

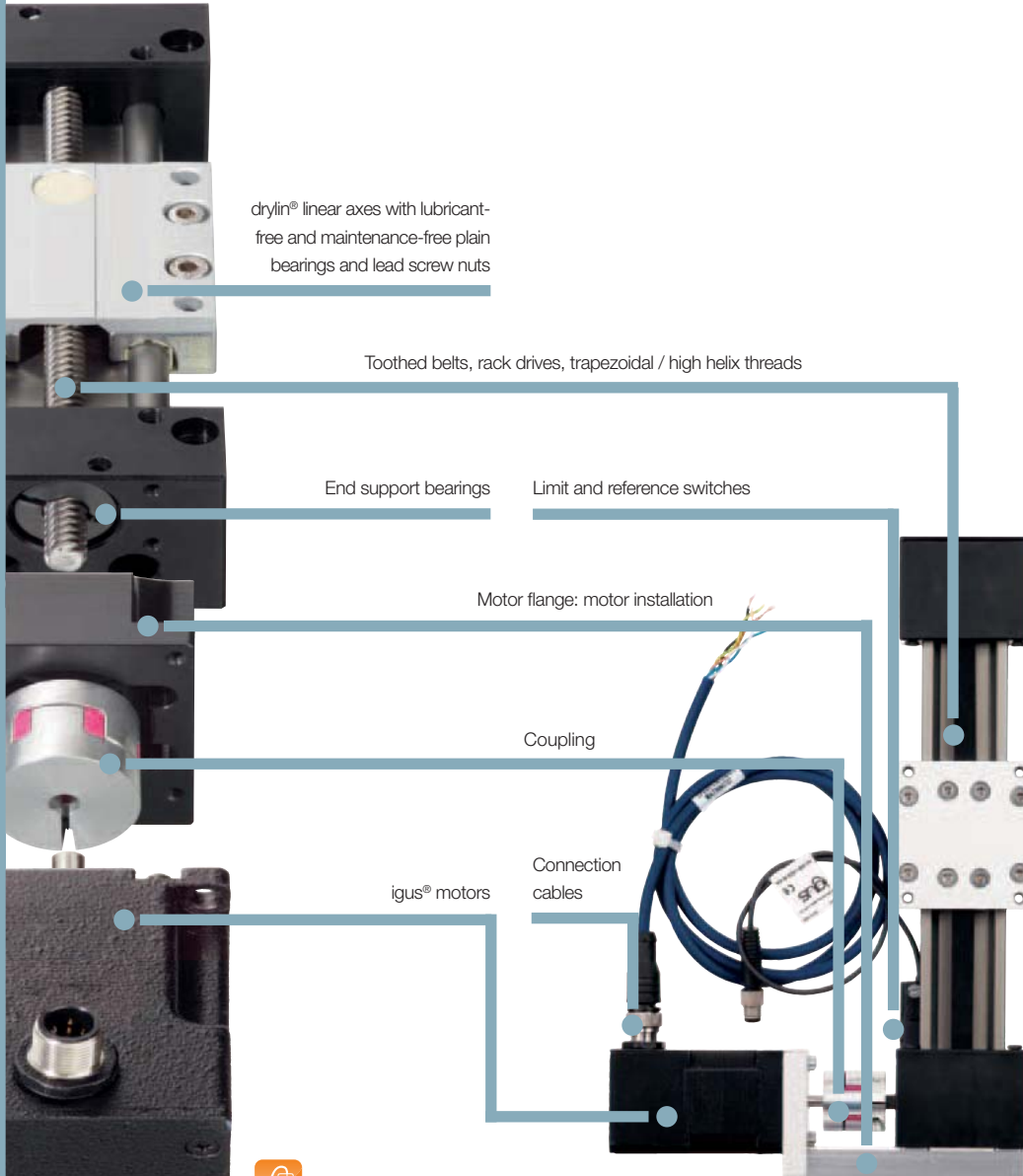
drylin® E electrical drive technology: Linear axes with motor



- lubricant-free linear modules
- clean operation, insensitive to dirt
- toothed belts, rack drives, trapezoidal / high helix threads
- large range of accessories
- cost-effective
- configure online

drylin® E | Linear Axes with Motor

“E” means electrical and is a logical design extension of the drylin® drive technology design kit. The lubricant-free linear drives ensure clean and also dirt resistant operation. Ready to fit linear actuators and drive units can be equipped with either a lead screw drive or toothed belt. In addition to the accessories for manual adjustments (hand wheel, cursor, etc.), the drylin® E with hybrid stepper motors, DC motors, initiators and the proven chainflex® motor cables complete the igus® product range.



drylin® linear axes with lubricant-free and maintenance-free plain bearings and lead screw nuts

Toothed belts, rack drives, trapezoidal / high helix threads

End support bearings

Limit and reference switches

Motor flange: motor installation

Coupling

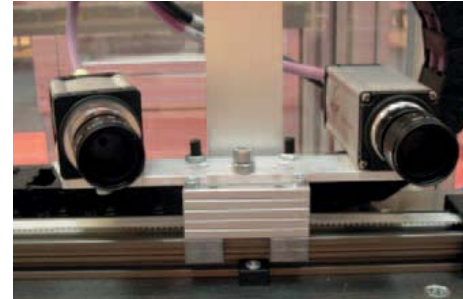
igus® motors

Connection cables



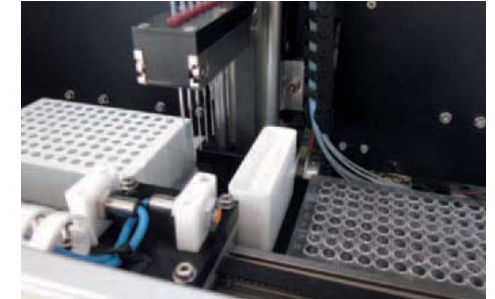
More information ► www.igus.eu/eu/drylinE

drylin® E | Application examples



Camera adjustment

Quiet, vibration and lubricant-free operation is given on this camera adjustment on a conveyor belt using a drylin® ZLW toothed belt axis.



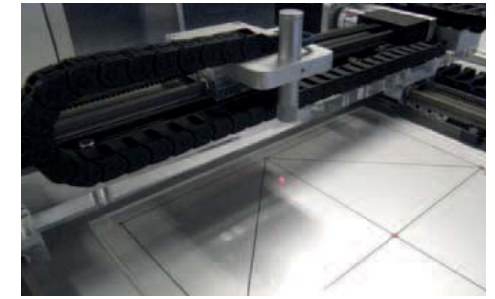
Sampler/pipettor

Space-saving telescope adjustment through compact and lubricant-free drylin® ZLW toothed belt axes. (Sierra Sensors GmbH)



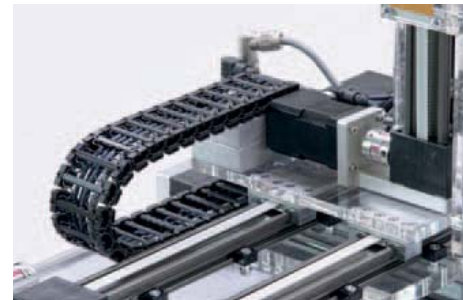
Adjustment of inspection equipment

drylin® ZLW toothed belt axis in the inspection camera adjustment for the position inspection of seal rings. (OLPE Jena GmbH)



Sensor adjustment/Measuring systems

drylin® ZLW-0630 toothed belt axes as a two-dimensional gantry (X,Y axis) to adjust a laser measuring head. Compact, lightweight and maintenance-free due to polymer plain bearings.



Pick and place

Fast and maintenance-free handling with drylin® toothed belt as a three-dimensional gantry (X,Y,Z axis).



Handling of small parts

The tough and lubricant-free design of the ZLW and drylin® W profiles allows a long and maintenance-free process cycle.



www.igus.eu/drylinE-applications

Linear axes with lead screw drive



When to use it?

- For format adjustments and to position medium loads
- In extreme environments
- When a cost-effective, ready-to-fit solution is needed
- For 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 speed is required in continuous operation



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

Coupling

- | | |
|---|---|
| <p>igus® DC motors</p> <ul style="list-style-type: none"> ● Cost-effective ● Maintenance-free ● 4 versions ● Battery operation possible | <p>igus® stepper motors</p> <ul style="list-style-type: none"> ● Cost-effective ● Maintenance-free ● 5 installation sizes ● 17 versions |
|---|---|

Drawings, dimensions, technical specifications, such as SAW ► page 1180



More information ► www.igus.eu/eu/drylinSAW



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 (50 N)
- 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 shaft (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 lead screw drive

**+** When to use it?

- For format adjustments and to position medium loads
- When a compact solution with optimised useful full-length ratio is required
- For special requirement on the running behaviour
- When a cost-effective, ready-to-fit solution is needed
- For 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 speed is required in continuous operation

Shaft end support made of aluminum

Hard anodized drylin® W
aluminum profile (high profile shape)2 trapezoidal thread pitches
3 high helix thread pitchesLubricant and maintenance-free
drylin® W linear guide systems

igus® stepper motors

- Cost-effective
- Maintenance-free
- 2 installation sizes



Order key

SAWC-1040-EPL-07-S0020RG-300-17-L-S-090

Type

Installation size

0630
1040

Design

SAWC-0630

S: Standard
M: Mono carriage (plastic)

SAWC-1040

S: Standard
E: Adjustable linear bearing
PL: Preload (50 N)
EPL: Adjustable, preload (50 N)

Carriage length

SAWC-0630

06: 60 mm (Standard)

SAWC-1040

07: 69 mm (Standard)
10: 100 mm
15: 150 mm

Lead screw material

S: Ateel
E: Stainless steel

Lead screw pitch

SAWC-0630

0015: TR8x1,5 mm (stainless steel)
0150: SG8x15 mm (stainless steel)

SAWC-1040

0020: TR10x2 mm (stainless steel)
0120: SG10x12 mm (stainless steel)
0500: SG10x50 mm (stainless steel)

Electrical connection alignment

000: 0° (Standard)
090: 90°
180: 180°
270: 270°

Assembly

S: Assembly on the drive
shaft (standard)

Motor option

L: Litz wires

Motorgröße

17: NEMA17:
recommended axis 0630
23: NEMA23:
recommended axis 1040

Stroke length

SAWC-0630: Max. 300 mm
SAWC-1040: Max. 500 mm

Lead screw end

G: Threaded end

Thread

R: Right-handed



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

Coupling

- | | |
|---|---|
| <ul style="list-style-type: none"> ● igus® DC motors ● Cost-effective ● Maintenance-free ● 4 versions ● Battery operation possible | <ul style="list-style-type: none"> ● 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-fit solution is needed
 - For low noise
 - When installation space is limited

- **When not to use it?**
- When high loads must be motion controlled at high dynamic speeds
 - When positioning accuracy < 0.1 mm is necessary
 - When high running speed is required in continuous operation

Drawings, dimensions, technical specifications, such as SLW ► page 1173



More information ► www.igus.eu/eu/drylinSLW

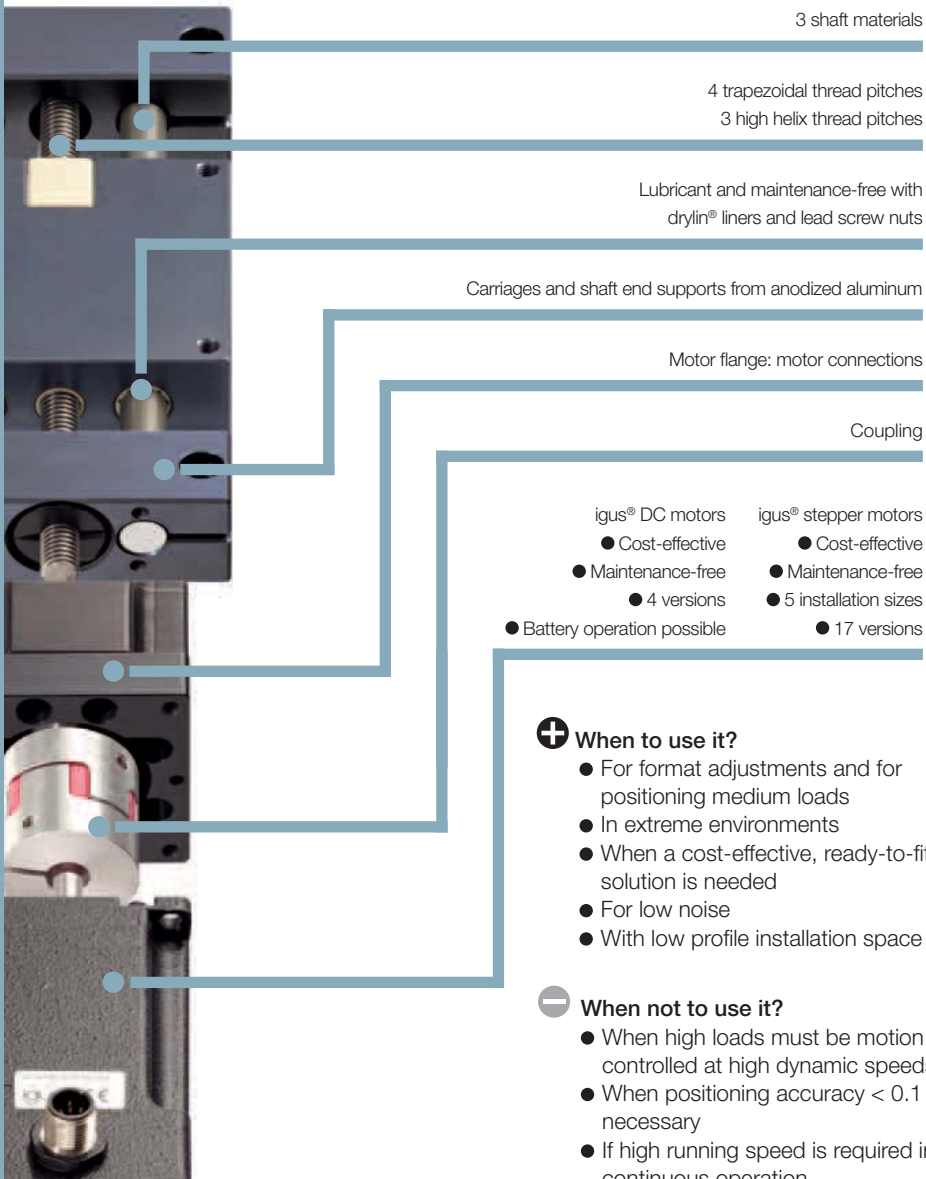


Order key

SLW-1040-EPL-07-S0020 R G-750-17-L-S-000

- | | |
|--|--|
| <p>Type</p> <p>Installation size</p> <p>0630
1040/1080
1660
2080</p> <p>Design</p> <p>SLW-0630</p> <p>BB: Ball bearing</p> <p>SLW-1040/1080/1660/2080</p> <p>S: Standard</p> <p>E: Adjustable linear bearing</p> <p>PL: Pretensioned (50 N)</p> <p>EPL: Adjustable, pretensioned (50 N)</p> <p>BB: Ball bearing</p> <p>BBE: Ball bearing, Adjustable linear bearing</p> <p>BBPL: Ball bearing, pretensioned (50 N)</p> <p>BBEPL: Ball bearing, adjustable linear bearing, pretensioned (50 N)</p> <p>Carriage length</p> <p>SLW-0630</p> <p>06: 60 mm (Standard)</p> <p>SLW-1040</p> <p>07: 69 mm (Standard)</p> <p>10: 100 mm</p> <p>15: 150 mm</p> <p>SLW-1080/1660/2080</p> <p>15: 150 mm (Standard)</p> <p>Lead screw material:</p> <p>S: steel</p> <p>E: stainless steel</p> <p>Lead screw pitch</p> <p>SLW-0630</p> <p>0015: TR8x1.5 mm (steel)</p> <p>0150: SG8x15 mm (stainless steel)</p> <p>SLW-1040/1080</p> <p>0020: TR10x2 mm (steel/stainless steel)</p> <p>0030: TR10x3 mm (steel/stainless steel)</p> <p>0120: SG10x12 mm (stainless steel)</p> <p>0500: SG10x50 mm (stainless steel)</p> <p>SLW-1660</p> <p>0040: TR14x4 mm (steel/stainless steel)</p> <p>SLW-2080</p> <p>0040: TR18x4 mm (steel/stainless steel)</p> | <p>Electrical connection alignment</p> <p>000: 0° (standard)</p> <p>090: 90°</p> <p>180: 180°</p> <p>270: 270°</p> <p>Assembly</p> <p>S: Assembly on the drive shaft (standard)</p> <p>Motor option</p> <p>L: Litz wires</p> <p>M: Metric connectors</p> <p>C: Encoders</p> <p>D: Encoder and brake</p> <p>F: Low profile connector (DC motor)</p> <p>Motor size/Recommended axis</p> <p>17: NEMA17 / 0630</p> <p>23: NEMA23 / 1040, 1080</p> <p>23XL: NEMA23XL / 1040, 1080, 1660</p> <p>34: NEMA 34 / 2080</p> <p>DC01: DC-Motor: 0.1 Nm / 0630</p> <p>DC03: DC-Motor: 0.3 Nm / 0630, 1040</p> <p>DC07: DC-Motor: 0.7 Nm / 1040</p> <p>DC15: DC-Motor: 1.5 Nm / 1040, 1660</p> <p>Stroke length</p> <p>SLW-0630: max. 300 mm</p> <p>SLW-1040/1080: max. 750 mm (BB: max.500 mm)</p> <p>SLW-1660: max 750 mm</p> <p>SLW-2080: max. 1,000 mm (BB: 900 mm)</p> <p>Lead screw end</p> <p>G: Threaded end</p> <p>Z: End 12h9 (with SLW-2080)</p> <p>Thread</p> <p>R: Right L: Left</p> |
|--|--|

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

Coupling

- | | |
|---|---|
| <p>igus® DC motors</p> <ul style="list-style-type: none"> ● Cost-effective ● Maintenance-free ● 4 versions ● Battery operation possible | <p>igus® stepper motors</p> <ul style="list-style-type: none"> ● 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-fit solution is needed
 - For low noise
 - With low profile installation space

- When not to use it?
- When high loads must be motion controlled at high dynamic speeds
 - When positioning accuracy < 0.1 mm is necessary
 - If high running speed is required in continuous operation

Drawings, dimensions, technical specifications, such as SHT ► page 1157



More information ► www.igus.eu/eu/SHT



Order key

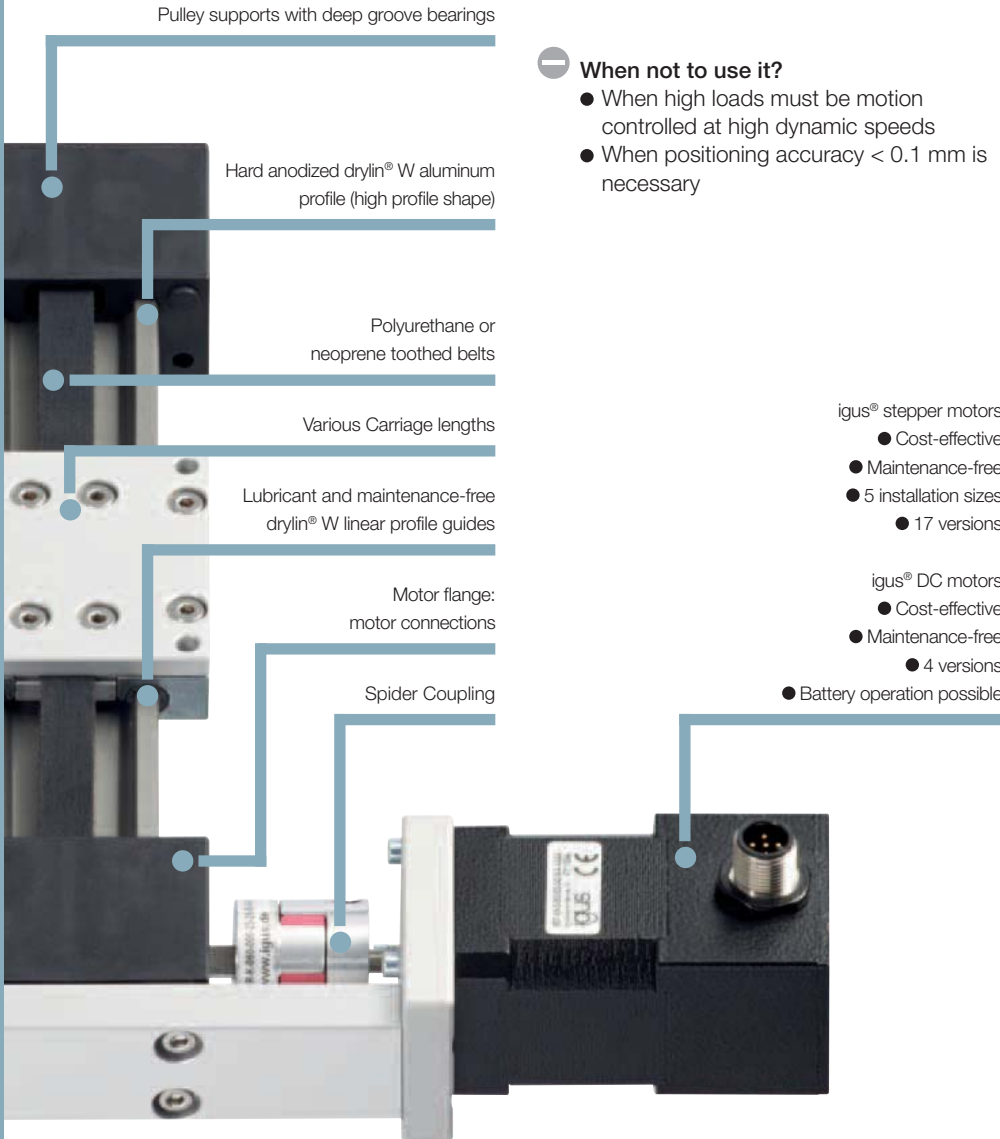
SHT-12-BBZB-AWM-S0020RG-750-17-L-S-000

<p>Type</p> <p>Installation size</p> <p>12 20 30</p> <p>Design</p> <p>S: Standard PL: Pretensioned (50 N) BB: Ball bearing BBPL: Ball bearing, preload. (50 N) BBZB: Ball bearing, zero backlash (only SHT-12 with SG10x12)</p> <p>Shaft material</p> <p>AWM: Hard-anodized aluminum SWM: Cf53 (1.1213) EWM: stainless steel X105 (1.4125)</p> <p>Lead screw material:</p> <p>S: steel E: stainless steel</p> <p>Lead screw pitch</p> <p>SHT-12</p> <p>0020: TR10x2 mm (steel/stainless steel) 0030: TR10x3 mm (steel/stainless steel) 0120: SG10x12 mm (stainless steel) 0500: SG10x50 mm (stainless steel)</p> <p>SHT-20</p> <p>0040: TR18x4 mm (steel/stainless steel)</p> <p>SHT-30</p> <p>0050: TR24x5 mm (steel/stainless steel)</p> <p>Thread</p> <p>R: Right L: Left</p> <p>Lead screw end</p> <p>G: Threaded end (with SHT-12) Z: End 12h9 (with SHT-20) Z: End 14h9 (with SHT-30)</p>	<p>Electrical connection alignment</p> <p>000: 0° (standard) 090: 90° 180: 180° 270: 270°</p> <p>Assembly</p> <p>S: Assembly on the drive shaft (standard)</p> <p>Motor option</p> <p>L: Litz wires M: Metric connectors C: Encoders D: Encoder and brake F: Low profile connector (DC motor)</p> <p>Motor size</p> <p>17: NEMA17: recommended axis 12</p> <p>23: NEMA23: recommended axis 12/20</p> <p>23XL: NEMA23XL: recommended axis 20</p> <p>34: NEMA34: recommended axis 20/30</p> <p>DC01: DC-Motor: 0.1 Nm recommended axis 12</p> <p>DC03: DC-Motor: 0.3 Nm recommended axis 12</p> <p>DC07: DC-Motor: 0.7 Nm recommended axis 12</p> <p>DC15: DC-Motor: 1.5 Nm recommended axis 12</p> <p>Stroke length</p> <p>SHT-12: max. 750 mm (BB max. 500 mm)</p> <p>SHT-20: max. 1,000 mm (BB max. 900 mm)</p> <p>SHT-30: max. 1,250 mm (BB max. 1,000 mm)</p>
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Linear axes with toothed belt

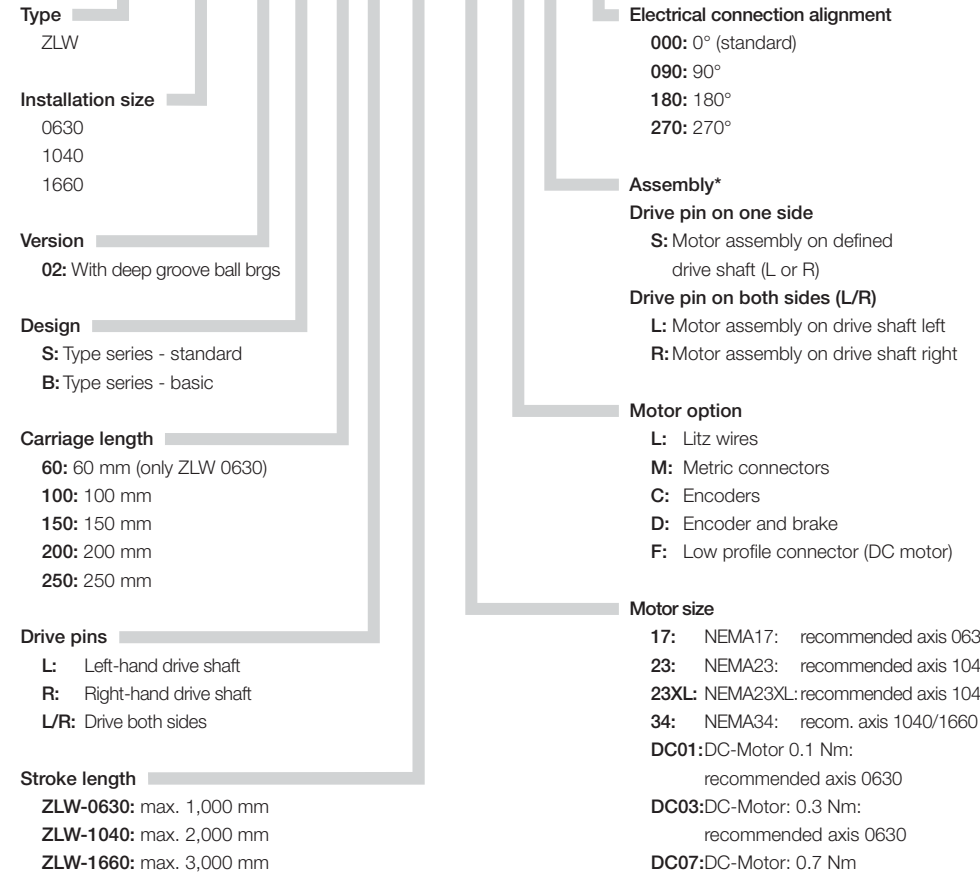


- +** When to use it?
- Fast positioning of small loads
 - Quiet operation
 - Slim design
 - Continuous operation
- When not to use it?
- When high loads must be motion controlled at high dynamic speeds
 - When positioning accuracy < 0.1 mm is necessary



Order key

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



* Assembly example, drive pin on one side (connection alignment 0°):



S: Motor assembly on defined drive shaft (L or R)

* Assembly example, drive pin on both sides (connection alignment 0°):



L: Motor assembly on drive shaft left

R: Motor assembly on drive shaft right

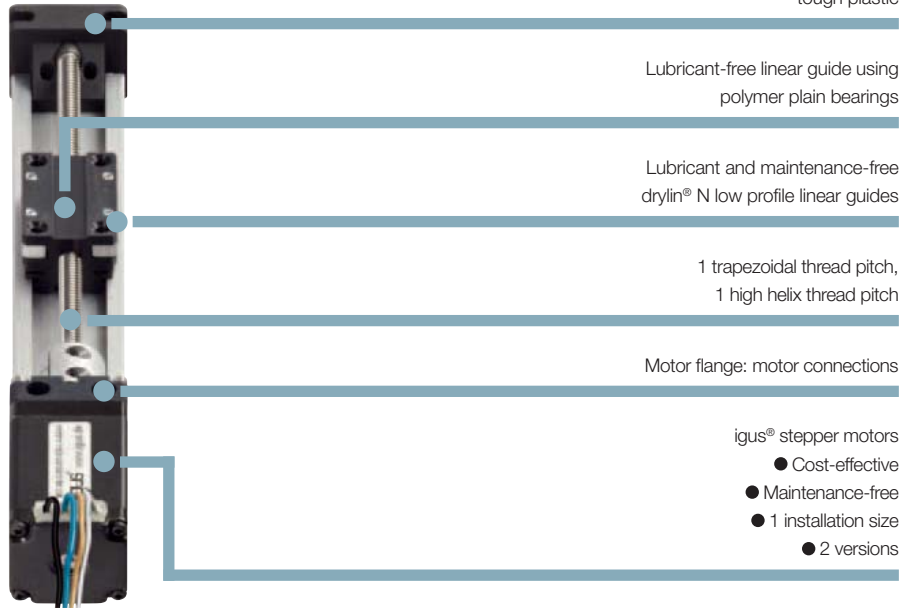
Drawings, dimensions, technical specifications, such as ZLW ► page 1213

drylin® E | Linear Axes with Motor | SLN

Miniature linear axis with lead screw drive



Base body made from corrosion resistant tough 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-BB-27-02-0050-100-11-L-S-000

Type SLN	Motor pin alignment 000: 0° (standard) 090: 90° 180: 180° 270: 270°
Ball bearing	
Installation size 27	Assembly S: Assembly with one drive shaft (standard)
Design 02: With motor	Motor option L: Litz wires C: Encoders
Lead screw pitch SLN-27: 0008: M5x0,8 mm (stainless steel) 0050: SG5x5 mm (stainless steel)	Motor size 11: NEMA11
	Stroke length max. 250 mm

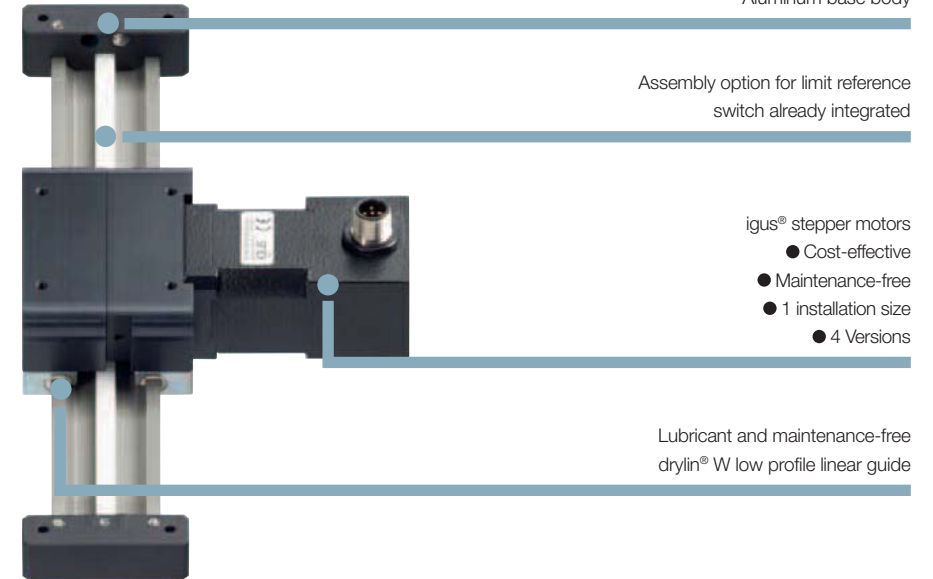
Drawings, dimensions, technical specifications, such as SLN ► page 1191

drylin® E | Linear Axes with Motor | GRW

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® W low profile linear guide



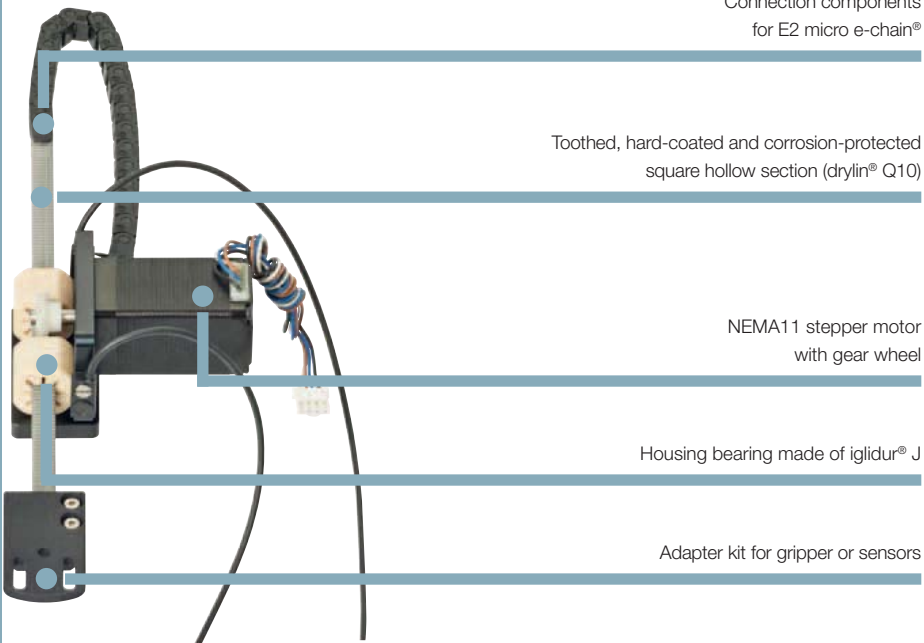
Order key:

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

Type GRW	Motor pin alignment 000: 0° (standard) 090: 90° 180: 180° 270: 270°
Installation size 0630	Assembly S: Assembly with one drive shaft (standard)
Design A: Standard	Motor option L: Litz wires M: Metric connectors C: Encoders D: Encoder and brake
Carriage length 80: 80 mm	Motor size 17: NEMA17
Stroke length max. 150 mm	

More information ► www.igus.eu/eu/drylinGRW

Gripper axis with rack and pinion drive

Connection components
for E2 micro e-chain®Toothed, hard-coated and corrosion-protected
square hollow section (drylin® Q10)NEMA11 stepper motor
with gear wheel

Housing bearing made of iglidur® J

Adapter kit for gripper or sensors



Bestellschlüssel:

GRQ-10-A-56-120-11-L-01-000

Type	Motor pin alignment
Installation size	000: 0° (Standard)
Design	090: 90°
A: Standard	180: 180°
Length of carriage	270: 270°
56: 56 mm	Proximity switch
Length of stroke	01: Without
max. 200 mm	02: Proximity switch right hand side
Motor size	03: Proximity switch left hand side
11: NEMA 11	04: Two Proximity switches
	Motor option
	L: Litz wires
	M: Metric connectors
	C: Encoders
	D: Encoder and brake

drylin® E | Accessories

Spacer

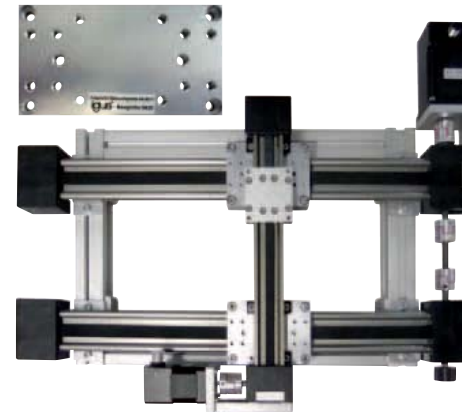


The spacer is an aluminum standoff that brings the selected drylin® linear unit to a height that matches your NEMA motor. An attachment feature for proximity switches is already integrated. Retro-fitting is also possible.

Part number	matching linear modules	Height [mm]	Specification
STY-104001	SLW-1040	21.0	
STY-108002	SLW-1080	21.0	
STY-166006	SLW-1660	24.5	1 spacer with integrated proximity switch tab.
STY-20805	SLW-2080	20.0	Material: anodized aluminum
STY-121001	SHT-12	17.5	
STY-201801	SHT-20	22.0	

Part number	matching linear modules	Specification
AK-0001	SLW-1040	
AK-0002	SLW-1080	
AK-0003	SLW-1660	2 spacers each, with integrated proximity switch tab.
AK-0004	SLW-2080	including screws. Material: anodized aluminum
AK-0006	SHT-12	
AK-0007	SHT-20	

Adapter kit for simple gantry setup



Using the new adapter kits, multi-axis gantries can be built simply and quickly. The assembly preparation for energy chains is already in place.

- Simple and fast multi-axes gantry setup
- For lead screw and toothed belt axes
- Energy chain assembly preparation
- Anodized aluminum
- Space and weight reducing

Typical application areas:

Handling systems, filling and retrieval equipment, feed equipment, feeders, pick and place, interlinkage systems, gantries, "intelligent" conveyor belts and transportation systems

Part number	matching linear modules	Specification
AK-0011	ZLW-0630	2 assembly plates for XXY gantry setup, length: 100 mm
AK-0012	ZLW-1040	incl. 12 screws

More information ► www.igus.eu/eu/drylinE

Connecting cables



The ideal compliment to the drylin® E product range; chainflex® connecting cables

- Suitable for energy chains
- Shielded and oil resistant
- Straight and angled connectors

Flange size 42 (NEMA17), 56 (NEMA23), 60 (NEMA23XL)

Part number	Jacket	Type	Cable length [m]	Connectors
Power cable				
MAT9043737	TPE	CF9-CF.INI	3.0	straight
MAT9043738	TPE	CF9-CF.INI	5.0	straight
MAT9043740	TPE	CF9-CF.INI	10.0	straight
MAT9043742	TPE	CF9-CF.INI	3.0	angled
MAT9043743	TPE	CF9-CF.INI	5.0	angled
MAT9043745	TPE	CF9-CF.INI	10.0	angled

Encoder (harnessed)

MAT90432594-3	PVC	CF240	3.0	straight
MAT90432594-5	PVC	CF240	5.0	straight
MAT90432594-10	PVC	CF240	10.0	straight
MAT90436430-3	PVC	CF240	3.0	angled
MAT90436430-5	PVC	CF240	5.0	angled
MAT90436430-10	PVC	CF240	10.0	angled

Flange size 86 (NEMA34)

Part number	Jacket	Type	Cable length [m]	Connectors
Power cable				
MAT90439520-3	PUR	CF78.UL	3.0	straight
MAT90439520-5	PUR	CF78.UL	5.0	straight
MAT90439520-10	PUR	CF78.UL	10.0	straight
Encoder (harnessed)				
MAT90439519-3	PVC	CF211	3.0	straight
MAT90439519-5	PVC	CF211	5.0	straight
MAT90439519-10	PVC	CF211	10.0	straight

Flange size 42 (NEMA17), 56 (NEMA23), 60 (NEMA23XL)

Part number	Jacket	Type	Cable length [m]	Connectors
Brake cable				
MAT9043716	TPE	CF9-CF.INI	3.0	straight
MAT9043717	TPE	CF9-CF.INI	5.0	straight
MAT9043719	TPE	CF9-CF.INI	10.0	straight
MAT9043724	TPE	CF9-CF.INI	3.0	angled
MAT9043725	TPE	CF9-CF.INI	5.0	angled
MAT9043727	TPE	CF9-CF.INI	10.0	angled

Proximity switches: Limit and reference switches



The compact and easy assembly of the proximity switches represent a logical extension of the kit approach for the drylin® E range. The plastic housing makes the proximity switches, which can be used as limit, position or reference switches, particularly light and tough.

Technical Data

Proximity switches	Unit	
Operating voltage	[VDC]	10...30
Max. trigger current	[mA]	100
Ambient temperature	[°C]	-25 to+70
Trigger distance	[SN]	2.5
Protection class		IP67
Connector		M8

Pin assignment

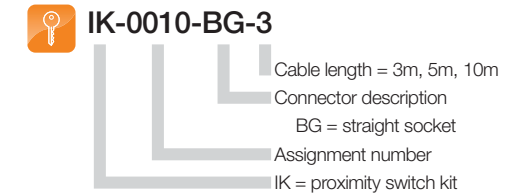
Initiator PIN	M8 3 pin Signal	Proximity switch cable PIN	Color
1	+	1	Brown
3	-	3	Blue
4	Load	4	Black



20-30 mm of extra stroke length is needed for each limit reference switch.

Axis	Part number	Part number
	Proximity switch kit N.C./normally closed	Proximity switch kit N.O./normally open
SAW-0630	IK-0001	IK-0002
SAW-1040	IK-0001	IK-0002
SAW-1660	IK-0003	IK-0004
SLW-BB-0630	-	-
SLW-BB-1040	IK-0006	IK-0017
SLW-BB-1080	IK-0007	IK-0018
SLW-BB-1660	IK-0008	IK-0019
SLW-BB-2080	IK-0009	IK-0020
SHT-BB-12	IK-0011	IK-0022
SHT-BB-20	IK-0012	IK-0023
SHT-BB-30	-	-
SLW-1040-AL	IK-0006	IK-0017
SLW-1080	IK-0007	IK-0018
SLW-1660	IK-0008	IK-0019
SLW-2080	IK-0009	IK-0020
SHT-12	IK-0011	IK-0022
SHT-20	IK-0012	IK-0023
SHT-30	-	-
ZLW-0630-B	IK-0001	IK-0002
ZLW-0630-S	IK-0001	IK-0002
ZLW-1040-B	IK-0001	IK-0002
ZLW-1040-S	IK-0001	IK-0002
ZAW-1040-B	IK-0001	IK-0002
ZAW-1040-S	IK-0001	IK-0002
ZLW-1660-S	IK-0003	IK-0004

Matching cables are added by including the following attachments:

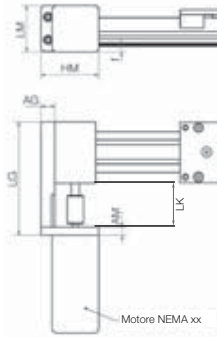


A proximity switch kit for SAW & ZLW includes a proximity switch, a bracket and mounting screws



A proximity switch kit for SLW & SHT includes a proximity switch, two spacers and mounting screws.

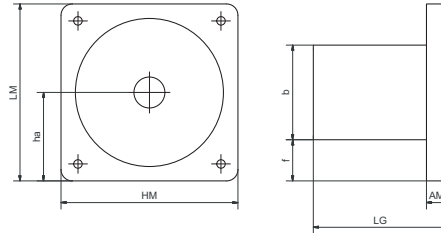
Motor flange for toothed belt axes



- 2 base plate lengths for each NEMA motor flange, others on request
- Matches the igus® coupling ► [page 1247](#)

Part number	matching linear modules	Base plate			Motor flange			
		AG	LG	LK	AM	HM	LM	f
MF-0630-NEMA17-S	ZLW-0630	12	99.5	35.5	10	53	42	7
MF-0630-NEMA23-S	ZLW-0630	12	99.5	35.5	10	59	56	14
MF-1040-NEMA17-S	ZLW-1040	17	119	35	10	63	44	-
MF-1040-NEMA23-S	ZLW-1040	17	119	35	10	70.7	56.4	7
MF-1040-NEMA34-L	ZLW-1040	17	138	54	10	85	85	20.5
MF-1660-NEMA34-S	ZLW-1660	10	166	52	10	86	86	-
MF-2260-NEMA23-S	ZAW-1040	10	108	35	10	70.7	56.4	-
MF-0630-DC0310	ZLW-0630	12	99.5	35.5	10	53	42	7
MF-1040-DC0310	ZLW-1040	17	119	35	10	63	44	-

Motor flange for lead screw drives

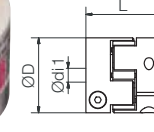


The motor flange, sometimes called motor enclosure, encloses and protects the coupling and provides the matching mounting dimensions for your NEMA motor.

- Matches the igus® coupling ► [page 1247](#)

Part number	matching linear modules	LG	AM	HM	LM	b	f	ha
MF-1123-NEMA17	SAW/SLW-BB-0630	45	-	43	43	43	-	21.5
MF-2040-NEMA17	SAW/SLW-1040-AL, SHT-12	47	12	43	43	43	-	21.5
MF-2040-NEMA23-S	SAW/SLW-1040-AL SHT-12/20	48	13	56	56	56	-	28
MF-3648-NEMA23	SHT-20, SHT-BB-20	56	13	56	56	56	-	28
MF-3648-NEMA34	SLW-1660/2080, SLW-BB-1660/2080	65	10	86	86	46	20	43
MF-3648-NEMA34-XL	SHT-30, SHT-BB-30	76	10	86	86	56	15	43
MF-1123-DC0310	SAW/SLW-BB-0630	45	-	43	43	43	-	21.5
MF-2040-DC0310	SAW/SLW-1040-AL, SHT12	47	12	43	43	43	-	21.5

Couplings



The coupling connects the drive shaft of the axis to the motor. An elastic polymer insert in the center of the coupling transfers the motor torque.

This damping element compensates for radial and axial clearance.

- 20 versions from stock
- Vibration dampening and easy fitting

Coupling material: aluminum. TPU elastomeric centre. Shore hardness: 98 Sh A. Temperature range -30°C to +100°C.

Toothed belt axis	Motor type	Coupling	Techn. data - coupling				
			D	di1 [mm]	di2 [mm]	L [mm]	Weight [kg]
ZLW-0630-B	NEMA17	COU-AR-K-050-000-25-26-B-AAAB	25.00	5.00	6.00	26.00	0.02
	NEMA23	COU-AR-K-063-000-25-26-B-AAAB	25.00	6.35	6.00	26.00	0.02
	DC-Motor31	COU-AR-K-060-000-25-26-B-AAAB	25.00	6.00	6.00	26.00	0.02
ZLW-0630-S	NEMA17	COU-AR-K-050-080-25-26-B-AAAA	25.00	5.00	8.00	26.00	0.02
	NEMA23	COU-AR-K-063-080-25-26-B-AAAA	25.00	6.35	8.00	26.00	0.02
	DC-Motor31	COU-AR-K-060-080-25-26-B-AAAA	25.00	6.00	8.00	26.00	0.02
ZLW-1040-B / ZAW	NEMA17	COU-AR-K-050-000-25-26-B-AAAB	25.00	5.00	6.00	26.00	0.02
	NEMA23	COU-AR-K-063-000-25-26-B-AAAB	25.00	6.35	6.00	26.00	0.02
	NEMA23XL	COU-AR-K-080-000-25-26-B-AAAB	25.00	8.00	6.00	26.00	0.02
	DC-Motor31	COU-AR-K-060-000-25-26-B-AAAB	25.00	6.00	6.00	26.00	0.02
ZLW-1040-S / ZAW	NEMA23	COU-AR-K-063-100-32-32-B-AAAA	32.00	6.35	10.00	32.00	0.05
	NEMA23XL	COU-AR-K-080-100-32-32-B-AAAA	32.00	8.00	10.00	32.00	0.05
	NEMA34	COU-AR-K-140-100-32-32-B-AAAA	32.00	14.00	10.00	32.00	0.05
	DC-Motor31	COU-AR-K-060-100-32-32-B-AAAA	32.00	6.00	10.00	32.00	0.05
ZLW-1660-S	NEMA 34	COU-AR-K-140-140-32-32-B-AAAA	32.00	14.00	14.00	32.00	0.05
Lead screw axis	Motor type	Coupling	D	di1 [mm]	di2 [mm]	L [mm]	Weight [kg]
SAW-0630 / SLW-BB-0630	NEMA17	COU-AR-K-050-080-25-26-B-AAAA	25.00	5.00	8.00	26.00	0.02
	DC-Motor31	COU-AR-K-060-080-25-26-B-AAAA	25.00	6.00	8.00	26.00	0.02
SAW-1040 / SLW-(BB)-1040	NEMA17	COU-AR-K-050-100-32-32-B-AAAA	32.00	5.00	10.00	32.00	0.05
	NEMA23	COU-AR-K-063-100-32-32-B-AAAA	32.00	6.35	10.00	32.00	0.05
	NEMA23XL	COU-AR-K-080-100-32-32-B-AAAA	32.00	8.00	10.00	32.00	0.05
	DC-Motor31	COU-AR-K-060-100-32-32-B-AAAA	32.00	6.00	10.00	32.00	0.05
SLW-(BB)-1660	NEMA23	COU-AR-K-063-140-32-32-B-AAAA	32.00	6.35	14.00	32.00	0.05
	NEMA23XL	COU-AR-K-080-140-32-32-B-AAAA	32.00	8.00	14.00	32.00	0.05
SLW-(BB)-2080	NEMA23	COU-AR-K-063-120-32-32-B-AAAA	32.00	6.35	12.00	32.00	0.05
	NEMA23XL	COU-AR-K-080-120-32-32-B-AAAA	32.00	8.00	12.00	32.00	0.05
SHT-(BB)-12	NEMA34	COU-AR-K-140-120-32-32-B-AAAA	32.00	14.00	12.00	32.00	0.05
	NEMA17	COU-AR-K-050-100-32-32-B-AAAA	32.00	5.00	10.00	32.00	0.05
	NEMA23	COU-AR-K-063-100-32-32-B-AAAA	32.00	6.35	10.00	32.00	0.05
SHT-(BB)-20	NEMA23XL	COU-AR-K-080-100-32-32-B-AAAA	32.00	8.00	10.00	32.00	0.05
	DC-Motor31	COU-AR-K-060-100-32-32-B-AAAA	32.00	6.00	10.00	32.00	0.05
	NEMA23	COU-AR-K-063-120-32-32-B-AAAA	32.00	6.35	12.00	32.00	0.05
SHT-(BB)-30	NEMA23XL	COU-AR-K-080-120-32-32-B-AAAA	32.00	8.00	12.00	32.00	0.05
	NEMA34	COU-AR-K-140-120-32-32-B-AAAA	32.00	14.00	12.00	32.00	0.05
	NEMA34	COU-AR-K-140-140-32-32-B-AAAA	32.00	14.00	14.00	32.00	0.05

Various Stepper motor options

**Motor with litz cables**

Litz motors are the least expensive and the most common stepper motors. The connecting wires for this type directly exit 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 and encoder**

The encoder sends signals from the motor to the motor control. The encoder verifies that the required linear motion has occurred precisely as required.
Encoder = increased machine reliability.

**Motor with connector**

The connector interface provides a high IP65 protection level (IP: International Protection). The higher the IP rating, the better the motor is protected from the ingress of dirt and water.

**Motor with connector, encoder and brake**

The brake can hold the payload in position when the motor is not under power. This is used as a safety feature during power failures – recommended for vertically mounted systems.

Installation sizes of NEMA Stepper motors

NEMA11: Tiny but with plenty of power

This motor has very compact dimensions. Even so, heavy loads can be moved with the suitable lead screw pitch. This motor is typically used on small test and analysis equipment and miniature adjustments.

- The holding moment, M_0 , is 0.13 Nm
- The connection size is 28 x 28 mm

NEMA17: Small, but lots of power

This little motor has impressive torque and high RPMs.
Reliable operation at fast travel with low loads

- The holding moment, M_0 , is 0.5 Nm
- The connection size is 42 x 42 mm

NEMA23: The best known stepper motor size

Versatile choice due to the high torque and rotational speed.
This motor is the best choice for most applications with medium loads.

- The holding moment, M_0 , is 2.0 Nm
- The connection size is 56 x 56 mm

NEMA23XL: The power motor in the medium installation size

A development extension of the typical NEMA23 with nearly twice the torque.
The assembly dimensions are identical to the NEMA23, allowing many applications

- The holding moment, M_0 , is 3.5 Nm
- The connection size is 60 x 60 mm

NEMA34: The power pack in the large installation size

Applications with higher loads are implemented using the largest installation size.
Heavy-duty format adjustments or parallel dual axis setups are among its primary duties

- The holding moment, M_0 , is 5,9 Nm
- The connection size is 86 x 86 mm

Technical Data

Distance over hubs		28	42	56	60	86
Motor		NEMA11	NEMA17	NEMA23	NEMA23XL	NEMA34
Maximum voltage	[VDC]	60	60	60	60	60
Nominal voltage	[VDC]	24-48	24-48	24-48	24-48	24-48
Nominal current	[A]	1.0	1.8	4.2	4.2	6.4
Holding torque	[Nm]	0.13	0.5	2.0	3.5	5.9
Ratchet torque	[Nm]	0.004	0.022	0.068	0.075	0.210
Step angle	°	1.8	1.8	1.8	1.8	1.8
Resistance/phase	[Ω]	2.30 ±10%	1.75 ±10%	0.5 ±10%	0.65 ±10%	0.33 ±10%
Inductivity/phase	[mH]	1.40 ±20%	3.30 ±20%	1.90 ±20%	3.20 ±20%	3.00 ±20%
Mass moment of inertia - rotor	[kgcm ²]	0.02	0.08	0.48	0.84	2.70
Shaft load, axial	[N]	7	7	15	15	65
Shaft load, radial	[N]	20	20	52	63	200

Encoder

Operating voltage	[VDC]	5
Signals/rotation	[1/min]	500
Zero signal/index		yes
Line driver		RS422 Protocol

Signal shape	[CW]	A	
(Clock-wise motor rotation)		A/	
		B	
		B/	
		N	
		N/	

Distance over hubs		28 (NEMA11)	42 (NEMA17)	56 (NEMA23)	60 (NEMA23XL)	86 (NEMA34)
Brake						
Operating voltage	[VDC]	-	24 ±10%	24 ±10%	24 ±10%	24 ±10%
Output rating	[W]	-	8	10	10	11
Holding torque	[Nm]	-	0.4	1.0	1.0	2.0
Mass moment of inertia	[kgcm ²]	-	0.01	0.02	0.02	0.07

Distance over hubs		28 (NEMA11)	42 (NEMA17)	56 (NEMA23)	60 (NEMA23XL)	86 (NEMA34)
Weight						
Product weight	[kg]	0.25	0.32	1.12	1.56	3.20
With Encoder	[kg]	0.27	0.34	1.14	1.58	3.30
With Encoder and brake	[kg]	-	0.58	1.36	1.82	3.60

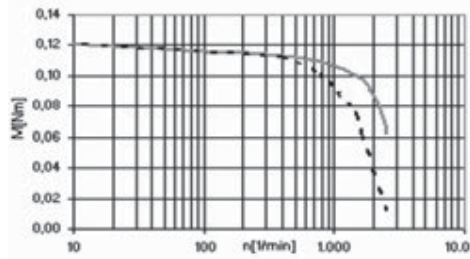
Operating data

Ambient temperature	[°C]	-10 to +50
Max. allowable temp. increase	[°C]	80
Insulation class		B
Air humidity (non condensing)	[%]	85
IP rating – motor housing		IP65 (shaft seal IO52, litz wire motor IP40)
CE conformity		EVM directive

characteristic curves

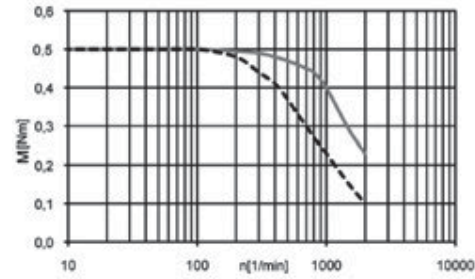
Flange size 28 (NEMA11)

MOT-AN-S-060-001-028-...



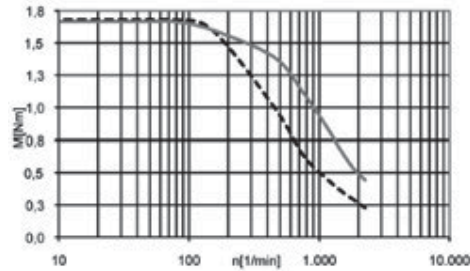
Flange size 42 (NEMA17)

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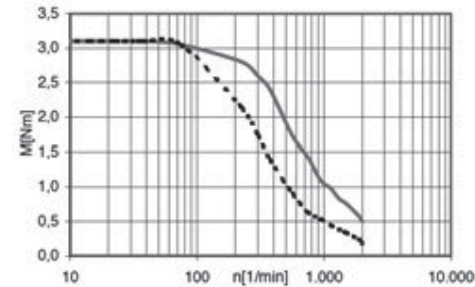
Flange size 56 (NEMA23)

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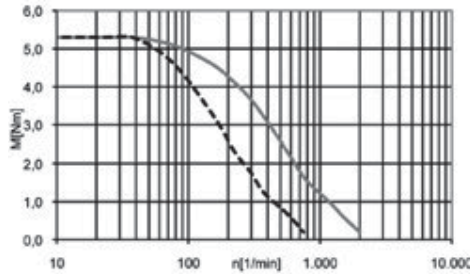
Flange size 60 (NEMA23XL)

MOT-AN-S-060-035-060-...



Flange size 86 (NEMA34)

MOT-AN-S-060-059-086-...



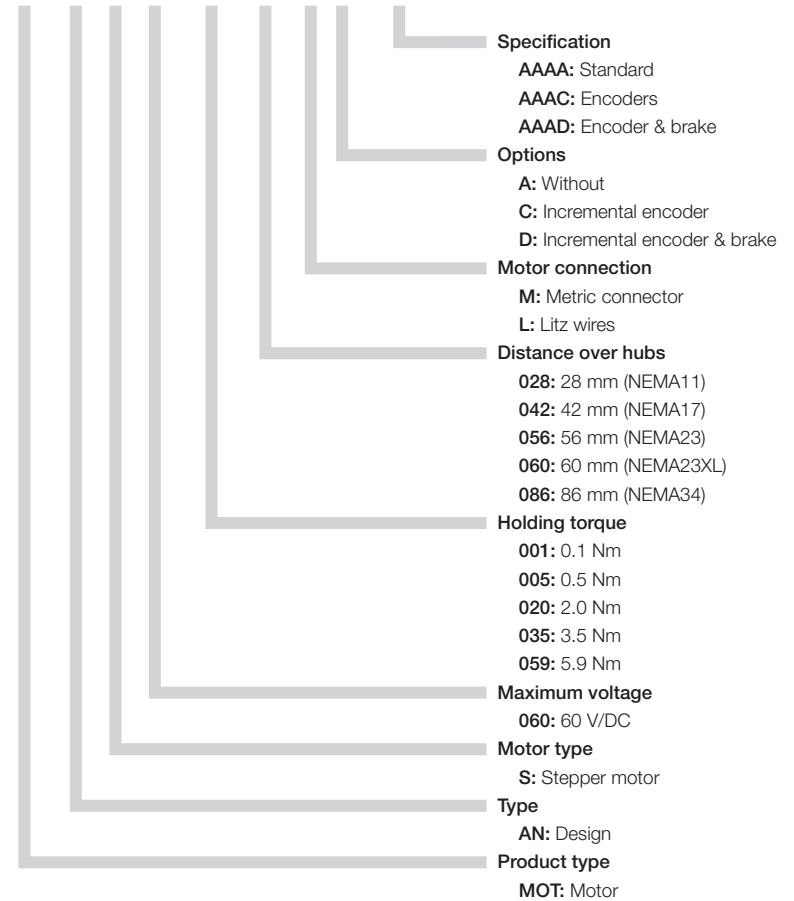
----- 24 VDC ——— 48 VDC

The characteristic progressions are determined in quarter step mode



Order key:

MOT-AN-S-060-020-056-M-A-AAAA



More information ► www.igus.eu/eu/drylinE

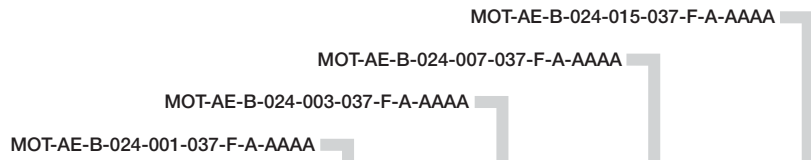
DC motor with spur gear



This small DC motor can be powered directly from a power source, such as a battery. It reverses direction by changing the polarity. Typical applications are sensor/camera travel and light-duty format adjustments with drylin® lead screw or toothed belt axes.

- Torque Mn from 0.1 Nm to 1.5 Nm
- Up to 440 RPM
- Can be operated at 12 & 24 VDC

Technical Data



Motor		MOT-AE-B-024-001-037-F-A-AAAA	MOT-AE-B-024-003-037-F-A-AAAA	MOT-AE-B-024-007-037-F-A-AAAA	MOT-AE-B-024-015-037-F-A-AAAA
Maximum voltage	[VDC]	24	24	24	24
Nominal voltage	[VDC]	24	24	24	24
Nominal current	[A]	0.5	0.5	0.5	0.5
Nominal torque	[Nm]	0.1	0.3	0.7	1.5
Startup torque	[Nm]	0.3	0.5	1.0	1.8
Idling speed	[1/min]	22	440	146	58
Rated speed	[1/min]	17	350	112	47
Shaft load, axial	[N]	6.8	6.8	6.8	6.8
Shaft load, radial	[N]	9.8	9.8	9.8	9.8
Reduction gearing	[N]	10	30	75	200

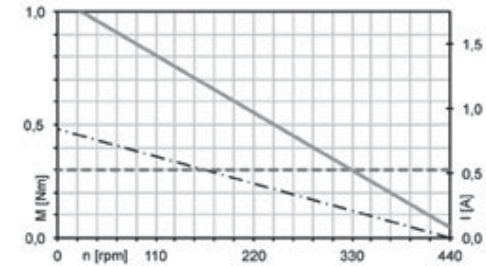
Weights		MOT-AE-B-024-001-037-F-A-AAAA	MOT-AE-B-024-003-037-F-A-AAAA	MOT-AE-B-024-007-037-F-A-AAAA	MOT-AE-B-024-015-037-F-A-AAAA
Product weight	[kg]	0.207	0.213	0.221	0.270

Operating data		MOT-AE-B-024-001-037-F-A-AAAA	MOT-AE-B-024-003-037-F-A-AAAA	MOT-AE-B-024-007-037-F-A-AAAA	MOT-AE-B-024-015-037-F-A-AAAA
Ambient temperature	[°C]	-10 to +60			
Max. allowable temperature increase	[°C]	60			
Humidity (non-condensing)	[%]	85			
IP protection class - motor housing		IP30			
Operating mode		S2 (Short term operation)			

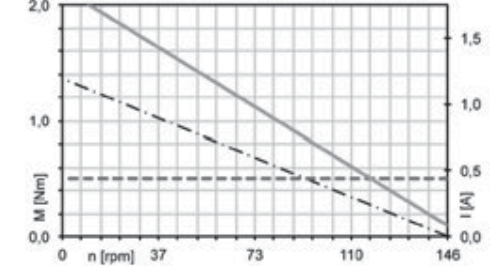
Motor connector assignments		MOT-AE-B-024-001-037-F-A-AAAA	MOT-AE-B-024-003-037-F-A-AAAA	MOT-AE-B-024-007-037-F-A-AAAA	MOT-AE-B-024-015-037-F-A-AAAA
Low profile connector		Length 7 mm, Width 4 mm, Thickness 0.45 mm			

Characteristic curves - 24 VDC

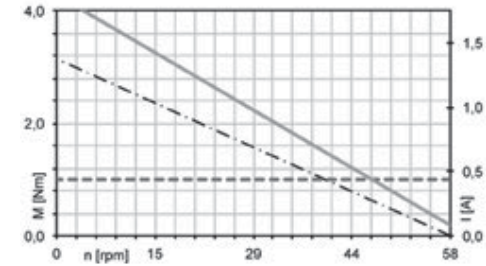
MOT-AE-B-024-001-037-F-A-AAAA



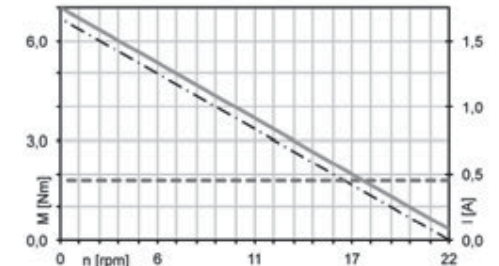
MOT-AE-B-024-003-037-F-A-AAAA



MOT-AE-B-024-007-037-F-A-AAAA

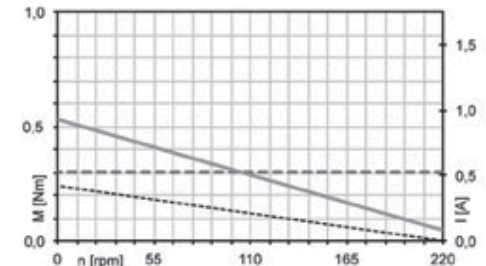


MOT-AE-B-024-015-037-F-A-AAAA

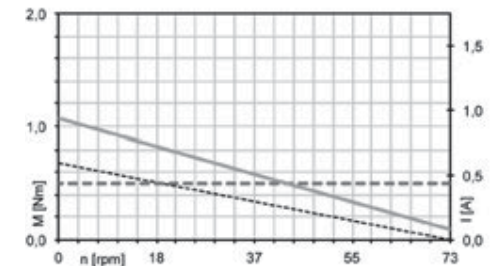


Characteristic curves - 12 VDC

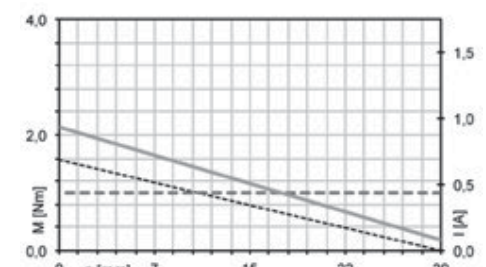
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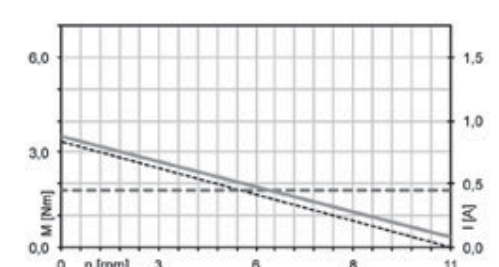
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MOT-AE-B-024-007-037-F-A-AAAA

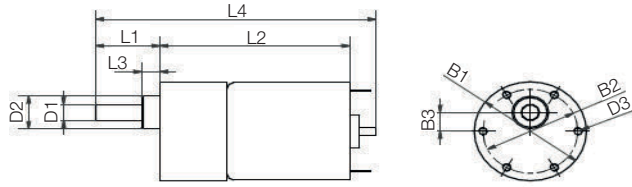


MOT-AE-B-024-015-037-F-A-AAAA



----- Torque - - - - - max. Continuous torque — Motor current

DC motor with spur gear



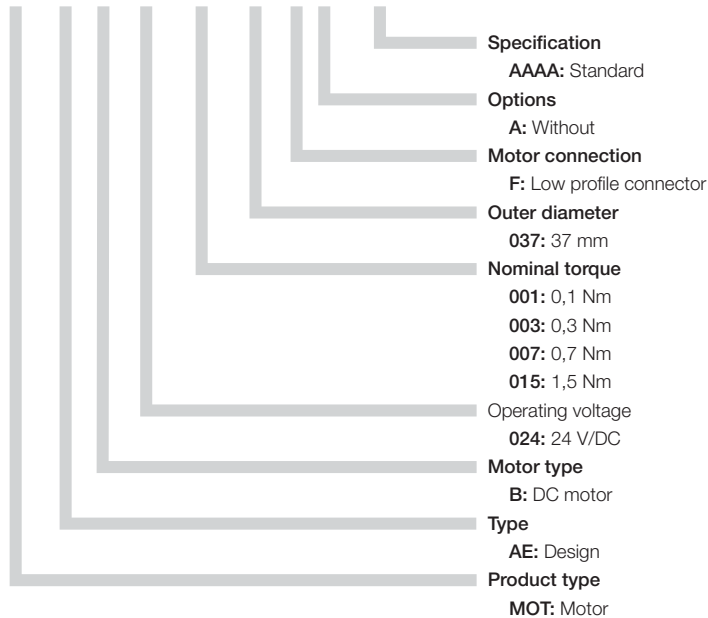
Dimensions [mm]

Part number	B1	B1	B2	B3	D1	D2	D3	L1	L2	L3	L4
			±0.2	±0.1	-0.013	±0.025		±1	±1		
MOT-AE-B-024-001-037-F-A-AAAA	37.0	38.0	31	7	6	12	M3	21.0	59.5	6.0	92.5
MOT-AE-B-024-003-037-F-A-AAAA	37.0	38.0	31	7	6	12	M3	21.0	62.0	6.0	95
MOT-AE-B-024-007-037-F-A-AAAA	37.0	38.0	31	7	6	12	M3	21.0	64.5	6.0	97.5
MOT-AE-B-024-015-037-F-A-AAAA	37.0	38.0	31	7	6	12	M3	21.0	67.0	6.0	100.0



Order key:

MOT-AE-B-024-015-037-F-A-AAAA



Complete drive technology configurable, incl. motors



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, including motor if required
 - Configure accessories and order function
 - Motor selection including 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/drylinE-finder

