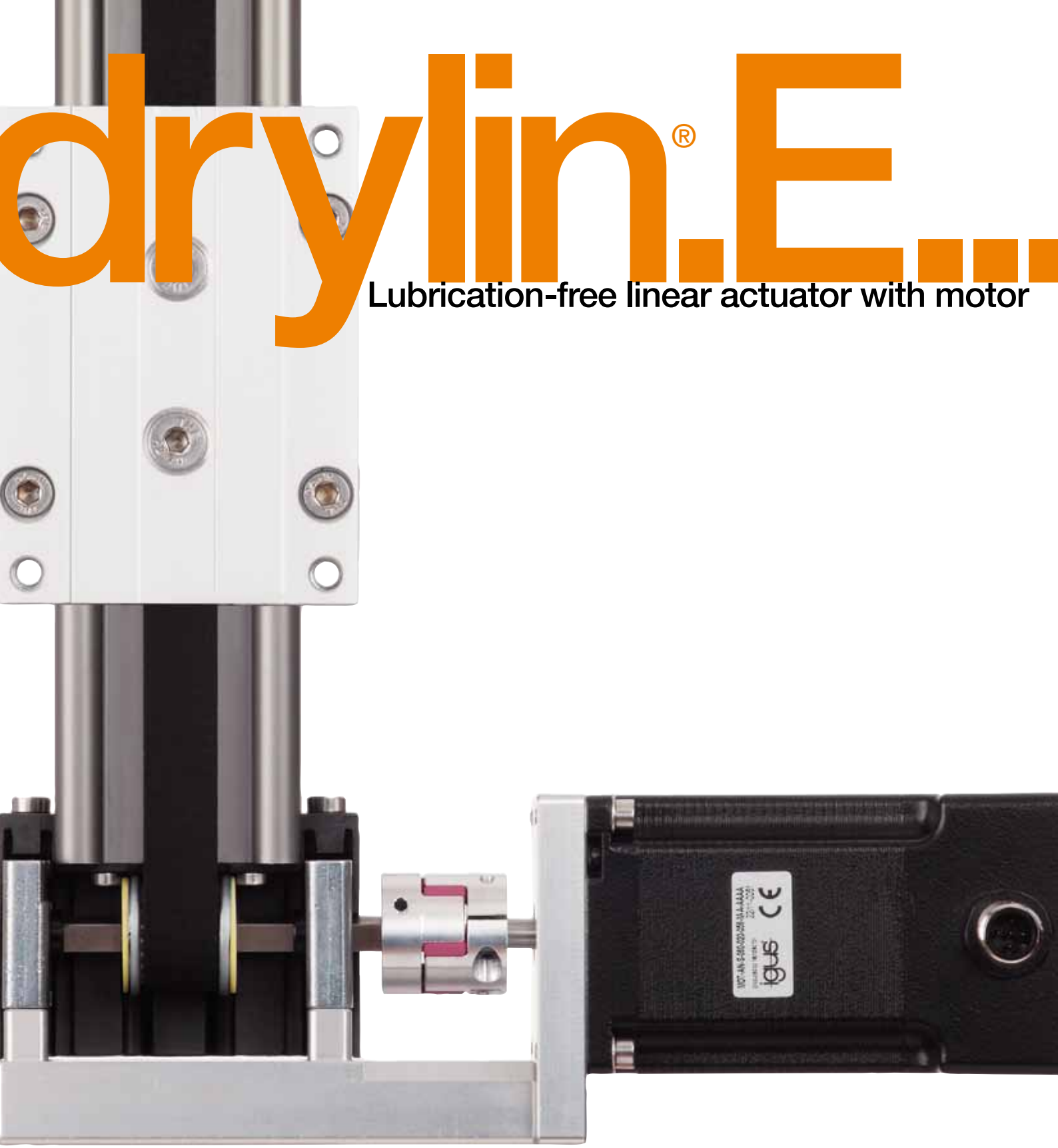
drylin® E...

Lubrication-free linear actuator with motor

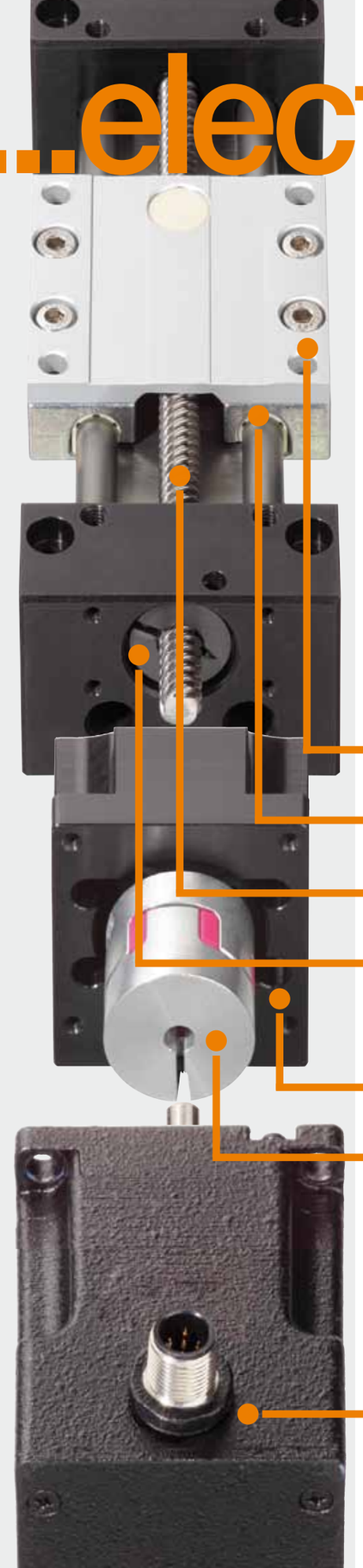


...05.2013...plastics for longer life®...

igus®.eu

...www.igus.eu/eu/drylinE...

...electric...



drylin® E

“E” as in Electric and is the latest development and addition to the modular drylin linear guide range. The lubricant-free linear guides guarantee clean and dirt-resistant operation. Ready-to-fit linear actuators and drive systems can be fitted with either leadscrew drives or belts. The range of accessories includes handwheels, position indicator, v-drives, couplings and much more. The drylin® E product range is complete with hybrid stepper motors, connectors, encoders, and the proven chainflex® power cables from igus®.

- Delivery time: 3-4 days
- 100% lubricant-free linear guide
- Cost-effective and online configuration possible

Lubrication-free linear guide system using polymer bearings

liners made of maintenance-free iglidur® J

tooth belt, trapezoidal or high helix thread

Ball bearings leadscrew supports

Motor flange: connection for stepper motors

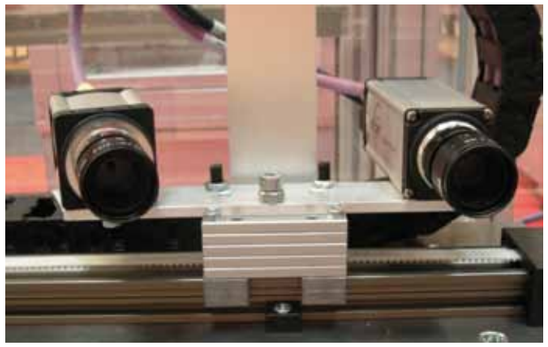
Claw coupling

igus® motors
- **Stepper and DC motors**
- **Cost-effective**
- **25 versions**
- **High protection class or Low-Cost-design**

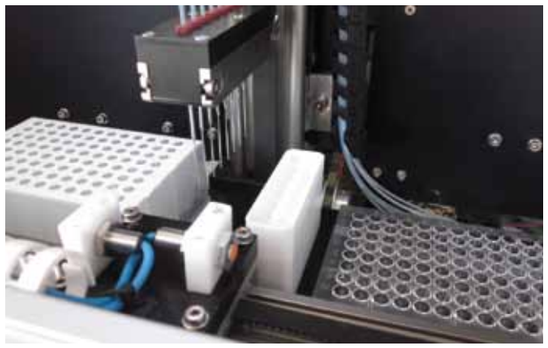
3–4 days **www.igus.eu/eu/drylinE**

...applications...

drylin® E – application examples

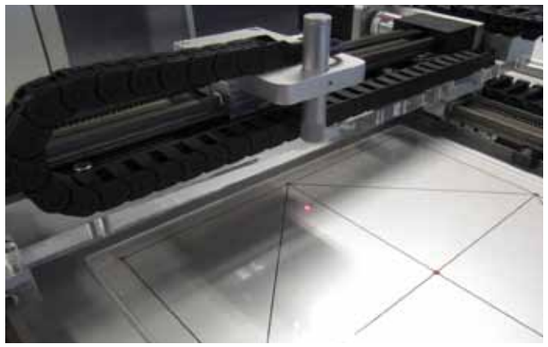


Camera adjustment
A quiet, vibration- and lubrication-free operation is required in this camera adjustment on a conveyor belt using a drylin® ZLW toothed belt axis.



Sampler/pipette
Space-saving telescope adjustment using a compact and lubrication-free drylin® ZLW toothed belt drives.
(Sierra Sensors GmbH)

Adjustment of inspection equipment
drylin® ZLW toothed belt drive in an inspection camera adjustment for checking the position of sealing rings.
(OLPE Jena GmbH)



Sensor adjustment/Measuring systems
drylin® ZLW-0630 toothed belt actuators in an X-Y configuration for adjusting a laser detector head. Compact, lightweight and maintenance-free due to polymer plain bearings.

Pick and Place
Quick and maintenance-free handling with drylin® toothed belt axes as a room portal (X, Y, Z axis).

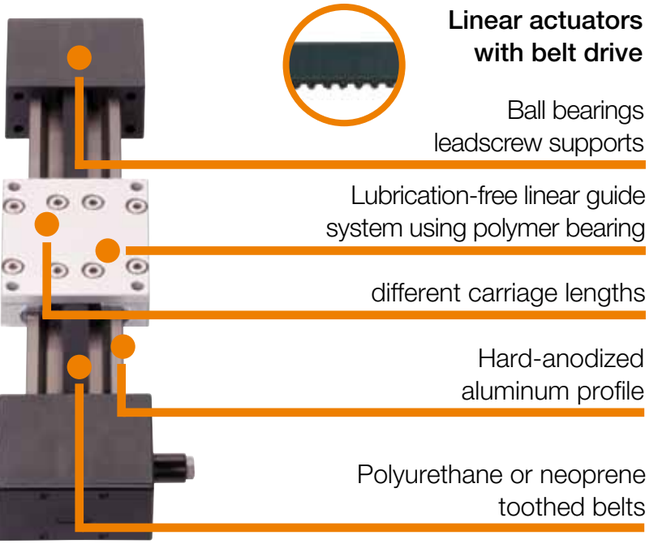
Handling of small parts
The tough and lubrication-free structure of the ZLW and drylin® W profiles allows a long and maintenance-free life.

www.igus.eu/drylinE-applications

...100% lubrication-free...

drylin® linear technology: leadscrew and tooth belt actuators

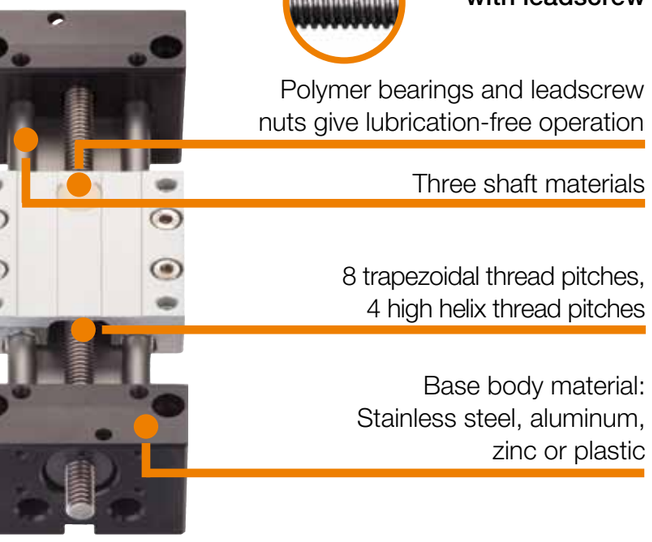
The drylin® product portfolio provides lubricant-free linear drives that are driven either by a trapezoidal thread, high helix thread or toothed belt. The user can choose a suitable individual solution from lightweight solid plastic units up to heavy duty stainless steel solutions. In all systems, the stroke length is freely selectable and the drive implemented either via handwheel or motor.



Linear actuators with belt drive

When to use it?
- Quick positioning of small loads
- Quiet running
- Flat design
- Long-term usage

When not to use it?
- For high dynamic loads
- When positioning accuracy < 0.1 mm is necessary



Linear actuators with leadscrew

When to use it?
- For format adjustments and positioning of medium loads
- In extreme environments
- When a cost-effective, ready-to-fit solution is required
- For low noise applications

When not to use it?
- When high loads combined with very high speeds
- When positioning accuracy < 0.1 mm is necessary
- If high running performance is required in continuous operation

drylin® linear technology

tooth belt drive with motor

ZLW-0630
- Max. stroke length: 1,000 mm
- Load: max. 15 kg
- Dimensions: 54 x 31 mm

ZLW-1040
- Max. stroke length: 3,000 mm
- Load: max. 30 kg
- Dimensions: 74 x 45 mm

ZLW-1660
- Max. stroke length: 3,000 mm
- Load: max. 100 kg
- Dimensions: 104 x 72 mm

www.igus.eu/eu/drylinE-ZLW

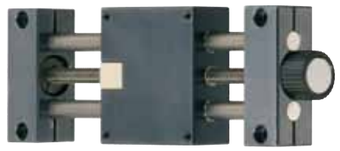
Leadscrew actuators with motor

SAW-0630
- Max. stroke length: 300 mm
- Load: max. 40 kg
- Dimensions: 54 x 32 mm
- Leadscrew pitches: 1,5 & 15

SAW-1040
- Max. stroke length: 500 mm
- Load: max. 200 kg
- Dimensions: 74 x 50 mm
- Leadscrew pitches: 2, 3, 12 & 50

www.igus.eu/eu/drylinE-SAW

Other drylin® leadscrew-linear-tables



SHT design
- Flat design
- High precision
- Three sizes
- Optional with motor and accessories

www.igus.eu/eu/drylinSHT

SLW design
- Flat design
- High stiffness
- Five sizes
- Optional with motor and accessories

www.igus.eu/eu/drylinSLW

...with motor...

drylin® E NEMA stepper motors: versions

Motor with stranded wires
This motor is the least expensive and the most popular option. The connecting wires for this type come directly from the housing. They are preferably installed in machines and equipment that have an additional housing or are used in clean environments.

Motor with connector plug
Fitted with connector plug, it reaches protection class IP65 (IP: International Protection). The higher the IP protection class, the better the protection against dirt and humidity.

Motor with connector plug and encoder
The encoder sends signals from the motor to the control unit. With the encoder the precise linear motion of the drylin® unit can be controlled. Encoder = higher reliability of the equipment.

Motor with plug, encoder and brake
The brake can hold the load in place when the motor is stopped. This is used as a safety feature in case of power cuts – recommended for vertically installed systems.

drylin® E NEMA stepper motors: sizes

NEMA17:
The small one with lots of power
This little motor can be impressive with good torque and high speeds. Reliable, rapid movements of smaller loads.

- The holding torque Mo is 0,5 Nm
- The mating face is 42 x 42 mm

NEMA23:
The most popular stepper motor size
High torque and high speed are the main advantages. This motor is the best choice for most applications in the medium load range.

- The holding torque Mo is 2,0 Nm
- The mating face is 56 x 56 mm

NEMA23XL:
The power motor, medium size
An advanced development of the typical NEMA23 with approximately double the torque. The mounting dimensions are the same as in the NEMA23, so that it can be used on the same mounting face.

- The holding torque Mo is 3,5 Nm
- The mating face is 60 x 60 mm

NEMA34:
Large size, power package
Applications with high loads should use this large type. Heavy duty or parallel twin rail superstructures are typical working environment.

- The holding torque Mo is 5,9 Nm
- The mating face is 86 x 86 mm

www.igus.eu/drylinE-motordata

drylin® E accessories

igus® motors
- Stepper and DC motors
- 25 versions
- High protection class or Low-Cost-design

connector cables
- For motors
- Encoder, brake and connectors
- 24 versions from stock

motor flanges
- To connect with igus® stepper motors or customized motors

couplings
- 50 versions from stock
- Vibration-dampening and flexible

position switches
- High protection class
- Precision fit to the linear guide rail

...design kit...

drylin® E – configurate and order individually

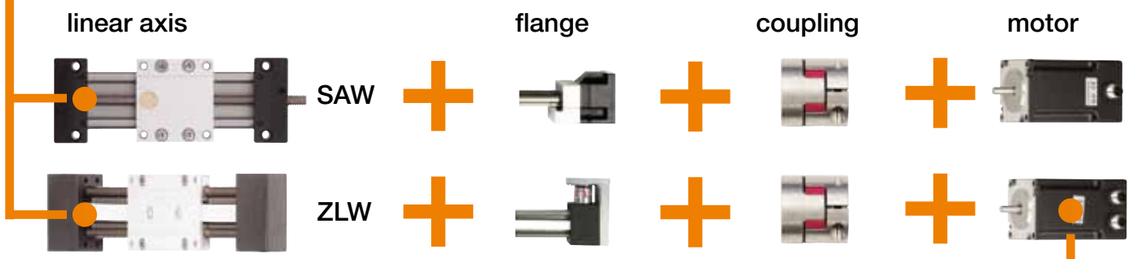
"Search"

drylin® product finder for linear slide tables

Just enter useful application-data and compare adequate Linear Slide Tables online and then configure.

▶ www.igus.eu/sht-productfinder

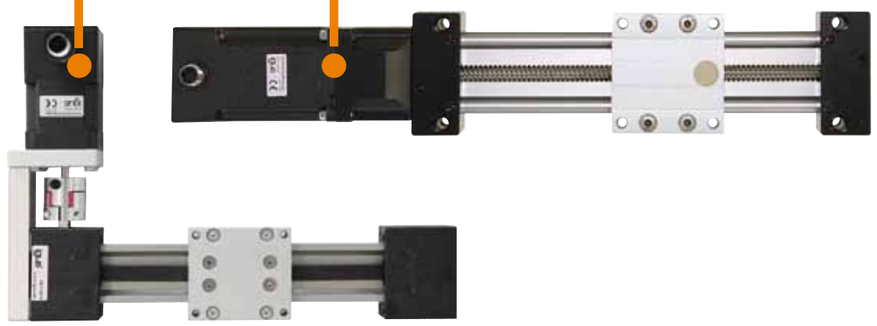
"Configure"



"Ready"

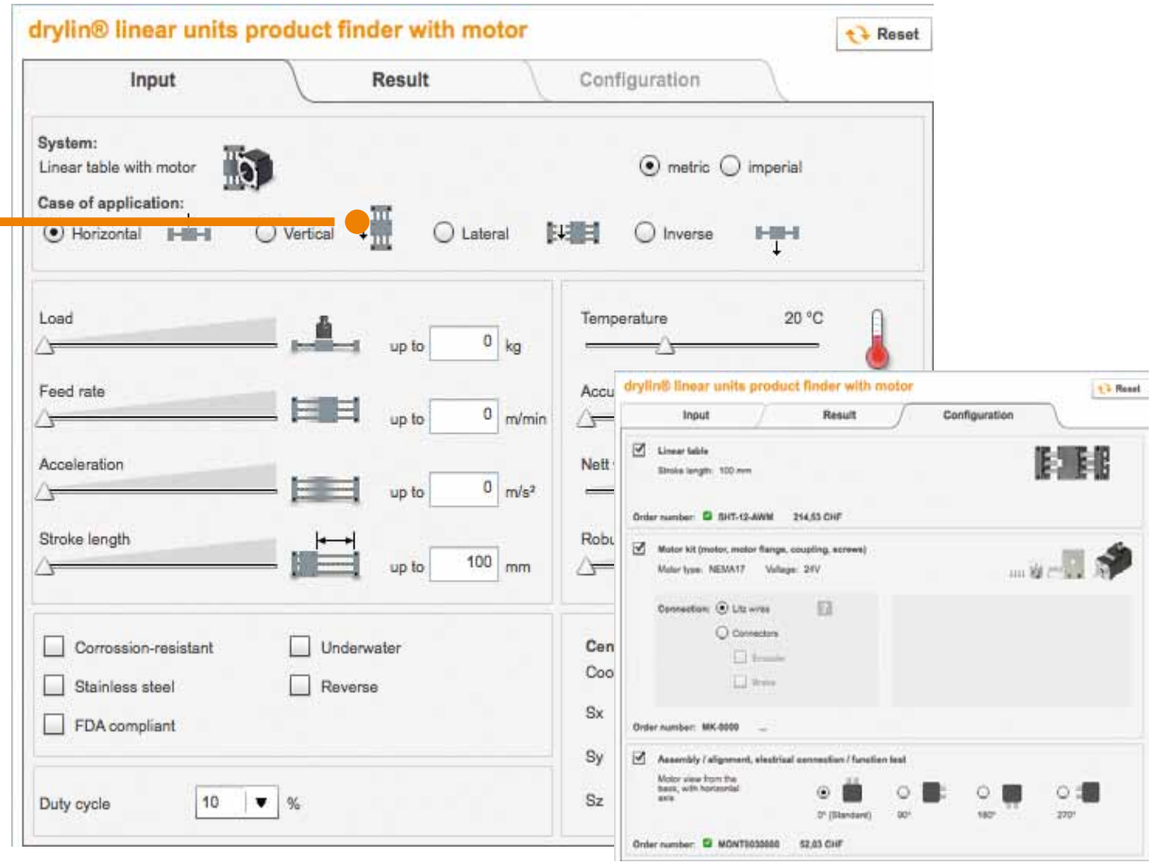
Linear actuators with motor

- Lightweight
- Cost-effective
- 100 % lubrication-free
- Mor than 50 versions available from stock in 3-4 days



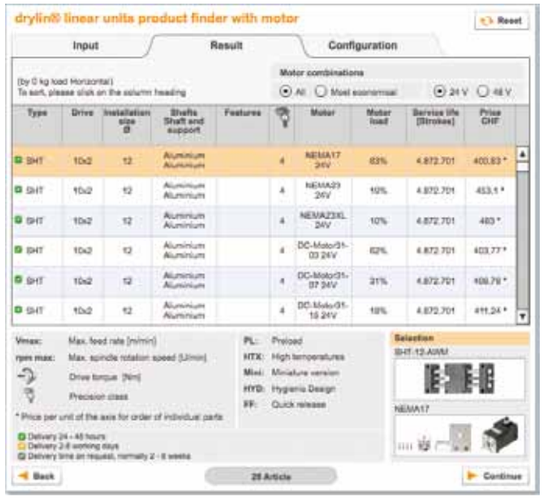
...find online...

calculate, compare and select the right drive units



In addition to calculating the correct linear unit, the product finder for drylin® drive technology also provides for the option to calculate the correct motors, incl. service life. The identified solutions can be directly configured and ordered using the same tool.

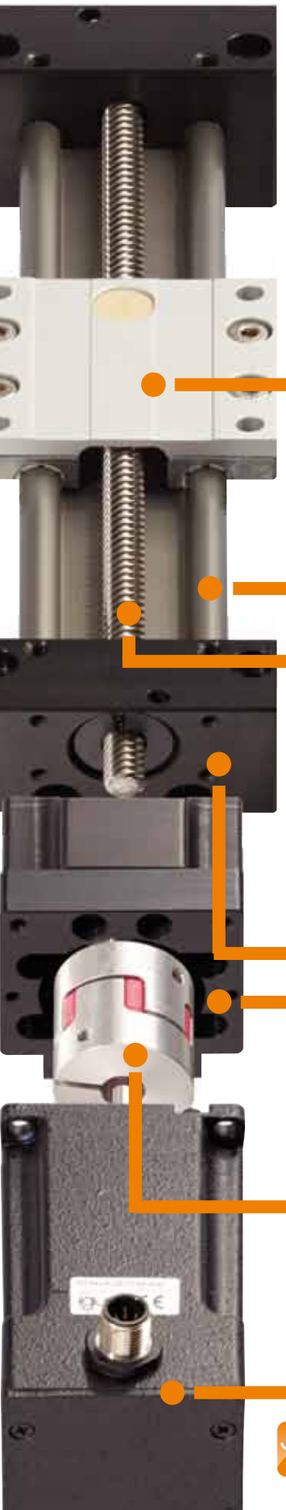
- Linear solutions tailored to your application, incl. motor if desired
- Configurable accessories and order function
- When selecting motor incl. load calculation
- Easy to understand results screen to select the ideal solution
- Convenient access to other functions, such as online catalog, shopping cart, downloads, etc.



www.igus.eu/eu/drylinE-finder

...Linear axes with motor...SAW...

Linear axes with lead screw drive



Lubricant and maintenance-free drylin® W linear guide systems

Hard anodized drylin® W aluminum profile (high profile shape)

4 trapezoidal thread pitches
3 high helix thread pitches

Shaft end support from aluminum or plastics

Motor flange: motor connections

Claw coupling

igus® DC motors
- Cost-effective
- Maintenance-free
- 4 versions
- Battery operation possible

igus® stepper motors
- Cost-effective
- Maintenance-free
- 5 installation sizes
- 17 versions

www.igus.eu/eu/drylinSAW

When to use it?

- For format adjustments and to position medium loads
- In extreme environments
- When a cost-effective, ready-to-install solution is needed
- When it should be low noise
- For unsupported installations

When not to use it?

- When high loads need to travel at highly dynamic forces
- When positioning accuracy < 0.1 mm is required
- When high running performance is required in continuous operation

Order key

SAW-1040-EPL-07-S0020RG-450-17-M-S-000

Type

Installation size
0630
1040
1660

Design
SAW-0630
S: Standard
M: Mono carriage (plastic)
SAW-1040/1660
S: Standard
E: Adjustable linear bearing
PL: Pretensioned (50N)
EPL: Adjustable, pretensioned (50 N)

Carriage length
SAW-0630
06: 60 mm (Standard)
SAW-1040
07: 69 mm (Standard)
10: 100 mm
15: 150 mm
SAW-1660
15: 150 mm (Standard)

Lead screw material:
S: steel
E: stainless steel

Lead screw pitch
SAW-0630
0015: TR8x1,5 mm (steel)
0150: SG8x15 mm (stainless steel)
SAW-1040
0020: TR10x2 mm (steel/stainless steel)
0030: TR10x3 mm (steel/stainless steel)
0120: SG10x12 mm (stainless steel)
0500: SG10x50 mm (stainless steel)
SAW-1660
0040: TR14x4 mm (steel/stainless steel)

Electrical connection alignment
000: 0° (Standard)
090: 90°
180: 180°
270: 270°

Assembly
S: Assembly on the drive pin (standard)

Motor option
L: Litz wires
M: Metric connectors
C: Encoders
D: Encoder and brake
F: Low profile connector (DC-Motor)

Motor size
17: NEMA17: recommended axis 0630
23: NEMA23: recommended axis 1040
23XL: NEMA23XL: recommended axis 1040
DC01: DC-Motor: 0,1 Nm recommended axis 0630
DC03: DC-Motor: 0,3 Nm recommended axis 0630/1040
DC07: DC-Motor: 0,7 Nm recommended axis 0630
DC15: DC-Motor: 1,5 Nm recommended axis 1040/1660

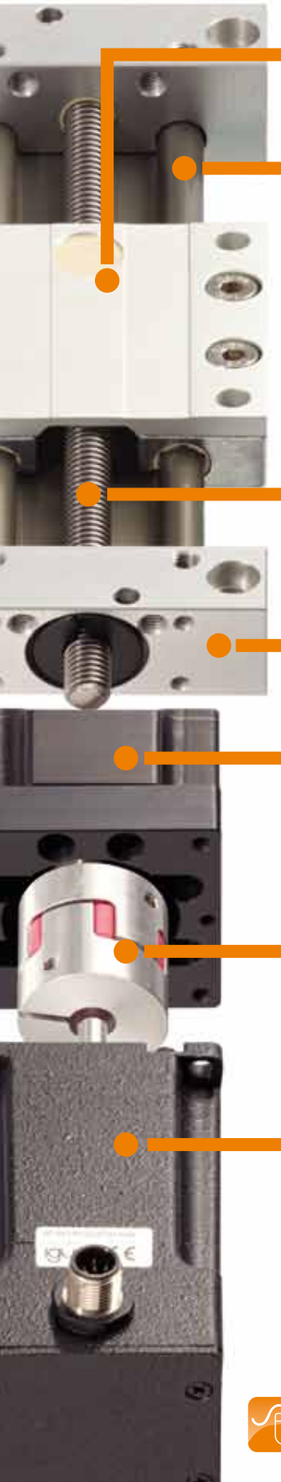
Stroke length
SAW-0630: max. 300 mm
SAW-1040: max. 500 mm
SAW-1660: max 750 mm

Lead screw end
G: Threaded end

Thread
R: Right | **L:** Left

...Linear axes with motor...SLW...

Linear axes with lead screw drive



Lubricant and maintenance-free drylin® W linear profile guides

Hard anodized drylin® W aluminum profile (plain profile shape)

4 trapezoidal thread pitches
3 high helix thread pitches

Shaft end supports are made from anodized aluminum or from plastics

Motor flange: motor connections

Claw coupling

igus® DC motors
- Cost-effective
- Maintenance-free
- 4 versions
- Battery operation possible

igus® stepper motors
- Cost-effective
- Maintenance-free
- 5 installation sizes
- 17 versions

When to use it?

- For format adjustments and to position medium loads
- In extreme environments
- When a cost-effective, ready-to-install solution is needed
- When it should be low noisel
- When installation space is limited

When not to use it?

- When high loads must be motion controlled in a highly dynamic manner
- When positioning accuracy < 0.1 mm is necessary
- When high running performance is required in continuous operation

www.igus.eu/eu/drylinSLW

Order key

SLW-1040-EPL-07-S 0020 R G-750-17-L-S-000

Type

Installation size
- 0630
- 1040/1080
- 1660
- 2080

Design

SLW-0630
- **BB:** Ball bearing

SLW-1040/1080/1660/2080
- **S:** Standard
- **E:** Adjustable linear bearing
- **PL:** Pretensioned (50N)
- **EPL:** Adjustable, pretensioned (50 N)
- **BB:** Ball bearing
- **BBE:** Ball bearing, Adjustable linear bearing
- **BBPL:** Ball bearing, pretensioned (50 N)
- **BBEPL:** Ball bearing, Adjustable linear bearing, pretensioned (50N)

Carriage length

SLW-0630
- **06:** 60 mm (Standard)

SLW-1040
- **07:** 69 mm (Standard)
- **10:** 100 mm
- **15:** 150 mm

SLW-1080/1660/2080
- **15:** 150 mm (Standard)

Lead screw material
- **S:** steel
- **E:** stainless steel

Lead screw pitch

SLW-0630
- **0015:** TR8x1,5 mm (steel)
- **0150:** SG8x15 mm (stainless steel)

SLW-1040/1080
- **0020:** TR10x2 mm (steel/stainless steel)
- **0030:** TR10x3 mm (steel/stainless steel)
- **0120:** SG10x12 mm (stainless steel)
- **0500:** SG10x50 mm (stainless steel)

SLW-1660
- **0040:** TR14x4 mm (steel/stainless steel)

SLW-2080
- **0040:** TR18x4 mm (steel/stainless steel)

Stroke length
- **SLW-0630:** max. 300 mm
- **SLW-1040/1080:** max. 750 mm (BB: max.500 mm)
- **SLW-1660:** max 750 mm
- **SLW-2080:** max 1000 mm (BB: 900 mm)

Lead screw end
- **G:** Threaded end
- **Z:** End 12h9 (with SLW-2080)

Thread
- **R:** Right | **L:** Left

Electrical connection alignment
- **000:** 0° (Standard)
- **090:** 90°
- **180:** 180°
- **270:** 270°

Assembly
- **S:** Assembly on the drive pin (standard)

Motor option
- **L:** Litz wires
- **M:** Metric connectors
- **C:** Encoders
- **D:** Encoder and brake
- **F:** Low profile connector (DC motor)

Motor size/Recommended axis
- **17:** NEMA17 / 0630
- **23:** NEMA23 / 1040, 1080
- **23XL:** NEMA23XL / 1040, 1080, 1660
- **34:** NEMA 34 / 2080
- **DC01:** DC-Motor: 0,1 Nm / 0630
- **DC03:** DC-Motor: 0,3 Nm / 0630, 1040
- **DC07:** DC-Motor: 0,7 Nm / 1040
- **DC15:** DC-Motor: 1,5 Nm / 1040, 1660

...Linear axes with motor...SHT...

Linear axes with lead screw drive

3 shaft materials

4 trapezoidal thread pitches
3 high helix thread pitches

Lubricant and maintenance-free with drylin® liners and lead screw nuts

Carriages and shaft end supports from anodized aluminum

Motor flange: motor connections

Claw coupling

igus® DC motors
- Cost-effective
- Maintenance-free
- 4 versions
- Battery operation possible

igus® stepper motors
- Cost-effective
- Maintenance-free
- 5 installation sizes
- 17 versions

When to use it?

- For format adjustments and for positioning medium loads
- In extreme environments
- When a cost-effective, ready-to-install solution is needed
- When it should be low noise
- With low profile installation space

When not to use it?

- When high loads must be motion controlled in a highly dynamic manner
- When positioning accuracy < 0.1 mm is necessary
- If high running performance is required in continuous operation

www.igus.eu/eu/drylinSHT

Order key

SHT-12-BBZB-AWM-S0020RG-750-17-L-S-000

Type

Installation size
12
20
30

Design
S: Standard
PL: Pretensioned (50 N)
BB: Ball bearing
BBPL: Ball bearing, pretens. (50 N)
BBZB: Ball bearing, Zero-Backslash (only SHT-12 with SG10x12)

Shaft material
AWM: Hard-anodized aluminum
SWM: Cf53 (1.1213)
EWM: stainless steel X105 (1.4125)

Lead screw material
S: steel
E: stainless steel

Lead screw pitch
SHT-12
0020: T10x2 mm (steel/stainless steel))
0030: TR10x3 mm (steel/stainless steel))
0120: SG10x12 mm (stainless steel))
0500: SG10x50 mm (stainless steel))
SHT-20
0040: TR18x4 mm (steel/stainless steel))
SHT-30
0050: TR24x5 mm (steel/stainless steel))

Thread
R: Right | **L:** Left

Lead screw end
G: Threaded end (with SHT-12)
Z: End 12h9 (with SHT-20)
Z: End 14h9 (with SHT-30)

Stroke length
SHT-12: max. 750 mm (BB max. 500 mm)
SHT-20: max. 1000 mm (BB max. 900 mm)
SHT-30: max 1250 mm (BB max. 1000 mm)

Motor size
17: NEMA17: recommended axis 12
23: NEMA23: recommended axis 12/20
23XL: NEMA23XL: recommended axis 20
34: NEMA34: recommended axis 20/30
DC01: DC-Motor: 0,1 Nm recommended axis 12
DC03: DC-Motor: 0,3 Nm recommended axis 12
DC07: DC-Motor: 0,7 Nm recommended axis 12
DC15: DC-Motor: 1,5 Nm recommended axis 12

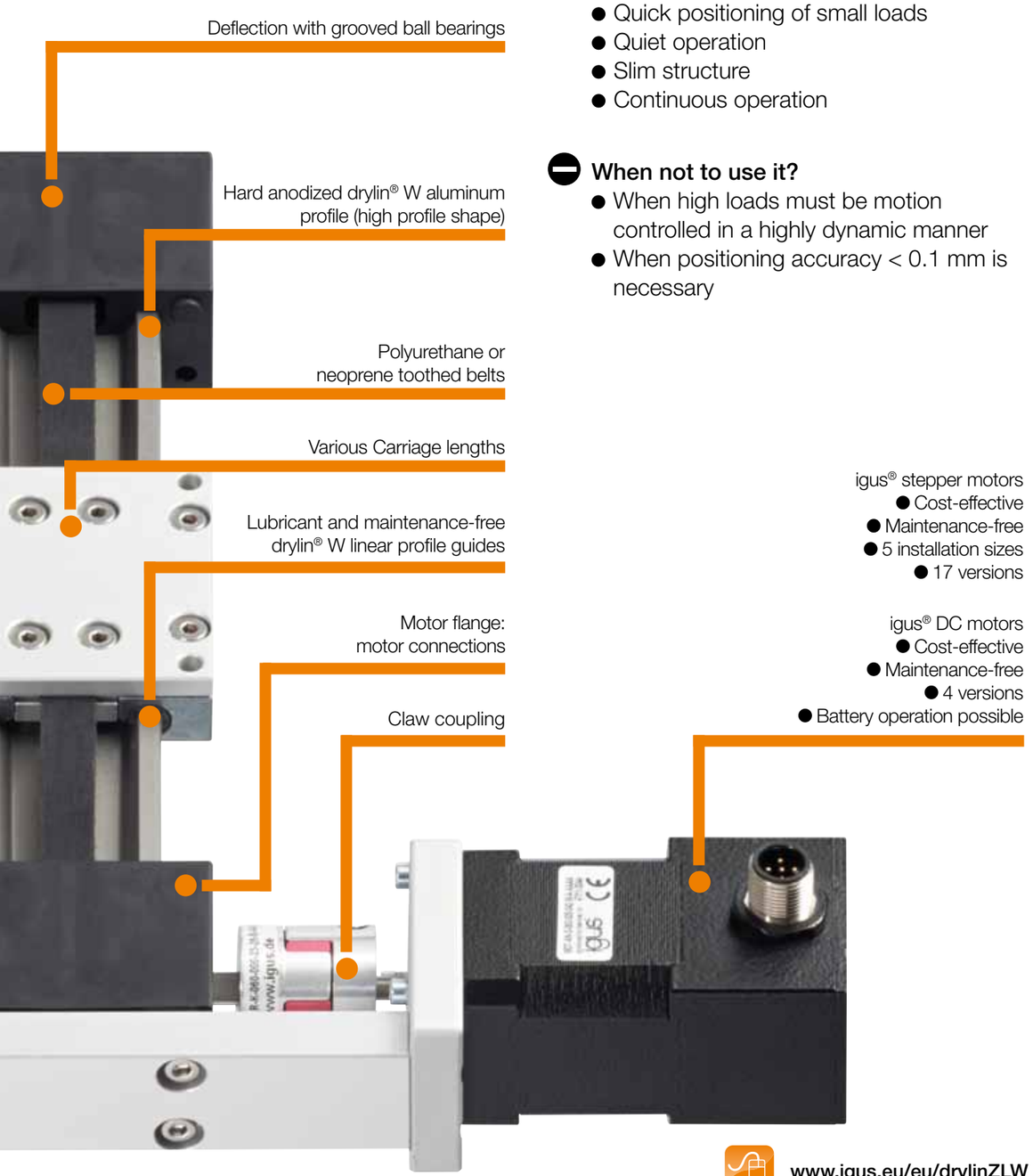
Motor option
L: Litz wires
M: Metric connectors
C: Encoders
D: Encoder and brake
F: Low profile connector (DC motor)

Assembly
S: Assembly on the drive pin (standard)

Electrical connection alignment
000: 0° (Standard)
090: 90°
180: 180°
270: 270°

...Linear axes with motor...ZLW...

Linear axes with toothed belt



When to use it?

- Quick positioning of small loads
- Quiet operation
- Slim structure
- Continuous operation

When not to use it?

- When high loads must be motion controlled in a highly dynamic manner
- When positioning accuracy < 0.1 mm is necessary

igus® stepper motors
- Cost-effective
- Maintenance-free
- 5 installation sizes
- 17 versions

igus® DC motors
- Cost-effective
- Maintenance-free
- 4 versions
- Battery operation possible

www.igus.eu/eu/drylinZLW

Order key

ZLW-1040-02-B-60-L-750-17-M-S-000

Type
ZLW

Installation size
0630
1040
1660

Version
02: With grooved ball bearings

Design
S: Type series - standard
B: Type series - basic

Carriage length
60: 60 mm (only ZLW 0630)
100: 100 mm
150: 150 mm
200: 200 mm
250: 250 mm

Drive pins
L: Left-hand drive pin
R: Right-hand drive pin
L/R: Drive both sides

Stroke length
ZLW-0630: max. 1.000 mm
ZLW-1040: max. 2.000 mm
ZLW-1660: max. 3.000 mm

Electrical connection alignment
000: 0° (Standard)
090: 90°
180: 180°
270: 270°

Assembly
S: Assembly with one drive pin (standard)

Motor option
L: Litz wires
M: Metric connectors
C: Encoders
D: Encoder and brake
F: Low profile connector (DC motor)

Motor size
17: NEMA17: recommended axis 0630
23: NEMA23: recommended axis 1040
23XL: NEMA23XL:recommended axis 1040
34: NEMA34: recomm. axis 1040/1660
DC01: DC-Motor 0,1 Nm: recommended axis 0630
DC03: DC-Motor: 0,3 Nm: recommended axis 0630
DC07: DC-Motor: 0,7 Nm recommended axis 1040
DC15: DC-Motor: 1,5 Nm recommended axis 1040

...Linear axes with motor...SLN&GRW.

Miniature linear axis with lead screw drive

Base body made from corrosion resistant rugged plastic

Lubricant-free linear guide using polymer plain bearings

Lubricant and maintenance-free drylin® N low profile linear guides

1 trapezoidal thread pitch, 1 high helix thread pitch

Motor flange: motor connections

igus® stepper motors
- Cost-effective
- Maintenance-free
- 1 installation size
- 2 versions

Order key

SLN-27-02-0050-100-11-L-S-000

Type
SLN

Installation size
27

Design
02: With motor

Lead screw pitch
SLN-27:
0008: M5x0,8 mm (stainless steel)
0050: SG5x5 mm (stainless steel)

Stroke length
SLN-27: max. 250 mm

Motor size
11: NEMA11

Motor option
L: Litz wires
C: Encoders

Assembly
S: Assembly with one drive pin (standard)

Motor pin alignment
000: 0° (Standard)
090: 90°
180: 180°
270: 270°

www.igus.eu/eu/drylinSLN

Cantilever axis with rack drive

Aluminum base body

Assembly option for limit reference switch already integrated

igus® stepper motors
- Cost-effective
- Maintenance-free
- 1 installation size
- 4 Versions

Lubricant and maintenance-free drylin® N low profile linear guide

Order key:

GRW-0630-A-80-150-17-L-S-000

Type
GRW

Installation size
0630

Design
A: Standard

Carriage length
80: 80 mm

Hublänge
GRW-0630: max. 150 mm

Motor size
17: NEMA17

Motor option
L: Litz wires
M: Metric connectors
C: Encoders
D: Encoder and brake

Assembly
S: Assembly with one drive pin (standard)

Motor pin alignment
000: 0° (Standard)
090: 90°
180: 180°
270: 270°

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