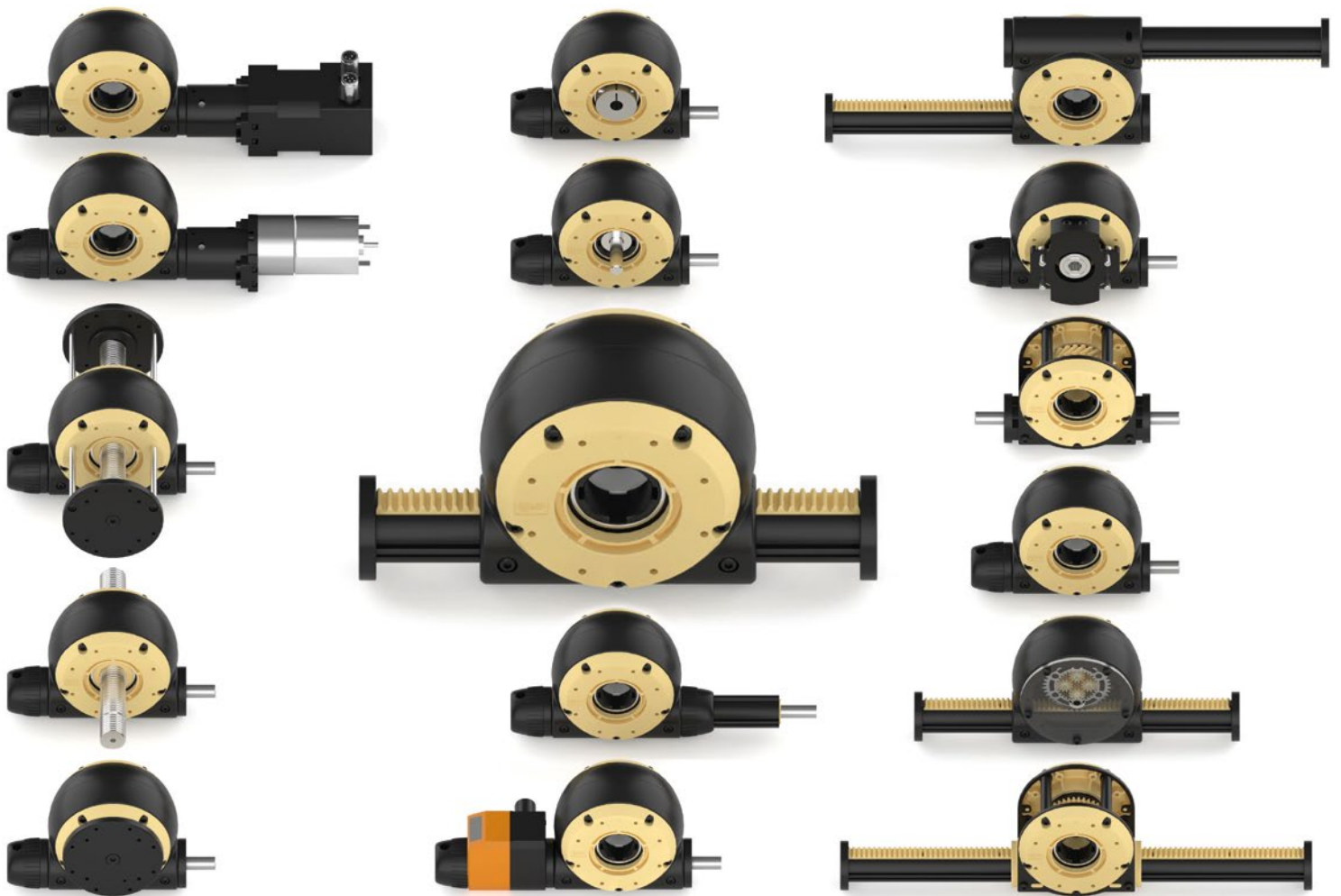
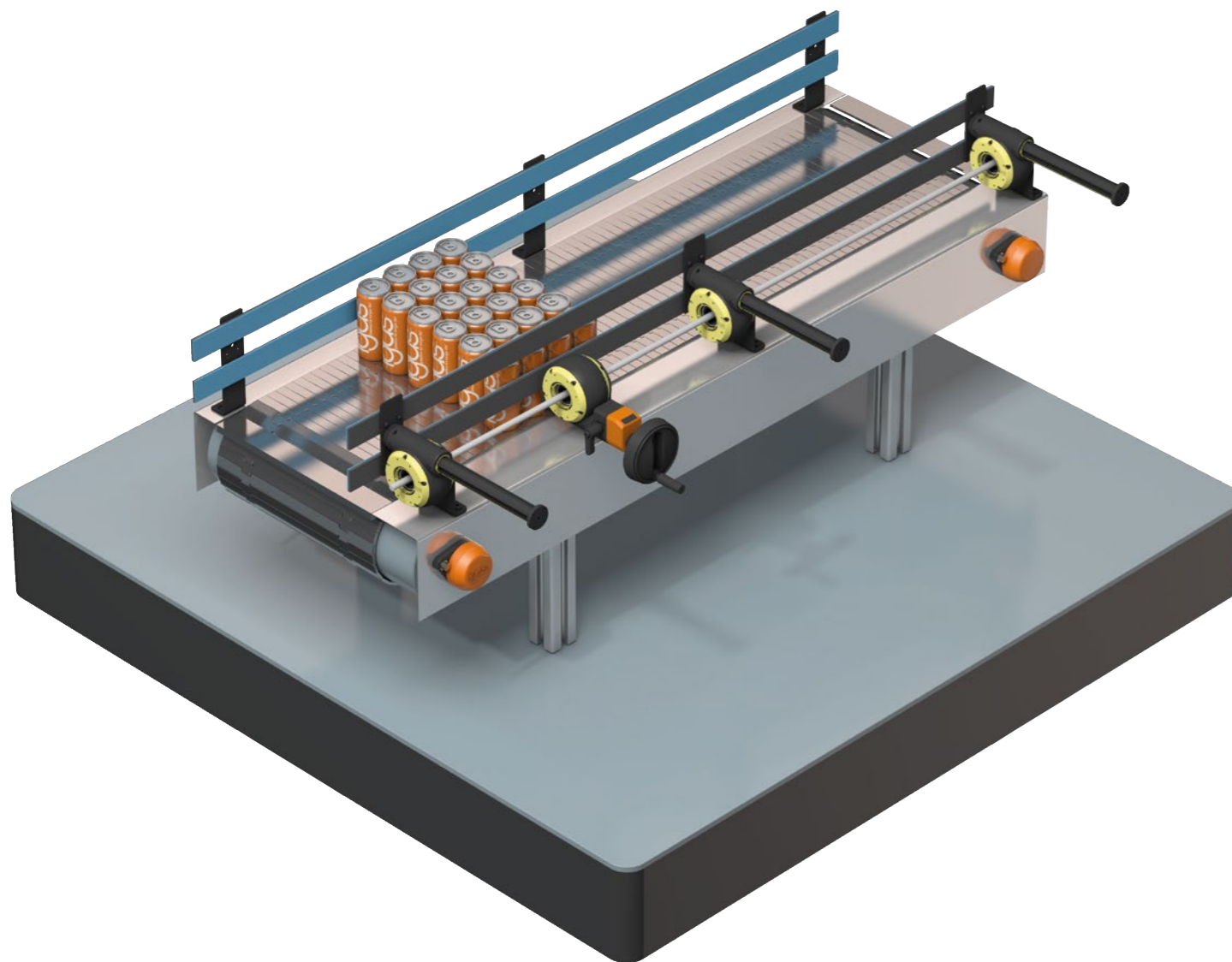


drygear® Apiro® modular gearbox system

# Apiro® iDeas





# Ideas for automation solutions that are easy to recreate

Gearboxes are used to adapt the speed and torque of motors to the specific requirements of machines and processes. Our drygear® gearboxes made of high-performance plastic are lubrication-free, lightweight and impact-resistant.

All igus® plastic gearboxes have a modular design and can be expanded and integrated into existing systems as required. For customisation purposes, drygear® Apiro® gearboxes are particularly popular. Our Apiro® modular gearbox system for a wide range of kinematics and superstructures was named after the Greek word for "infinite". The drygear® Apiro® gearbox system is modular and cost-effective.

Discover the possible applications now, e.g. in packaging, food or medical technology.

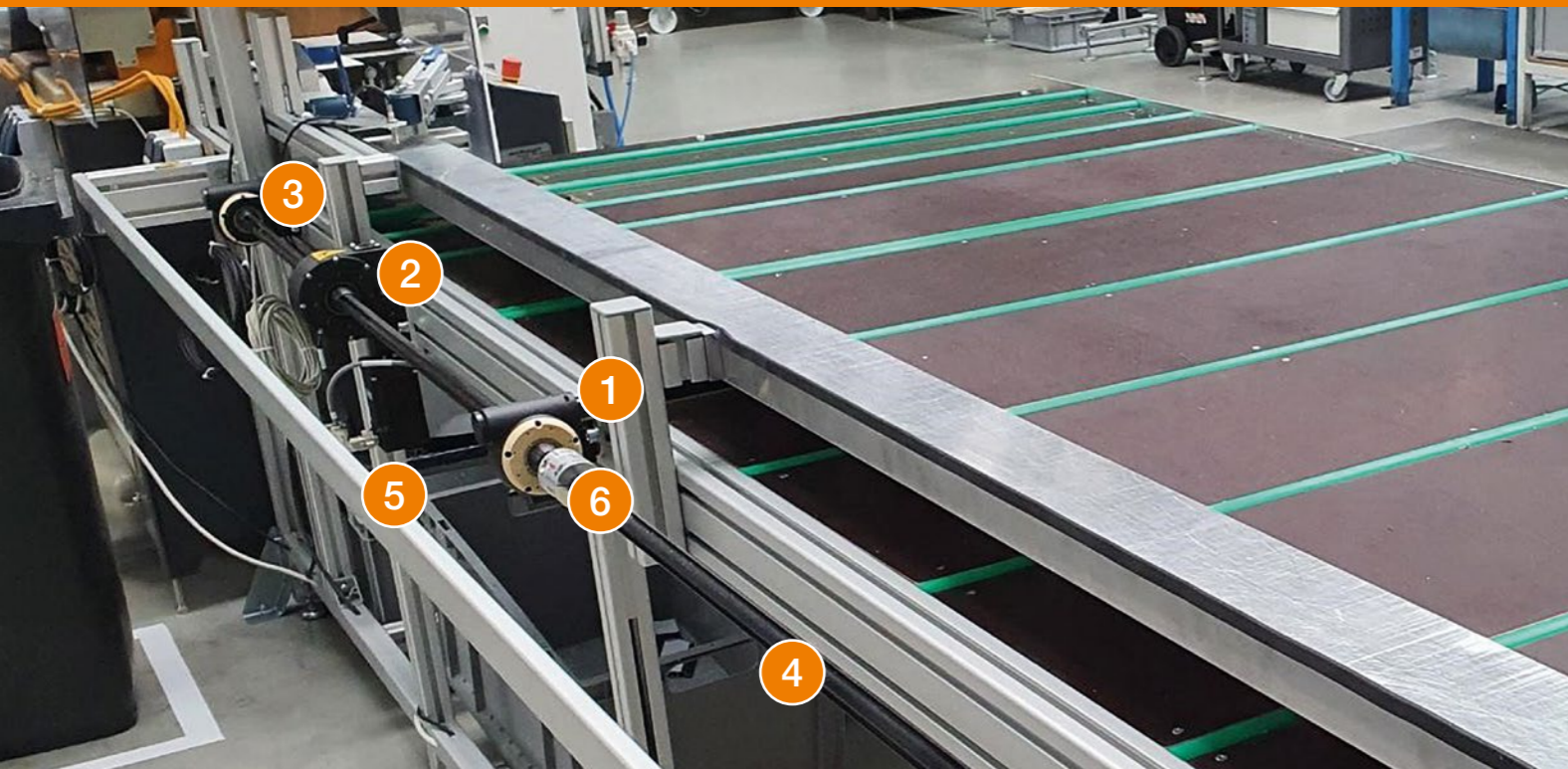
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drygear® Apiro® modular gearbox system

# Pusher application



## Versatile and flexible applications

### Modular gearboxes for simple and complex movements

#### Automation made simple and affordable

Are you building a pusher application and looking for the right components? We offer the following cost-effective, maintenance-free products from stock.

Typical application areas are lane adjustments, pusher tasks, gearboxes with various gear ratios, slewing rings and rotary axes.

Due to the large product portfolio of igus®, we can provide you with the suitable motor, including motor control system as well as cables.

1



#### Apiro® gear racks

Configurable in different lengths

2



#### RL-D-30 gearbox

Available in different transmissions

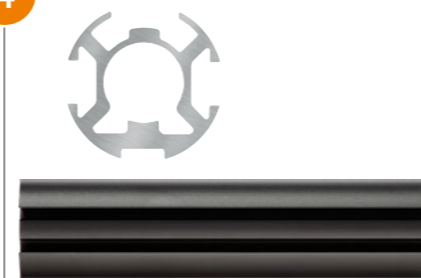
3



#### Apiro® proximity switch kit

For gear racks, space-saving installation

4



#### Apiro® universal profile

Lightweight profile

5



#### robolink® D direct drive

Motor kit, stepper motor

6



#### Jaw coupling with round axis clamp

For connecting the axle and motor pin



#### drylin® D1 motor control system

For stepper, DC and EC/BLDC motors



#### Motor cable with M12 connector

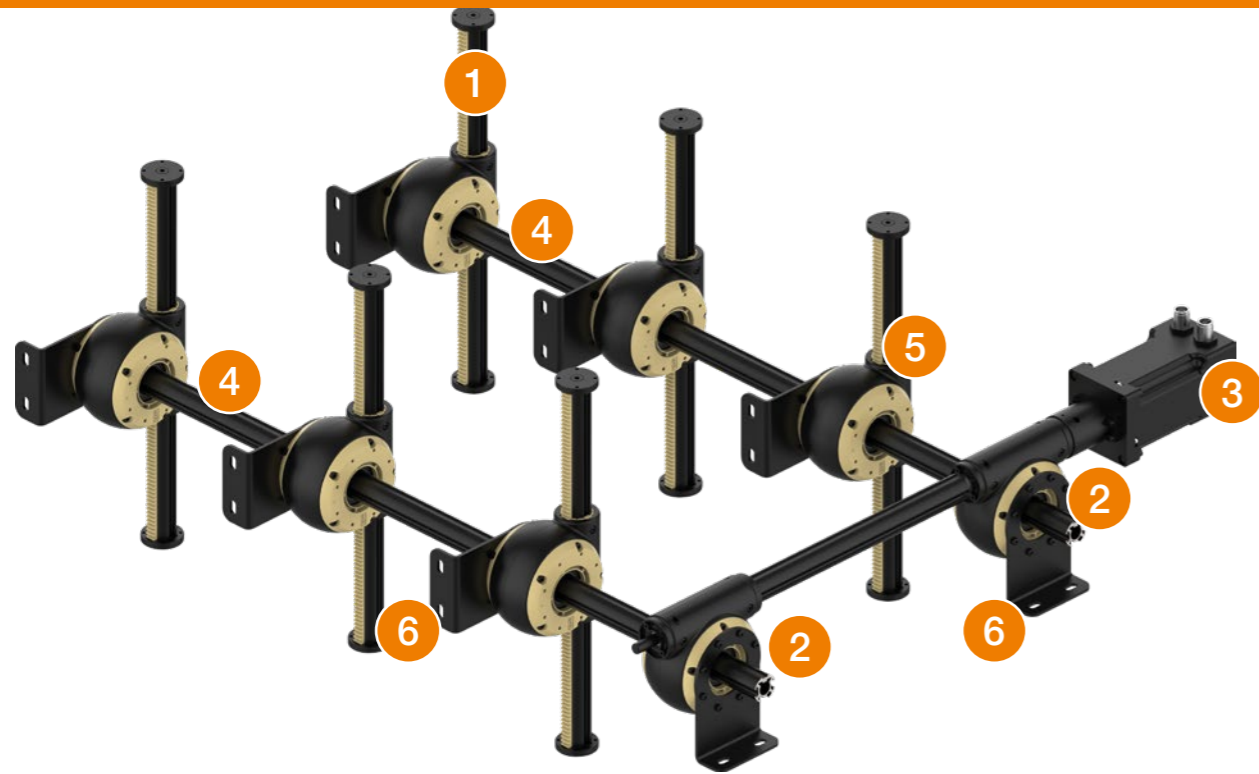
DLE motor cable, length 3m, 5m, 10m or 20m, straight/angled connector



#### Angular encoder cable (encoder) with M12 connector

DLE encoder cable, length 3m, 5m, 10m or 20m, straight/angled connector

# Press-fit procedures



## Versatile and flexible applications

### Modular gearboxes for simple and complex movements

#### Automation made simple and affordable

Are you building a press-fit application and looking for the right components? We offer the following cost-effective, maintenance-free products from stock.

Typical application areas are lane adjustments, pusher tasks, gearboxes with various gear ratios, slewing rings and rotary axes. Due to the large product portfolio of igus®, we can provide you with the suitable motor, including motor control system as well as cables.

1



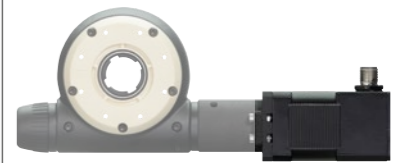
**Apiro® rack gears**  
Configurable in different lengths

2



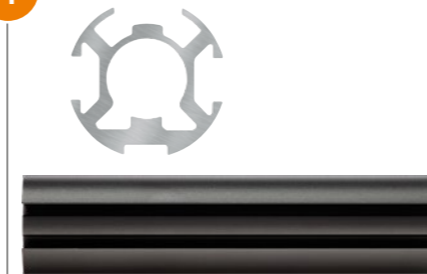
**Apiro® gearbox with hollow shaft**  
Drive torque: up to 2.5Nm

3



**Apiro® motor kit**  
NEMA17 with connector and encoder

4



**Apiro® universal profile**  
Lightweight profile

5



**Apiro® proximity switch kit**  
For rack gears, space-saving installation

6



**Apiro® mounting adapter**  
Flange mount



**drylin® D1 motor control system**  
For stepper, DC and EC/BLDC motors

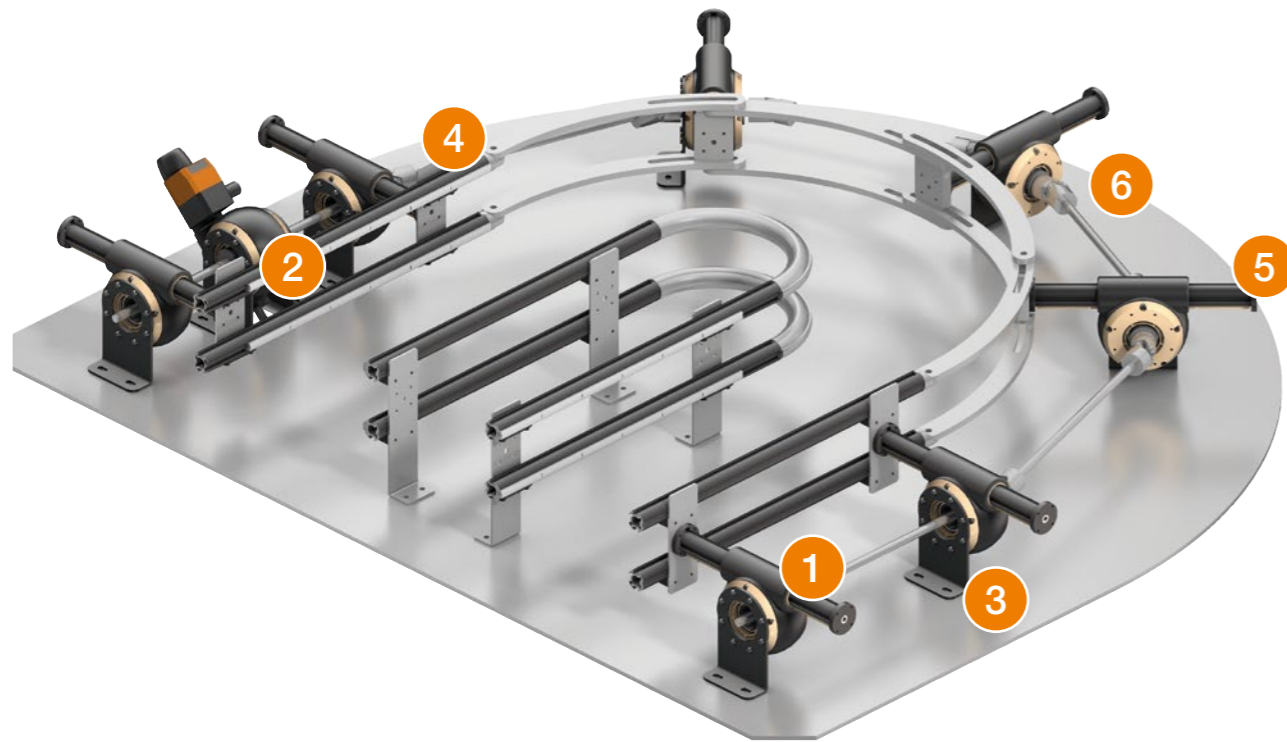


**Motor cable with M12 connector**  
DLE motor cable, length 3m, 5m, 10m or 20m, straight/angled connector



**Angular encoder cable (encoder) with M12 connector**  
DLE encoder cable, length 3m, 5m, 10m or 20m, straight/angled connector

# Curve adjustment



1



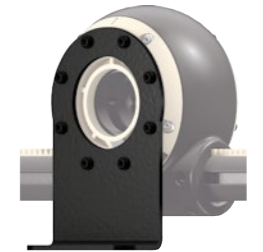
**Apiro® rack gears**  
Configurable in various lengths with 8mm coupling

2



**Apiro® gearbox with manual clamp**  
Transmission ratio 32:1, position indicator, hand wheel, manual clamp and 8mm coupling

3



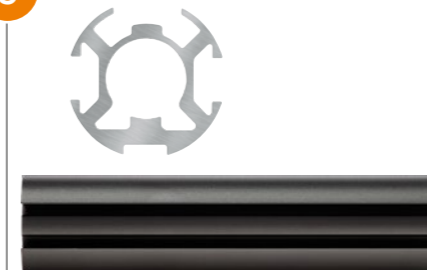
**Apiro® mounting adapter**  
Flange mount

4



**Aluminium shaft AWMP-08**  
For synchronising Apiro® gearboxes

5



**Apiro® universal profile**  
Lightweight profile

6



**drygear® universal joint**  
Articulated coupling

## Versatile and flexible applications

### Modular gearboxes for simple and complex movements

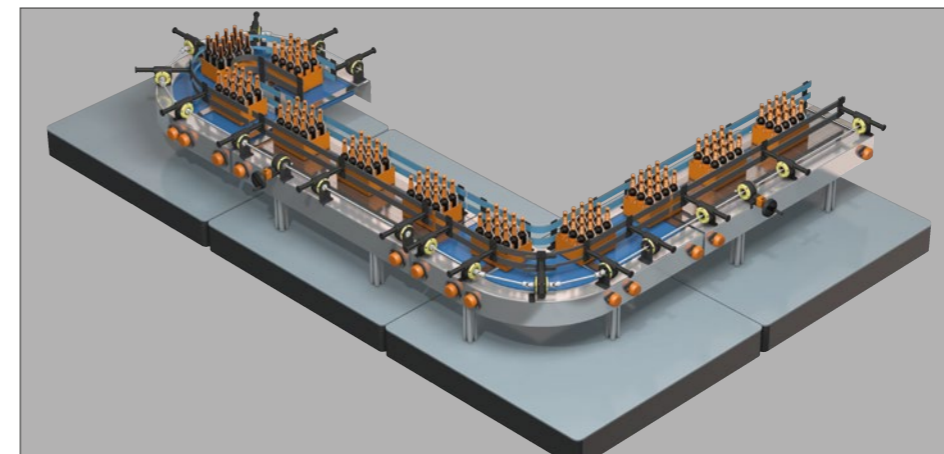
#### Automation made simple and affordable

For quick and simple curve adjustments. Minimising set-up times with flexible production planning is one of the biggest challenges in the bottling and packaging industry. With Apiro®, you can not only make simple track width adjustments, but also change the track along curves to any angle with just one step. The curve adjustment, which is a must for new packaging machines, can also be integrated into your existing system with little effort.

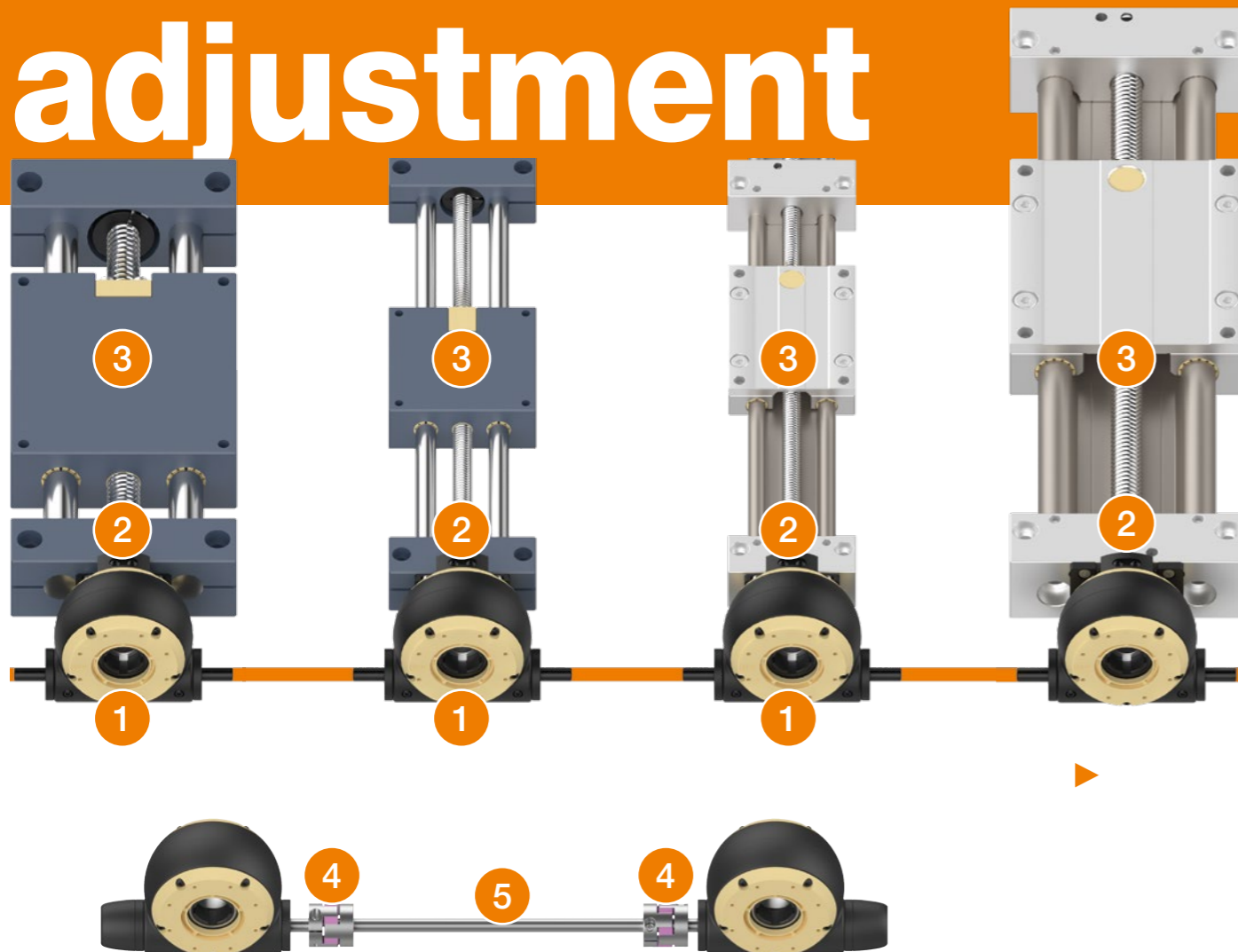
We are happy to offer you a complete solution including motor, control system and cables from a single source.

Your benefits at a glance:

- No set-up costs
- Low investment costs
- Simple adjustment of track widths
- Flexible modular system for your customised application



# Format adjustment

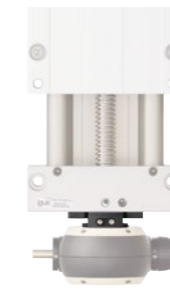


1



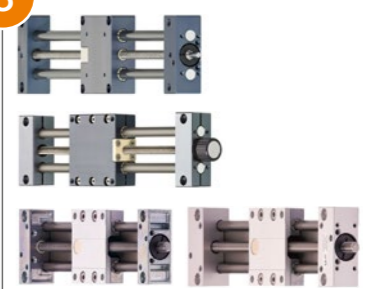
**Apiro® gearbox**  
With hollow shaft for connection to linear axes, with different transmissions

2



**Apiro® adapter plate**  
For connection to drylin® linear axes SLW, SHT

3



**Lead screw linear module drylin® SLW and SHT series**  
Especially versatile and torsionally rigid

4



**Jaw coupling with round axis clamp**  
For connecting the axle and motor pin

5



**Aluminium shaft AWMP-08**  
For synchronising Apiro® gearboxes

## Versatile and flexible applications

### Modular gearboxes for simple and complex movements

#### Automation made simple and affordable

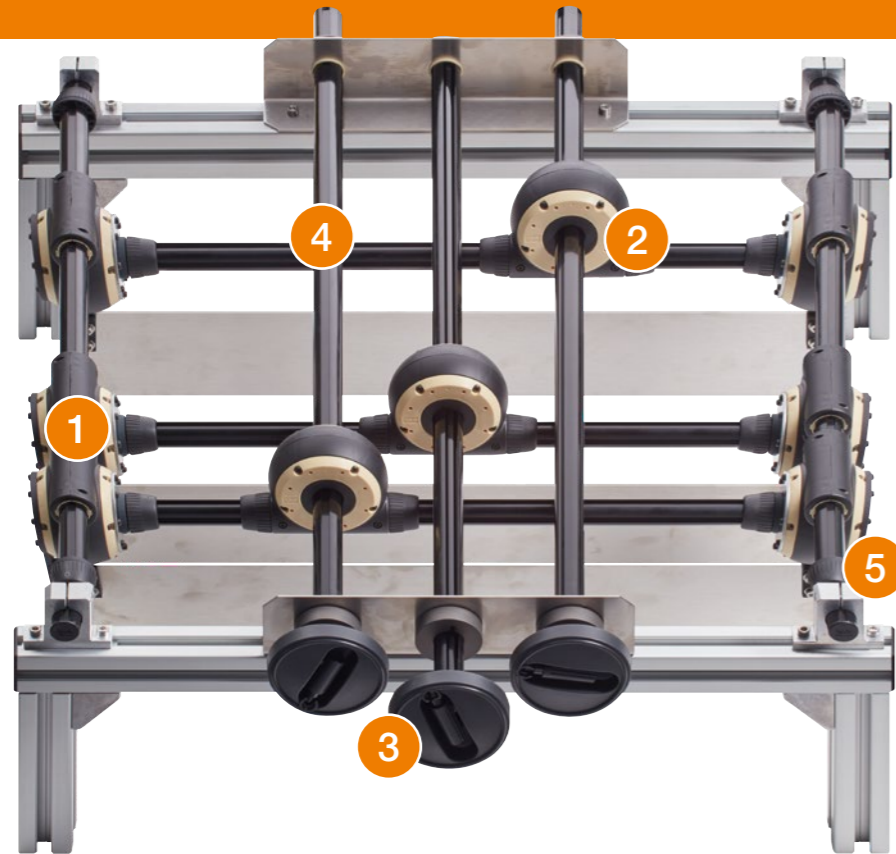
Minimising set-up times with flexible production planning is one of the biggest challenges in the bottling and packaging industry. The format adjustments are often solved in a bridge construction with linear axes. We offer a complete system consisting of one drive and several synchronised drylin® linear axes.

The benefits are obvious: Instead of many adjustment points, there is only one central drive thanks to the synchronisation. This saves time and money whilst minimising application errors. You can also implement complex funnel feeds using different gear ratios and thread pitches.

Your benefits at a glance:

- Lubrication-free and maintenance-free system
- Fast Return on Investment thanks to low investment and high savings
- Simple and quick adjustment of track widths
- Flexibility through modular design

# Lane adjustment



## Versatile and flexible applications

### Modular gearboxes for simple and complex movements

#### Automation made simple and affordable

The Apiro® modular gearbox system allows you to implement your lane adjustment simply, flexibly and cost-effectively. You can virtually adjust any number of tracks individually and independently of each other. We are happy to offer you a complete solution including motor, control system and cables from a single source.

Your benefits at a glance:

- Maintenance-free and lubrication-free lane adjustment
- Minimised set-up times
- Low investment costs

1



#### Apiro® rack gears

Configurable in various lengths, can be combined with Apiro® multifunctional profile for synchronisation

2



#### Apiro® gearbox with coupling

Inverted worm gear, transmission ratio 4:1

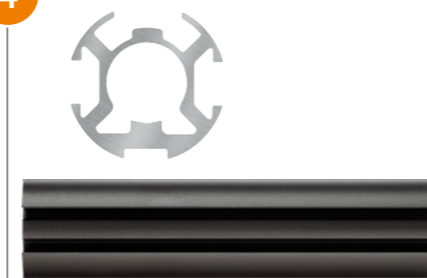
3



#### Hand wheel

From small compact sizes up to Ø125 with/without handle in various configurations

4



#### Apiro® universal profile

Lightweight profile

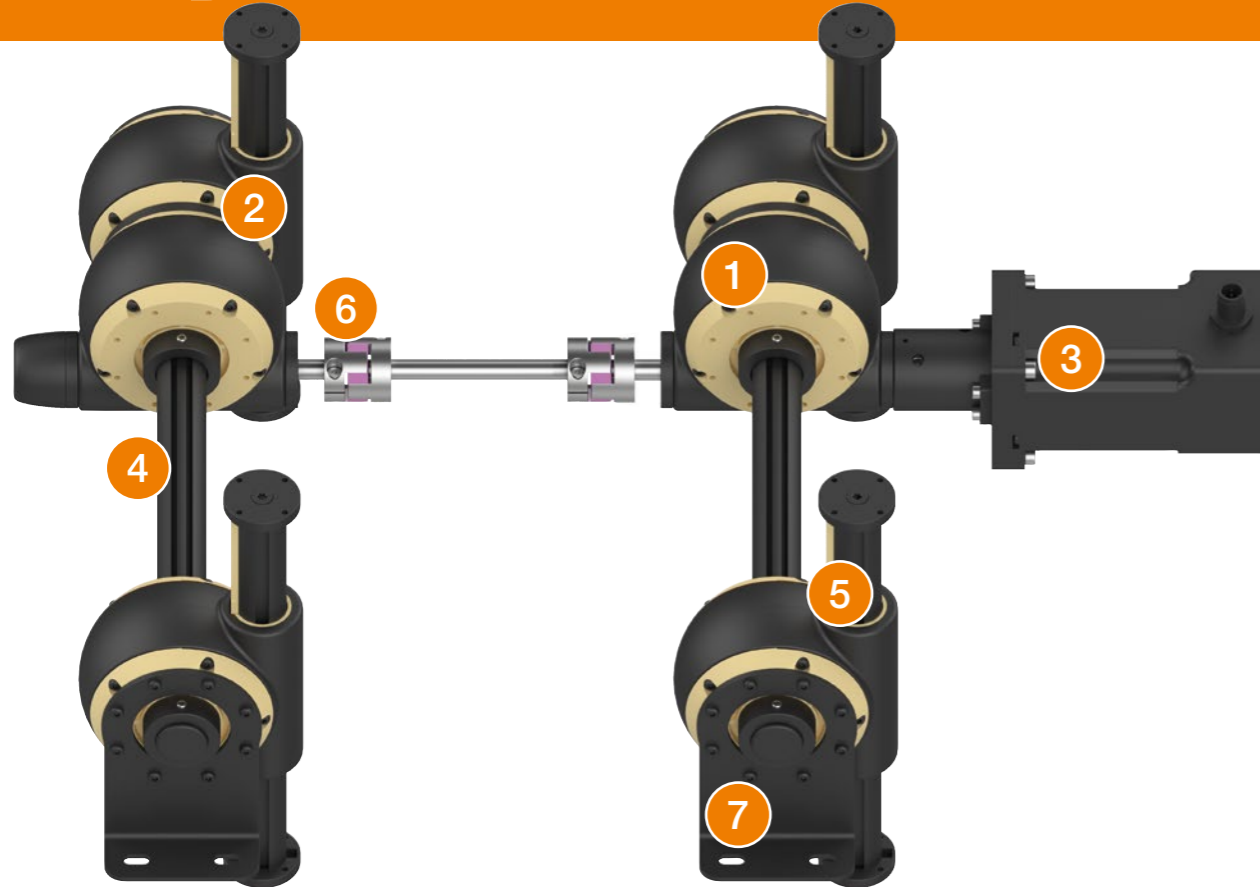
5



#### Shaft end block

Material: Aluminium, particularly slim design

# Height adjustment



## Versatile and flexible applications

### Modular gearboxes for simple and complex movements

#### Automation made simple and affordable

Are you building a height adjustment application and looking for the right components? We offer the following cost-effective, maintenance-free products from stock.

Typical application areas are lane adjustments, pusher tasks, gearboxes with various gear ratios, slewing rings and rotary axes. Due to the large product portfolio of igus®, we can provide you with the suitable motor, including motor control system as well as cables.

1



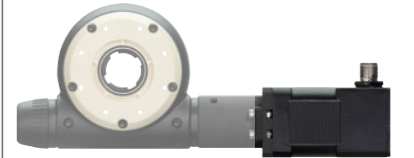
**Apiro® gearbox with hollow shaft**  
Available in different transmissions

2



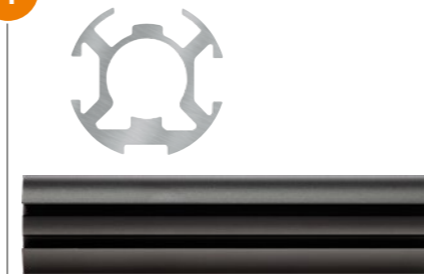
**Apiro® rack gears**  
Configurable in different lengths

3



**Apiro® motor kit**  
NEMA17 with connector and encoder

4



**Apiro® universal profile**  
Lightweight profile

5



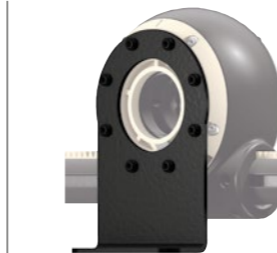
**Apiro® proximity switch kit**  
For rack gears, space-saving installation

6



**Jaw coupling with round axis clamp**  
For connecting the axle and motor pin

7



**Apiro® mounting adapter**  
Flange mount



**drylin® D1 motor control system**  
For stepper, DC and EC/BLDC motors



**Motor cable with M12 connector**  
DLE motor cable, length 3m, 5m, 10m or 20m, straight/angled connector

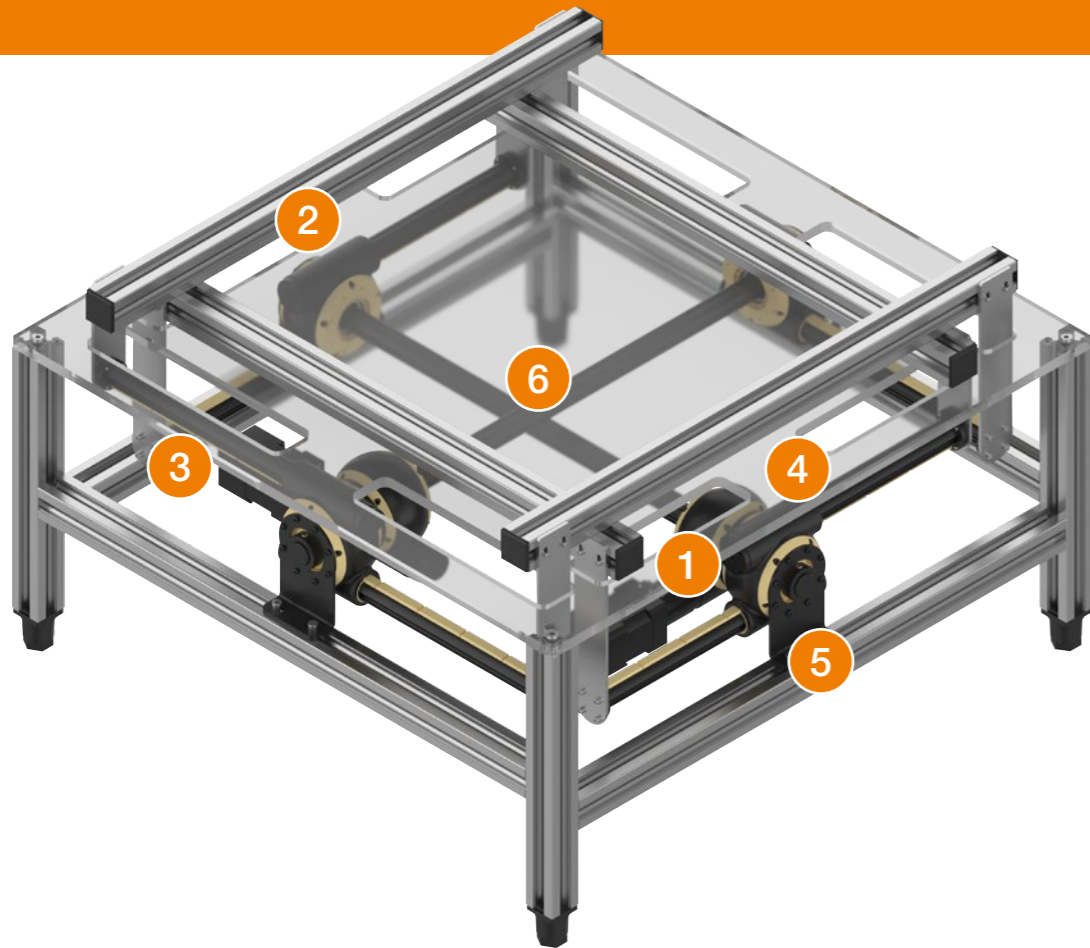


**Sensor/brake cable with M8 connector**  
DLE sensor and brake cable, length 3m, 5m, 10m or 20m, straight/angled connector



**Angular encoder cable (encoder) with M12 connector**  
DLE encoder cable, length 3m, 5m, 10m or 20m, straight/angled connector

# Drone in a box



## Versatile and flexible applications

### Modular gearboxes for simple and complex movements

#### Automation made simple and affordable

Are you looking for the right components for your drone box? Thanks to the combination of Apiro® gearboxes, gear racks and igus® e-chains®, we can implement a wide variety of superstructures.

With a drone-in-a-box system, you can let drones fly automatically and autonomously. This typically requires two components: A drone that can be charged automatically - for example using inductive contacts on the landing skids - and a harness that can be attached to a normal drone, or an automated battery replacement in the box. The box serves as a platform for the drone to take off and land. It is designed in such a way that it can charge the drone or automatically replace the battery. During the charging process or when the drone is not meant to be in the air, the box is a secure unit. Control software plans and controls flight applications and routes.

Thanks to the large product portfolio of igus®, we can implement individual superstructures in a modular and cost-effective way.

1



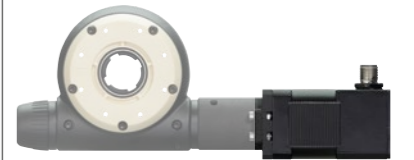
**Apiro® gearbox with hollow shaft**  
Available in different transmissions

2



**Apiro® gear rack with double axis**  
Configurable in different lengths

3



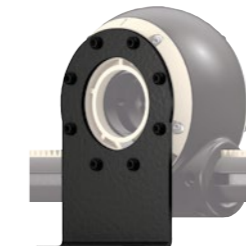
**Apiro® motor kit**  
NEMA17 with connector and encoder

4



**Apiro® proximity switch kit**  
For rack gears, space-saving installation

5



**Apiro® mounting adapter**  
Flange mount

6



**Apiro® universal profile**  
Lightweight profile

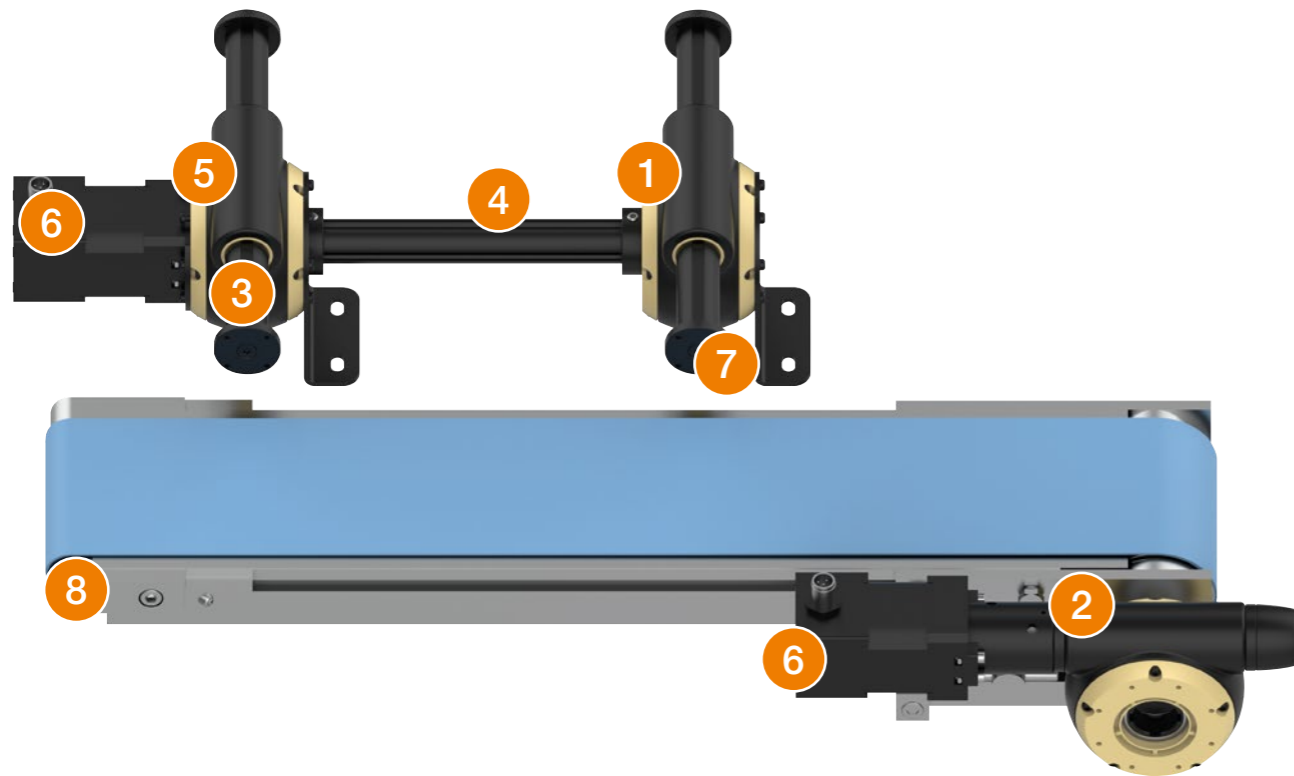


**E2 micro energy chain**  
For small space requirements



**drylin® D1 motor control system**  
For stepper, DC and EC/BLDC motors

# Apiro® for conveyor technology



## Versatile and flexible applications

### Modular gearboxes for simple and complex movements

#### Automation made simple and affordable

Are you looking for the right components for your conveyor belt? Thanks to the combination of Apiro® gearboxes, gear racks and a variety of other machine elements from igus®, we can implement a wide range of superstructures. Whether in production, processing or distribution, conveyor systems are an essential part of in-house logistics. To transport a unit load from A to B, roller conveyors, roller ball tables and overhead conveyor systems are used. To make sure they can function without failure in continuous operation, durable components are required, which ideally do not need any maintenance. Individual applications can be implemented with the Apiro® gearbox system in a modular and cost-effective manner. Typical application areas are lane adjustments, pusher tasks, gearboxes with various gear ratios, slewing rings and rotary axes.

1



**Apiro® rack gears**  
Configurable in different lengths

2



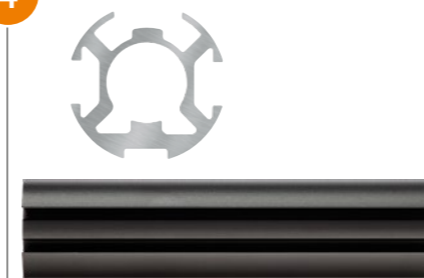
**Apiro® gearbox**  
Available in different transmissions

3



**Apiro® proximity switch kit**  
For rack gears, space-saving installation

4



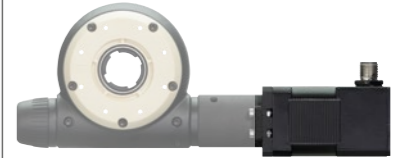
**Apiro® universal profile**  
Lightweight profile

5



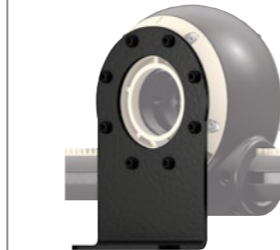
**Apiro® rack gears**  
Configurable in various lengths, with an integrated planetary gearbox

6



**Apiro® motor kit**  
NEMA17 with connector and encoder

7



**Apiro® mounting adapter**  
Flange mount

8



**igidur® P210 knife edge roller**  
For conveyor belts with tight deflection radii



**drylin® D1 motor control system**  
For stepper, DC and EC/BLDC motors

# Articulated arm robot



## Versatile and flexible applications

### Modular gearboxes for simple and complex movements

#### Automation made simple and affordable

Are you building an articulated arm robot and looking for the right components?

Typical application areas are lane adjustments, pusher tasks, gearboxes with various gear ratios, slewing rings and rotary axes.

Due to the large product portfolio of igus®, we can provide you with the suitable motor, including motor control system as well as cables.

1



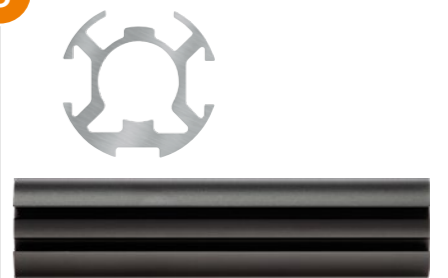
**Apiro® gearbox with hollow shaft**  
Available in different transmissions

2



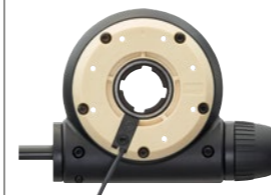
**Apiro® gearbox with universal profile**  
Suitable for series circuits, available in different transmissions

3



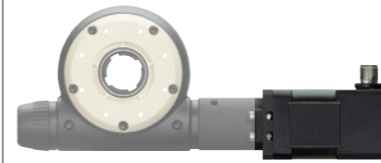
**Apiro® universal profile**  
Lightweight profile

4

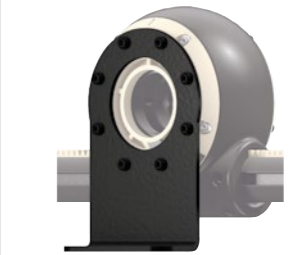


**Apiro® proximity switch kit**  
Proximity switch incl. adapter for attachment to Apiro® gearbox

5



**Apiro® motor kit**  
NEMA23 with connector and encoder



**Apiro® mounting adapter**  
Flange mount



**igus® Robot Control:**  
**Plug-and-play robot control system**  
Customised robot control system



**Motor cable with M12 connector**  
DLE motor cable, length 3m, 5m, 10m or 20m, straight/angled connector

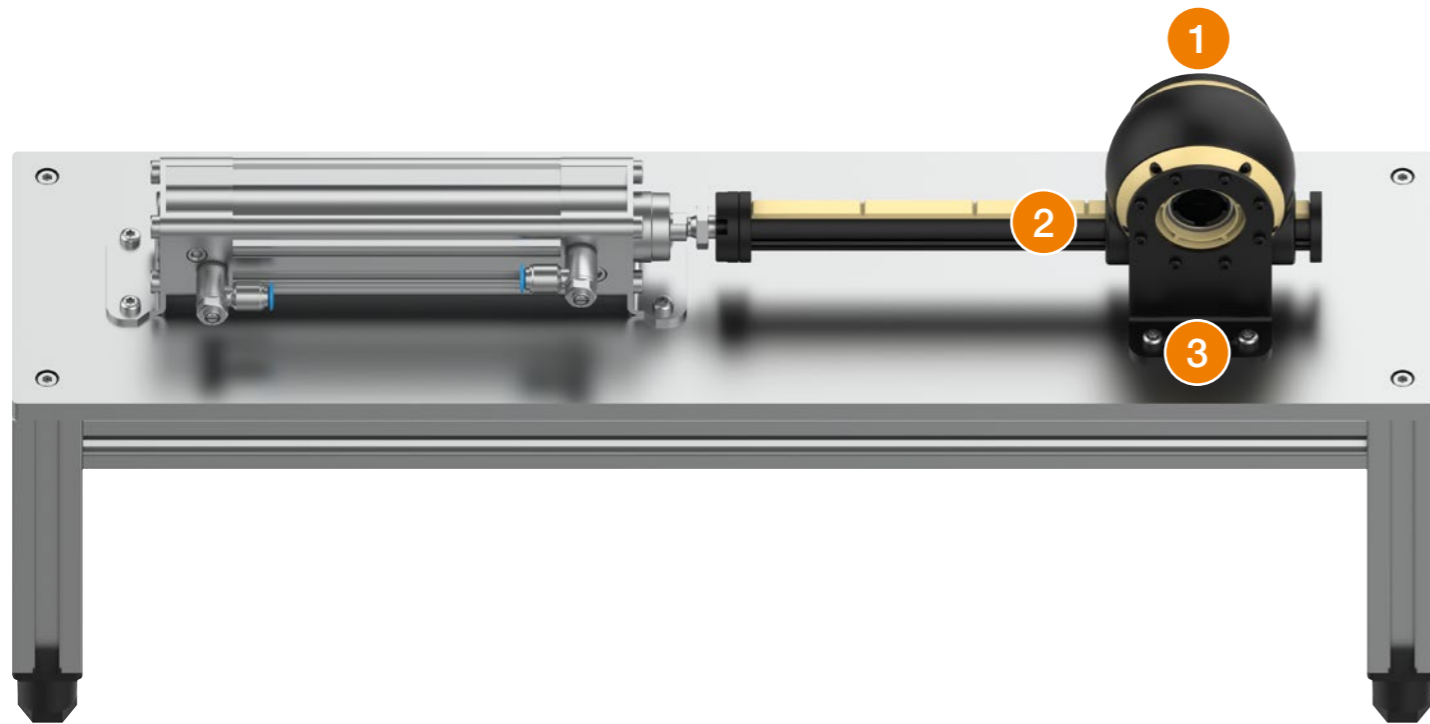


**Angular encoder cable (encoder) with M12 connector**  
DLE encoder cable, length 3m, 5m, 10m or 20m, straight/angled connector



**Sensor/brake cable with M8 connector**  
DLE sensor and brake cable, length 3m, 5m, 10m or 20m, straight/angled connector

# Drive for cylinder



1



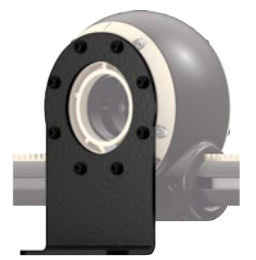
**Apiro® rack gears**  
Configurable in different lengths

2



**Apiro® proximity switch kit**  
For rack gears, space-saving installation

3



**Apiro® mounting adapter**  
Flange mount



**Sensor/brake cable  
with M8 connector**  
DLE sensor and brake cable, length 3m,  
5m, 10m or 20m, straight/angled connector

## Versatile and flexible applications

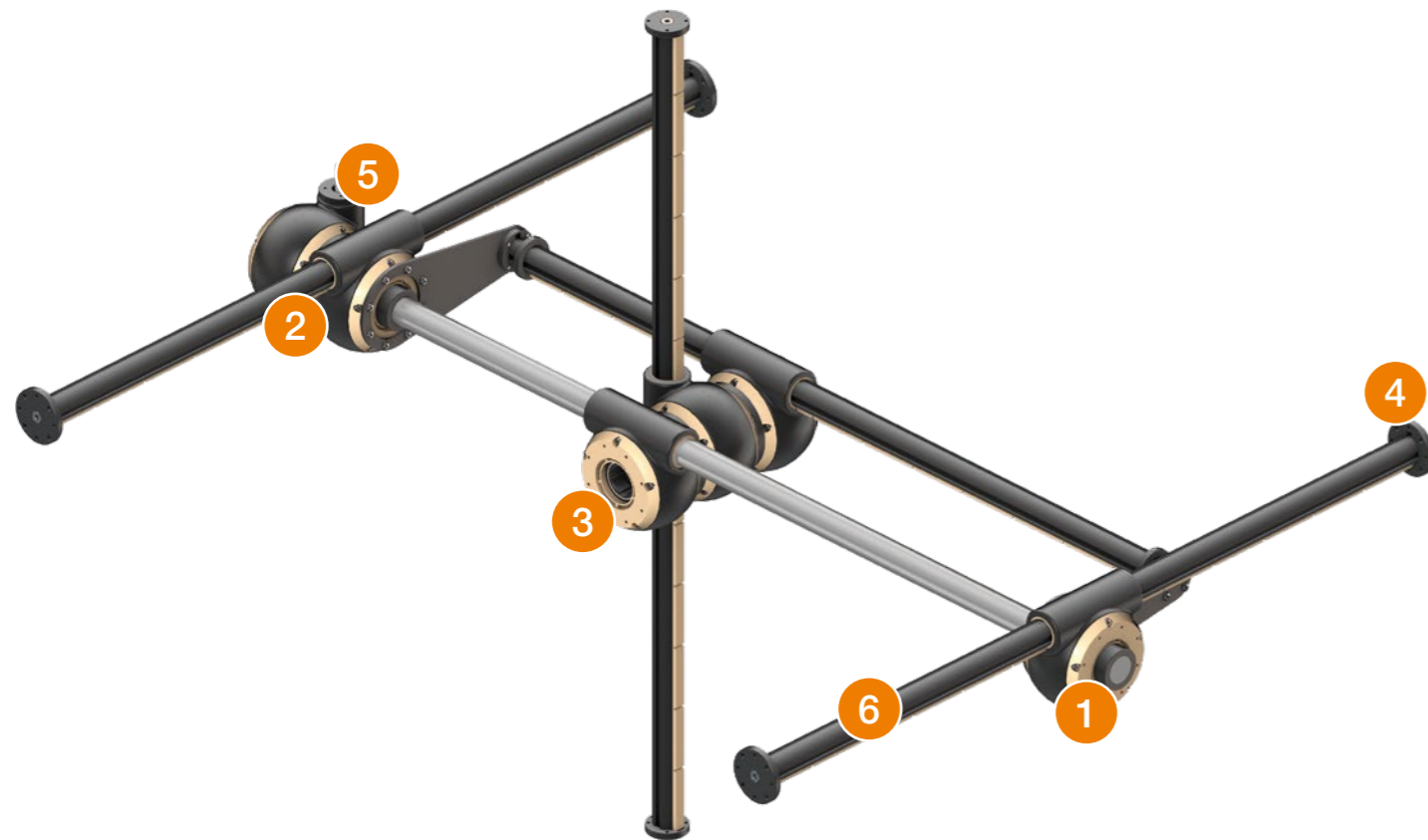
### Modular gearboxes for simple and complex movements

#### Automation made simple and affordable

Are you building a cylinder drive and looking for the right components? We offer the following cost-effective, maintenance-free products from stock.

Typical application areas are lane adjustments, pusher tasks, gearboxes with various gear ratios, slewing rings and rotary axes. Due to the large product portfolio of igus®, we can provide you with the suitable motor, including motor control system as well as cables.

# Linear robot



## Versatile and flexible applications

### Modular gearboxes for simple and complex movements

#### Automation made simple and affordable

Are you looking for a customised, maintenance-free linear robot for your automation? Thanks to the combination of Apiro® gearboxes, gear racks and igus® e-chains®, we can implement a wide variety of superstructures.

Typical application areas are lane adjustments, pusher tasks, gearboxes with various gear ratios, slewing rings and rotary axes.

Due to the large product portfolio of igus®, we can provide you with the suitable motor, including motor control system as well as cables.

1



**Apiro® rack gears**  
Configurable in different lengths

2



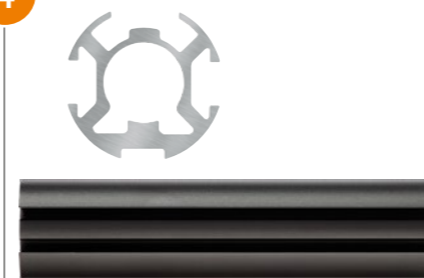
**Apiro® gearbox with hollow shaft**  
Available in different transmissions

3



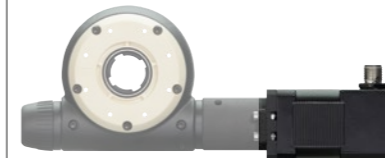
**Apiro® rack gears**  
Configurable in various lengths, with integrated planetary gearbox

4



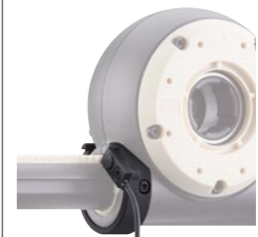
**Apiro® universal profile**  
Lightweight profile

5



**Apiro® motor kit**  
NEMA23 with connector and encoder

6



**Apiro® proximity switch kit**  
For rack gears, space-saving installation



**Robot Control:**  
**Plug-and-play robot control system**  
Customised robot control system

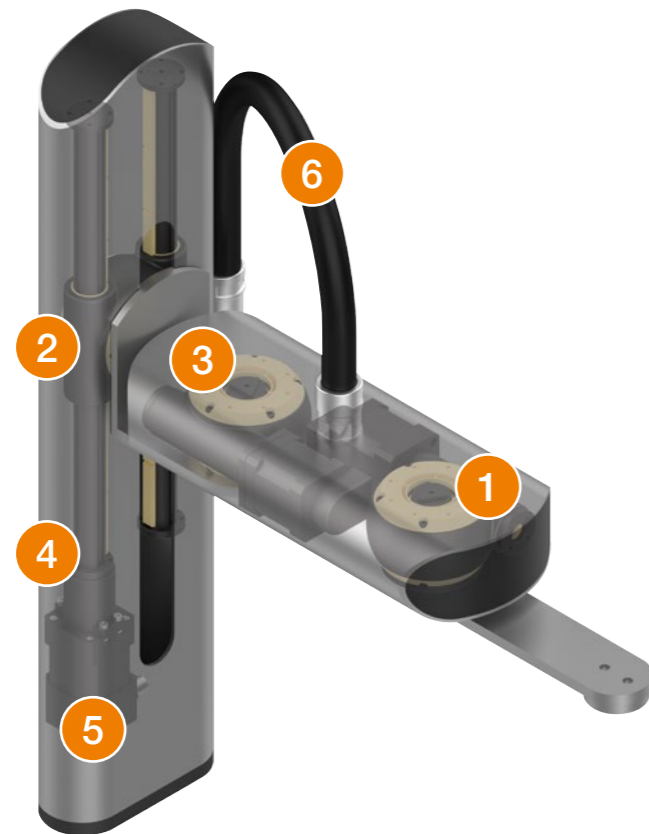


**Motor cable with M12 connector**  
DLE motor cable, length 3m, 5m, 10m or 20m, straight/angled connector



**Angular encoder cable (encoder) with M12 connector**  
DLE encoder cable, length 3m, 5m, 10m or 20m, straight/angled connector

# Articulated arm robot



## Versatile and flexible applications

### Modular gearboxes for simple and complex movements

#### Automation made simple and affordable

Are you building a SCARA robot and looking for the right components? We offer the following cost-effective, maintenance-free products from stock.

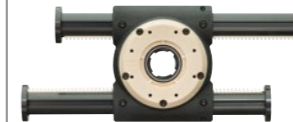
Typical application areas are lane adjustments, pusher tasks, gearboxes with various gear ratios, slewing rings and rotary axes. Due to the large product portfolio of igus®, we can provide you with the suitable motor, including motor control system as well as cables

1



**Apiro® gearbox with hollow shaft**  
Available in different transmissions

2



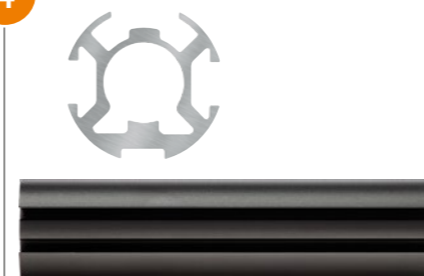
**Apiro® rack gear with double axis**  
Configurable in different lengths

3



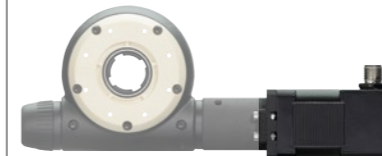
**Apiro® proximity switch kit**  
For gearboxes

4



**Apiro® universal profile**  
Lightweight profile

5



**Apiro® motor kit**  
NEMA17 with connector and encoder

6



**SCARA cable solution**  
Durable energy supply for SCARA robots



**Apiro® mounting adapter**  
Flange mount



**igus® Robot Control:**  
**Plug-and-play robot control system**  
Customised robot control system



**Motor cable with M12 connector**  
DLE motor cable, length 3m, 5m, 10m or 20m, straight/angled connector



**Sensor/brake cable with M8 connector**  
DLE sensor and brake cable, length 3m, 5m, 10m or 20m, straight/angled connector



**Angular encoder cable (encoder) with M12 connector**  
DLE encoder cable, length 3m, 5m, 10m or 20m, straight/angled connector

# /9001:2015 /16949:2016

igus® is certified in accordance with ISO 9001:2015 and IATF 16949:2016 in the field of energy supply systems, cables and harnessing, as well as plastic bearings.

**Do you have questions about Apiro® or would you like a consultation without obligation?**

Contact us using the online form and our experts will get back to you as soon as possible.



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