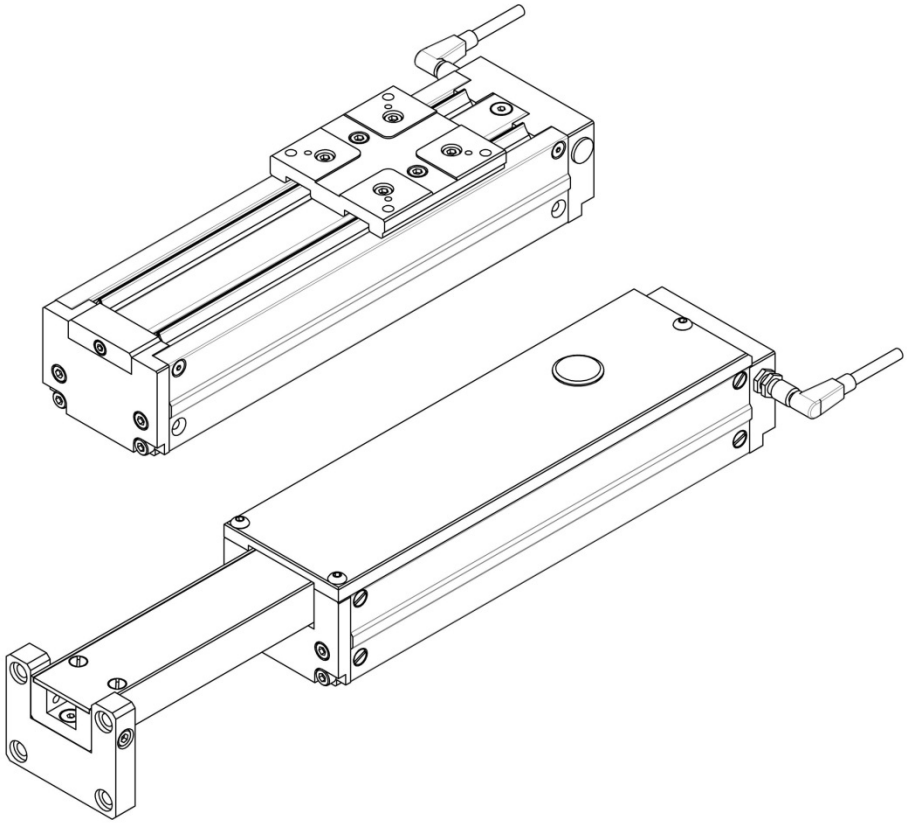
Operating Manual

Product name: profiLINE 50 (AL)
Product ID: 1404537



Translation EN of the Original version (DE)

IEF-Werner GmbH | Wendelhofstraße 6 | DE-78120 Furtwangen | www.ief-werner.de

Use

- The operating instructions must be available at the component at all times.
- The operating instructions must be available at the component/device at all times.
- Always use the complete original (or the original translation) of these operating instructions.

Supplier & Manufacturer

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Service

Find your IEF service station on our website:

- http://www.ief-werner.de

Legal Note

History of Changes

Document Code	Date	Modification
DE_profiLINE50.R1a.doc	July 2005	Translation of the original German operating instructions "MAN_DE_1054785_profiLINE50_R2a.pdf"
MAN_DE_1404537_profiLINE 50 (AL)_R2a.doc	June 2017	New layout. Update of the entire document. Expanded by profiLINE 50 AL (outrigger axle).

Trademarks and trade names are used without any warranty of their free usability.
Texts and examples have been created with great care.
Nevertheless, errors cannot be excluded.
IEF-Werner GmbH does not assume legal responsibility nor any liability for missing or incorrect - statements and their consequences.

IEF-Werner GmbH reserves the right to modify or improve the software or hardware or parts of it, as well as the supplied documentation or parts of it, without previous notice.

We are always grateful for suggestions for improvements and information about errors.

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1 Declaration of Incorporation

EC declaration of incorporation in the sense of the EC directive 2006/42/EC (machinery), Annex II 1. B.

The manufacturer:
IEF-Werner GmbH
Wendelhofstraße 6
78120 Furtwangen - Germany

hereby declares that the following component (the incomplete machine/partial machine):

Designation	IEF-Werner parts group number
profiLINE 50 (AL)	TG1000858

Where possible based on the scope of delivery, corresponds to the following basic requirements of the directive on machinery (2006/42/EC):
Annex I, item: 1.1.2; 1.1.3; 1.1.5; 1.3.2; 1.3.4; 1.5.1; 1.7.3; 1.7.4

The incomplete machine also corresponds to the following further directives:

- Directive 2014/30/EU of the council, dated 15 December 2004, for harmonisation of the legal provisions of the member states on electromagnetic compatibility.
- Directive 2014/35/EU of the council, dated 12 December 2006, for harmonisation of the legislation of the member states regarding electrical equipment for use within specified voltage thresholds.

The technical documents have been generated according to Annex VII part B and may be electronically submitted to the national authorities upon justified request.
List of some applied harmonised standards:
DIN EN ISO 12100-1,-2 / DIN EN ISO 13857 / DIN EN ISO 13850 / DIN EN 60204-1

Commissioning of the components (incomplete machine) delivered by us is not permitted until it has been determined that the overall system into which the component is installed meets the basic safety and health protection requirements according to Annex I of the above
EC directive 2006/42/EC.

Name of the documentation officer: Frank Reichelt, technical editor
Address of the documentation officer: see manufacturer's address

Furtwangen, May 2017 Manfred Bär (managing director)

2 Safety

2.1 Definition of Warning Notes

⚠ DANGER

Indicates danger.

Non-observance of the safety provisions causes death.

⚠ WARNING

Indicates potential danger.

Non-observance of the safety provisions may cause death or severe injury.

⚠ ATTENTION!

Indicates potential danger.

Non-observance of the safety provisions may cause injury.

CAUTION

Indicates potential danger. Non-observance of the safety provisions may cause property damage.

2.2 General Warning Notes

The component (linear unit profiling 50 (AL)) must only be commissioned by specialists who received safety-technical instruction and are able to assess potential dangers.

Furthermore, all chapters of these operating instructions must have been read and understood completely.

⚠ DANGER

Warning of dangerous electrical voltage.

The component must be powered down for all assembly, disassembly or repair work. Non-observance of the safety provisions may cause death.

⚠ WARNING

Linear units must only be operated with their protective device/s.

Linear units always have to be operated in connection with suitable safety devices (e.g., safety cell, protective room, protective housing, light curtain).

⚠ ATTENTION!

Warning of hot surface

During operation, heating of the motor, in particular of stepper motors, can cause the burns of the skin when touching the motor. Install a protective device, if possible! Do not touch the marked areas or wait for an adequate cooling time.

⚠ ATTENTION!

Do not remove plugs or clamps when live.

Motor connectors must not be inserted or disconnected when live.
Risk of burning of the contacts and risk of flying sparks.

2.3 Special Hazard Warnings

In addition, this User's Manual also contains the following special hazard warnings:

⚠ WARNING

Warning of crushing of limbs.

These points of the components pose the danger of crushing of limbs in operation.

profiLINE 50:

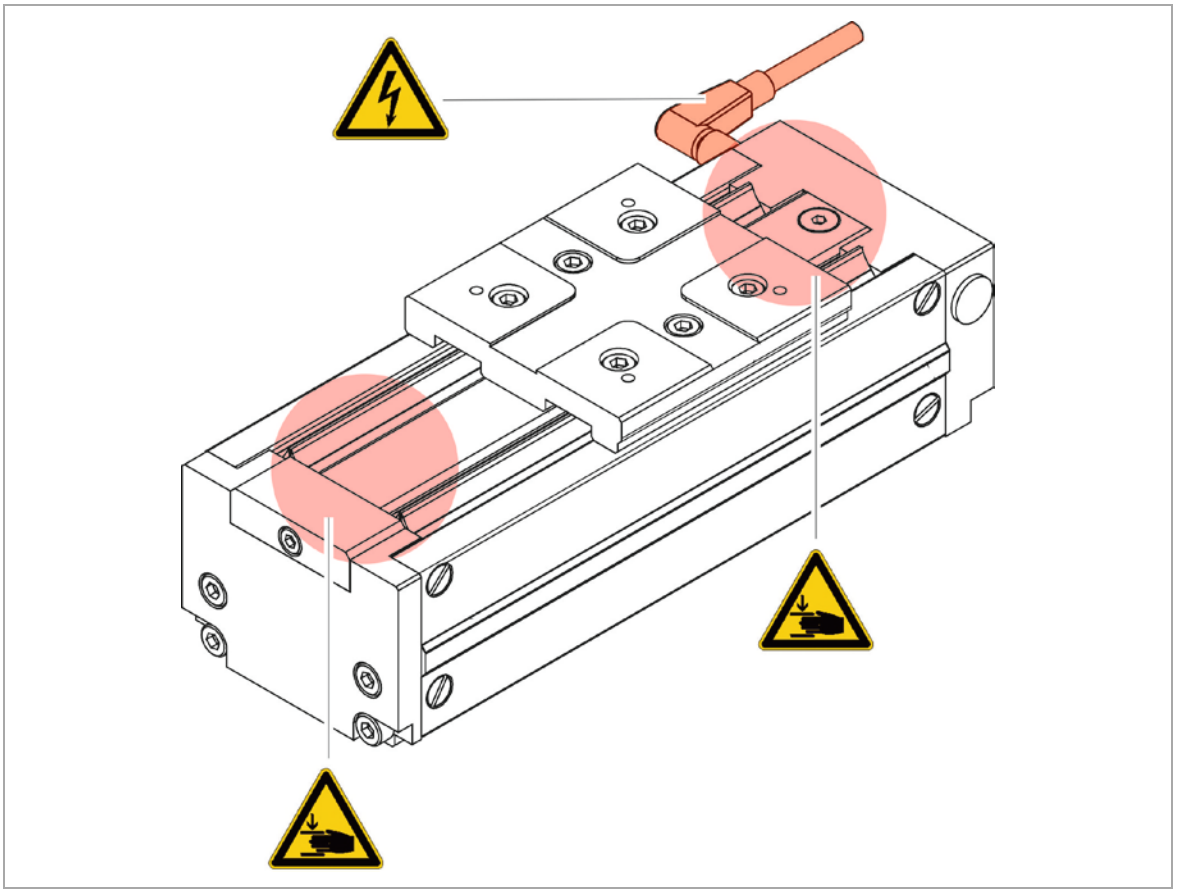


Figure 1 Dangers at the profiLINE 50

profiLINE 50 AL:

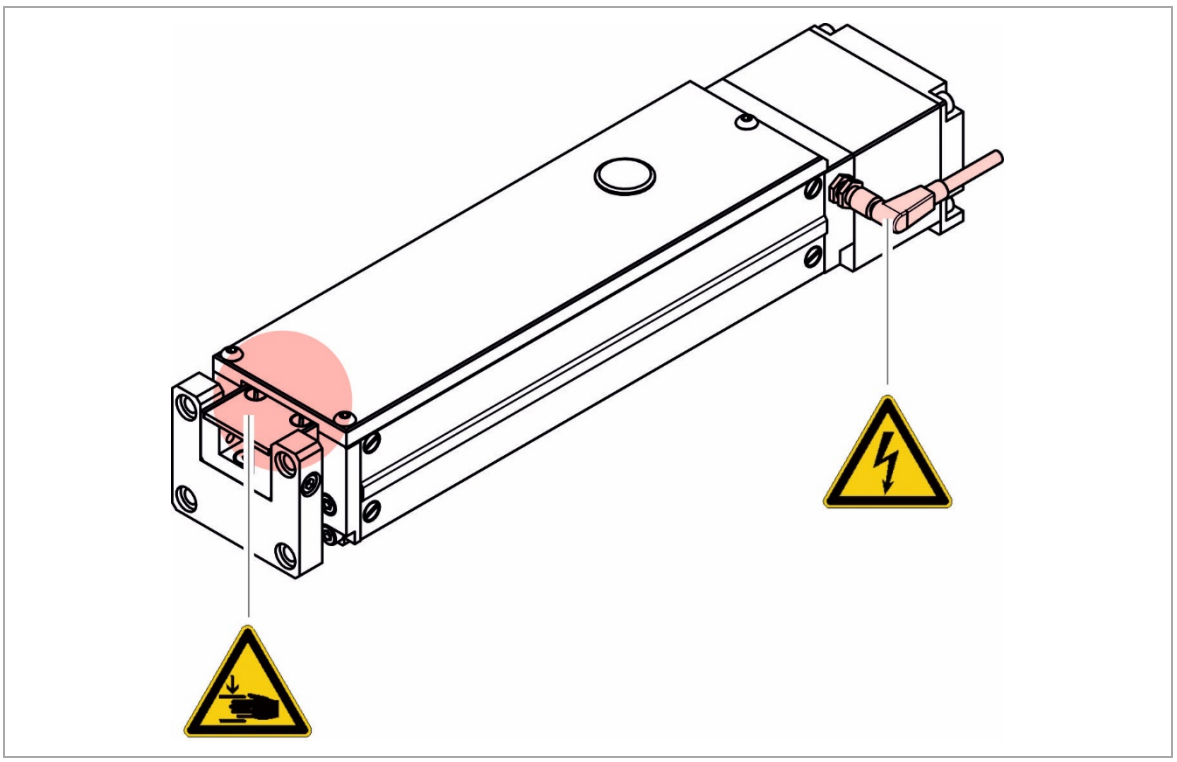


Figure 2 Dangers at the profiLINE 50 AL (outrigger retracted)

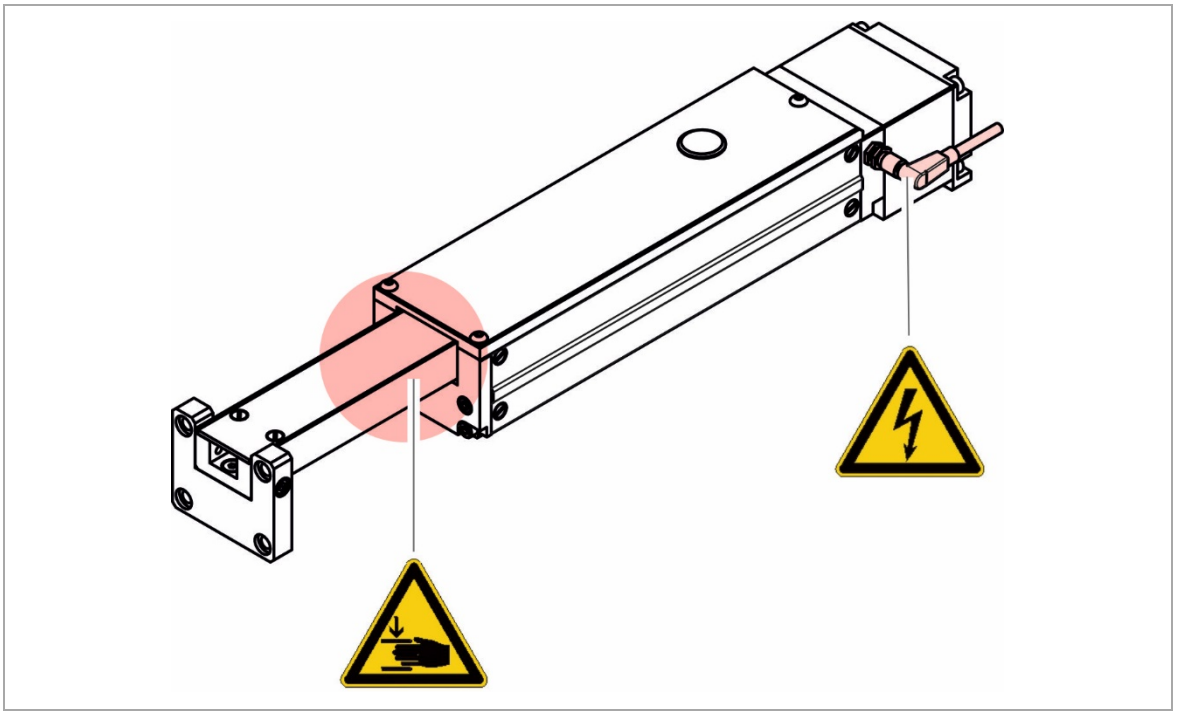


Figure 3 Dangers at the profiLINE 50 AL (outrigger extended)

3 Intended Use

The linear units profiLINE 50 and profiLINE 50 AL (outrigger axle) are precise, linear adjustment units with spindle drive that are used in the commercial area as an attachment part in connection with other components.

In combination with many standardised assembly elements, as well as the other linear modules of IEF-Werner GmbH, it can be used to build complex multi-axis handling systems as well.

The spindle-powered linear unit profiLINE 50 AL is outstandingly suitable for handling small parts. This linear unit has been specifically developed into an outrigger or vertical axle.

Usage areas for the linear units profiLINE 50/profiLINE 50 AL include:

- Equipment systems for SMD components
- Handling of small parts
- Loading and unloading stations of tool machines
- in measuring and inspection technology
- etc.

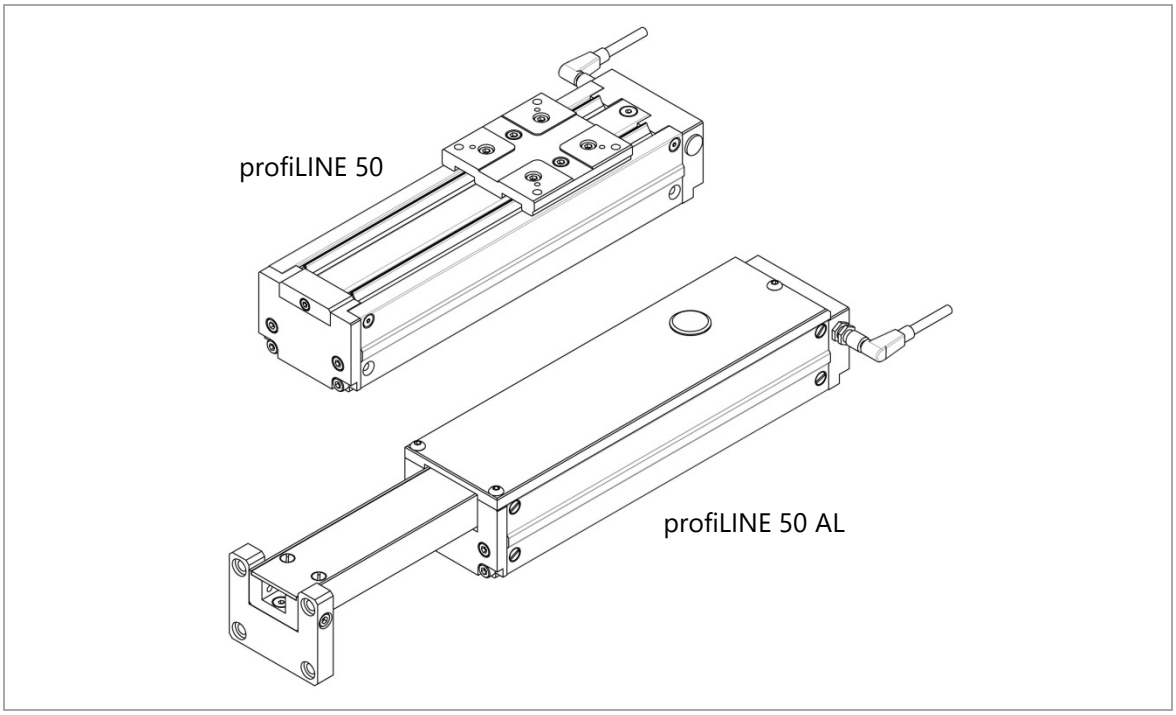


Figure 4 Linear units profiLINE 50 and profiLINE 50 AL

3.1 Reasonably Foreseeable Misuse

The linear unit profiLINE is not to be used for certain applications such as the transport of persons and animals or as a pressing/bending device for cold working of metal.

Use of the linear module without additional measures is also not possible in special fields of application, such as the chemical or food industry or in explosive atmospheres.

In case of doubt, consult the manufacturer.

4 Assembly Instructions

4.1 Installation Position

The installation position is optional, i.e. the linear units profiLINE 50 and profiLINE 50 AL can be used horizontally as well as vertically.

CAUTION

In the vertical installation position, use only motors with spring-operated brake to prevent the lowering of the drive in de-energized condition.

4.2 Motor Installation

CAUTION

Wire the motors according to the motor data sheet.

When using customer-specific motors, inquire at the respective manufacturer with which cable the motor has to be connected.

4.2.1 Axial Motor Installation

In the profiLINE 50 and profiLINE 50 AL, the motor is installed on the spindle extension via an axial motor flange (adapter flange).

The motor shaft is coupled with the spindle shaft by means of a pluggable coupling.

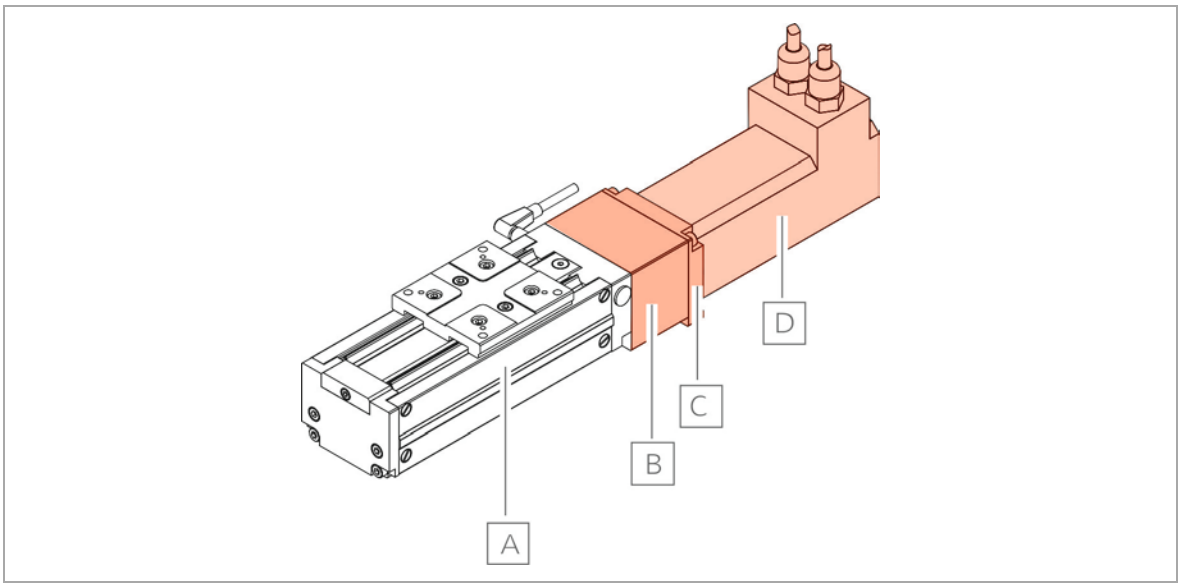


Figure 5 profiLINE 50 with axial motor attachment

A profiLINE 50
B Interim flange
C Flange plate (motor-specific)
D Motor

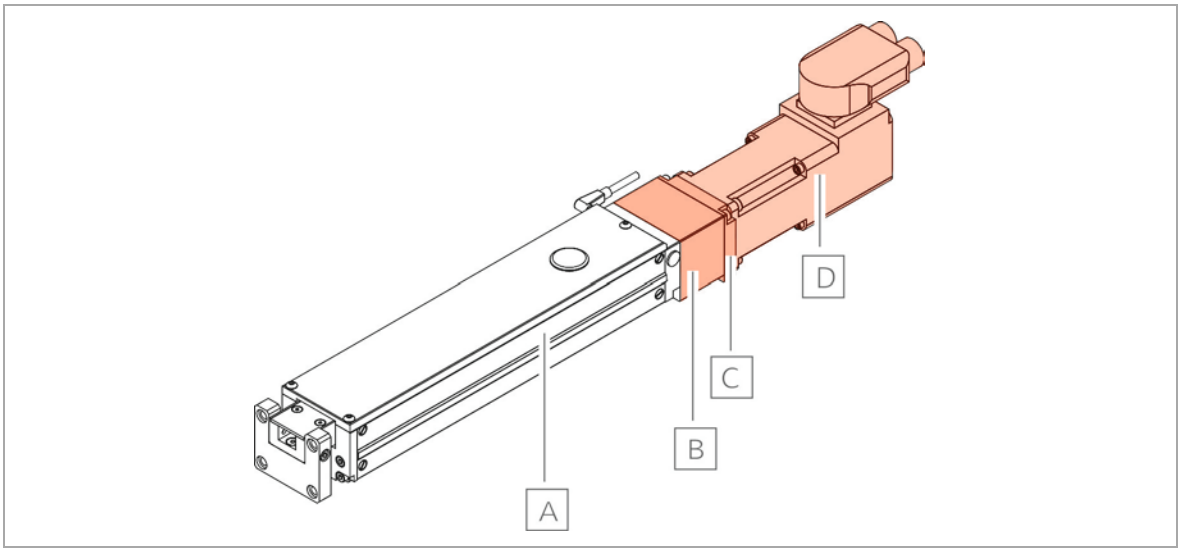


Figure 6 profiLINE 50 AL with axial motor attachment

A profiLINE 50 AL
B Interim flange
C Flange plate (motor-specific)
D Motor

4.2.2 Pluggable Coupling

The pluggable coupling system consists of the spindle coupling hub, the motor coupling hub and an elastic ring gear.

The following motor coupling hubs are available:

Motor shaft diameter	Motor coupling hub part number
Ø4 H7	1046208
Ø5 H7	1056309
Ø6 H7	1046209
Ø6.35 H7	1046211
Ø8 H7	1046212
Ø9 H7	1046210
Ø10 H7	1053191
Elastomer insert - sprocket 80 Shore A	1046214

Different motor shaft diameters are available on request

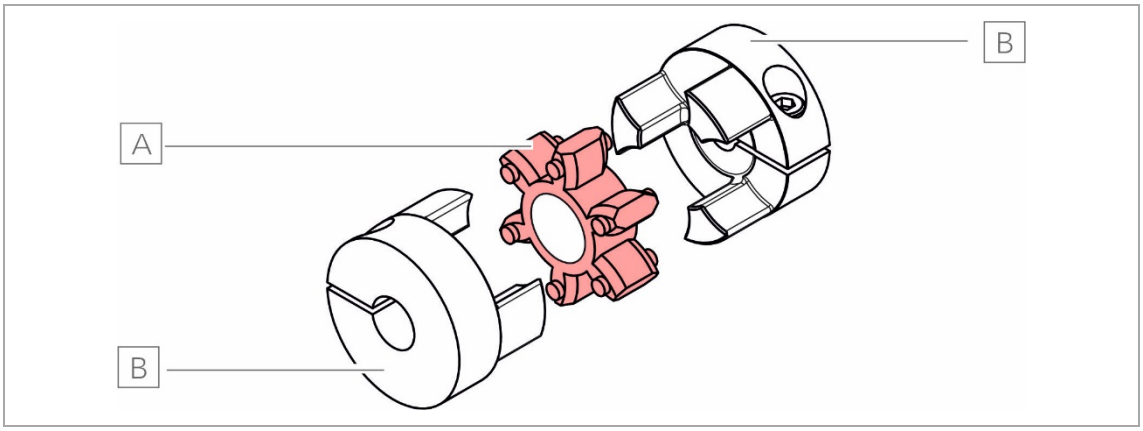


Figure 7 Pluggable coupling

A Elastic ring gear

B Motor or spindle coupling hub

When installing the coupling, special care must be taken not to load the elastic ring gear with axial pressure.

It has to be ensured that the installation dimension "M" = 10 mm is observed in the installed condition.

Light greasing can reduce the axial installation force.

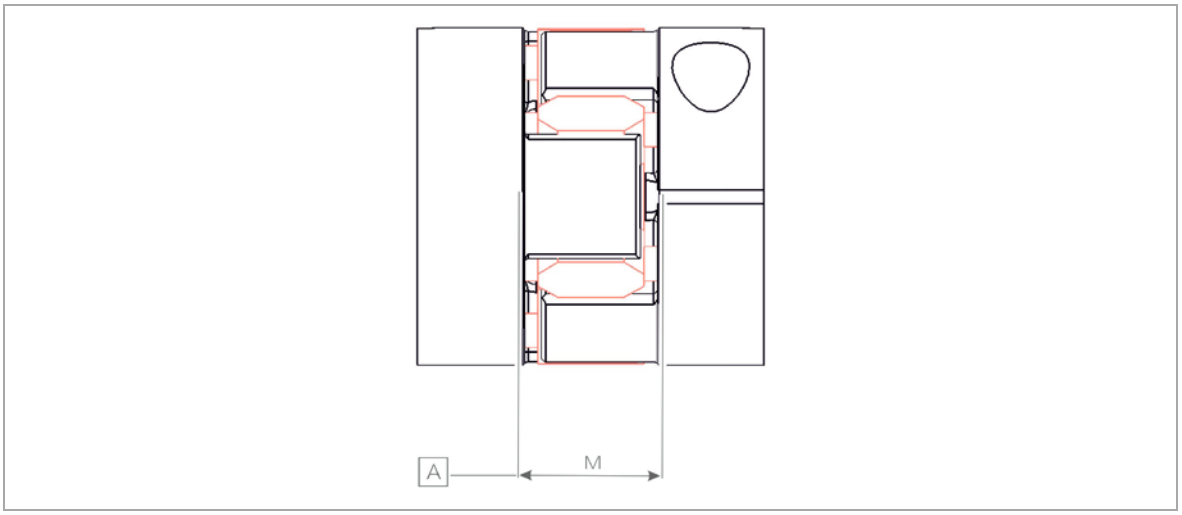


Figure 8 Coupling with installation dimension

A M = 10 mm

4.3 Transverse Installation

An X/Y connection plate is available for cross installation of two profiLINE 50 modules with the IEF-Werner part number: 1050242.

This connection plate has three pin bores that are equipped with alignment pins.
The alignment pins serve as alignment aids for cross-installation. Two methods are available for cross-installation of two profiLINE 50 modules:

4.3.1 Guide Body on Carriages

Cross-installation takes place by an X/Y connection plate (part no. 1050242).
The overall height of the transverse mounting is 89.0 mm.

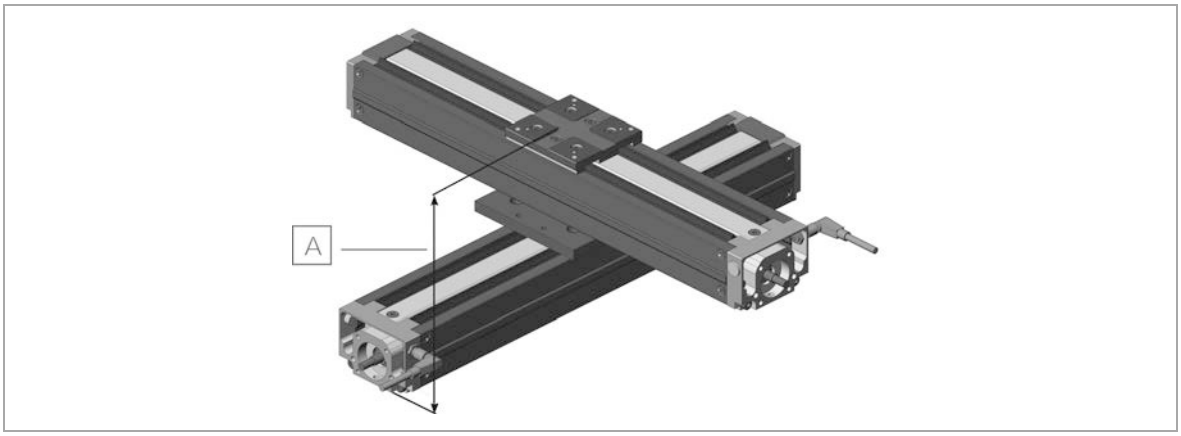


Figure 9 Basic body on carriage

A Total height of the cross-installation: 89.0 mm

4.3.2 Carriage on Carriage

Cross-installation takes place by two X/Y connection plates (part no. 1050242).
The overall height of the transverse mounting is: 95.0 mm.

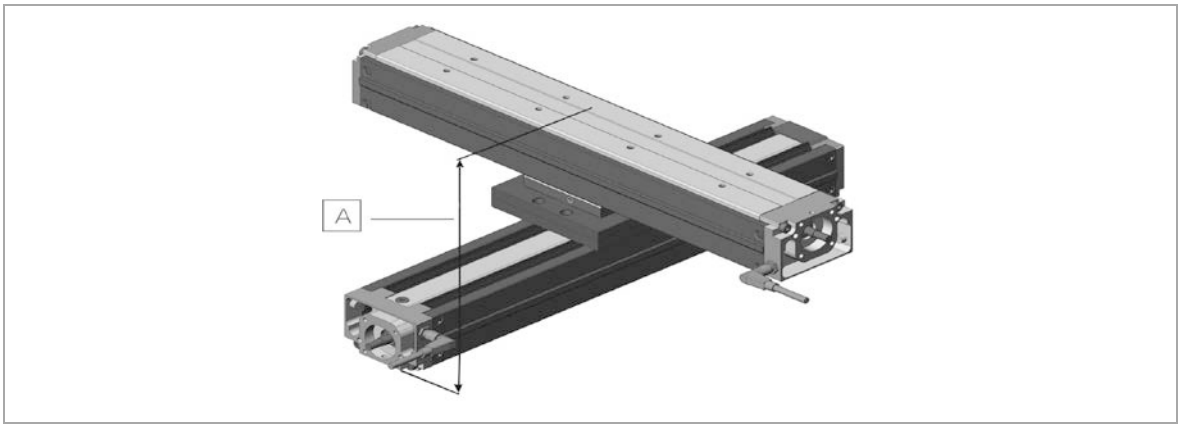


Figure 10 Carriage on carriage

A Total height of the cross-installation: 95.0 mm

4.4 Attachment

The profiLINE 50 and profiLINE 50 AL linear unit is attached only from 'below'. Threaded sleeves with M3 thread are available for this. The number of threaded sockets depends on the length of the rail guide and can be taken from the dimensions table in Figure 28, page 44 (variable 'n').

CAUTION

During attachment of the profiLINE 50 and profiLINE 50 AL module, observe that the maximum screw-in depth of 5.5 mm is not exceeded because this would lead to severe damage to the guide system.

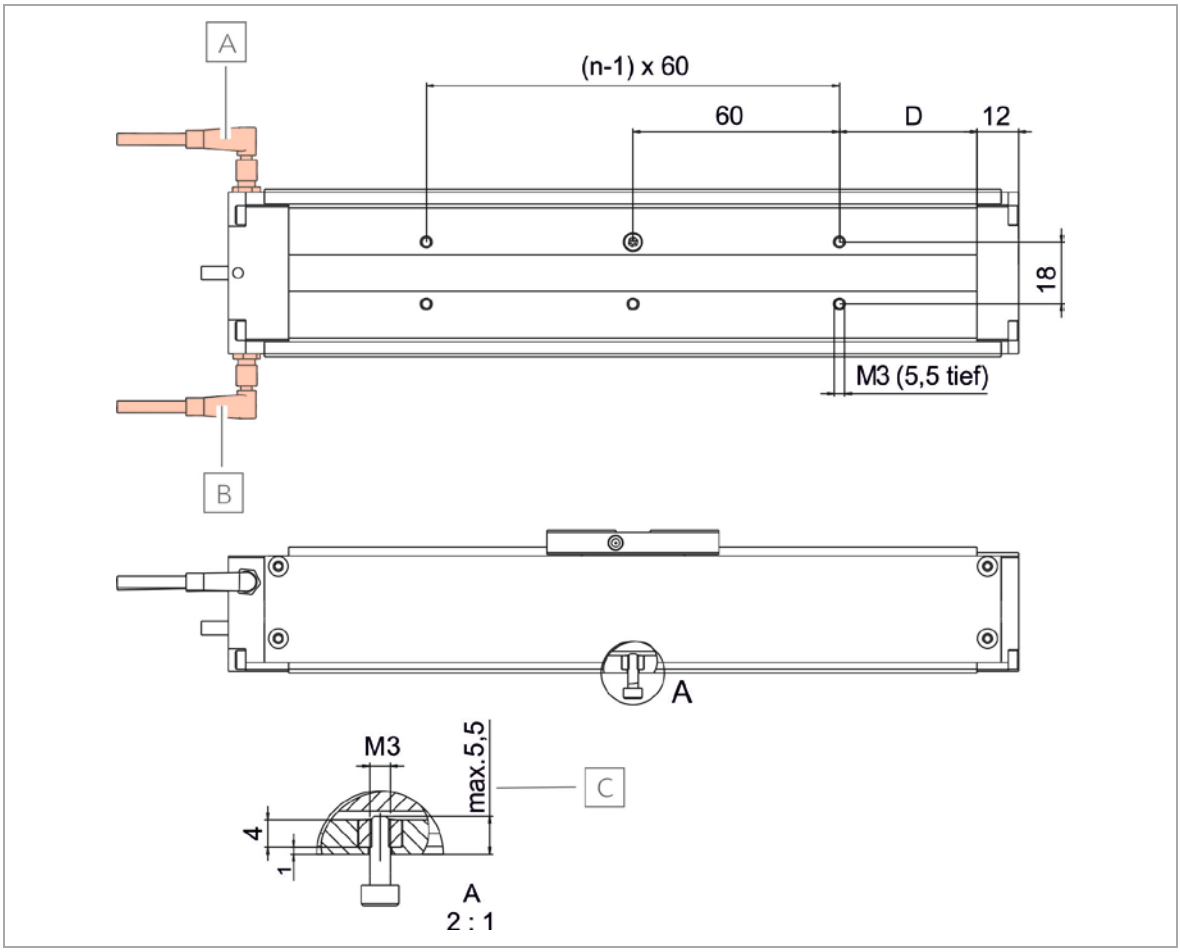


Figure 11 Attachment of the linear unit

A Standard side plug output for end position switch

B Optional plug output

C The maximum screw-in depth of 5.5 mm must be observed under all circumstances for all attachment bores.

The installation area has to be a flat surface. Any deviations from an ideal flat plane directly affect the processing precision.

4.4.1 Installation of Actuators

The actuators (cylinders, pick-up modules, etc.) that are to be installed on the profiLINE 50 and profiLINE 50 AL movement unit can be attached via the drilling pattern on the carriage.

Four threaded bores (M4) and four pin bores Ø2^{H7} mm are available for attachment of actuators to the profiLINE 50.

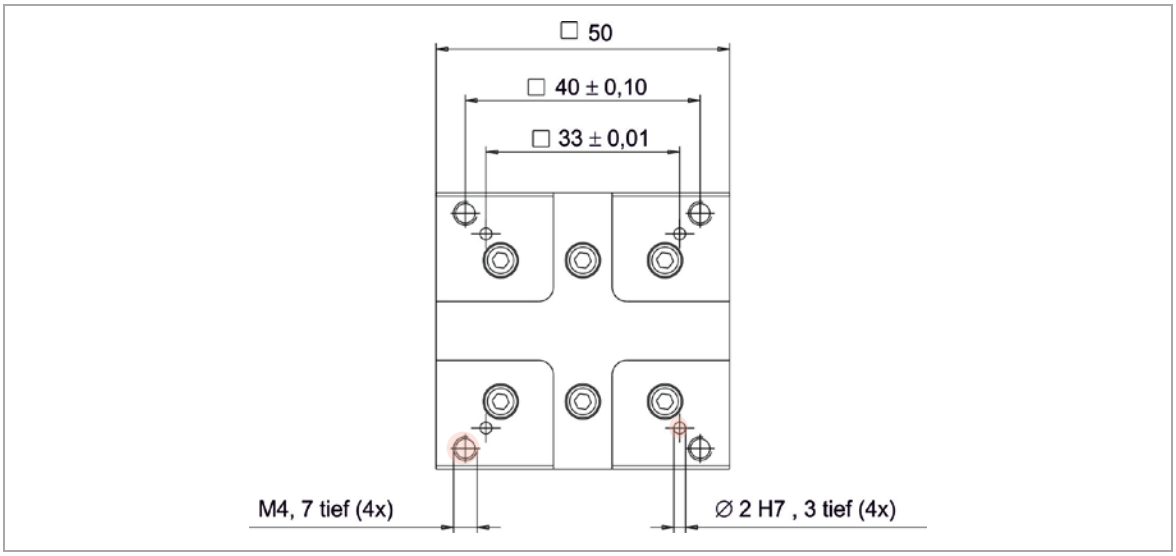


Figure 12 Hole pattern for the profiLINE 50 carriage (1045773)

The outrigger axle profiLINE 50 AL also has four threaded bores (M5) and four centring bores Ø7^{H7}.

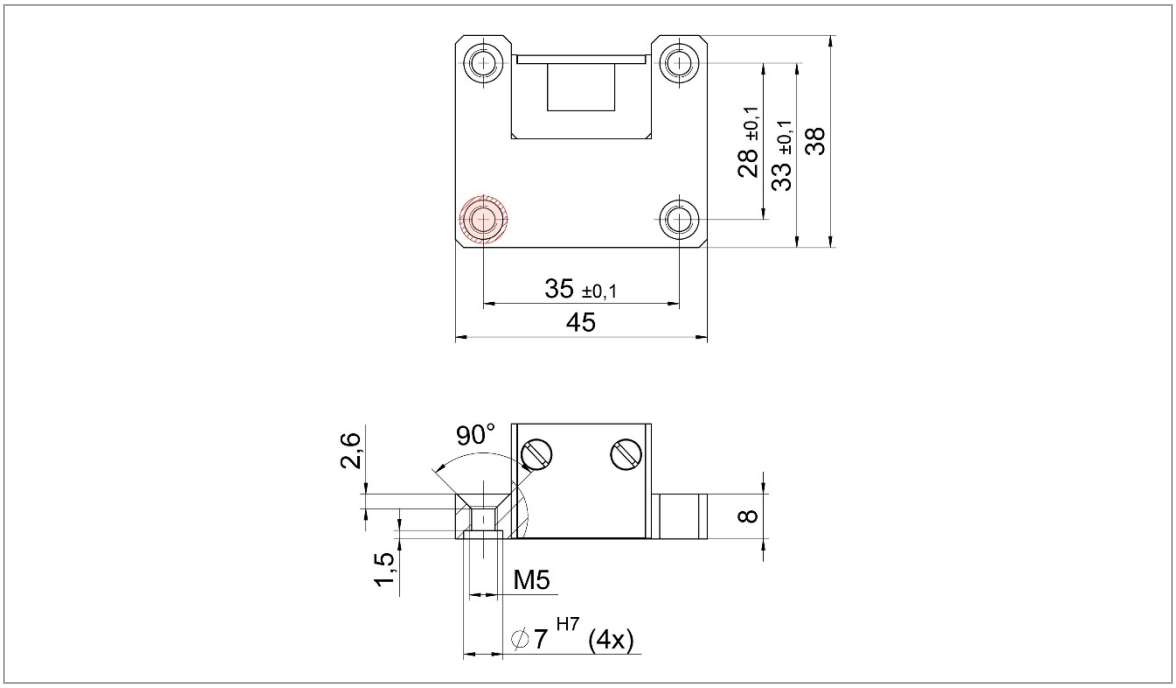


Figure 13 Hole pattern for the profiLINE 50 adapter plate (1096760)

4.5 Wiring

4.5.1 Motors

CAUTION

The electrical connection of the motors is performed according to the motor data sheet.

For customer-specific motors, the data sheet must be requested from the respective manufacturer and the motor connected accordingly.

4.5.2 Initiators

Inductive proximity switches (PNP normally closed contacts, green switch operating point) are used as standard stroke limit switches.

CAUTION

These stroke limit switches are not safety limit switches according to EN60204-1.

Optionally, an additional reference point switch (PNP normally open contact, red switch operating point) can be used on the opposite carriage side. An LED is available for detection of the switch status.

Initiators and cables are installed in an aluminium profile and routed centrally to a plug.

4.5.3 Technical Data of Initiators

Parameter	Value
Operating voltage incl. residual ripple	(10 ... 30) VDC
Operating voltage residual ripple	< 10 %
Current load capacity	$I_a \leq 150$ mA
Voltage drop at I_a max.	≤ 3.5 V
Switching frequency	≤ 1000 Hz
Own current consumption	≤ 10 mA
Nominal switching distance on steel	2 mm
Switching hysteresis	(3 ... 15)%
Reproducibility (R_{max})	± 3 %
Operating temperature	- 25 °C ... +70 °C
Protection class	IP 67
Short-circuit proof (response value for short-circuit protection 160 mA)	yes
Protected against polarity reversal	yes
Switch dampened	LED off
Switch not dampened	LED lit

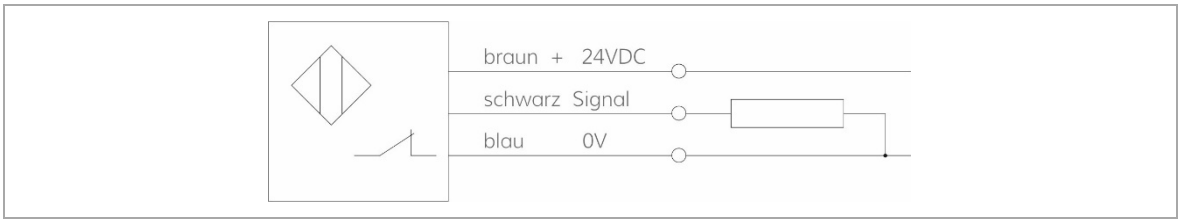


Figure 14 Connection assignment PNP-normally closed

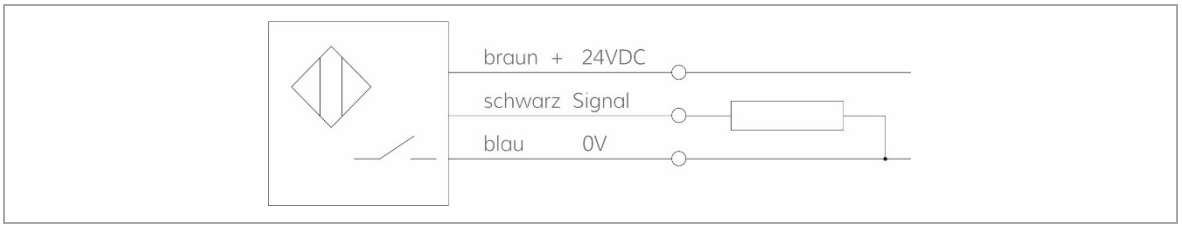


Figure 15 Connection assignment PNP-normally open

The end position switch is assigned as follows:

Pin-No.	Assignment	IEF-Werner cable
1	+ 24 V	brown
2	Limit switch negative direction	white
3	0 V	blue
4	Limit switch positive direction	black

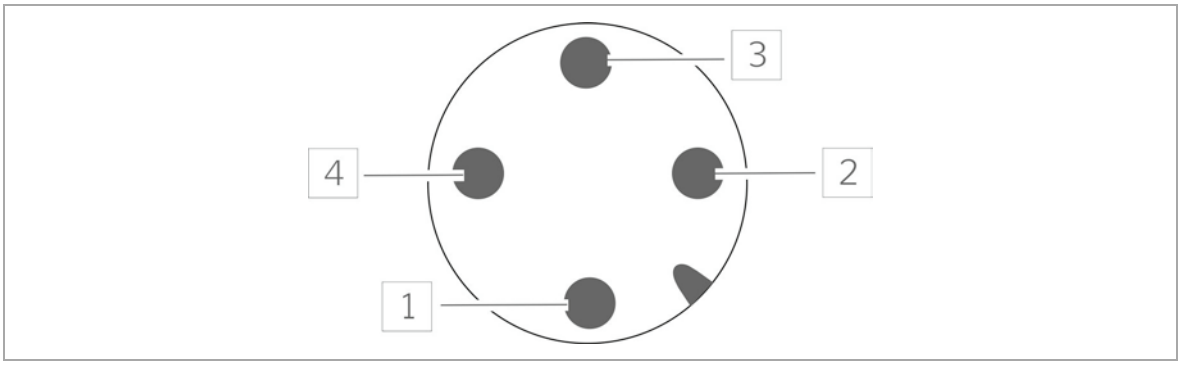


Figure 16 Connection assignment plug reference point switch

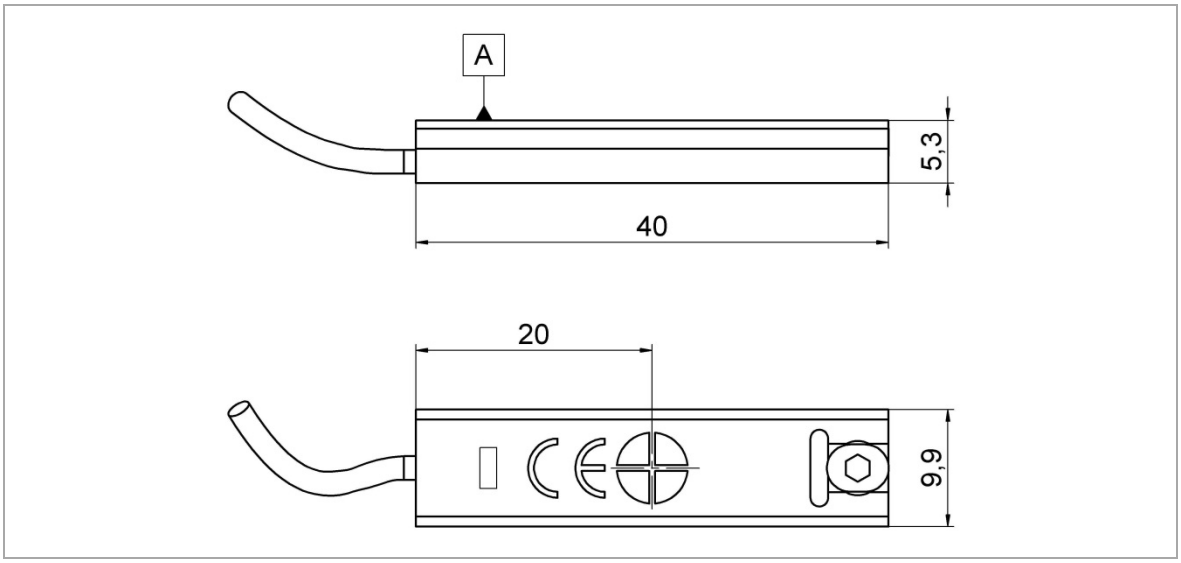


Figure 17 Scaled sketch of inductive proximity switch

A Active surface

4.5.4 Installation of Initiators

Initiators and cables are installed in one of the side parts and are routed centrally to a plug. Installation of the initiators is possible on the right or left side of the linear unit.

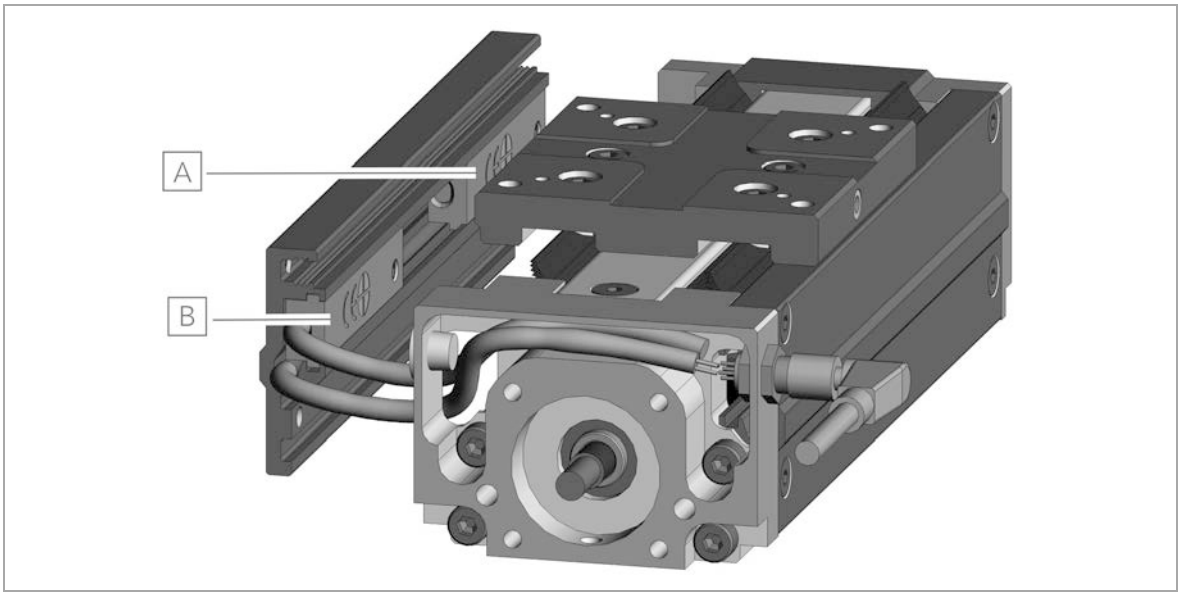


Figure 18 Installation of Initiators

A Initiator/limit switch +X

B Initiator/limit switch-X

4.5.5 Cable Routing

For all moving cables, suitable cable routing has to be used to effectively prevent cable breaks. The minimum radius r_{min} for cable routing chains is calculated for IEF-Werner cables according to the following formula:

$$r_{min} \geq 10 \times \text{cable diameter}$$

When different cables are used, EN 60204 must be observed. In addition, it must be ensured that a space reserve of 30% is kept free within the routing chains. A strain relief for the cables has to be attached at the outlet of the cable routing chain.

We recommend purchasing genuine cables and energy chains from IEF-Werner GmbH.
Please contact us. We will gladly advise you.

4.6 Technical Data

4.6.1 Tightening Torques for Screw Connections [Nm], ISO 4762, Regulating Threads

Strength class	M2.5	M3	M4	M5	M6
8.8	0.5	1.28	2.7	5.5	9.5
10.9	0.8	1.8	3.8	8	13
12.9	1.0	2.1	4.6	9.5	16

4.6.2 Technical Data of the Linear Module profiLINE 50

Parameter	Value
Maximum carrying capacity C1 [N]	1500
Maximum carrying capacity C2 [N]	1500
Maximum axial load [N] F axial	500
Maximum torque Mx [Nm]	30
Maximum torque My [Nm]	80
Maximum torque Mz [Nm]	30
Temperature range [°C]	0 ... +60
Processing precision [µm/175 mm]	≤ 25
Repetition accuracy [µm]	± 5
Positioning accuracy [µm/175 mm] *	≤ 60
Weight [kg] Basic carriage with a stroke of 25 mm, no motor	0.9
Weight [kg] moving carriage	0.25
Weight increase [kg] per 50 mm length	0.18
Possible spindle pitch [mm]	1/6
Basic moment of friction [Nm]	0.1
Maximum permitted spindle speed [1/min]	6000

The specified processing precision is reached only when the movement unit is installed on an absolutely plane surface. The carriage body has to contact the installation surface over the complete area.

We recommend using a ground hard stone plate or a ground steel plate as the plane installation area.

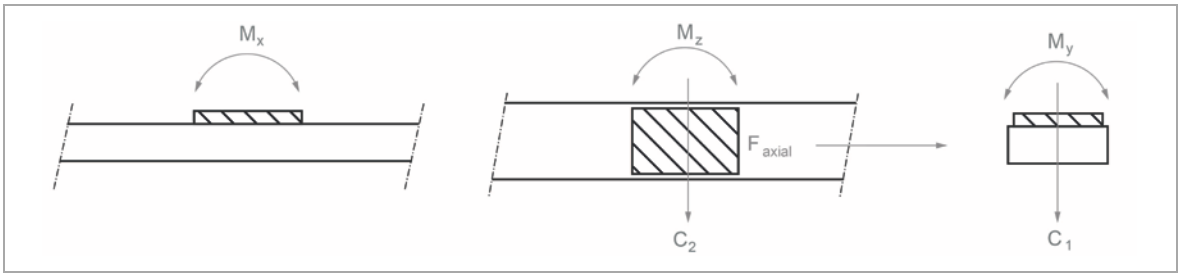


Figure 19 Torques and carrying capacity profiLINE 50

4.6.3 Technical Data of the Linear Module profiLINE 50 AL

Parameter	Value		
Stroke [mm]	25	75	125
Spindle pitch [mm]	1/6	1/6	1/6
Weight without motor [g]	1210	1460	1700
Temperature range [°C]	0 - 60	0 - 60	0 - 60
Maximum speed [mm/s]	100/600	100/600	100/600
Repetition accuracy [µm]	± 5	± 5	± 5
Protection class	IP 30	IP 30	IP 30

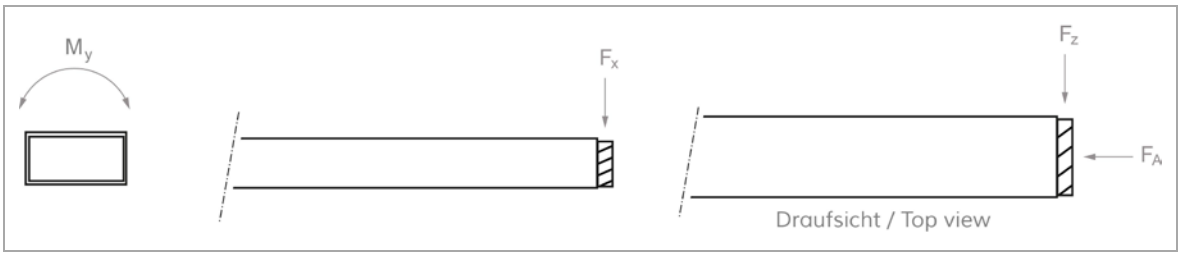


Figure 20 Load capacity

Parameter	Value		
Stroke [mm]	25	75	125
Fx [N]	175	112	82
FA [N]	150	150	150
Fz [N]	175	112	82
My [Nm]	30	30	30

4.6.4 Type Label

The rating plates of the linear units profiLINE 50 or profiLINE 50 AL are installed in the following locations:

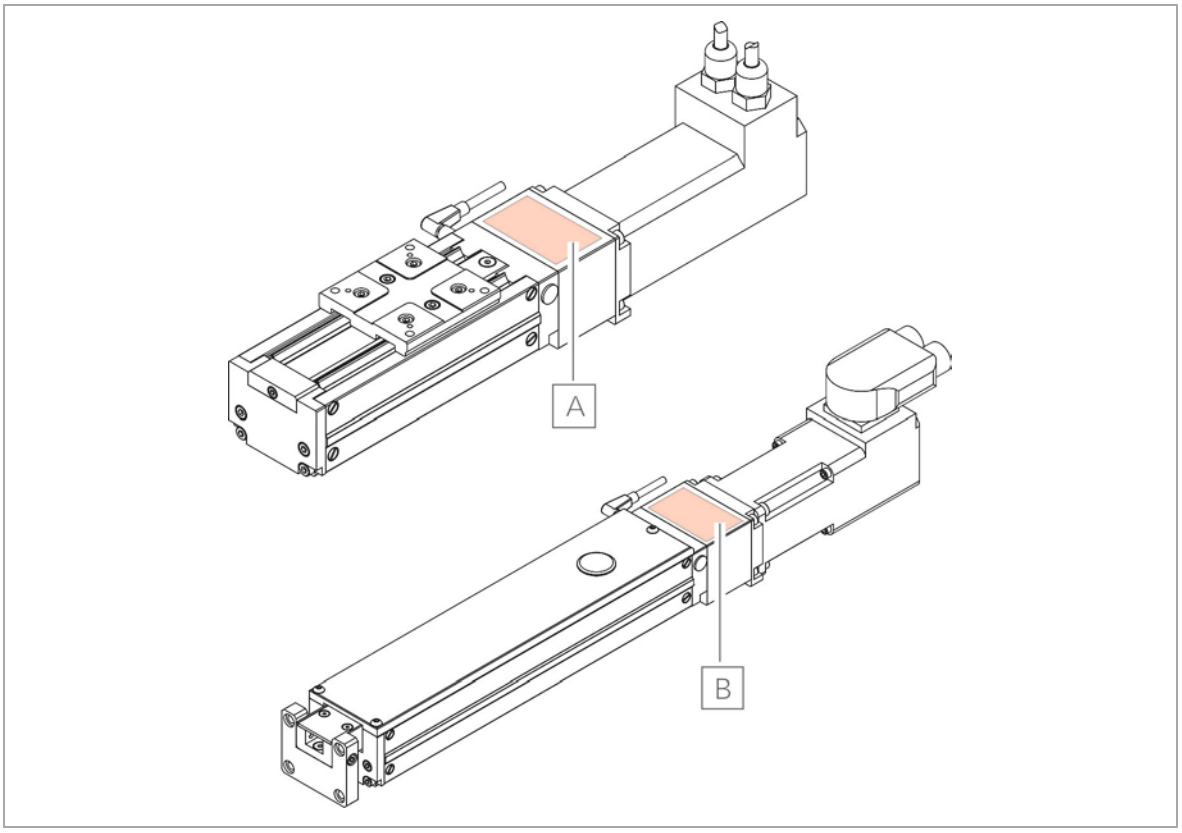


Figure 21 Position of the respective type label

A Type label at profiLINE 50

B Type label at profiLINE 50 AL

Figure 22 Type label (example)

A Parts number

B Serial number

C Type designation

D Infeed / motor turn

5 Maintenance

⚠ DANGER

Warning of dangerous electrical voltage.

The component must be powered down for all assembly, disassembly or repair work.

Non-observance of the safety provisions may cause death.

CAUTION

Any repairs must only be performed by specialist personnel who have read and understood these operating instructions.

Only use genuine spare parts, since IEF-Werner GmbH will not assume any warranty otherwise.

5.1 Lubrication of the Guide Carriage profiLINE 50

Lubrication of the ball guide and the ball roller spindle is ensured externally via lubrication nipple at the carriage unit.

We recommend a lubrication interval of 600 operating hours.

Greasing should take place with the lubricant Isoflex NCA 15 (Klüber). This lubricant can be purchased in tubes in 50-gram packages under part no. 729148 from IEF-Werner GmbH.

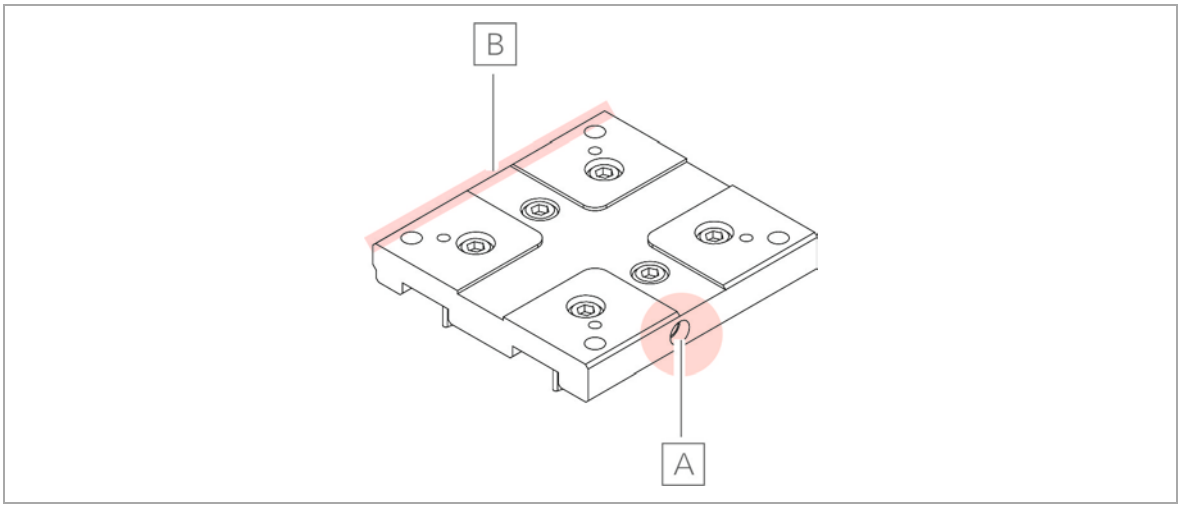


Figure 23 Lubrication profiLINE 50

A Funnel lubrication nipple DIN 3405, type: D4 B Reference side

5.2 Lubrication Option for the profiLINE 50 AL

The compact and closed build of the profiLINE 50 AL means that the lubrication point is no longer freely accessible.

The cover flap (A) in the cover plate (B) can be taken off for relubrication.

This makes the central lubrication point of the outrigger (D) accessible from above. The unit can be lubricated with a grease gun (E) via the funnel lubrication nipple (F) here.

The lubrication interval and lubricant are identical with the profiLINE 50 (every 600 operating hours, lubricant: Isoflex NCA 15).

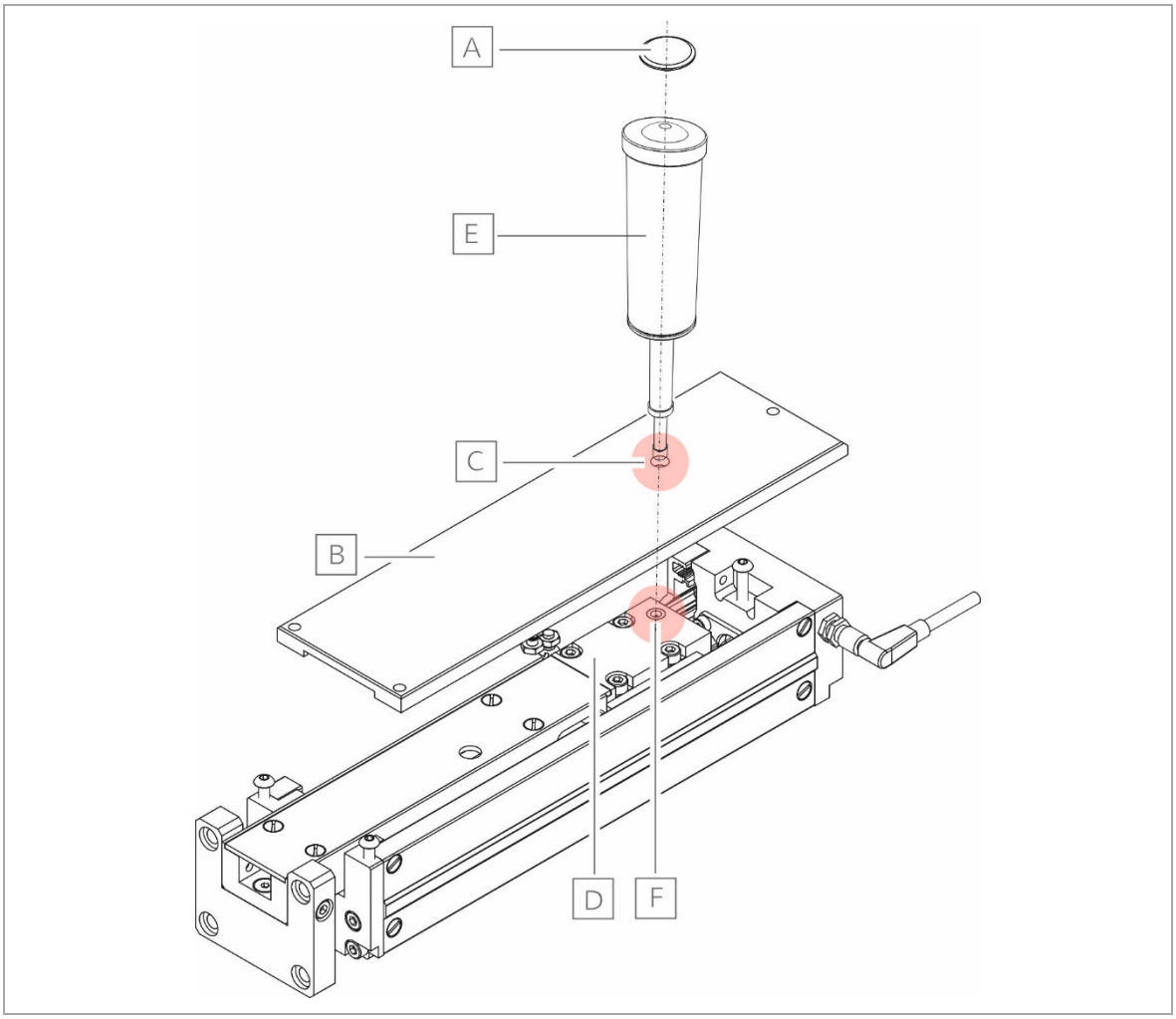


Figure 24 Lubrication profiLINE 50 AL

A Cover flap
B Cover plate
C Lubrication bore in cover flap
D Outrigger
E Grease gun
F Funnel lubrication nipple DIN 3405, type: D4

5.3 Sealing Lip System

The movement unit is equipped with a sealing lip system of oil- and coolant-resistant FKM material (fluorocarbon rubber) to protect the inside from contamination.

In case of increased abrasion, we recommend to lightly apply grease to the sealing lips in order to increase the sliding characteristics. We recommend the replacement of worn sealing lips by new ones (IEF part number 1004271).

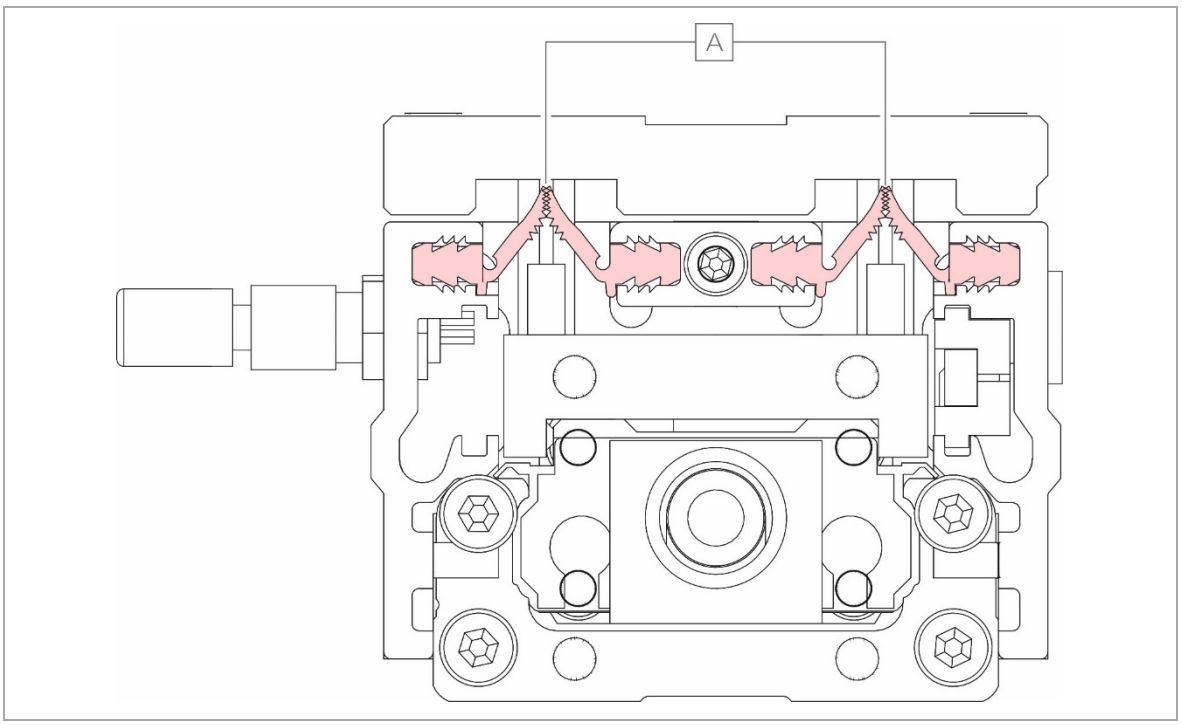


Figure 25 Sealing lip system

A Sealing lip system

CAUTION

It must be possible to perform the setup, maintenance, repair, cleaning and servicing work with the component shut down.

6 Troubleshooting

Interference	Reason	Correction
Increased running noise	Nominal service life of guide carriage or ball roller spindle exceeded	Complete exchange of the basic unit.
	Axial bearing unit defective	Complete exchange of the basic unit.
	Guide carriage, ball rolling spindle runs dry	Perform greasing via lubrication nipple at carriage unit.
	Floating bearing defective	Complete exchange of the basic unit.
	End plates are not aligned to be flush with the ball screw	Align the end plate (item 150) and "Motor" flange (item 210) (see Figure 26, page 39) or for AL: items 210 and 260 (see Figure 27, page 43).
	Pluggable coupling defective	Replace the defective coupling (items 30, 40, 50) (see Figure 29, page 45 and Figure 30, page 46).
	Coupling collides with the flanged housing	Align coupling.
	Motor (motor bearing) defective	Replace motor (see Figure 29, page 45 and Figure 30, page 46).
	Motor with brake, brake does not open correctly	Apply current to the brake, if the brake still does not open properly, replace motor (see Figure 29, page 45 and Figure 30, page 46).
Linear drive unit does not move	Limit switch cable not connected	Connect the cable.
	Limit switch defective	Replace limit switch (item 70) (see Figure 26, page 39 and Figure 27, page 43).
	Limit switch cable defective	Check limit switch cable, replace cable, if required.
	Solder connection on socket has come loose	Solder on wires.
	Motor connected incorrectly	Check and change connector assignment, if required.

Interference	Reason	Correction
Linear drive unit does not move (continued).	Motor defective	Replace motor (see Figure 29, page 45 and Figure 30, page 46).
	Error in power electronics or control unit	Check the power electronics or the control unit.
	Motor cable defective	Check motor cable, replace cable, if required.
Play on reversal	Axial bearing unit not firmly screwed to end plate	Tighten screws (item 160) (see Figure 26, page 39 and Figure 27, page 43).
	Axial bearing unit defective	Complete exchange of the basic unit.
	Groove nut not tightened	Tighten groove nut, secure with lateral threaded pins.
	Pluggable coupling defective	Replace defective coupling (see Figure 29, page 45 and Figure 30, page 46).
	Coupling collides with the flanged housing	Align coupling.
Linear drive unit moves mechanically against the stop during the reference run.	Incorrect direction of rotation	Change motor direction of rotation.
	Broken motor cable	Replace cable.

7 Parts Lists and Drawings

7.1 profiLINE 50, TG1000858

Z-Pos.	Parts number	Designation	E=spare part V=wear part
10	*) +	Guide unit	V
20	1046346	Tension anchor (glued to guide unit with epoxy resin glue)	
30	*) +	Side part / side wall	
40	1056075	Recessed-head screw ISO 10642, type: M2.5 x 8 – A2-50	
45	1063980	Recessed-head screw ISO 10642, type: M2.5 x 12 – A4-50	
50	1046644	Recessed-head screw ISO 10642, type: M2.5 x 16 – A2-50	
60	1004271	Sealing lip	V
70	25165	Induction switch PNP normally closed contact	E
70	726744	Induction switch PNP normally open contact	E
90	1045773	Carriage profiLINE cpl.	
91	626207	Cylindrical screw DIN 912/ISO 4762 - M3 x 6 -8.8 galv.	
100	1045850	Funnel lubrication nipple D1/A/Ø 3.5 mm	
110	626848	Threaded pin ISO 4026, type: M2 x 3 – 45H galv.	E
120	1046635	O-Ring NBR 70 Shore A	E
130	1046288	Lubrication adapter	
140	1082240	Steel ball, type: 3.048 mm Ø grade 20	
150	1045550	End plate	
160	626707	Cylindrical screw, DIN 912/ISO 4762, type: M3 x 12 – 8.8 galv.	
170	1045534	Strop	
180	626571	Cylindrical screw, DIN 912/ISO 4762, type: M2.5 x 10 – 8.8 galvanised	
190	626115	Recessed-head screw DIN 7991/ISO 10642 - M3 x 8 - 8.8 galv.	
200	*) +	Cover	
210	1045581	Flange	
220	1049271	Conical plug Ø 8	
230	626708	Cylindrical screw, DIN 912/ISO 4762, type: M3 x 16 – 8.8 galv.	
240	1048759	Angle plug-in connector 4-pin sockets with cables, type: Series 707 M5 x 0.5	E
250	1048758	Flange plugs 4-pin pins with strand and nut, Type: Series 707 M5 x 0.5	E

+ use depending on design

*) Part number, depending on components used, defined more precisely in customer-specific parts list

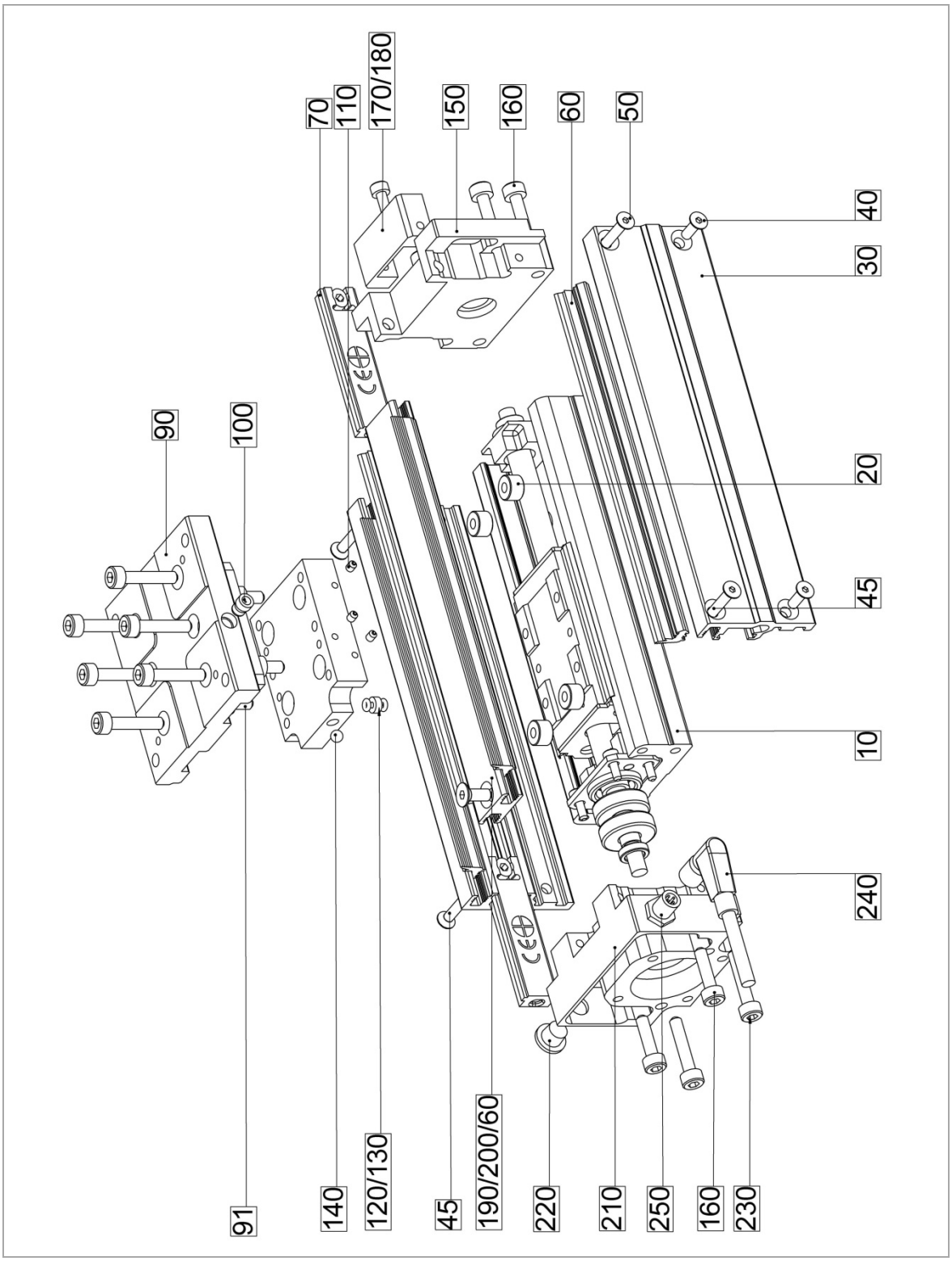


Figure 26 profiLINE 50, exploded drawing

7.2 profiLINE 50 AL Outrigger Axle, TG 1000858

Z-Pos.	Parts number	Designation	E=spare part V=wear part
10	*) +	Guide unit	V
20	1046346	Tension anchor (Tension anchor glued to guide unit with epoxy resin glue)	
30	*) +	Side part / side wall	
40	1056075	Recessed-head screw ISO 10642, type: M2.5 x 8 – A2-50	
45	1063980	Recessed-head screw ISO 10642, type: M2.5 x 12 – A4-50	
50	1046644	Recessed-head screw ISO 10642, type: M2.5 x 16 – A2-50	
70	25165	Induction switch PNP normally closed contact	E
	726744	Induction switch PNP normally open contact (optional):	E
160	626707	Cylindrical screw, DIN 912/ISO 4762, type: M3 x 12 – 8.8 galv.	
210	1045581	Flange	
220	1049271	Conical plug Ø 8	
230	626708	Cylindrical screw, DIN 912/ISO 4762, type: M3 x 16 – 8.8 galvanised	
240	1048759	Angle plug-in connector 4-pin sockets with cables, type: Series 707 M5 x 0.5	E
250	1048758	Flange plugs 4-pin pins with strand and nut, Type: Series 707 M5 x 0.5	E
260	1090599	End plate	
270	*) +	Outrigger	
280	1096753	Switching vane	
290	1096760	Adapter plate	
300	*) +	Cover	
310	*) +	Side wall	
320	1090716	Holding sheet power chain/optional	
330	1090717	Holding sheet power chain 2/optional	

Z-Pos.	Parts number	Designation	E=spare part V=wear part
340	626708	Cylindrical screw, DIN 912/ISO 4762, type: M3 x 16 -8.8 galv.	
350	626067	Lens-head screw ISO 7380, type: M3 x 16 – 10.9	
360	626165	Lens-head screw ISO 7380, type: M3 x 10 – 10.9	
370	626707	Cylindrical screw, DIN 912/ISO 4762, type: M3 x 12 -8.8 galvanised	
380	626155	Recessed-head screw DIN 7991/ISO 10642 - M3 x 8 - 8.8 galv.	
390	627630	Lens-head screw ISO 7380 - M3 x 8 - 10.9 galv.	
400	627630	Lens-head screw ISO 7380 - M3 x 8 - 10.9 galv.	
410	626114	Lens-head screw ISO 10642, type: M3 x 6 -8.8	
420	1090722	Power chain E2 micro, type: Series 06/optional	E
430	1090723	Connection element E2 micro, type: series 06/optional	E
440	1046635	O-ring NBR 70 Shore A, type: 1.25-1.00	E
450	1028704	T.-lubrication nipple DIN 3405, type: D4	
460	1090776	Lubrication adapter	
470	626952	Low hexagon nut with regulation thread ISO 4035, type: M3 – 04 galvanised	
480	*) +	Cover	
490	626780	Recessed-head screw DIN 963/ISO 2009, type: M2.5 x 6 – 8.8 galv.	
500	626116	Recessed-head screw ISO 10642, type: M3 x 10 – 8.8	
870	1018545	Cover, type: GPN340-SW 5	

+ use depending on design

*) Part number, depending on components used, defined more precisely in customer-specific parts list

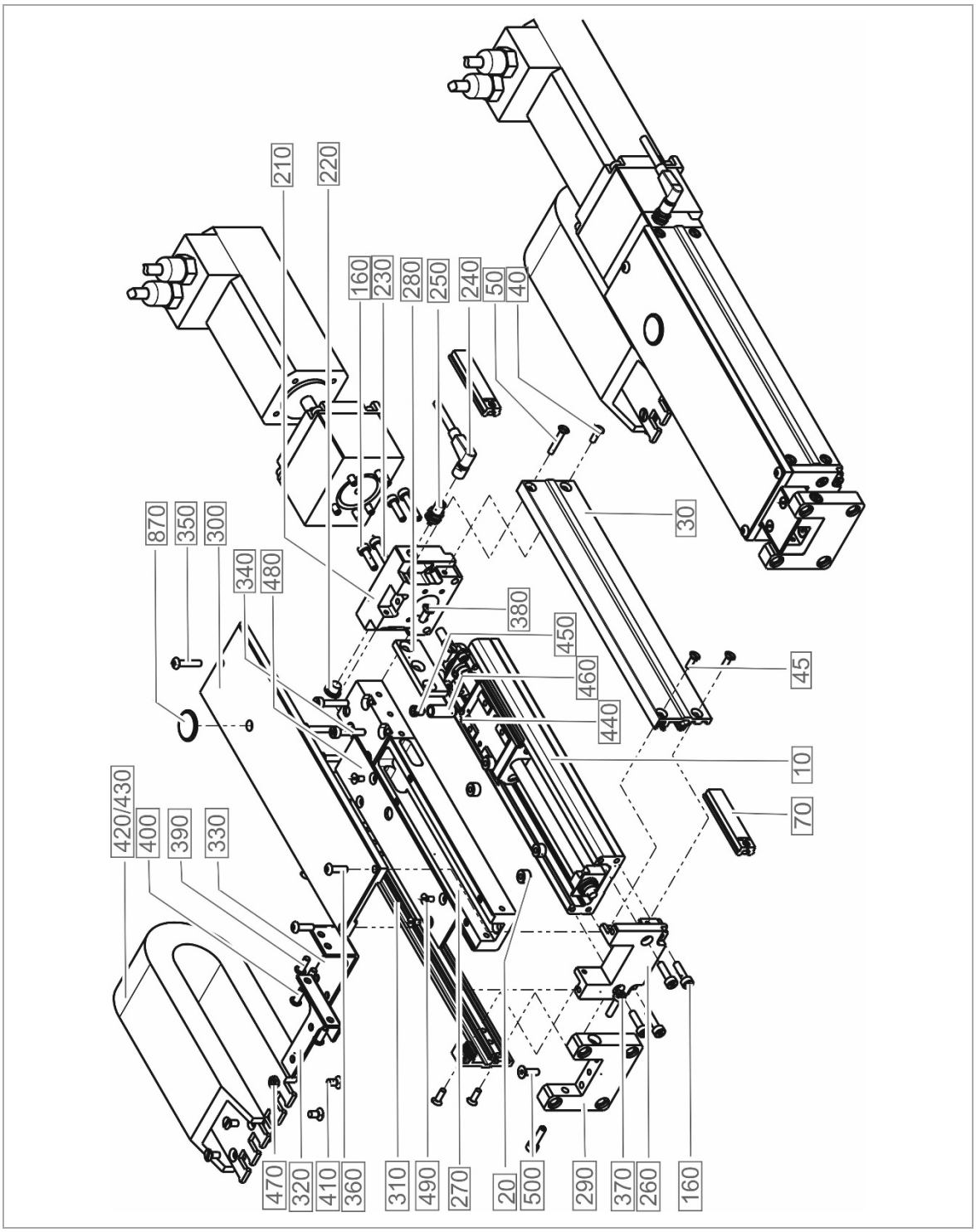
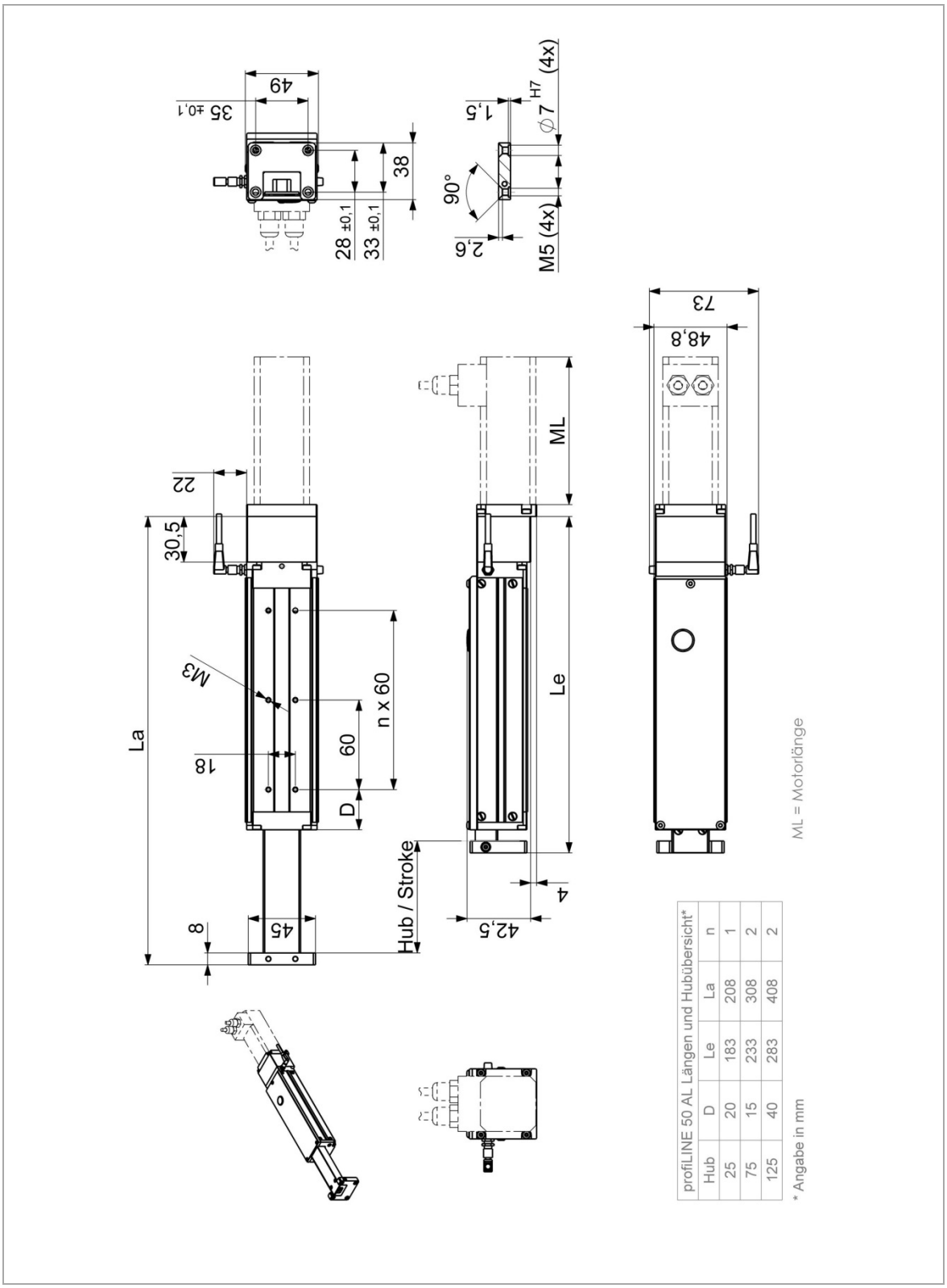


Figure 27 profiLINE 50 AL, exploded view



profiLINE 50 AL Längen und Hubübersicht*

Hub	D	Le	La	n
25	20	183	208	1
75	15	233	308	2
125	40	283	408	2

Figure 28 profiLINE 50 AL, attachment version 5

7.3 Motor Attachment Axial profiLINE 50 and 50 AL, TG1000857

7.3.1 Flange for Axial Motor Attachment, Bolt Circle 40

Z-Pos.	Part no.	Designation	E=spare part V=wear part
10	1048678	Interim flange	
20	626306	Cylinder pin ISO 8734, type 3 x 12 -A	
30	1046208	One coupling half bore 4 H7, type: DK/GS9	E
40	1046214	Elastomer insert sprocket 80 Shore A, type: ZK9	V
50	1046209 +	One coupling half bore 6 H7, type: DK/GS9	E
60	626216	Cylindrical screw DIN 912/ISO 4762, type: M3 x 40 - 8.8 galvanised	
70	1048536 +	Flange plate, type: LK 32	
80	626705	Cylindrical screw DIN 912/ISO 4762, type: M3 x 8 - 8.8 galvanised	

+ use depending on design

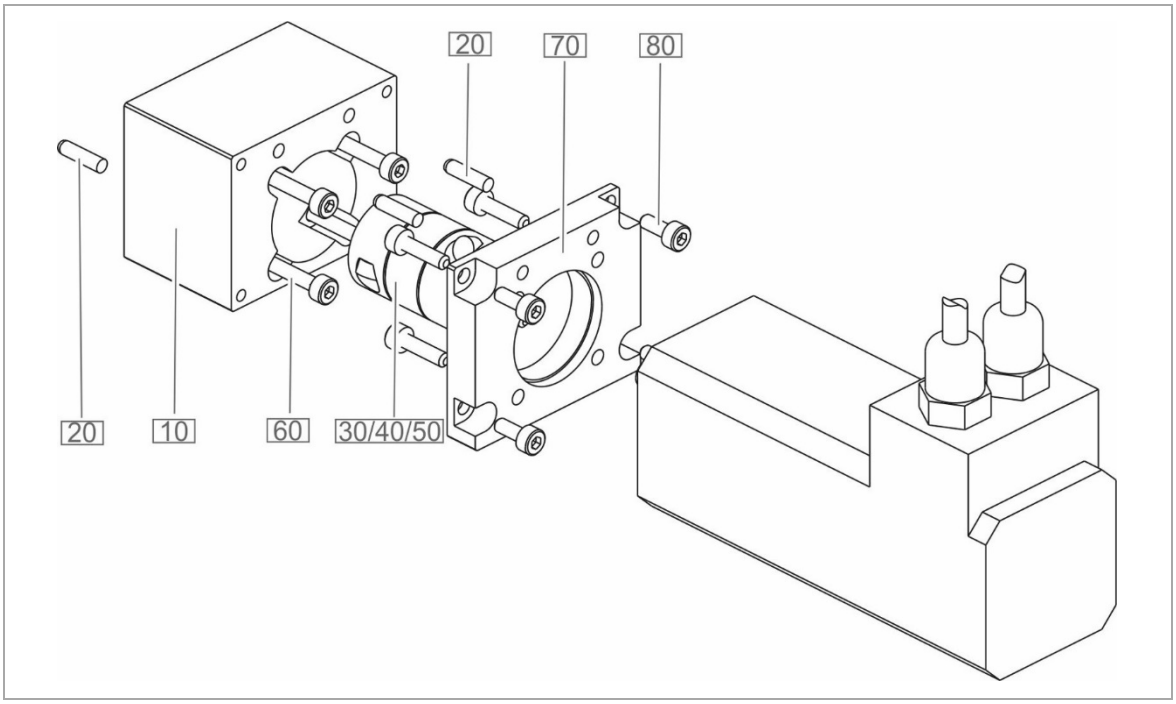


Figure 29 Flange for axial motor attachment, bolt circle 40, exploded illustration

7.3.2 Flange for Axial Motor Attachment, Bolt Circles 63, 66 and 67

Z-Pos.	Part no.	Designation	E=spare part V=wear part
10	1048678	Interim flange	
20	626306	Cylinder pin ISO 8734, type 3 x 12 -A	
30	1046208	One coupling half bore 4 H7, type: DK/GS9	E
40	1046214	Elastomer insert sprocket 80 Shore A, type: ZK9	V
50	1046210 +	One coupling half bore 9 H7, type: DK/GS9	E
60	626216	Cylindrical screw, DIN 912/ISO 4762, type: M3 x 40 - 8.8 galvanised	
70	1046204	Flange plate, type: LK 63/motor-specific	
70	1046206	Flange plate, type: LK 66, 67/motor-specific	
80	626705	Cylindrical screw, DIN 912/ISO 4762, type: M3 x 8 - 8.8 galvanised	

+ use depending on design

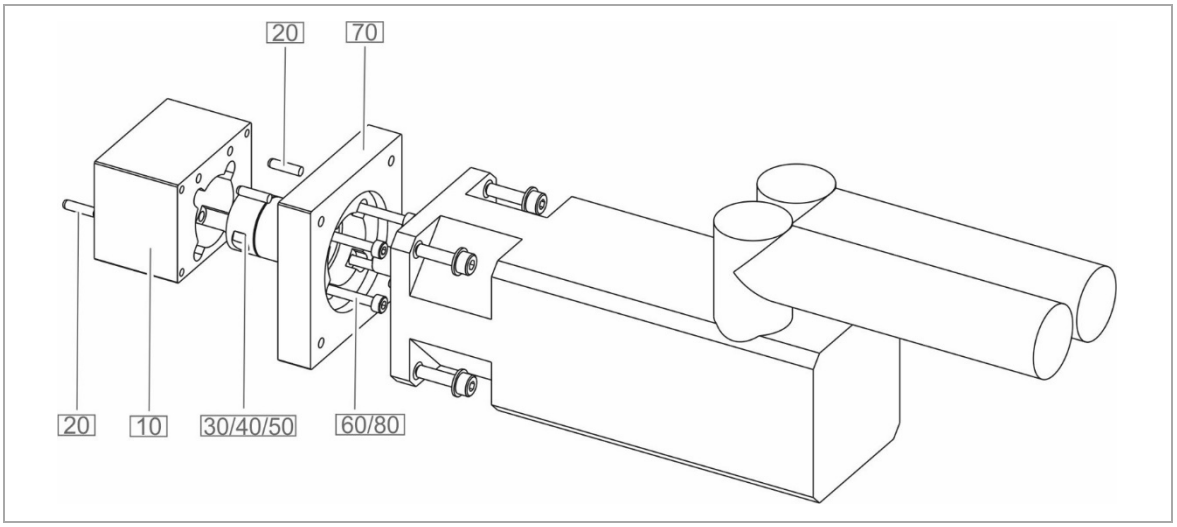


Figure 30 Flange for axial motor attachment, bolt circles 63, 66 and 67, exploded view

7.4 Interim Plate, Part Number 1050242

This interim plate is needed for:

- Cross-installation carriage against basic body
- Cross-installation carriage against carriage (2)

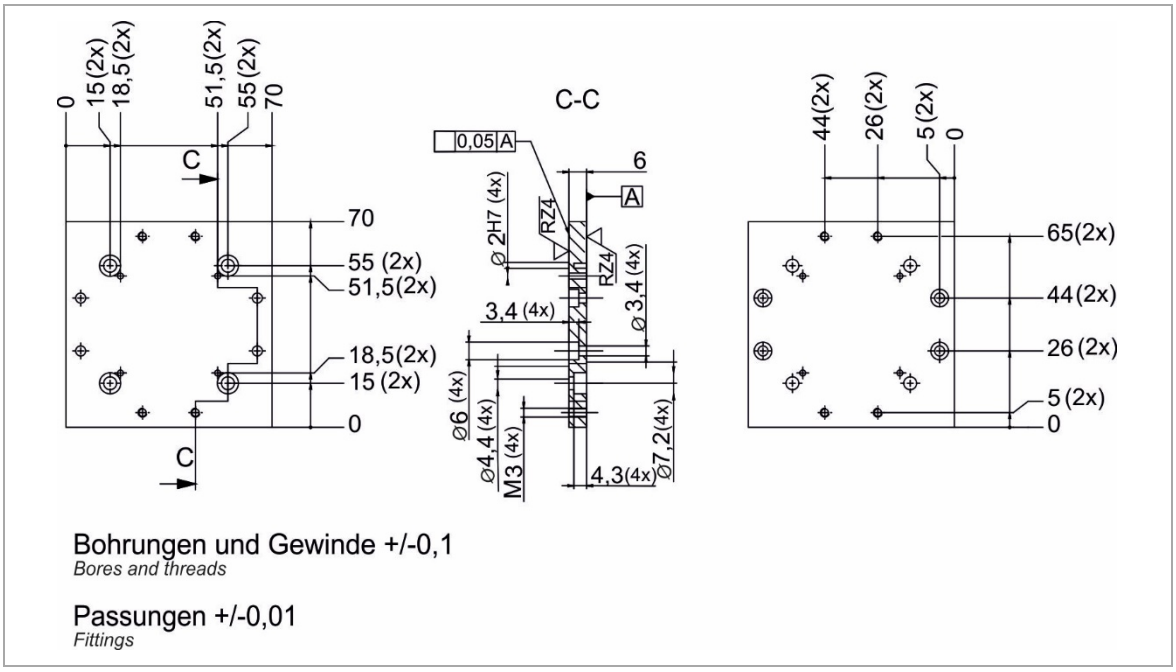


Figure 31 Adapter plate