



## 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 ingenious 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 technology fields. This applies not just to development but 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 needs. We approach each customer's situation with a high level of competence and a broad range of possible solutions.





### **TECHNOLOGIES**



#### HANDLING TECHNOLOGY

MORE THAN 30 YEARS OF EXPERIENCE AND INDUSTRY KNOWLEDGE: OUR PNEUMATIC, HYDRAULIC AND ELECTRICAL HANDLING COMPONENTS AND SYSTEMS ARE GLOBAL LEADERS.

**Components.** More than 2,000 standardized grippers, swivel units, robotic accessories and much more. We offer a complete selection of technologically superior products that are ready for rapid delivery.

**Semi-standard.** Our modular approach to design enables custom configurations and high rates of innovation for process automation.





#### DAMPING TECHNOLOGY

INDUSTRIAL DAMPING TECHNOLOGY AND SOFT CLOSE PRODUCTS EXEMPLIFY THE INNOVATION AND PIONEERING SPIRIT OF THE KNOW-HOW FACTORY.

#### Industrial damping technology.

Whether standard or customized solutions, our products stand for the highest cycle rates and maximum energy absorption with minimal space requirements.

**Soft Close.** Development and mass production of pneumatic and fluid dampers with extraordinary quality and rapid delivery.

**OEM and direct.** Whether they need components, returning mechanisms or complete production lines – we are the trusted partner of many prestigious customers.





#### LINEAR TECHNOLOGY

WE DEVELOP LINEAR COMPONENTS AND SYSTEMS THAT ARE INDIVIDUALLY ADAPTED TO OUR CUSTOMERS' NEEDS.

#### Clamping and braking elements.

We offer you more than 4,000 types for profiled and round rails as well as for a variety of guide systems from all manufacturers. It makes no difference whether you prefer manual, pneumatic, electric or hydraulic drive.

**Flexibility.** Our clamping and braking elements ensure that movable components such as Z-axes or machining tables maintain a fixed position and that machines and systems come to a stop as quickly as possible in an emergency.







#### PROCESS TECHNOLOGY

MAXIMUM EFFICIENCY IS ESSENTIAL FOR SYSTEMS AND COMPONENTS USED IN PROCESS TECHNOLOGY. HIGH-LEVEL CUSTOM SOLUTIONS ARE OUR TRADEMARK.

A rich reservoir of experience. Our know-how ranges from the development of materials, processes and tools through product design to production of series products.

**Deep production capabilities.** The Zimmer Group pairs these capabilities with flexibility, quality and precision, even when making custom products.

**Series production.** We manufacture demanding products out of metal (MIM), elastomers and plastics with flexibility and speed.







#### MACHINE TECHNOLOGY

ZIMMER GROUP DEVELOPS INNOVATIVE METAL, WOOD AND COMPOSITE MATERIAL PROCESSING TOOL SYSTEMS FOR ALL INDUSTRIES. NUMEROUS CUSTOMERS CHOOSE US AS THEIR SYSTEMS AND INNOVATION PARTNER.

**Knowledge and experience.** Industry knowledge and a decades-long development partnership in exchangeable assemblies, tool interfaces and systems make us bound for new challenges around the world.

**Components.** We deliver numerous standard components from stock and develop innovative, customized systems for OEM and end customers – far beyond the metal and wood processing industries.

**Variety.** Whether you have machining centers, lathes or flexible production cells, the power tools, holders, assemblies and drilling heads of Zimmer Group are ready for action.



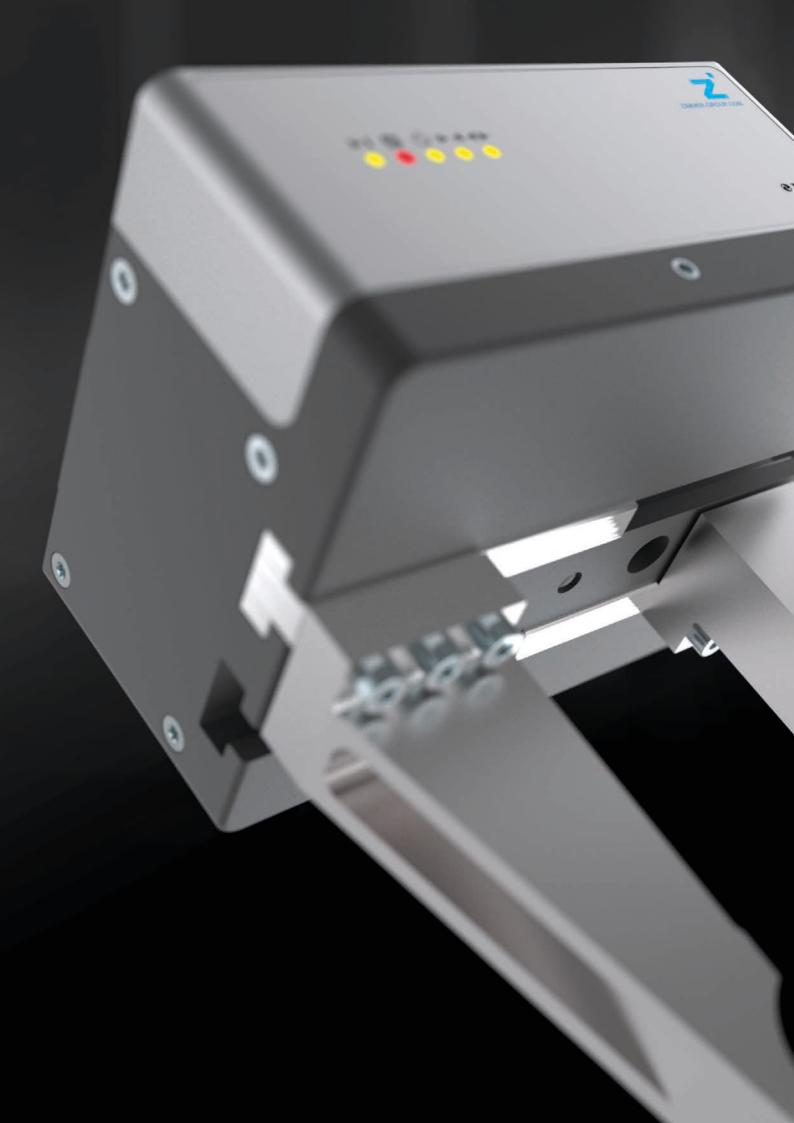


#### SYSTEM TECHNOLOGY

ZIMMER GROUP IS ONE OF THE LEADING SPE-CIALISTS IN THE DEVELOPMENT OF CUSTOM-IZED SYSTEM SOLUTIONS WORLDWIDE.

**Customized.** A team made up of more than 20 experienced designers and project engineers develop and produce customized solutions for special tasks in close collaboration with end customers and system integrators. It doesn't matter if it is a simple gripper and handling solution or a complex system solution.

**Solutions.** These system solutions are used in many industries, from mechanical engineering to the automotive and supplier industries to plastics engineering and consumer goods industries, all the way to foundries. The Know-how Factory helps countless companies to thrive competitively by increasing automation efficiency.



# **PRODUCT FAMILY 6000**OVERVIEW OF SERIES





### 2-JAW PARALLEL GRIPPERS WITH LONG STROKE **SERIES GH6000**

#### PRODUCT ADVANTAGES



#### "The robust"

► Gripper jaws may be up to 25% longer in comparison to the benchmark

The highest force and torque measurement enables flexible for maximum dynamics

Over 30% more powerful than the benchmark

Optimisation of weight and force reduces your application costs since all components can have a smaller scale

► Failure-free continuous operation

Our uncompromising "Made in Germany" quality guarantees up to 10 million maintenance-free cycles

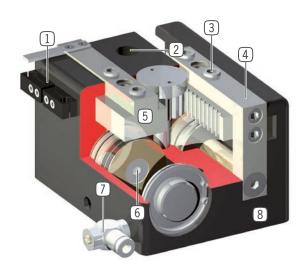
Securing the workpiece in case of drop in pressure above clamping element on the condition of a positive gripper jaw design (only for variant GHK)

#### SERIES CHARACTERISTICS

Installation size / Variant			
	GH60XX	GHK60XX	
Position maintenance by means of clamping element		•	
10 million maintenance-free cycles (max.)	•	•	
+ W Inductive sensor	•	•	
Magnetic field sensor	•	•	
IP 40 IP40	•	•	



#### **BENEFITS IN DETAIL**



#### 1 Mounting block

- mounting for inductive proximity switch

#### 2 Mounting and positioning

- mounting possible from several sides for versatile positioning

#### 3 Removable centering sleeves

- quick and economical positioning of the gripper fingers

#### 4 Gripper jaw

- individual gripper finger mounting

#### 5 Precise long T-Slot guides

- high forces and moments capacity

#### 6 Drive

- two double-acting pneumatic cylinders
- synchronized by gearwheel

#### 7 Energy supply

- possible from several sides
- CAUTION: always operate long stroke gripper with supplied exhaust air flow control valve (speed regulation)

#### 8 Robust, lightweight housing

- Hard-coated aluminum alloy

#### TECHNICAL DATA

	Stroke per jaw	Gripping force	Weight	IP class
Installation size	[mm]	[N]	[kg]	
GH6000	20 - 80	120 - 155	0,3 - 0,75	IP40
GH6100	40 - 80	370 - 530	1,5 - 2,2	IP40
GH6200	40 - 150	900 - 1400	3,3 - 7,5	IP40
GH6300	60 - 150	1520 - 2270	7 - 10,5	IP40
GH6400	60 - 200	2600 - 3400	10,4 - 22,7	IP40

#### ► FURTHER INFORMATION IS AVAILABLE ONLINE

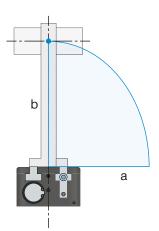


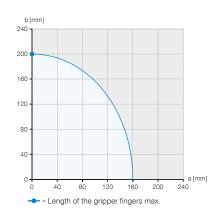
All information just a click away at: <a href="www.zimmer-group.com">www.zimmer-group.com</a>. Find data, illustrations, 3D models and operating instructions for your installation size using the order number for your desired product. Quick, clear and always up-to-date.

### 2-JAW PARALLEL GRIPPERS WITH LONG STROKE **SERIES GH6000 GRIPPER FINGER LENGTH**



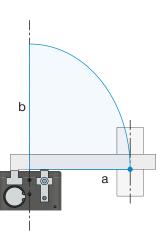
#### **MAXIMUM GRIPPER FINGER LENGTH**

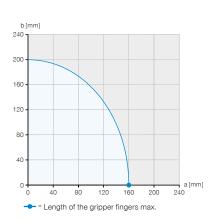




#### Example 1

Vertical force application point a = 0 mm $b = 200 \, \text{mm}$ 



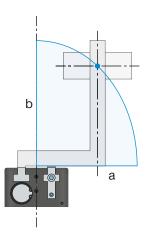


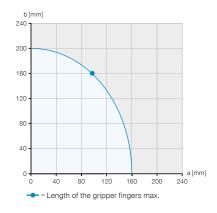
#### Example 2

Horizontal force application point

 $a = 160 \, \text{mm}$ 

b = 0 mm





#### Example 3

Maximum permissible projection

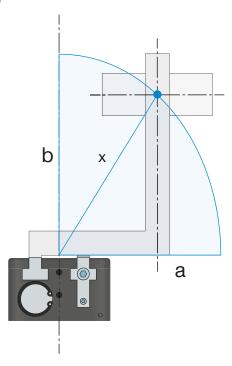
 $a = 96 \, \text{mm}$ 

 $b = 160 \, \text{mm}$ 

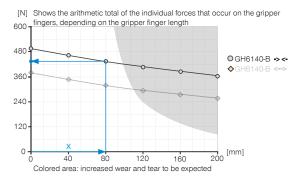
The examples show the maximum horizontal (a) and vertical (b) gripper finger length using the example of a GH6140-B, which is represented by the blue area.



#### **GRIPPING FORCE AS A FUNCTION OF GRIPPER FINGER LENGTH**



#### Gripping force diagram



#### Example 4

Resulting gripper finger length for determining the gripping force

a = 55 mm

 $b = 58 \, \text{mm}$ 

$$x = \sqrt{55^2 + 58^2} = 80 = > 435 N$$



The specified maximum gripper jaw length in the gripper technical data refers to a vertical (b) alignment of the gripper jaws. With a horizontal (a) overhang, the maximum gripper jaw length is reduced accordingly. The table shows the maximum gripper jaw lengths of the individual sizes.

If the required gripper jaw length lies within the tinted area of the gripping force diagram, increased wear must be expected - possibly reduce pressure.

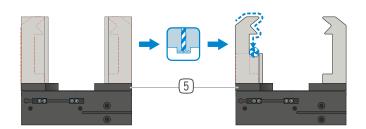
#### ► TECHNICAL DATA

	Permissible weight per jaw max	Length of the gripper fingers max. vertical (b)	Length of the gripper fingers max. horizontal (a)
Installation size	[kg]	[mm]	[mm]
GH6000	0.3	150	120
GH6100	1	200	160
GH6200	2.5	250	200
GH6300	3.5	300	240
GH6400	6	400	320

### 2-JAW PARALLEL GRIPPERS WITH LONG STROKE **SERIES GH6000 FUNCTIONAL DESCRIPTION**



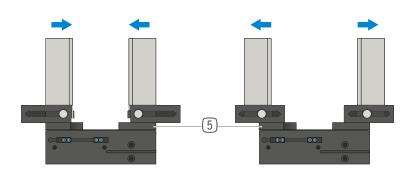
#### **GRIPPING COMPONENTS**



#### Universal jaws - UB5000

Can be used immediately or for individual reprocessing

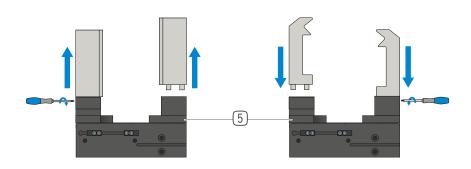
The gripper blanks are available in aluminum (AL) and steel (ST) versions and are installed directly on the gripper using the screws in the scope of delivery. The fits for the centering sleeves are already in place for this purpose. One universal jaw is required for each gripper iaw.



#### Adjustment jaws - EB5000

For tool-free adaptation of the gripper range

By manually activating the locking mechanism, which is pre-tensioned by a spring, the adjustment jaw can be moved within a grid of detent notches that has a number scale. Depending on the forces and torques that apply, the adjustment jaws are available in aluminum (AL) and steel (ST) versions. One adjustment jaw is required for each gripper jaw.



#### Interchangeable jaws - WB5000

Enable fast change of individual gripper fingers

For each gripper jaw, a fixed part and at least one loose part set is needed, depending on the number of gripper fingers to be changed. Manual locking via the Torx wrench included in the scope of delivery of the fixed part can take place from two sides.

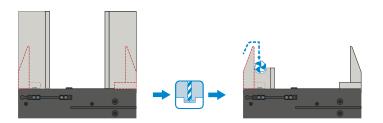


#### THE GRIPPING COMPONENTS CAN BE COMBINED!

The gripping components listed above can be combined with each other. For connection to the gripper, the adapter plate (5), which is included in the recommended accessories for the gripper, is required.



#### **GRIPPING COMPONENTS**

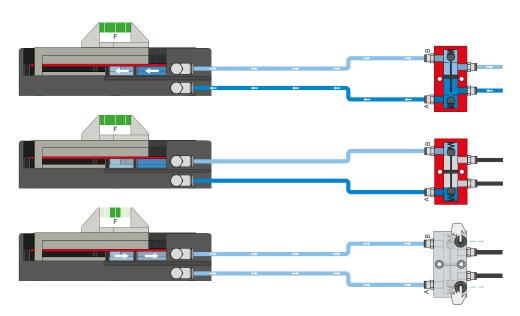


#### Universal jaws - UB6000-B

Can be used immediately or for individual reprocessing

The gripper blanks are available in an aluminum (AL) version and are installed directly on the gripper using the screws in the scope of delivery. The fits for the centering sleeves are already in place for this purpose. One universal jaw set is required for each gripper.





#### Pressure safety valve - DSV

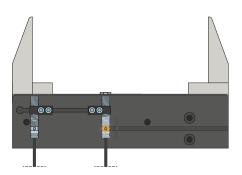
Ensures safe retention of force and position if the system pressure drops

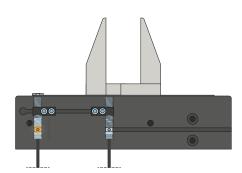
The integrated double check valve, which can be unlocked, retains the system pressure of the gripper in case of EMERGENCY STOP. To ensure the function, the valve must be installed as close to the gripper's air connection as possible. In variant E, two pushbuttons are installed that allow for controlled bleeding of the gripper.

### 2-JAW PARALLEL GRIPPERS WITH LONG STROKE **SERIES GH6000 FUNCTIONAL DESCRIPTION**



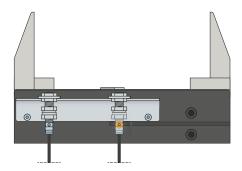
#### **SENSORS**

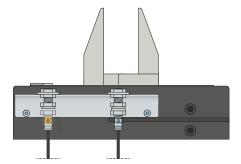




#### Inductive sensors - NJ

The mounting block is aligned to the cam switch, and the sensor is guided into the mounting block until the required switching distance to the cam switch is reached. Fine adjustment can be made by moving the mounting block again. The sensors are available in versions with 5 m cables with exposed leads and 0,3 m cable with connector, as well as with direct plug orientation.





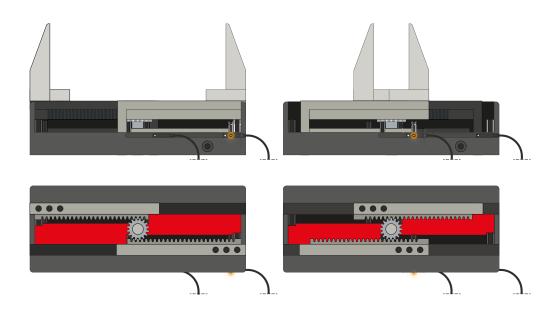
#### Clamping bracket - KHA

The KHA can be used as an alternative to installing the sensor via the mounting block. The sensor is inserted into the clamping bracket as far as it will go and secured. Tuning to the cam switch then takes place. Fine adjustment can be made by moving the clamping bracket again.

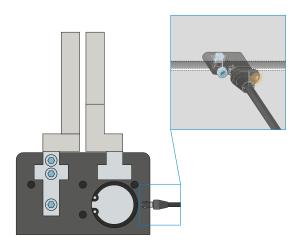


#### **SENSORS**

MFS02



MFS01



#### 1-point magnetic field sensors - MFS

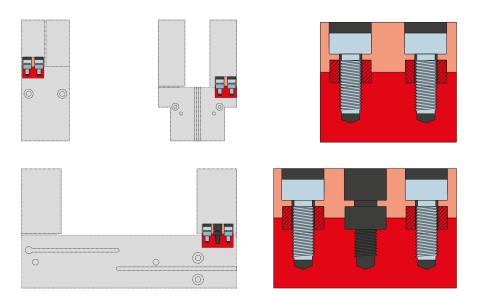
For non-contact sensing of the piston position

These sensors are installed in the C-groove of the gripper and detect the magnet attached to the piston of the gripper. To ensure use in a wide variety of space conditions, the sensors are available in two variants. While the horizontal MFS02, with straight cable outlet, disappears into the C-groove of the gripper almost completely, the vertical MFS01 is taller, but has a cable outlet that is offset at an angle of 90°. The variants are available in versions with 5 m cables with exposed leads and 0,3 m cable with connector.

### 2-JAW PARALLEL GRIPPERS WITH LONG STROKE **SERIES GH6000 FUNCTIONAL DESCRIPTION**



#### **CONNECTIONS / OTHER**



#### **Centering sleeves**

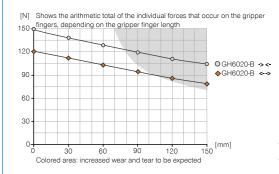
For defined position measurement of the gripper fingers

The centering sleeves are inserted into the fits of the gripper jaws to define the position of the gripper fingers. The centering sleeves are comparable to a pin connection.

#### **▶ PRODUCT SPECIFICATIONS**



#### **Gripping force diagram**



#### Forces and moments

Displays static forces and moments that can also have an effect, besides the gripping force.



Mr [Nm]	20
Mx [Nm]	20
My [Nm]	20
Fa [N]	500

#### **► INCLUDED IN DELIVERY**

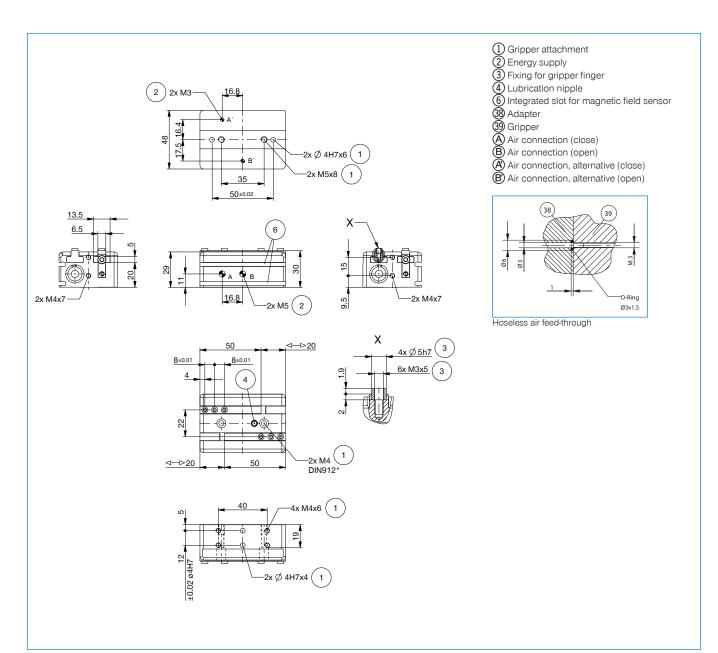


4 [piece] Centering Disc DST40400



2 [piece] Flow Control Valves - with Swivel joint DRVM5X4

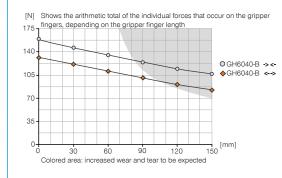
	► Technical data
Order no.	GH6020-B
Stroke per jaw [mm]	20
Gripping force in closing [N]	150
Gripping force in opening [N]	120
Closing time [s]	0.1
Opening time [s]	0.1
Permissible weight per jaw max [kg]	0.3
Length of the gripper fingers max. [mm]	150
Repetition accuracy +/- [mm]	0.05
Operating pressure min. [bar]	3
Operating pressure max. [bar]	8
Nominal operating pressure [bar]	6
Operating temperature min. [°C]	5
Operating temperature max. [°C]	+80
Air volume per cycle [cm³]	12
Weight [kg]	0.3



#### **▶ PRODUCT SPECIFICATIONS**



#### **Gripping force diagram**



#### Forces and moments

Displays static forces and moments that can also have an effect, besides the gripping force.



Mr [Nm]	35
Mx [Nm]	35
My [Nm]	35
Fa [N]	500

#### **► INCLUDED IN DELIVERY**



2 [piece] Mounting block KB6.5-04

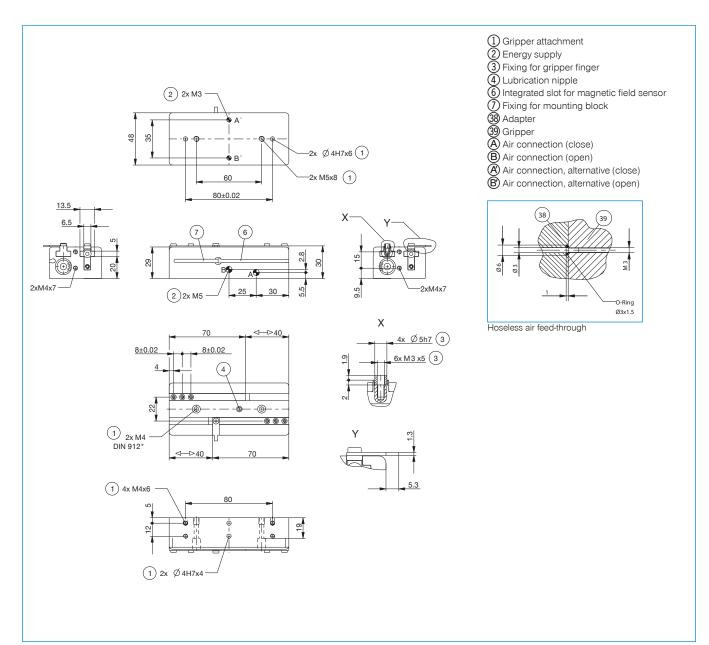


4 [piece] Centering Disc DST40400



2 [piece] Flow Control Valves - with Swivel joint DRVM5X4

	► Technical data
Order no.	GH6040-B
Stroke per jaw [mm]	40
Gripping force in closing [N]	155
Gripping force in opening [N]	130
Closing time [s]	0.2
Opening time [s]	0.2
Permissible weight per jaw max [kg]	0.3
Length of the gripper fingers max. [mm]	150
Repetition accuracy +/- [mm]	0.05
Operating pressure min. [bar]	3
Operating pressure max. [bar]	8
Nominal operating pressure [bar]	6
Operating temperature min. [°C]	5
Operating temperature max. [°C]	+80
Air volume per cycle [cm³]	20
Weight [kg]	0.47

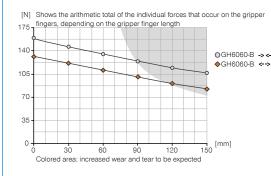




#### **▶ PRODUCT SPECIFICATIONS**



#### **Gripping force diagram**



#### Forces and moments

Displays static forces and moments that can also have an effect, besides the gripping force.



Mr [Nm]	50
Mx [Nm]	50
My [Nm]	50
Fa [N]	500

#### **► INCLUDED IN DELIVERY**



2 [piece] Mounting block KB6.5-04

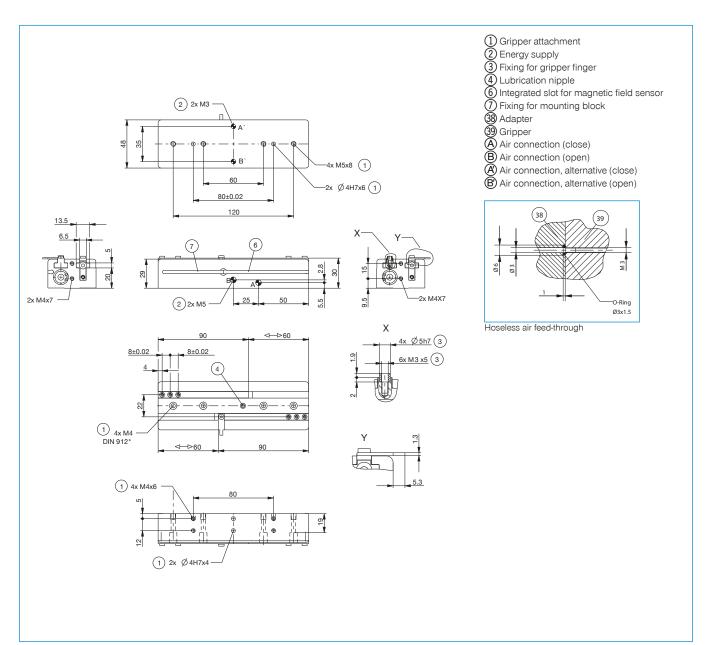


4 [piece] Centering Disc DST40400



2 [piece] Flow Control Valves - with Swivel joint DRVM5X4

	► Technical data
Order no.	GH6060-B
Stroke per jaw [mm]	60
Gripping force in closing [N]	155
Gripping force in opening [N]	130
Closing time [s]	0.25
Opening time [s]	0.25
Permissible weight per jaw max [kg]	0.3
Length of the gripper fingers max. [mm]	150
Repetition accuracy +/- [mm]	0.05
Operating pressure min. [bar]	3
Operating pressure max. [bar]	8
Nominal operating pressure [bar]	6
Operating temperature min. [°C]	5
Operating temperature max. [°C]	+80
Air volume per cycle [cm³]	30
Weight [kg]	0.6

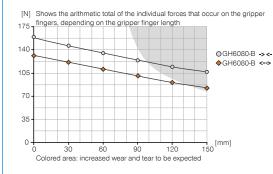




#### **▶ PRODUCT SPECIFICATIONS**



#### **Gripping force diagram**



#### Forces and moments

Displays static forces and moments that can also have an effect, besides the gripping force.



Mr [Nm]	65
Mx [Nm]	65
My [Nm]	65
Fa [N]	500

#### **► INCLUDED IN DELIVERY**



2 [piece] Mounting block KB6.5-04



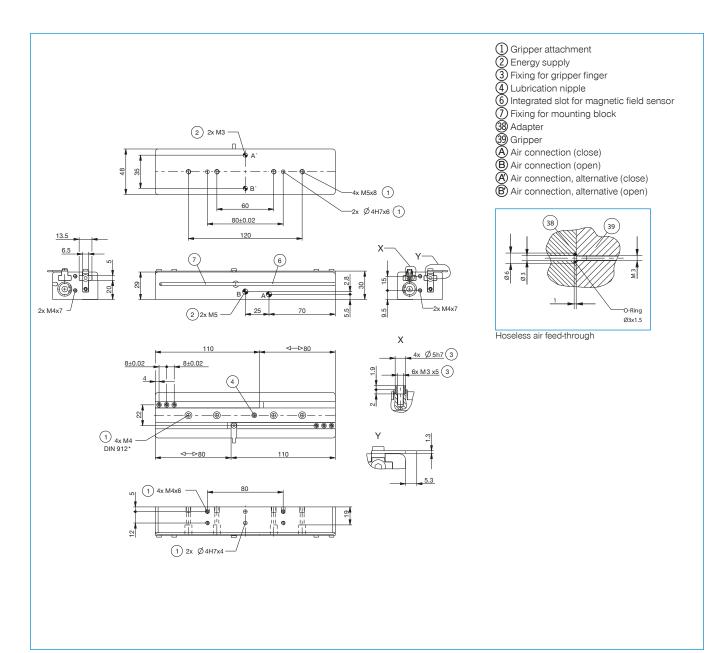
4 [piece] Centering Disc DST40400



2 [piece] Flow Control Valves - with Swivel joint

DRVM5X4

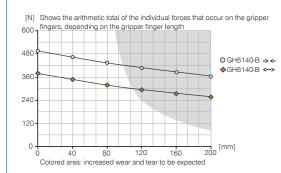
	► Technical data
Order no.	GH6080-B
Stroke per jaw [mm]	80
Gripping force in closing [N]	155
Gripping force in opening [N]	130
Closing time [s]	0.3
Opening time [s]	0.3
Permissible weight per jaw max [kg]	0.3
Length of the gripper fingers max. [mm]	150
Repetition accuracy +/- [mm]	0.05
Operating pressure min. [bar]	3
Operating pressure max. [bar]	8
Nominal operating pressure [bar]	6
Operating temperature min. [°C]	5
Operating temperature max. [°C]	+80
Air volume per cycle [cm³]	40
Weight [kg]	0.75



#### **▶ PRODUCT SPECIFICATIONS**



#### **Gripping force diagram**



#### Forces and moments

Displays static forces and moments that can also have an effect, besides the gripping force.



Mr [Nm]	70
Mx [Nm]	100
My [Nm]	60
Fa [N]	1500

#### **► INCLUDED IN DELIVERY**



2 [piece] Mounting block

KB8-27



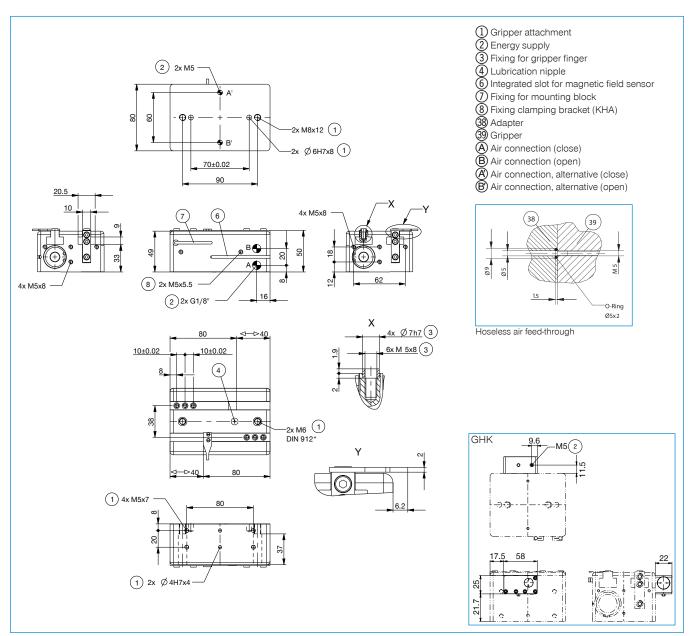
4 [piece] Centering Disc DST60800



2 [piece] Flow Control Valves - with Swivel joint

DRV1-8X8

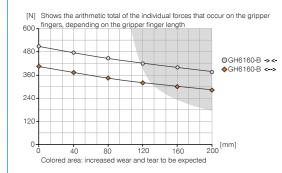
	Technical data	
Order no.	GH6140-B	GHK6140
Stroke per jaw [mm]	40	40
Gripping force in closing [N]	490	490
Gripping force in opening [N]	370	370
Retention force in case of drop in pressure [N]		300
Closing time [s]	0.25	0.25
Opening time [s]	0.25	0.25
Permissible weight per jaw max [kg]	1	1
Length of the gripper fingers max. [mm]	200	200
Repetition accuracy +/- [mm]	0.05	0.05
Operating pressure min. [bar]	3	3
Operating pressure max. [bar]	8	8
Nominal operating pressure [bar]	6	6
Operating temperature min. [°C]	5	5
Operating temperature max. [°C]	+80	+80
Air volume per cycle [cm³]	73	73
Weight [kg]	1.5	1.7



#### **▶ PRODUCT SPECIFICATIONS**



#### **Gripping force diagram**



#### Forces and moments

Displays static forces and moments that can also have an effect, besides the gripping force.



Mr [Nm]	85
Mx [Nm]	120
My [Nm]	75
Fa [N]	1500

#### **► INCLUDED IN DELIVERY**



2 [piece] Mounting block

KB8-27



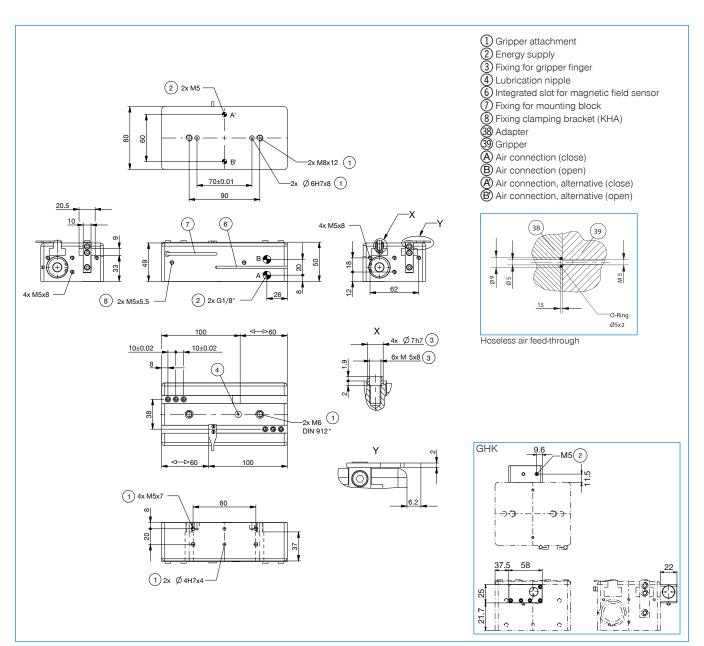
4 [piece] Centering Disc DST60800



2 [piece] Flow Control Valves - with Swivel joint

DRV1-8X8

	Technical data	
Order no.	GH6160-B	GHK6160
Stroke per jaw [mm]	60	60
Gripping force in closing [N]	510	510
Gripping force in opening [N]	400	400
Retention force in case of drop in pressure [N]		300
Closing time [s]	0.3	0.3
Opening time [s]	0.3	0.3
Permissible weight per jaw max [kg]	1	1
Length of the gripper fingers max. [mm]	200	200
Repetition accuracy +/- [mm]	0.05	0.05
Operating pressure min. [bar]	3	3
Operating pressure max. [bar]	8	8
Nominal operating pressure [bar]	6	6
Operating temperature min. [°C]	5	5
Operating temperature max. [°C]	+80	+80
Air volume per cycle [cm³]	109	109
Weight [kg]	1.9	2.1

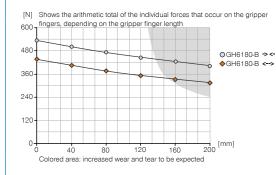




#### **▶ PRODUCT SPECIFICATIONS**



#### **Gripping force diagram**



#### Forces and moments

Displays static forces and moments that can also have an effect, besides the gripping force.



Mr [Nm]	120
Mx [Nm]	140
My [Nm]	90
Fa [N]	1500

#### **► INCLUDED IN DELIVERY**



2 [piece] Mounting block

KB8-27



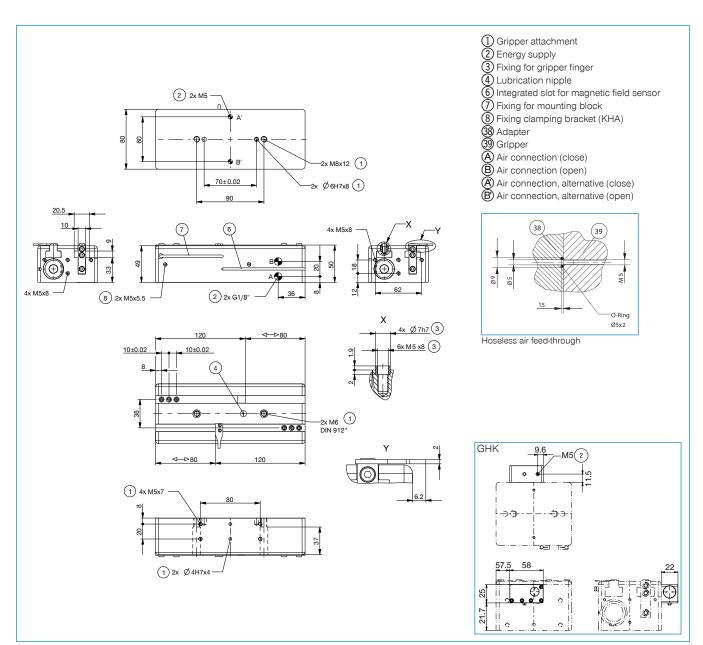
4 [piece] Centering Disc DST60800



2 [piece] Flow Control Valves - with Swivel joint

DRV1-8X8

	Technical data	
Order no.	GH6180-B	GHK6180
Stroke per jaw [mm]	80	80
Gripping force in closing [N]	530	530
Gripping force in opening [N]	430	430
Retention force in case of drop in pressure [N]		300
Closing time [s]	0.35	0.35
Opening time [s]	0.35	0.35
Permissible weight per jaw max [kg]	1	1
Length of the gripper fingers max. [mm]	200	200
Repetition accuracy +/- [mm]	0.05	0.05
Operating pressure min. [bar]	3	3
Operating pressure max. [bar]	8	8
Nominal operating pressure [bar]	6	6
Operating temperature min. [°C]	5	5
Operating temperature max. [°C]	+80	+80
Air volume per cycle [cm³]	145	145
Weight [kg]	2.2	2.4

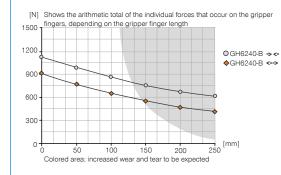




#### **▶ PRODUCT SPECIFICATIONS**



#### **Gripping force diagram**



#### Forces and moments

Displays static forces and moments that can also have an effect, besides the gripping force.



Mr [Nm]	100
Mx [Nm]	125
My [Nm]	80
Fa [N]	3000

#### **► INCLUDED IN DELIVERY**



2 [piece] Mounting block

KB8-28

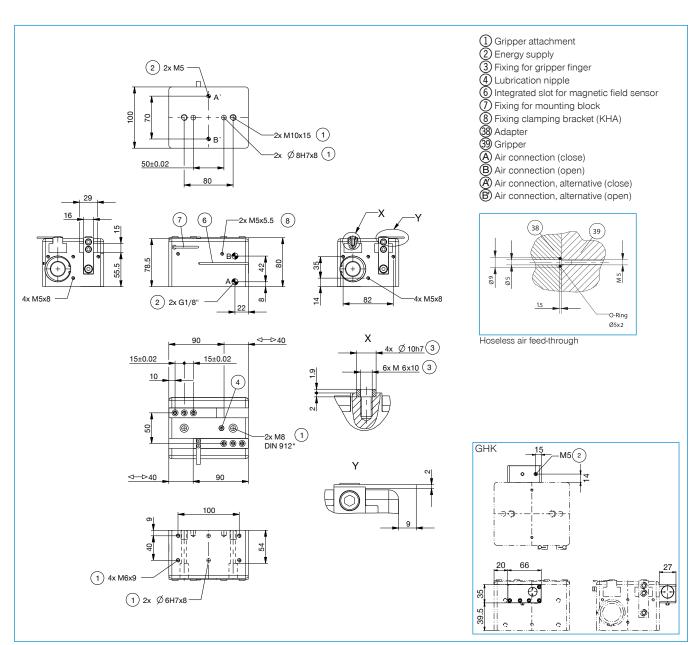


4 [piece] Centering Disc DST41000



2 [piece] Flow Control Valves - with Swivel joint DRV1-8X8

	► Technical data	
Order no.	GH6240-B	GHK6240
Stroke per jaw [mm]	40	40
Gripping force in closing [N]	1120	1120
Gripping force in opening [N]	900	900
Retention force in case of drop in pressure [N]		640
Closing time [s]	0.3	0.3
Opening time [s]	0.3	0.3
Permissible weight per jaw max [kg]	2.5	2.5
Length of the gripper fingers max. [mm]	250	250
Repetition accuracy +/- [mm]	0.05	0.05
Operating pressure min. [bar]	3	3
Operating pressure max. [bar]	8	8
Nominal operating pressure [bar]	6	6
Operating temperature min. [°C]	5	5
Operating temperature max. [°C]	+80	+80
Air volume per cycle [cm³]	183	183
Weight [kg]	3.3	3.8

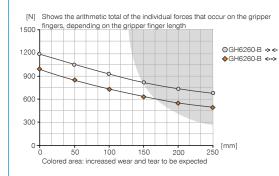




#### **▶ PRODUCT SPECIFICATIONS**



#### **Gripping force diagram**



#### Forces and moments

Displays static forces and moments that can also have an effect, besides the gripping force.



Mr [Nm]	120
Mx [Nm]	150
My [Nm]	100
Fa [N]	3000

#### **► INCLUDED IN DELIVERY**



2 [piece] Mounting block

KB8-28



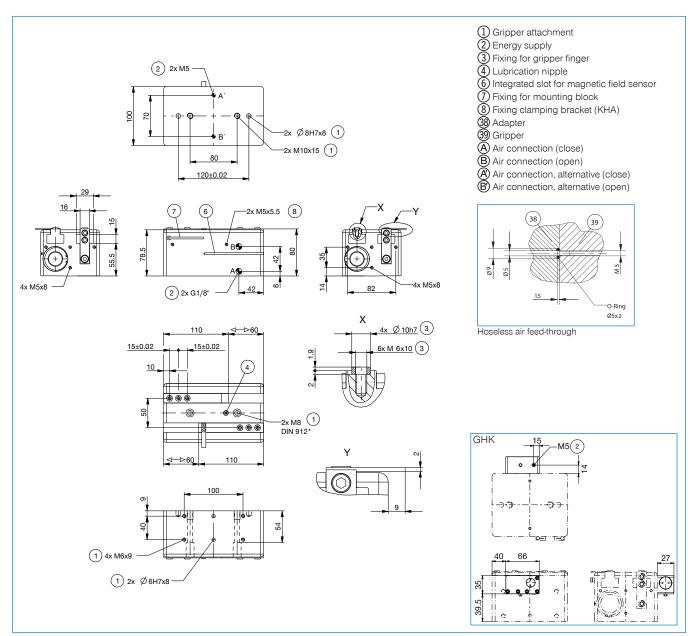
4 [piece] Centering Disc DST41000



2 [piece] Flow Control Valves - with Swivel joint

DRV1-8X8

	► Technical data	
Order no.	GH6260-B	GHK6260
Stroke per jaw [mm]	60	60
Gripping force in closing [N]	1200	1200
Gripping force in opening [N]	980	980
Retention force in case of drop in pressure [N]		640
Closing time [s]	0.35	0.35
Opening time [s]	0.35	0.35
Permissible weight per jaw max [kg]	2.5	2.5
Length of the gripper fingers max. [mm]	250	250
Repetition accuracy +/- [mm]	0.05	0.05
Operating pressure min. [bar]	3	3
Operating pressure max. [bar]	8	8
Nominal operating pressure [bar]	6	6
Operating temperature min. [°C]	5	5
Operating temperature max. [°C]	+80	+80
Air volume per cycle [cm³]	275	275
Weight [kg]	4.1	4.6

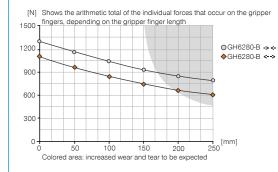




#### **▶ PRODUCT SPECIFICATIONS**



#### **Gripping force diagram**



#### Forces and moments

Displays static forces and moments that can also have an effect, besides the gripping force.



Mr [Nm]	140
Mx [Nm]	175
My [Nm]	120
Fa [N]	3000

#### **► INCLUDED IN DELIVERY**



2 [piece] Mounting block

KB8-28



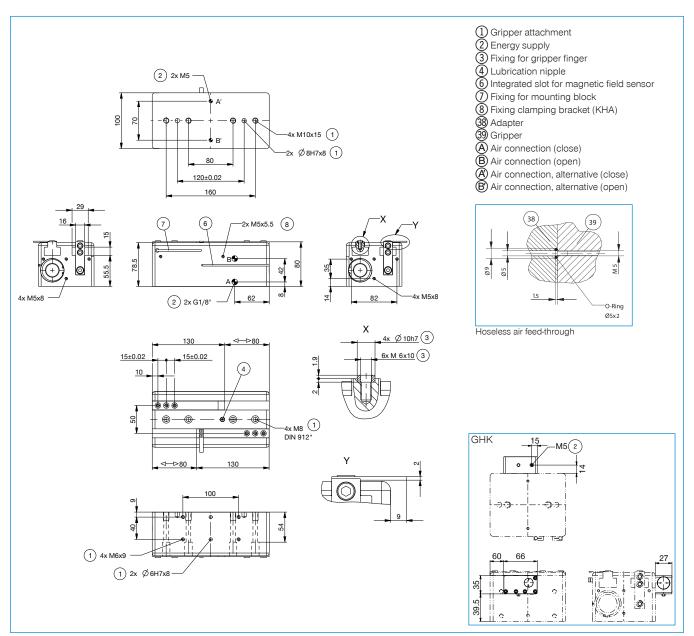
4 [piece] Centering Disc DST41000



2 [piece] Flow Control Valves - with Swivel joint

DRV1-8X8

	Technical data	
Order no.	GH6280-B	GHK6280
Stroke per jaw [mm]	80	80
Gripping force in closing [N]	1280	1280
Gripping force in opening [N]	1100	1100
Retention force in case of drop in pressure [N]		640
Closing time [s]	0.4	0.4
Opening time [s]	0.4	0.4
Permissible weight per jaw max [kg]	2.5	2.5
Length of the gripper fingers max. [mm]	250	250
Repetition accuracy +/- [mm]	0.05	0.05
Operating pressure min. [bar]	3	3
Operating pressure max. [bar]	8	8
Nominal operating pressure [bar]	6	6
Operating temperature min. [°C]	5	5
Operating temperature max. [°C]	+80	+80
Air volume per cycle [cm³]	367	367
Weight [kg]	4.8	5.3

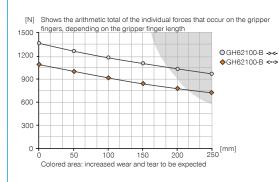




#### **▶ PRODUCT SPECIFICATIONS**



### **Gripping force diagram**



#### Forces and moments

Displays static forces and moments that can also have an effect, besides the gripping force.



Mr [Nm]	160
Mx [Nm]	200
My [Nm]	140
Fa [N]	3000

#### **► INCLUDED IN DELIVERY**



2 [piece] Mounting block

KB8-28

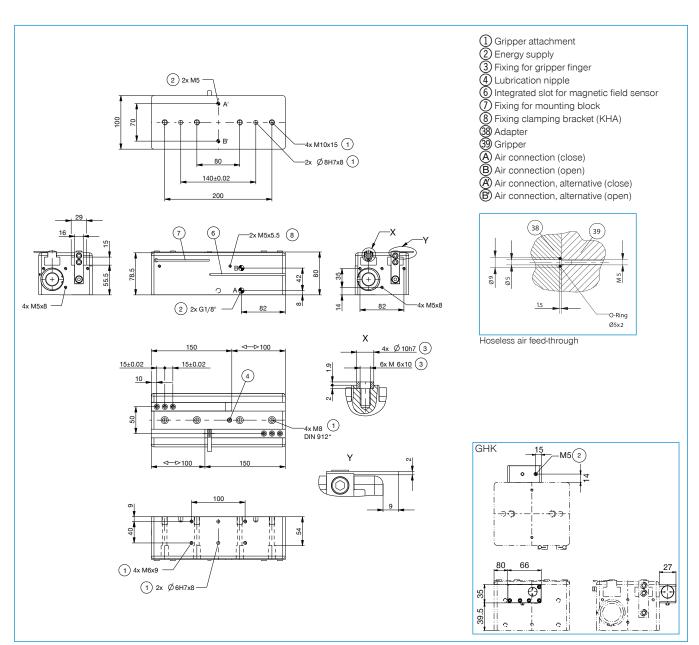


4 [piece] Centering Disc DST41000



2 [piece] Flow Control Valves - with Swivel joint DRV1-8X8

	► Technical data	
Order no.	GH62100-B	GHK62100
Stroke per jaw [mm]	100	100
Gripping force in closing [N]	1350	1350
Gripping force in opening [N]	1100	1100
Retention force in case of drop in pressure [N]		640
Closing time [s]	0.45	0.45
Opening time [s]	0.45	0.45
Permissible weight per jaw max [kg]	2.5	2.5
Length of the gripper fingers max. [mm]	250	250
Repetition accuracy +/- [mm]	0.05	0.05
Operating pressure min. [bar]	3	3
Operating pressure max. [bar]	8	8
Nominal operating pressure [bar]	6	6
Operating temperature min. [°C]	5	5
Operating temperature max. [°C]	+80	+80
Air volume per cycle [cm³]	458	458
Weight [kg]	5.6	6.1

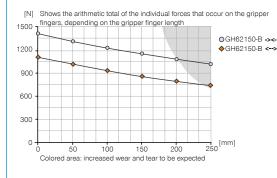




#### **▶ PRODUCT SPECIFICATIONS**



### **Gripping force diagram**



#### Forces and moments

Displays static forces and moments that can also have an effect, besides the gripping force.



Mr [Nm]	180
Mx [Nm]	225
My [Nm]	160
Fa [N]	3000

#### **► INCLUDED IN DELIVERY**



2 [piece] Mounting block

KB8-28



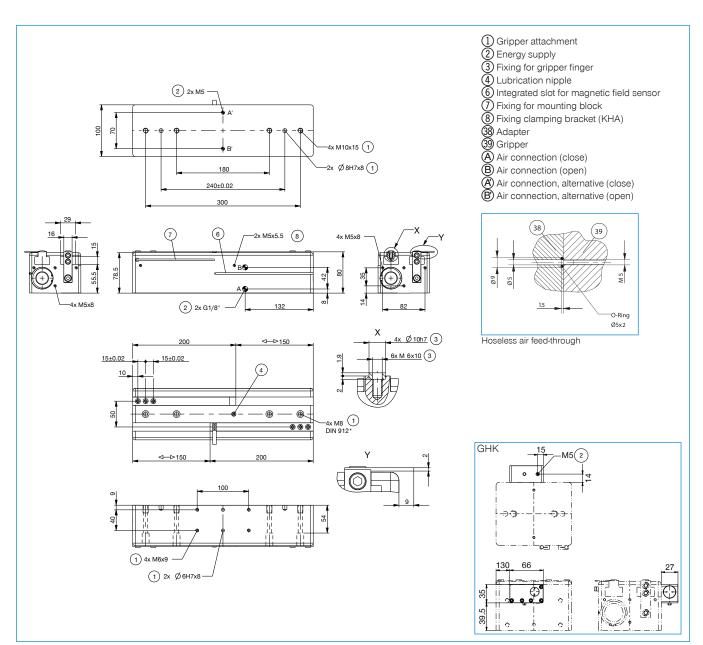
4 [piece] Centering Disc DST41000



2 [piece] Flow Control Valves - with Swivel joint

DRV1-8X8

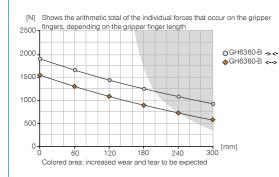
	Technical data	
Order no.	GH62150-B	GHK62150
Stroke per jaw [mm]	150	150
Gripping force in closing [N]	1400	1400
Gripping force in opening [N]	1100	1100
Retention force in case of drop in pressure [N]		640
Closing time [s]	0.5	0.5
Opening time [s]	0.5	0.5
Permissible weight per jaw max [kg]	2.5	2.5
Length of the gripper fingers max. [mm]	250	250
Repetition accuracy +/- [mm]	0.05	0.05
Operating pressure min. [bar]	3	3
Operating pressure max. [bar]	8	8
Nominal operating pressure [bar]	6	6
Operating temperature min. [°C]	5	5
Operating temperature max. [°C]	+80	+80
Air volume per cycle [cm³]	687	687
Weight [kg]	7.5	8



#### **▶ PRODUCT SPECIFICATIONS**



#### **Gripping force diagram**



#### Forces and moments

Displays static forces and moments that can also have an effect, besides the gripping force.



Mr [Nm]	160
Mx [Nm]	190
My [Nm]	130
Fa [N]	3800

#### **► INCLUDED IN DELIVERY**



2 [piece] Mounting block

KB8-28

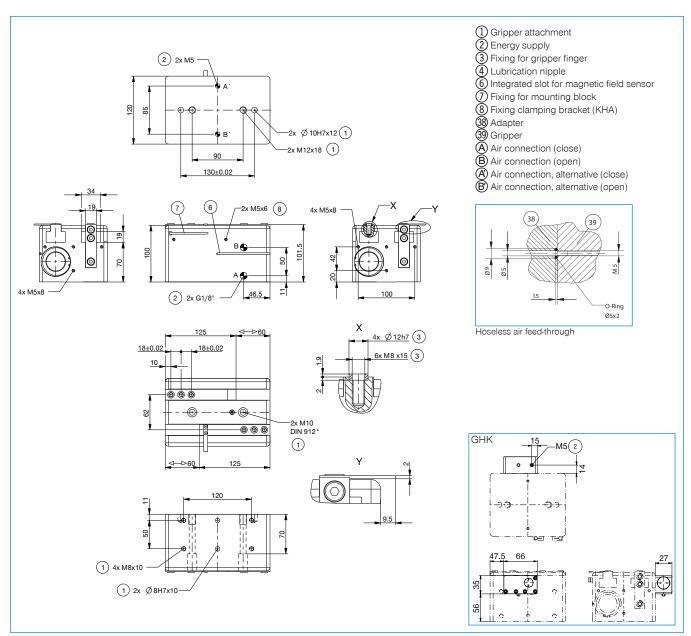


4 [piece] Centering Disc DST41600



2 [piece] Flow Control Valves - with Swivel joint DRV1-8X8

	Technical data	
Order no.	GH6360-B	GHK6360
Stroke per jaw [mm]	60	60
Gripping force in closing [N]	1840	1840
Gripping force in opening [N]	1520	1520
Retention force in case of drop in pressure [N]		640
Closing time [s]	0.4	0.4
Opening time [s]	0.4	0.4
Permissible weight per jaw max [kg]	3.5	3.5
Length of the gripper fingers max. [mm]	300	300
Repetition accuracy +/- [mm]	0.05	0.05
Operating pressure min. [bar]	3	3
Operating pressure max. [bar]	8	8
Nominal operating pressure [bar]	6	6
Operating temperature min. [°C]	5	5
Operating temperature max. [°C]	+80	+80
Air volume per cycle [cm³]	486	486
Weight [kg]	7	7.5

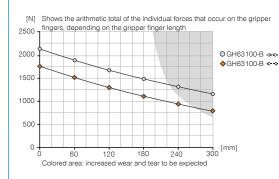




#### **▶ PRODUCT SPECIFICATIONS**



#### **Gripping force diagram**



#### Forces and moments

Displays static forces and moments that can also have an effect, besides the gripping force.



Mr [Nm]	220
Mx [Nm]	260
My [Nm]	180
Fa [N]	3800

#### **► INCLUDED IN DELIVERY**



2 [piece] Mounting block

KB8-28



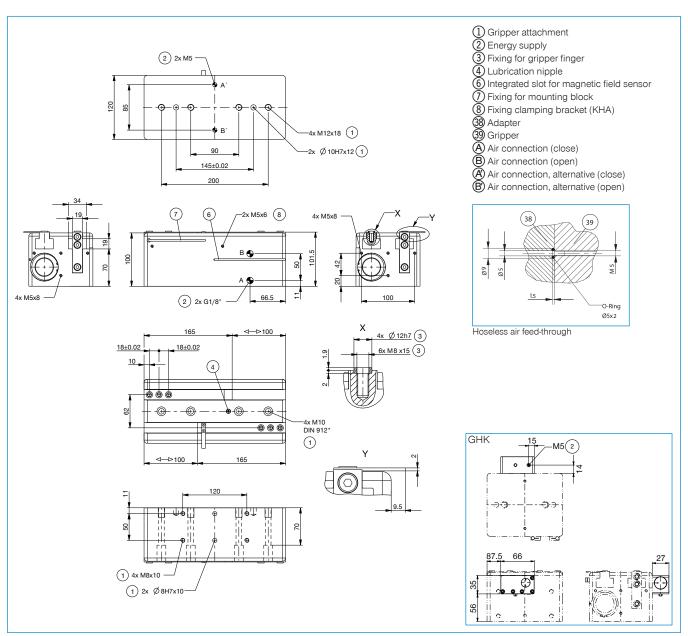
4 [piece] Centering Disc DST41600



2 [piece] Flow Control Valves - with Swivel joint

DRV1-4X8

	Technical data	
Order no.	GH63100-B	GHK63100
Stroke per jaw [mm]	100	100
Gripping force in closing [N]	2100	2100
Gripping force in opening [N]	1700	1700
Retention force in case of drop in pressure [N]		640
Closing time [s]	0.65	0.65
Opening time [s]	0.65	0.65
Permissible weight per jaw max [kg]	3.5	3.5
Length of the gripper fingers max. [mm]	300	300
Repetition accuracy +/- [mm]	0.05	0.05
Operating pressure min. [bar]	3	3
Operating pressure max. [bar]	8	8
Nominal operating pressure [bar]	6	6
Operating temperature min. [°C]	5	5
Operating temperature max. [°C]	+80	+80
Air volume per cycle [cm³]	809	809
Weight [kg]	9.1	9.6

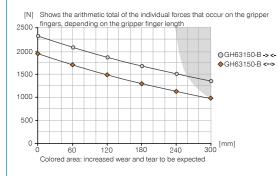




#### **▶ PRODUCT SPECIFICATIONS**



#### **Gripping force diagram**



#### Forces and moments

Displays static forces and moments that can also have an effect, besides the gripping force.



Mr [Nm]	250
Mx [Nm]	290
My [Nm]	220
Fa [N]	3800

#### **► INCLUDED IN DELIVERY**



2 [piece] Mounting block

KB8-28



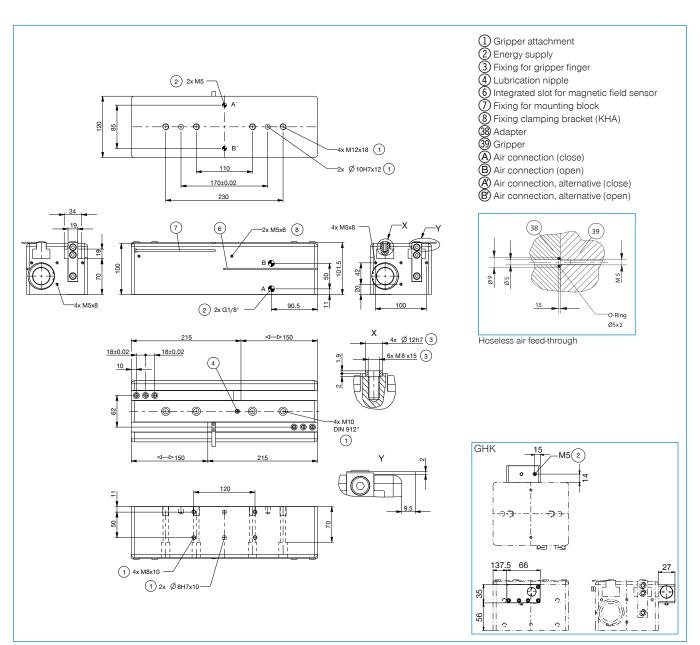
4 [piece] Centering Disc DST41600



2 [piece] Flow Control Valves - with Swivel joint

DRV1-4X8

	Technical data	
Order no.	GH63150-B	GHK63150
Stroke per jaw [mm]	150	150
Gripping force in closing [N]	2270	2270
Gripping force in opening [N]	1900	1900
Retention force in case of drop in pressure [N]		640
Closing time [s]	0.95	0.95
Opening time [s]	0.95	0.95
Permissible weight per jaw max [kg]	3.5	3.5
Length of the gripper fingers max. [mm]	300	300
Repetition accuracy +/- [mm]	0.05	0.05
Operating pressure min. [bar]	3	3
Operating pressure max. [bar]	8	8
Nominal operating pressure [bar]	6	6
Operating temperature min. [°C]	5	5
Operating temperature max. [°C]	+80	+80
Air volume per cycle [cm³]	1215	1215
Weight [kg]	10.5	11

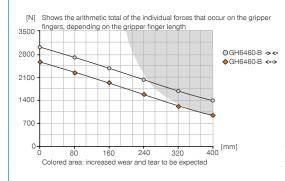




#### **▶ PRODUCT SPECIFICATIONS**



#### **Gripping force diagram**



#### Forces and moments

Displays static forces and moments that can also have an effect, besides the gripping force.



Mr [Nm]	250
Mx [Nm]	300
My [Nm]	200
Fa [N]	9000

#### **► INCLUDED IN DELIVERY**



2 [piece] Mounting block

KB8-28



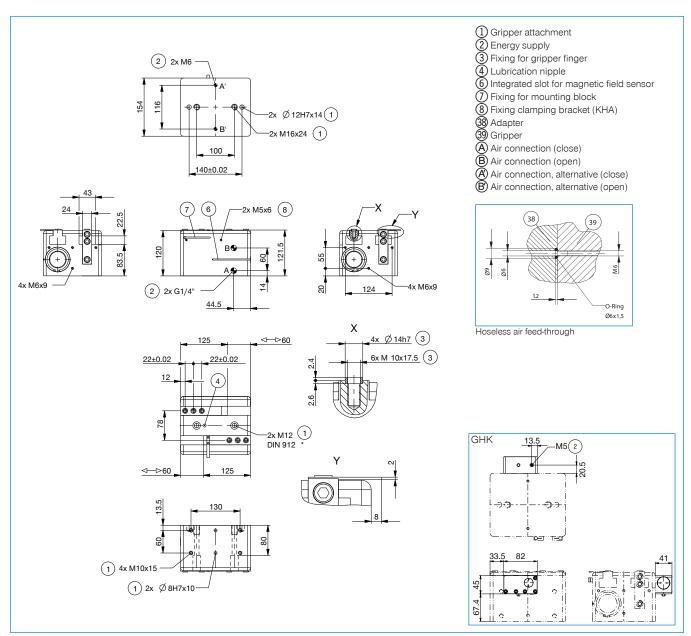
4 [piece] Centering Disc DST42000



2 [piece] Flow Control Valves - with Swivel joint

DRV1-4X8

	► Technical data	
Order no.	GH6460-B	GHK6460
Stroke per jaw [mm]	60	60
Gripping force in closing [N]	3000	3000
Gripping force in opening [N]	2600	2600
Retention force in case of drop in pressure [N]		1050
Closing time [s]	0.4	0.4
Opening time [s]	0.4	0.4
Permissible weight per jaw max [kg]	6	6
Length of the gripper fingers max. [mm]	400	400
Repetition accuracy +/- [mm]	0.05	0.05
Operating pressure min. [bar]	3	3
Operating pressure max. [bar]	8	8
Nominal operating pressure [bar]	6	6
Operating temperature min. [°C]	5	5
Operating temperature max. [°C]	+80	+80
Air volume per cycle [cm³]	710	710
Weight [kg]	10.4	11.5





#### **▶ PRODUCT SPECIFICATIONS**



### **Gripping force diagram** Shows the arithmetic total of the individual forces that occur on the gripper fingers, depending on the gripper finger length 3500 2800 OGH64100-B -><-2100 400 [mm]

Colored area: increased wear and tear to be expected

#### Forces and moments

Displays static forces and moments that can also have an effect, besides the gripping force.



Mr [Nm]	300
Mx [Nm]	350
My [Nm]	250
Fa [N]	9000

#### **► INCLUDED IN DELIVERY**



2 [piece] Mounting block KB8-28

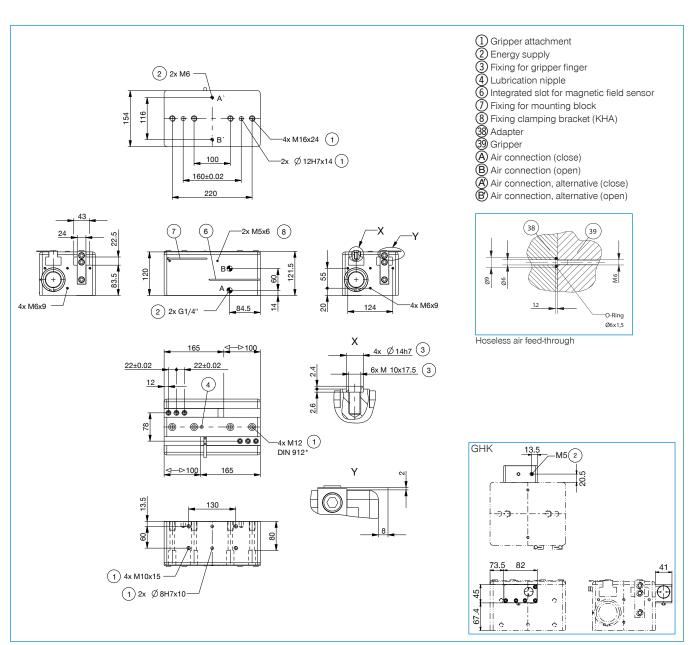


4 [piece] Centering Disc DST42000



2 [piece] Flow Control Valves - with Swivel joint DRV1-4X8

	Technical data	
Order no.	GH64100-B	GHK64100
Stroke per jaw [mm]	100	100
Gripping force in closing [N]	3200	3200
Gripping force in opening [N]	2700	2700
Retention force in case of drop in pressure [N]		1050
Closing time [s]	0.7	0.7
Opening time [s]	0.7	0.7
Permissible weight per jaw max [kg]	6	6
Length of the gripper fingers max. [mm]	400	400
Repetition accuracy +/- [mm]	0.05	0.05
Operating pressure min. [bar]	3	3
Operating pressure max. [bar]	8	8
Nominal operating pressure [bar]	6	6
Operating temperature min. [°C]	5	5
Operating temperature max. [°C]	+80	+80
Air volume per cycle [cm³]	1185	1185
Weight [kg]	13.7	14.8

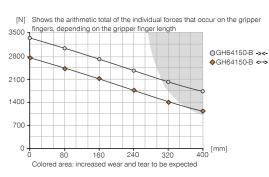




#### **▶ PRODUCT SPECIFICATIONS**



### **Gripping force diagram** fingers, depending on the gripper finger length 3500



#### Forces and moments

Displays static forces and moments that can also have an effect, besides the gripping force.



Mr [Nm]	350
Mx [Nm]	400
My [Nm]	300
Fa [N]	9000

#### **► INCLUDED IN DELIVERY**



2 [piece] Mounting block

KB8-28

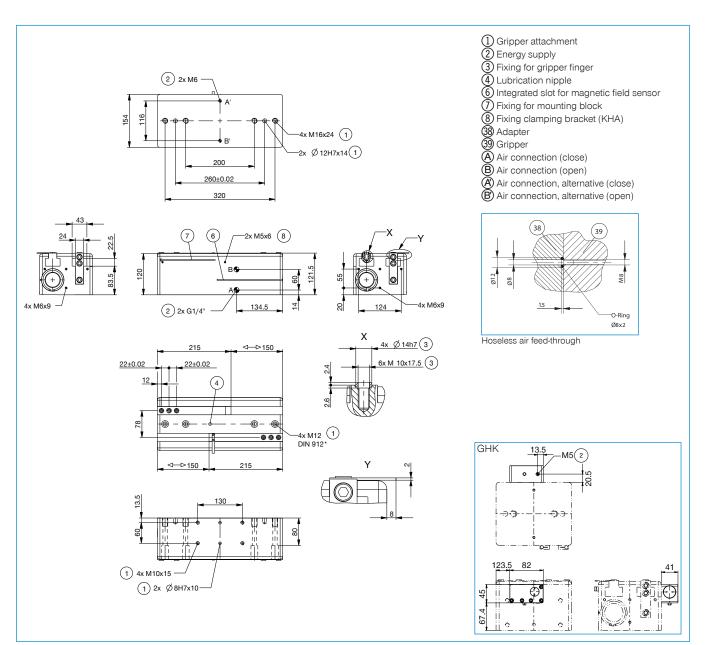


4 [piece] Centering Disc DST42000



2 [piece] Flow Control Valves - with Swivel joint DRV1-4X8

	<ul><li>Technical data</li></ul>	
Order no.	GH64150-B	GHK64150
Stroke per jaw [mm]	150	150
Gripping force in closing [N]	3300	3300
Gripping force in opening [N]	2780	2780
Retention force in case of drop in pressure [N]		1050
Closing time [s]	1	1
Opening time [s]	1	1
Permissible weight per jaw max [kg]	6	6
Length of the gripper fingers max. [mm]	400	400
Repetition accuracy +/- [mm]	0.05	0.05
Operating pressure min. [bar]	3	3
Operating pressure max. [bar]	8	8
Nominal operating pressure [bar]	6	6
Operating temperature min. [°C]	5	5
Operating temperature max. [°C]	+80	+80
Air volume per cycle [cm³]	1775	1775
Weight [kg]	18.3	19.4

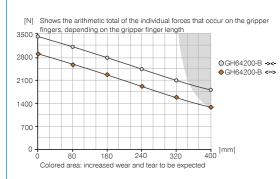




#### **▶ PRODUCT SPECIFICATIONS**



#### **Gripping force diagram**



#### Forces and moments

Displays static forces and moments that can also have an effect, besides the gripping force.



Mr [Nm]	400
Mx [Nm]	450
My [Nm]	350
Fa [N]	9000

#### **► INCLUDED IN DELIVERY**



2 [piece] Mounting block

KB8-28

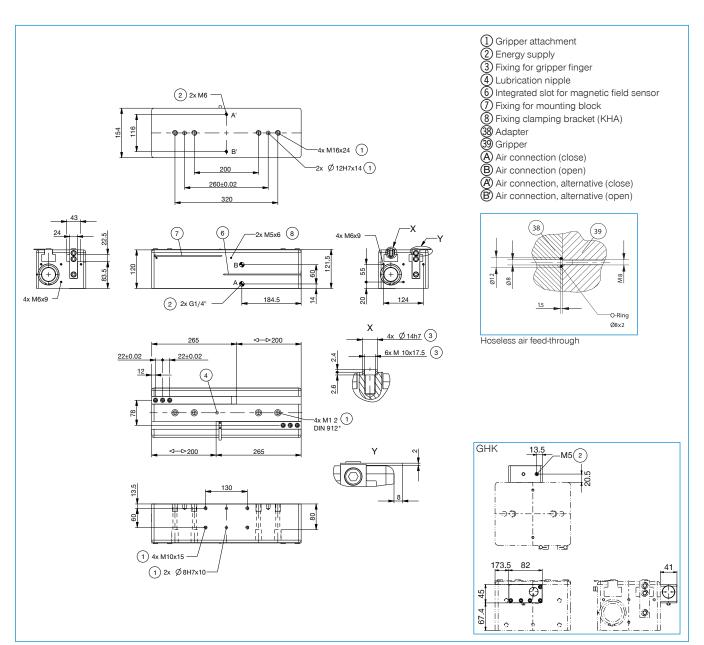


4 [piece] Centering Disc DST42000



2 [piece] Flow Control Valves - with Swivel joint DRV1-4X8

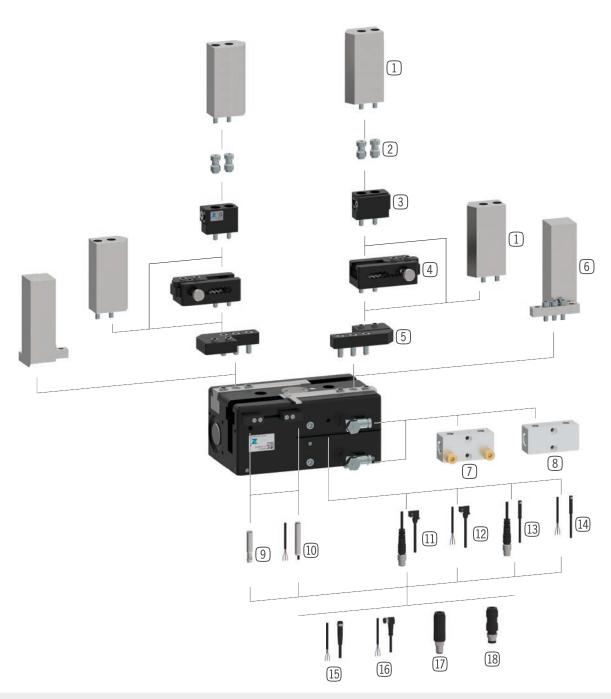
	<ul><li>Technical data</li></ul>	
Order no.	GH64200-B	GHK64200
Stroke per jaw [mm]	200	200
Gripping force in closing [N]	3400	3400
Gripping force in opening [N]	2900	2900
Retention force in case of drop in pressure [N]		1050
Closing time [s]	1.5	1.5
Opening time [s]	1.5	1.5
Permissible weight per jaw max [kg]	6	6
Length of the gripper fingers max. [mm]	400	400
Repetition accuracy +/- [mm]	0.05	0.05
Operating pressure min. [bar]	3	3
Operating pressure max. [bar]	8	8
Nominal operating pressure [bar]	6	6
Operating temperature min. [°C]	5	5
Operating temperature max. [°C]	+80	+80
Air volume per cycle [cm³]	2370	2370
Weight [kg]	22.7	23.8





## 2-JAW PARALLEL GRIPPERS WITH LONG STROKE SERIES GH6000 - ACCESSORIES

#### **ACCESORIES**



#### ► RECOMMENDED ACCESSORIES GH6000

Pos.	Order no.	Accessories
1	UB5004AL *	Universal jaw aluminium
1	UB5004ST *	Universal jaw steel
2	WB5004L *	Changeable jaw, loose-part-set
3	WB5004F *	Changeable jaw, fix-part
4	EB5004ST *	Steel adjustment jaw
4	EB5004AL *	Aluminum adjustment jaw
5	APGH6000	Adapter plate
6	UB6000-B	Universal jaw set aluminium
7	DSV1-8E	Pressure safety valve with quick exhaust
8	DSV1-8	Pressure safety valve

n pos. (5)	* * not wit	h GH6

Accessories

\*\* Inductive proximity switch - Connector M8

Magnetic field sensor Angled Cable 5 m

Magnetic field sensor Angled Cable 0,3 m - Connector M8

\*\* Inductive proximity switch - Cable 5 m

Order no.

NJ6.5-E2S

NJ6.5-E2-01

MFS01-S-KHC-P1-PNP

MFS01-K-KHC-P1-PNP

9

10

(11)

12

 $<sup>^{\</sup>star}$  in conjunction with pos.  $\boxed{5}$ 

#### ► RECOMMENDED ACCESSORIES GH6100

Pos.	Order no.	Accessories
1	UB5006AL	* Universal jaw aluminium
1	UB5006ST	* Universal jaw steel
2	WB5006L	* Changeable jaw, loose-part-set
3	WB5006F	* Changeable jaw, fix-part
4	EB5006ST	* Steel adjustment jaw
4	EB5006AL	* Aluminum adjustment jaw
5	APGH6100	Adapter plate
6	UB6100-B	Universal jaw set aluminium
7	DSV1-8E	Pressure safety valve with quick exhaust
8	DSV1-8	Pressure safety valve

<sup>\*</sup>in conjunction with pos. 5

Pos.	Order no.	Accessories
9	NJ8-E2S	Inductive proximity switch - Connector M8
10	NJ8-E2	Inductive proximity switch - Cable 5 m
11	MFS01-S-KHC-P1-PNP	Magnetic field sensor Angled Cable 0,3 m - Connector M8
12	MFS01-K-KHC-P1-PNP	Magnetic field sensor Angled Cable 5 m
13	MFS02-S-KHC-P1-PNP	Magnetic field sensor Straight Cable 0,3 m - Connector M8
14)	MFS02-K-KHC-P1-PNP	Magnetic field sensor Straight Cable 5 m
15)	KAG500	Plug-in connector Straight Cable 5m - Socket M8 (female)
16	KAW500	Plug-in connector Angled Cable 5m - Socket M8 (female)
17)	S8-G-3	Plug-in connector customizable Straight - Connector M8
18	S12-G-3	Plug-in connector customizable Straight - Connector M12

### ► RECOMMENDED ACCESSORIES GH6200

Pos.	Order no.	Accessories
1	UB5008AL	Universal jaw aluminium
1	UB5008ST	* Universal jaw steel
2	WB5008L	* Changeable jaw, loose-part-set
3	WB5008F	* Changeable jaw, fix-part
4	EB5008ST	* Steel adjustment jaw
4	EB5008AL	* Aluminum adjustment jaw
5	APGH6200	Adapter plate
6	UB6200-B	Universal jaw set aluminium
7	DSV1-8E	Pressure safety valve with quick exhaust
8	DSV1-8	Pressure safety valve

<sup>\*</sup>in conjunction with pos. 5

Pos.	Order no.	Accessories
9	NJ8-E2S	Inductive proximity switch - Connector M8
10	NJ8-E2	Inductive proximity switch - Cable 5 m
11	MFS01-S-KHC-P1-PNP	Magnetic field sensor Angled Cable 0,3 m - Connector M8
12	MFS01-K-KHC-P1-PNP	Magnetic field sensor Angled Cable 5 m
13	MFS02-S-KHC-P1-PNP	Magnetic field sensor Straight Cable 0,3 m - Connector M8
14	MFS02-K-KHC-P1-PNP	Magnetic field sensor Straight Cable 5 m
15	KAG500	Plug-in connector Straight Cable 5m - Socket M8 (female)
16	KAW500	Plug-in connector Angled Cable 5m - Socket M8 (female)
17)	S8-G-3	Plug-in connector customizable Straight - Connector M8
18	S12-G-3	Plug-in connector customizable Straight - Connector M12

### ► RECOMMENDED ACCESSORIES GH6300

Pos.	Order no.	Accessories
1	UB5010ST	* Universal jaw steel
1	UB5010AL	* Universal jaw aluminium
2	WB5010L	* Changeable jaw, loose-part-set
3	WB5010F	* Changeable jaw, fix-part
4	EB5010ST	* Steel adjustment jaw
4	EB5010AL	* Aluminum adjustment jaw
5	APGH6300	Adapter plate
7	DSV1-8E	Pressure safety valve with quick exhaust
8	DSV1-8	Pressure safety valve
9	NJ8-E2S	Inductive proximity switch - Connector M8

<sup>\*</sup>in conjunction with pos. 5

(10)		Accessories
۳	NJ8-E2	Inductive proximity switch - Cable 5 m
11	MFS01-S-KHC-P1-PNP	Magnetic field sensor Angled Cable 0,3 m - Connector M8 $$
12	MFS01-K-KHC-P1-PNP	Magnetic field sensor Angled Cable 5 m
13	MFS02-S-KHC-P1-PNP	Magnetic field sensor Straight Cable 0,3 m - Connector M8 $$
14)	MFS02-K-KHC-P1-PNP	Magnetic field sensor Straight Cable 5 m
15	KAG500	Plug-in connector Straight Cable 5m - Socket M8 (female)
16	KAW500	Plug-in connector Angled Cable 5m - Socket M8 (female)
17)	S8-G-3	Plug-in connector customizable Straight - Connector M8
18	S12-G-3	Plug-in connector customizable Straight - Connector M12

### ► RECOMMENDED ACCESSORIES GH6400

Pos.	Order no.	Accessories
1	UB5016ST	* Universal jaw steel
1	UB5016AL	* Universal jaw aluminium
2	WB5016L	* Changeable jaw, loose-part-set
3	WB5016F	* Changeable jaw, fix-part
4	EB5016ST	* Steel adjustment jaw
4	EB5016AL	* Aluminum adjustment jaw
5	APGH6400	Adapter plate
7	DSV1-8E	Pressure safety valve with quick exhaust
8	DSV1-8	Pressure safety valve
9	NJ8-E2S	Inductive proximity switch - Connector M8

<sup>\*</sup>in conjunction with pos. 5

Pos.	Order no.	Accessories
10	NJ8-E2	Inductive proximity switch - Cable 5 m
11	MFS01-S-KHC-P1-PNP	Magnetic field sensor Angled Cable 0,3 m - Connector M8
12	MFS01-K-KHC-P1-PNP	Magnetic field sensor Angled Cable 5 m
13	MFS02-S-KHC-P1-PNP	Magnetic field sensor Straight Cable 0,3 m - Connector M8
14)	MFS02-K-KHC-P1-PNP	Magnetic field sensor Straight Cable 5 m
15	KAG500	Plug-in connector Straight Cable 5m - Socket M8 (female)
16	KAW500	Plug-in connector Angled Cable 5m - Socket M8 (female)
17)	S8-G-3	Plug-in connector customizable Straight - Connector M8
18	S12-G-3	Plug-in connector customizable Straight - Connector M12

## 2-JAW PARALLEL GRIPPERS WITH LONG STROKE **SERIES GEH6000IL**

#### PRODUCT ADVANTAGES



#### "Highest performance"

- 5 million maintenance-free cycles
- Integrated sensing via IO-Link
- Servo drive with integrated controller

Brushless drive technology, position, speed and force control guarantee the highest amount of functionality

#### ► IO-Link on board

In addition to the unshielded single-cable solution, the future-proof, hot-pluggable activation provides you with a wide variety of travel profiles for easy implementation into your control system

#### Gentle yet powerful

Power version -03 for handling heavy workpieces with mechanical self-locking and version -31 for gently gripping of delicate parts

#### SERIES CHARACTERISTICS

Installation size	Version		
GEH60XXIL	-03	-31	
Powerful	•		
Gentle		•	
Gripping force adjustable	•	•	
High movement speed		•	
Integrated sensing	•	•	
Positionable	•	•	
<b>♦ IO</b> -Link	•	•	
Self locking mechanism	•		
5 million maintenance-free cycles (max.)	•	•	
IP 54 IP54	•	•	



#### **BENEFITS IN DETAIL**



#### 1 Precise T-Slot guide

- high forces and moments capacity

#### 2 Drive

- Brushless DC servomotor

#### (3) Rack and pinion gear

- synchronized the movement of the gripper jaws
- high force transfer

#### 4 Robust, lightweight housing

- Hard-coated aluminum alloy

#### 5 Helical worm gear

- self locking mechanism in case of power drop (only version -03)

#### 6 Removable centering sleeves

- quick and economical positioning of the gripper fingers

#### 7 Mounting and positioning

- mounting possible from several sides for versatile positioning

#### 8 Energy supply

- standardized connector

### **► TECHNICAL DATA**

	Stroke per jaw, adjustable	Gripping force	Weight	IP class
Installation size	mm	[N]	[kg]	
GEH6000IL	40 - 60	10 - 1000	0,7 - 0,9	IP54
GEH6100IL	40 - 80	150 - 1800	1,9 - 2,6	IP54

#### ► FURTHER INFORMATION IS AVAILABLE ONLINE

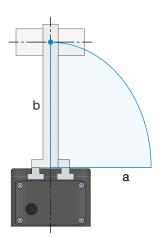


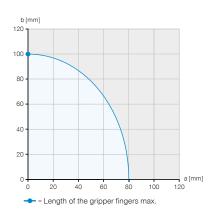
All information just a click away at: <a href="www.zimmer-group.com">www.zimmer-group.com</a>. Find data, illustrations, 3D models and operating instructions for your installation size using the order number for your desired product. Quick, clear and always up-to-date.

## 2-JAW PARALLEL GRIPPERS WITH LONG STROKE **SERIES GEH6000IL GRIPPER FINGER LENGTH**



#### **MAXIMUM GRIPPER FINGER LENGTH**

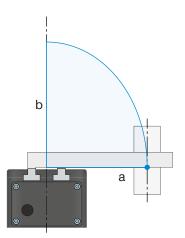


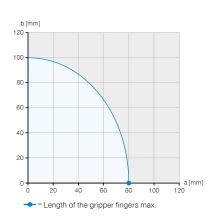


#### Example 1

Vertical force application point a = 0 mm





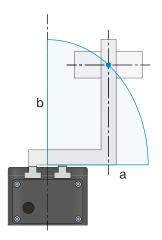


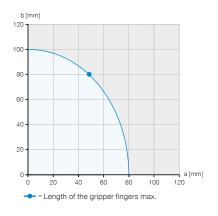
#### Example 2

Horizontal force application point

 $a = 80 \, mm$ 

b = 0 mm





#### Example 3

Maximum permissible projection

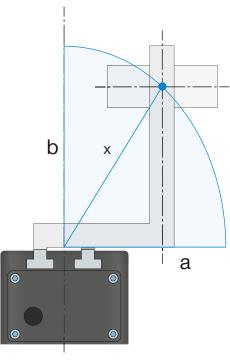
a = 48 mm

b = 80 mm

The examples show the maximum horizontal (a) and vertical (b) gripper finger length using the example of a GEH6060IL-03-B, which is represented by the blue area.

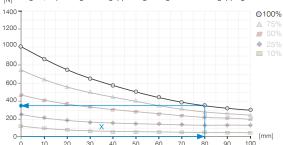


### **GRIPPING FORCE AS A FUNCTION OF GRIPPER FINGER LENGTH**



#### **Gripping force diagram**

Shows the arithmetic total of the individual forces that occur on the gripper fingers, depending on the gripper finger length and the set gripping force



#### **Example 4**

Resulting gripper finger length for determining the gripping force

a = 55 mm

 $b = 58 \, \text{mm}$ 

$$x = \sqrt{55^2 + 58^2} = 80 = 350 \text{ N}$$



The specified maximum gripper jaw length in the gripper technical data refers to a vertical (b) alignment of the gripper jaws. With a horizontal (a) overhang, the maximum gripper jaw length is reduced accordingly. The table shows the maximum gripper jaw lengths of the individual sizes.

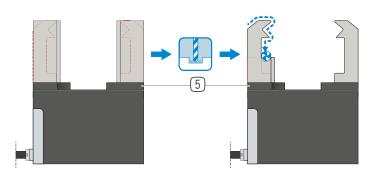
#### **► TECHNICAL DATA**

	Permissible weight per jaw max	Length of the gripper fingers max. vertical (b)	Length of the gripper fingers max. horizontal (a)
Installation size	[kg]	[mm]	[mm]
GEH6000IL	0.3	100	80
GEH6100IL	1	160	130

## 2-JAW PARALLEL GRIPPERS WITH LONG STROKE SERIES GEH6000IL FUNCTIONAL DESCRIPTION



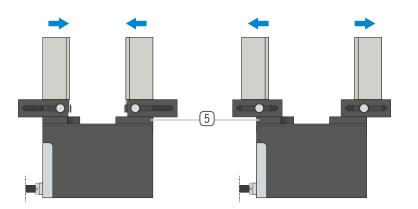
### **GRIPPING COMPONENTS**



#### Universal jaws - UB5000

Can be used immediately or for individual reprocessing

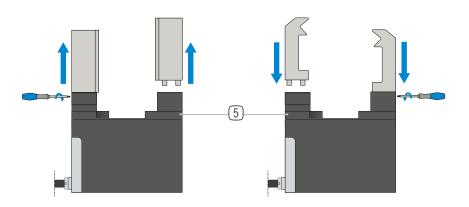
The gripper blanks are available in aluminum (AL) and steel (ST) versions and are installed directly on the gripper using the screws in the scope of delivery. The fits for the centering sleeves are already in place for this purpose. One universal jaw is required for each gripper iaw.



#### Adjustment jaws - EB5000

For tool-free adaptation of the gripper range

By manually activating the locking mechanism, which is pre-tensioned by a spring, the adjustment jaw can be moved within a grid of detent notches that has a number scale. Depending on the forces and torques that apply, the adjustment jaws are available in aluminum (AL) and steel (ST) versions. One adjustment jaw is required for each gripper jaw.



#### Interchangeable jaws - WB5000

Enable fast change of individual gripper fingers

For each gripper jaw, a fixed part and at least one loose part set is needed, depending on the number of gripper fingers to be changed. Manual locking via the Torx wrench included in the scope of delivery of the fixed part can take place from two sides.

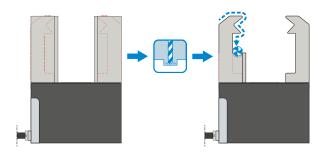


#### THE GRIPPING COMPONENTS CAN BE COMBINED!

The gripping components listed above can be combined with each other. For connection to the gripper, the adapter plate (5), which is included in the recommended accessories for the gripper, is required.



### **GRIPPING COMPONENTS**



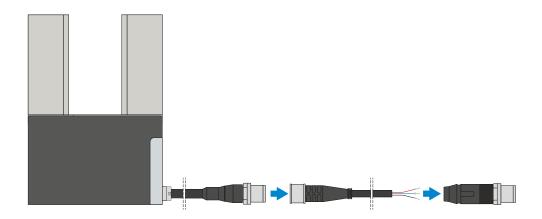
#### Universal jaws - UB6000-B

Can be used immediately or for individual reprocessing

The gripper blanks are available in an aluminum (AL) version and are installed directly on the gripper using the screws in the scope of delivery. The fits for the centering sleeves are already in place for this purpose. One universal jaw set is required for each gripper.



### **CONNECTIONS / OTHER**



#### **Plug-in connectors**

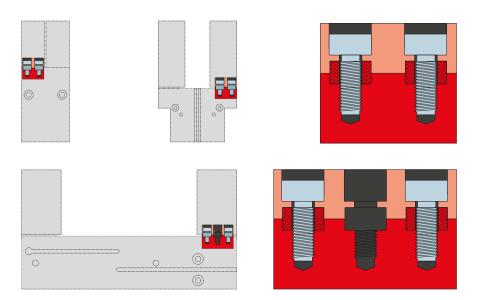
For extending and fabricating the connection lines

Cables with a length of 10 m with exposed leads are available. Depending on the specific needs, the cables can be shortened or fabricated with connectors in sizes M12. A 5 m long cable with connector / socket is available for the IO-Link connection.

## 2-JAW PARALLEL GRIPPERS WITH LONG STROKE **SERIES GEH6000IL FUNCTIONAL DESCRIPTION**



### **CONNECTIONS / OTHER**



### **Centering sleeves**

For defined position measurement of the gripper fingers

The centering sleeves are inserted into the fits of the gripper jaws to define the position of the gripper fingers. The centering sleeves are comparable to a pin connection.

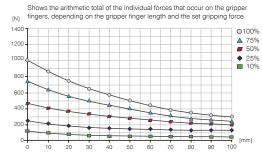
#### **▶ PRODUCT SPECIFICATIONS**





### Gripping force diagram

GEH6040IL-03-B



#### Forces and moments

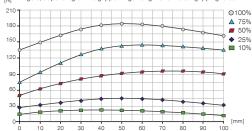
Displays static forces and moments that can also have an effect, besides the gripping force.



Mr [Nm]	25
Mx [Nm]	25
My [Nm]	25
Fa [N]	500

Gripping force diagram GEH6040IL-31-B

Shows the arithmetic total of the individual forces that occur on the gripper fingers, depending on the gripper finger length and the set gripping force

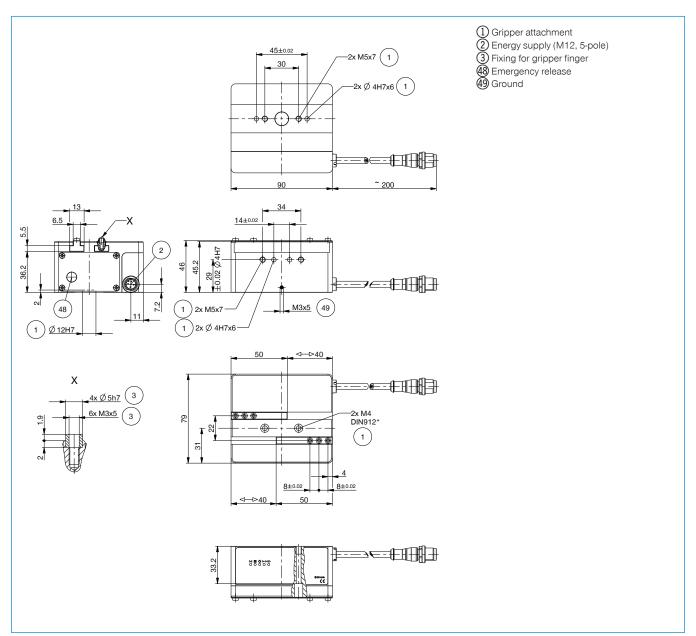


#### INCLUDED IN DELIVERY



4 [piece] Centering Disc DST40400

	Technical data	
Order no.	GEH6040IL-03-B	GEH6040IL-31-B
Control	<b>⊘ IO</b> -Link	<b>⊘ IO</b> -Link
Drive	BLDC motor	BLDC motor
Stroke per jaw, adjustable [mm]	40	40
Nominal gripping force [N]	1000	180
Gripping force min. [N]	100	10
Current consumption max. [A]	5	2
Self locking mechanism	mechanical	-
Permissible weight per jaw max [kg]	0.3	0.3
Length of the gripper fingers max. [mm]	100	100
Max. movement speed per gripper finger [mm/s]	60	120
Repetition accuracy +/- [mm]	0.02	0.02
Operating temperature min. [°C]	5	5
Operating temperature max. [°C]	+50	+50
Protection to IEC 60529	IP54	IP54
Weight [kg]	0.7	0.7

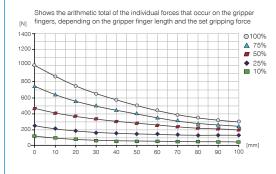


#### **▶ PRODUCT SPECIFICATIONS**





#### Gripping force diagram GEH6060IL-03-B



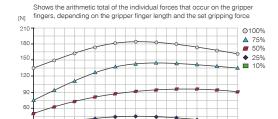
#### Forces and moments

Displays static forces and moments that can also have an effect, besides the gripping force.



Mr [Nm]	35
Mx [Nm]	35
My [Nm]	35
Fa [N]	500

#### Gripping force diagram GEH6060IL-31-B

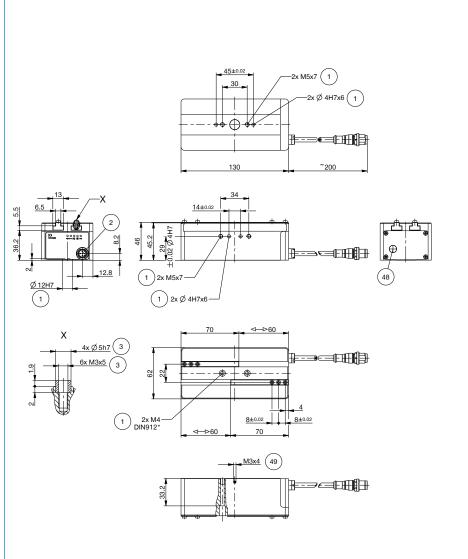


#### INCLUDED IN DELIVERY



4 [piece] Centering Disc DST40400

	<ul><li>Technical data</li></ul>	
Order no.	GEH6060IL-03-B	GEH6060IL-31-B
Control	<b>⊘ IO</b> -Link	<b>⊘ IO</b> -Link
Drive	BLDC motor	BLDC motor
Stroke per jaw, adjustable [mm]	60	60
Nominal gripping force [N]	1000	180
Gripping force min. [N]	100	10
Current consumption max. [A]	5.00	2
Self locking mechanism	mechanical	
Permissible weight per jaw max [kg]	0.3	0.3
Length of the gripper fingers max. [mm]	100	100
Max. movement speed per gripper finger [mm/s]	60	60
Repetition accuracy +/- [mm]	0.02	0.02
Operating temperature min. [°C]	5	5
Operating temperature max. [°C]	+50	+50
Protection to IEC 60529	IP54	IP54
Weight [kg]	0.9	0.9

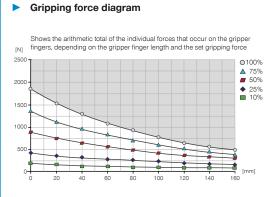




① Gripper attachment ② Energy supply (M12, 5-pole) ③ Fixing for gripper finger ❸ Emergency release ④ Ground

#### **▶ PRODUCT SPECIFICATIONS**





#### Forces and moments

Displays static forces and moments that can also have an effect, besides the gripping force.



Mr [Nm]	70
Mx [Nm]	80
My [Nm]	60
Fa [N]	1500

#### **► INCLUDED IN DELIVERY**

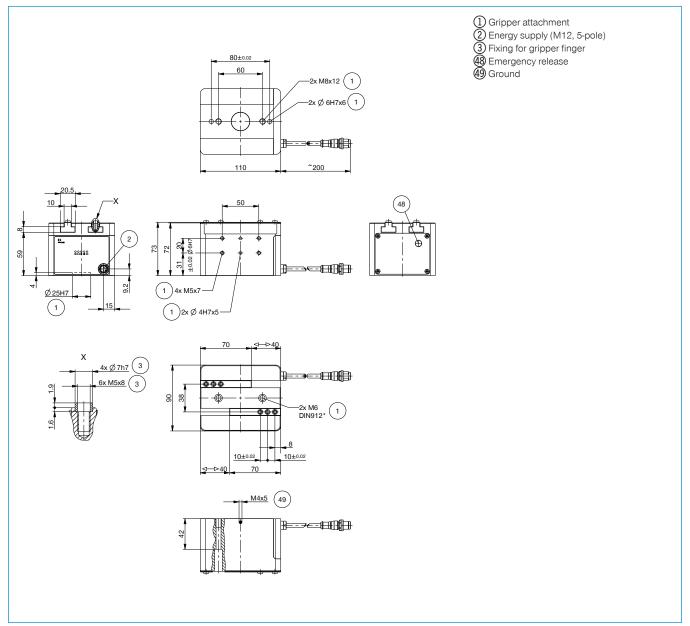


4 [piece] Centering Disc DST70000

YOU CAN FIND RECOMMENDED ACCESSORIES ON PAGE 74 / 75

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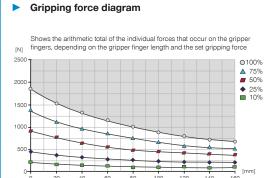
	► Technical data
Order no.	GEH6140IL-03-B
Control	<b>⊘ IO</b> -Link
Drive	BLDC motor
Stroke per jaw, adjustable [mm]	40
Nominal gripping force [N]	1800
Gripping force min. [N]	150
Current consumption max. [A]	5
Self locking mechanism	mechanical
Permissible weight per jaw max [kg]	1
Length of the gripper fingers max. [mm]	160
Max. movement speed per gripper finger [mm/s]	50
Repetition accuracy +/- [mm]	0.02
Operating temperature min. [°C]	5
Operating temperature max. [°C]	+50
Protection to IEC 60529	IP54
Weight [kg]	1.9





#### **▶ PRODUCT SPECIFICATIONS**





#### Forces and moments

Displays static forces and moments that can also have an effect, besides the gripping force.



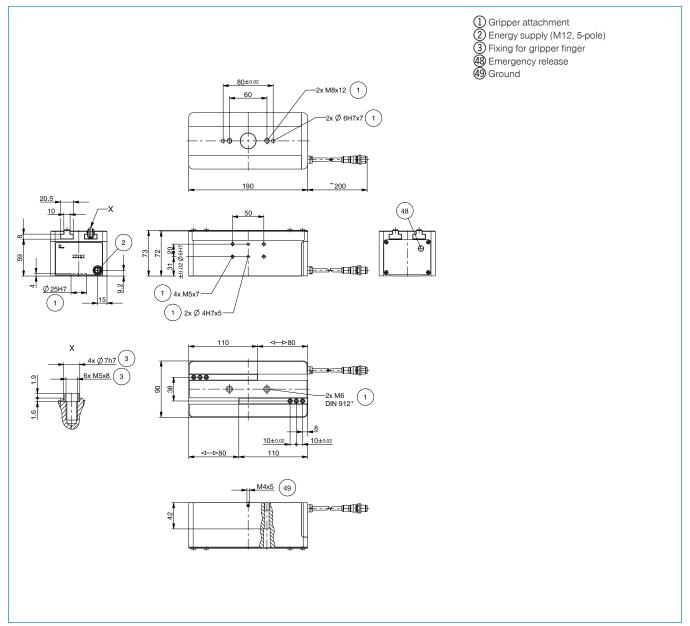
Mr [Nm]	100
Mx [Nm]	140
My [Nm]	90
Fa [N]	1500

#### **► INCLUDED IN DELIVERY**



4 [piece] Centering Disc DST70000

	► Technical data
Order no.	GEH6180IL-03-B
Control	<b>⊘ IO</b> -Link
Drive	BLDC motor
Stroke per jaw, adjustable [mm]	80
Nominal gripping force [N]	1800
Gripping force min. [N]	150
Current consumption max. [A]	5
Self locking mechanism	mechanical
Permissible weight per jaw max [kg]	1
Length of the gripper fingers max. [mm]	160
Max. movement speed per gripper finger [mm/s]	50
Repetition accuracy +/- [mm]	0.02
Operating temperature min. [°C]	5
Operating temperature max. [°C]	+50
Protection to IEC 60529	IP54
Weight [kg]	2.6



# 2-JAW PARALLEL GRIPPERS WITH LONG STROKE **SERIES GEH6000IL - ACCESSORIES**

## **ACCESORIES**



# ► RECOMMENDED ACCESSORIES GEH6000IL

Pos.	Order no.	Accessories
1	UB5006AL *	Universal jaw aluminium
1	UB5006ST *	Universal jaw steel
2	WB5006L *	Changeable jaw, loose-part-set
3	WB5006F *	Changeable jaw, fix-part
4	EB5006ST *	Steel adjustment jaw
4	EB5006AL *	Aluminum adjustment jaw

Pos.	Order no.	Accessories
5	APGEH6000	Adapter plate
6 L	UB6000-B	Universal jaw set aluminium
7 F	KAG500IL	Plug-in connector straight 5 m - plug, socket M12
8 E	B12-Y-5IL	Y-Plug-in Connector
9 5	SCM-C-00-00-A	Smart Communication Module

## ► RECOMMENDED ACCESSORIES GEH6100IL

Pos.	Order no.	Accessories
1	UB5008AL *	Universal jaw aluminium
1	UB5008ST *	Universal jaw steel
2	WB5008L *	Changeable jaw, loose-part-set
3	WB5008F *	Changeable jaw, fix-part
4	EB5008ST *	Steel adjustment jaw
4	EB5008AL *	Aluminum adjustment jaw

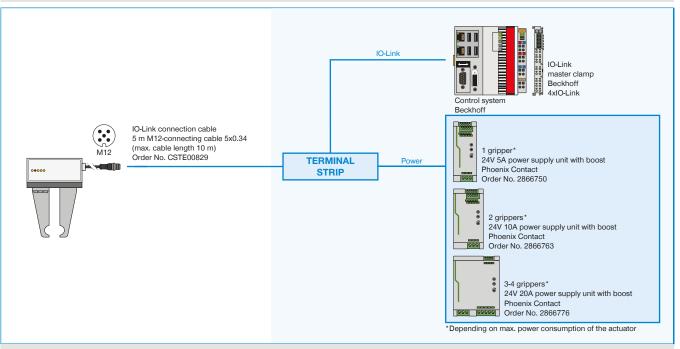
<sup>\*</sup>in conjunction with pos. 5

Pos.	Order no.	Accessories
5	APGEH6100	Adapter plate
6	UB6100-B	Universal jaw set aluminium
7	KAG500IL	Plug-in connector straight 5 m - plug, socket M12
8	B12-Y-5IL	Y-Plug-in Connector
9	SCM-C-00-00-A	Smart Communication Module

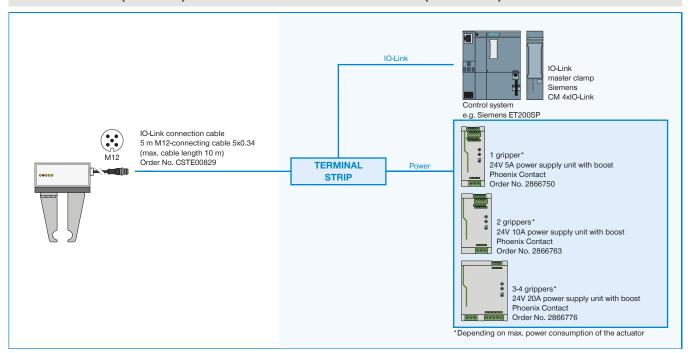
<sup>\*</sup>in conjunction with pos. 5

# **GEH6000IL SERIES**

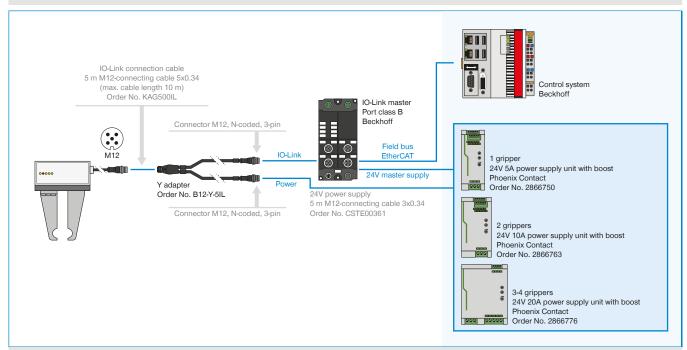
## ▶ GEH6000IL (IO-LINK) WIRING TO CONTROL CABINET (BECKHOFF)



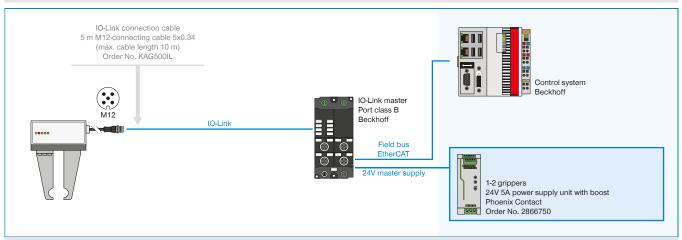
## ► GEH6000IL (IO-LINK) WIRING TO CONTROL CABINET (SIEMENS)



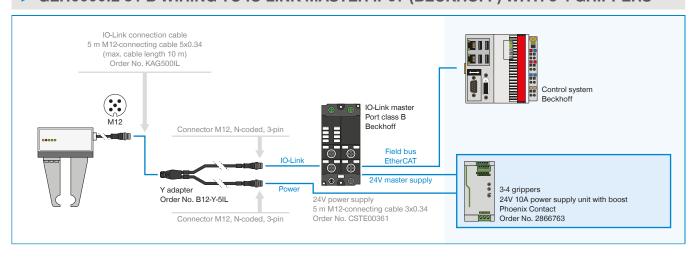
# ► GEH6000IL-03-B WIRING TO IO-LINK MASTER IP67 (BECKHOFF)



# ► GEH6000IL-31-B WIRING TO IO-LINK MASTER IP67 (BECKHOFF) WITH 1-2 GRIPPERS

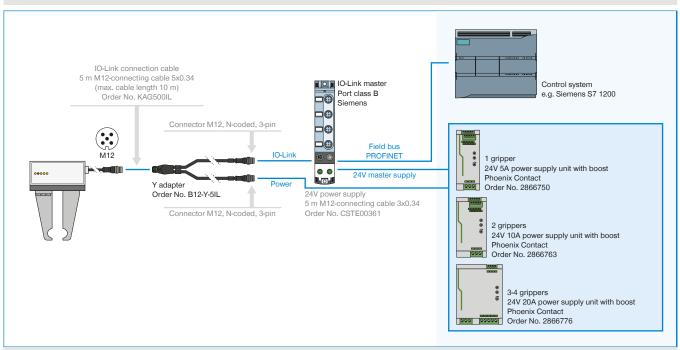


# ► GEH6000IL-31-B WIRING TO IO-LINK MASTER IP67 (BECKHOFF) WITH 3-4 GRIPPERS

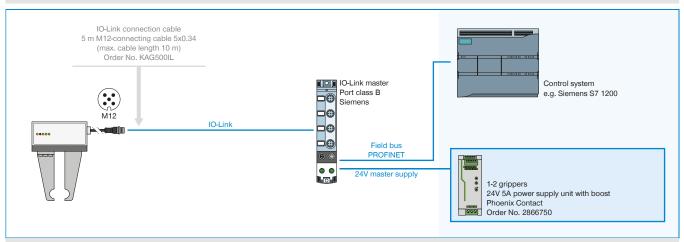


# **GEH6000IL SERIES**

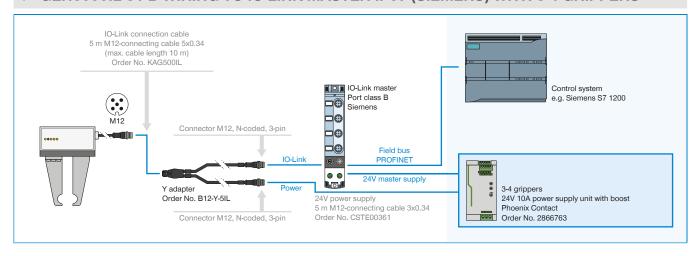
## ▶ GEH6000IL-03-B WIRING TO IO-LINK MASTER IP67 (BECKHOFF)



## ► GEH6000IL-31-B WIRING TO IO-LINK MASTER IP67 (SIEMENS) WITH 1-2 GRIPPERS



# ► GEH6000IL-31-B WIRING TO IO-LINK MASTER IP67 (SIEMENS) WITH 3-4 GRIPPERS



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# **3-JAW CONCENTRIC GRIPPERS SERIES GED6000IL**

#### PRODUCT ADVANTAGES



## "Highest performance"

- 5 million maintenance-free cycles
- Integrated sensing via IO-Link
- Servo drive with integrated controller

Brushless drive technology, position, speed and force control guarantee the highest amount of functionality

#### ► IO-Link on board

In addition to the unshielded single-cable solution, the future-proof, hot-pluggable activation provides you with a wide variety of travel profiles for easy implementation into your control system

#### Gentle yet powerful

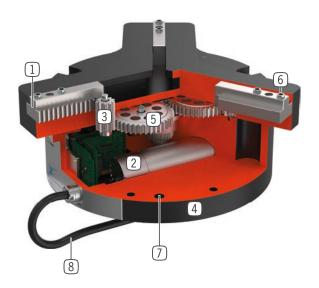
Power version -03 for handling heavy workpieces with mechanical self-locking and version -31 for gently gripping of delicate parts

#### SERIES CHARACTERISTICS

Installation size	Version		
GED60XXIL	-03	-31	
Powerful	•		
Gentle		•	
Gripping force adjustable	•	•	
High movement speed		•	
Integrated sensing	•	•	
Positionable	•	•	
<b>♦ IO</b> -Link	•	•	
Self locking mechanism	•		
5 million maintenance-free cycles (max.)	•	•	
IP 54 IP54	•	•	



#### **BENEFITS IN DETAIL**



#### 1 Precise T-Slot guide

- high forces and moments capacity

## 2 Drive

- Brushless DC servomotor

#### 3 Rack and pinion gear

- synchronized the movement of the gripper jaws
- high force transfer

#### 4 Robust, lightweight housing

- Hard-coated aluminum alloy

#### 5 Helical worm gear

- self locking mechanism in case of power drop (only version -03)

#### 6 Removable centering sleeves

- quick and economical positioning of the gripper fingers

#### 7 Mounting and positioning

- mounting possible from several sides for versatile positioning

#### 8 Energy supply

- standardized connector

## TECHNICAL DATA

Stroke per jaw, adjustable Gripping force Weight IP class				IP class
Installation size	mm	[N]	[kg]	
GED6000IL	40	15 - 800	2,8	IP54
GED6100IL	40	210 - 1700	4,9	IP54

#### ► FURTHER INFORMATION IS AVAILABLE ONLINE

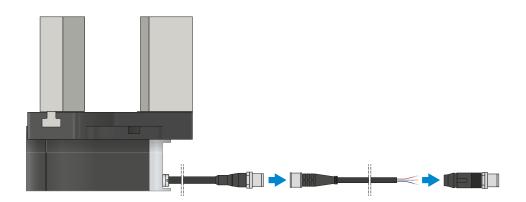


All information just a click away at: www.zimmer-group.com. Find data, illustrations, 3D models and operating instructions for your installation size using the order number for your desired product. Quick, clear and always up-to-date.

# 2-JAW PARALLEL GRIPPERS WITH LONG STROKE SERIES GED6000IL FUNCTIONAL DESCRIPTION



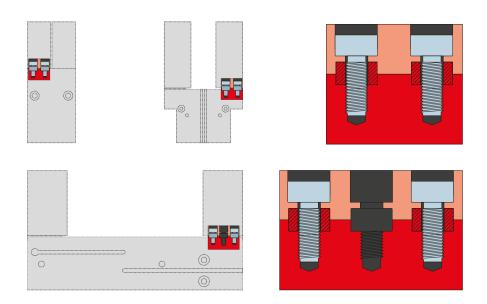
# **CONNECTIONS / OTHER**



## **Plug-in connectors**

For extending and fabricating the connection lines

Cables with a length of 10 m with exposed leads are available. Depending on the specific needs, the cables can be shortened or fabricated with connectors in sizes M12. A 5 m long cable with connector / socket is available for the IO-Link connection.



#### **Centering sleeves**

For defined position measurement of the gripper fingers

The centering sleeves are inserted into the fits of the gripper jaws to define the position of the gripper fingers. The centering sleeves are comparable to a pin connection.

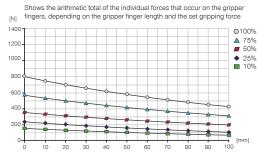
# **3-JAW CONCENTRIC GRIPPERS INSTALLATION SIZE GED6040IL**

#### PRODUCT SPECIFICATIONS



# **Gripping force diagram**

GED6040IL-03-A



#### Forces and moments

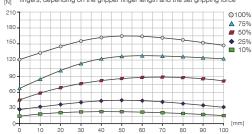
Displays static forces and moments that can also have an effect, besides the gripping force.



Mr [Nm]	25
Mx [Nm]	25
My [Nm]	25
Fa [N]	500

#### Gripping force diagram GED6040IL-31-A

Shows the arithmetic total of the individual forces that occur on the gripper fingers, depending on the gripper finger length and the set gripping force



#### INCLUDED IN DELIVERY



6 [piece] Centering Disc DST40400

#### RECOMMENDED ACCESSORIES



# **CONNECTIONS / OTHER**







# **CONNECTIONS / OTHER**



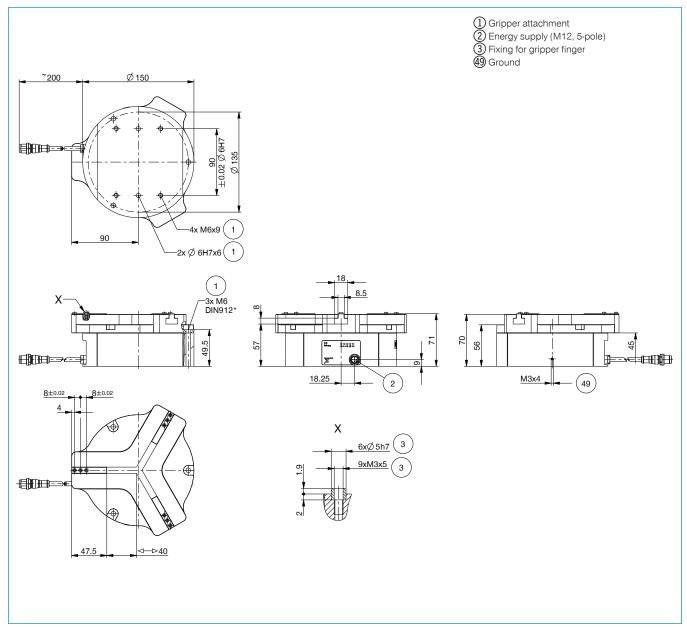
SCM-C-00-00-A **Smart Communication Module** 



@ 10-Link

B12-Y-5IL Y-Plug-in Connector

	► Technical data	
Order no.	GED6040IL-03-A	GED6040IL-31-A
Control	<b>⊗ IO</b> -Link	<b>♦ IO</b> -Link
Type of drive	electrical	electrical
Stroke per jaw, adjustable [mm]	40	40
Nominal gripping force [N]	800	165
Gripping force min. [N]	150	15
Voltage [V]	24	24
Current consumption max. [A]	5	2
Self locking mechanism	mechanical	
Permissible weight per jaw max [kg]	0.3	0.3
Length of the gripper fingers max. [mm]	100	100
Minimum positioning path per jaw [mm]	4	4
Jaw speed in positioning mode max. [mm/s]	60	120
Repetition accuracy +/- [mm]	0.02	0.02
Operating temperature min. [°C]	5	5
Operating temperature max. [°C]	+50	+50
Protection to IEC 60529	IP54	IP54
Weight [kg]	2.8	2.8

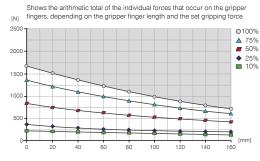


# **3-JAW CONCENTRIC GRIPPERS INSTALLATION SIZE GED6140IL**

#### **▶ PRODUCT SPECIFICATIONS**



#### **Gripping force diagram**



#### Forces and moments

Displays static forces and moments that can also have an effect, besides the gripping force.



Mr [Nm]	70
Mx [Nm]	80
My [Nm]	60
Fa [N]	1500

#### INCLUDED IN DELIVERY



6 [piece] Centering Disc DST70000

# RECOMMENDED ACCESSORIES



# **CONNECTIONS / OTHER**



KAG500IL

Plug-in connector straight 5 m - plug, socket M12







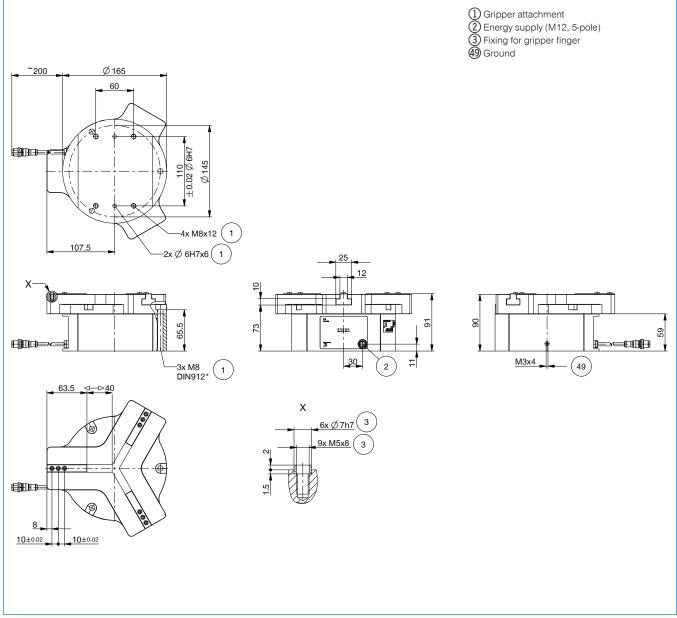
SCM-C-00-00-A Smart Communication Module



B12-Y-5IL Y-Plug-in Connector

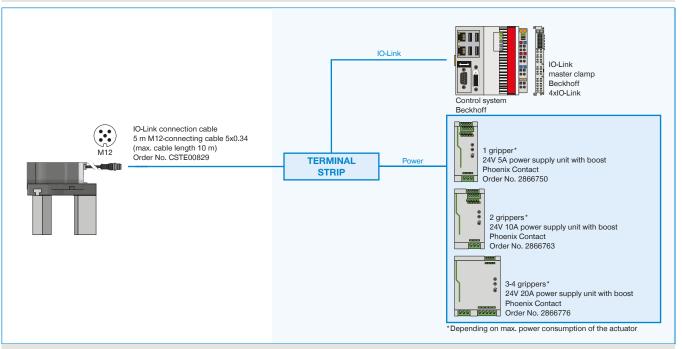


	► Technical data
Order no.	GED6140IL-03-A
Control	<b>⊘ IO</b> -Link
Type of drive	electrical
Stroke per jaw, adjustable [mm]	40
Nominal gripping force [N]	1700
Gripping force min. [N]	210
Voltage [V]	24
Current consumption max. [A]	5
Self locking mechanism	mechanical
Permissible weight per jaw max [kg]	1
Length of the gripper fingers max. [mm]	160
Minimum positioning path per jaw [mm]	2
Jaw speed in positioning mode max. [mm/s]	50
Repetition accuracy +/- [mm]	0.02
Operating temperature min. [°C]	5
Operating temperature max. [°C]	+50
Protection to IEC 60529	IP54
Weight [kg]	4.9

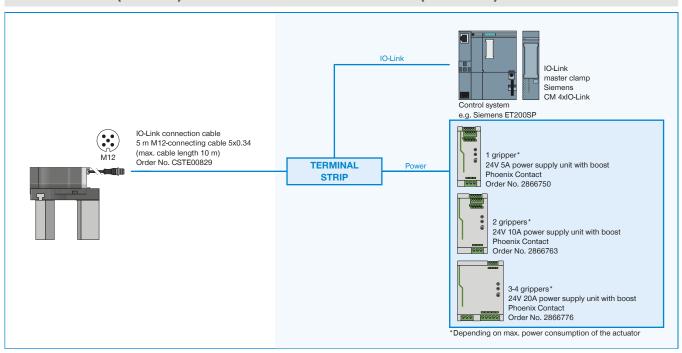


# **GED6000IL SERIES**

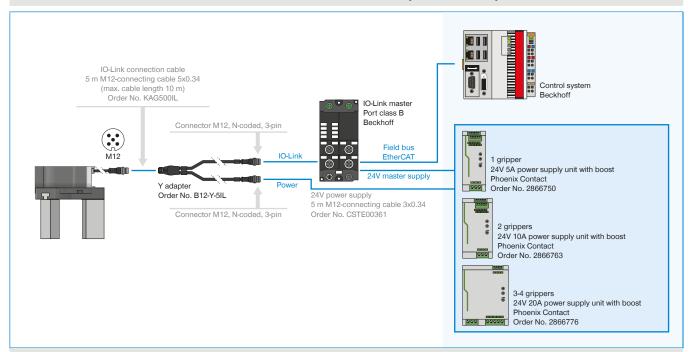
## ▶ GED6000IL (IO-LINK) WIRING TO CONTROL CABINET (BECKHOFF)



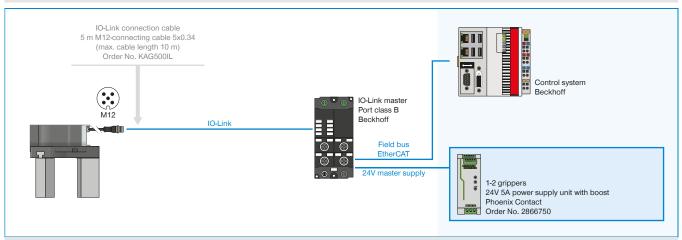
## ► GED6000IL (IO-LINK) WIRING TO CONTROL CABINET (SIEMENS)



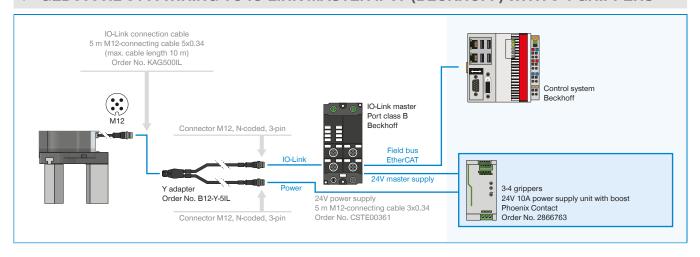
# ► GED6000IL-03-A WIRING TO IO-LINK MASTER IP67 (BECKHOFF)



# ▶ GED6000IL-31-A WIRING TO IO-LINK MASTER IP67 (BECKHOFF) WITH 1-2 GRIPPERS

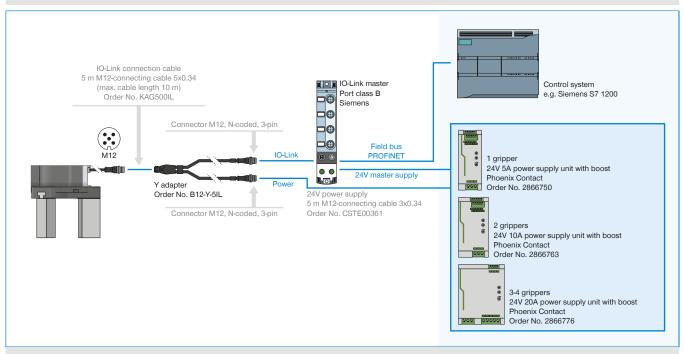


# ► GED6000IL-31-A WIRING TO IO-LINK MASTER IP67 (BECKHOFF) WITH 3-4 GRIPPERS

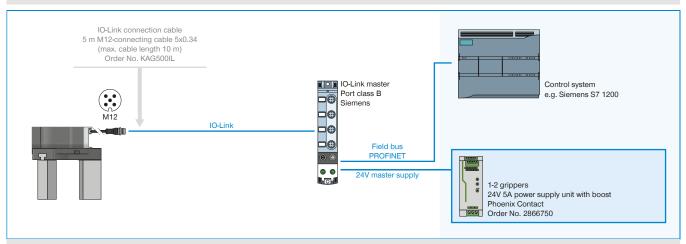


# **GED6000IL SERIES**

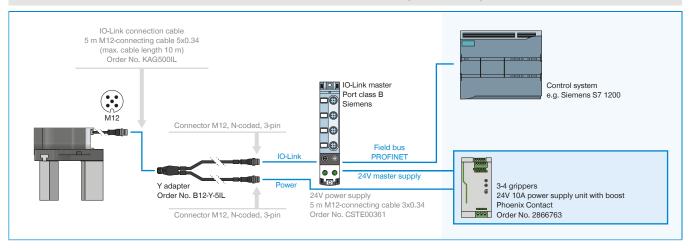
## ■ GED6000IL-03-A WIRING TO IO-LINK MASTER IP67 (BECKHOFF)



## ► GED6000IL-31-A WIRING TO IO-LINK MASTER IP67 (SIEMENS) WITH 1-2 GRIPPERS



## ► GED6000IL-31-A WIRING TO IO-LINK MASTER IP67 (SIEMENS) WITH 3-4 GRIPPERS



# CHECKLIST GRIPPERS

Customer number		Telephone number	
Company		Fax number	
Contact		E-mail	
☐ Mr. ☐ Mrs.			
Request	Desired date	Request No.	
Order		Order No.	an day Origina aya
Parallel grippers  Other / if yes, which t	Concentric gripp	Ders An	gular Grippers
Other / II yes, willon	ype		
Drive			
Pneumatic	Electrical	Hy	draulic
Operating pressure	[bar]	Voltage	[V]
Required stroke			
Per jaw	[mm] or	Total stroke	[mm]
	[mm] O	rotal offorce	[,,,,,]
Gripper finger length			
Gripper top edge to force	application point		[mm]
Ambient conditions			
	Small amount of	Equat / Lai	rge amount of swarf /
Clean / Dry	Coolant overspra	Co	olant under pressure / nding agent
Chemical substances	s / if yes, which		
Temperature	[°C]	Cycles	per minute
Required force			
	[NI] Or	Modernicos visight	la Da
Gripping force	[N] or	Workpiece weight	kg □ g □
Gripping type			
Internal gripping	External gripping		
Frictional fit	Form fit		
Prism angle	[°] Friction coefficient	Axis a	cceleration [m/s <sup>2</sup>
Self-locking			
Not required	In closing	In opening	Pressure safety valve

Desired accessories	
Inductive sensor Magnetic field ser	nsor With Cable Plugable
Separate cable / if yes, how long	[m]
Pressure safety valve	
Pneumatic fittings / if yes, which	Straight fitting
	Angled fitting
	Air flow control valve
Notes / Comments	
Editor / Date	
Attachment	
Sketch 3D mod	del Others

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We hereby declare that our elements meet the following basic requirements of the Machinery Directive 2006/42/EC as an incomplete machine

No.1.1.2., No.1.1.3., No.1.1.5., No.1.3.2, No. 1.3.4, No. 1.3.7, No.1.5.3, No.1.5.4, No.1.5.8., No.1.6.4, No.1.7.1, No.1.7.3, No.1.7.4.

We also declare that the specific technical documents were produced in accordance with Annex VII Part B of this Directive. We undertake to provide the market supervisory bodies with electronic versions of the incomplete machine's special documents via our documentation department should they have reason to request them.

The incomplete machine may only be commissioned if the machine or system in which the incomplete machine is to be installed has been determined to satisfy the conditions of the Machinery Directive 2006/42/EC and the EC Declaration of Conformity has been produced in accordance with Annex II A.