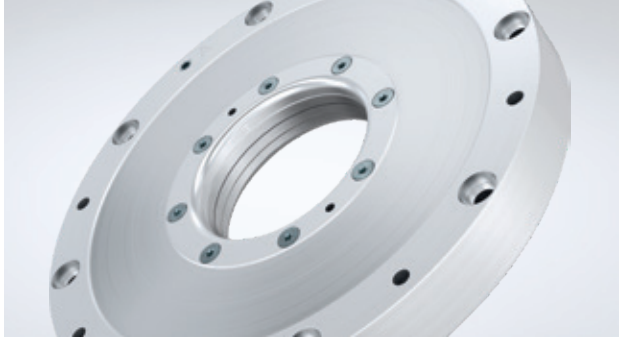
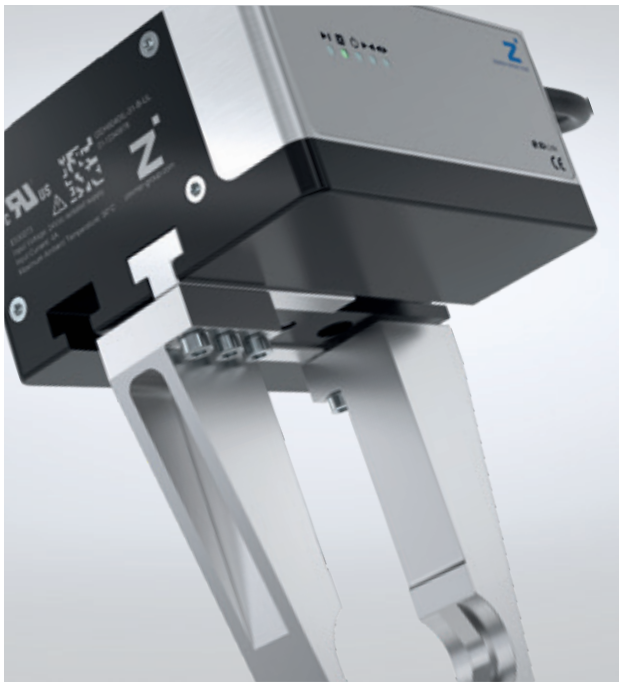
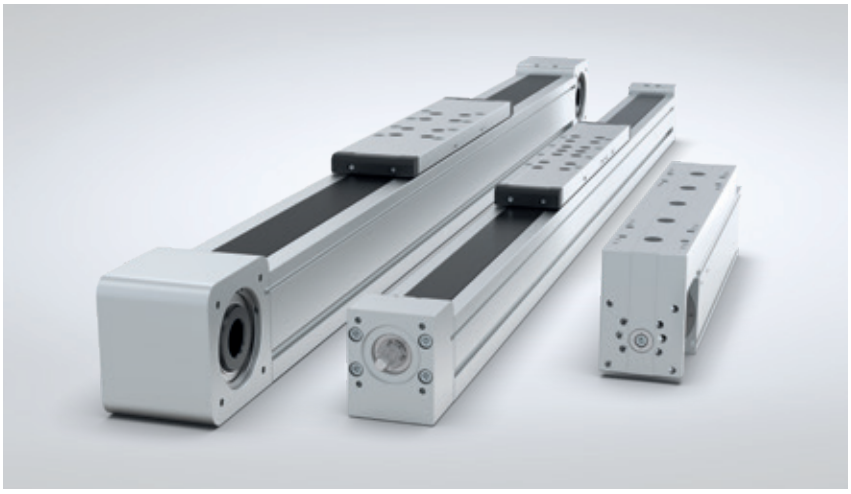






The full product line

Product overview

THE KNOW-HOW FACTORY

www.zimmer-group.com

ZIMMER group

THE KNOW-HOW FACTORY

ZIMMER GROUP
COMMITTED TO OUR CUSTOMERS

WE HAVE SUCCEEDED FOR YEARS BY OFFERING OUR CUSTOMERS. INNOVATIVE AND INDIVIDUALIZED SOLUTIONS. ZIMMER HAS GROWN CONTINUOUSLY AND TODAY WE HAVE REACHED A NEW MILESTONE: THE ESTABLISHMENT OF THE KNOW-HOW FACTORY. IS THERE A SECRET TO OUR SUCCESS?

Foundation. Excellent products and services have always been the foundation of our company's growth. Zimmer is a source of advanced solutions and important technical innovations. This is why customers with high expectations for technology frequently find their way to us. When things get tricky, Zimmer Group is in its best form.

Style. We have an interdisciplinary approach to everything we do, resulting in refined process solutions in twenty areas of technology. This applies not just to development but also to production. Zimmer Group serves all industries and stands ready to resolve even the most unique and highly individualized problems. Worldwide.

Motivation. Customer orientation is perhaps the most important factor of our success. We are a service provider in the complete sense of the word. With Zimmer Group, our customers have a single, centralized contact for all of their requirements. We approach each customer's situation with a high level of competence and a broad range of possible solutions.

TECHNOLOGIES

COMPONENTS

More than 45 years of experience and industry knowledge: We are one of the leading manufacturers and suppliers of pneumatic, hydraulic and electrical components in the areas of handling, damping and mechanical engineering worldwide.

Handling technology. The Zimmer Group is a leading manufacturer and supplier of components.

Robotics. With a wide range of tool changers, collision protection, axis compensation modules and more.

Vacuum technology. Our comprehensive range of vacuum components is the material-saving solution for nearly every industry.

Industrial communication. Robot programming made easy with ready-to-connect communications modules, both wired and wireless.

Clamping and braking technology. Innovative components for linear and rotary applications of all kinds.

Damping technology. Industrial profile dampers and hydraulic shock absorbers underscore the innovative force of the KNOW-HOW FACTORY.

Soft Close. We are one of the leading development partners for the furniture industry and a strong system partner when it comes to soft-closing mechanisms.

Machine tooling technology. Innovative tool and clamping systems for processing metal, wood and composite materials.

PROCESS TECHNOLOGIES

Metal, plastic or elastomer? The technically and economically optimized production of series components for all industries. Including intelligent system development, a selection of materials, the associated production technologies and a cost-effective product.

MIM technology. As a solution for the production of complex shaped metal parts by injection molding.

Plastic injection molding. The right process for the series production of a wide range of plastic components.

Elastomers. Ideally suited for the production of sophisticated, individual workpieces made of various elastomers.

SYSTEM SOLUTIONS

Extremely fast integration and commissioning, maximum product availability and optimal productivity – we are combining the best from the world of mechanics with the most innovative technology from the IoT.

System components. We adapt your components, like axis compensation modules, grippers or servo swivel jaws, from the fields of handling, damping as well as machinery and clamping and braking technology to your specific application.

End-of-arm tools and gripper systems. The heart of robotic automation. We have solved the most varied tasks across industries with our EOATs: welding, gripping, checking, installing and much more.

Mobile robotics and transport systems. You can achieve maximum flexibility and make your production efficient and safe with our AMRs. These are flexible transport systems and mobile robot cells for small and medium batch sizes.

Modules and cells. We develop cross-market, independent cells and installation-ready modules that will integrate perfectly into your production system. Precise, individual solutions for optimized production rates and the highest quality standards.

Machines and lines. Our solutions include turn-key systems, decoupling and assembly cells for the furniture industry and highly flexible systems for batch size 1 as well as robot-supported processing solutions including programming with ready-to-connect communications modules, both wired and wireless.

Engineering. This goal is our greatest motivation: getting your individual system up and running faster plus making it easier to use and more efficient and reliable to operate.

Safety and quality. These two aspects are central to our corporate philosophy. Through continuous testing by TÜV Süd, certification by Underwriters Laboratories (UL) and consistent compliance with DGUV recommendations, we ensure that our products not only meet the highest standards, but also offer long-term reliability and safety – for solutions that make an impression and last.

TABLE OF CONTENTS

COMPONENTS

HANDLING TECHNOLOGY

VACUUM TECHNOLOGY

ROBOTICS

INDUSTRIAL COMMUNICATION

DAMPING TECHNOLOGY

SOFT CLOSE

CLAMPING AND BRAKING TECHNOLOGY

MACHINE TOOLING TECHNOLOGY

SYSTEM SOLUTIONS
SYSTEM COMPONENTS

END-OF-ARM TOOLS AND GRIPPER SYSTEMS

MOBILE ROBOTICS AND TRANSPORT SYSTEMS

MODULES AND CELLS

MACHINES AND PLANTS

ENGINEERING

PROCESS TECHNOLOGIES
PROCESS TECHNOLOGY

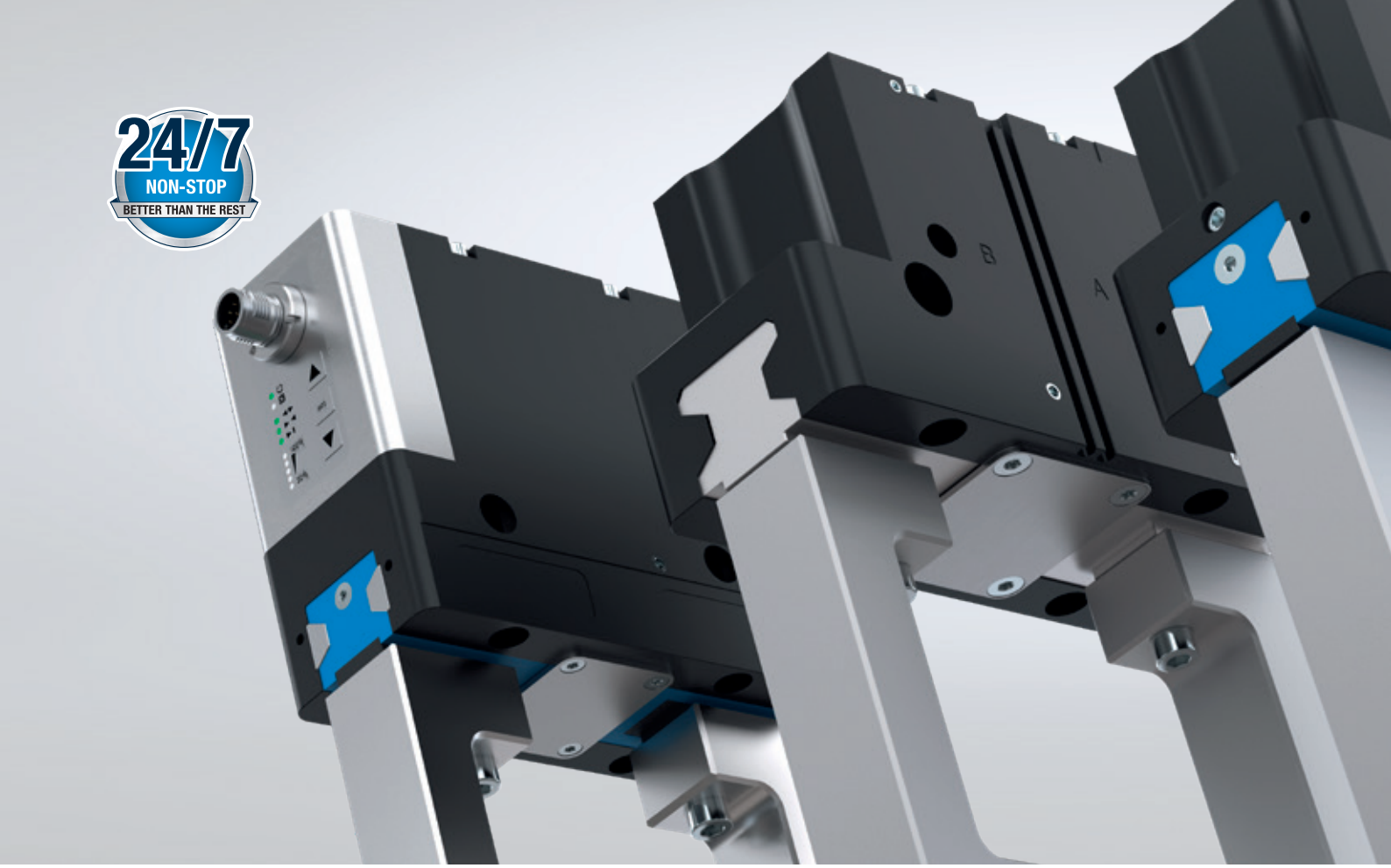
SERVICE

FROM THE IDEA TO THE SOLUTION

AUTOMATION SOLUTIONS FOR EVERY INDUSTRY

THE BEST SOLUTION FOR EVERY INDUSTRY

For over 45 years, the Zimmer Group has been providing leading solutions in automation technology, including handling and vacuum technology, robotics, clamping and braking elements, damping and machine technology as well as process technology.



GRIPPER TECHNOLOGY HIGHLIGHTS
HANDLING TECHNOLOGY

UNIVERSALLY APPLICABLE GRIPPER SOLUTIONS

Process-reliable gripping: This can only be achieved with the right gripper to make your robot capable of handling its tasks. Zimmer Group has been developing new and improved grippers over and over again since 1980, helping you to make your production more flexible and efficient. To do this, we consistently focus on the needs of our users, develop the right gripper solutions for specific applications and markets, and always strive for precision and quality.

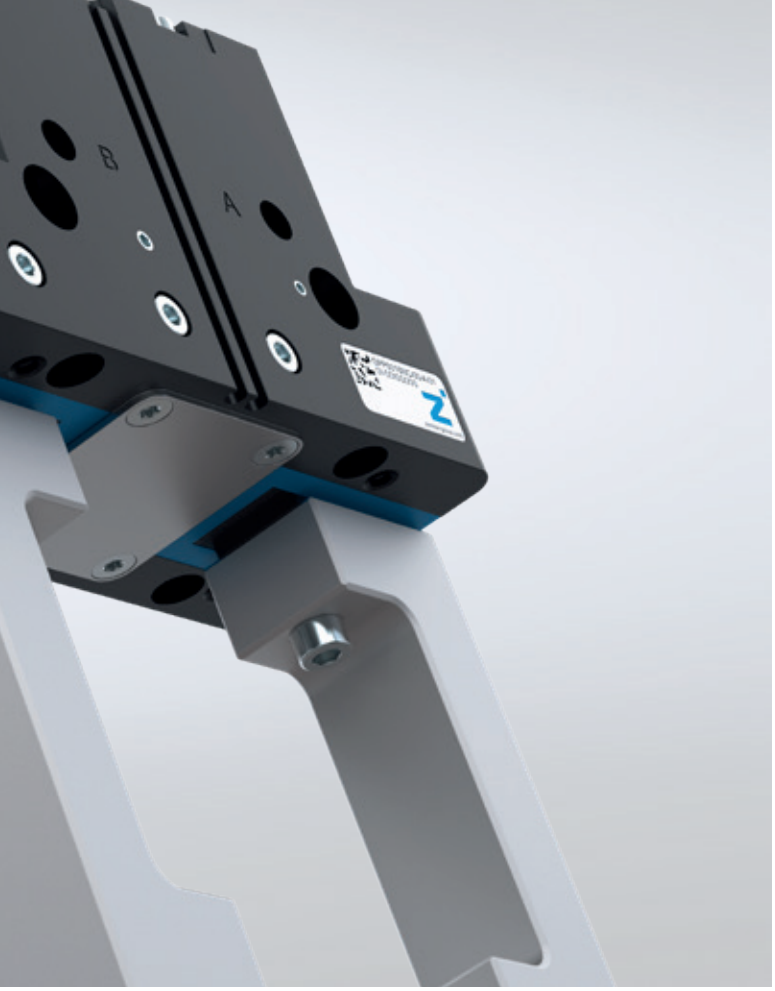
You can find these decades of experience in all of our grippers, especially in our 5000 Premium series, which gives you a comprehensive worry-free package, including corrosion protection, IP67 and 30 million maintenance-free cycles.

RELIABLE SELECTION DECISION WITH A CLICK

With the Zimmer Group's online Product Finder, you can find the right product for your application quickly and easily. The calculation, selection guide and configurator functions guide you with the required product data from the start to your final decision.

SELECTION GUIDE
JUST A CLICK AWAY

Gripper Finder
Find the right product in just a few clicks. Go directly to our Gripper Finder here.



Regardless of whether electric, pneumatic or pneumatically intelligent. One of the most versatile series in our repertoire – grippers from the 5000 product family.

SERIES 5000 PRODUCT FAMILY
OUR EXPERTISE—YOUR ADVANTAGE

Steel Linear Guide – the superior guidance system concept
The steel/steel guide stands out due to lasting precision, durability and a long service life – with maintenance intervals of up to 30 million gripping cycles. Benefit from these features and increase the profitability and process reliability of your machine.

Sealed and corrosion protected – the universal gripper
Suitable for nearly all ambient conditions; with a sealed guide up to IP67 and corrosion protection as standard, you are able to use this gripper universally. As a result, the range of models in your production is reduced, along with a reduction in associated storage and process costs.

Aluminum Linear Guide – The Alternative
Reduced to those features which are the most important, the steel / aluminum guide variant offers significantly better performance when compared to a similar gripper with a T-slot travel guide, and is on par with the best principles of toothed guidance systems.

SERIES GEP2000

By providing the longest stroke in a small installation space, nothing stands in the way of form-fit gripping and moving a wide variety of parts.

SERIES MGP800

The 2-jaw parallel gripper offers maximum flexibility and dynamics thanks to the highest levels of force and moment absorption.

SERIES GEH6000IL

The UL-certified 2-jaw parallel gripper combines brushless drive technology with position, speed and force control.

GRIPPERS AT A GLANCE
HANDLING TECHNOLOGY

2-JAW PARALLEL GRIPPERS

PNEUMATIC

GP

Stroke per jaw:	3 mm–13 mm
Gripping force:	8.4 N–5250 N
Weight:	0.033 kg–1.4 kg
IP class:	30
Maintenance free (max.):	10 million cycles

MGP800

Stroke per jaw:	1 mm–12 mm
Gripping force:	6 N–400 N
Weight:	0.008 kg–0.46 kg
IP class:	40
Maintenance free (max.):	10 million cycles

GP400

Stroke per jaw:	3 mm–30 mm
Gripping force:	85 N–19275 N
Weight:	0.08 kg–18.9 kg
IP class:	40
Maintenance free (max.):	10 million cycles

GPP5000

Stroke per jaw:	2.5 mm–45 mm
Gripping force:	140 N–26950 N
Weight:	0.08 kg–50 kg
IP class:	40/64/67
Maintenance free (max.):	30 million cycles

GP200

Stroke per jaw:	6 mm–40 mm
Gripping force:	160 N–4500 N
Weight:	0.33 kg–8.3 kg
IP class:	40
Maintenance free (max.):	10 million cycles

MGH8000

Stroke per jaw:	10 mm–100 mm
Gripping force:	60 N–910 N
Weight:	0.35 kg–7.3 kg
IP class:	54
Maintenance free (max.):	10 million cycles

GH6000

Stroke per jaw:	20 mm–200 mm
Gripping force:	120 N–3400 N
Weight:	0.3 kg–22.7 kg
IP class:	40
Maintenance free (max.):	10 million cycles

GHK6000

Stroke per jaw:	20 mm–200 mm
Gripping force:	120 N–3400 N
Weight:	1.7 kg–23.8 kg
IP class:	40
Maintenance free (max.):	10 million cycles

GH7000

Stroke per jaw:	65 mm–100 mm
Gripping force:	8000 N–8500 N
Weight:	31 kg–36 kg
IP class:	64
Maintenance free (max.):	10 million cycles

GPH8000

Stroke per jaw:	62 mm–220 mm
Gripping force:	900 N–3300 N
Weight:	5.7 kg–43 kg
IP class:	54
Maintenance free (max.):	5 million cycles

PNEUMATICALLY INTELLIGENT

GPP5000IL

Stroke per jaw:	3 mm–25 mm
Gripping force:	330 N–8730 N
Weight:	0.45 kg–10.4 kg
IP class:	64
Maintenance free (max.):	30 million cycles

ELECTRIC

GEP2000

Stroke per jaw:	6 mm–20 mm
Gripping force:	40 N–500 N
Weight:	0.18 kg–1.3 kg
IP class:	40/54
Maintenance free (max.):	10 million cycles

GEP5000

Stroke per jaw:	6 mm–10 mm
Gripping force:	540 N–1520 N
Weight:	0.79 kg–1.66 kg
IP class:	64
Maintenance free (max.):	30 million cycles

GEH6000IL

Stroke per jaw:	40 mm–80 mm
Gripping force:	180 N–1800 N
Weight:	0.7 kg–2.6 kg
IP class:	54
Maintenance free (max.):	5 million cycles

GEH8000

Stroke per jaw:	60 mm
Gripping force:	3200 N
Weight:	9.3 kg
IP class:	54
Maintenance free (max.):	10 million cycles

3-JAW CONCENTRIC GRIPPER

PNEUMATIC

GD

Stroke per jaw:	120°–180°
Gripping torque:	0.12 Nm–9 Nm
Weight:	0.08 kg–2 kg
IP class:	40
Maintenance free (max.):	10 million cycles

MGD800

Stroke per jaw:	1 mm–12 mm
Gripping force:	30 N–1420 N
Weight:	0.025 kg–2 kg
IP class:	40
Maintenance free (max.):	10 million cycles

GD300

Stroke per jaw:	3 mm–30 mm
Gripping force:	200 N–34700 N
Weight:	0.13 kg–24 kg
IP class:	40
Maintenance free (max.):	10 million cycles

GPD5000

Stroke per jaw:	2.5 mm–45 mm
Gripping force:	310 N–72500 N
Weight:	0.14 kg–100 kg
IP class:	64/67
Maintenance free (max.):	30 million cycles

GD500

Stroke per jaw:	30 mm–60 mm
Gripping force:	1300 N–2480 N
Weight:	7.4 kg–29 kg
IP class:	40
Maintenance free (max.):	10 million cycles

PNEUMATICALLY INTELLIGENT

GPD5000IL

Stroke per jaw:	3 mm–25 mm
Gripping force:	740 N–22850 N
Weight:	0.75 kg–18.6 kg
IP class:	64
Maintenance free (max.):	30 million cycles

ELECTRIC

GED5000

Stroke per jaw:	6 mm–10 mm
Gripping force:	980 N–1520 N
Weight:	1.09 kg–2.33 kg
IP class:	64
Maintenance free (max.):	30 million cycles

4
U

GED6000IL

Stroke per jaw:	40 mm
Gripping force:	800 N–1700 N
Weight:	2.8 kg–4.9 kg
IP class:	54
Maintenance free (max.):	5 million cycles

2-JAW ANGULAR GRIPPER

PNEUMATIC

GZ1000

Stroke per jaw:	8°–10°
Gripping force:	62 N–315 N
Weight:	0.015 kg–0.125 kg
IP class:	30
Maintenance free (max.):	2 million cycles

MGW800

Stroke per jaw:	37.5°
Gripping force:	5 N–325 N
Weight:	0.01 kg–0.45 kg
IP class:	30
Maintenance free (max.):	10 million cycles

GK

Stroke per jaw:	90°
Gripping force:	70 N–4250 N
Weight:	0.1 kg–4.1 kg
IP class:	20
Maintenance free (max.):	10 million cycles

GG4000

Stroke per jaw:	90°
Gripping force:	430 N–4000 N
Weight:	0.25 kg–4.5 kg
IP class:	64
Maintenance free (max.):	10 million cycles

GPW5000

Stroke per jaw:	+15° / -2°
Gripping force:	1330 N–14500 N
Weight:	0.9 kg–12.1 kg
IP class:	64
Maintenance free (max.):	30 million cycles

2-JAW PARALLEL ROTARY GRIPPER

PNEUMATIC

DGP400

Stroke per jaw:	4 mm
Gripping force:	115 N–155 N
Weight:	0.44 kg–0.48 kg
IP class:	40
Maintenance free (max.):	1.5 million cycles

2-JAW ANGULAR ROTARY GRIPPER

PNEUMATIC

DGK

Stroke per jaw:	90°
Gripping force:	150 N
Weight:	0.55 kg
IP class:	20
Maintenance free (max.):	1.5 million cycles

INTERNAL GRIPPER

PNEUMATIC

LGS, LG1000, LGG

Full stroke in Ø:	1 mm–16 mm
Gripper hole diameter:	4 mm–135.5 mm
Weight:	0.031 kg–2.7 kg
IP class:	40/54

OUTER O-RING ASSEMBLY GRIPPER

PNEUMATIC

GS

O-ring Ø:	4 mm–150 mm
Expanding force:	300 N–1450 N
Weight:	0.5 kg–5.4 kg
IP class:	30
Maintenance free (max.):	5 million cycles

NEEDLE GRIPPER

PNEUMATIC

ST

Needle stroke:	0 mm–2 mm
Number of needles:	20
Weight:	0.21 kg–0.49 kg
IP class:	30
Maintenance free (max.):	5 million cycles

SCH

Needle stroke:	0 mm–6 mm
Number of needles:	4
Weight:	0.35 kg–0.37 kg
IP class:	40
Maintenance free (max.):	5 million cycles

MAGNETIC GRIPPER

PNEUMATIC

HM1000

Max. holding force:	27 N–450 N
Weight:	0.06 kg–2.2 kg
IP class:	30
Maintenance free (max.):	5 million cycles

BATTERY CELL GRIPPER

PNEUMATIC

HPM2000

Min. holding force:	65 N
Weight:	0.35 kg–0.36 kg
IP class:	54
Maintenance free (max.):	5 million cycles

Series marked with U have UL certification.

Thanks to low particle emissions, they are certified according to international standard DIN EN ISO 14644-1 for clean room classes between 2 and 6.

INFORMATION

The grippers were designed according to DGUV recommendations and have integrated workpiece detection over the entire stroke as well as a mechanical self-locking mechanism – for safe handling even in emergency stop operation.

HRC GRIPPER
HANDLING TECHNOLOGY

ROBUST ALL-AROUND PERFORMER

You do the cognitively challenging work – leave the monotonous and effort-intensive tasks to the robot. Too good to be true? Thanks to collaborative robotics, nowadays human and robot can share the workspace and work closely together without risk. Thus ensuring more precision, flexibility and efficiency.

You can find further HRC components in the MATCH component overview.

More info about MATCH starting on page 36

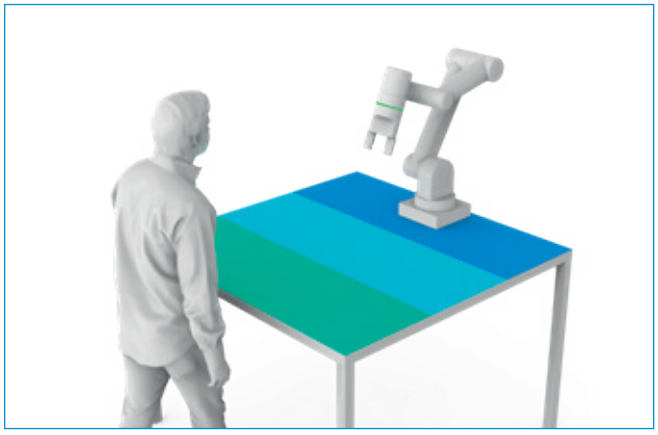
2-JAW PARALLEL GRIPPERS

ELECTRIC

HRC-03

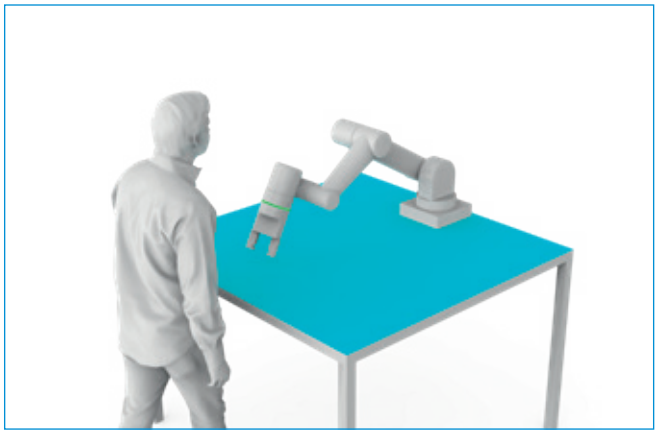
Control:	IO / IO-Link
HRC design:	collaborative
Gripping force in accordance with ISO/TS 15066:	<140 N
IP class:	40

Cooperation



- Zones of action
- Workpiece holder in a secure area
- Gripper with special HRC geometry
- Secure holding of the workpiece even if the power supply fails
- Shared workspaces
- Coupled work
- No contact necessary
- Reduced speed

Collaboration



- Shared workspaces
- Workpiece holder in an unsecured area
- Gripper with special HRC geometry and reliable gripping force limiter
- Gripping force limited to a max. of 140 N as per ISO / TS 15066
- Secure holding of the workpiece even if the power supply fails
- Coupled work
- Contact is necessary
- Reduced speed

SWIVEL AND ROTARY MODULES
HANDLING TECHNOLOGY

HIGHEST LEVEL OF DIVERSITY AND VARIATION

Thanks to customized and highly flexible units, there are no limits to the wide variety of applications. Whether you need a flat swivel unit, angular pivot unit, rotor cylinder or swivel jaw, this range combines both pneumatic and electric swivel and rotary modules. This makes a nearly universal range of applications possible thanks to various torques and infinitely adjustable swivel angles.

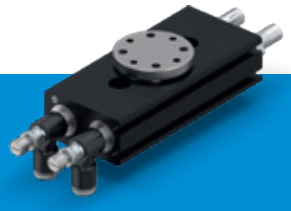
The series SF stands for the highest durability and unique damping characteristics.

SERIES SF
OUR EXPERTISE – YOUR ADVANTAGES

Up to 100% more performance than the benchmark
Superior end position damping lets you swivel more mass in the shortest amount of time, increasing your machine's component output.

Large center bore
Reduce the interference contours in your application by routing your power supply line directly through the middle of the rotary flange.

More than 100% higher radial bearing load than the benchmark
The generously dimensioned bearings stand for robustness and long service life, providing maximum process reliability for your application.

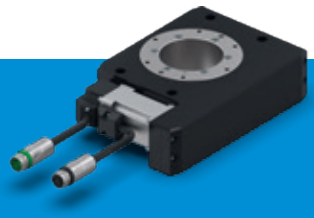


SERIES MSF

The pneumatic flat swivel unit with fluid feed-through combines customization and flexibility with minimal set-up time.

SERIES SWM

The optimized engineering of the pneumatic swivel module ensures space-saving, failure-free continuous operation.



SERIES DES

The individuality and universal design of the electric flat swivel unit ensures application-oriented customization.

ROTOR CYLINDER

PNEUMATIC

PRN

Swivel angle:	90°–270°
Torque:	0.15 Nm–247 Nm
Weight:	0.04 kg–12.5 kg
IP class:	54
Maintenance free (max.):	1.5 million cycles

SH

Swivel angle:	Adjustable up to max. 360°
Torque:	0.59 Nm–7.2 Nm
Weight:	0.52 kg–1.13 kg
IP class:	54
Maintenance free (max.):	1.5 million cycles

FLAT SWIVEL UNIT

PNEUMATIC

MSF

Swivel angle:	90°–180°
Torque:	0.3 Nm–1.2 Nm
Weight:	0.17 kg–0.46 kg
IP class:	41
Maintenance free (max.):	10 million cycles

SF

Swivel angle:	0°–180°
Torque:	1.5 Nm–130 Nm
Weight:	0.6 kg–41.1 kg
IP class:	64
Maintenance free (max.):	10 million cycles

ROTARY MODULE

ELECTRIC

DES

Swivel angle:	Unlimited
Torque:	9 Nm–50 Nm
Weight:	3.8 kg–15.9 kg
IP class:	54
Maintenance free (max.):	5 million maintenance-free revolutions

ANGULAR PIVOT UNIT

PNEUMATIC

SWM1000

Swivel angle:	90°
Torque:	7 Nm–150 Nm
Weight:	0.65 kg–5.8 kg
IP class:	30
Maintenance free (max.):	10 million cycles

Size

Swivel angle:	180°
Torque:	1.5 Nm–120 Nm
Weight:	1.2 kg–48.2 kg
IP class:	64
Maintenance free (max.):	10 million cycles

SWIVEL JAWS

PNEUMATIC

SB

Swivel angle:	90°–180°
Torque:	0.1 Nm–1.6 Nm
Weight:	0.3 kg–2.2 kg
IP class:	54
Maintenance free (max.):	10 million cycles

SBZ

Swivel angle:	90°–180°
Torque:	1.2 Nm–57 Nm
Weight:	0.45 kg–28 kg
IP class:	54
Maintenance free (max.):	10 million cycles

LINEAR AXES
HANDLING TECHNOLOGY

PRECISION, DYNAMICS AND SPEED

Compact axes are a crucial element in modern automation technology. The space-saving design of the compact axes from 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.

Long-stroke axes offer reliable solutions for accurate linear movements over long distances. The spindle axes from the AMS series are characterized by their high precision and feed forces, ideal for applications that require accuracy and load capacity. Toothed-belt axes, on the other hand, score with high dynamics and speed, making them perfect for fast-motion sequences and large working areas.

SERIES AC
OUR EXPERTISE – YOUR ADVANTAGE

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

High load capacity and service life
Thanks to a linear guide with a double rail carriage and one-piece slide milled from solid material.

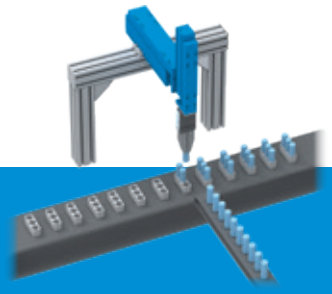
Low operating costs
Motor shutoff at a standstill even in vertical applications possible by combining it with a clamping element.

Numerous customized options ensure that your specific needs and requirements are met in the best possible way.

APPLICATIONS

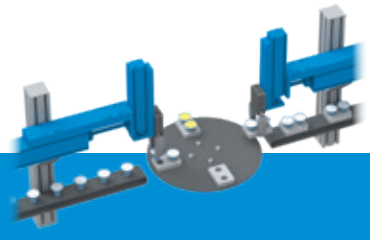
Linear axes are central elements in automation and are widely used in industries such as the electronics and automotive industries, packaging and food industries, and pharmaceutical and medical engineering. They ensure maximum precision for tasks such as pick & place, assembly, quality assurance and more.

- **Pick & Place**
- **Palletizing**
- **Stacking**
- **Applying**
- **Equipping**
- **Checking**
- **Isolating**
- **Pressing**
- **Screwing**



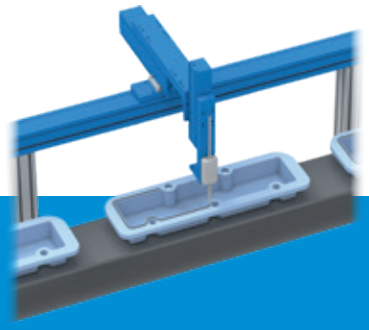
PICK & PLACE

Efficient pick & place solutions for your production: The linear axes ensure dynamic, precise and repeatable pick & place movements with minimum cycle times.



INTELLIGENT AXES COOPERATION

Coordinated, smooth interaction of several linear axes to master complex applications with maximum precision, dynamics and flexibility. Raise the efficiency of your production to a new level.



SYNCHRONOUS CYCLIC MOVEMENTS

Benefit from accuracy and precision with linear axes that are precisely matched to the movements of other components. Maximum dynamics, efficiency and repeat accuracy for your automated production processes.

LINEAR AXES
HANDLING TECHNOLOGY

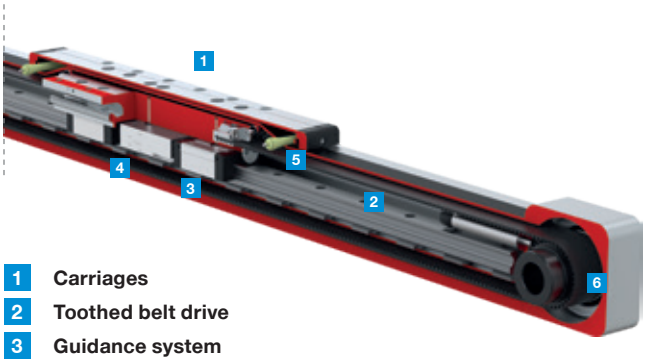
PRECISE AND POWERFUL LINEAR DRIVES

The long-stroke axes from the AMB and AMS series from the Zimmer Group set new benchmarks in automation technology. The AMB series with toothed belt drive will impress you with high dynamics and speed, while the AMS series with spindle drive offers maximum precision and high feed forces.

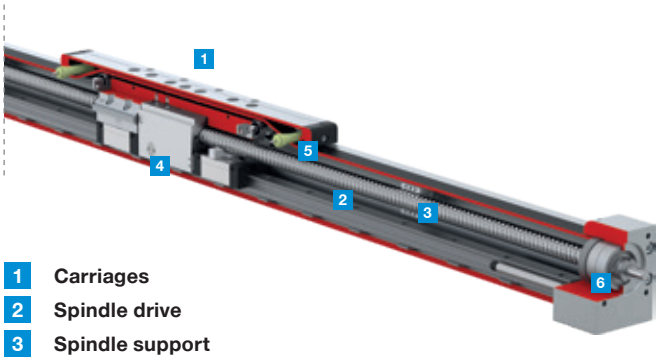
The long-stroke axes can be ordered with millimeter precision and offer options such as integrated clamping elements, a cover strip for harsh environments as well as complete drive trains with couplings, gearboxes, motors and controllers.

SERIES AMS & AMB
OUR EXPERTISE—YOUR ADVANTAGE

- ▶ High forces and moments
- ▶ Maximum movement speeds
- ▶ Short cycle times



1. **Carriages**
2. **Toothed belt drive**
3. **Guidance system**
4. **Clamping element**
5. **Cover strip and strip guide**
6. **Interface for drive train**

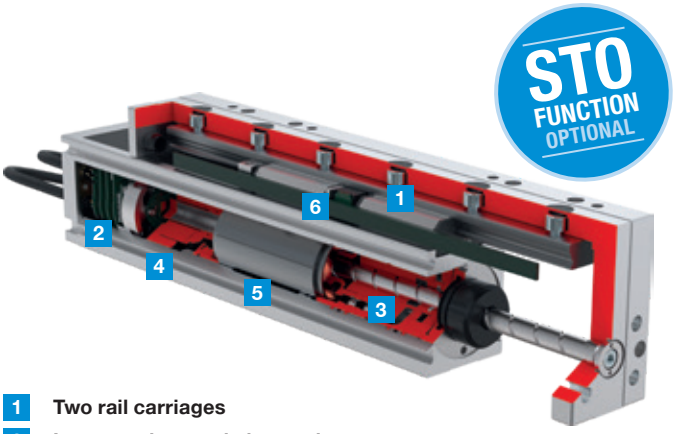


1. **Carriages**
2. **Spindle drive**
3. **Spindle support**
4. **Clamping element**
5. **Cover strip and strip guide**
6. **Interface for drive train**

MAXIMUM PERFORMANCE IN THE SMALLEST OF SPACES

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 motion with powerful, integrated drives in the smallest of spaces, is easy to integrate into existing systems and increases the profitability of automated processes.

High load capacity, speed and acceleration ensure optimum performance even in confined spaces. The integrated control electronics can be controlled either with IO-Link or CANopen and make a significant contribution to safety thanks to the optional STO function.



1. **Two rail carriages**
2. **Integrated control electronics**
3. **Lubricating system**
4. **Clamping element (optional)**
5. **Standard ball screw with BLDC motor**
6. **Absolute linear position measuring system**

THE SERIES AT A GLANCE
HANDLING TECHNOLOGY

LONG-STROKE AXES
TOOTHED BELT DRIVE

AMB040

Max. stroke:	1810 mm
Max. speed:	4 m/s
Max. acceleration:	50 m/s²

AMB060

Max. stroke:	5670 mm
Max. speed:	5 m/s
Max. acceleration:	50 m/s²
Integrated clamping element:	optional
Holding force:	400 N

AMB080

Max. stroke:	5610 mm
Max. speed:	5 m/s
Max. acceleration:	50 m/s²
Integrated clamping element:	optional
Holding force:	650 N

AMB120

Max. stroke:	5550 mm
Max. speed:	5 m/s
Max. acceleration:	50 m/s²
Integrated clamping element:	optional
Holding force:	1,200 N

COMPACT AXES
SPINDLE DRIVE

ACS40

Max. stroke:	100 mm
Max. feed force Fx:	170 N
Max. speed:	0.8 m/s
Max. acceleration:	20 m/s²
Repeat accuracy +/-:	0.01 mm

ACS60

Max. stroke:	150 mm
Max. feed force Fx:	270 N
Max. speed:	1.0 m/s
Max. acceleration:	17 m/s²
Repeat accuracy +/-:	0.01 mm

LONG-STROKE AXES
SPINDLE DRIVE

AMS040

Max. stroke:	900 mm
Max. speed:	0.5 m/s
Max. acceleration:	30 m/s²

AMS060

Max. stroke:	1970 mm
Max. speed:	1.5 m/s
Max. acceleration:	30 m/s²
Integrated clamping element:	optional
Holding force:	250 N

AMS080

Max. stroke:	2100 mm
Max. speed:	2 m/s
Max. acceleration:	30 m/s²
Integrated clamping element:	optional
Holding force:	500 N

AMS120

Max. stroke:	2300 mm
Max. speed:	3.2 m/s
Max. acceleration:	30 m/s²
Integrated clamping element:	optional
Holding force:	1,000 N

MORE INFORMATION

Long-stroke axes
Check out our website for more information on our long-stroke axes and many other components.

OTHER SERIES AT A GLANCE
HANDLING TECHNOLOGY

ADDITIONAL MODULES FOR SPECIAL APPLICATIONS

Increase your flexibility and expand your options with additional modules for special applications. Increase the length of the gripper arm with a linear module by placing an axis in front of the gripper, or allow the gripper to rotate in all directions with a ball joint. In plastics processing, separate the product and sprue with cutting tongs or use a separator to stop, dampen and hold workpiece carriers at a specific position.

LINEAR MODULES

PNEUMATIC

SHX

Stroke:	7 mm–50 mm
Force:	100 N
Weight:	0.075 kg–0.24 kg
IP class:	54
Maintenance free (max.):	10 million cycles

LI

Stroke:	15 mm–300 mm
Force:	80 N–950 N
Weight:	0.15 kg–7.2 kg
IP class:	54
Maintenance free (max.):	10 million cycles

LS

Stroke:	25 mm–50 mm
Force:	30 N–100 N
Weight:	0.14 kg–0.39 kg
IP class:	40
Maintenance free (max.):	10 million cycles

LSF

Stroke:	50 mm–100 mm
Force:	265 N
Weight:	1.2 kg–1.3 kg
IP class:	40–54
Maintenance free (max.):	10 million cycles

LSX

Stroke:	50 mm–200 mm
Force:	220 N–750 N
Weight:	0.9 kg–6.4 kg
IP class:	40
Maintenance free (max.):	10 million cycles

HZ

Stroke:	50 mm–100 mm
Force:	600 N–720 N
Weight:	2 kg– 2.4 kg
IP class:	40
Maintenance free (max.):	10 million cycles

BALL JOINTS

MANUAL

KG

Swivel angle:	30°
Max. radial torques:	18 Nm–124 Nm
Max. axial torques:	7500 N–70000 N

CUTTING TONGS

PNEUMATIC

ZK1000

Stroke per jaw:	2.1°–6.5°
Closing torque:	14 Nm–400 Nm
IP class:	30
Maintenance-free up to:	5 million cycles

ZK

Stroke per jaw:	7.5°–9°
Closing torque:	54 Nm–110 Nm
IP class:	30
Maintenance-free up to:	5 million cycles

SEPARATOR

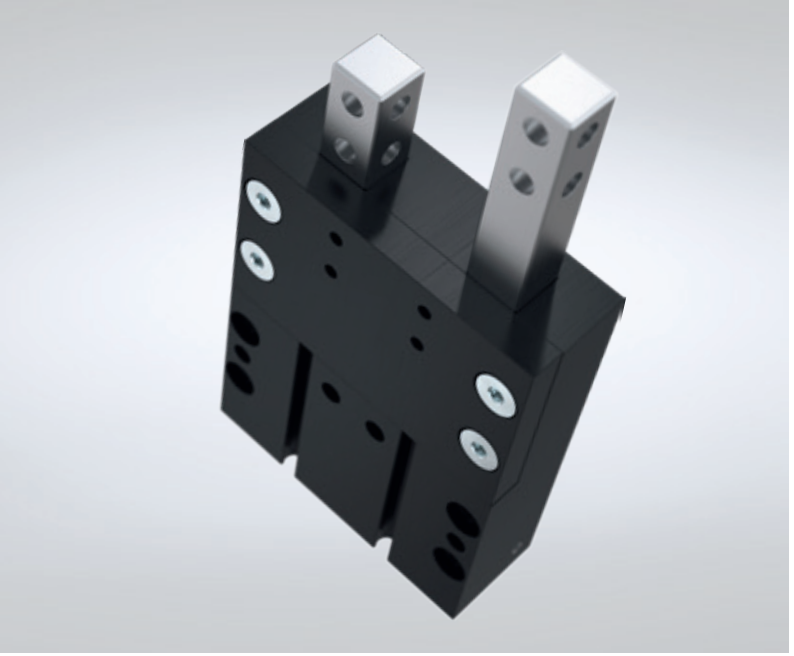
PNEUMATIC

VEG

Stroke per plunger:	10 mm–60 mm
Extending force:	40 N–220 N
Retracting force:	30 N–170 N
IP class:	40
Maintenance-free up to:	10 million cycles

VE

Stroke per plunger:	10 mm–60 mm
Extending force:	40 N–220 N
Retracting force:	30 N–170 N
IP class:	40
Maintenance-free up to:	10 million cycles



VACUUM COMPONENTS
VACUUM TECHNOLOGY

GRIPPING SOLUTIONS THAT HOLD SECURELY!

With our variety of vacuum components, we have the right solution for all of your applications. From individualcomponents to comprehensive all-in-one systems. Our product portfolio includes everything from simple vacuum suction cups and complex gripper systems to modular quick-change systems such as Smart Cup and Magic Cup. Modular quick-change systems enable uncomplicated customization, while all-in-one solutions offer seamless integration into existing production processes.

This means that vacuum applications can be optimally tailored to your individual requirements, guaranteeing maximum flexibility and efficiency. You can also use the product configurator to find the perfect solution for your requirements.

COMPREHENSIVE PRODUCT RANGE OUR EXPERTISE—YOUR ADVANTAGE

Maximum efficiency
Using our advanced technologies, you can accelerate your processes and increase your productivity.

Extraordinary precision
Our products guarantee precise handling and processing, which are essential for demanding tasks.

Reliability
High-quality materials and innovative engineering ensure a long service life and low maintenance work.

Our vacuum solutions can be adapted and easily integrated into your existing systems

INFORMATION

The modular Magic systems from the Zimmer Group offer a sustainable solution with interchangeable suction lips that reduce maintenance work and costs and extend the service life. Vacuum generators with air-saving function reduce compressed air consumption by up to 85%, conserve resources and lower operating costs.

1 Vacuum suction device
Vacuum cups offer precise, gentle handling, even for delicate materials. Maximize efficiency and flexibility in your production with state-of-the-art vacuum components.

2 Magic Cups
Magic Cups are modular vacuum cups that offer the perfect solution for every application. Flexible use thanks to maximum adaptability.

3 Magic Gripper
Innovative, decentralized vacuum solutions with integrated vacuum generation for flexible handling tasks and quick changeover options – sustainably and energy-efficiently.

4 Vacuum gripping systems
Whether with foam or vacuum suction cups, the vacuum gripping systems adapt perfectly to any product and even enable complete layers to be gripped.

5 Vacuum generator
The vacuum generators with available air-saving function ensure reliable and energy-efficient vacuum performance. Ideal for precise handling tasks and optimized processes in a wide range of applications.

6 Smart Cups / Smart Lock
The Smart Cups quick-change system for the automotive and wood industries will impress you with maximum efficiency and flexibility. Productivity can be increased further by combining Smart Cups and Smart Lock.

7 Vacuum accessories
High-quality vacuum accessories not only ensure efficiency, but also reliable monitoring of your vacuum systems. Optimize performance and safety with tailor-made solutions for every application.

MAGIC GRIPPER
VACUUM TECHNOLOGY

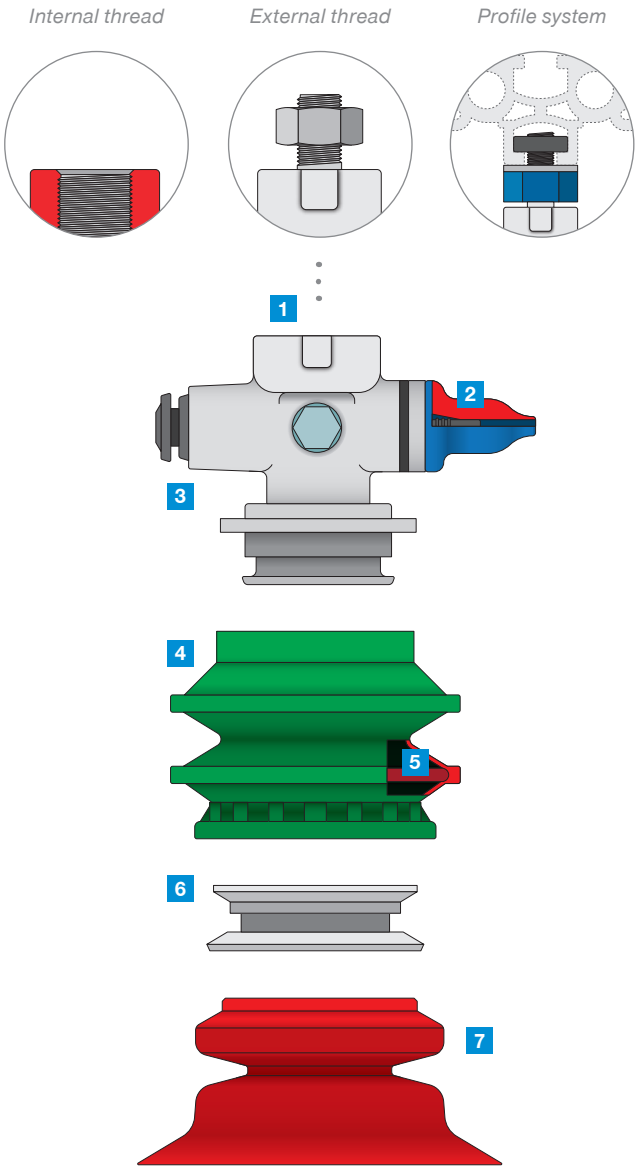
COMPLETE VACUUM SYSTEM

Magic Grippers and Magic Cups are the flexible handling solutions for virtually all materials and industries. Thanks to the flexible modular principle, you can choose from a large number of components to put together the right vacuum gripper for your application. With simple installation, individually adaptable components and minimal energy consumption, you maximize the productivity of your processes. Opt for vacuum technology that grips reliably even at high speeds and provides stable performance irrespective of compressed air fluctuations.

OUR EXPERTISE—YOUR ADVANTAGE

- Maximum precision, efficiency and reliability thanks to high-quality materials, advanced technology and innovative engineering
- Flexibly adaptable and easy to integrate into existing systems
- Long-term cost savings and environmental protection thanks to energy-efficient vacuum generators and gripper systems

FLEXIBLE MODULAR CONSTRUCTION SET SYSTEM



1 FASTENER

2 VACUUM CARTRIDGE

3 VACUUM GENERATOR
Different types of generators enable both a high volume flow and a passive or even active blow-off function for high cycle times

4 BELLOWS
Precise mechanical movements while maintaining the vacuum in the system

5 FILTER

6 CONNECTION ELEMENT

7 SUCTION LIP
A large selection of different materials and geometries for handling ...

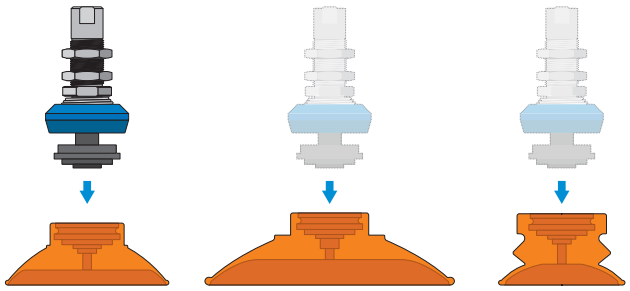
- ... light or heavy plastic bags
- ... flat or curved objects
- ... highly deformable objects
- ... objects with angular surfaces
- ... objects with irregular surfaces
- ... with high resistance to oil / lubricants
- ... with reinforced non-slip profile
- ... and much more

SMART CUPS
VACUUM TECHNOLOGY

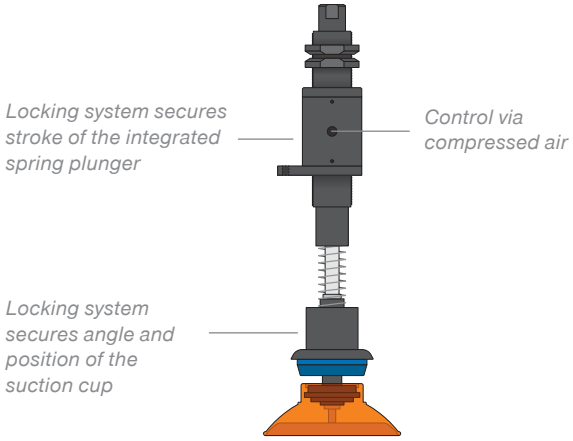
OPTIMAL FOR THE AUTOMOTIVE INDUSTRY

SMART CUPS

The innovative quick-change system of the Smart Cup series was developed for the use of selected suction lips and supports the simple and rapid adjustment to different materials and sizes of the suction lips. This increases not only flexibility in production processes, but also increases productivity by minimizing downtime when replacing lips. The system also has an environmentally friendly design since only one part, the suction lip, needs to be replaced. This saves material resources and reduces operating costs.



The easy replacement of the suction lips makes for rapid adaptations and flexible production.



SMART LOCK

The Smart Lock System is controlled by compressed air and secures the stroke of the spring plunger. It enables vibration-free, precise loading and unloading processes as well as flexibility for a wide variety of shapes and materials. Compatible with the tried-and-tested Smart Cups, it allows the suction lips to be changed quickly. Interchangeable components reduce maintenance work and costs and increase the service life.

Gentle handling of a wide variety of workpieces

SERIES AT A GLANCE
VACUUM TECHNOLOGY

FLAT SUCTION CUP

ROUND

ZU
Diameter: 1.5 mm–80 mm
Material: NBR, silicone, silicone (food-safe)

ZFCF
Diameter: 30 mm–125 mm
Material: NBR, polyurethane, silicone

ZF
Diameter: 15 mm–300 mm
Material: NBR, polyurethane, silicone, silicone (food-safe)

ZLF
Diameter: 150 mm–300 mm
Material: NBR, silicone

OVAL

ZOU
Diameter: 4 x 10 mm–20 x 60 mm
Material: NBR, silicone, silicone (food-safe)

BELLOWS SUCTION CUP

ROUND

ZB
Diameter: 5 mm–150 mm
Material: NBR, polyurethane, silicone, silicone (food-safe)

ZBU
Diameter: 35 mm–55 mm
Material: NBR, polyurethane, silicone, silicone (food-safe)

ZBX
Diameter: 35 mm–55 mm
Material: Polyurethane

ZBF
Diameter: 25 mm–100 mm
Material: NBR, polyurethane, silicone

ZBL
Diameter: 10 mm–50 mm
Material: NBR, silicone, silicone (food-safe)

ZFBL
Diameter: 50 mm
Material: NBR, silicone, silicone (food-safe)

OVAL

ZOBF
Diameter: 30 x 60 mm–55 x 110 mm
Material: Polyurethane

ZOBL
Diameter: 35 x 90 mm
Material: NBR, silicone, silicone (food-safe)

BELL-SHAPED SUCTION CUP

ROUND

ZFC
Diameter: 50 mm–100 mm
Material: NBR, polyurethane, silicone, silicone (food-safe)

ZD
Diameter: 30 mm–90 mm
Material: NBR, polyurethane, silicone, silicone (food-safe)

ZDF
Diameter: 25 mm–100 mm
Material: Polyurethane

OVAL

ZOC
Diameter: 11 x 23 mm–60 x 180 mm
Material: NBR, polyurethane, silicone

SEALING FOAM SUCTION CUP

ROUND

ZS
Diameter: 35 mm–400 mm
Material: EPDM

MAGIC CUP

Magic Cup
Diameter: 15 mm–85 mm
Material: NBR, silicone, silicone (food-safe), polyurethane, EPDM

MAGIC GRIPPER

MG
Volume flow: up to 146 Nl/min
Max. vacuum level: up to -94 kPa

Profile system
4 different versions
With internal compressed air supply

SMART CUPS

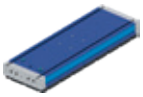
ZSC
Diameter: 25 mm–125 mm
Material: Polyurethane

Quick-change system with optional ball joint and spring plunger

SMART LOCK

ZSL
Lockable spring plunger that can set the stroke thanks to Dual-Lock technology

VACUUM GRIPPING SYSTEMS



ZGA
Width: 80 mm, 130 mm, 200 mm and 300 mm
Length: up to 1200 mm
Volume flow: up to 2896 Nl/min

ZGB
Width: 130 mm
Length: up to 1,200 mm
Volume flow: up to 2,896 Nl/min

ZGM
Width: 16 mm, 20 mm, 40 mm and 50 mm
Length: up to 600 mm
Volume flow: up to 724 Nl/min

VACUUM GENERATOR

VACUUM EJECTORS

ZTP
Volume flow: up to 1448 l/min
Max. vacuum level: up to -92 kPa

ZPG
Volume flow: up to 343 l/min
Max. vacuum level: up to -94 kPa

ZK
Volume flow: up to 135 l/min
Max. vacuum level: up to -92 kPa

ZMP
Volume flow: up to 5456 l/min
Max. vacuum level: up to -92 kPa

ZTM
Volume flow: up to 220 l/min
Max. vacuum level: up to -85 kPa

ZCS
Volume flow: up to 40 l/min
Max. vacuum level: up to -90 kPa
With integrated spring plunger

ZQ
Volume flow: up to 85 l/min
Max. vacuum level: up to -90 kPa

ZPS
Volume flow: up to 175 l/min
Max. vacuum level: up to -87 kPa
Can be combined with Magic Cup

VACUUM CARTRIDGES

ZVC
Volume flow: up to 362 Nl/min
Max. vacuum level: up to -95 kPa

VACUUM ACCESSORIES

FILTER

ZVF-IF
Filter type: Inline
Volumes: up to 1200 cm³

ZVF-MF
Filter type: Mega
Volumes: up to 1200 cm³

ZVF-PF
Filter type: Pump
Volumes: up to 150 cm³

ZVF-TF
Filter type: Tank
Volumes: up to 675 cm³

SENSORS

ZSU
Type: Digital
Monitorable
Circuits: 8
Modes: 4

ZSA
Type: Digital
Weight: 0.135 kg

ZSB
Type: Digital
Weight: 0.034 kg

VALVES

ZSV
Type: Solenoid valve
Operating pressure: 3– 7 bar
Weight: 0.08 kg–0.22 kg

CONNECTING ELEMENTS

ZLC
Stroke: 5 mm–70 mm
Spring position: Internal and external

ROBOTICS
ROBOTICS

ROBOT TECHNOLOGY IS ON THE RISE

Robotics is becoming increasingly significant: Robots support people by taking care of monotonous and often repetitive workflows, do activities that require greater-than-human strength, and perform tasks that have particularly stringent requirements for precision or are associated with high risks.

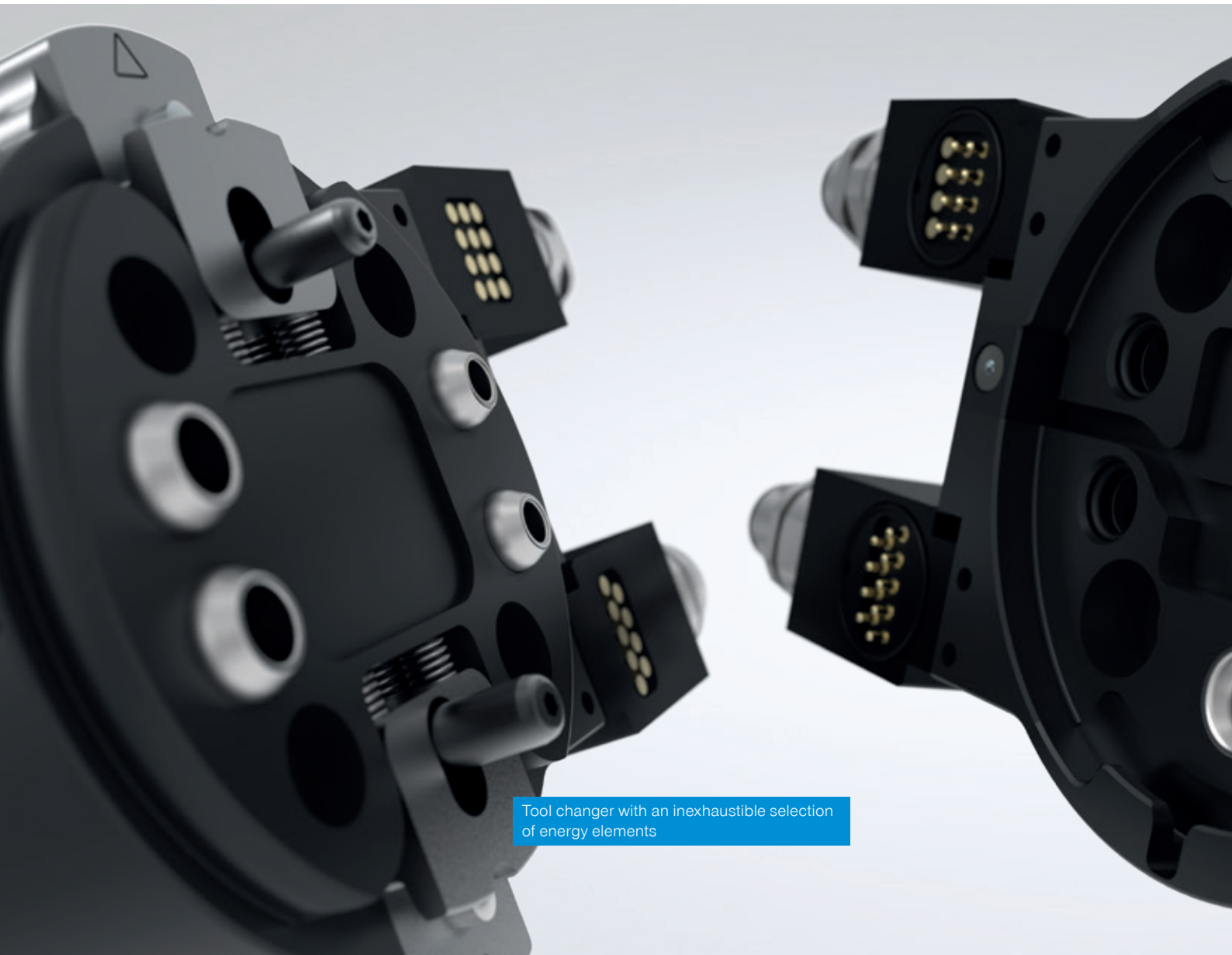
Using robots can increase productivity and product quality, which leads to lower production costs and more effective processes. In recent years in particular, the field of robotics has diversified into various subdisciplines.

USEFUL TOOLS AND SELECTION GUIDES

Robotics Product Finder
Find the right product in just a few clicks. Go directly to our Product Finder for robots here.

Robot sets
Looking for sets tailored to your robot? Go directly to our robot-specific components here.

MANUFACTURER-SPECIFIC SETS



Tool changer with an inexhaustible selection of energy elements

Conventional industrial robots
Real powerhouses that can process even the heaviest workpieces quickly and precisely. Ever since developing the world's first series gripper in 1980, the Zimmer Group has been setting the standards for end-of-arm tools for conventional robotics.

Robot accessories starting on page 32

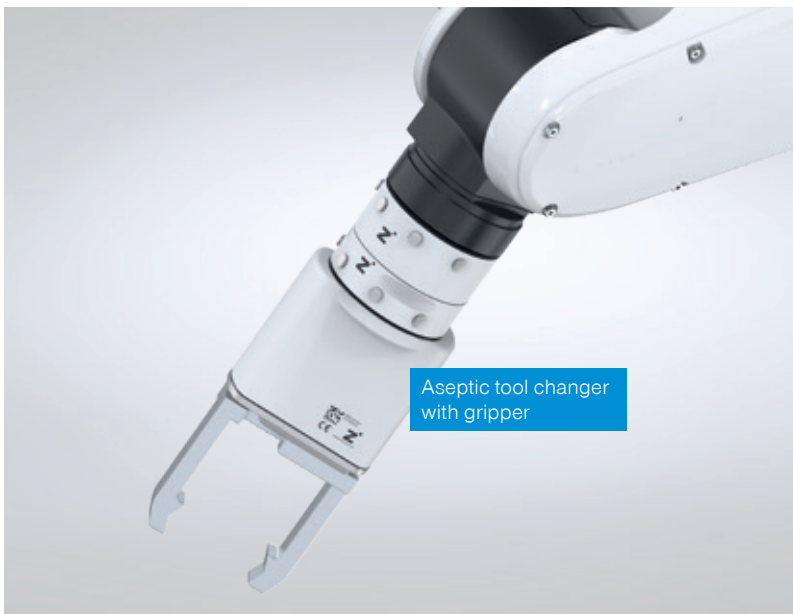
Lightweight robots
Lightweight robots that can also be operated without a safety fence or alongside people. They are more cost-effective, can be installed and commissioned more quickly and easily, so they are also suitable for users just getting into robotics.

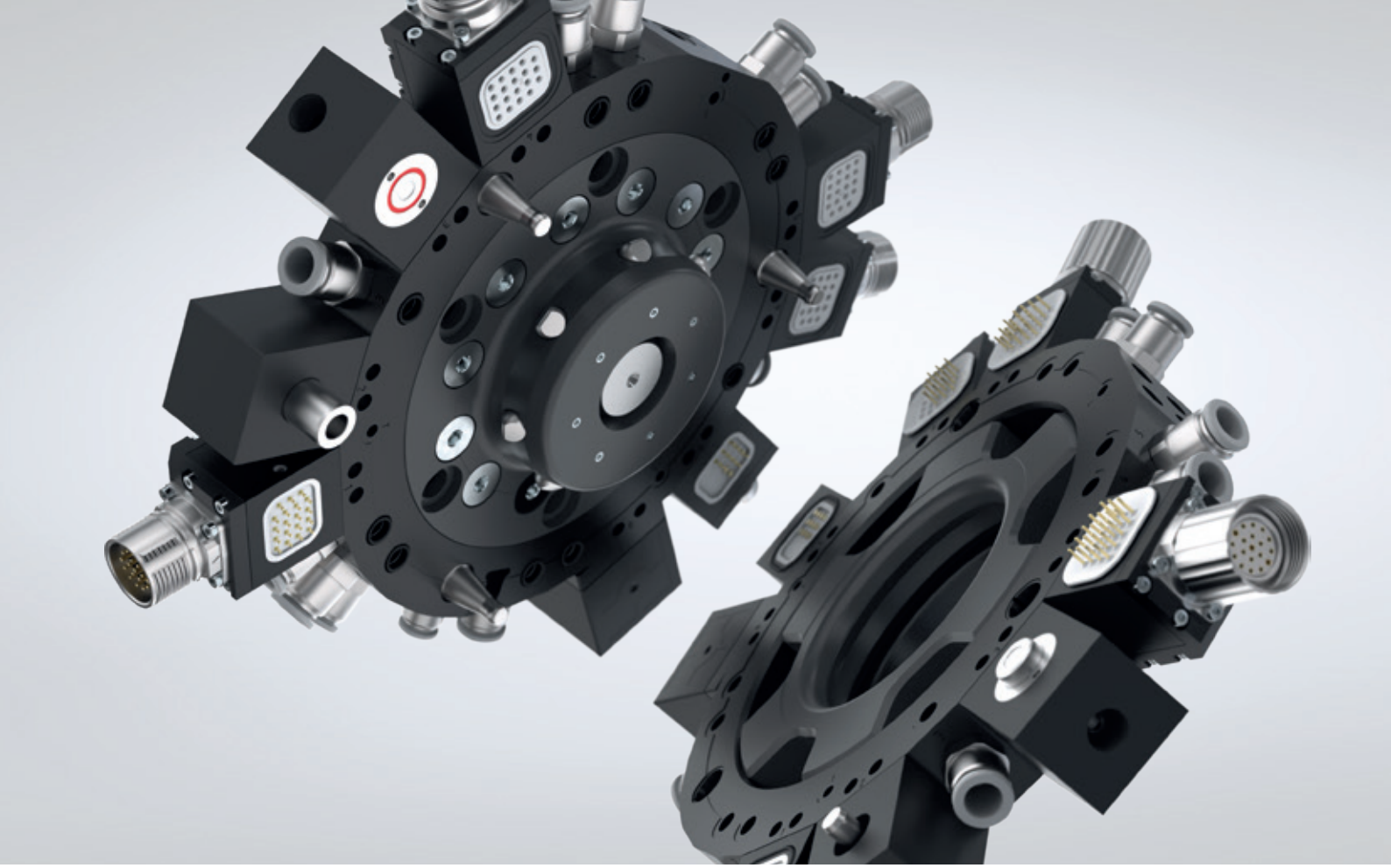
More info about MATCH starting on page 36

Human-robot collaboration
The latest trend in robotics: People and robots share a workspace and work together as a team. The Zimmer Group has been producing grippers for collaborative robots since 2015.

Our HRC gripper on page 15

Components for human-robot collaboration


Aseptic tool changer with gripper



ROBOTICS COMPONENTS
ROBOTICS

FLEXIBLE, STANDARDIZED AND SAFE

You need the right tools to reach the full application potential. That's why we provide everything from an axis compensation module to an angle flange for various components to make your robot application more efficient and productive. Design height reduces the load capacity of your robot. That's why our components are extremely flat so they can be combined with each other without additional adapter plates.

MORE INFORMATION

Tool changers
Scan here for our WPR5000 series tool changers, technical details and matching accessories.

WPR5000 SERIES
OUR EXPERTISE—YOUR ADVANTAGE

Safer tool changer
The tool changer ensures maximum safety and meets the requirements of Performance Level d, Control Category 3. This is achieved by a spring-loaded piston, self-locking mechanism, optional sensors and other accessories.

Locking kinematics
A new benchmark for tool changers is set with innovative locking kinematics with locking bolts and extreme rigidity. The extremely flat design guarantees minimal moment load on the robot and allows smaller and more cost-effective robots to be used.

Endless variety
The energy elements of the WER1500 and WER3000 series allow the standardized transmission of pneumatics, hydraulics, electrical signals, power and communication and much more.

ASEPTIC STANDARD PRODUCT FOR SPECIAL REQUIREMENTS

The aseptic tool changer from the WMR2000 series features a hygienic, FDA-compliant design and meets the requirements of protection class IP68. The housing is made of easy-to-clean PET and is hydrogen peroxide resistant, making it ideal for use in hygienically sensitive areas. Up to four pneumatic pass throughs are supported.

The innovative use of materials means that it is extremely light and compact. The magnetic tool changer enables the fast and easy exchange of tools. A permanent electromagnet ensures that the tool and workpiece remain connected reliably, even when the electricity fails – a key safety feature.

- **FDA-compliant design**
- **Resistance against aggressive cleaning agents**
- **Corrosion protected**
- **Hygienic design**
- **Reduced particle emissions in accordance with GMP**
- **IP68**

SERIES WMR2000

The aseptic tool changer meets the strictest hygiene regulations and sets new standards in the pharmaceutical and clean room industries.

SERIES XYR1000

Designed for axis compensation movements in the X and Y directions, the axis compensation module ensures ideal compensation for position deviations.

SERIES WER1500

The most important accessory for tool changers. For transmitting the signal current and load current.

THE SERIES AT A GLANCE
ROBOTICS

EXCHANGE

MANUAL

HWR2000

Connecting flange:	TK 31.5–TK 50
Recommended handling weight:	5 kg–20 kg
Pneumatic energy transfer:	4–8-way
Electrical energy transfer:	Optional via energy element

HWR

Connecting flange:	TK 63–TK 80
Recommended handling weight:	50 kg
Pneumatic energy transfer:	6-way
Electrical energy transfer:	Optional via energy element

PNEUMATIC

WPR5000

Connecting flange:	TK 31.5–TK 200
Recommended handling weight:	10 kg–500 kg
Pneumatic energy transfer:	4–10-way integrated, optionally more via energy elements
Electrical energy transfer:	Optional via energy element

WWR1000

Connecting flange:	TK 160–TK 200
Recommended handling weight:	500 kg–1000 kg
Pneumatic energy transfer:	Optional via energy element
Electrical energy transfer:	Optional via energy element

MAGNETIC

WMR2000

Connecting flange:	TK 63
Recommended handling weight:	14 kg
Pneumatic energy transfer:	4-way integrated
Electrical energy transfer:	10-way integrated

AUTOMATIC

FWR-B

Connecting flange:	TK 40–TK 80
Recommended handling weight:	13 kg–29 kg
Pneumatic energy transfer:	4-way
Electrical energy transfer:	Optional via energy element

COMPENSATE

PNEUMATIC

FGR

Connecting flange:	TK 40–TK 50
Recommended handling weight:	10 kg–20 kg
Deflection in X/Y:	2 mm–4 mm
Centered holding force:	120 N–250 N

XYR1000

Connecting flange:	TK 40–TK 200
Deflection in X/Y:	3 mm–12.5 mm
Centered holding force:	150 N–3000 N

ZR1000

Connecting flange:	TK 40–TK 200
Deflection in Z:	8 mm–20 mm
Holding force:	250 N–11500 N

ARP

Connecting flange:	TK 40–TK 160
Recommended handling weight:	3 kg–60 kg
Deflection in X/Y/Z:	2 mm
Centered holding force:	170 N–3000 N

PROTECT

PNEUMATIC

CSR

Connecting flange:	TK 50–TK 160
Z-axis deflection:	12.5 mm–28 mm
Horizontal deflection +/-:	9°–12.5°

CRR

Connecting flange:	TK 40–TK 80
Z-axis deflection:	8 mm–15 mm
Horizontal deflection +/-:	13°–14°

TRANSMIT

MANUAL

DVR

Connecting flange:	TK 40–TK 160
Continuous torque:	1 Nm–4 Nm
Pneumatic energy transfer:	4–8-way
Electrical energy transfer:	4–12-pin

DVR1000

Connecting flange:	TK 125
Continuous torque:	4 Nm
Pneumatic energy transfer:	8-way
Electrical energy transfer:	4-pin + PE

ENERGY ELEMENTS

ELECTRICAL

WER1500
Nominal current: 1.5 A–3 A
Operating voltage: 30 V–60 V
Number of contacts: 4–36

WER3000
Nominal current: 0.2 A–140 A
Operating voltage: 24 V–2000 V
Number of contacts: 1–12

WER4000
Nominal current: 150 A
Operating voltage: 630 V
Number of contacts: 3

PNEUMATIC

WER1500
Number of ports: 1–2
Flow per port: 270 l/min–900 l/min
Connecting thread: M5–G1/4”

WER3000
Number of ports: 1–4
Flow per port: 270 l/min–1,100 l/min
Connecting thread: G1/4”–G3/8”

WER4000
Number of ports: 6–15
Flow per port: 150 l/min–500 l/min
Connecting thread: M5–G1/8”

HYDRAULIC

WER3000
Number of hydraulic couplings: 1
Connecting thread: G1/4”
Max. operating pressure: 150 bar

WER4000
Number of hydraulic couplings: 1–4
Connecting thread: G1/4”
Max. operating pressure: 250 bar

COMMUNICATION

WER1500
Connecting thread: M12
Number of contacts: 5

IO-Link

WER3000
Data rate: 12 Mbps–100 Mbps
Connecting thread: M12

IO-Link PROFINET PROFINET INDUSTRIAL ETHERNET EtherCAT

ACCESSORIES

WFR
Suitable for all robot types with ISO pitch circle and combinable with many different grippers for machine loading.

LWR50L
Electrical angle flange solution for the MATCH end-of-arm ecosystem for IO-Link grippers.
Compatible grippers: GEP2000, GEH6000, GPP5000IL, GEP5000, HRC-03

AR2000
Pneumatic angle flange solution for machine loading.
Compatible grippers: GPP5000, GPD5000

AR2000
Valve disc for electrical control of pneumatic grippers.
Compatible grippers: GPP5000, GPD5000

Thanks to low particle emissions, they are certified according to international standard DIN EN ISO 14644-1 for clean room classes 2.

TÜV SÜD

END-OF-ARM ECOSYSTEM
ROBOTICS

APPLICATIONS AS VARIED AS THE SYSTEM

Whether mobile and collaborative robotics or fully automated applications: Just one flexible system gives the user access to a nearly unlimited range of uses from production and installation to warehouse logistics, shipping and even laboratory automation. Typical tasks for the system include pick-and-place, order picking, packaging and palletizing, checking and testing. Various mechanical and vacuum grippers can be selected corresponding to the workpiece and handling task. If the requirements change, the system can be quickly and easily adapted.

Standardization of the robot interface

One robot module – the entire spectrum of compatible end effectors. Regardless of whether cobots, lightweight robots or conventional robots.

Easy installation – Plug & Work

Simplified machine communication thanks to the required communication parameters.

Flexible – large selection of end effectors

Direct control and monitoring of robot functions using a software solution.

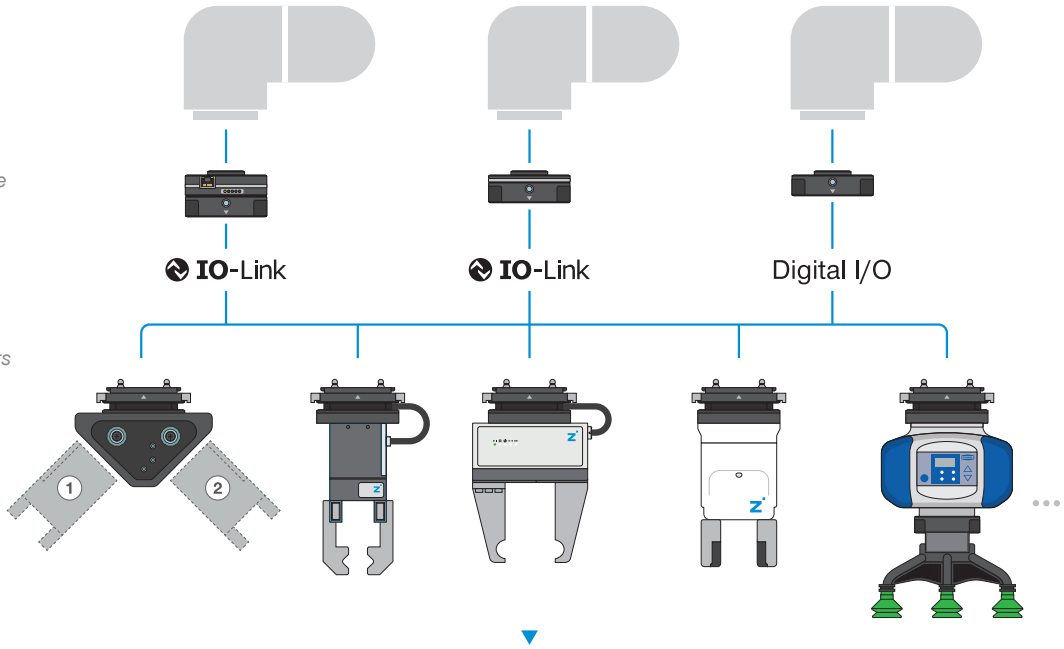
Complex robot applications

Can perform various tasks on a workpiece via automated end effector replacement.

For all common robot manufacturers

The right robot module for your application

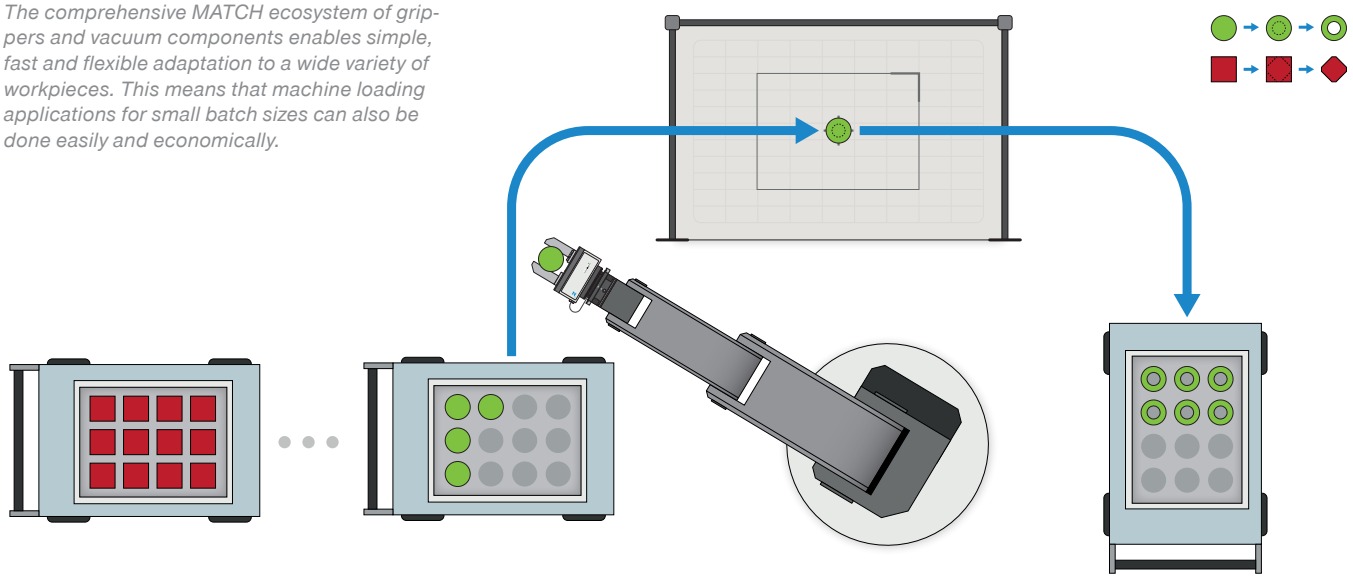
A large selection of various end effectors



Handling an almost endless number of different workpieces

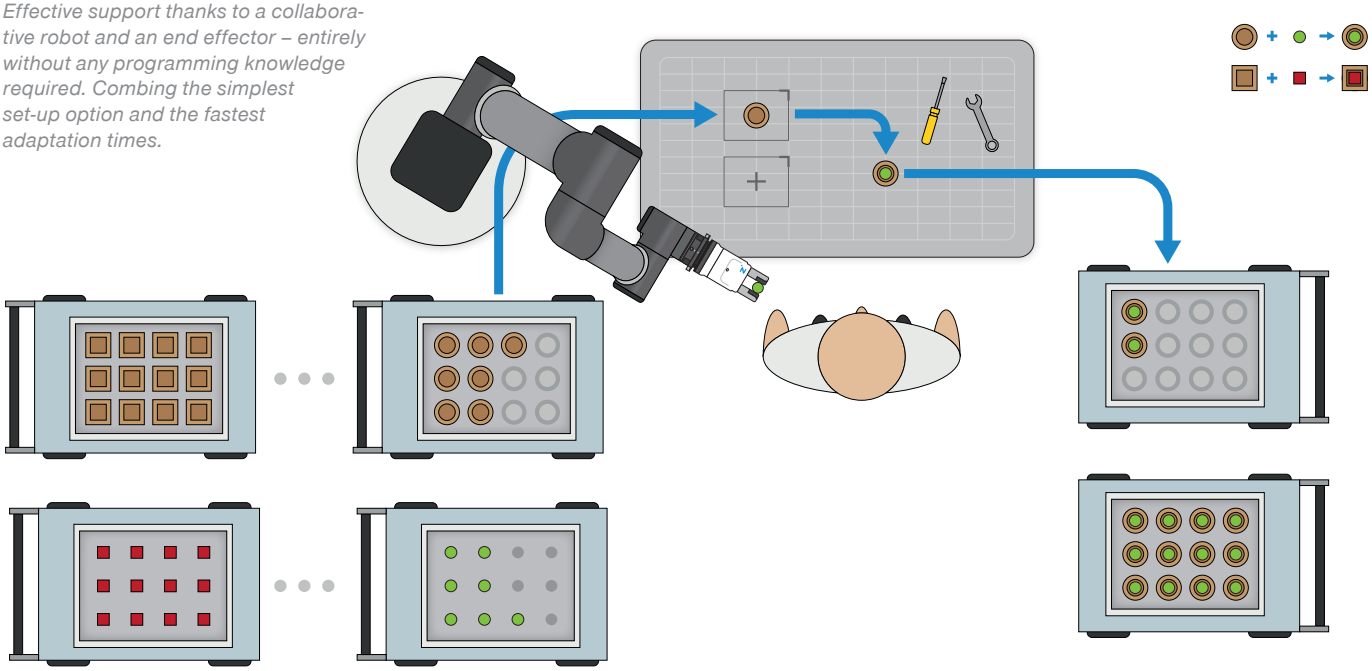
EXAMPLE OF AUTOMATED MACHINE EQUIPPING FOR LOW QUANTITIES

The comprehensive MATCH ecosystem of grippers and vacuum components enables simple, fast and flexible adaptation to a wide variety of workpieces. This means that machine loading applications for small batch sizes can also be done easily and economically.



EXAMPLE OF A COLLABORATIVE WORKPIECE ASSEMBLY FOR LOW QUANTITIES

Effective support thanks to a collaborative robot and an end effector – entirely without any programming knowledge required. Combing the simplest set-up option and the fastest adaptation times.



THE SERIES AT A GLANCE
ROBOTICS

ROBOT MODULE

IO-LINK

LWR50F-xx-04-A/05-A/06-A

Suitable for robot type:	ISO TK 50, ABB, Kuka, Yaskawa
Max. handling weight:	25 kg
Repeat accuracy in X, Y, Z:	0.05 mm
IP class:	40

DIGITAL I/O

LWR50F-xx-01-A/02-A

Suitable for robot type:	ISO TK 50, ABB, Denso, Doosan, Elite Robots, Fanuc, Fruitcore, Hanwha, Jaka, Kassow, Kawasaki, Kuka, Mitsubishi, Neura, Omron, Schneider Electric, Techman, Universal Robots, Yaskawa
Max. handling weight:	25 kg
Repeat accuracy in X, Y, Z:	0.05 mm
IP class:	40

RS485

LWR50F-xx-03-A

Suitable for robot type:	Fanuc, Universal Robots
Max. handling weight:	25 kg
Repeat accuracy in X, Y, Z:	0.05 mm
IP class:	40

ANGLE FLANGE

LWR50L
Electrical angle flange solution for the MATCH end-of-arm ecosystem for IO-Link grippers.

Compatible grippers:	GEP2000, GEH6000, GPP5000IL, GEP5000, HRC-03

2-JAW PARALLEL GRIPPERS

ELECTRIC

GEP2000

Suitable for robot module:	LWR50F-xx-01/02/03/04/05
Nominal gripping force:	200 N
IP class:	40

GEH6000IL

Suitable for robot module:	LWR50F-xx-03/04/05
Nominal gripping force:	180 N–1,000 N
IP class:	40

HRC-03

Suitable for robot module:	LWR50F-xx-01/02/03/04/05
Nominal gripping force:	190 N
IP class:	40

HRC-02

Suitable for robot module:	LWR50F-xx-03/04/05
Nominal gripping force:	165 N
IP class:	40

2-JAW PARALLEL GRIPPERS

PNEUMATICALLY INTELLIGENT

GPP5000IL

Suitable for robot module:	LWR50F-xx-03/04/05
Nominal gripping force:	330 N–1080 N
IP class:	40

3-JAW CONCENTRIC GRIPPERS

PNEUMATICALLY INTELLIGENT

GPD5000IL

Suitable for robot module:	LWR50F-xx-03/04/05
Nominal gripping force:	740 N–2370 N
IP class:	40

NEEDLE GRIPPER

PNEUMATIC

ST

Suitable for robot module:	LWR50F-xx-01/02/03/04/05
Max. needle stroke:	1.5 mm
Number of needles:	20
IP class:	30

MAGNETIC GRIPPER

PNEUMATIC

HM1000

Suitable for robot module:	LWR50F-xx-01/02/03/04/05
Max. adhesive force:	27 N
IP class:	40

ACCESSORIES

ALWR1
Standardized storage station for all MATCH end effectors

SELECTION GUIDE
JUST A CLICK AWAY

Robotics Product Finder
Find the right product in just a few clicks. Go directly to our Product Finder for robots here.

MATCH loose part with standardized interface

COMPONENTS
INDUSTRIAL COMMUNICATION

SMART GRIPPER, SMART CONNECTION

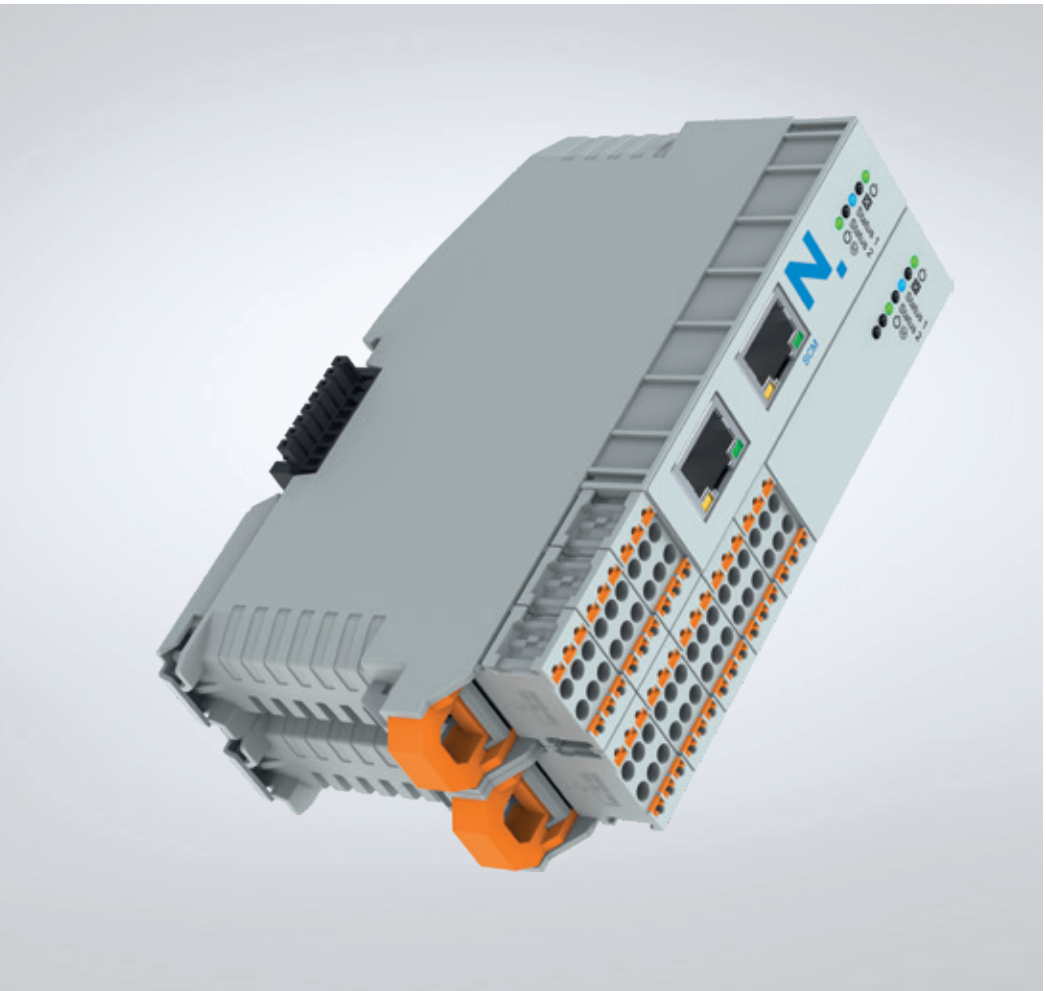
Robot programming made easy: with ready-to-connect communication modules from the Zimmer Group that are placed in the robot controller and connected to the control system via cable or wirelessly, depending on the module. The ComfortApp, coordinated to the robot manufacturer, makes it possible to actuate and operate the gripper conveniently and directly using the respective robot control pendant – easy to set up with all necessary commands for a smooth automatic mode.

With Zimmer Group programming tools, robot applications can be put into operation quickly, easily and without extensive programming knowledge. Zimmer Group also provides downloadable function blocks for all the most common manufacturers for direct programming in the PLC. The standardized, IO-Link Wireless communication model ensures interference-free and reliable communication, entirely without external cabling. All IO-Link gripper components can be used and their standardized interface makes them compatible with many kinds of control systems. The voltage supply is provided by the connecting line as usual. Energy can be buffered as needed, while the information is exchanged between the control system and the gripper directly and without delay.

SELECTION GUIDE
JUST A CLICK AWAY

Robotics Product Finder
Find the right product in just a few clicks. Go directly to our Product Finder for robots here.

The Smart Communication Module – The intelligent gateway between the gripper and the robot control system.



SCM

The intelligent gateway between grippers and the robot control system translates IO-Link on digital inputs and outputs.

Includes:
+ Smart Communication Module
+ guideZ, expertZ, monitorZ software bundle

SCM + COMFORT

Easy actuation and operation of the gripper directly with the respective robot control pendant thanks to the Comfort App.

Includes:
+ Smart Communication Module
+ guideZ, expertZ, monitorZ software bundle
+ Comfort App

SCM + COMFORT (READY-TO-CONNECT)

Easy integration of the SCM placed in the robot module via a ready-to-connect cable and controller.

Includes:
+ Smart Communication Module
+ guideZ, expertZ, monitorZ software bundle
+ Comfort App
+ Robot-specific connection elements

COMPLETE SOLUTION CONVENTIONAL

Conventional complete solution from the gripper to the SCM, including intuitive operating software, to the tool.

Includes:
+ Smart Communication Module
+ guideZ, expertZ, monitorZ software bundle
+ Comfort App
+ Robot-specific connection elements
+ Conventional gripper

COMPLETE SOLUTION MATCH

Complete solution with standardized MATCH robot interface. Including SCM, operating software and tool.

Includes:
+ Smart Communication Module
+ guideZ, expertZ, monitorZ software bundle
+ Comfort App
+ Robot-specific connection elements
+ MATCH robot module
+ MATCH gripper

Conventional complete solution or MATCH complete solution

Whether conventional or with the MATCH End-of-Arm Ecosystem – Zimmer Group ready-to-connect communication modules give you complete solution customized to your needs. Interference-free communication from gripper to machine is ensured thanks to the direct integration of a digital infrastructure.

DIGITAL SERVICES
digitalZ

THE FUTURE OF AUTOMATION AND MECHANICAL AND PLANT ENGINEERING

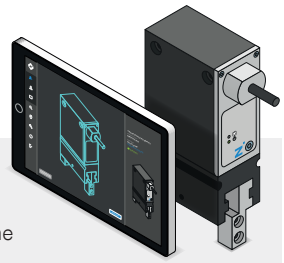
Everyone is talking about digital transformation in production: This refers to digital technologies, which are intended to lower production costs, improve quality, increase flexibility and ultimately increase revenue. Fast and flexible solutions are becoming increasingly important in automation. Mechanical and systems engineering is increasingly driven by software innovation. Here, web-based services help implement production reliability, productivity and cost reduction in a Smart Factory and enable them to be planned.

ZIMMER GROUP AS A PARTNER FOR DIGITAL TRANSFORMATION

Zimmer Group recognized the digital transformation trend early on and already offers a wide portfolio of mechatronic components and digital services. The digitalZ digital software modules expand the primary functionalities of mechatronic components and systems from the Zimmer Group and targets various phases in the product lifecycle of your system. From project engineering and development to operation and even service calls, these components support the function of your system, making it more ergonomic, flexible, productive and reliable.

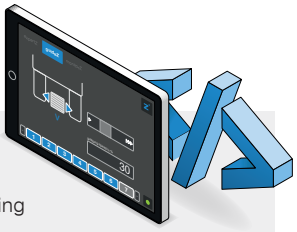
THE DIGITAL SERVICES OF ZIMMER GROUP

digitalZ helps you support quality, productivity, efficiency and value creation and gives you the ability to make complex processes manageable and map transparency in control and maintenance.



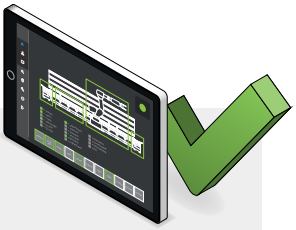
virtualZ

- Reduction of commissioning time by up to 80%
- Higher production availability
- Shorter delivery times, higher quality
- Safe and efficient qualification of operating and service personnel
- Flexibility in the selection of simulation platform



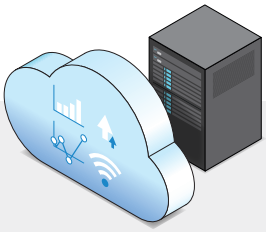
controlZ

- Platform-independent for all leading robot manufacturers
- Fast and easy programming
- Minimization of programming errors
- Programming and configuration can be carried out even by personnel without extensive programming knowledge



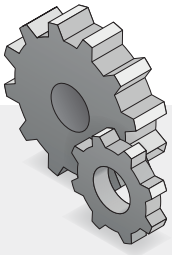
visualZ

- Fast and easy interaction in the application environment
- Display of process parameters relevant to the application
- Increase in efficiency
- Minimization of input errors



cloudZ

- Provision of status process parameters
- Easier integration of components
- Basis for Condition Monitoring / Predictive Maintenance
- High level of flexibility and scalability
- Access from anywhere



supportZ

- Pre-sales support
- After-sales support with on-site service over the entire lifecycle
- Online support for commissioning and optimization
- Product finders / product configurators
- Spare parts service
- Extensive training programs

INDUSTRIAL SHOCK ABSORBERS
DAMPING TECHNOLOGY

FROM 100 TO 0 WITH A DAMPER

State-of-the-art damper technology: PowerStop is the hydraulic industrial shock absorber created by the Zimmer Group that slows down the kinetic energy to zero. Due to its optimal capacity, PowerStop achieves maximum energy absorption in the smallest installation spaces: With unique spiral groove technology – low-vibration and without sacrificing its precision.

The new modular construction set available at www.zimmer-group.com makes it possible to combine highly versatile application-specific variants from four series, each with a stroke variant, speed range, protection and head. Everything comes from standard elements, delivering the shortest time to availability and ideal pricing.

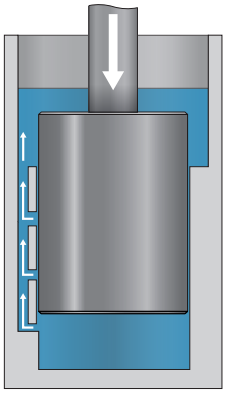
POWERSTOP PRODUCT FAMILY
OUR KNOW-HOW – YOUR ADVANTAGES

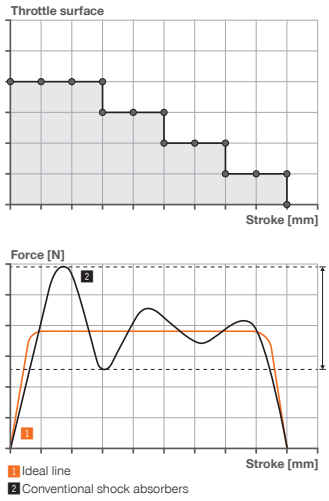
Low-vibration and precise braking
Due to the constantly narrowing spiral groove.

Long service life
Thanks to reduced wear due to hydrostatic piston guide and built-in oil reserve.

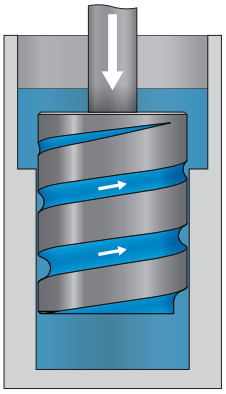
Corrosion protection
From using stainless steel.

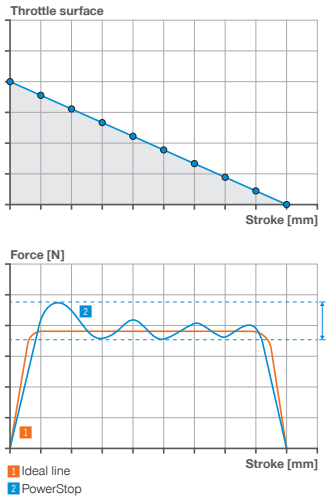
THROTTLE MECHANISM – CONVENTIONAL SOLUTION





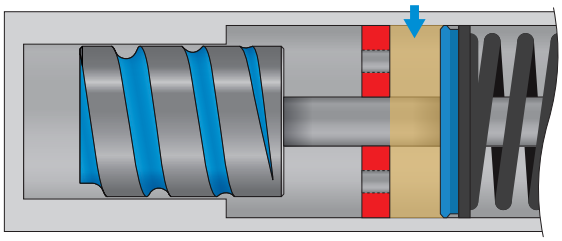
SPIRAL GROOVE TECHNOLOGY – THE HIGH-END SOLUTION OF THE ZIMMER GROUP





OIL RESERVE

The shock absorbers of the High Energy series are filled with oil accordingly so that the volume compensation spring is under pre-load. Automatic readjustment of the spring compensates for oil loss, which results in a long service life.



SELECTION GUIDE
JUST A CLICK AWAY

Shock Absorber Product Finder
Find the right product in just a few clicks. Go directly to our Product Finder for shock absorbers here.

PowerStop – Highest quality for the most extreme requirements and loads.

STANDARD ENERGY

The number one among standard dampers. Efficient damping at common energy absorption levels. This makes the Standard Energy series the winner in price/performance value.

HIGH ENERGY

Featuring maximum numbers of cycles, the high-end damper meets the highest requirements for extreme energy absorption.

ADJUSTABLE ENERGY

The adjustable damper for all kinds of strokes combines sensitive energy absorption with power reduction and gentle damping.

PROFILE DAMPER
DAMPING TECHNOLOGY

THE EFFICIENT ENERGY CONSUMER

The BasicStop profile damper comes into play when pin-point accuracy is not required for braking. Because of its specially developed profile and high-performance TPC plastic, BasicStop can also brake masses under extreme conditions, achieving a high damping percentage at the same time. It can also be used at any speed and recycled 100% thanks to its thermoplastic properties.

BASICSTOP PRODUCT FAMILY
OUR EXPERTISE – YOUR ADVANTAGES

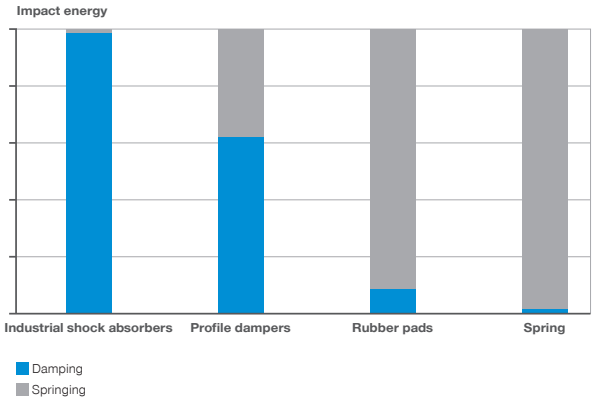
TPC high-performance plastic
Exhibits high durability and resistance to media. No swelling, embrittlement or decomposition of the material, as is the case with rubber.

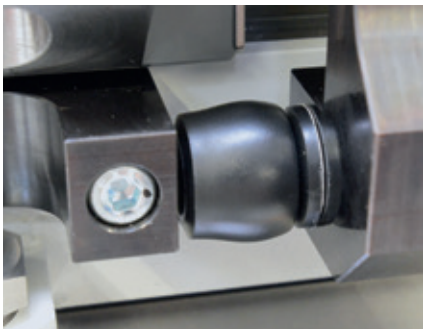
High efficiency
High damping percentage and high energy absorption in the smallest space.

Reliable return behavior
The robust material exhibits hardly any setting behavior.

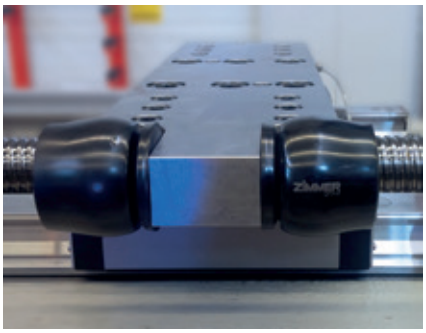
DAMPING VS. SUSPENSION

Conventional rubber buffers only have a very small damping percentage and are more of a spring than a damper. Using these buffers hardly removes any kinetic energy from the system, which in turn can cause damage to the system. This is where the brand of BasicStop profile dampers are setting new standards for material damping with their high damping percentage.

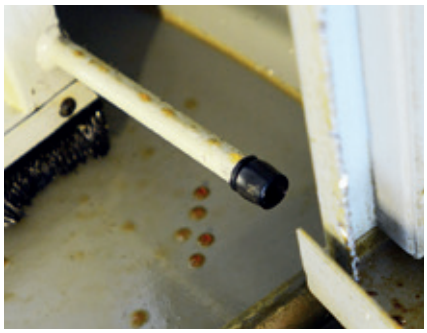




Emergency stop protection in the traveling axis of a spindle tailstock



End position damping in the linear axes of production modules



Machine door damping in a machining center

THE SERIES AT A GLANCE
DAMPING TECHNOLOGY

INDUSTRIAL SHOCK ABSORBER

POWERSTOP

MINI ENERGY

Size:	M4–M6
Max. energy absorption:	0.8 J–1.8 J
Min. impact velocity:	0.1 m/s
Max. impact velocity:	3.5 m/s
Max. stroke:	4 mm–5 mm

Protection: without protection, wiper (NBR)

STANDARD ENERGY

Size:	M8–M36
Max. energy absorption:	1.5 J–185 J
Min. impact velocity:	0.1 m/s
Max. impact velocity:	5 m/s
Max. stroke:	6 mm–30 mm

Protection: without protection, wiper (NBR), felt ring, bellows (TPC)

HIGH ENERGY

Size:	M8–M36
Max. energy absorption:	4 J–400 J
Min. impact velocity:	0.1 m/s
Max. impact velocity:	5 m/s
Max. stroke:	6 mm–50 mm

Protection: without protection, wiper (NBR), felt ring, bellows (TPC)

ADJUSTABLE ENERGY

Size:	M8–M36
Max. energy absorption:	4 J–400 J
Min. impact velocity:	0.1 m/s
Max. impact velocity:	5 m/s
Max. stroke:	6 mm–50 mm

Protection: without protection, wiper (NBR), felt ring, bellows (TPC)

PROFILE DAMPER

BASICSTOP

AXIAL STANDARD

Height:	7 mm–109 mm
Max. stroke:	3 mm–56 mm
Max. energy absorption:	0.3 J–2,014 J
Max. damping percentage:	75%
Design:	Axial

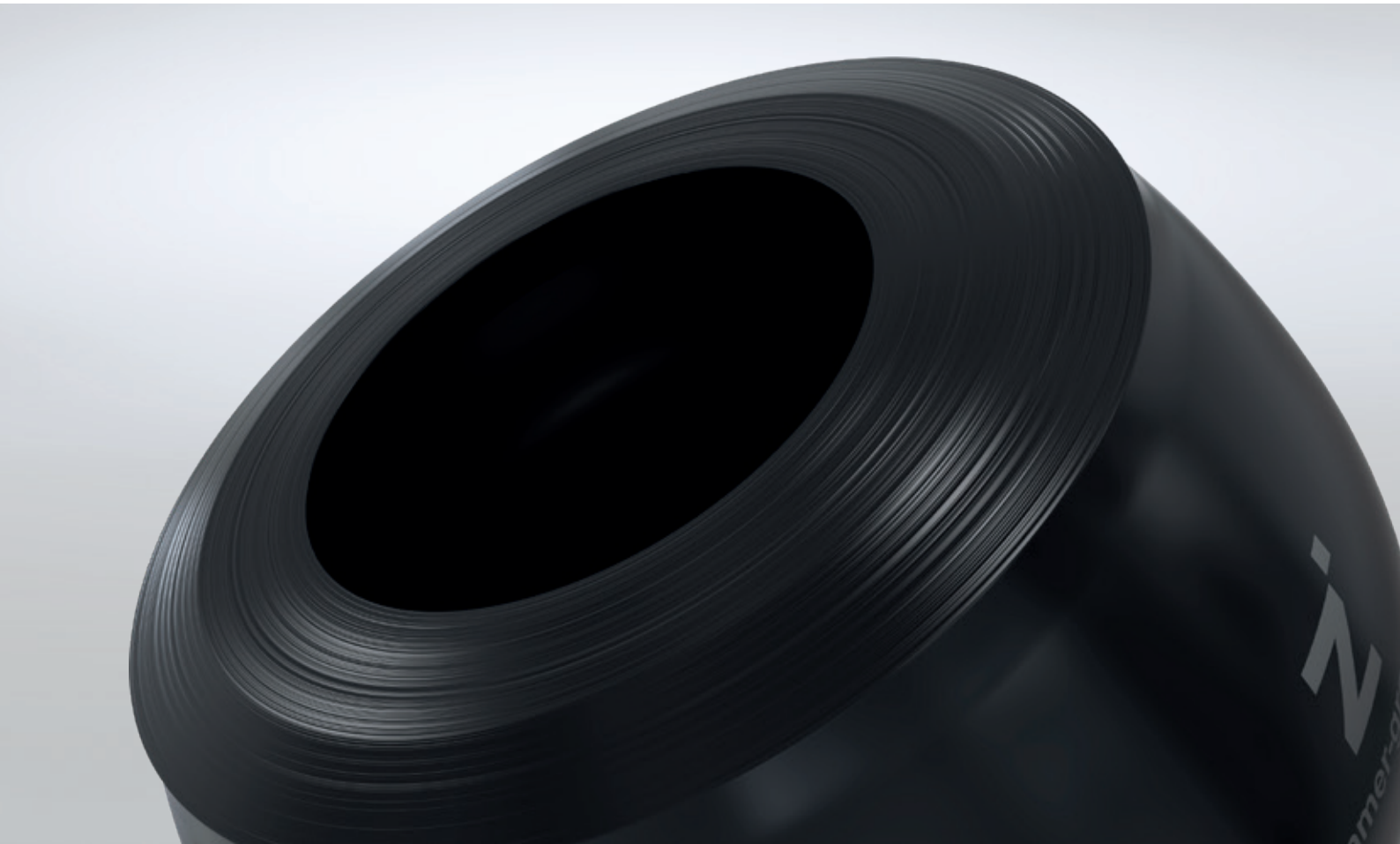
AXIAL ADVANCED

Height:	53 mm–252 mm
Max. stroke:	30 mm–198 mm
Max. energy absorption:	450 J–12,725 J
Max. damping percentage:	65%
Design:	Axial

RADIAL STANDARD

Height:	23 mm–88 mm
Max. stroke:	15 mm–60 mm
Max. energy absorption:	1.2 J–290 J
Max. damping percentage:	60%
Design:	Radial

A special treatment process is what gives the profile damper its unique properties.



DAMPING SYSTEMS
SOFT CLOSE

SMOOTH AND QUIET

Drawers, cabinet doors, lids and even large glass sliding doors and toilet seats close smoothly and quietly because they are equipped with a soft close system. Zimmer GmbH Daempfungssysteme is one of the leading development partners and suppliers for the furniture industry when it comes to damping systems and soft-closing mechanisms.

Soft close is a damping technology that uses a spring and a damping that automatically slows down the closing process and ensures a comfortable feel when opening and closing doors and drawers.

COMPREHENSIVE PRODUCT RANGE
OUR KNOW-HOW – YOUR ADVANTAGES

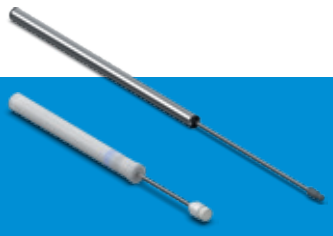
Easy to close
Usually a light touch is all you need to close a drawer or door.

Easy on the ears and the material
Soft damping ensures quiet closing and low furniture wear.

Easy to retrofit
Drawers, doors and lids can also be retrofitted with this damping technology at a later time.

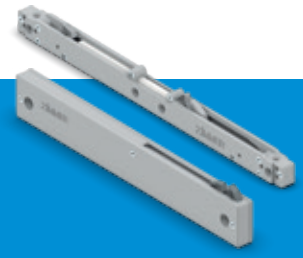
PNEUMATIC DAMPERS

Long service life due to integrated return and the resulting friction energy.



HYDRAULIC DAMPER

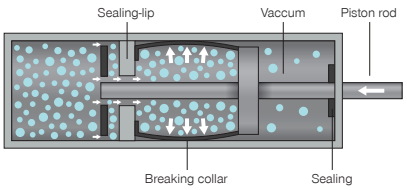
The viscosity of the oil and the variation in the cross-section of the channels provides a high degree of safety and load capacity.



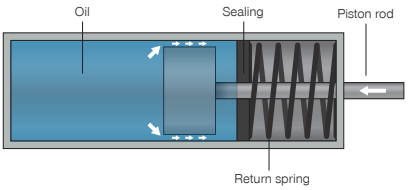
SELF-CLOSING DEVICE

Automatic self-closing devices ensure soft closing inwards, outwards or for dual action.

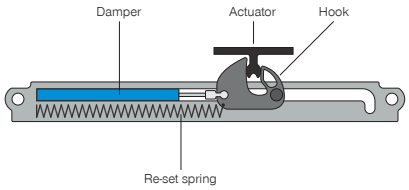
OPERATING PRINCIPLE



Pneumatic damper
1. *In a hollow cylinder, there is a piston that can move back and forth. When closing, the collar brake presses against the cylinder. This generates the friction energy necessary for damping.*
2. *Oil leakage is not possible.*



Hydraulic damper
1. *In a housing filled with oil, there is a piston that can move back and forth. The viscosity of the oil and the variation in the cross-section of the channels result in the frictional force necessary for damping.*
2. *High energy absorption for the smallest space.*



Self-closing unit
1. *An automatic self-closing device is attached to the chest of a drawer, for example; an actuator is attached directly to the drawer.*
2. *The actuator engages with the locking lever and the closing spring retracts the drawer, which is gently braked by the damper at the same time.*

DRAWER DAMPING

Dampers and self-closing devices should provide the optimal compromise between force and size: discreet and space-saving, but still robust enough to brake even at high loads.

SLIDING DOOR DAMPING

Even heavy sliding doors can be easily opened with the right dampers. This enhances barrier-free accessibility and easy use and enables children and those with restricted mobility to open and close the door easily.

LID DAMPER

Lid dampers can also be used to brake a high mass at short distances so that even kitchen top cabinets, for example, can be easily opened and closed without risking your fingers.

HINGE DAMPING

Say goodbye to rattling doors. With Zimmer Group hinge damping, doors can be closed smoothly and quietly. The damping force can be customized to the door weight to some extent.

Zimmer GmbH Dämpfungssysteme is one of the leading development partners and suppliers for the furniture industry and a strong system partner when it comes to damping systems and soft-closing mechanisms.

COMPONENTS
CLAMPING AND BRAKING TECHNOLOGY

QUALITY AND RELIABILITY

More than 30 years of development and market experience have yielded more than 4,000 products. Zimmer Group offers the most comprehensive and innovative portfolio of products and services reflecting the highest possible quality and reliability. Clamping and braking elements routinely perform critical positioning, holding and braking tasks. They ensure precision during machining processes, boost efficiency with short cycle times and their secure hold maximizes safety.

SERIES DKPS1000
OUR EXPERTISE – YOUR ADVANTAGES

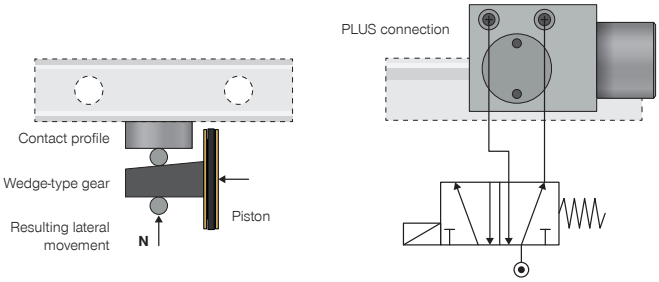
High holding torque without additional air
Enhanced safety due to securing the rotation axes.

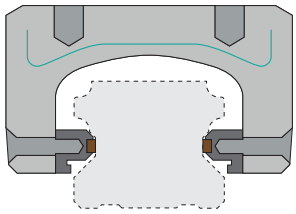
Simple status sensing
Efficient and fast process flow.

Cycle counts that outperform everything else on the market
Leak-free thanks to a proven piston seal.

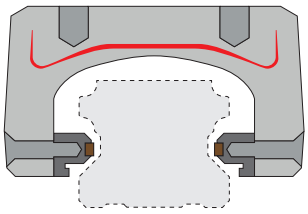
WEDGE GEAR – TRIED-AND-TESTED FOR OVER 25 YEARS

When it comes to clamping and braking on profiled rail guides and round shaft guides, Zimmer Group is a pioneer with its wedge gear. All pneumatic elements are equipped with a tried-and-tested wedge gear for the highest power transmission and market-leading number of cycles over 5 million (B10d value).





Not pressurized: Closed



Pressurized: Open

ONE FUNCTIONAL COMPONENT – HIGHEST STIFFNESS

We once again prove our technological expertise with the LBHS series. A hydraulic braking element consisting of a single functional component that does not contain any moving parts and generates all braking and holding forces solely through the inherent tension of the base body. It promises the highest stiffness and quickest response times.

OVER 20,000 COMBINATIONS

You can use our online Product Finder to easily find the right product for your application. It helps you easily search through over 4,000 clamping and braking elements.

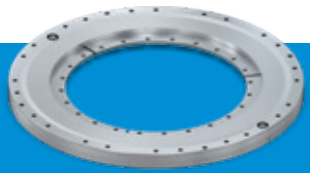
SELECTION GUIDE
JUST A CLICK AWAY

Product Finder
Find the right product in just a few-clicks. Go directly to our Product Finder for clamping and braking elements.

The rotary clamps of the DKPS1000 series provide an impressive non-pressurized holding force, long service life and optional digital sensing.

SERIES LKE

LKE stands for the highest energy efficiency thanks to a flexible cable outlet, integrated electronics and a 24 V power supply.



SERIES DKHS1000

The very durable hydraulic clamping element of the DKHS series features the highest accuracy, number of cycles and fastest response time.

SERIES AEPN

The unit provides pneumatic power and can actuate several products independently of each other.

THE SERIES AT A GLANCE
CLAMPING AND BRAKING TECHNOLOGY

FOR PROFILED RAILS

MANUAL

MINIHK
Function: Clamping
Status: N
Max. holding force: 300 N
Design: Miniature

HK
Function: Clamping
Status: N
Max. holding force: 2000 N
Design: Standard

PNEUMATIC

6

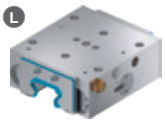
MK
Function: Clamping
Status: NO
Max. holding force: 2250 N
Design: Standard

6
L

MKS
Function: Clamping
Status: NC
Max. holding force: 3300 N
Design: Standard

MBPS
Function: Clamping, braking
Status: NC
Max. holding force: 4700 N
Design: Standard

L



UBPS
Function: Clamping, braking
Status: NC
Max. holding force: 7700 N (9200 N)
Design: Standard

LKP
Function: Clamping
Status: NO
Max. holding force: 4500 N
Design: Narrow

L

LKPS
Function: Clamping
Status: NC
Max. holding force: 750 N
Design: Narrow

MCP
Function: Clamping
Status: NO
Max. holding force: 550 N
Design: Miniature

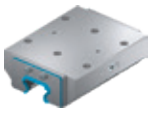
L

MCPS
Function: Clamping
Status: NC
Max. holding force: 700 N
Design: Miniature

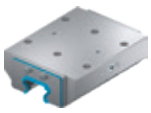
L

LBPS
Function: Clamping, braking
Status: NC
Max. holding force: 4500 N
Design: Narrow

HYDRAULIC



KWH
Function: Clamping
Status: NO
Max. holding force: 46000 N
Design: Standard



KBH
Function: Clamping, braking
Status: NO
Max. holding force: 46000 N
Design: Standard

LBHS
Function: Clamping, braking
Status: NC
Max. holding force: 15000 N
Design: Standard

ELECTRIC

LKE
Function: Clamping
Status: N
Max. holding force: 1800 N
Design: Standard

FOR ROUND SHAFTS

MANUAL

HKR
Function: Clamping
Status: N
Max. holding force: 2000 N
Design: Standard

PNEUMATIC

MKR
Function: Clamping
Status: NO
Max. holding force: 1850 N
Design: Standard

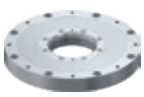
L

MKRS
Function: Clamping
Status: NC
Max. holding force: 1650 N
Design: Standard

RBPS
Function: Clamping, braking
Status: NC
Max. holding force: 52000 N
Design: Standard

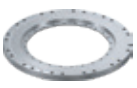
FOR ROTATION AXES

PNEUMATIC



DKPS1000
Function: Clamping
Status: NC
Max. static holding torque: 1150 Nm
Design: Rotary

HYDRAULIC



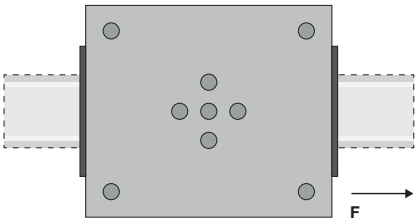
DKHS1000
Function: Clamping
Status: NC
Max. static holding torque: 8000 Nm
Design: Rotary

L = *Available as a low-pressure variant.*

6 = *Certified for clean room class ISO 6.*

HOLDING FORCE

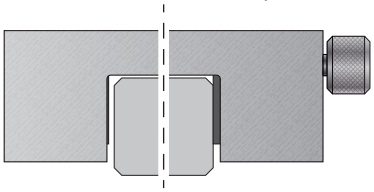
The holding force is the maximum force that can be generated in the axial direction. The specified holding forces are tested on every clamping and braking unit before delivery using a slightly lubricated rail (ISO VG 68).



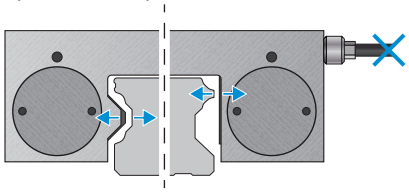
F= max. holding force

CONDITION

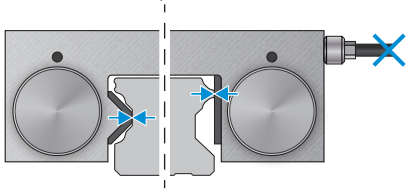
N (bistable)
Remains fixed in the current position

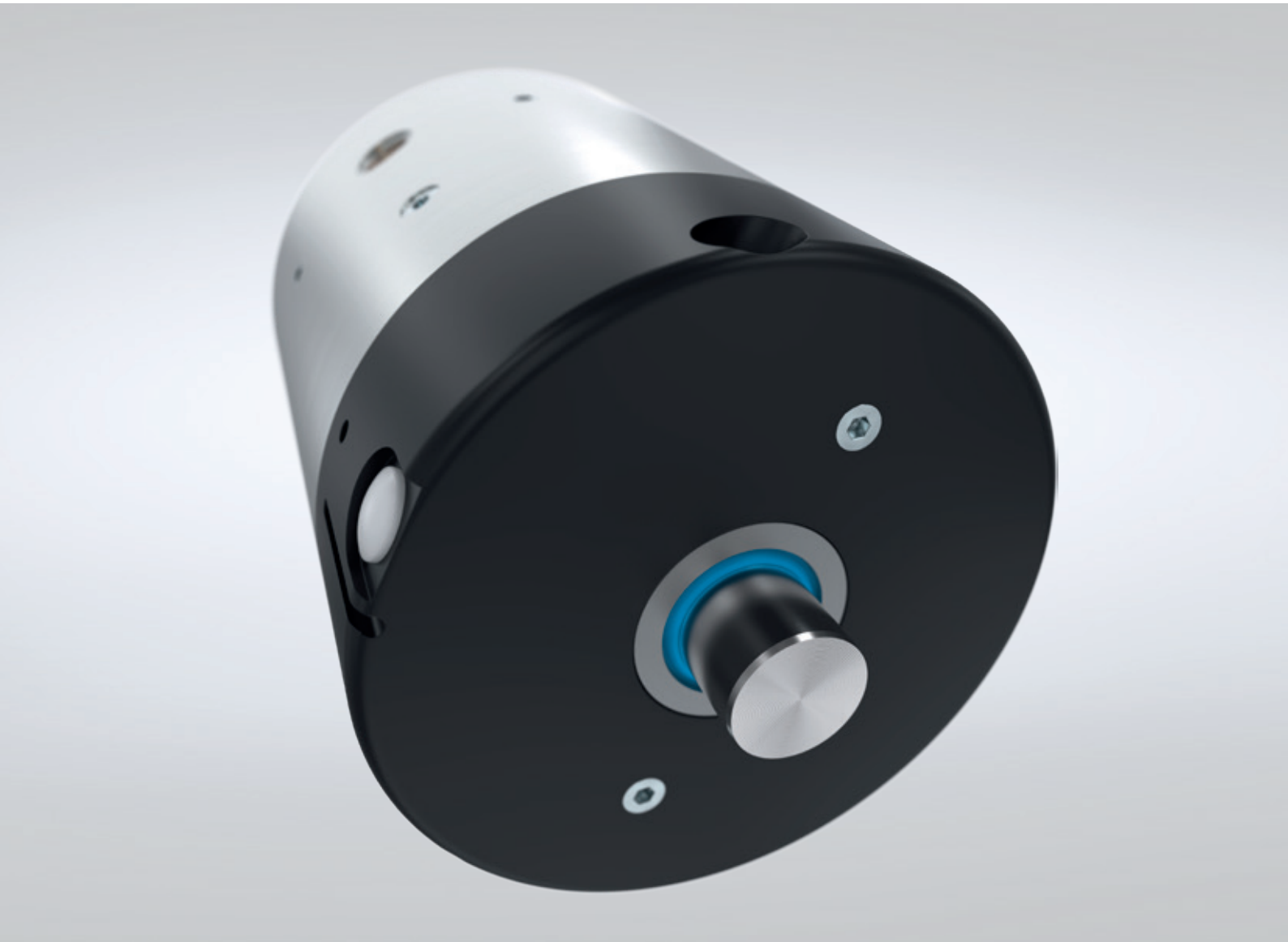


NO (normally open)
Open at loss of pressure



NC (normally closed)
Closed at loss of pressure





MOTOR SPINDLES
MACHINE TOOLING TECHNOLOGY

MOTOR SPINDLES

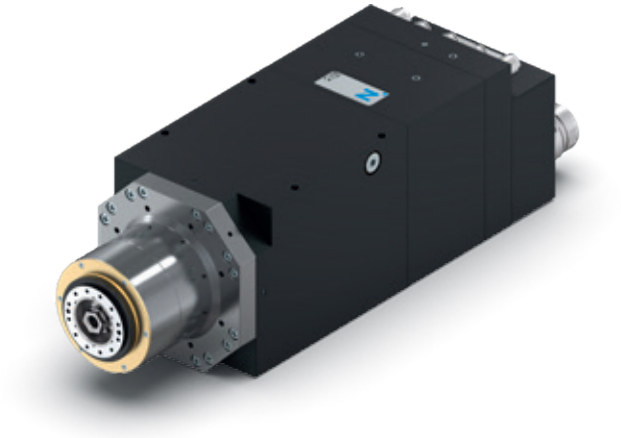
As key components in machining centers, tooling machines and end-of-arm applications, our motor spindles guarantee optimal value creation thanks to maximum precision, productivity, availability and long service life. They are critical for the performance of the machine and the quality of machined workpieces. Compact power packages with high power density and high-precision bearings are essential for achieving high speeds and excellent true-running characteristics. The Zimmer Group product line comprises both air and fluid-cooled motor spindles for wood, aluminum and plastics processing as well as for metal cutting. The spindles stand out for their extremely high reliability, superior power density and a wide range of compatibility.

SERIES HF150-003
OUR KNOW-HOW – YOUR ADVANTAGES

Maximum performance
The highest performance standards for these motor spindles are met due to the exclusive use of vacuum cast, hand-wound, high-performance motors from German manufacturing.

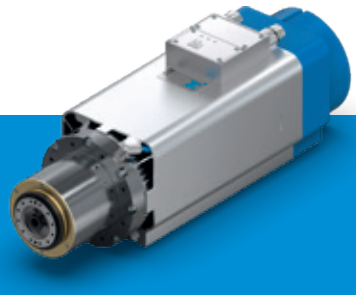
Maximum workpiece quality
With speeds of up to 26,000 rpm and an optional vector-regulated 14.5 kW motor, these motor spindles are best suited for processing various materials such as wood, plastic, light metal or composites.

Highest productivity meets highest precision
This mechanically integrated motor solution is extremely compact, highly productive and achieves maximum stiffness.



WATER-COOLED

Water cooling and a dimensioned cooling unit ensure highly productive spindles thanks to optimized temperature control.



AIR-COOLED

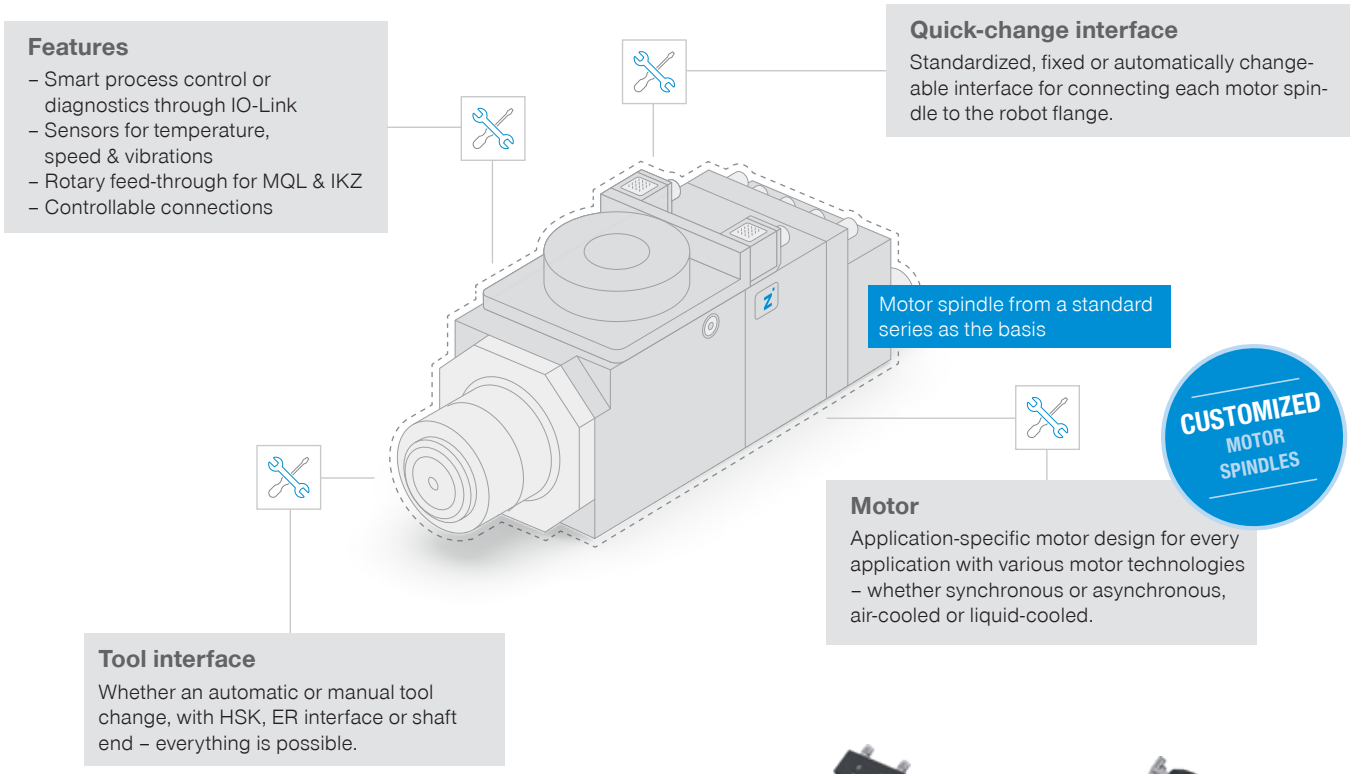
Air inlets and a sufficient air circulation volume are the ideal prerequisites for spindles with a high power density.

ROBOT CHANGE UNITS

The WWS series enables a fully automatic change of motor spindles.

INNOVATIVE MOTOR SPINDLES AND CUSTOMIZED SOLUTIONS

The Zimmer Group is a manufacturer of high-quality motorized spindles that, together with matching accessories and peripherals, offer everything you need for maximum precision and performance in your production. Our portfolio includes not only a wide selection of standard motor spindles, but also the development of individual, customized solutions that are perfectly tailored to your specific requirements. Our great strength lies in our ability to develop innovative and flexible solutions that not only meet the highest technological standards, but also significantly increase the efficiency and productivity of your applications. With over 30 years of experience in the industry, we offer you customized products that have impressive precision and durability. No matter how complex or specific your requirements – together we will find the perfect solution for your success!



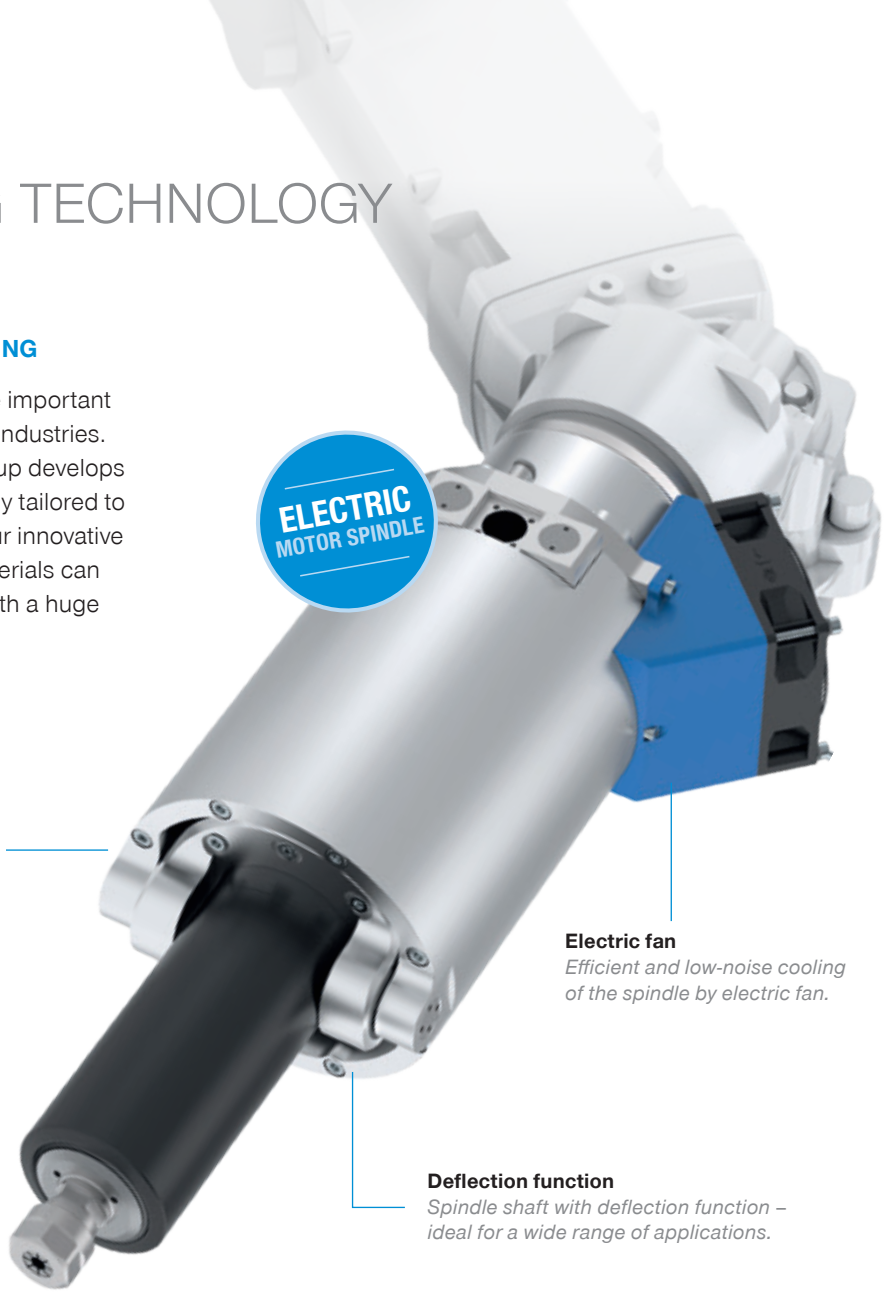
THE ADVANTAGE LIES IN OUR FLEXIBILITY

The combination of customized motor spindles with various change systems such as our WWR and WPR tool changers opens up completely new potential and ensures maximum adaptability in your production processes. This increases your efficiency and flexibility by allowing you to react to changing requirements at any time.

MOTOR SPINDLES
MACHINE TOOLING TECHNOLOGY

ELECTRIC MOTOR SPINDLE FOR DEBURRING

Using robots to deburr parts is becoming more important and is turning into a key technology for a lot of industries. To meet the growing demand, the Zimmer Group develops customized electrical solutions that are specially tailored to the requirements of modern deburring. With our innovative systems, a wide range of components and materials can be processed efficiently and precisely – and with a huge selection of tools.



Deburring spindle
Electric, air-cooled motor spindle for deburring – can be used flexibly for a wide range of tasks thanks to variable speed control.

Electric fan
Efficient and low-noise cooling of the spindle by electric fan.

Tool interface
Manual or automatic tool change with quick-change system.

Deflection function
Spindle shaft with deflection function – ideal for a wide range of applications.

WITHOUT DEFLECTION

Fixed motor spindle without deflection function of the spindle shaft.

+ Air-cooled
+ Manual tool change
+ Automatic tool change

RADIAL DEFLECTION

Radial deflection function of the spindle shaft with lockable degrees of freedom. Optionally with damping module for even better machining results.

+ Air-cooled
+ Manual tool change
+ Automatic tool change

AXIAL DEFLECTION

Motor spindle with axial deflection function of the spindle shaft.

+ Air-cooled
+ Automatic tool change

WATER-COOLED

ASYNCHRONOUS

HF100-010-001
Rated power: 4 kW
Max. speed: 30000 rpm
Nominal torque: 4 Nm
Weight: 9 kg

HF100-012-001
Rated power: 4 kW
Max. speed: 30000 rpm
Nominal torque: 4 Nm
Weight: 10 kg

HF125-002-001
Rated power: 9 kW
Max. speed: 24000 rpm
Nominal torque: 7.3 Nm
Weight: 16 kg

HF125-002-002
Rated power: 12 kW
Max. speed: 24000 rpm
Nominal torque: 9 Nm
Weight: 16 kg

HF150-003-003
Rated power: 14.5 kW
Max. speed: 26000 rpm
Nominal torque: 14.7 Nm
Weight: 35 kg

HF150-004-003
Rated power: 14.5 kW
Max. speed: 24000 rpm
Nominal torque: 14.7 Nm
Weight: 39 kg

HF150-009-001
Rated power: 14.5 kW
Max. speed: 26000 rpm
Nominal torque: 14.7 Nm
Weight: 26 kg

HF150-005-002
Rated power: 20 kW
Max. speed: 24000 rpm
Nominal torque: 14.3 Nm
Weight: 36 kg

HF205-006-001
Rated power: 34 kW
Max. speed: 14,000 rpm
Nominal torque: 83.7 Nm
Weight: 136 kg

SYNCHRONOUS

HF150-005-001
Rated power: 20 kW
Max. speed: 24000 rpm
Nominal torque: 18.5 Nm
Weight: 36 kg

HF205-006-002
Rated power: 48 kW
Max. speed: 6000 rpm
Nominal torque: 153 Nm
Weight: 140 kg

AIR-COOLED

ASYNCHRONOUS

HF110-007-001
Rated power: 4 kW
Max. speed: 18,000 rpm
Nominal torque: 3.8 Nm
Weight: 15 kg

HF145-001-001
Rated power: 6 kW
Max. speed: 24,000 rpm
Nominal torque: 4.9 Nm
Weight: 29 kg

HF145-001-002
Rated power: 7.5 kW
Max. speed: 24,000 rpm
Nominal torque: 6.1 Nm
Weight: 30 kg

HF145-001-003
Rated power: 11.8 kW
Max. speed: 24,000 rpm
Nominal torque: 9.6 Nm
Weight: 35 kg

HF145-008-002
Rated power: 7.5 kW
Max. speed: 24,000 rpm
Nominal torque: 6.1 Nm
Weight: 19 kg

HF145-011-001
Rated power: 7.5 kW
Max. speed: 24,000 rpm
Nominal torque: 6.1 Nm
Weight: 20 kg

ROBOT CHANGE UNIT

WWS100F-001/
WWS100L-001
Connecting flange in accordance with EN ISO 9409-1: TK100
Energy transmission: Suitable for HF145-001
Total weight: 4 kg

WWS100F-002/
WWS100L-002
Connecting flange in accordance with EN ISO 9409-1: TK100
Energy transmission: Suitable for HF125-002
Total weight: 4.8 kg

ZERO-POINT CLAMPING SYSTEM
MACHINE TOOLING TECHNOLOGY

ZERO-POINT CLAMPING SYSTEM

The Zimmer Group's zero-point clamping systems are available in two versions: In addition to standard functions such as opening, PLUS connection and blow-out, the "AD" version offers pneumatic status sensing (open, clamped, closed) and support monitoring. The "ED" version also enables electrical status sensing (open and clamped) as well as component presence sensing.

All clamping systems have form-fit locking by means of clamping segments adapted to the bolt contour, which ensures an extremely rigid connection that can withstand the highest forces and guarantees maximum repeat accuracy. The product range also includes clamping plates in various sizes and configurations. An automatic lock reliably protects the bolt opening from dirt entering and increases the service life of the system.

INCREASED PRODUCTIVITY

Without zero-point clamping system

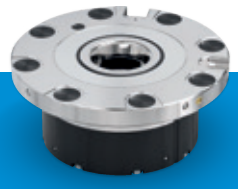
Machine run time | Setting up the workpiece

With zero-point clamping system

Pallet changer

Machine run time | Additional free machine capacity

Ready the workpiece on a pallet when not processing



SERIES SPN

Zero-point clamping systems in various designs to solve a wide range of clamping or handling tasks.

PALLET CHANGER SERIES SPP

Versatile options for machine loading due to a slim design and highest holding force.

CLAMPING PLATES

Clamping plates with internal air distribution – with two, four or six integrated zero-point clamping systems for any installation size.

ZERO-POINT CLAMPING SYSTEM

PNEUMATIC SENSING

SPN062AD

Operating pressure:	4 bar–7 bar
Clamping force:	1 kN–2 kN
Clamping force with PLUS connection:	2.5 kN–5 kN
Piston position sensing/ Positioning check:	Pneumatic

SPN112AD

Operating pressure:	4 bar–7 bar
Clamping force:	4 kN–6 kN
Clamping force with PLUS connection:	10 kN–15 kN
Piston position sensing/ Positioning check:	Pneumatic

SPN138AD

Operating pressure:	4 bar–7 bar
Clamping force:	12 kN–18 kN
Clamping force with PLUS connection:	24 kN–36 kN
Piston position sensing/ Positioning check:	Pneumatic

ELECTRICAL SENSING

SPN062ED

Operating pressure:	4 bar–7 bar
Clamping force:	1 kN–2 kN
Clamping force with PLUS connection:	2.5 kN–5 kN
Piston position sensing/ Positioning check:	Electric

SPN112ED

Operating pressure:	4 bar–7 bar
Clamping force:	4 kN–6 kN
Clamping force with PLUS connection:	10 kN–15 kN
Piston position sensing/ Positioning check:	Electric

SPN138ED

Operating pressure:	4 bar–7 bar
Clamping force:	12 kN–18 kN
Clamping force with PLUS connection:	24 kN–36 kN
Piston position sensing/ Positioning check:	Electric

PALLET CHANGER

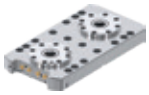
PNEUMATIC

SPP138-B

Operating pressure:	4.5 bar–7 bar
Max. pallet weight:	300 kg
Blow-out function / Piston position sensing:	Yes

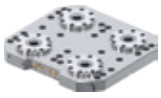
CLAMPING PLATES

PNEUMATIC



SPN062P2, SPN112P2, SPN138P2

Operating pressure:	4 bar–7 bar
Version:	Standard / Advanced
Max. holding force:	2x M8 2x M10 / M12 2x M12 / M16



SPN062P4, SPN112P4, SPN138P4

Operating pressure:	4 bar–7 bar
Version:	Standard / Advanced
Max. holding force:	4x M8 4x M10 / M12 4x M12 / M16

SPN062P6, SPN112P6, SPN138P6

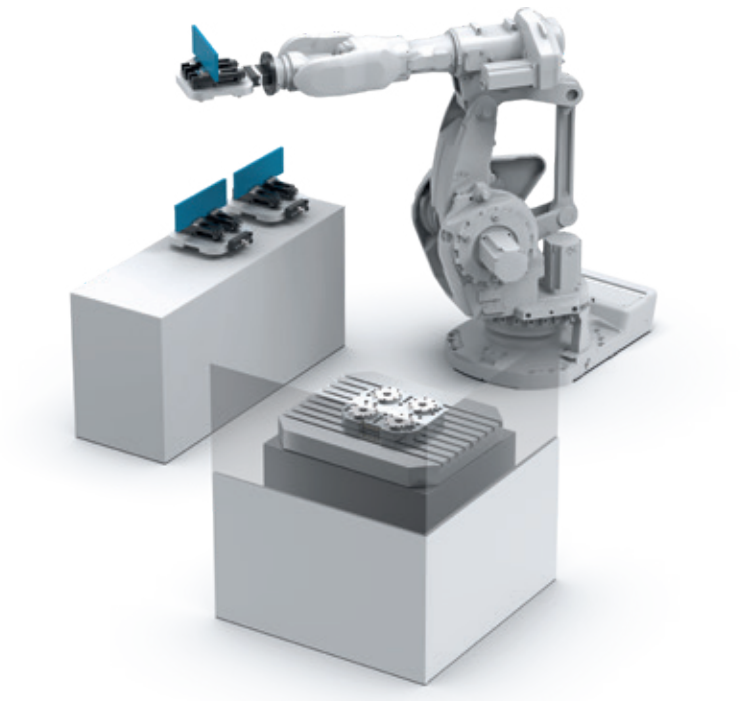
Operating pressure:	4 bar–7 bar
Version:	Standard / Advanced
Max. holding force:	6x M8 6x M10 / M12 6x M12 / M16

SERIES SPP
OUR EXPERTISE – YOUR ADVANTAGES

The SPP pallet changer with a variety of options
Whether it's handling components in portals, on robots or as a supplement to the tool changer with limited installation space and force.

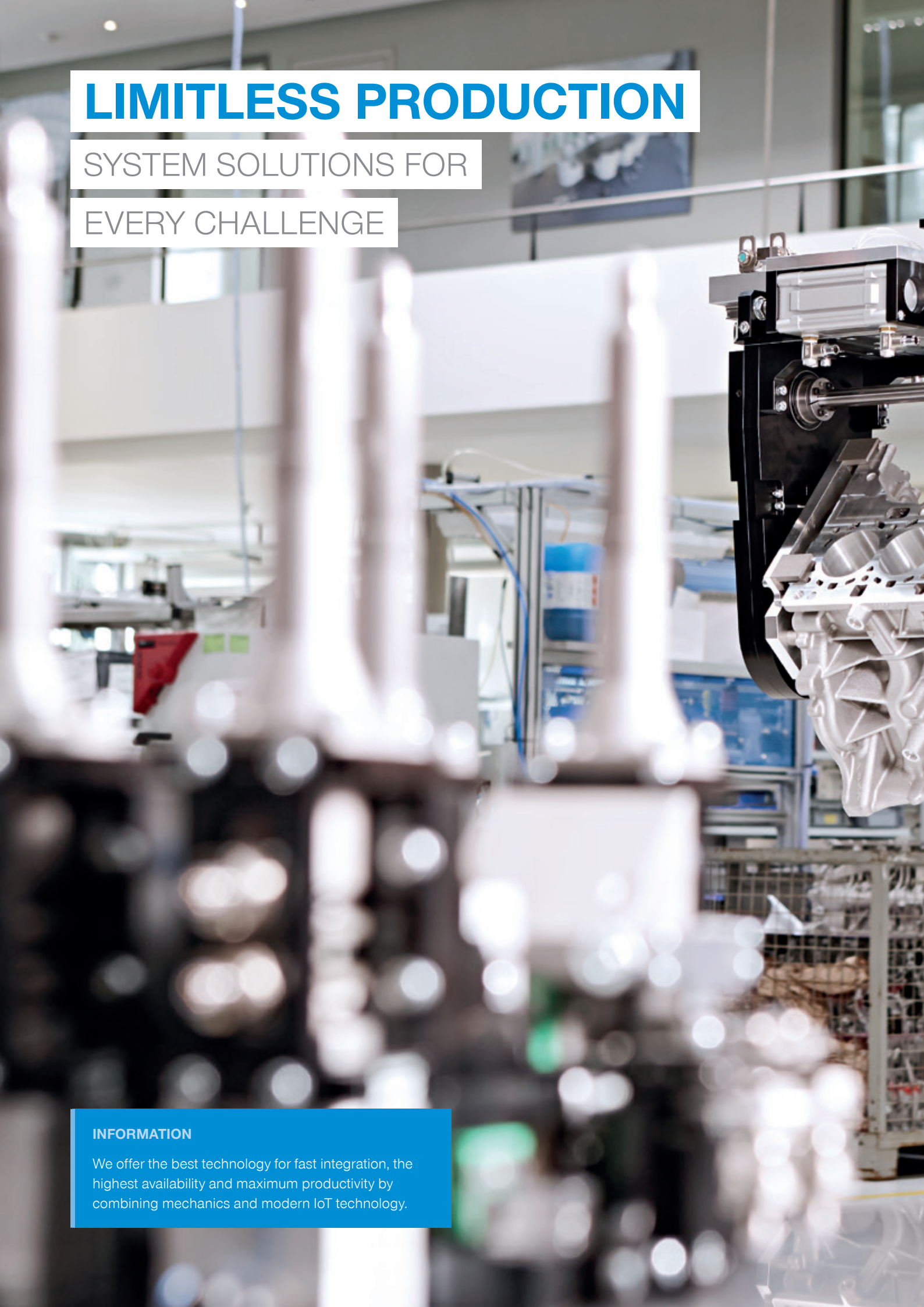
Slim design - Maximum utilization
The combination of a slim and low profile design enable both close-proximity pallet loading on the machine table and maximum usage of the machine space.

High clamping force – Secure handling
An extremely rigid system – highest holding force and torques as well as a highly precise connection between the robot and the clamping plate.



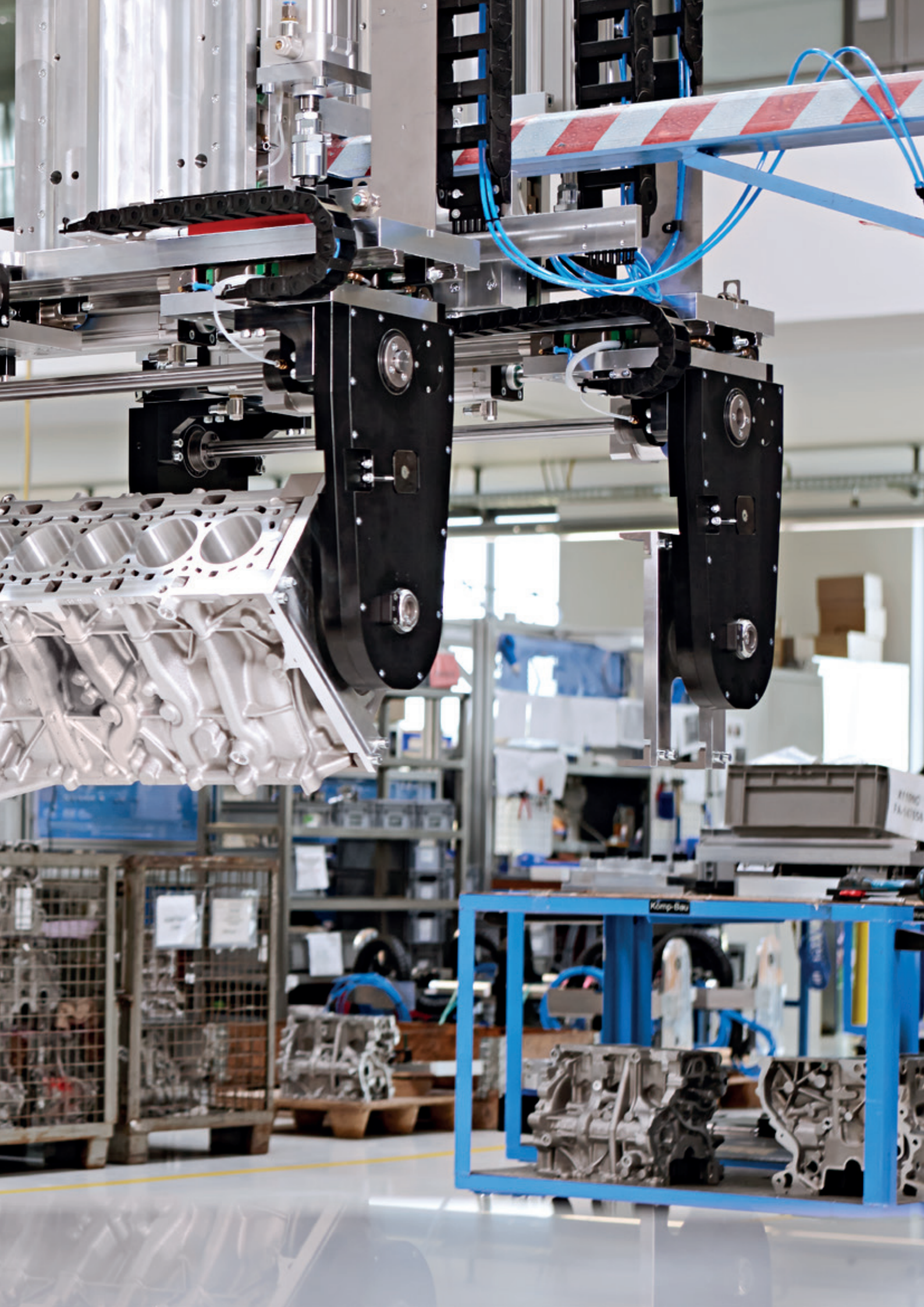
LIMITLESS PRODUCTION

SYSTEM SOLUTIONS FOR EVERY CHALLENGE



INFORMATION

We offer the best technology for fast integration, the highest availability and maximum productivity by combining mechanics and modern IoT technology.



SYSTEM COMPONENTS
SYSTEMS

PRODUCTION FROM QUANTITY 1

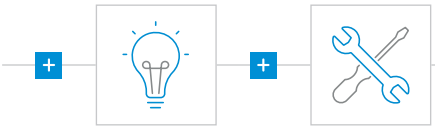
SYSTEM SOLUTIONS WITHOUT COMPROMISE

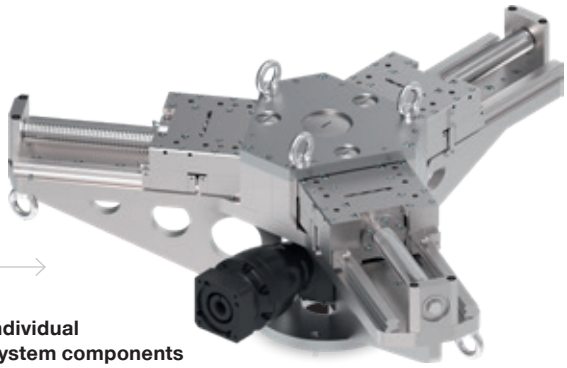
With over 45 years of experience in special machine construction and an excellent, modern machine park, we specialize in supplementing our standardized component solutions with tailor-made system components. This makes us the leading partner for innovative solutions in mechanical and plant engineering. Our comprehensive product range extends the Zimmer Group's standard components both in terms of depth and breadth in order to meet the diverse requirements of our customers.

OUR EXPERTISE—YOUR ADVANTAGE

- **Adaptable:** Products specially tailored to individual customer needs and requirements.
- **Integration:** Components can be integrated seamlessly into existing systems and processes.
- **Innovative:** The most modern technologies for efficient and future-proof solutions.

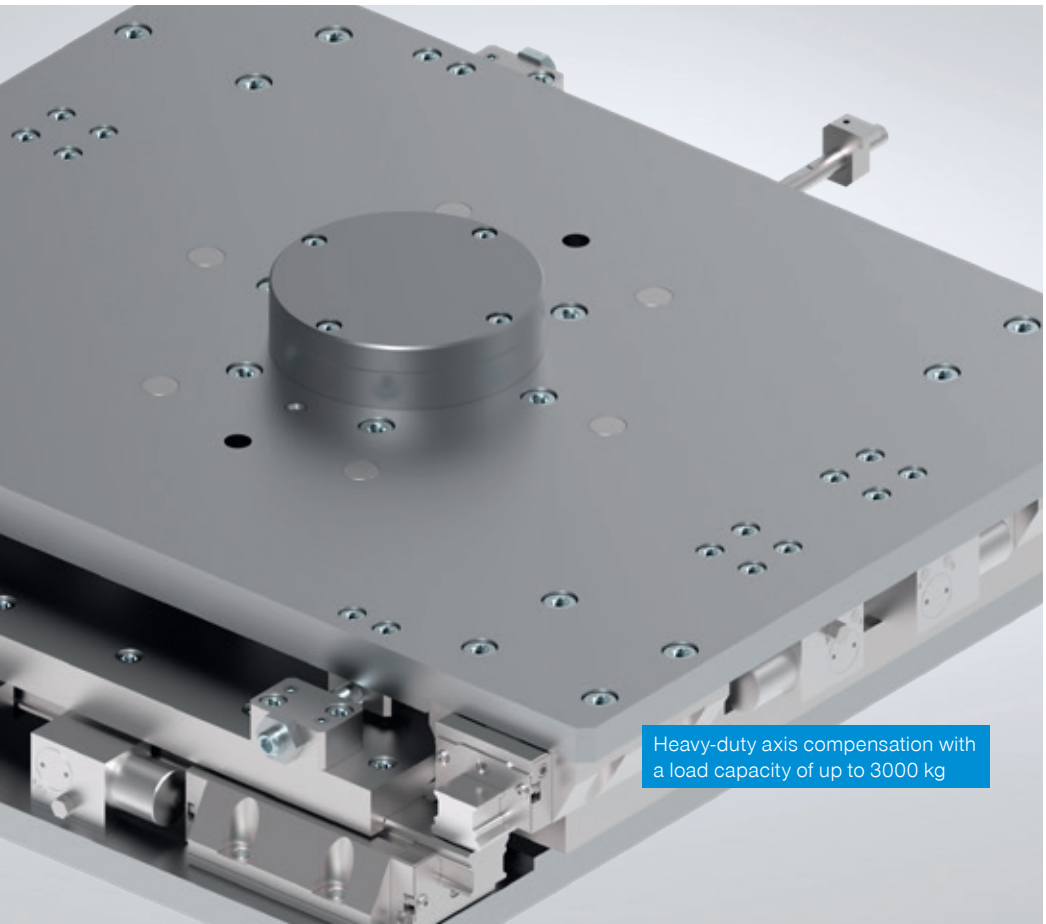
Standard components
3-jaw concentric gripper





Individual System components
3-jaw concentric grippers with long stroke

Application-specific components from the fields of handling, damping, machine, clamping and braking technology.



Heavy-duty axis compensation with a load capacity of up to 3000 kg

Servomotorized swivel jaw

Mandrel gripper for gripping in threaded holes

END-OF-ARM TOOLS AND GRIPPER SYSTEMS
SYSTEMS

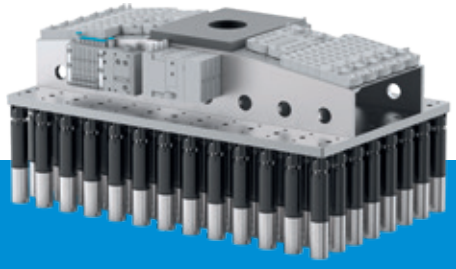
COMPREHENSIVE SOLUTION EXPERTISE

They are the heart of robotic automation: end-of-arm tools. We have solved the most varied tasks across industries with them: gripping, checking, installing and much more.

As an industry partner with many years of experience, we are very familiar with the requirements of modern EOATs, whether in mechanical engineering, the automotive and supplier industries, foundries or in the electronics, plastics or the consumer goods sectors. Zimmer Group gripper systems allow us to equip any make of robot optimally and significantly increase the functionality and efficiency of your robots.

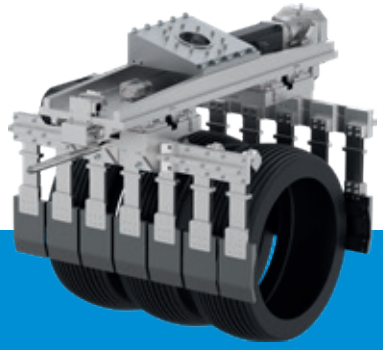
Possible areas of application:

- Foundry
- Railway vehicles
- Wheels, tires and rims
- Battery handling
- Internal combustion engines
- Logistics



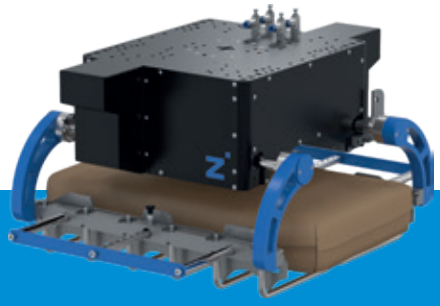
E-MOBILITY

Whether for the production of cylindrical, prismatic or pouch cells. Tailored solutions ensure efficient automation in the battery manufacturing value chain. From the cell to the module.



TIRES, WHEELS AND RIMS

Manufacturing finished wheels is a complex process that involves many different steps. We support you from the concept phase up to implementation and have extensive know-how in the field of manufacturing tires and wheels.



LOGISTICS

Tailored gripping solutions play a central role in intralogistics as a link between robots and materials. In addition to precision and flexibility, they are designed to meet the requirements of demanding production environments.

WOOD MACHINING

The use of industrial robots is a crucial productivity factor in machine woodworking. We offer innovative end-of-arm products optimized for the application for the increasing use of robotics.

EOATS FOR E-MOBILITY
SYSTEMS

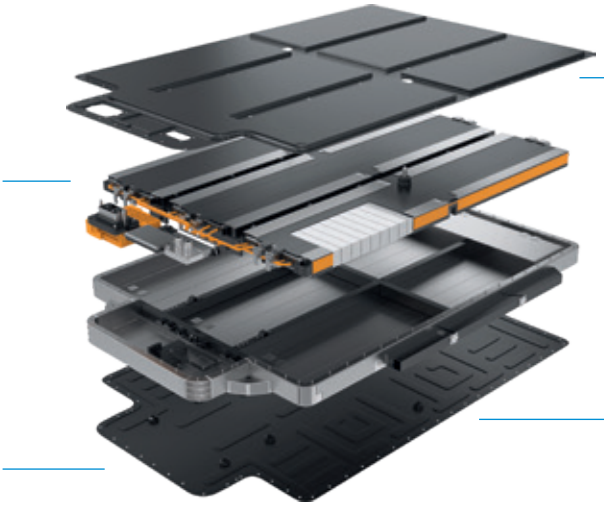
SOLUTIONS FOR E-MOBILITY

The Zimmer Group is a development and system partner to major-name premium manufacturers and system manufacturers in battery production for electric vehicles. Whether for the production of cylindrical, prismatic or pouch cells. In partnership with you, we will develop the right solution – from the cell, through the packaging, right up to the module.

A STRONG AND EXPERIENCED PARTNER

- **Implemented projects:**
  50 projects, 400 grippers, 2000 devices
- **Solutions for e-mobility:**
  Since 2014
- **Engineering expertise:**
  More than 100,000 hours of engineering

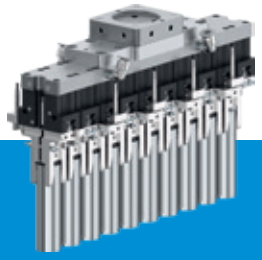
Module production
The module production of batteries for electric cars is a rapidly developing sector. This is where individual battery cells are joined together to form modules. Our automation technologies and handling systems increase efficiency and sustainability.



Cell production
Efficient and sustainable cell production processes reduce the high costs of cell production. We support you with proven and innovative handling systems.

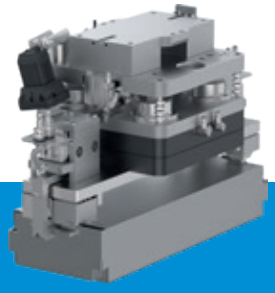
Final assembly
The final assembly is the last step in battery production. This is where the battery packs are integrated into the vehicle. In addition to precision, safe handling of enormous weights is also important during final assembly. Palletizing, turning and packing grippers are solutions for this.

Packaging
Packaging is a complex process that requires high precision. The individual modules are joined together to form a battery pack. Packing improves the safety, performance and service life of batteries.



BATTERY CELL GRIPPER

A compact and powerful end-of-arm tool that holds the cells securely with a holding force of 65 N, even during high accelerations and emergency stops.



BATTERY MODULE GRIPPER

Available as a double or single gripper, it handles modules weighing up to 130 kg and can be adapted to a wide range of module types thanks to its adaptability.

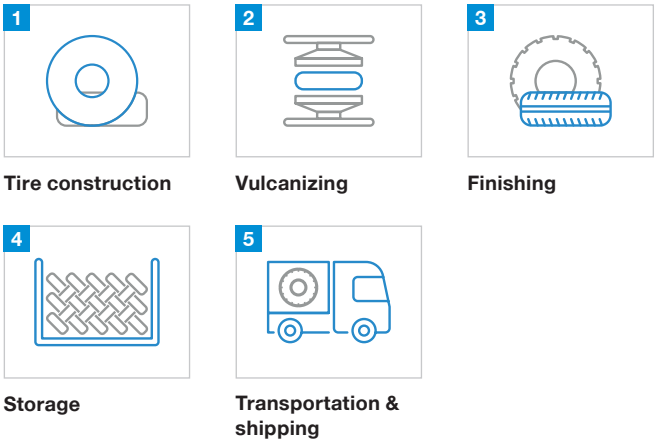
HOUSING HANDLING

Specialized grippers enable precise handling of housings in various sizes. Zimmer Group systems guarantee high process reliability and efficiency.

EOAT FOR TIRES, WHEELS AND RIMS
SYSTEMS

FROM CALENDERING TO PALLETIZING FINISHED TIRES

The path to finished wheels involves a complex process with many different steps. To stay economical and guarantee efficiency, optimization of production in plants with automation solutions is absolutely essential nowadays. Our know-how in automation includes PCRs (passenger car radial tires),TBRs (truck and bus radial tires) and OTRs (off-the-road tires). No matter the challenge you face in your production process, we will find the solution.



FROM STANDARD TO SPECIAL SOLUTIONS

- **Raw tires:**
  - Raw tire gripper
  - Vacuum raw tire gripper
- **Finished tires:**
  - Rick-rack finished tire gripper
  - Double rick-rack finished tire gripper
  - Finished tire stacking gripper
- **Rims:**
  - Double rim gripper
  - Multiple rim gripper
- **Wheels:**
  - Wheel mounting gripper
  - Wheel stacking gripper

... AND MANY MORE SOLUTIONS

TIRE GRIPPER

Flexibly adaptable, the 3-/4-jaw finished tire grippers make it possible to handle different batch sizes. Automated sorting, storage, palletizing and buffering ensure a smooth vulcanization process.

STACKING GRIPPER

Ergonomic, safe and cost-effective tire stacking grippers for sorting, buffering and palletizing cells. Optional sensors detect the ground clearance, workpieces and distances to the tire stack.

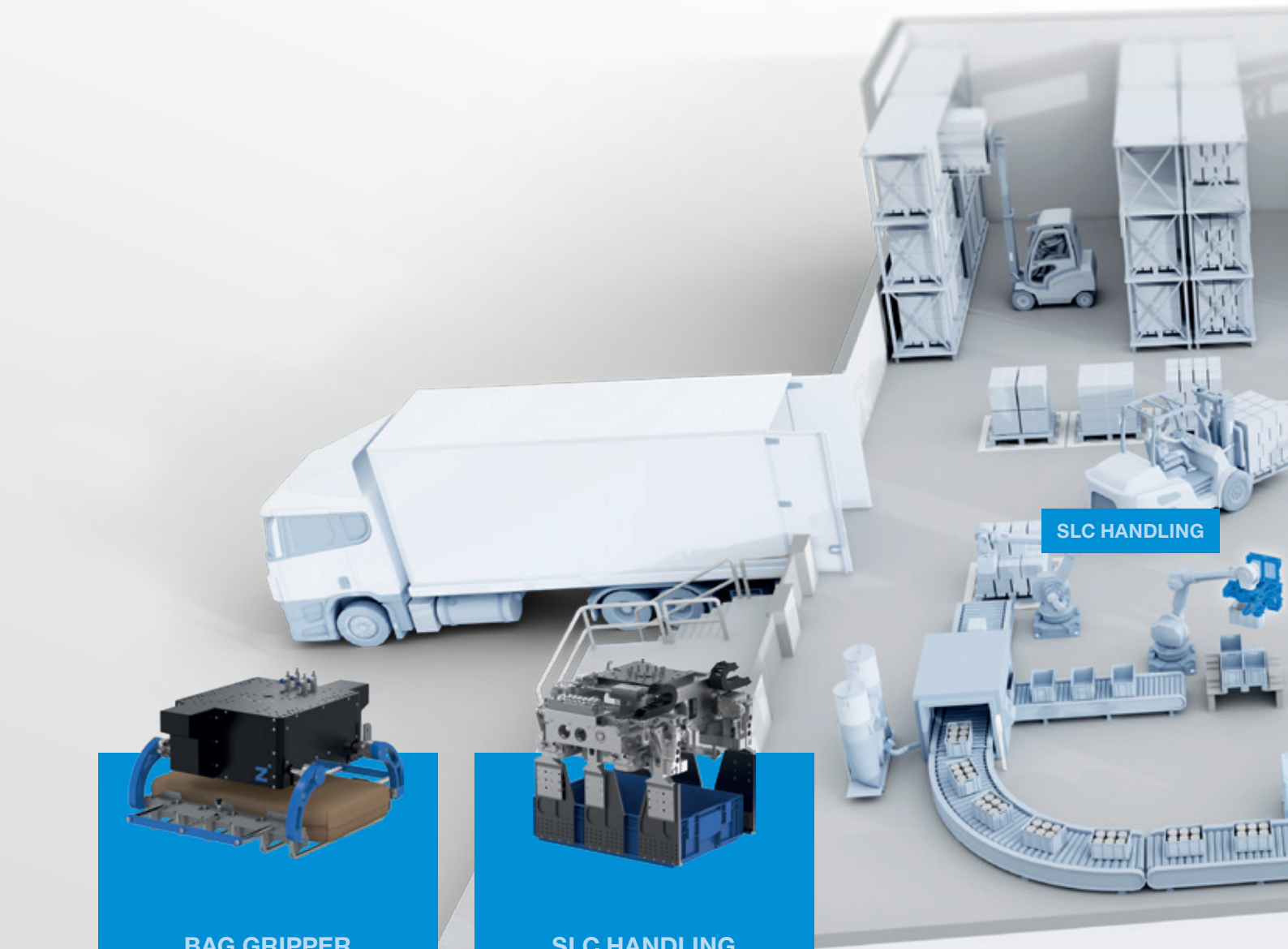
RIM GRIPPER

Standard solutions for reliable handling of common car rim sizes with minimum set-up time. Can be used flexibly as a single, double or multiple gripper system.

EOATS FOR LOGISTICS
SYSTEMS

TRANSFORM YOUR LOGISTICS PROCESSES

Increasing customer expectations and tight schedules put your logistics to the test every day. Experience how the Zimmer Group masters your challenges and creates efficiency with innovative handling systems, flexible robot cells and intelligent AMRs. Reduce operating costs and increase throughput speed – sustainably and future-proof. Discover new possibilities with us to prepare your logistics of today for tomorrow.



BAG GRIPPER

A unique end-of-arm system for handling bags that can be filled with a variety of goods. Synchronous jaw movement and force storage keep the workpiece centered.

SLC HANDLING

Special EOAT solutions for handling small load carriers and cartons optimize (intra-)logistical processes. This is particularly important in the automotive industry, electronics production and other small parts industries.

1 Truck unloading

2 Depalletizing

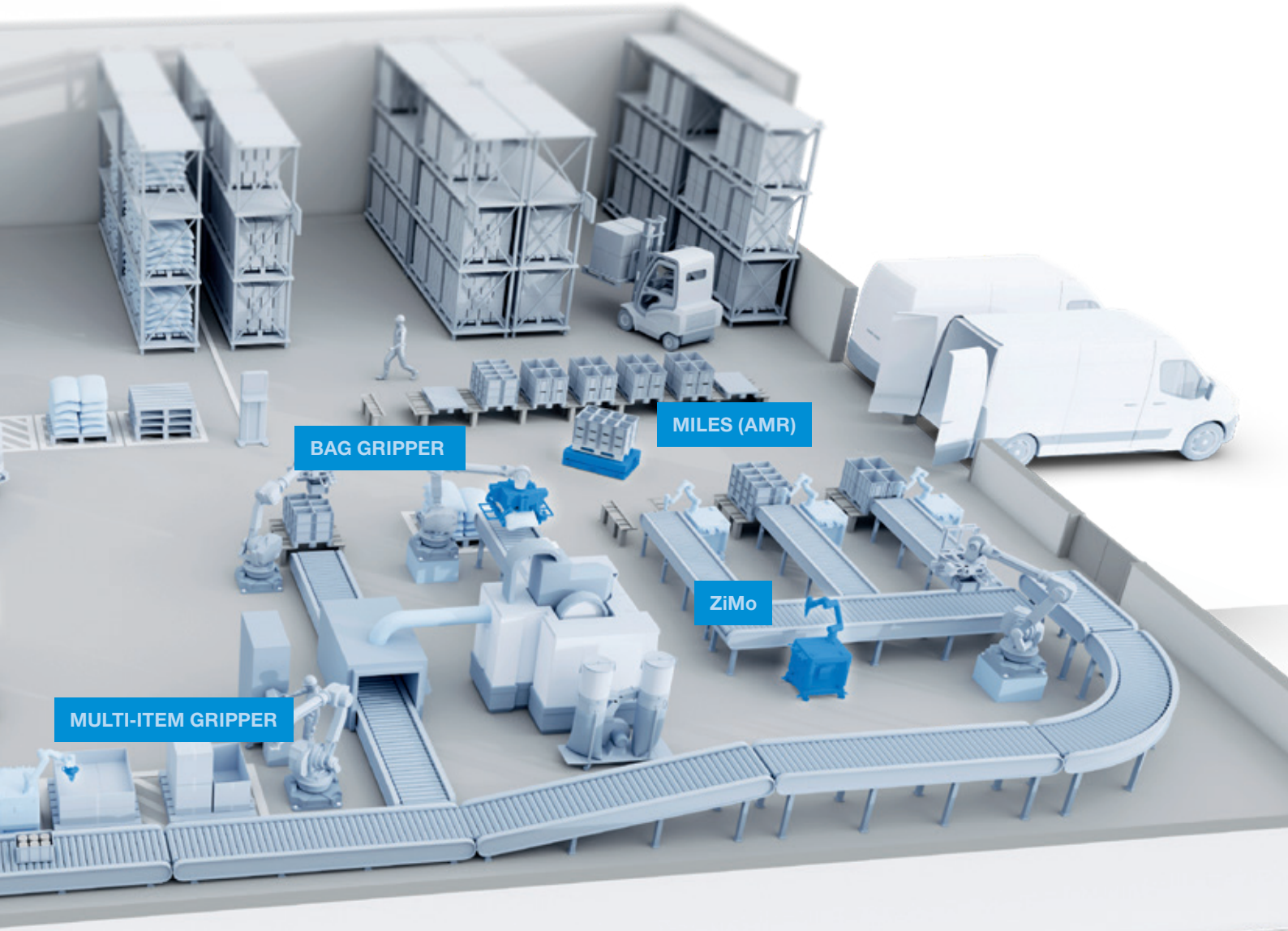
3 SLC handling

4 Bin picking

5 Pick & Place

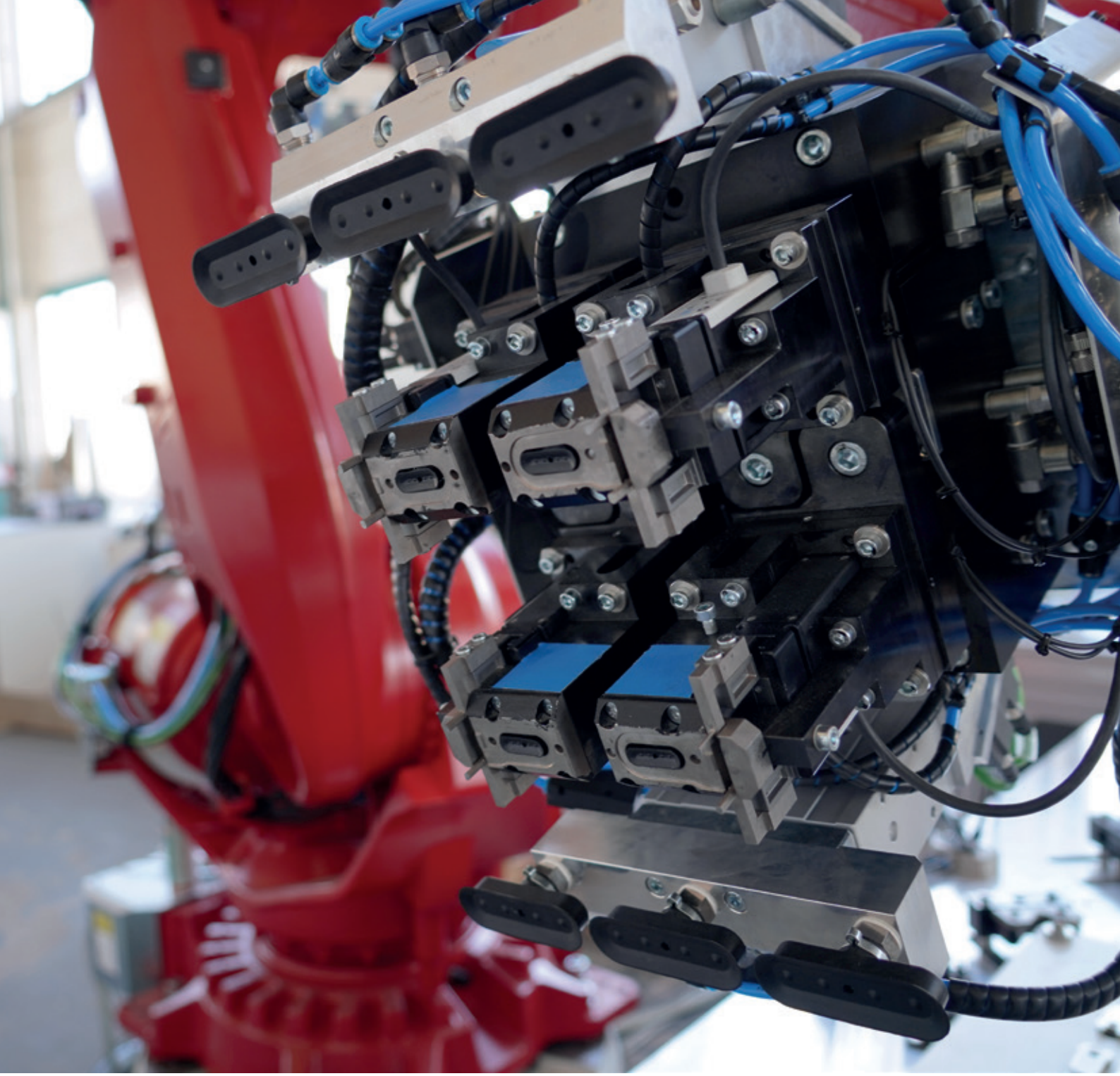
6 Palletizing

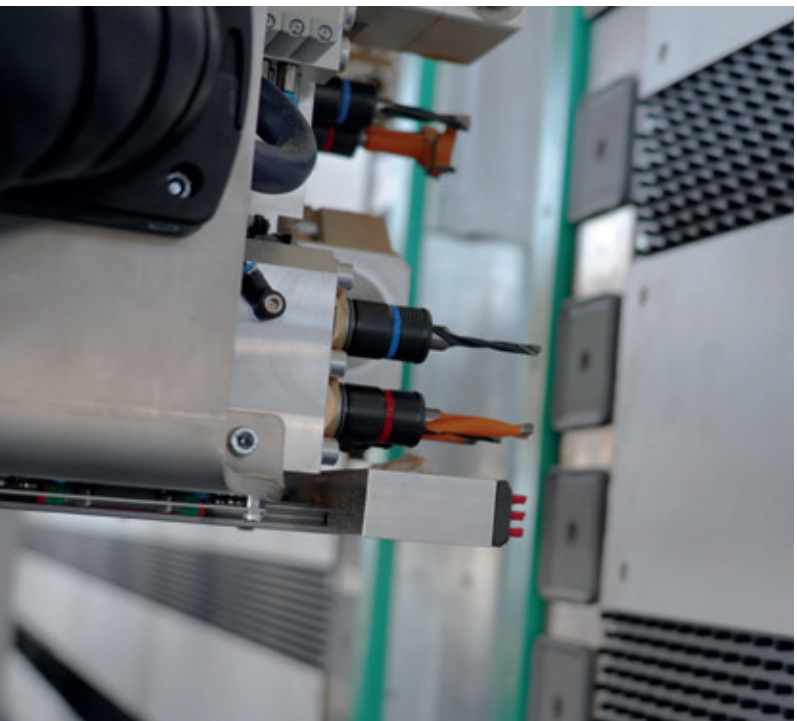
7 Truck loading

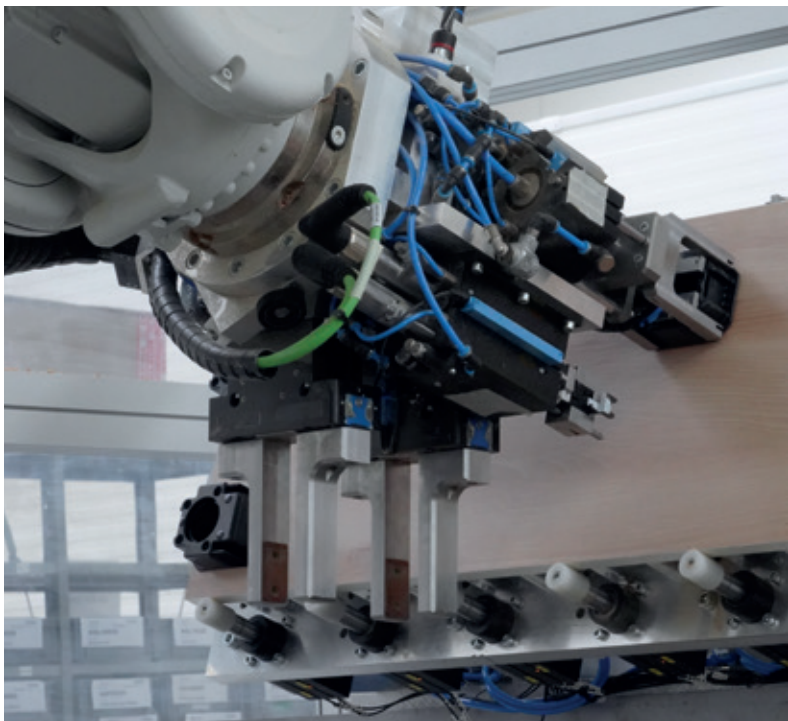


INFORMATION

In a constantly changing world, companies are faced with the challenge of optimizing their intralogistics processes. Our customized automation solutions ensure seamless integration into existing processes and give you a real competitive advantage.







EOATS FOR WOODWORKING
SYSTEMS

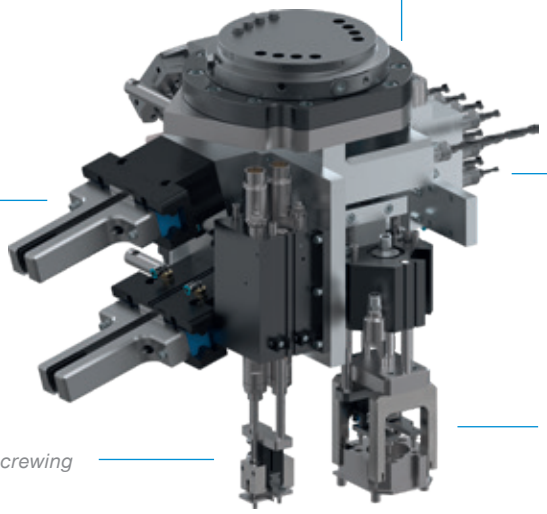
MULTI-FUNCTION UNIT

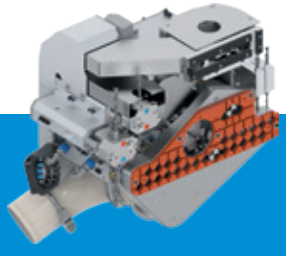
The Zimmer Group has been one of the most innovative companies in the woodworking sector for over 25 years. In the 1990s and 2000s, we revolutionized the market, primarily as a think tank and OEM supplier, with groundbreaking solutions such as the world's first e-interface on the machining head. Today we deliver sophisticated high-tech products in the process chain with a focus on the highest flexibility, scalability and productivity.

To achieve this, we rely on state-of-the-art development technologies and simulation methods, such as the digital twin. The Zimmer Group offers innovative, application-optimized end-of-arm products for the increasing use of robot technology in the machining of wood, wood-like and composite materials. The flexibility knows no bounds.

OUR EXPERTISE—YOUR ADVANTAGE

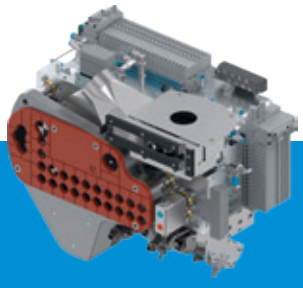
- Modular end-of-arm tools for implementing a wide range of functions on the machining module
- Project-specific platform for minimum space requirement and tool change effort
- Countless attachment options offer the greatest possible flexibility and freedom





MFU176580

Multi-function unit with horizontal and vertical drill spindles, grooving saw, Clamex and fitting unit, milling spindle, suction unit and hold-down device



MFU148795

Multi-function unit with horizontal and vertical drill spindles, grooving saw, fitting unit, milling spindle, suction unit and hold-down device

MFU059104

Multi-function unit with horizontal and vertical drill spindles, grooving saw, Clamex unit and milling spindle

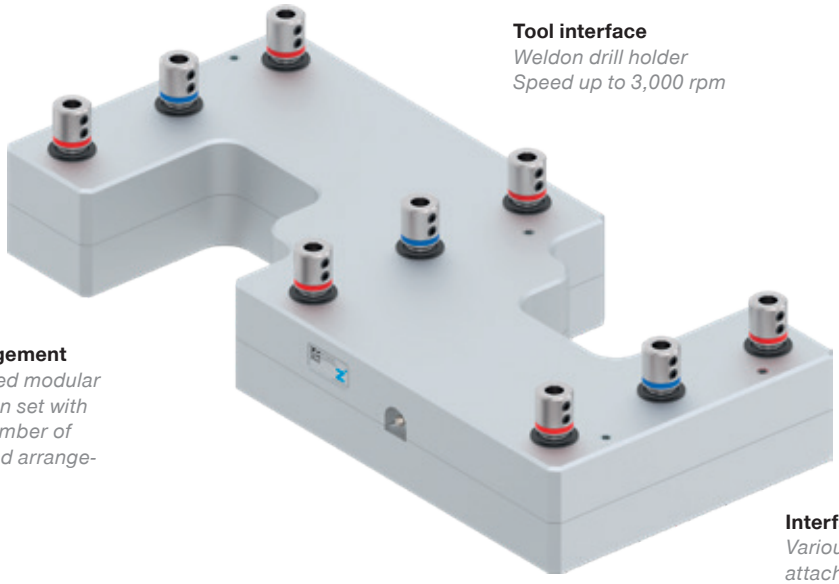
EOATS FOR WOODWORKING
SYSTEMS

DRILLING UNITS WITH FIXED SPINDLES

We develop fixed drilling units for series drilling to maximize the performance of your drilling machine. The configuration and arrangement of the individual drill spindles can be freely selected. A central drive through all common machine interfaces drives all drill spindles at the same time via gear drives.

OUR EXPERTISE—YOUR ADVANTAGE

- Customized fixed drilling units in a wide range of variations
- Machining of wood, composite materials and plastics
- Repair and replacement drilling units for all common machine manufacturers
- Variable number and arrangement of spindles



Tool interface
Weldon drill holder
Speed up to 3,000 rpm

Drill arrangement
Standardized modular construction set with variable number of spindles and arrangement

Interfaces
Various machine interfaces for attachment to existing drives

BKT117477

In-line drilling unit with 11 drill spindles in a 32 mm grid

BKT143372

Drilling unit with a spindle distance of 10 mm

BKT143365

In-line drilling unit in L-arrangement with 5 drill spindles and 32 mm grid

DRILLING UNITS WITH ADJUSTABLE SPINDLES

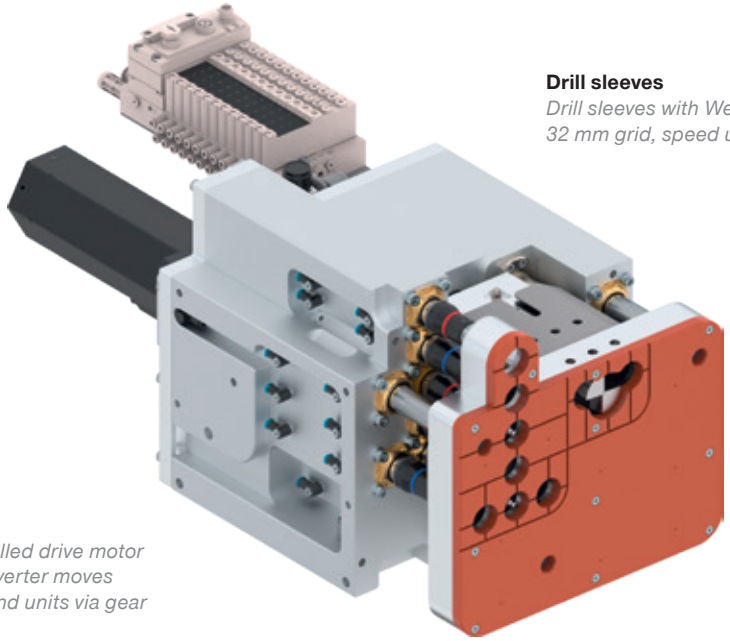
Our high-quality drilling units with adjustable spindles achieve maximum precision thanks to their monoblock design. The individually adjustable drill sleeves have form-fit locking in the extended position to achieve maximum forces and processing speeds. In addition to the interchangeable installed drill sleeves, these spindles offer many other refined features in this product area.

OUR EXPERTISE—YOUR ADVANTAGE

- Customized adjustable drilling units in a wide range of variations
- Machining of wood, composite materials and plastics
- Various units for a wide range of machining operations (horizontal drilling unit, grooving saw, Clamex, cup conveyor)
- Variable number and arrangement of spindles

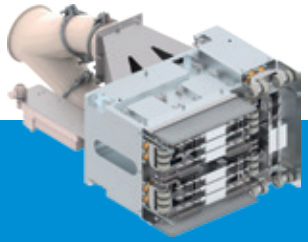
Design
The monobloc design guarantees maximum precision and easy replacement of the installed drill sleeves

Drill sleeves
Drill sleeves with Weldon bracket, 32 mm grid, speed up to 7500 rpm



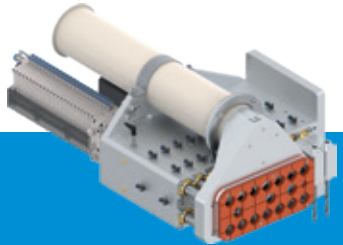
Drive
A centrally controlled drive motor with frequency inverter moves the drill sleeves and units via gear drives

Extension stroke
Drill sleeves with 60 mm extension stroke and locking in the extended state



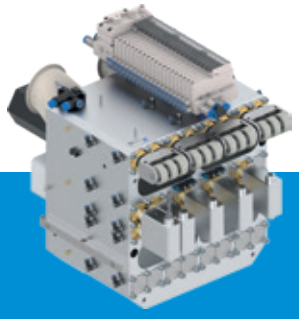
EDG141365

Drilling unit with horizontal drill elements in the X and Y directions, hold-down device and suction unit



EDG174208

Drilling unit with horizontal and vertical drill spindles, hold-down device and suction unit



EDG174196

Drilling unit with horizontal drill elements, hold-down device and suction unit

EOATS FOR WOODWORKING
SYSTEMS

DRILLING UNIT

WITH FIXED SPINDLES

BKT148416
Mechanical interface: Morbidelli
Tool interface: Ø10h6 Weldon
Drill spindles: 9 pieces
Spindle arrangement: Specific to the customer

BKT117477
Mechanical interface: Morbidelli
Tool interface: Ø10h6 Weldon
Drill spindles: 11 pieces
Spindle arrangement: R-shape

BKT143372
Mechanical interface: Morbidelli
Tool interface: Ø5h6 Weldon
Drill spindles: 2 pieces
Spindle arrangement: R-shape

BKT143365
Mechanical interface: Morbidelli
Tool interface: Ø10h6 Weldon
Drill spindles: 5 pieces
Spindle arrangement: L-shape

BKT117458
Mechanical interface: Morbidelli
Tool interface: Ø8h6 Weldon
Drill spindles: 2 pieces
Spindle arrangement: R-shape

BKT127041
Mechanical interface: Biesse
Tool interface: Ø10h6 Weldon
Drill spindles: 4 pieces
Spindle arrangement: R-shape

BKT117460
Mechanical interface: Morbidelli
Tool interface: Ø10h6 Weldon
Drill spindles: 3 pieces
Spindle arrangement: L-shape

BKT143364
Mechanical interface: Morbidelli
Tool interface: Ø10h6 Weldon
Drill spindles: 4 pieces
Spindle arrangement: R-shape

BKT143371
Mechanical interface: Morbidelli
Tool interface: Ø10h6 Weldon
Drill spindles: 3 pieces
Spindle arrangement: R-shape

BKT143368
Mechanical interface: Morbidelli
Tool interface: Ø10h6 Weldon
Drill spindles: 6 pieces
Spindle arrangement: V-shape

WITH ADJUSTABLE SPINDLES

EDG141365
Horizontal drill spindles: 16 pieces
Extraction: Yes
Hold-down device: Yes

EDG114392
Vertical drill spindles: 7 pieces
Extraction: Yes
Hold-down device: Yes
Fitting unit: Yes

EDG113234
Vertical drill spindles: 21 pieces
Extraction: Yes
Hold-down device: Yes

EDG174196
Vertical drill spindles: 10 pieces
Horizontal drill spindles: 10 pieces
Extraction: Yes
Hold-down device: Yes

EDG174208
Vertical drill spindles: 17 pieces
Horizontal drill spindles: 4 pieces
Extraction: Yes
Hold-down device: Yes

EDG174806
Vertical drill spindles: 3 pieces
Extraction: Yes

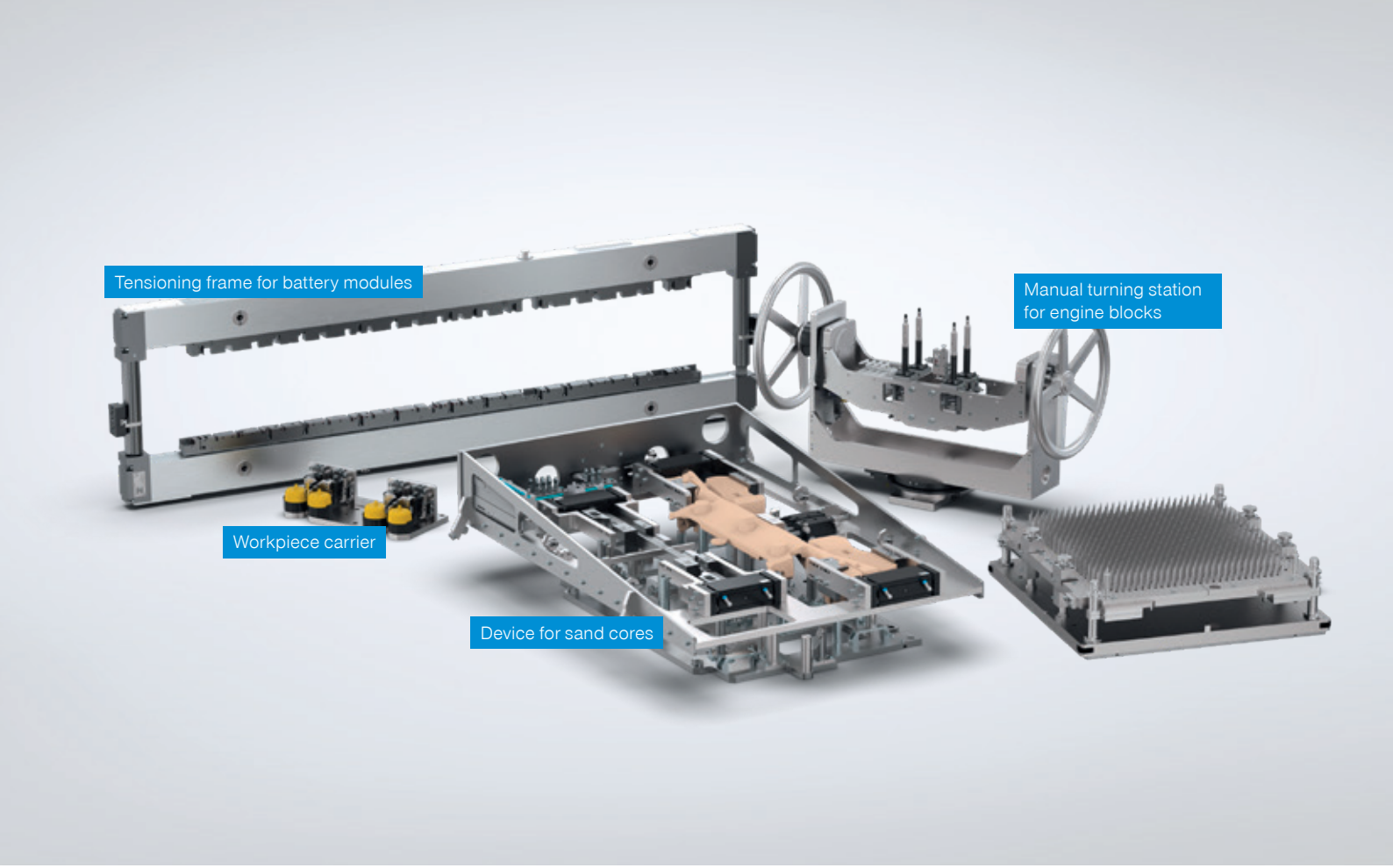
MULTI-FUNCTION UNITS

MFU059104
Vertical drill spindles: 31 pieces
Horizontal drill spindles: 10 pieces
Grooving saw: Yes
Clamex: Yes
Milling spindle: Yes

MFU148795
Vertical drill spindles: 23 pieces
Horizontal drill spindles: 2 pieces
Extraction: Yes
Hold-down device: Yes
Grooving saw: Yes
Fitting unit: Yes
Milling spindle: Yes

MFU085433
Vertical drill spindles: 10 pieces
Horizontal drill spindles: 1 pieces
Handling unit: Yes

MFU176580
Vertical drill spindles: 21 pieces
Horizontal drill spindles: 4 pieces
Extraction: Yes
Hold-down device: Yes
Grooving saw: Yes
Clamex: Yes
Fitting unit: Yes
Milling spindle: Yes



DEVICE CONSTRUCTION
SYSTEMS

YOUR EXPERT FOR DEVICE CONSTRUCTION

Device construction is the perfect addition to our EOAT gripper systems for robots. With state-of-the-art machinery and comprehensive engineering expertise, we create customized solutions that meet the highest standards.

Our approach is based on efficiency and synergy: Gripper systems and device construction often go hand in hand. By getting both services from a single source, you benefit from seamless integration, maximum precision and optimal functionality.

MOBILE ROBOTICS AND TRANSPORT SYSTEMS
SYSTEMS

ZIMO MOBILE ROBOT CELL

For cost-effective and straightforward process automation at small or medium-sized businesses, ZiMo is the solution. The Zimmer Group's flexible robot cell offers you a simple and mobile start-up and will impress you with its rapid integration into your processes. Where you need a helping hand, ZiMo supports you with assembly, pick-and-place tasks or for training purposes. You have free choice of a wide variety of options and receive the complete package tailored to your needs.

- **Ideal for small and varying batch sizes**
- **Increased productivity**
- **Flexible use**
- **Optimized production processes**
- **Customizable**
- **Fast return on investment (ROI)**

Robot
Manufacturer-independent use thanks to comprehensive compatibility with various lightweight robots.

Storage for load carriers
Mechanical suspension system for SLCs, cartons or workpiece carriers.

Storage for 4 MATCH grippers
Automated changing of end effectors tailored to each application.

Control panel
Intuitive operation and robot programming using Zimmer Group HMI.

Mechanical and electric interface
Docking for flexible positioning and various options for machine communication.

Sensors
Integrated, step-by-step security settings for collaborative and cooperative activities.

ZIMO SOLUTIONS

ZiMo can be put together as a modular system from a wide range of options. Whether as a basic platform kit for your own automation cell, a combination of different options or as a complete cell with "easy to use" operation from the Zimmer Group. ZiMo gives you the choice. Check out the next page to find out what options you have.

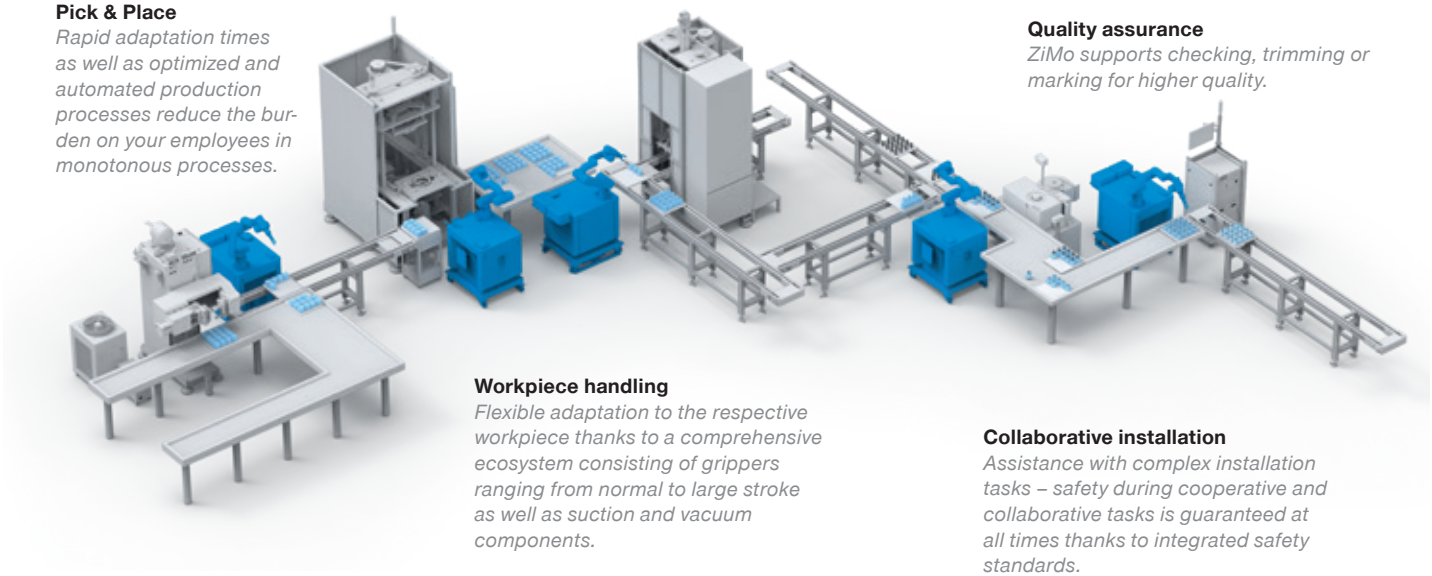
MORE INFORMATION

Mobile robotics
Check out our website for, more info on robotics, ZiMo and many other components.

VARIABLE FOR ALL PRODUCTION SITUATIONS

Workpiece removal
24/7 machine loading and unloading, rapid adaptation times and a simplified servicing routine increase the machine operating times.

Pick & Place
Rapid adaptation times as well as optimized and automated production processes reduce the burden on your employees in monotonous processes.



Quality assurance
ZiMo supports checking, trimming or marking for higher quality.

Workpiece handling
Flexible adaptation to the respective workpiece thanks to a comprehensive ecosystem consisting of grippers ranging from normal to large stroke as well as suction and vacuum components.

Collaborative installation
Assistance with complex installation tasks – safety during cooperative and collaborative tasks is guaranteed at all times thanks to integrated safety standards.

INTUITIVE CONTROL VIA ZIMMER HMI

Versatility that is hard to beat. Our Zimmer HMI gives you a simple and straightforward introduction to the world of automation. In addition, the control system itself offers even experienced programmers convincing advantages and possibilities.

- **Intuitively operable**
- **Collaborative or cooperative**
- **No programming skills necessary**
- **Shorter commissioning time**
- **Simulation via digital twin**
- **Expandable for experienced programmers**

MOBILE ROBOTICS AND TRANSPORT SYSTEMS
SYSTEMS

DIFFERENT VERSIONS FOR ANY REQUIREMENT

Whether you are a small, medium-sized or large company – we offer the right automation solution for any requirement. From a simple start without any programming knowledge to automation for machine builders and integrators – our solutions are flexible, scalable, and grow with your needs. A ready-to-use automation cell that can be used without any programming is ideal for a quick start. If you want more freedom, opt for a version with an open solution. For maximum customization, the flexible module combination offers its own options and interfaces – ideal for machine builders and integrators who want to implement tailored solutions.

EASY AUTOMATION – FOR SMALL AND MEDIUM-SIZED COMPANIES

Our fully ready-to-use automation cell offers maximum flexibility and can be easily integrated into your production system. The versatile control system makes it easy to get started with automation – without any programming knowledge. You benefit from an intuitive, immediately usable solution that efficiently optimizes your processes. Even experienced programmers will get their money's worth thanks to the extensive customization options.

FROM EASY TO OPEN AUTOMATION – FOR LARGE COMPANIES

With the extension to the open automation cell, with the appropriate expertise, you have the option of extending your own options and interfaces to your machine in the PLC and adapting them to any requirements.

BASE MODEL S

+ ZiMo
+ 5 kg GoFa robot
+ Zimmer HMI

BASE MODEL M

+ ZiMo
+ 5 kg GoFa robot
+ Zimmer HMI
+ 2x SICK safety scanner
+ Storage for load carriers
+ Passive distributor
+ IO-Link
+ Pneumatics without safety (1x valve / 1x ejector)

BASE MODEL L

+ ZiMo
+ 10 kg GoFa robot
+ Zimmer HMI
+ 2x SICK safety scanner
+ 2x storage for load carriers
+ Storage for MATCH gripper
+ Passive distributor
+ IO-Link
+ Digital IO (32 I/O)
+ Pneumatics with safety (2x valves / 2x ejectors)
+ 2 additional docking strips

PLATFORM KIT FOR MACHINE BUILDERS AND INTEGRATORS

The platform kit gives you complete freedom and flexibility. You can put together your perfect combination from the entire ZiMo portfolio and all other Zimmer Group catalog products. You choose and integrate the robot of your choice, so you can design the ZiMo entirely according to what you want.

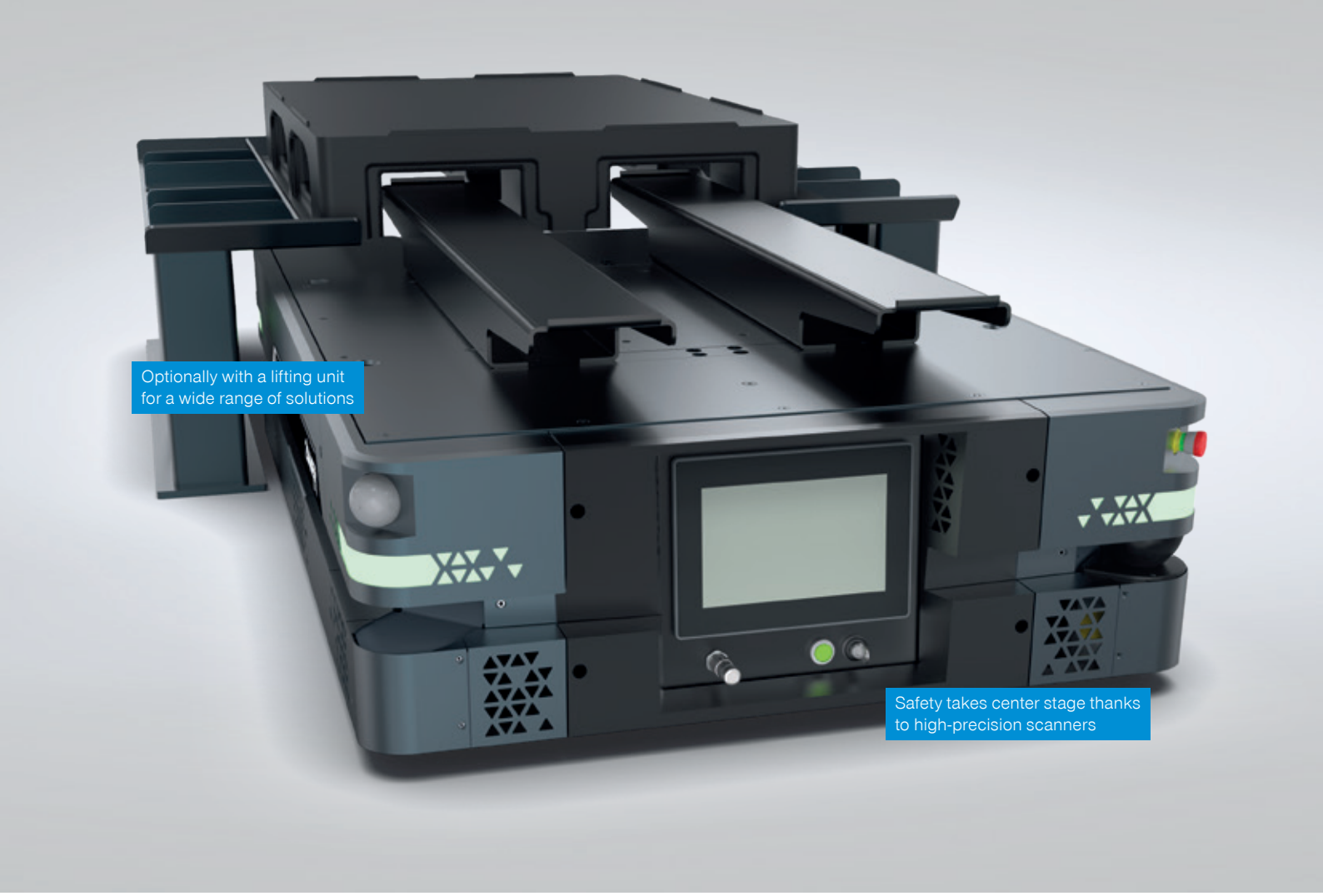
Thanks to the modular design, you can decide which components, functions or extensions make sense for your application. This gives you maximum freedom of design and lets you develop your automation solution to fit perfectly. You can seamlessly integrate your own programming logic.

If you opt for our existing ZiMo PLC, you will benefit from a major advantage: We have defined a standard exchange over a Profinet or Ethercat interface that allows you to easily connect your robot controller to the PLC.

OUR EXPERTISE—YOUR ADVANTAGE

- Complete freedom and flexibility
- Independent programming
- Holistic design according to what you want

ZiMo as a platform for our AMR from the Miles series



MOBILE ROBOTICS AND TRANSPORT SYSTEMS
SYSTEMS

SERIES MILES – CUSTOMIZED AND DRIVERLESS TRANSPORT SYSTEMS

Autonomous mobile robots (AMRs) are revolutionizing the industry and increasing efficiency in countless sectors. AMRs are intelligent, self-navigating vehicles that are designed to perform tasks without direct human intervention. They combine state-of-the-art technologies to navigate complex environments, interact with objects and perform tasks with precision.

Miles, the autonomous mobile robot from the Zimmer Group, optimizes your intralogistics and makes the transport of goods and materials more efficient than ever. Level up your logistics!

OUR EXPERTISE—YOUR ADVANTAGE

- Customer-specific, tailored platforms
- Collaborative automation solution with free layout design
- Omnidirectional movement in some cases for minimal space requirements (turning radius 0 m)
- Natural navigation
- Safety based on SICK technology (Performance Level d)
- Lithium-ion battery as standard
- European safety standards (CE) for a complete automation solution
- Fleet management (optional: Master Computer)

DESIGNED TO WORK TOGETHER

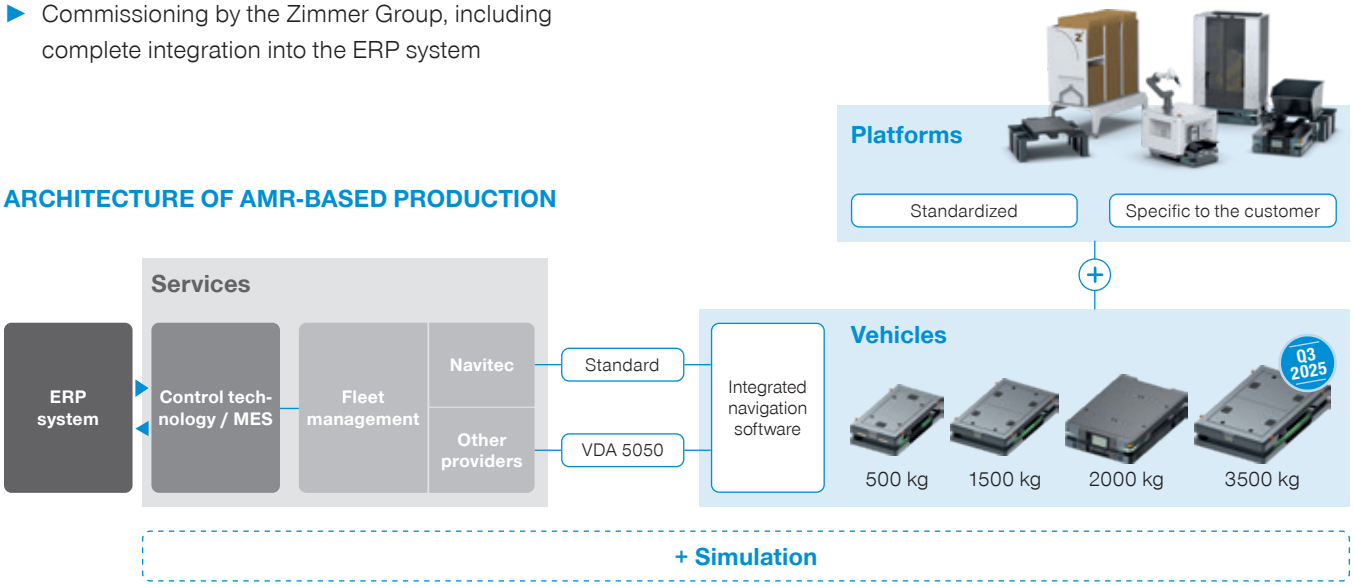
Optimally coordinated, the ERP system, the control technology (or MES) and the fleet management system are crucial for the efficient control and monitoring of your fleet and operational processes. A complete system made up of hardware, software and customer service from the Zimmer Group enables:

- Customized concepts and designs
- Planning the hall and the AMR fleet using simulation
- Fully automated process chain in various areas of logistics and production
- Commissioning by the Zimmer Group, including complete integration into the ERP system

INTELLIGENT SAFETY CONCEPT

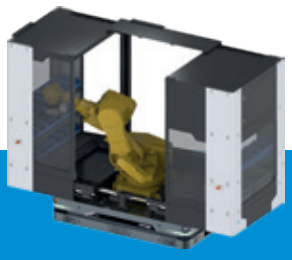
Safety is at the heart of autonomous mobile robots (AMRs). Safety scanners ensure a safe environment for humans and machines. During 360° use, the scanners detect obstacles precisely and proactively and ensure automatic speed adjustment up to and including an immediate stop to avoid potential collisions and ensure collaborate work – even on curves. They also enable highly accurate positioning.

ARCHITECTURE OF AMR-BASED PRODUCTION



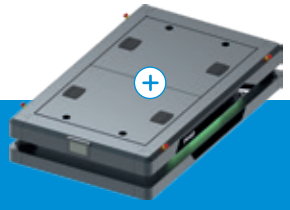
MILES AS A LIFTING UNIT

Miles with lifting unit are available in all load categories and enable a stroke of up to 80 mm for various load carriers.



MILES WITH ROBOT MODULE

Versatile and customizable. Miles with robot module integrates robots weighing up to 50 kg and can install voltage converters and extended battery packs. The enclosure adjusts itself during the route.



MILES CUSTOMIZED

Tailored AMR platforms to meet a wide range of intralogistics requirements. Miles can be adapted precisely to your individual requirements thanks to its modular design.

MOBILE ROBOTICS AND TRANSPORT SYSTEMS
SYSTEMS

IN USE AS A LIFTING UNIT

Miles with a lifting unit provides a broad range of customized adaptation options that can overcome nearly any challenge. This means that the parts to be transported can be adapted with complete flexibility. Despite its small size and compactness, the system, which is equipped with a lifting unit, can transport loads of up to 3500 kg.

- (Euro) pallets
- Off-cuts
- Carts
- Commissioning carts
- and much more

PRODUCT ADVANTAGES

- Up to 80 mm stroke to lift the loading carriers
- Up to 3500 kg load capacity
- Various storage stations can be combined
- Customized adaptations of the structure at any time
- One system for many applications

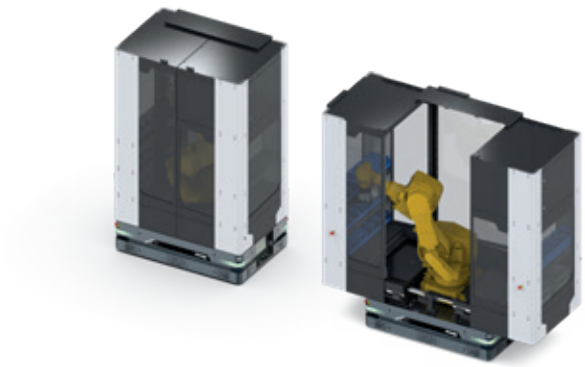
IN USE IN COMBINATION WITH A ROBOT MODULE

Maximum availability and flexibility thanks to the integration of your AMR with a robot. The modular shelf concept guarantees a variety of workpieces. Starting with the journey to the central warehouse, the robot fills the shelves and ends in the assembly area, where the robot supplies assembly stations with the necessary parts – its automation knows no bounds. Application examples include the handling and transport of:

- Kanban containers

PRODUCT ADVANTAGES

- Robots with up to 50 kg handling weight
- 400 V voltage source available
- Optionally available with automatically opening safety fence
- Modular shelf concept for different workpieces
- Optional battery packet for longer runtimes
- Compact design, no additional interference contour during travel
- Positioning to the hand-off location using a camera



With our combination of Miles and ZiMo, we offer a flexible, cost-efficient solution for a wide range of logistics tasks.

COMBINED WITH OUR MOBILE ZIMO ROBOT CELL

In this configuration, the AMR takes over the collection, transport and positioning of the flexible ZiMo robot cell. ZiMo can be used flexibly in various applications thanks to its modular design and its battery-powered nature. The Human Machine Interface (HMI) is designed to be robot-neutral, which allows the operation and control of various robot models. Application examples include use in:

- Loading and unloading machines
- Assembly work
- Quality control

PRODUCT ADVANTAGES

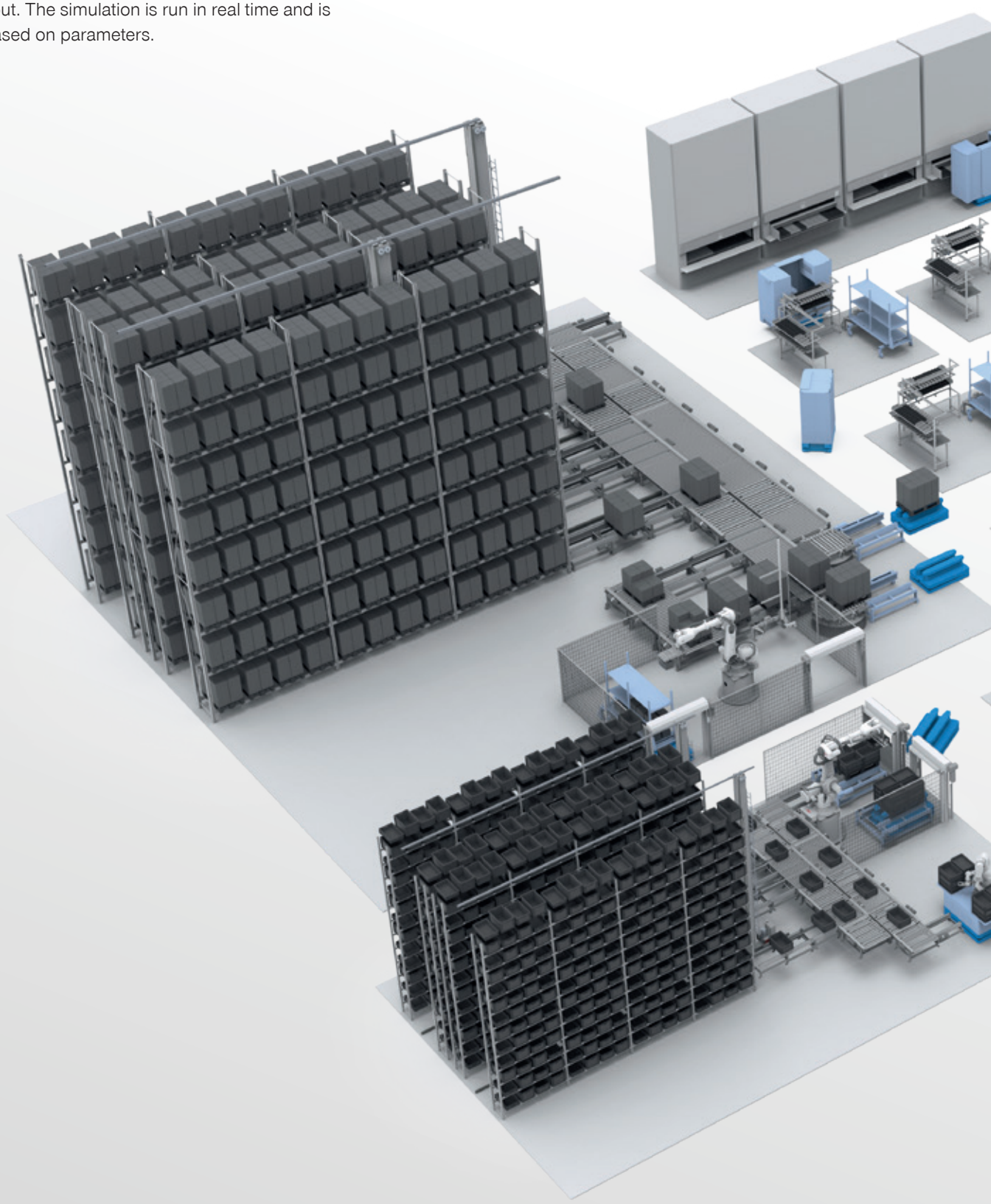
- ZiMo is collected, transported and positioned by the AMR
- The AMR can then perform other tasks such as pallet transport
- Battery-powered
- Variable configuration makes many applications possible
- Robot-neutral HMI

PLUG & WORK MATCH ECOSYSTEM

MOBILE ROBOTICS AND TRANSPORT SYSTEMS
SYSTEMS

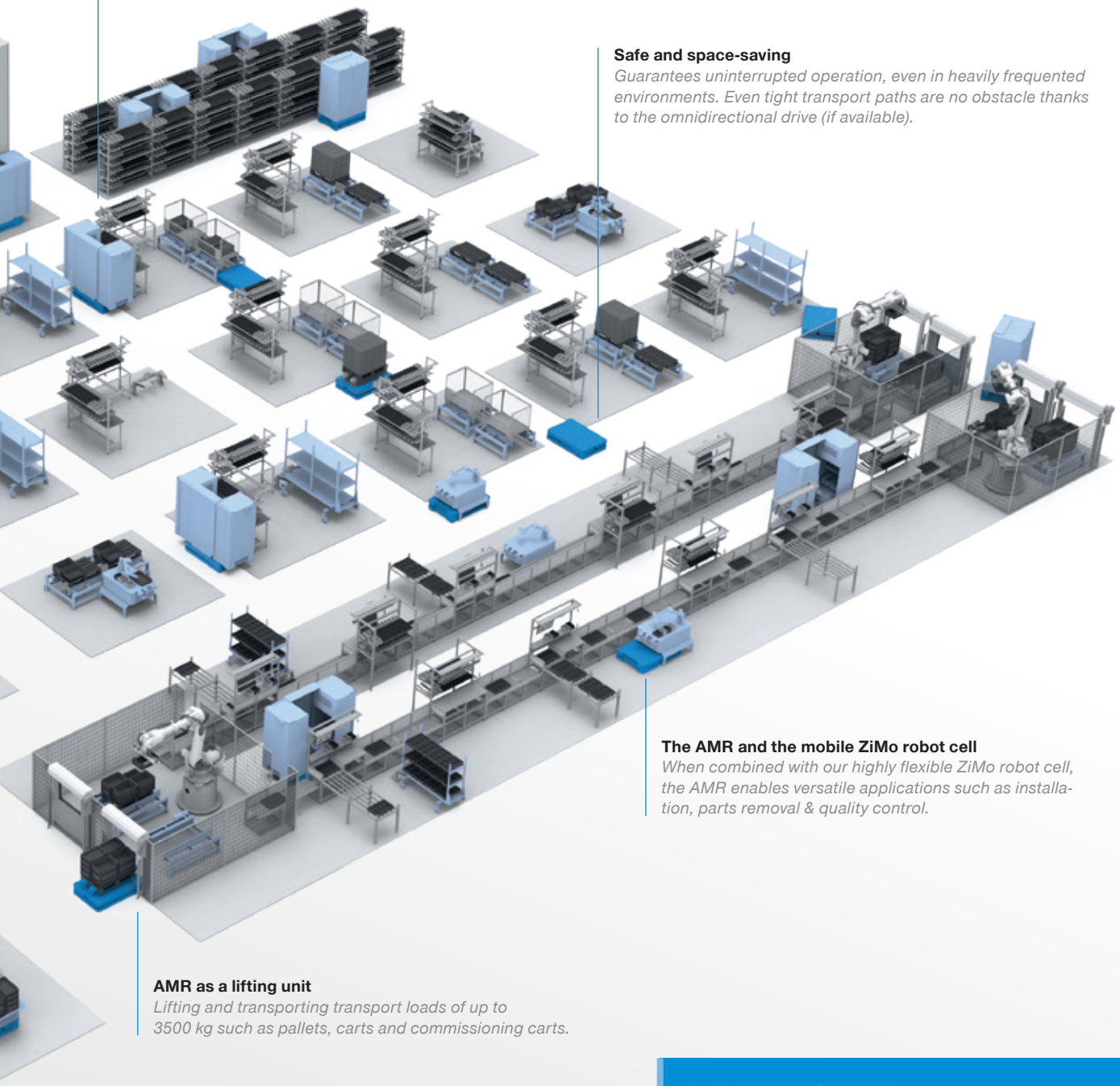
AMR FOR ANY REQUIREMENTS

An optimum concept for any customer requirements is developed with help from simulation software. The layout of the automation system is created based on the customer's system layout. The simulation is run in real time and is adjusted based on parameters.



AMR and robot module integration
Kanban warehouses are automated and filled in the shortest possible time thanks to the large material storage unit and the use of a robot.

Safe and space-saving
Guarantees uninterrupted operation, even in heavily frequented environments. Even tight transport paths are no obstacle thanks to the omnidirectional drive (if available).



The AMR and the mobile ZiMo robot cell
When combined with our highly flexible ZiMo robot cell, the AMR enables versatile applications such as installation, parts removal & quality control.

AMR as a lifting unit
Lifting and transporting transport loads of up to 3500 kg such as pallets, carts and commissioning carts.

FLEET MANAGEMENT

The fleet management system controls, plans and monitors the AMR fleet within a company. The fleet management system we use offers a comprehensive package: from simulation to seamless integration into ERP/MES systems.

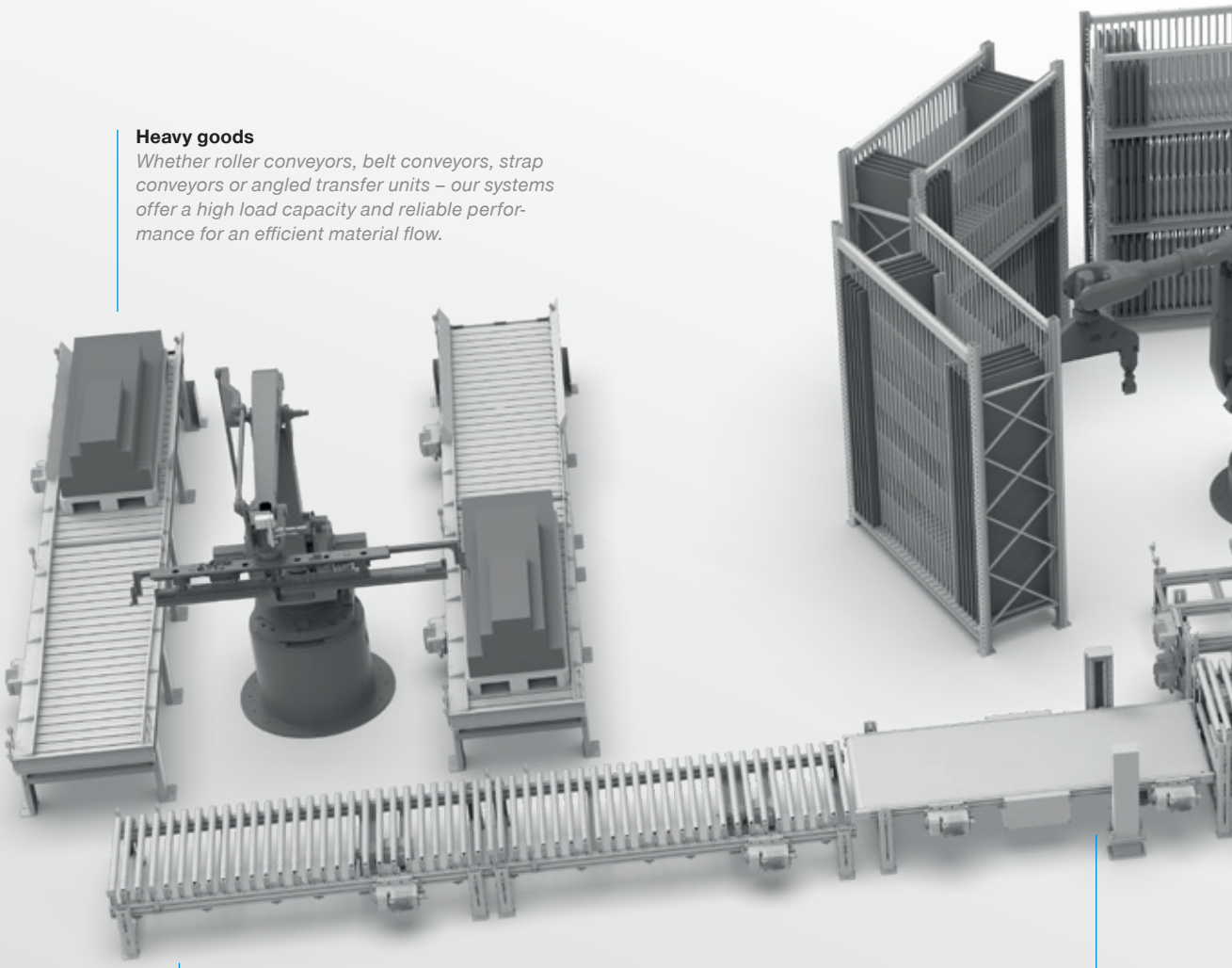
MOBILE ROBOTICS AND TRANSPORT SYSTEMS
SYSTEMS

TAILOR-MADE CONVEYOR LINES

We develop customized, scalable transport systems and conveyor lines across industries that can be seamlessly integrated into your production system. Our complete solutions include conveyor systems such as roller conveyors, belt conveyors, strap conveyors and angled transfer units, all with outstanding adaptability and flexibility. Thanks to our modular solutions, we enable faster layout creation, reduce the effort involved in mechanical and electrical planning and speed up production, assembly and commissioning. This is how we ensure that your material flow stays not only efficient but also flexible and sustainable – for any type of conveyed goods.

OUR EXPERTISE—YOUR ADVANTAGE

- **Everything from a single source:** from planning to after-sales service
- **Flexibility:** customized design
- **Standardized and modular:** simple integration
- **High-quality materials and reputable purchased parts:** durable and reliable
- **Extensive accessories:** optimal adaptation



Heavy goods
Whether roller conveyors, belt conveyors, strap conveyors or angled transfer units – our systems offer a high load capacity and reliable performance for an efficient material flow.

Roller conveyor
A robust and energy-efficient conveyor that uses driven or non-driven rollers to make sure that the material is transported smoothly.

Belt conveyors
For the safe and continuous transportation of piece goods and sensitive or irregular products.

CONVEYOR BELT SIZE

Large

Conveyor belt size:	3200 x 1500 mm
Smallest wooden panel:	240 x 100 mm
Largest wooden panel:	2800 x 1300 mm

Medium

Conveyor belt size:	2800 x 1000 mm
Smallest wooden panel:	240 x 100 mm
Largest wooden panel:	2500 x 850 mm

Small

Conveyor belt size:	2600 x 1000 mm
Smallest wooden panel:	240 x 100 mm
Largest wooden panel:	2300 x 850 mm

CONVEYOR BELT TYPE

Roller conveyor

Strap conveyor

Belt conveyor

Angled transfer unit

Angled transfer unit
Enables quick changes of direction and a flexible conveyor line. Ideal for automated material flow systems.

Strap conveyor
Precise, quiet and low-wear for transporting products with high positioning accuracy.

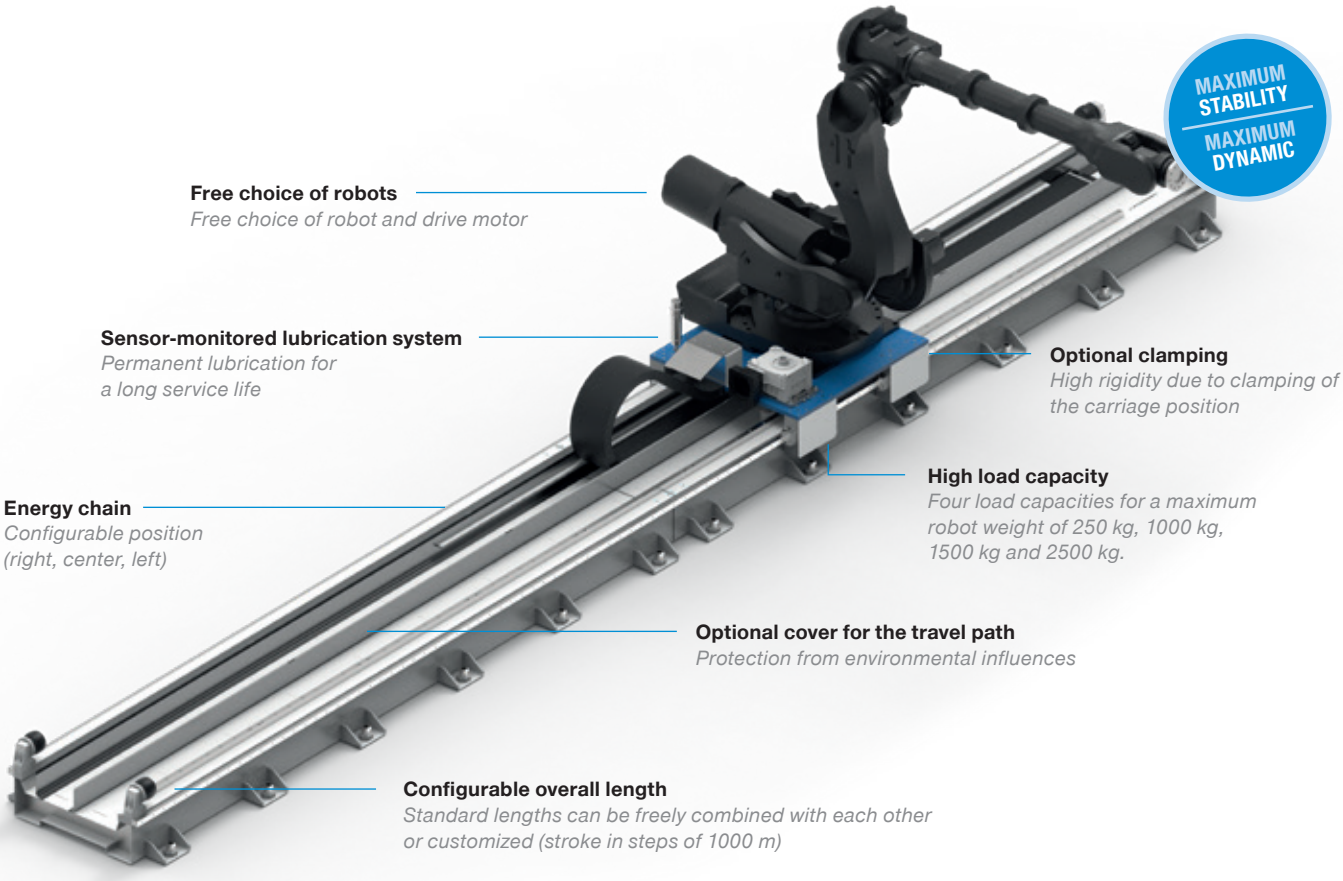
MOBILE ROBOTICS AND TRANSPORT SYSTEMS
SYSTEMS

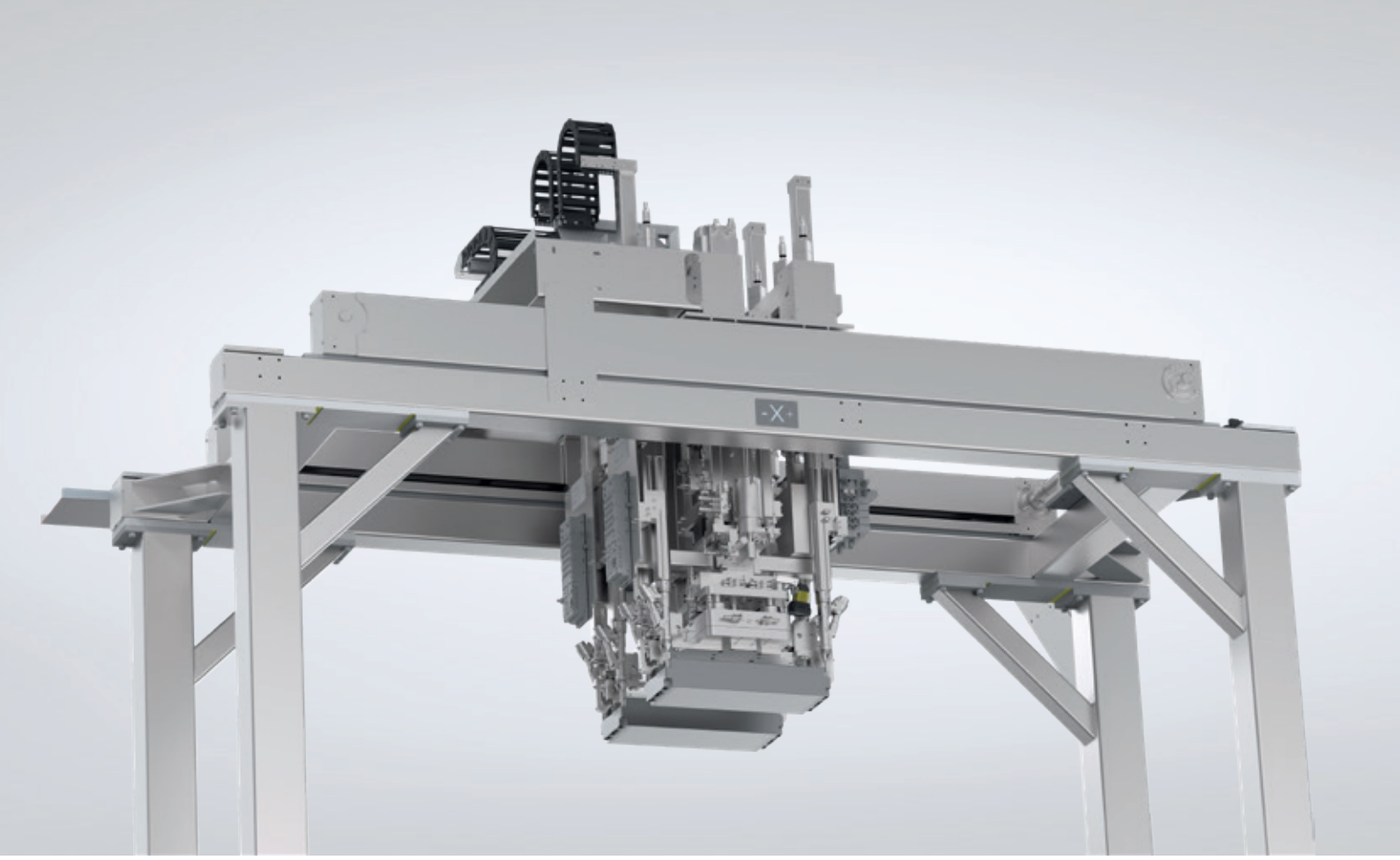
SERIES ZRM – ZIMMER ROBOT MOVER

The Robot Mover (series ZRM) is required when robots have to travel in parallel on production lines or load multiple machines. The ZRM series is designfor 4 sizes of robots and offers load capacities of up to 2,500 kg per carriage. Thanks to modular segments, different run lengths can be implemented flexibly. Optional extras include weld-proof covers, secure clamping of the carriage position and an additional carriage for using two robots on a 7th axis to complete to offer.

- **Robust**
  20% higher torque load than the benchmark
- **Flexible**
  Thanks to configurable stroke and many options
- **Durable**
  Longest service life on the market
- **Customizable**
  for every application

ZIMMER ROBOT MOVER		
	**ZRM 250**	
	Max. load capacity:	250 kg
	Total length min. / max:	2000–100000 mm
	Positioning accuracy:	+/- 0.05mm
	Max. acceleration:	4 m/s²
	Max. speed:	1.6 m/s
	**ZRM 1000**	
	Max. load capacity:	1,000 kg
	Total length min. / max:	2000–100000 mm
	Positioning accuracy:	+/- 0.05mm
	Max. acceleration:	4 m/s²
	Max. speed:	1.6 m/s
	**ZRM 1500**	
	Max. load capacity:	1,500 kg
	Total length min. / max:	3500–100000 mm
	Positioning accuracy:	+/- 0.05mm
	Max. acceleration:	4 m/s²
	Max. speed:	1.5 m/s
	**ZRM 2500**	
	Max. load capacity:	2,500 kg
	Total length min. / max:	3500–100000 mm
	Positioning accuracy:	+/- 0.05mm
	Max. acceleration:	3 m/s²
	Max. speed:	1.5 m/s





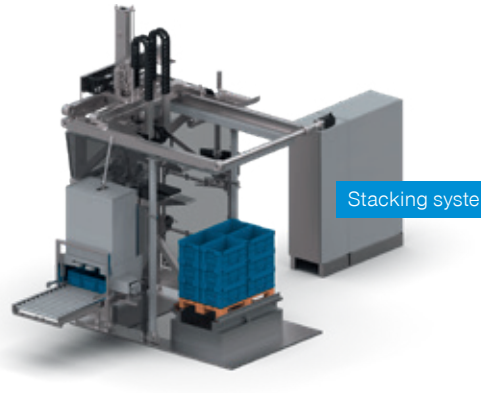
MODULES AND CELLS
SYSTEMS

FLEXIBILITY, EFFICIENCY AND FUTURE VIABILITY

In an increasingly agile market situation in mechanical and plant engineering, projects are characterized by complex plant processes, tight schedules, high quality requirements and the need to complete projects on budget and on time. We develop cross-industry, independent cells and installation-ready modules that can be integrated seamlessly into your existing production system. Each module is a precise, tailored solution for optimized production rates and the highest quality standards.

A STRONG AND EXPERIENCED PARTNER

- **Realized projects:**
  over 1000 projects, over 3000 grippers
- **Solutions in device construction:**
  since 1995
- **Engineering expertise:**
  More than 1,000,000 hours of engineering
- **Highlights:**
  Development partner of premium automotive companies, OEMs and system manufacturers, market leader in equipping portal robots



Stacking system for SLCs

MACHINES AND PLANTS
SYSTEMS

RAPTOR MACHINING ROBOT

Raptor, the heart of the machining cell, was specially developed for the woodworking industry and carries out precise cutting, shaping, sanding and lacquering tasks. Its use helps to increase efficiency and reduce costs, as it completes complex tasks quickly, precisely and in a more space-saving manner than portal machines. Raptor has a multi-functional head with 2 flanges, a change interface for quick tool changes and will impress you with its internal energy supply system.

1 **Quick-change interface**

Specially designed to automatically change modules weighing up to 100 kg in order to carry out a wide range of woodworking tasks.

1 **Swivel-mounted milling spindle**

Equipped with a powerful 15 kW water-cooled milling spindle, the system ensures precise and efficient 5-sided machining.

1 **Swivel-mounted multi-spindle head**

Thanks to simultaneous multi-machining in a single work step, you can reduce your production times and increase efficiency.

2 **Storage station**

The storage station enables a wide variety of end effectors to be changed quickly. It ensures that the tools are picked up and deposited safely during the process.

3 **Unit station**

In addition to the tool changer, the cell has an aggregate station for changing complete machining units.

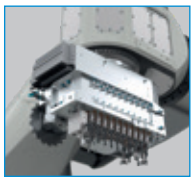
4 **Pin table**

An important component of the machining cell that holds the workpiece in place with a vacuum. Individually adjustable and retractable suction cups can be adapted to the workpiece shape and application. The pin table is available in different versions to ensure maximum flexibility in the application.

5 **Machining cell**

The compact design of the cell enables full encapsulation, which reduces noise and dust pollution, ensures optimized extraction with low energy consumption and makes it possible to machine air-polluting materials.

Quick-change interface



Swivel-mounted milling spindle

Swivel-mounted milling spindle

OUR EXPERTISE—YOUR ADVANTAGE

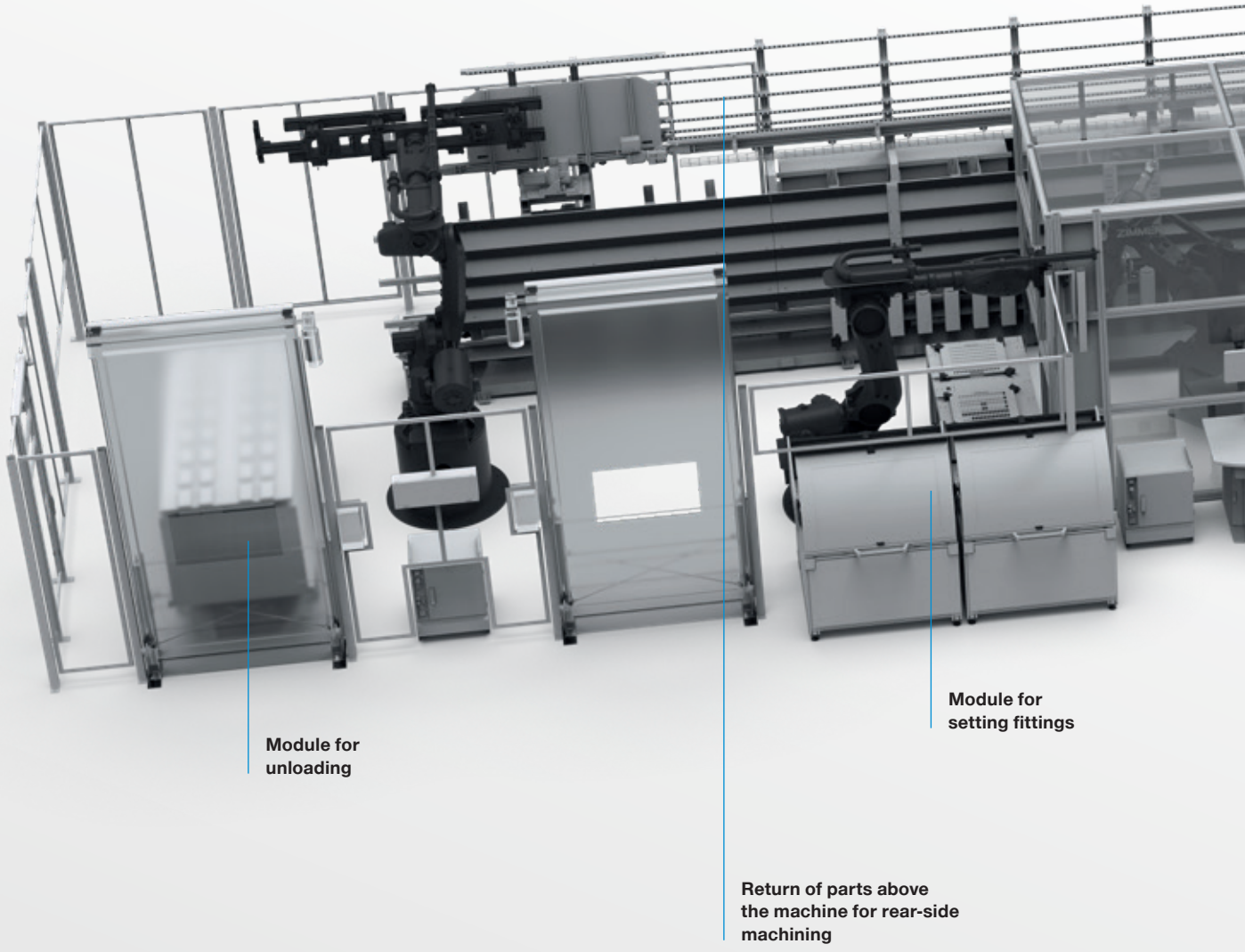
- Different tasks with just one machine: Nesting, milling, pre-assembly, parts manipulation
- 6-sided machining without manual intervention or separate technical equipment
- High machining performance and payload
- Maintenance-friendly and modular design = high availability times between machining steps
- Separation of machining and handling = short times between machining steps
- Spatial removal of dirt-prone components from the machining point

MACHINES AND PLANTS
SYSTEMS

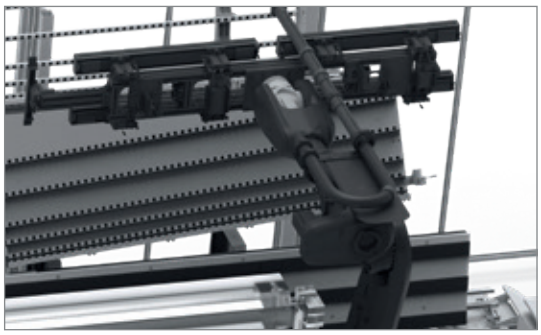
ROBOT-BASED PROCESSING MACHINE

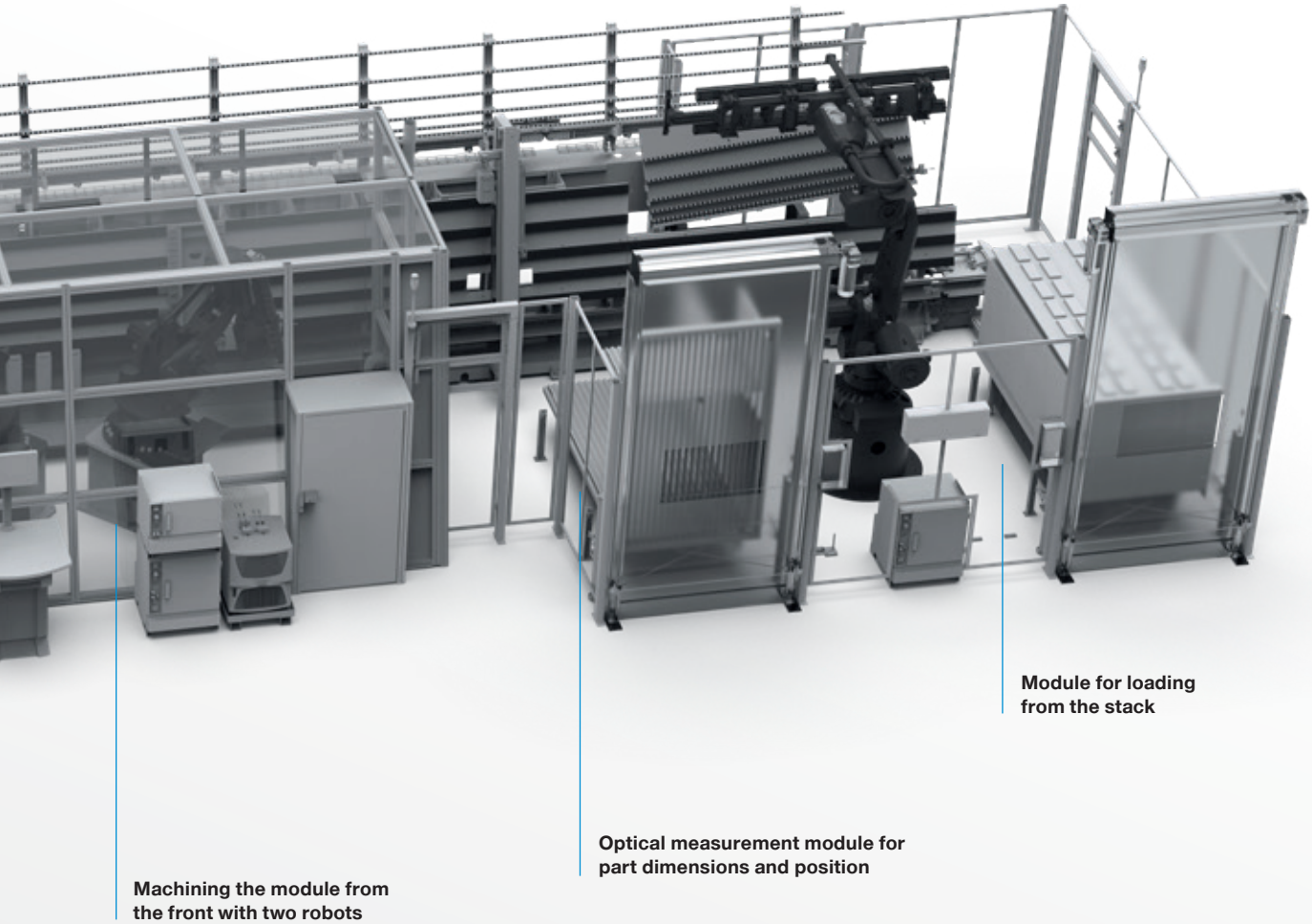
The robot-based production line enables highly flexible drilling of furniture cabinet parts in batch size 1. An innovative shuttle carousel serves as a workpiece transport and clamping system that ensures efficient and precise machining. Automated loading and unloading is seamlessly connected to the customer's automated guided vehicle (AGV) systems, enabling end-to-end automation. The powerful drill head has vertical and horizontal drill spindles as well as Clamex, milling and grooving units that enable versatile and high-precision machining. In addition, metal and plastic fittings are placed automatically from pre-equipped trays. An integrated component return system also enables efficient rear-side machining of the workpieces without the need for manual intervention. Direct integration into the customer's production control system ensures seamless production control. Despite its high performance, the system requires only a minimal amount of space and will impress you with its high availability and simple maintenance.

Highly flexible production line for processing cabinet parts in batch size 1



Precision-compensated industrial robots equipped with a powerful drill head are used for the machining processes.





Module for loading from the stack

Optical measurement module for part dimensions and position

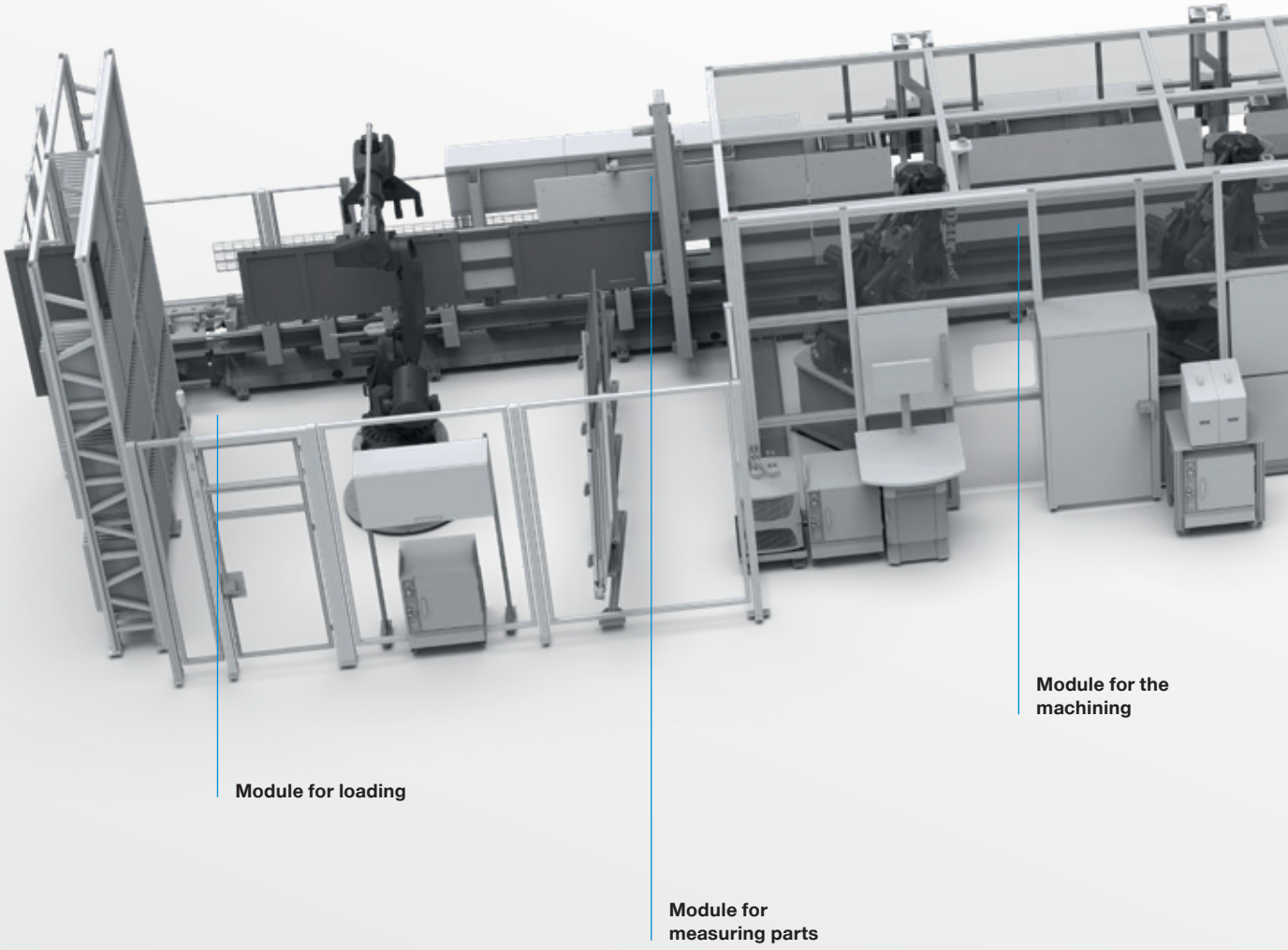
Machining the module from the front with two robots

MACHINES AND PLANTS
SYSTEMS

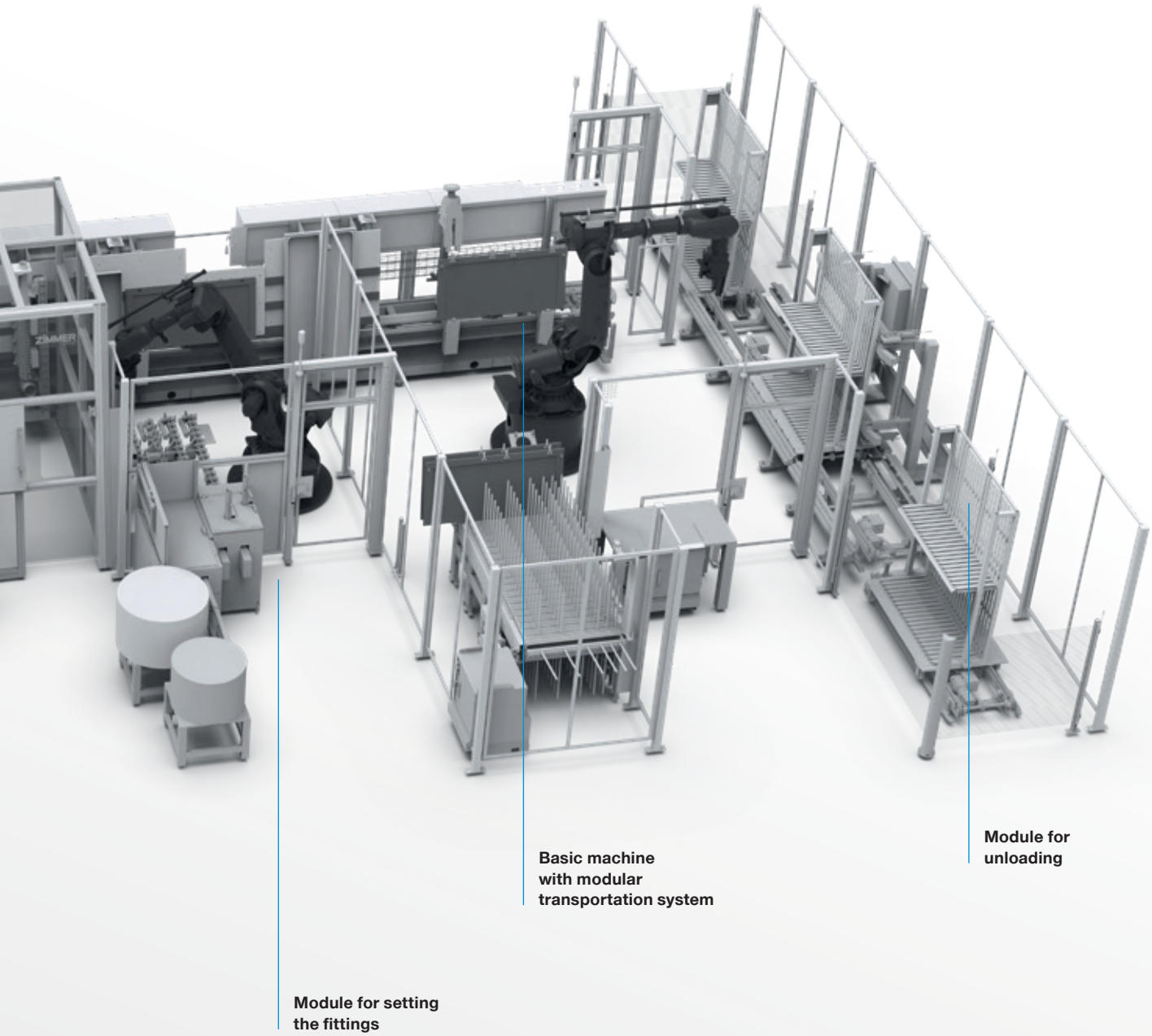
ROBOT-BASED PROCESSING MACHINE

The highly flexible, innovative production line for machining furniture fronts in batch size 1 combines a highly flexible shuttle carousel system as a workpiece transport and clamping system with precision-compensated industrial robots. The shuttle carousel serves as an efficient workpiece transport and clamping system and enables precise and smooth machining. Precision-balanced industrial robots take over the drilling process and ensure maximum accuracy. A powerful drill head with 17 vertical spindles, a milling spindle and a buffer unit ensures maximum machining capacity. There is also an integrated drill head for rear-side machining, which enables complete machining in a single process step. Fittings and hinges are set efficiently from vibrating pots and bar magazines, which supports end-to-end automation. The furniture fronts are automatically loaded and unloaded in rack trolleys, with safe storage systems that guarantee uninterrupted trolley changes. Direct integration into the customer's production control system ensures a seamless production process.

Highly flexible production line for machining furniture fronts in batch size 1



Precision-balanced industrial robots for high-precision machining processes. Thanks to the use of industrial robots, the system offers high availability and easy maintainability, which leads to a significant reduction in downtimes and maintenance work.



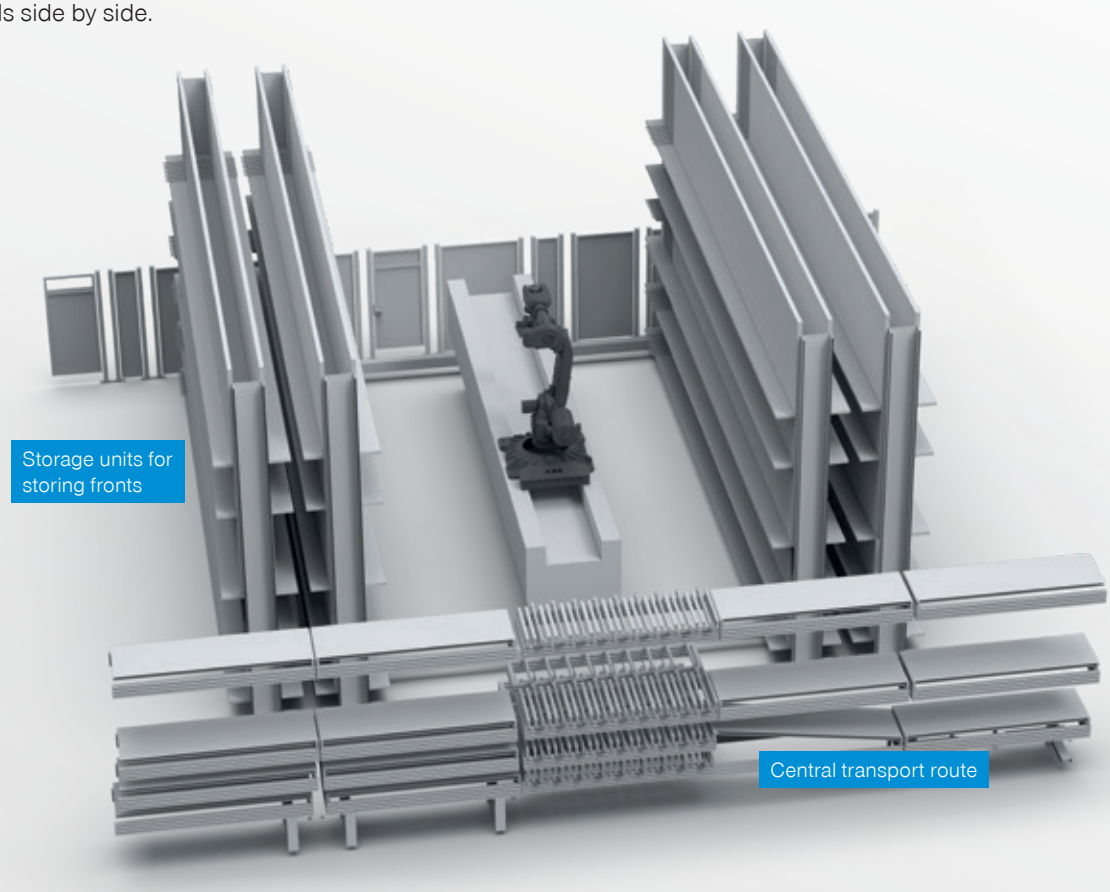
MACHINES AND PLANTS
SYSTEMS

ROBOT-BASED SORTING AND DECOUPLING CELLS

In addition to drilling, Zimmer Systems creates applications for sorting furniture parts. These cells are integrated into an overall process; alternatively, they can also be used as a stand-alone application. Modern sorting concepts enable high-performance and an adaptable control of the material flow. The systems are designed for throughput rates of 2.0 to 25.0 parts per minute and ensure efficient sorting. Storage and retrieval take place on separate conveyor levels, which ensures a smooth flow of material. Robot-based cells can manipulate several parts at the same time, which increases process speed and reduces downtimes. The storage volume of the system can be flexibly adapted to the specific requirements, ensuring that individual needs are met in the best possible way.

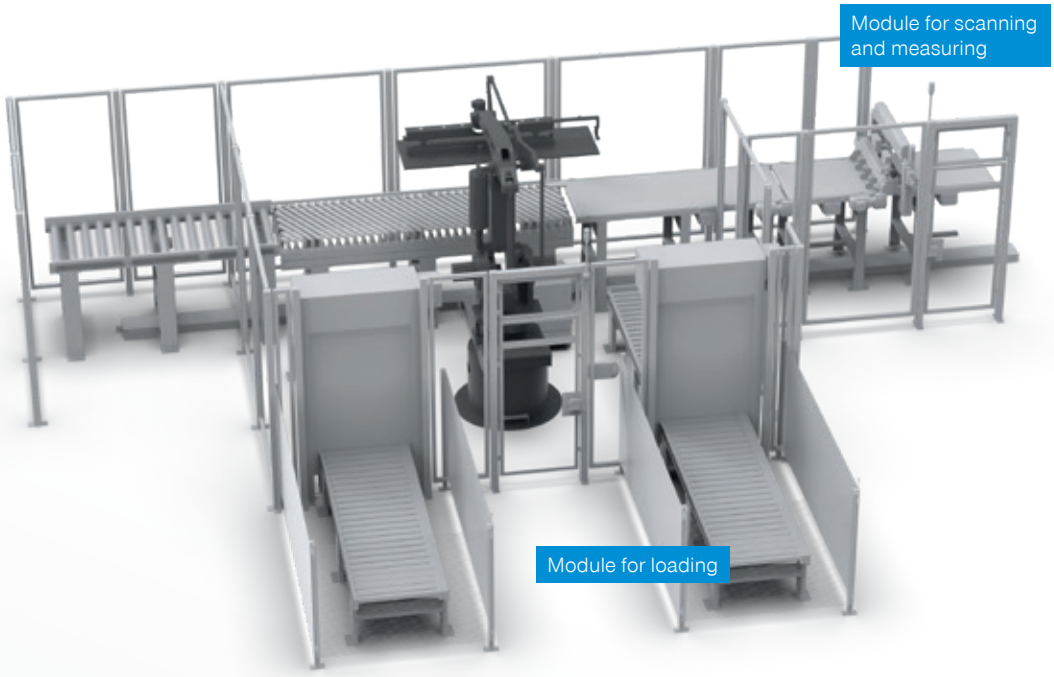
Traveling axle sorting version

Component sorting in the cell with traveling axis is particularly suitable for solutions with medium dynamics and a high volume. The minimum output with one cell is 4-5 cycles per minute, while higher power requirements can be achieved by using multiple cells side by side.



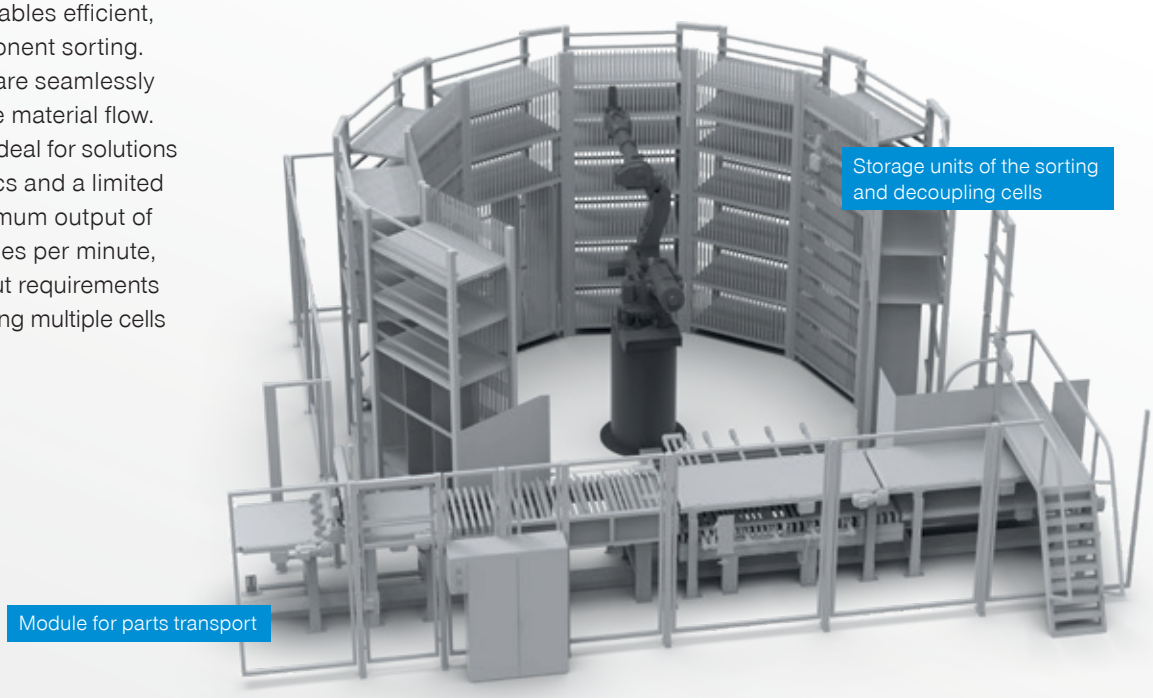
Loading / unloading

The loading and unloading units ensure the automatic feeding of parts. The sorting cells can be loaded and unloaded in various configurations (from the stack, from carriages, connected to conveyor technology, etc.). The following picture shows loading from the stack.



Round cell sorting version

The round cell enables efficient, automated component sorting. The sorting cells are seamlessly integrated into the material flow. The round cell is ideal for solutions with high dynamics and a limited volume. The minimum output of a cell is 5-5.5 cycles per minute, while higher output requirements are covered by using multiple cells side by side.



ENGINEERING
SYSTEMS

ENGINEERING

Our standard for the technological maturity, degree of integration, quality, product duration, scope of function and performance of our products has grown continuously in recent decades. We offer an extensive product line including everything from system assemblies with low complexity and customized systems to high-end production systems that set the benchmark for performance in the industry with a digital twin and cloud connection. Our high implementation efficiency is based on enabling process steps to be carried out simultaneously using state-of-the-art tools. Our references include nearly all global automakers and a wide range of major players from all industries, including everything from the food industry to mechanical engineering to consumer goods. Our standard is to be the world's leading manufacturer of system solutions and your partner.

1 

Analysis

– Data
– Process
– Requirements
– Products
– Benchmarking

2 

Brainstorming

– Creative topics
– Possible variants
– Develop solutions
– Evaluate and adopt

3 

Project planning

– Project planning
– Scheduling
– Detailed planning
– Use the modular construction set
– Recognize risks

4 

Implementation

– Procurement
– Production
– Installation
– Commissioning
– Pilot lot
– Start of production

OUR EXPERTISE—YOUR ADVANTAGE

- Over 30 years of experience
- 40 employees in development and simulation
- Expertise in all industries
- Partner for mechanical, mechatronic and software solutions in automation
- Development partner of major OEMs

CONTROL DEVELOPMENT COMPETENCES

E-CONSTRUCTION
- EPLAN

M-CONSTRUCTION
- CREO PRO ENGINEER

SIMULATION
- ISG Virtuos
- ABB RobotStudio
- Tecnomatix

USER INTERFACES
- Beckhoff HMI
- Siemens WinCC
- Custom UI (C#)
- Custom UI (Angular / Node.js)

HIGH-LEVEL LANGUAGE DEVELOPMENT
- C#
- Python
- Angular / Node.js

DATABASES
- SQL
- MongoDB

PLC PROGRAMMING
- Beckhoff (TC3)
- Siemens (TiA)

ROBOT PROGRAMMING
- ABB
- Fanuc (special projects)

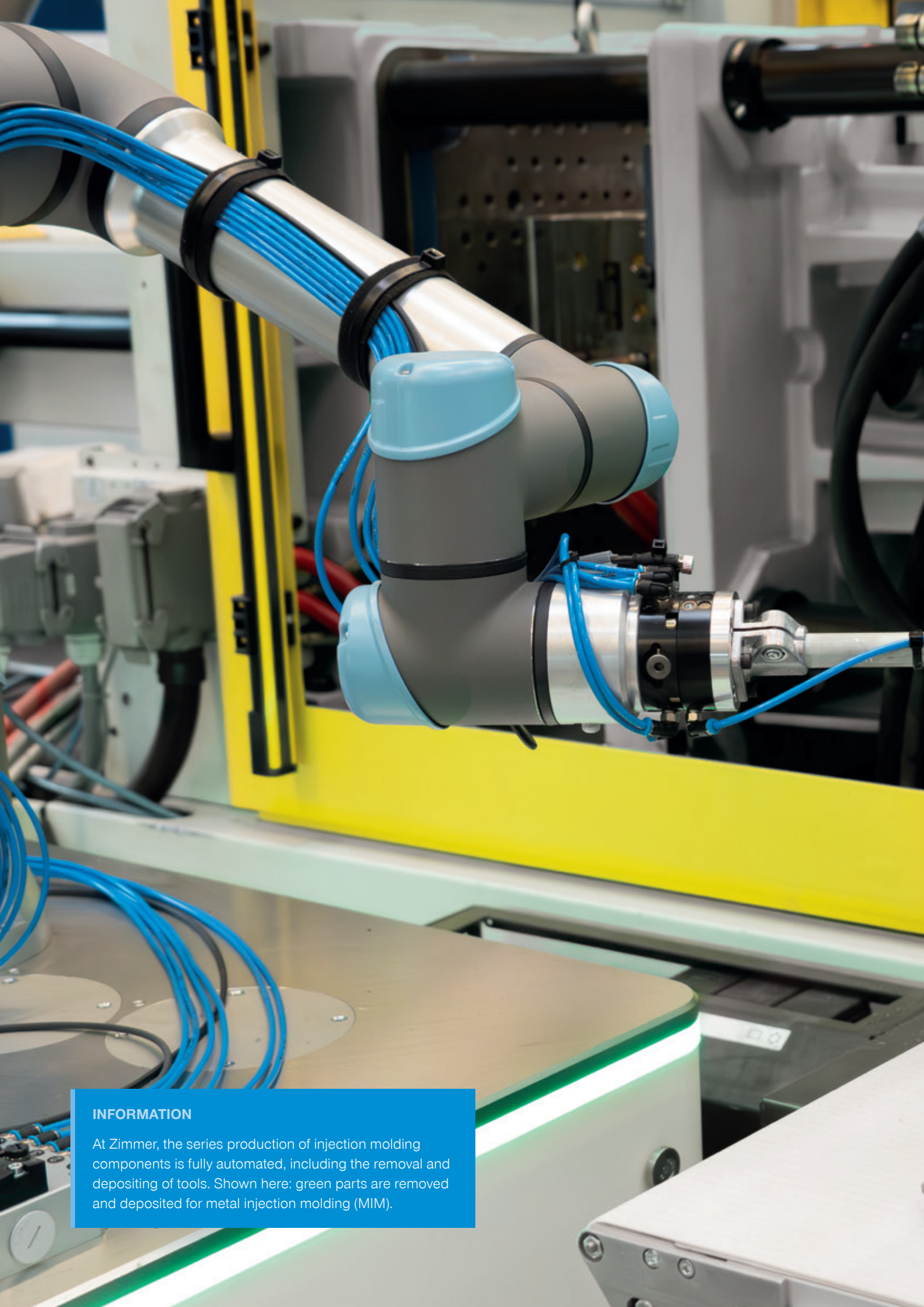
DRIVE ENGINEERING
- Beckhoff
- Siemens
- SEW
- KEB
- ELMO

BUS SYSTEMS / COMMUNICATION
- EtherCAT
- Profinet
- IO-Link
- MQTT

VISION SYSTEMS
- Ensenso
- Cognex
- Keyence
- Baumer

LOGISTICS AND WOODWORKING

Our expertise in logistics and woodworking extends to turnkey systems, decoupling and assembly cells for the furniture industry as well as highly flexible systems for batch size 1 and robot-assisted machining solutions.



INFORMATION

At Zimmer, the series production of injection molding components is fully automated, including the removal and depositing of tools. Shown here: green parts are removed and deposited for metal injection molding (MIM).

WHETHER PLASTIC OR METAL

AUTOMATIZATION THAT SHAPES AND PERFORMS

THE MANUAL CLAMPING SYSTEM
PROCESS TECHNOLOGY

SHORTENED CHANGEOVER WITHOUT ADDITIONAL TOOLS

In modern production processes, factors such as efficiency and flexibility are playing an increasingly important role. For injection molding companies, this demand for flexibility means the constant challenge of meeting ever smaller smaller batch sizes, the desire for ever smaller inventories and just-in-time deliveries.

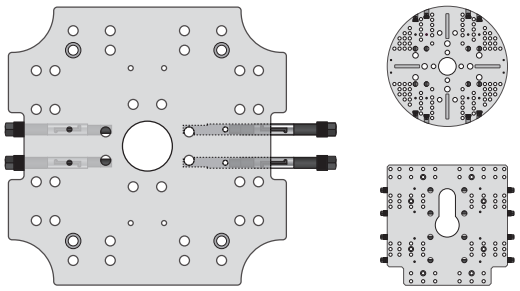
A key factor in such flexible production processes to minimize the machine tooling costs and thus significantly reduce retooling times in order to even greater productivity and added value in a reliable process.

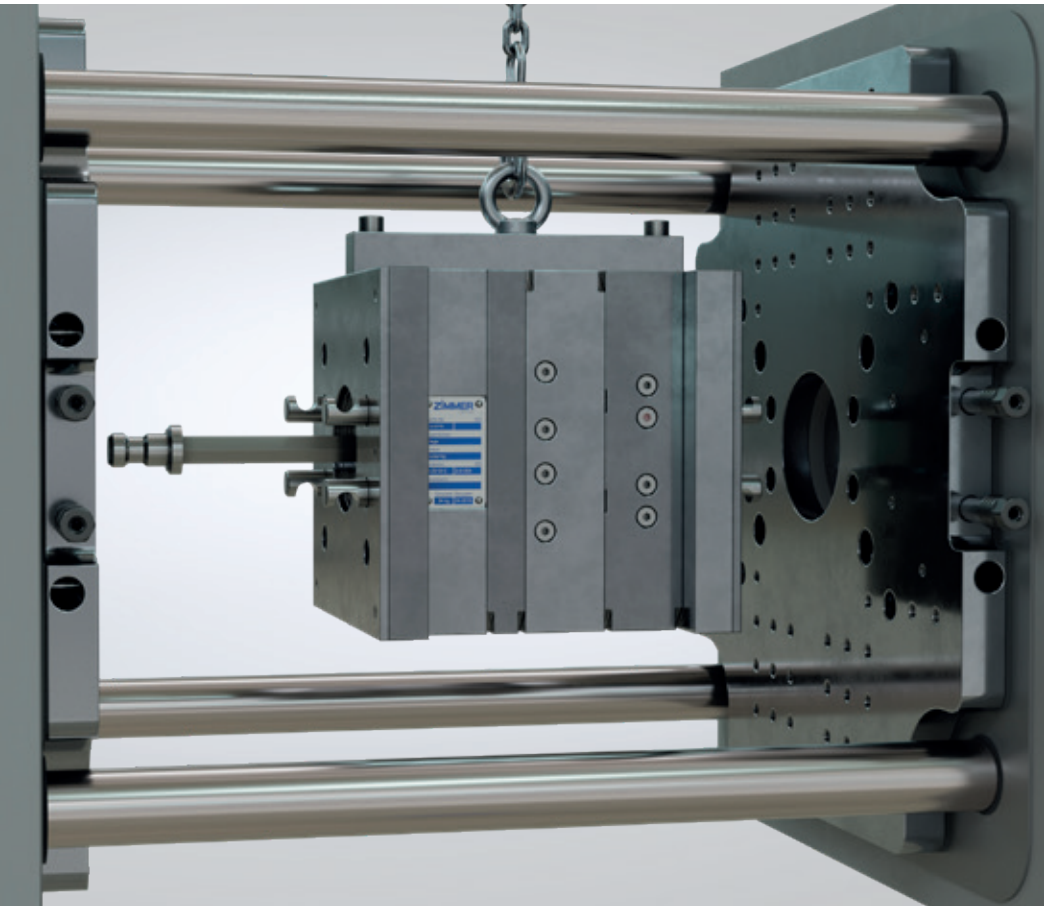
OUR EXPERTISE—YOUR ADVANTAGE

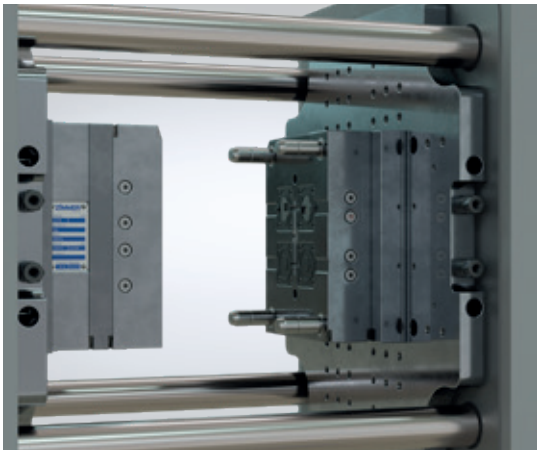
- Short machine downtimes as a result of a significantly shortened changeover process
- Changeover process by one person, even with large tools
- Complete machine plate can be used
- No thermal insulation panels and centering rings required on the tool
- Can be used for any machine type
- High stability and load carrying capacity; low wear
- Mechanically secured

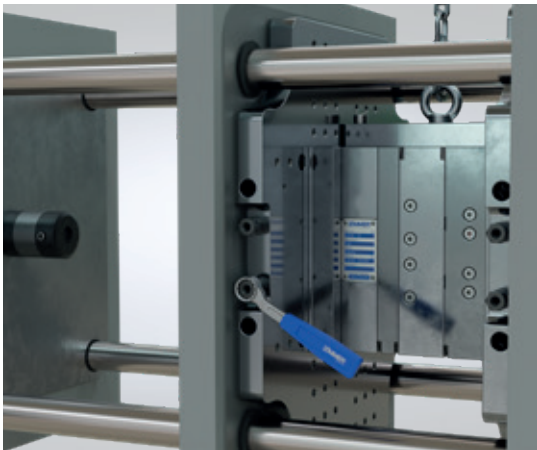
RETOOLING IN THE SHORTEST POSSIBLE TIME

With our quick clamping system, all you need is a wrench for retooling. The installation can be carried out by a single person in just a few simple steps. Centering is precise due to the clamping pins in the tool, so neither a centering ring nor any other accessories are required.









OVERVIEW OF SERVICES
PROCESS TECHNOLOGY

GEOMETRIC FREEDOM, MATERIAL FREEDOM, SERIES PRODUCTION

Metal, plastic or elastomer? We develop and manufacture your series production components optimized for their technical and cost-effectiveness characteristics. The highest quality, speed and reliability are our driving factors and always take the highest priority. Innovative ideas, individual solutions and decades of experience are the cornerstones of our success. From intelligent system development, an optimal selection of materials and the associated production technologies to a cost-effective product – Zimmer Group is the reliable partner at your side thanks to its expert team with clever ideas and solutions. No challenge is too big.

OUR EXPERTISE – YOUR ADVANTAGES

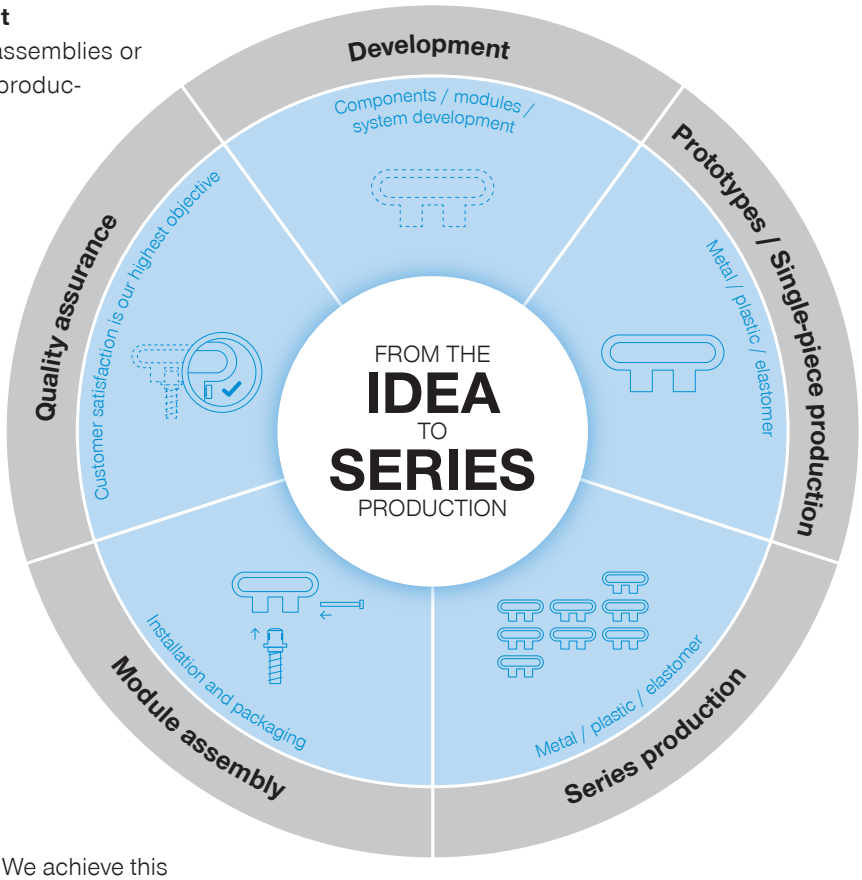
System / module / component development
We develop, design and build your systems, assemblies or components and optimize the design for our production technologies. Send us your specification sheets!

Prototypes / single-piece production
We manufacture your prototypes by machining or a 3D printing (FDM) process, no matter what the material.

Series production
Series production using the metal powder and plastic injection molding process. We optimize the geometry of your components and manufacture them in series production from the desired materials.

Module assembly
We manufacture your modules in series production. This includes procurement and manufacturing the individual components, the installation and the function tests.

Quality assurance
Customer satisfaction is our highest objective. We achieve this by constantly improving our processes.



MORE INFORMATION

Process technology
Check out our website for more information on topics such as clamping systems, MIM technology, plastic injection molding or elastomer technology.

PROCESS TECHNOLOGIES
PROCESS TECHNOLOGY

MIM PROCESS

Thanks to the metal injection molding process from the Zimmer Group, there are no limits to the production of sophisticated workpieces. Series components made of metal with complex shapes often require production that involves many stages. The MIM process counteracts this and makes it possible to manufacture nearly any shape of metal part through injection molding, combining the geometric freedom of plastic injection molding with the strength and wear properties of metals.

ADVANTAGES OF THE MIM PROCESS

Cost-effective series production
Starting at 5,000 units per year

Virtually unlimited design options
Metal components with complex shapes and great design freedom in developing series components (component weight up to 250 g)

Material variety
Selection of a wide range of steels, alloys and metals

Excellent surface finishes
Ra < 3 µm

Post-processing
As with a solid material

Integration
Of internal and external threads

Narrow tolerances
Achievable without post-processing

THE METAL INJECTION MOLDING PROCESS

Feedstock
Metal powder, binder

The starting material consists of about 60% of the respective metal powder by volume and about 40% of a binder by volume, i.e. a blend of polymers and waxes.

Injection molding
Green part

The binder portion is melted at a high temperature and the highly viscous mass of metal powder and binder is then pressed into the injection mold.

Debinding
Brown part

The remaining binder is vaporized out of the component at a temperature between 400 °C and 900 °C. The metal particles bind by forming what are known as sintering necks, giving the component sufficient stability.

Sintering
Metal part

The parts are condensed at high temperatures, usually above 1,000 °C. The respective temperature profile in the sinter furnace heavily depends on the material and the component geometry.

* MIM production compared to machining production

MATERIAL CHARACTERISTICS

Low-alloyed steels

	Material No.	sintered		hardened		Properties
AISI	DIN	Tensile strength N/mm²	Hardness HV	Tensile strength N/mm²	Hardness HV	
FN02		260	85 (45 HRB)		600 (55 HRC)	
4605		415	110 (62 HRB)	1100	490–590 (48–55 HRC)	High strength, Fatigue resistance, surface hardness and excellent surface quality
FN08		380	120 (69 HRB)			
FN0805		700	150 (79 HRB)	1300	300–510 (30–50 HRC)	
100Cr6	1.3505	900	230 (97 HRB)		> 700 (60 HRC)	High wear resistance and hardness
8620	1.6523	650	190 (90 HRB)		650–800 (58–64 HRC)	High surface hardness in conjunction with toughness
42CrMo4	1.7225	700	130 (71 HRB)	1450	450 (45 HRC)	High strength and toughness, hardening by nitriding results in surface hardnesses of >600 HV10
4340	1.6565	700	130 (71 HRB)	1450	450 (45 HRC)	High strength and toughness

Stainless steels

	Material No.	sintered		hardened		Properties
AISI	DIN	Tensile strength N/mm²	Hardness HV	Tensile strength N/mm²	Hardness HV	
17-4PH	1.4542	800	320 (32 HRC)		370 (38 HRC)	Martensitic, ferromagnetic stainless steel, high corrosion resistance, precipitation hardening is possible
316L	1.4404	450	120			Austenitic steel with excellent corrosion resistance, non-magnetic, moderate hardness, high ductility, excellent polishability
420 W	1.4028	800	600 (55 HRC)	1560	730	High hardness, wear resistance, good corrosion resistance

Titanium alloys

	Material No.	sintered	Properties
AISI	DIN	Tensile strength N/mm²	
Ti grade 2	3.7035	340	Biocompatible, good corrosion resistance, good chemical resistance, low density
Ti6Al4V (grade 5)	3.7165	850	Biocompatible, good corrosion resistance, good chemical resistance, excellent mechanical properties, low density

Carbides

	Material No.	sintered			Properties
AISI	DIN	Flexural strength N/mm²	Compressive strength N/mm²	Hardness HV	
WC0.8Co10		4,000	6,600	1,500	Excellent compressive and flexural strength, extremely high hardness
WC0.8Co13.5		4,000		1,440	Excellent compressive and flexural strength, extremely high hardness

SPECIAL MATERIAL

If required, special materials can be developed in consultation with the customer for production systems that use metal powder injection molding.

PROCESS TECHNOLOGIES
PROCESS TECHNOLOGY

PLASTIC INJECTION MOLDING

When the task involves complicated plastic injection molding, it enables us to demonstrate our full range of capabilities through the close interaction of development, engineering, moldmaking, injection molding production and assembly. The series production of plastic components is fully automated, including the removal and depositing of tools. This enables us to achieve optimum process optimization for all large series, which is reflected in the results of the integrated quality control.

OUR EXPERTISE—YOUR ADVANTAGE

- Series production of complex plastic components
- All common plastics including fiber and particle-reinforced plastics (POM, PE, PP, PA, PBT, PET, ABS, PC, PEEK, PMMA, PS, SAN and all common blends)
- Development and consulting for optimizing the process geometry
- Modification of hardness grades and colorations
- Processing of special mixtures to improve chemical, mechanical or thermal properties
- Production of hybrid parts, for example by overmolding insert parts
- Installation, assembly and functionality test

INFORMATION

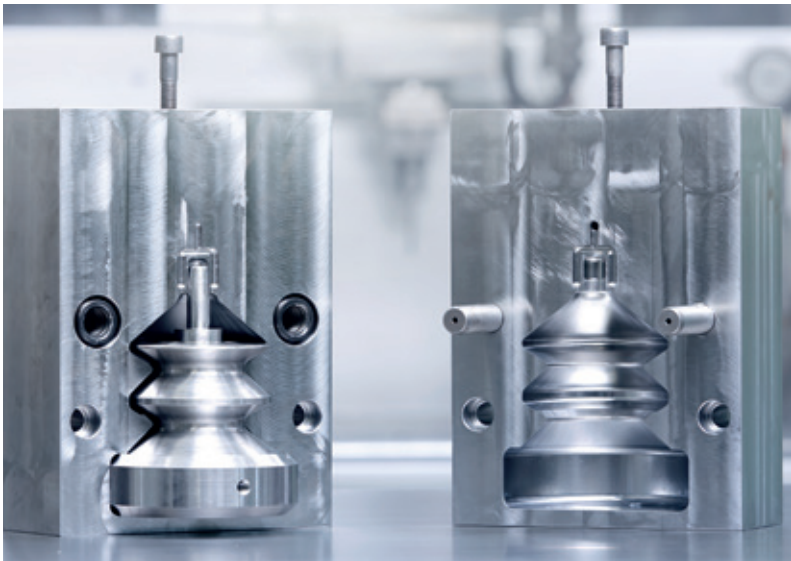
Brown parts are heated in a sintering furnace to approx. 80-90% of the melting temperature of the corresponding material.

ELASTOMER TECHNOLOGY

The Zimmer Group uses state-of-the-art production processes to manufacture sophisticated elastomer workpieces, especially those with complex geometries. The complexity of components knows no bounds. We supply practically everything that can be implemented using the transfer molding (TM) or injection transfer molding (ITM) process, including insert parts like threaded inserts, springs and any other parts made of plastics or metals.

OUR EXPERTISE—YOUR ADVANTAGE

- Special seals and series seals from a single source
- A wide range of elastomers such as NBR, silicone, EPDM, FPM, CR, TPU or polyurethane
- All technically possible variations in degrees of hardness, coloring or improved resistance
- The most complex geometries can be mapped
- Flexible number units
- Variable component size
- Development and consulting for optimizing the process geometry
- Installation, assembly and functionality test



A STRONG PARTNER
SERVICE

TECHNICAL SUPPORT

As required, you can rely on the know-how and experience of our service technicians. Our innovative service products help run diagnostics and troubleshooting quickly and efficiently. Each error message can be systematically analyzed in a short time.

ON SITE SUPPORT

- Commissioning and installation support
- Product briefing and inspection
- Troubleshooting
- Exchanging components
- Repairs, modifications and extensions

REPAIR SERVICE

For the repair and overhaul of your Zimmer products, count on the know-how of our specialists. Our repair service includes:

- Analysis of existing defects
- Repair by replacing the defective parts
- Complete overhauls

SPARE PARTS

Original Zimmer Group spare parts and wear parts are perfectly harmonized to your systems and meet the most demanding quality standards. Our worldwide logistics network ensures that the required parts reach you within the shortest time possible.

ZIMMER GROUP – THE KNOW-HOW FACTORY

OUR KNOW-HOW FACTORY WORKS WITH ALL INDUSTRIES AND DELIVERS EVERYTHING FROM A SINGLE SOURCE. OUR PRODUCT RANGE IS FAR REACHING, BOTH IN ITS DEPTH AND ITS BREADTH.

DO YOU HAVE A DEVELOPMENT PROBLEM? WE'LL SOLVE IT! SET US A CHALLENGE IN RESEARCH AND DEVELOPMENT. COUNTLESS INNOVATIONS ORIGINATE FROM OUR COMPANY. WE ARE ENTHUSIASTIC ABOUT NEW PRODUCTS AND PRIDE OURSELVES ON OUR CORPORATE PIONEERING SPIRIT.

CONTACT – WORLDWIDE

With our current 19 global subsidiaries and partners in over 125 countries, we offer the excellent service of a technology leader. We look forward to hearing from you!

www.zimmer-group.com/en-us/contact

ZIMMER GROUP SYSTEM TECHNOLOGY – THE SPECIALISTS FOR CUSTOM SOLUTIONS

With over 30 years of development experience, the system technology develops special solutions for handling and automation.

www.zimmer-group.com/en-us/system-technology

HERE FOR YOU 24/7/365 – OUR VIRTUAL TRADE SHOW BOOTH

With impressive features such as an animated camera flight, clickable information hotspots and 3D models that can be rotated, we guarantee that you will be thrilled—virtually.

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OUR NEW PRODUCTS

Zimmer Group is renowned as an innovator and for its pioneering spirit. Accordingly, each year we can offer new innovative and individual solutions. For current product highlights, refer to:

www.zimmer-group.com/en-us/innovations

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