

Innovations 2019

40 Anniversary

**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 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 six 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. Even our decision to identify ourselves as Zimmer Group reflects this reality. With Zimmer Group, our customers now have a single, centralized contact for all of their needs. We approach each customer's situation with a high level of competence and a broad range of possible solutions.



### PRODUCT ADVANTAGES

#### Adjustable gripping force

Using gripping forces that are too high can damage your workpieces! You can optimally adjust the gripping force to your workpiece by means of the integrated rotary switch or over the control system via IO-Link. The grippers are equipped with a mechanical self-locking mechanism to prevent the loss of the workpiece in the event of power failure.

# THE COMPACT ELECTRIC

## GEP2000 SERIES EXTENSION



### **GEP2000 with IO-Link: Future-proof intelligence**

In the IO-Link version, the gripper offers all the system-specific advantages of IO-Link. After connecting a single cable, which is used to supply power and transmit control and status data, the gripper can exchange data and signals with the higher-level control system. Parameters such as gripping force and gripping speed are defined centrally. Part detection is also possible in a range of +/- 0.05 mm for a tolerance range that can be taught to any value. IO-Link also opens up new horizons for expanded diagnostic functions and predictive maintenance.



### **Digital I/O: As simple as a pneumatic valve**

In the I/O version, the grippers operate as simply as a conventional pneumatic valve. The gripper opens when it receives a control signal, and the jaws are closed when it receives another one. No movement occurs without a signal. If a sensing of the gripper position is needed, this can be done using magnetic field sensors, for which two grooves are already provided in the gripper. We have developed a comfortable solution for how to adjust the maximum gripping force: It can be adjusted directly on the gripper using a rotary switch in four stages. Quick and easy.



### **Digital I/O with analog output: Accurately record the jaw position**

For applications where you need more precise information about the position of the gripper jaws, Zimmer Group offers a digital I/O version with analog sensing. An analog sensor, which outputs a voltage of between 0 and 10 volts depending on the jaw position, is already integrated into the grippers. This voltage can be evaluated using an analog card in the higher-level control system, making it possible to detect workpieces with high precision.

# YOUR BENEFITS IN DETAIL

## INSTALLATION SIZE GEP2006

Order No.	▶ Technical data		
	GEP2006IL-00-A	GEP2006IO-00-A	GEP2006IO-05-A
Control	 IO-Link	I/O	I/O
Integrated position sensing	Using process data	no	analog 0 ... 10 V
Stroke per gripper jaw [mm]	6	6	6
Weight [kg]	0.18	0.18	0.18
Min./max. gripping force [N]	40/145	40/145	40/145

## INSTALLATION SIZE GEP2010

Order No.	▶ Technical data		
	GEP2010IL-00-A	GEP2010IO-00-A	GEP2010IO-05-A
Control	 IO-Link	I/O	I/O
Integrated position sensing	Using process data	no	analog 0 ... 10 V
Stroke per gripper jaw [mm]	10	10	10
Weight [kg]	0.31	0.31	0.31
Min./max. gripping force [N]	50/200	50/200	50/200

## INSTALLATION SIZE GEP2013

Order No.	▶ Technical data		
	GEP2013IL-00-A	GEP2013IO-00-A	GEP2013IO-05-A
Control	 IO-Link	I/O	I/O
Integrated position sensing	Using process data	no	analog 0 ... 10 V
Stroke per gripper jaw [mm]	13	13	13
Weight [kg]	0.54	0.54	0.54
Min./max. gripping force [N]	90/360	90/360	90/360

## INSTALLATION SIZE GEP2016

Order No.	▶ Technical data		
	GEP2016IL-00-A	GEP2016IO-00-A	GEP2016IO-05-A
Control	 IO-Link	I/O	I/O
Integrated position sensing	Using process data	no	analog 0 ... 10 V
Stroke per gripper jaw [mm]	16	16	16
Weight [kg]	0.9	0.9	0.9
Min./max. gripping force [N]	125/500	125/500	125/500

# THE COMPACT ELECTRIC GEP2000 SERIES EXTENSION

## Electric assembly gripper in new installation sizes

The new, smaller and lighter sizes of the electric grippers from the GEP2000 series round out our current gripper portfolio. Due to their design, they are intended primarily for assembly tasks and handling small parts. To perform these tasks, the series now includes four sizes to offer adjustable gripping forces between 40 N and 500 N and jaw strokes between 6 mm and 16 mm. The grippers, which have a mechanical self-locking mechanism

## Mechanics with unbeatable robustness

In addition, the GEP2000 series features cutting edge mechanics. The grippers are extremely robust and reliable because their housing is made of hard anodized aluminum, and the developers have designed the grippers with a flat guide, which has been tried and tested for decades. This means that the grippers can handle all tasks involving the assembly and handling of small parts, and they can handle 10 million cycles without maintenance. The grippers are sealed in accordance with IP40, and their high replacement accuracy allows for rapid replacement at any time without any significant production interruption. They can be mounted on three sides, which offers

to prevent the loss of the workpiece in the event of power failure, are equipped with an integrated control system and are available in three versions: with IO-Link, with digital I/O and with digital I/O in conjunction with an analog output for sensing the jaw positions. In addition, the single-cable solution reduces installation work to a minimum.

the advantage that the user can easily face the desired cable outlet, thus minimizing interference contours. In addition, some models have a robot-specific direct connection at the flange.

The grippers from the GEP2000 series are powered by 24 VDC, and the gripper jaws are able to operate with a current draw of less than 500 mA. The current draw only increases to 2 A for a few milliseconds at the moment of start-up, when the mechanical self-locking mechanism is released and the motor must be brought to speed. This is a current that all conventional IO-Link masters can supply.



#### PRODUCT ADVANTAGES

##### Price-conscious

The new GPP5000AL grippers have a steel-aluminum profile rail guide (aluminum linear guide), which makes them especially interesting for price-conscious customers who do not want to do without the familiar quality of Zimmer Group.

# PRODUCT RANGE 5000

## GPP5000AL SERIES



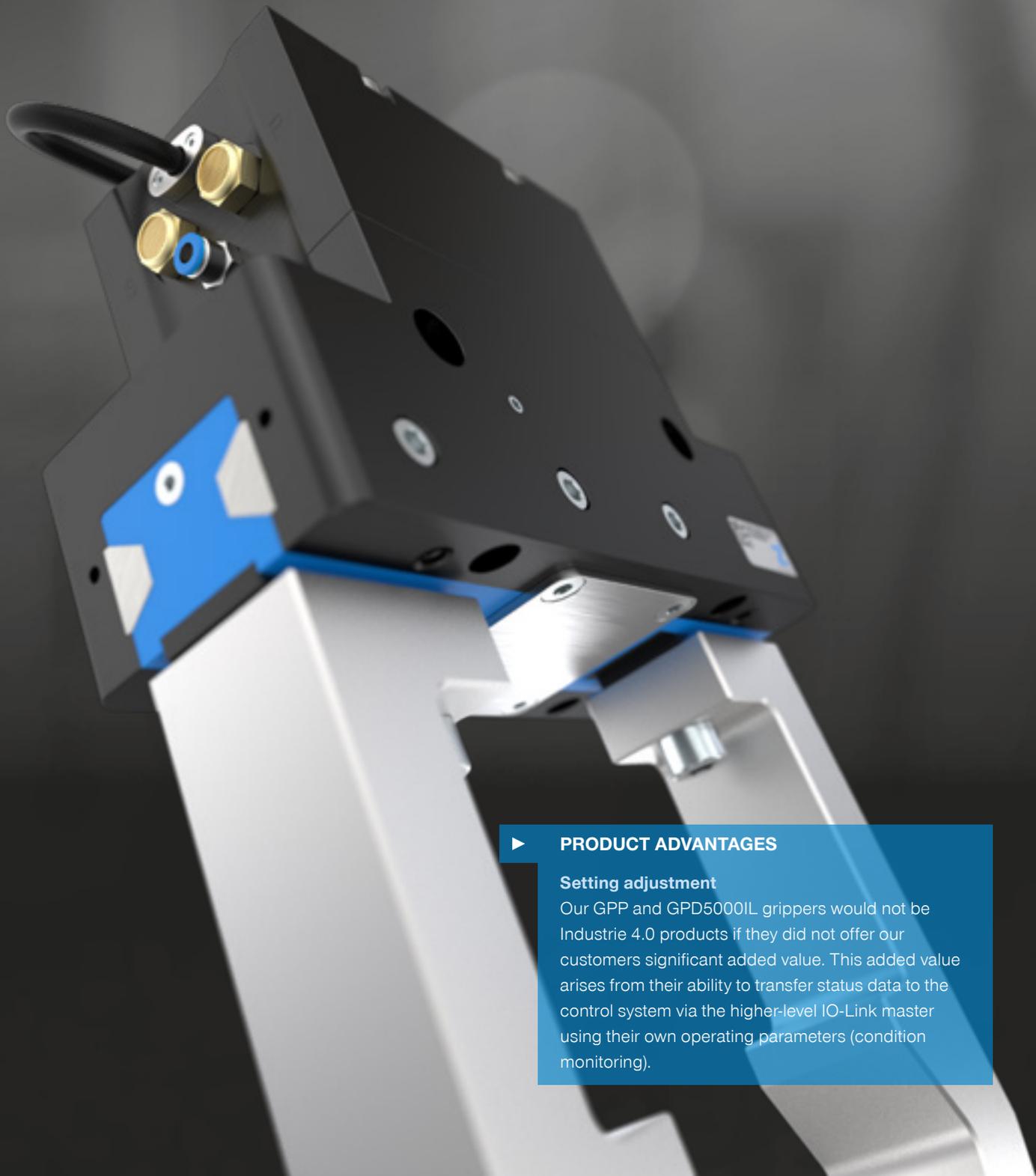
### GPP5000AL grippers extend the product range

Zimmer Group has extended the GPP5000AL series by introducing new sizes. The product range with 2-jaw parallel grippers and 3-jaw concentric grippers now has considerably more power and stroke. The special feature of the new models is the steel-aluminum profile rail guide (aluminum linear guide) offered by Zimmer Group. Thanks to their steel-aluminum profile rail guide, they technically outperform all T-slot grippers and are at least the equals of the multi-tooth guides in the market. With its uncompromising quality „Made in Germany,“ Zimmer Group guarantees up to 15 million cycles without maintenance.

### GPP5000AL SERIES

	► Technical data		
Order No.	GPP5013N-AL-A	GPP5013NC-AL-A	GPP5013NO-AL-A
Stroke per gripper jaw [mm]	13	13	13
Closing/opening grip force [N]	1410/ 1490	1920/ -	-/ 1860
Protect. class per IEC 60529	IP40	IP40	IP40
Weight [kg]	1.5	1.9	1.9
Order No.	GPP5016N-AL-A	GPP5016NC-AL-A	GPP5016NO-AL-A
Stroke per gripper jaw [mm]	16	16	16
Closing/opening grip force [N]	2090/ 2220	2860/ -	-/ 2990
Protect. class per IEC 60529	IP40	IP40	IP40
Weight [kg]	2.9	3.6	3.6

\* All values measured at 6 bar



## PRODUCT ADVANTAGES

### Setting adjustment

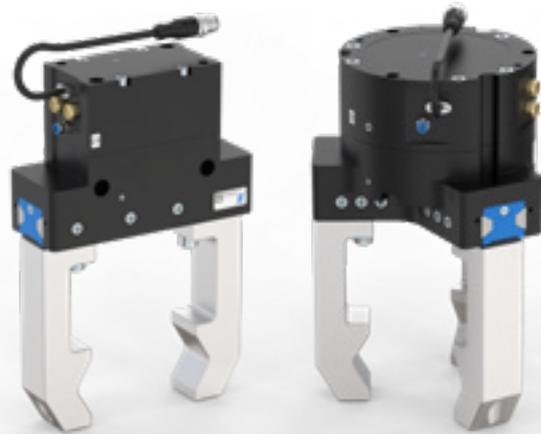
Our GPP and GPD5000IL grippers would not be Industrie 4.0 products if they did not offer our customers significant added value. This added value arises from their ability to transfer status data to the control system via the higher-level IO-Link master using their own operating parameters (condition monitoring).

# PRODUCT RANGE 5000

## GPP5000IL / GPD5000IL SERIES

### IO-Link grippers in new installation sizes

The GPP/GPD5000IL premium gripper series (pneumatic-electric hybrid grippers) has been extended upwards. With new, even more powerful sizes (13, 16, 25), this variant is the link between the pneumatic and electric devices of the 5000 gripper series. It is the ideal solution for users who want to take the leap into the world of Industrie 4.0 gripping while still incorporating a highly reliable pneumatic drive unit into their processes. The IL variant is equipped with an integrated pneumatic valve which is controlled via IO-Link.



Since there is no longer a fixed hose connection between the valve and piston that needs to be filled or emptied for each cycle, the grippers' reaction time is greatly reduced. This means that they are substantially faster than other pneumatic grippers and, as such, more than live up to their standard as the premier grippers on the market today. Hybrid grippers help you save in three ways.

First, they feature a simple connection concept with an air hose and connection cable. This eliminates the need to use the valve terminal that is typically required. Second, they are substantially more energy efficient than all other conventional grippers thanks to an integrated valve and a state-of-the-art integrated control system. The third aspect is significant savings thanks to cost-efficient predictive and preventative maintenance, therefore leading to enhanced cost efficiency and production availability.

# YOUR BENEFITS IN DETAIL

## GPP5000IL SERIES

	► Technical data*					
<b>Order No.</b>	<b>GPP5013N-IL-10-A</b>	<b>GPP5013NC-IL-10-A</b>	<b>GPP5013NO-IL-10-A</b>	<b>GPP5013S-IL-10-A</b>	<b>GPP5013SC-IL-10-A</b>	<b>GPP5013SO-IL-10-A</b>
Stroke per gripper jaw [mm]	13	13	13	6	6	6
Closing/opening grip force [N]	1410 / 1490	1920 / -	- / 1860	3100 / 3280	4220 / -	- / 4400
Protect. class per IEC 60529	IP64	IP64	IP64	IP64	IP64	IP64
Weight [kg]	2.5	2.9	2.9	2.5	2.9	2.9
<b>Order No.</b>	<b>GPP5016N-IL-10-A</b>	<b>GPP5016NC-IL-10-A</b>	<b>GPP5016NO-IL-10-A</b>	<b>GPP5016S-IL-10-A</b>	<b>GPP5016SC-IL-10-A</b>	<b>GPP5016SO-IL-10-A</b>
Stroke per gripper jaw [mm]	16	16	16	8	8	8
Closing/opening grip force [N]	2090 / 2220	2860 / -	- / 2990	4610 / 4900	6310 / -	- / 6600
Protect. class per IEC 60529	IP64	IP64	IP64	IP64	IP64	IP64
Weight [kg]	4.4	5.1	5.1	4.4	5.1	5.1
<b>Order No.</b>	<b>GPP5025N-IL-10-A</b>	<b>GPP5025NC-IL-10-A</b>	<b>GPP5025NO-IL-10-A</b>	<b>GPP5025S-IL-10-A</b>	<b>GPP5025SC-IL-10-A</b>	<b>GPP5025SO-IL-10-A</b>
Stroke per gripper jaw [mm]	25	25	25	14	14	14
Closing/opening grip force [N]	3280 / 3490	4510 / -	- / 4710	6360 / 6760	8730 / -	- / 9130
Protect. class per IEC 60529	IP64	IP64	IP64	IP64	IP64	IP64
Weight [kg]	8.5	10.4	10.4	8.5	10.4	10.4

## GPD5000IL SERIES

	► Technical data*					
<b>Order No.</b>	<b>GPD5013N-IL-10-A</b>	<b>GPD5013NC-IL-10-A</b>	<b>GPD5013NO-IL-10-A</b>	<b>GPD5013S-IL-10-A</b>	<b>GPD5013SC-IL-10-A</b>	<b>GPD5013SO-IL-10-A</b>
Stroke per gripper jaw [mm]	13	13	13	6	6	6
Closing/opening grip force [N]	3770 / 3910	5060 / -	- / 5200	8310 / 8600	11160 / -	- / 11450
Protect. class per IEC 60529	IP64	IP64	IP64	IP64	IP64	IP64
Weight [kg]	4.5	5.3	5.3	4.5	5.3	5.3
<b>Order No.</b>	<b>GPD5016N-IL-10-A</b>	<b>GPD5016NC-IL-10-A</b>	<b>GPD5016NO-IL-10-A</b>	<b>GPD5016S-IL-10-A</b>	<b>GPD5016SC-IL-10-A</b>	<b>GPD5016SO-IL-10-A</b>
Stroke per gripper jaw [mm]	16	16	16	8	8	8
Closing/opening grip force [N]	6870 / 7120	9240 / -	- / 9490	14700 / 15250	19780 / -	- / 20330
Protect. class per IEC 60529	IP64	IP64	IP64	IP64	IP64	IP64
Weight [kg]	8.3	9.8	9.8	8.3	9.8	9.8
<b>Order No.</b>	<b>GPD5025N-IL-10-A</b>	<b>GPD5025NC-IL-10-A</b>	<b>GPD5025NO-IL-10-A</b>	<b>GPD5025S-IL-10-A</b>	<b>GPD5025SC-IL-10-A</b>	<b>GPD5025SO-IL-10-A</b>
Stroke per gripper jaw [mm]	25	25	25	14	14	14
Closing/opening grip force [N]	8430 / 8730	11560 / -	- / 11860	16240 / 16820	22270 / -	- / 22850
Protect. class per IEC 60529	IP64	IP64	IP64	IP64	IP64	IP64
Weight [kg]	14.9	18.5	18.5	14.9	18.5	18.5

\* All values measured at 6 bar

# PRODUCT RANGE 5000

## GPP5000IL / GPD5000IL SERIES

### Leading qualities

The grippers from the 5000 series are equipped with an extremely durable, coated steel-in-steel profile groove guide, which is the reason for their practically unbeatable durability and high gripping forces. These steel-steel profile rail guides repeatedly show that they are extremely durable and 100

percent competitive. Essentially, there is no need to discuss the advantages of pure steel guides because throughout the industry and in mechanical engineering, steel-steel guides are the absolute, unbeatable standard. This has been demonstrated for hundreds of years.

### IO-Link inside

Zimmer Group uses the user-friendly IO-Link communication system to connect the electric variants to the central machine control system. The device setting data can either be entered here directly or taught. It can be stored centrally and transmitted

to other grippers without any issues. When replacing a gripper, its setting data can be transmitted to the new gripper quickly and without errors to ensure maximum possible machine availability.



▶ **PRODUCT ADVANTAGES**

**Gentle yet powerful**

Available in two versions, power version -03 for handling heavy workpieces with mechanical self-locking and version -31 for gently gripping delicate parts.

# PRODUCT RANGE 6000

## GED6000IL SERIES



### New electric concentric grippers – the GED6000 series

The proven 6000 series has been extended to include the electric 3-jaw concentric grippers of the GED6000IL series – the ideal solution for handling rotationally symmetric parts. The grippers are equipped with a positionable servomotor and an integrated control: they do not require an external controller. Expensive special cables between the controller and the gripper are no longer necessary, and control is provided by future-proof IO-Link technology. In relation to the installation space they offer a very large stroke. And the positionable, brushless DC motor, which knows almost no wear, guarantees excellent reliability.

### GED6000IL SERIES

Order No.	► Technical data*		
	GED6040IL-03-A	GED6040IL-31-A	GED6140IL-03-A
Control	IO-Link	IO-Link	IO-Link
Stroke per gripper jaw (adjustable)	40	40	40
Min. gripping force [N]	150	15	210
Max. gripping force [N]	800	165	1700
Max. length of gripper fingers [mm]	100	100	160
Operating temperature [°C]	+5 ... +50	+5 ... +50	+5 ... +50
Protect. class per IEC 60529	IP54	IP54	IP54
Weight [kg]	2.8	2.8	4.9



#### ▶ **PRODUCT ADVANTAGES**

##### **New variant -31**

Enables gentle gripping of delicate workpieces that should be gripped only with limited force due to their geometry, surface finish or stability. This version rounds off the series and closes the gap in the lower range of gripping forces.

# PRODUCT RANGE 6000

## GEH6000IL SERIES



### GEH6000 electric gripper series

The new -31 variant was developed specifically for handling fragile and delicate parts. In addition to the advantages of the previous -03 grippers, such as an integrated control, IO-Link technology and ability to position the gripper jaws, it provides the ability to reduce the gripping force to only a few newtons. The „gentleness“ of the new variant is achieved by a changed gear ratio, which also reduces the cycle time by a factor of 2. With this feature, almost all types of workpieces can now be gripped with the grippers of this series. Whether you want to grip with power or just gently – Zimmer Group offers you the ideal gripper for each application.

### INSTALLATION SIZE GEH6060IL

Order No.	► Technical data
Control	GEH6060IL-31-B
Stroke per gripper jaw (adjustable)	IO-Link
Min. gripping force [N]	60
Max. gripping force [N]	10
Max. length of gripper fingers [mm]	180
Operating temperature [°C]	100
Protect. class per IEC 60529	+5 ... +50
Weight [kg]	IP54
	0.9



▶ **PRODUCT ADVANTAGES**

**Safe**

The world's largest portfolio of HRC grippers, available from Zimmer Group, is fully certified by DGUV/BG. Regardless of robot manufacturer, the ideal gripping solution can always be found – from 2-jaw parallel grippers to servo-driven, long stroke grippers or angular grippers.

# HRC

## HUMAN-ROBOT COLLABORATION

### Human, robot!

Human-robot collaboration opens up new possibilities for efficient, flexible and optimized production. Conflicting market requirements have to be taken into account such as increased depth of customization amid shortening product life cycles. Cooperation and collaboration between humans and robots can

create far-reaching potential under these circumstances. Both resources are making optimal use of their unique possibilities, creating new jobs for the future as a result. Grippers from Zimmer Group are the link between the workpiece and the robot.

### The largest portfolio

The world's largest portfolio of HRC grippers, available from Zimmer Group, is fully DGUV/BG certified and therefore complies with the requirements of the protection principles in accordance with ISO/TS 15066. Regardless of the robot manufacturer, the ideal gripping solution can always be found

– from 2-jaw parallel grippers to servo-driven, long stroke grippers or angular grippers. The integrated LED display ensures that the gripper status can be detected easily and immediately. Optional connections to robot-specific human-machine interfaces round off the product range.





#### **PRODUCT ADVANTAGES**

##### **The leader in technology**

Due to the superior technology of the spiral groove, very high energy absorption can be achieved in the smallest spaces, while providing precise, low-vibration damping at the same time.

# INDUSTRIAL SHOCK ABSORBER POWERSTOP

## SUPERIOR TECHNOLOGY IN PERFECTION

### Spiral groove technology

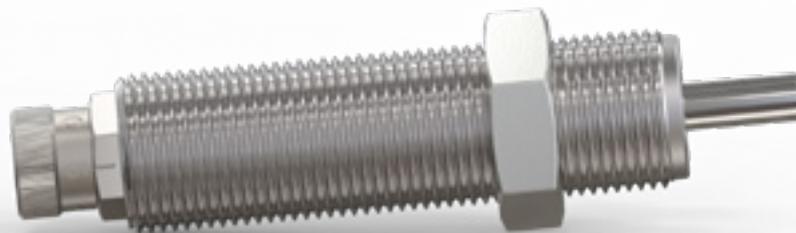
The unique spiral groove technology is a defining feature of PowerStop industrial shock absorbers. In contrast with conventional industrial shock absorbers with throttle bores, the constantly tapering spiral groove causes precise, low-vibration damping

absorption. The PowerStop industrial shock absorber achieves maximum energy absorption with the smallest installation space through optimal utilization.

### New Adjustable Energy series – the adjustable absorbers

The new Adjustable Energy series makes it possible to achieve infinitely adjustable – and thus ideal - energy absorption settings in the damping process. In addition to the normal stroke version,

it is also available in a long-stroke version whose adjustability further increases the benefit of extremely smooth damping.



# YOUR BENEFITS IN DETAIL

## MINI ENERGY – THE SLENDER



	► Technical data
<b>Series</b>	<b>Mini Energy</b>
Thread	M4 - M5
Max. pressure (abs.)	10 bar
Stroke versions	Normal
Protection	Without protection, wiper

## STANDARD ENERGY – THE ECONOMICAL



	► Technical data
<b>Series</b>	<b>Standard Energy</b>
Thread	M8 - M36
Max. pressure (abs.)	1 bar
Stroke versions	Normal
Protection	Without protection, wiper, felt ring, bellows

## HIGH ENERGY – THE HIGH-PERFORMER



	► Technical data
<b>Series</b>	<b>High Energy</b>
Thread	M8 - M36
Max. pressure (abs.)	10 bar
Stroke versions	Normal / Long
Protection	Without protection, wiper, felt ring, bellows

## ADJUSTABLE ENERGY – THE ADJUSTABLE



	► Technical data
<b>Series</b>	<b>Adjustable Energy</b>
Thread	M8 - M36
Max. pressure (abs.)	10 bar
Stroke versions	Normal / Long
Protection	Without protection, wiper, felt ring, bellows

# INDUSTRIAL SHOCK ABSORBER POWERSTOP SUPERIOR TECHNOLOGY IN PERFECTION

## **A portfolio that fulfills all wishes**

The new assembly set makes it possible to combine highly versatile application-specific variants from four series, each with a stroke version, speed range, protection, and head. Everything comes from standard elements, delivering the shortest time to availability and ideal pricing. The new Mini Energy, Standard Energy, High Energy and Adjustable Energy series offer a number of refinements, significant improvements and enhance-

ments. They use an innovative, organic oil that can be applied in the food industry with H1 certification, and in combination with standard stainless steel designs – it is even biodegradable. The new PowerStop industrial shock absorbers thus also set new environmental standards. Also a new fixed stop with a longer piston rod guide length has been developed to increase the PowerStop's familiar robustness even more.

## **Ideal protection in any environment**

Thanks to the broad range of the modular system, PowerStop offers the right protection for any condition. In a clean environment, such that of an assembly process, the damper does its job cost-effectively without any special protection. With the optional wiper made of NBR, it is resistant to any kind of liquid or oil. The best way to keep dust and shavings outside the damper, even

when working with wood, is with a felt ring. Last but not least, the bellows made of TPC provide the ultimate protection against adverse conditions such as grinding dust or use inside a liquid. At the same time, it does not allow any particles to escape from the damper so it can be used in cleanrooms and the food industry.



#### ▶ **PRODUCT ADVANTAGES**

##### **Simply electric**

The LKE series is impressive, especially when it comes to speed, an integrated status sensor and extremely easy commissioning for use in automation. And when closed, the full holding force is maintained even without power.

# ELECTRIC CLAMPING ELEMENT LKE

## FAST, WITH A HIGH HOLDING FORCE

### Independent of pneumatics and hydraulics

In contrast to a pneumatic solution, the new LKE series is impressive – most notably due to its integrated status sensing (open/closed), which is output via digital status signals. The kinematics are supplied by means of an eccentric shaft with a

mechanical self-locking mechanism (bi-stable). Due to the self-locking operating principle, when closed, the full holding force is maintained up to 1,800 N in case of a power drop or while in a currentless state (e.g., when the system is switched off).

### Short switching times

With a closing time of approx. 400 milliseconds, the previous model has been improved by a factor of seven. The opening and closing takes place at 24 V with a maximum current draw of 1.5 A. Due to the integrated electronics, the element can be controlled easily via digital signals. Electric powered linear axes are the primary areas of application for clamping elements.

Thus, by holding the axis via the clamping element, high process forces which exceed the forces of the linear drive many times over can be absorbed while the clamping position is maintained. Further application areas include simple automation, mechanical engineering and the automotive industry (e.g., autonomous assembly islands).





## PRODUCT ADVANTAGES

### **Zero backlash**

Due to the housing deformation within a flexible range, extremely fast response times can be combined with maximum angular precision and cycle numbers that outperform everything else on the market.

# ROTARY CLAMPING ELEMENT DKHS1000

## PRECISION THANKS TO RESIDUAL STRESS

### World innovation under residual stress

As a market and technology leader in clamping and braking elements for profile rail guides from the very beginning, Zimmer Group is now demonstrating its technological expertise in the rotary field with an impressive innovation. The new DKHS1000 rotary clamping element enables high-precision fixation of the angular position of rotation axes in tooling machines. Through the elastic deformation of the housing under hydraulic pressure, the element releases the rotating flange connection.



### Inherent safety

If the pressure drops, the rotating flange connection will be clamped by the residual stress of the housing and held securely in position. The element's closing times are still unrivaled thanks to the pretensioning of the housing and the low displacement. And there are no movable components with clearance, so in the rotary range extremely high accuracy that is finer than the resolution of conventional angle sensors is attained. In other words, the motor control, which is inaccurate under dynamic load anyway, can be switched off in this situation.

### Flexibility brings longevity

Thanks to the element's design in the fatigue-proof elastic range, the DKHS1000 hydraulic series significantly outperforms conventional, pneumatically actuated rotary clamping elements. This continues to raise the availability of tooling machines. The DKHS1000 is a reliable component for tilting and turning tables, the C-axis, the spindle axis and protecting torque motors.



## PRODUCT ADVANTAGES

### Higher machining quality

Thanks to integrated positioning checks the zero-point clamping system from Zimmer Group ensures a smooth machining process. It accommodates sensing the workpiece to be clamped or the counterplate to determine whether it is lying flat on the zero-point clamping system, ensuring the quality of your machining process.

# ZERO-POINT CLAMPING SYSTEM

## ALL FUNCTIONS, ALWAYS AVAILABLE

### Safely clamped in all application areas

The new zero-point clamping system by Zimmer Group provides a number of features whose form and composition are unique in the market. The PLUS connection, sealing air and positioning checks are integrated as standard, and the system also features air discharge from the bolt opening, rotation prevention devices and contact surface cleaning. It is able to absorb maximum forces with maximum repeatability. This is achieved through a

mature clamping principle that uses a clamping segment for positive locking. The zero-point clamping system offers two connection options for maximum flexibility: spot facing on the plate or tubing at the bottom of the element. To ensure the best protection, a variant with a sealing cap is available in addition the outlet nozzle.



# YOUR BENEFITS IN DETAIL

## ZERO-POINT CLAMPING SYSTEM Ø62

	► Technical data	
Order No. with outlet nozzle	<b>SPN062E6AD-B</b>	<b>SPN062E4AD-B</b>
Order No. with sealing cap	<b>SPN062E6AV-B</b>	<b>SPN062E4AV-B</b>
Max. holding force	M6/M8 (12.9)	M6/M8 (12.9)
Operating pressure [bar]	6...7	4...7
Clamping force [kN]	4	2,5
Clamping force with PLUS connection [kN]	7.5	4.5
Rotation prevention, positioning check, overlay seal, blow-out function, sealing air	Yes	Yes
Weight [kg]	0.47	0.47

## ZERO-POINT CLAMPING SYSTEM Ø112

	► Technical data	
Order No. with outlet nozzle	<b>SPN112E6AD-B</b>	<b>SPN112E4AD-B</b>
Order No. with sealing cap	<b>SPN112E6AV-B</b>	<b>SPN112E4AV-B</b>
Max. holding force	M10/M12 (12.9)	M10/M12 (12.9)
Operating pressure [bar]	6...7	4...7
Clamping force [kN]	7	4
Clamping force with PLUS connection [kN]	15	10
Rotation prevention, positioning check, overlay seal, blow-out function, sealing air	Yes	Yes
Weight [kg]	1.67	1.67

## ZERO-POINT CLAMPING SYSTEM Ø138

	► Technical data	
Order No. with outlet nozzle	<b>SPN138E6AD-B</b>	<b>SPN138E4AD-B</b>
Order No. with sealing cap	<b>SPN138E6AV-B</b>	<b>SPN138E4AV-B</b>
Max. holding force	M12/M16 (12.9)	M12/M16 (12.9)
Operating pressure [bar]	6...7	4...7
Clamping force [kN]	18	9
Clamping force with PLUS connection [kN]	42	22
Rotation prevention, positioning check, overlay seal, blow-out function, sealing air	Yes	Yes
Weight [kg]	3.7	3.7

# ZERO-POINT CLAMPING SYSTEM

## ALL FUNCTIONS, ALWAYS AVAILABLE

### **For trouble-free operation**

The highlight of the zero-point clamping system is its integrated blow-out function. It ensures trouble-free operation even under the most adverse conditions. The integrated outlet nozzle acts as a cleaner for the bolt opening and rotation prevention devices. In the process, an air stream removes shavings and other foreign particles reliably and effectively. To achieve

maximum protection, a special sealing cap was developed. It closes the bolt opening and cleans both the rotation prevention devices and the contact surfaces. This makes the zero-point clamping system by Zimmer Group your reliable partner for applications of any kind.



▶ **PRODUCT ADVANTAGES**

**Maximum flexibility**

The Modular Transport System is a modular, flexible, fully scalable transport and handling system with a master/slave and recuperation function.

# MODULAR TRANSPORT SYSTEM

## EXCELLENT

### Technology and economic efficiency

Thanks to its modularity, flexibility and scalability, the system can be used either as a transport system or a handling system. The transport modules take care of workpiece transport, while the speed of each individual shuttle or shuttle group can be selected freely. The individually controlled transport units can be used as masters or slaves, depending on the requirements of the MES system. They can operate separately or in tandem. This elimi-

nates fixed coupling of the transport by a continuous conveyor belt, for example. Viewed over the full life cycle, this new machine concept offers high investment security since the modular design makes it possible to add later extensions through new machining modules. The modules move on a freely configurable track to attain an almost unlimited length and range of variants.

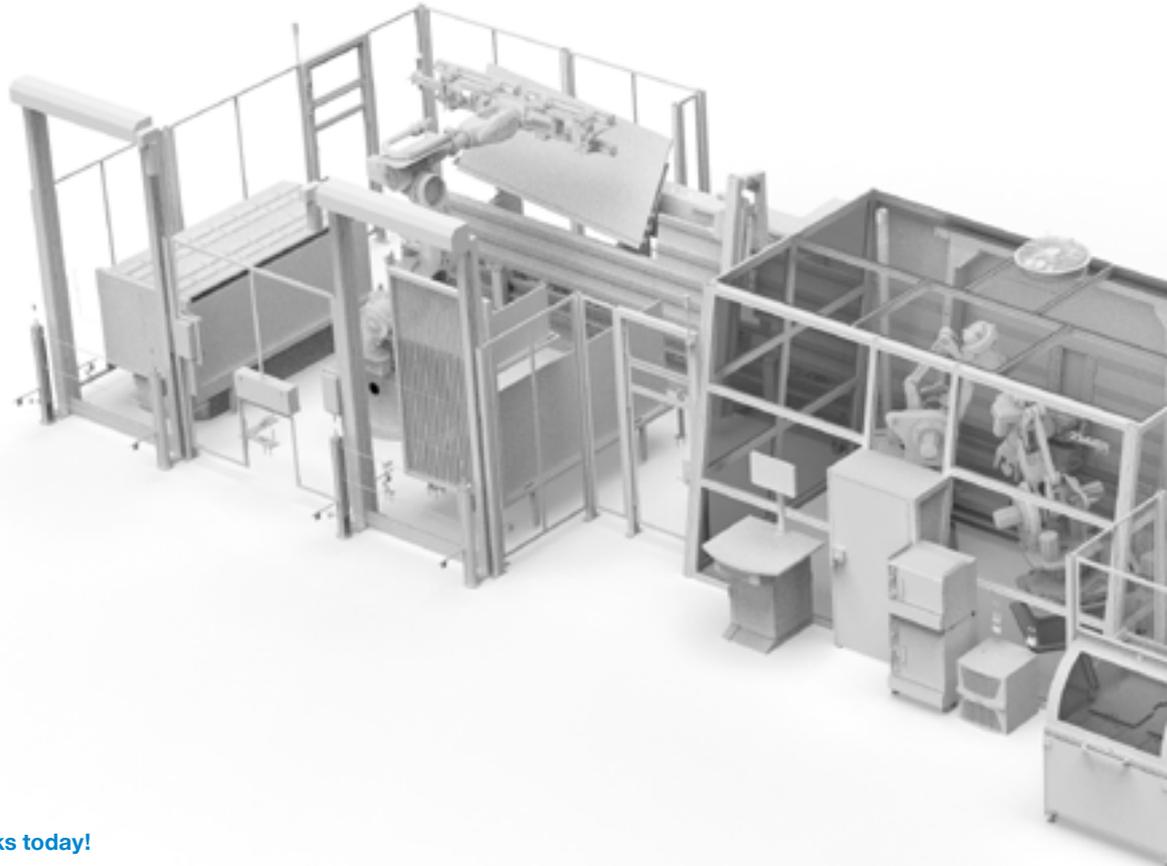
### Two impressive innovations

Innovation number one: the high flexibility and broad scalability of the individually controlled transport units, which are controlled as either a master or a slave, depending on the production order. These transport units can carry workpieces of very different sizes, either as individual transport units for smaller workpieces or together in a master-slave assembly for one large workpiece. Innovation number two: An integrated 48 V intermediate circuit buffer. In combination with the recuperation function of the

transport units, this buffer reduces load current peaks by approx. 85% and the system's energy consumption by more than 8%. The production process is interconnected because all processes are directly linked to a higher-level MES system. Thanks to numerous sensors, the current status information can be called up in real time (condition monitoring). Cloud connection is also possible, thereby enabling functionalities such as predictive maintenance and statistical evaluations.

# MODULAR TRANSPORT SYSTEM

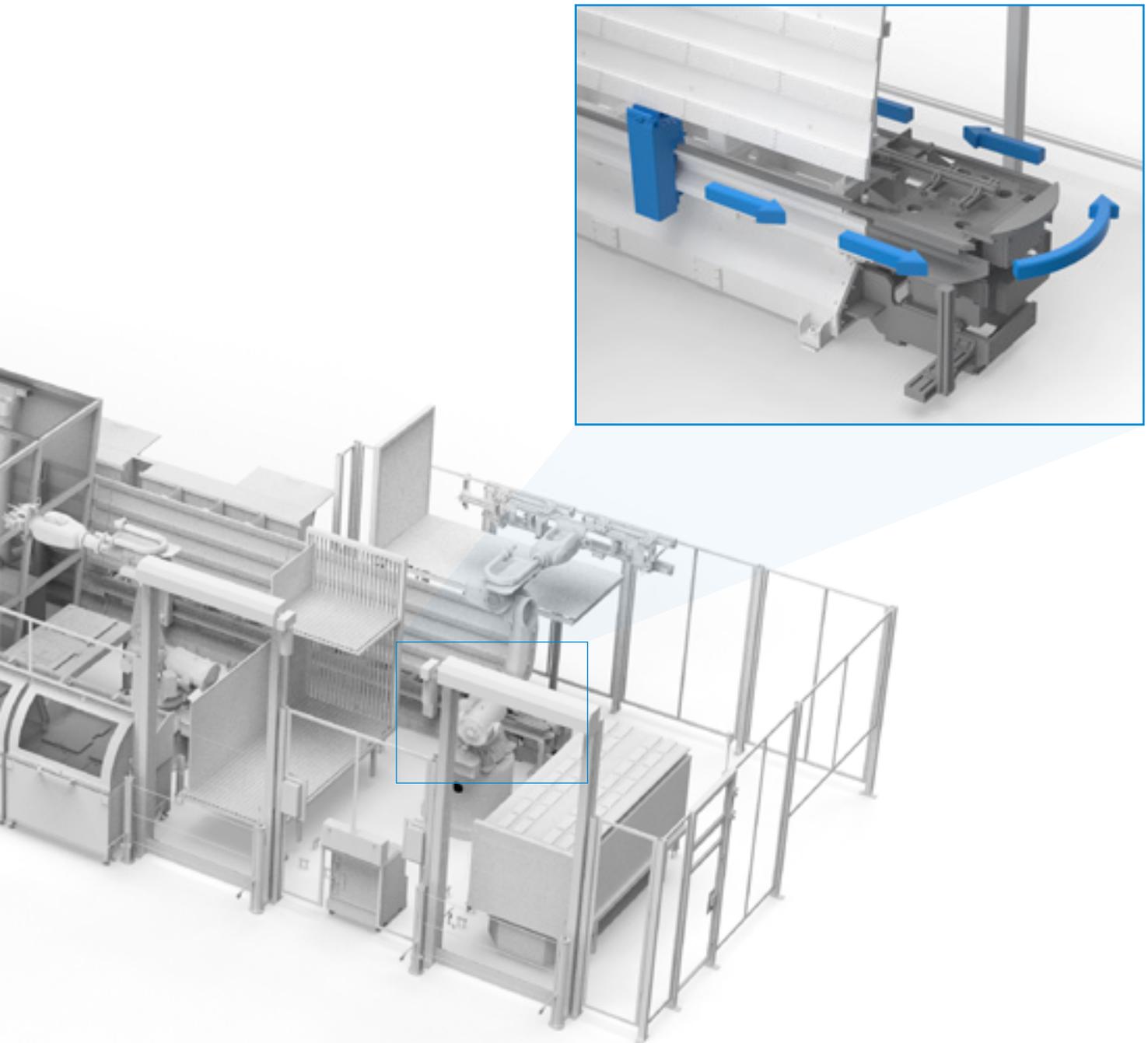
## EXCELLENT



### **This is how automation works today!**

The Modular Transport System combines transport, machining and quality assurance function in a nearly ideal manner. Depending on the requirements profile, the actual transport route can be enhanced by a flexible arrangement of loading

robots, measuring and plausibility stations, machining robots, converters or assembly stations. The high level of flexibility is ultimately the result of the overall system reconfigurability and the independently operating functional units.





▶ **PRODUCT ADVANTAGES**

**IO-Link to digital I/O**

Controlling intelligent end-effectors. The Zimmer Smart Communication Module combines the multi-functionality of IO-Link components using simple digital I/O communication.

# SMART COMMUNICATION MODULE (SCM)

## IO-LINK MEETS DIGITAL I/O

### Smart Communication Module

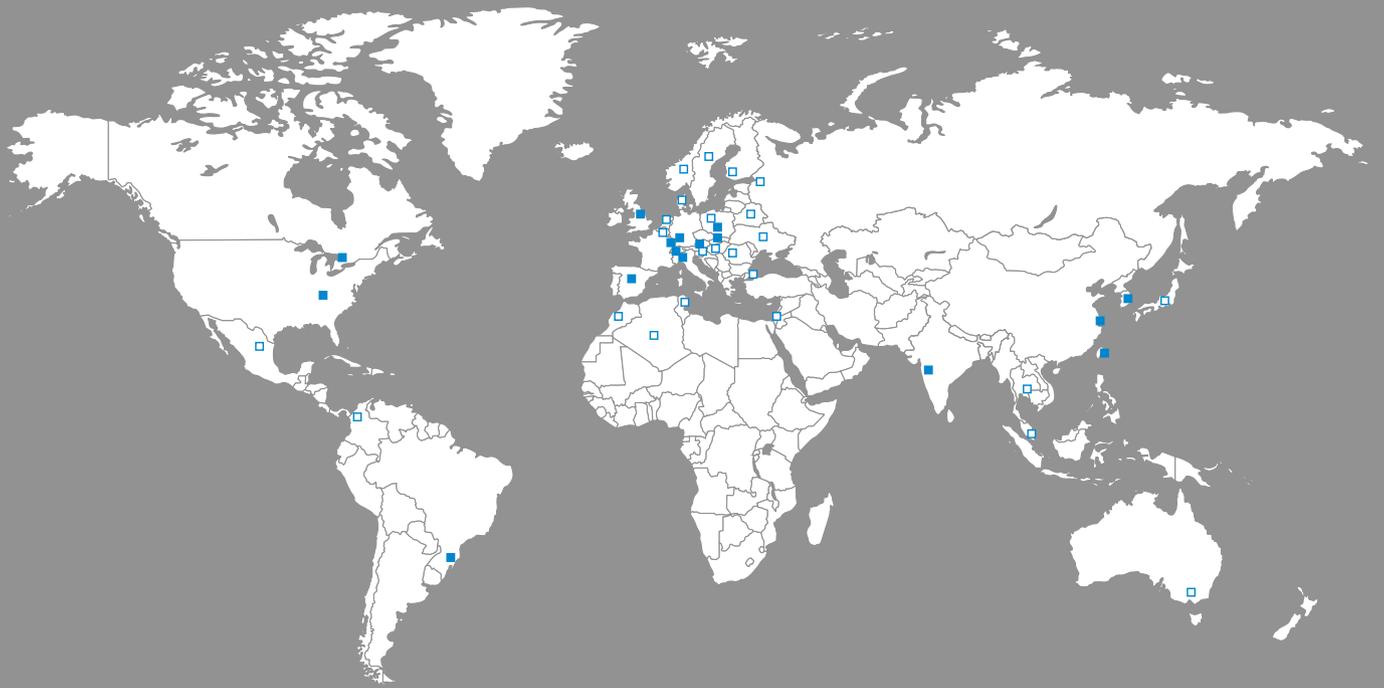
The Smart Communication Module (SCM) is a master gateway that is suitable for all IO-Link components. With its two channels, the SCM can control two devices and on a functional level, offers the direct implementation of IO-Link to digital I/O. The module thus makes it possible to integrate IO-Link devices into a digital infrastructure and utilize almost the full extended range of functions of the IO-Link device. The SCM is available in two

versions: as a bus terminal for DIN rail mounting in the control cabinet with a standard grid width and as an adapter for direct installation on the end-of-arm tool. This ensures easy control, regardless of the application and which robot is used. The DIN rail mounting version has IP20 protection, while the end-of-arm version is IP54 rated.

### guideZ

guideZ is a software tool for commissioning components quickly and extremely easily. It enables user-guided implementation and commissioning for truly anyone. Users can switch between wizard mode and expert mode. The parameter data of this

7-step commissioning process can be easily and quickly adapted to any PLC control or even small controls – this is usability by THE KNOW-HOW FACTORY!



■ Sales Divisions  
■ Sales Partners

# THE KNOW-HOW FACTORY. WORLDWIDE.



## PROFESSIONAL, RELIABLE, EFFECTIVE

You can count on our support worldwide! From commissioning, maintenance and repair to modernization, we accompany the life cycle of your Zimmer products competently and reliably. We understand service as an essential building block of a long-term partnership.

# CLOSE TO YOU

## WORLDWIDE



### 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 fault signal can be systematically analyzed in a short time.



### 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



### On-site support from our specialists

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



### Spare parts

Original Zimmer 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.

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