ranging from tooling machines to precision robots.

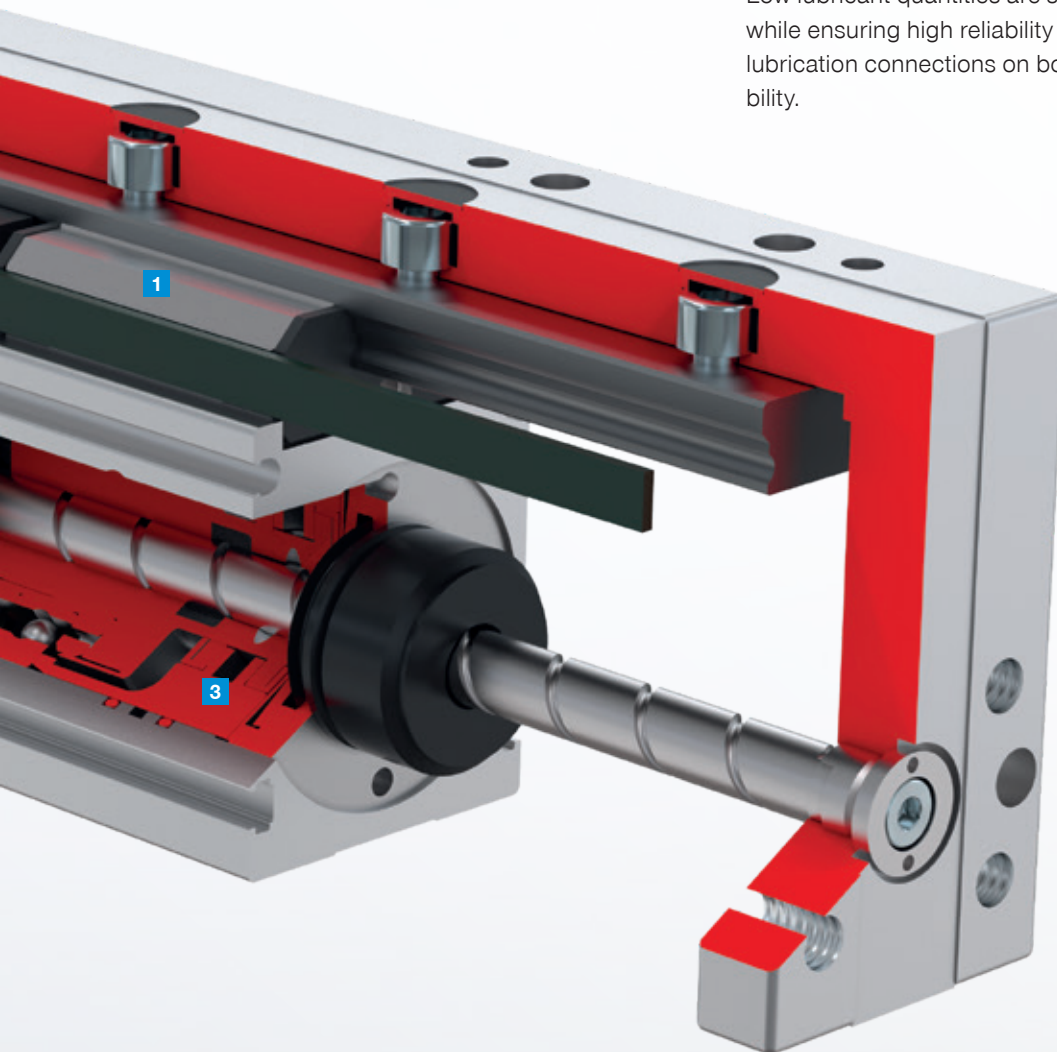


2 INTEGRATED CONTROL ELECTRONICS WITH STO FUNCTION

The control electronics that are integrated directly in the axis (optionally with IO-Link or CANopen control) with the Safe-Torque-OFF function for additional safety save space and costs. This means that the application can be brought into operation more quickly, since there is no complicated cabling or configuration work needed.

3 LUBRICATING SYSTEM

Low lubricant quantities are sufficient. This reduces effort and costs while ensuring high reliability and a long service life. The axes have lubrication connections on both sides to ensure excellent accessibility.



6 ABSOLUTE LINEAR POSITION MEASURING SYSTEM

The position measuring system installed as standard continuously measures the position of the slide. This means that any position can be approached with maximum precision and repeat accuracy, eliminating the need for reference runs.

THE COMPACT AXES IN USE

COMBINATIONS FOR EVERY APPLICATION

FAST, PRECISE, REPEAT ACCURACY

Our compact axes are integral parts of automated processes in many industries. They are ideal for applications in which fast, precise and accurately repeatable movements are needed – and they can do this millions of times over. They advance automation in industries such as installation, electronics manufacturing and the packaging industry. They

are also used in automated test systems, for example to move and measure components quickly and with pin-point accuracy. The following examples provide you with a detailed insight into specific applications of compact axes and demonstrate how they can increase the efficiency and precision of your automation processes.



Pick & Place



Pallet



Isolating



Stacking



Applying



Press



Equip



Checking



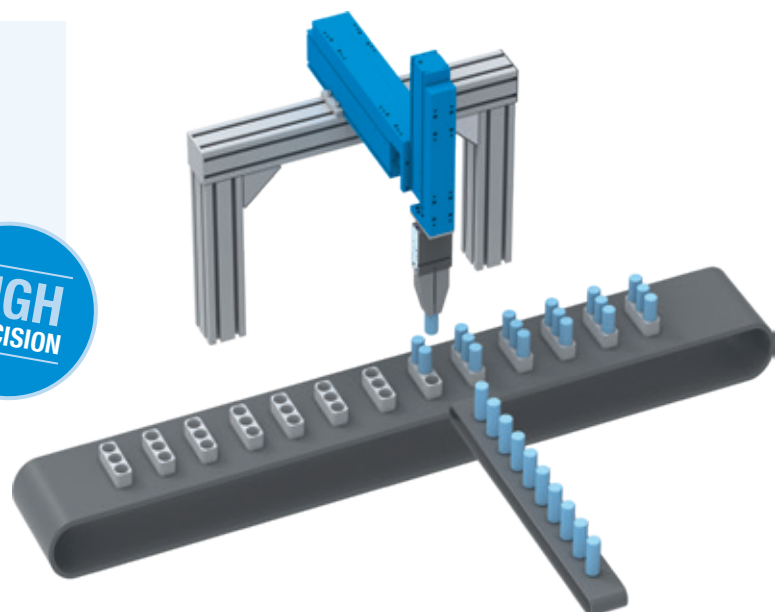
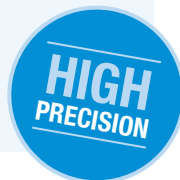
Screwing

APPLICATION EXAMPLE 1: PICK & PLACE

In this application, our compact axes excel with high cycle rates and speeds when placing products, such as those required in the packaging industry. This ensures a high product throughput and a significant increase in production performance.

OUR EXPERTISE – YOUR ADVANTAGES

- ▶ End effector variety: Compatible with the entire Zimmer Group range of grippers
- ▶ Compact size: Unprecedented stroke and design length ratio
- ▶ Dynamic: Maximum speed and acceleration



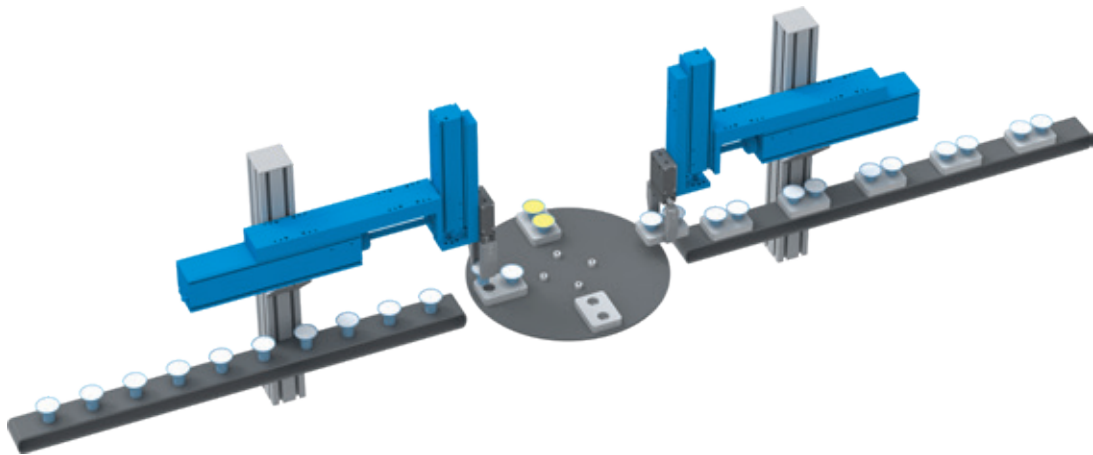
APPLICATION EXAMPLE 2: INTELLIGENT AXES COOPERATION

Precise synchronous cyclic motion sequences are essential in processes with multiple axes, such as those when handling and checking LEDs on a rotary indexing table. Even when space conditions are tight, the compact design of the AC series facilitates a precise design. The precision of the compact axes allows a high product quality and process reliability to be achieved.

OUR EXPERTISE – YOUR ADVANTAGES

- ▶ Synchronous cyclic movements using CANopen
- ▶ A rigid design enables high accelerations and speeds for high cycle rates
- ▶ Actuator and axis form a single unit with minimal interference contour

EXTREMELY
DYNAMIC



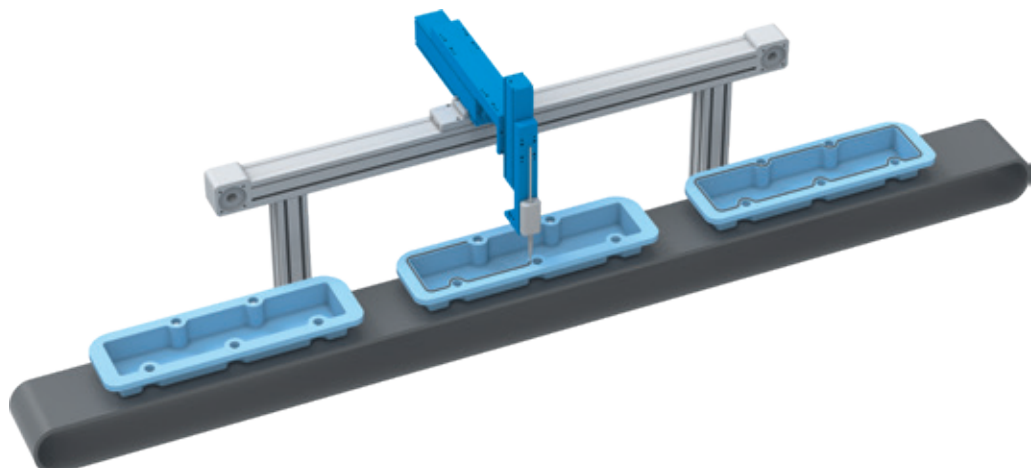
APPLICATION EXAMPLE 3: SYNCHRONOUS CYCLIC MOVEMENTS

Numerous applications require not only simple linear movements, but also complex movement profiles by combining multiple axes. Compact axes were combined with a dispenser to apply liquid sealant to covers. Use of the CANopen technology allows the sealing mass to be applied in exactly the right quantity at the right place, even in the case of complex structures.

OUR EXPERTISE – YOUR ADVANTAGES

- ▶ Flexible combination of axes with one another due to a clever design
- ▶ Performance and cost advantages compared to articulated robots
- ▶ Simple commissioning and maintenance

MAXIMUM
RIGIDITY



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