Translation of the original instructions

profiLINE 140

Edition: March 2019
Article no.: 1039740

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Change History

Document Code	Date	Revision
EN_profiLINE140_R3b.doc	July 2005	Release of the English document.
MAN_EN_1039740_pofiLINE140_R3c.doc	April 2013	Formal changes. Translation from German Document: “MAN_DE_1039739_profiLINE140_R4d.doc”.
MAN_EN_1039740_pofiLINE140_R3d.docx	05.03.2019	Updating the document in relation to new EMC and low voltage directive

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1 Safety

1.1 Definition or warning notes

WARNING

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

CAUTION

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

NOTE Offers additional information.

1.2 General warning notes

The module 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.

WARNING

The system must be powered down for all assembly, disassembly or repair work. There is a high danger of injury.

WARNING OF HOT SURFACE

During operation, heating of the motor, in particular of stepper motors, can cause 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.

CAUTION

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

CAUTION

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

NOTE Observe the Declaration of Incorporation (see section *Declaration of incorporation, page 48*).

1.3 Special hazard warnings

In addition, this translation of Original User's Manual also contains the following special hazard warning:

DANGER OF CRUSHING

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

2 Intended use

The profiLINE 140 movement unit (see *Figure 1*) is a precise, linear adjustment unit with spindle drive that is 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 movement units of IEF-Werner GmbH, it can be used to build complex multi-axis positioning systems as well.

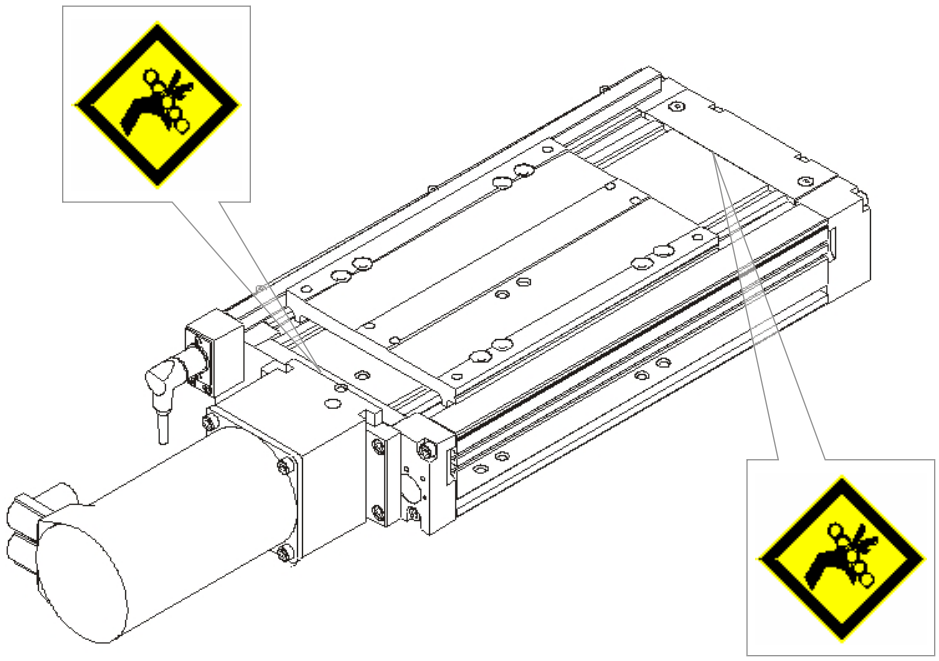

Figure 1: Module profiLINE 140

Area of application of the module profiLINE 140:

- Component insertion systems
- Palletising systems
- Loading and unloading stations
- Manipulators for the packaging industry
- etc.

2.1 Reasonably foreseeable misuse

The linear module profiLINE 140 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.

3 Assembly instructions

3.1 Installation position

The installation position is optional, i.e. the profiLINE 140 movement unit can be installed horizontally as well as vertically.

CAUTION

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

3.2 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.

3.2.1 Axial motor installation

The carriage unit permits installation of the motor 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. To centre the motor flange, the ball bearing of the floating spindle bearing is used. Additional pinning of the motor flange with the end plate is not required.

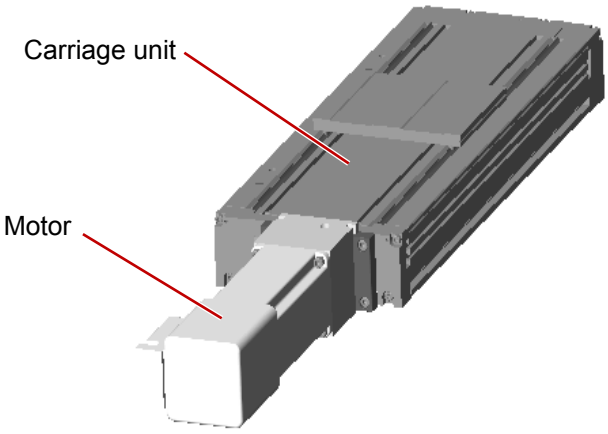

Figure 2: Carriage unit with axial motor installation

3.2.1.1 Pluggable coupling

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

The following hubs are available:

Motor shaft diameter	Motor coupling hub article number
10	1064071
11	1064073
12	1064074
14	1064075
15	1064076
16	1064077
19	1064123
20	1064078

Different motor shaft diameters are available on request

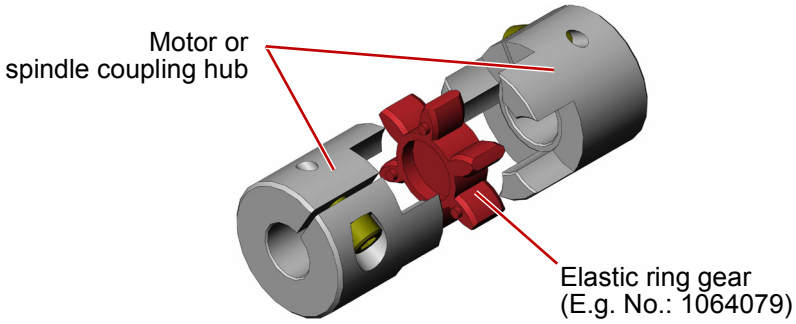

Figure 3: Pluggable coupling

NOTE 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" =16 mm is observed in the installed condition. Light greasing can reduce the axial installation force.

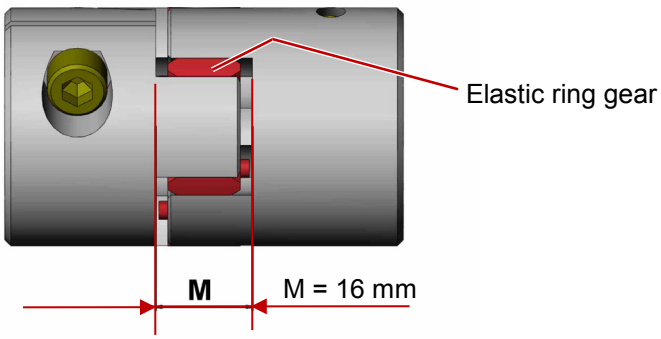

Figure 4: Coupling with installation dimension

3.2.2 Motor installation via offset gearbox flange

The advantages of this installation variant are:

- Shorter overall length
- Gear reduction
- Adaptation to specific customer installation conditions with 4 possible installation variants

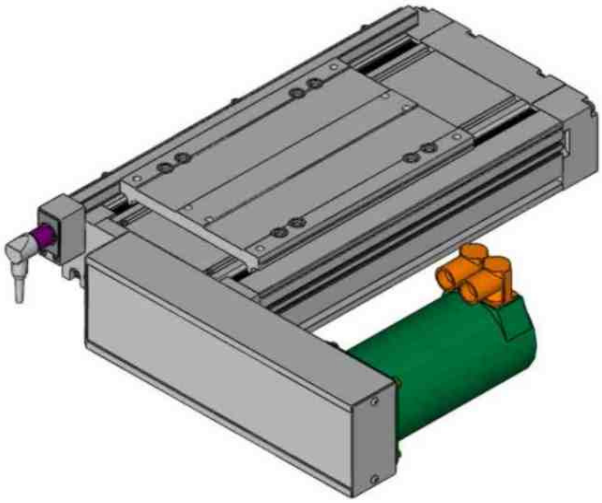

Figure 5: Motor installation via offset gearbox flange

NOTE For an overview of the different motor installation variants, see the section *Motor installation variants, Page 38*.

3.2.2.1 Overview of reduction ratios

Transmission i =	Toothed disc of motor	Toothed disc of spindle	Max. motor shaft*	Belt length [mm]	Distance between axes [mm]
Preferred series					
1 : 1	32	32	16	330	85
1 : 1	32	32	16	340	90
1 : 1	32	32	16	375	107.50
1 : 1	32	32	16	450	145
1 : 1	32	32	16	500	170
1 : 1	40	40	20	375	87.5
1 : 1	40	40	20	390	95
1 : 1	40	40	20	480	140
1 : 1	40	40	20	525	162.5
2:1	16	32	14	300	89.09
2:1	16	32	14	305	91.62
2:1	16	32	14	330	104.22
2:1	16	32	14	390	134.4
2:1	16	32	14	420	149.46
2:1	16	32	14	450	164.51
2:1	20	40	16	330	88.57
2:1	20	40	16	340	93.65
2:1	20	40	16	420	134.06
2:1	20	40	16	450	149.15
2:1	20	40	16	480	164.23
2,5:1	16	40	14	330	93.04
2,5:1	16	40	14	420	138.68
2,5:1	16	40	14	480	168.92

Different transmission ratios or distances between axes on request
* Plain motor shaft possible

3.3 Transverse installation

Two methods are available for the transverse mounting of the profiLINE 140 movement units (see the following sections).

3.3.1 Mounting of basic body on carriage

The transverse mounting is performed by means of two clamping rails, article No.: 1010173. The overall height of the transverse mounting is 140 mm.

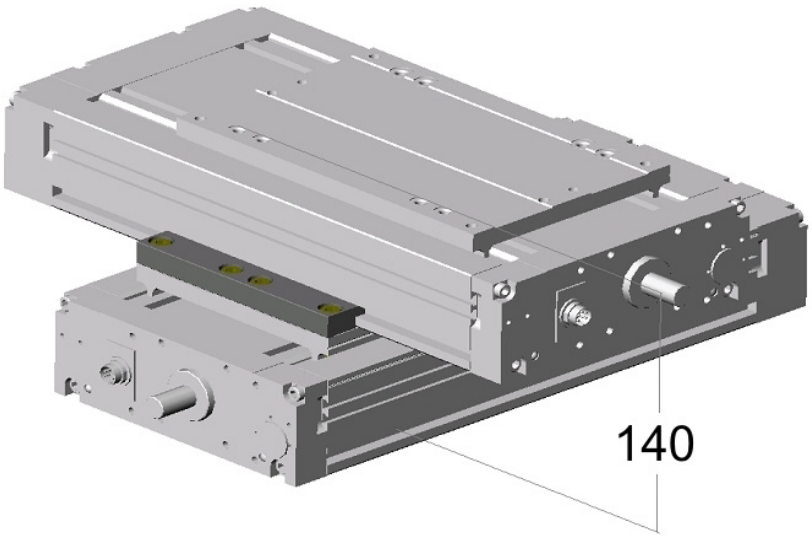

Figure 6: Basic body on carriage

3.3.2 Mounting of carriage on carriage

The transverse mounting is performed by means of an adapter plate, article No.: 1010169 as well as two clamping rails article no.: 1010173. The overall height of the transverse mounting is 155 mm (incl. adapter plate).

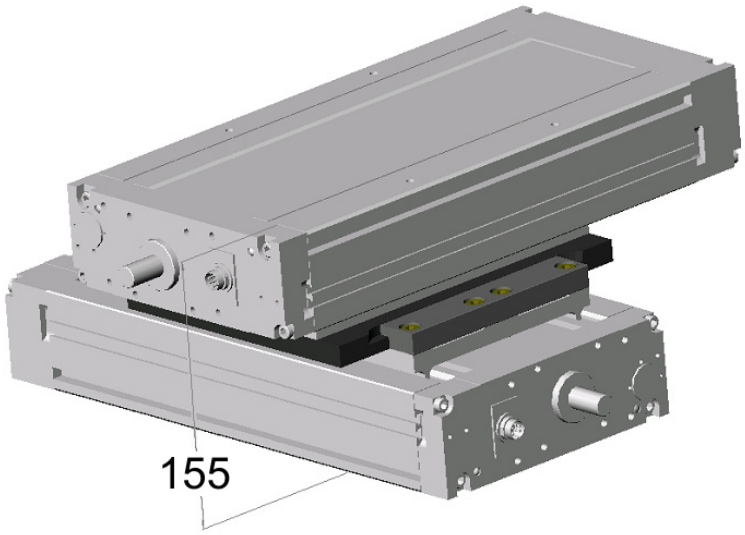

Figure 7: Carriage on carriage

3.4 Attachment

The profiLINE 140 movement unit is attached to a level installation surface with clamping profiles. We recommend using drilled attachment holes with a spacing of 80-120 mm. The basic body has four mating holes to make possible a reproducible position.

If the attachment with clamping profiles is not possible, drilled attachment holes in the basic body can also be made. Please contact us in this case.

The following clamping elements are available for attachment (see, e.g. *Clamping rail M105 (Part* No.: 1010173)*, page47*):

Part No.	Designation	Length [mm]
220702	Type 16 clamping element	16
28674	Type 105 clamping element	105
220702	Type 140 clamping element	140
1010173	Clamping element (transverse mounting)	130
1019192	Clamping profile, yard goods	Length of the basic unit
	Clamping profiles according to customer drawing	

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

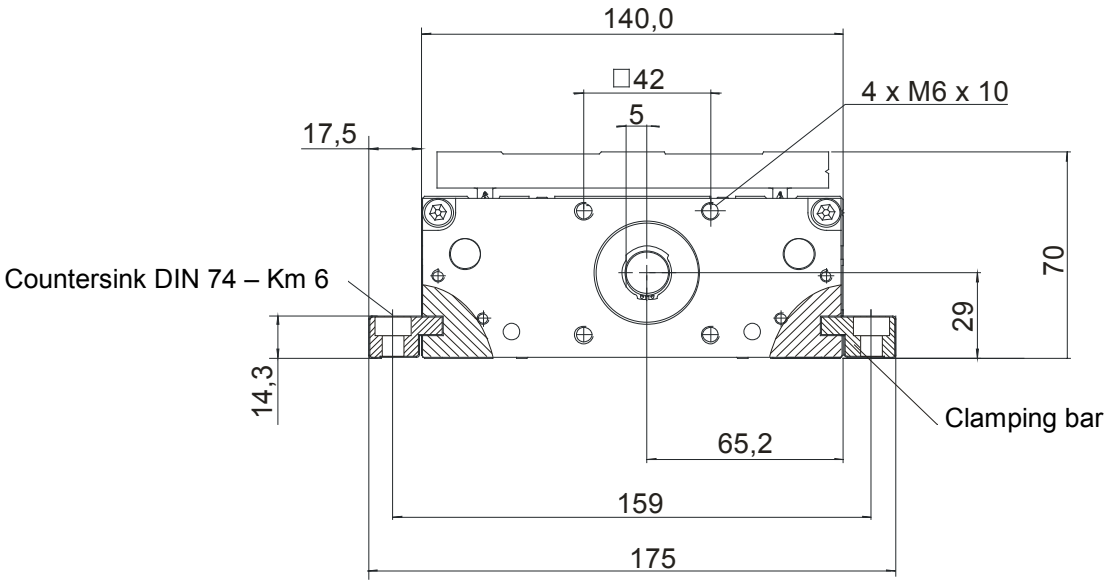

Figure 8: Attachment of profiLINE 140

3.4.1 Installation of actuators

The actuators (cylinders, pick-up modules, etc.) that are to be installed on the profiLINE 140 movement unit can be attached via the drilling pattern on the carriage. Six drillings (M6) are available for the attachment (see *Figure 9*).

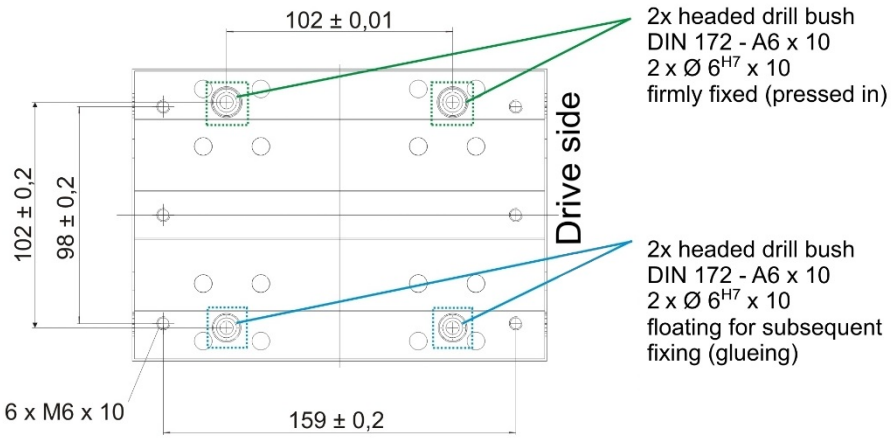

Figure 9: Drilling pattern

CAUTION

During attachment, observe that the maximum screw-in depth of 9 mm is not exceeded because this would lead to severe damage to the guide system.

3.4.2 Pinning

The profiLINE 140 movement unit provides the possibility to pin a transverse mounting or a customised installation without additional tools (drill, reamer) in a reproducible manner. For this purpose, four hardened drill bushings are located in the short carriage section.

Two drill bushings are firmly pressed in, two other drill bushings are inserted in a floating manner in larger drillings. A fixed bearing and a floating bearing are arranged diagonally. The part to be pinned requires a firmly defined drilling pattern for the mating holes that corresponds to the drilling pattern in the short carriage section.

During installation and pinning, one of these floating drill bushings is embedded with special two-component adhesive (article No.: 1027620) in the floating bearing. During installation of the alignment pins, the drill bushing is optimally aligned with the alignment pins of the part to be pinned. This type of pinning permits subsequent "fine adjustment" of the transverse mounting within one hour. The adhesive hardens fully within 24 hours.

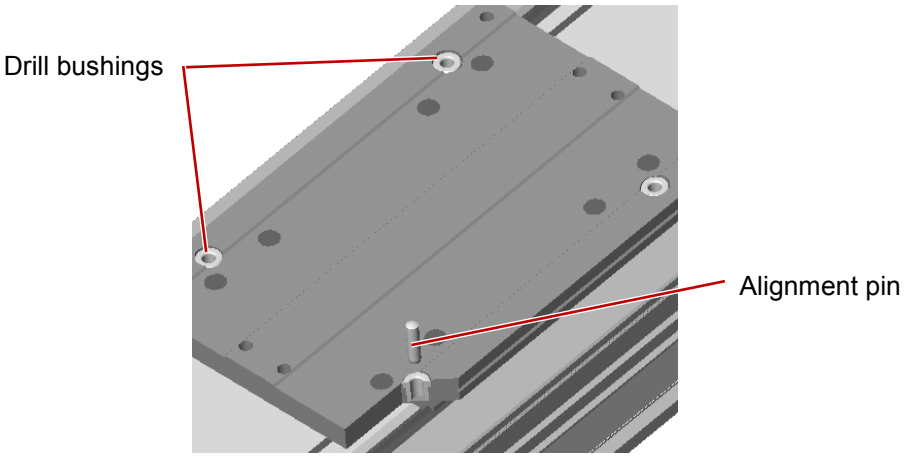

Figure 10: Drill bushings of profiLINE 140

Scaled drawing for alignment pins	Tolerance	Drilled hole	Article no. of drill bushing
102 x 102	± 0,01	6 ^{H7}	627122

3.5 Wiring

3.5.1 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.

3.5.2 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. 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. The aluminium profile can be built into the carriage or be externally attached.

3.5.2.1 Technical data of initiators

Parameter	Value
Operating voltage	(10...30) V_{DC}
Operating voltage residual ripple	< 10 %
Current load capacity	$I_a \leq 150$ mA
Voltage drop at I_a max.	≤ 3.5 V
Switching frequency	≤ 1 kHz
Own current consumption	≤ 10 mA
Nominal switching distance on steel	2 mm
Switching hysteresis (H)	(3...15) %
Reproducibility (R_{max})	± 3%
Operating temperature	(-25 ... +70) °C
Protection class	IP 67
Short-circuit proof (response value for short-circuit protection 160mA)	Yes
Protected against polarity reversal	Yes
Switch dampened	LED off
Switch not dampened	LED lit

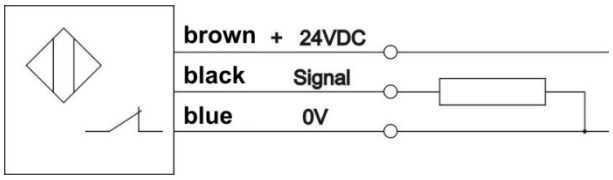

Figure 11: Electrical connection of PNP normally closed contact

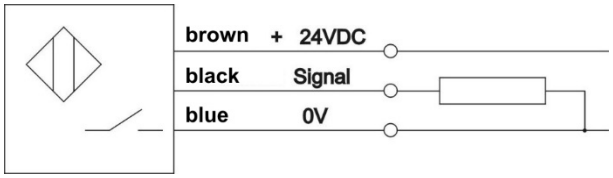

Figure 12: Electrical connection of PNP normally open contact

Pin-no.	assignment	IEF-cable
1	+ 24 V	brown
2	limit switch -movement	green
3	0 V	white
4	limit switch +movement	yellow
5	Reference switch	grey

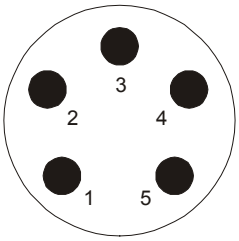

Figure 13: Plug assignment, view of pins

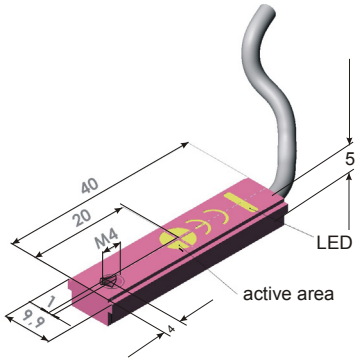

Figure 14: Initiator

3.5.2.2 Installation of initiators

Initiators and cables are installed in an aluminium profile and routed centrally to a plug. The aluminium profile can be built into the carriage or be externally attached.

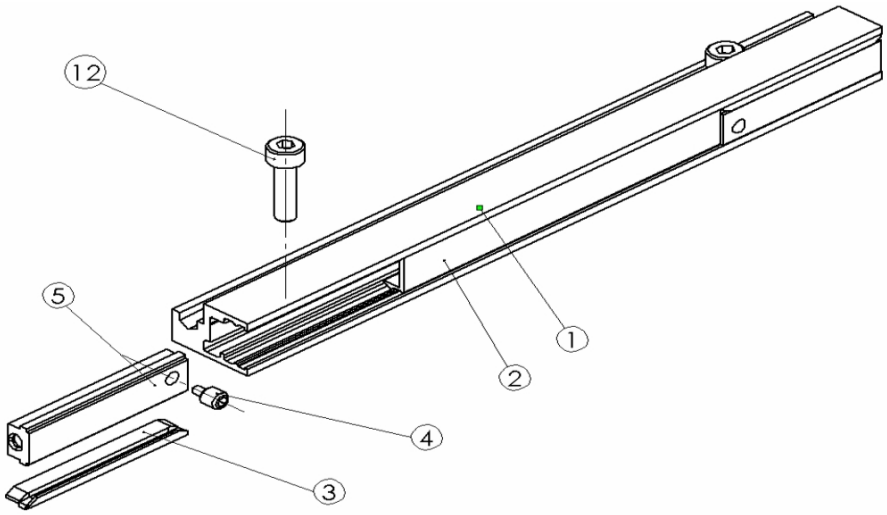

Figure 15: Installation of initiators

No.	Designation	Article no.
1	Aluminium strip	1003692
2	Clip strip	028668
3	Limit switch holder	028585
4	Threaded pin M4	030887
5	Initiator PNP normally closed contact	025165
5	Initiator PNP normally open contact	726744
12	Screw M4 x 14 DIN 7984	1016016

3.5.2.3 External installation of the initiators

External installation of the initiators is possible on both sides of the movement unit (see *Figure 16*).

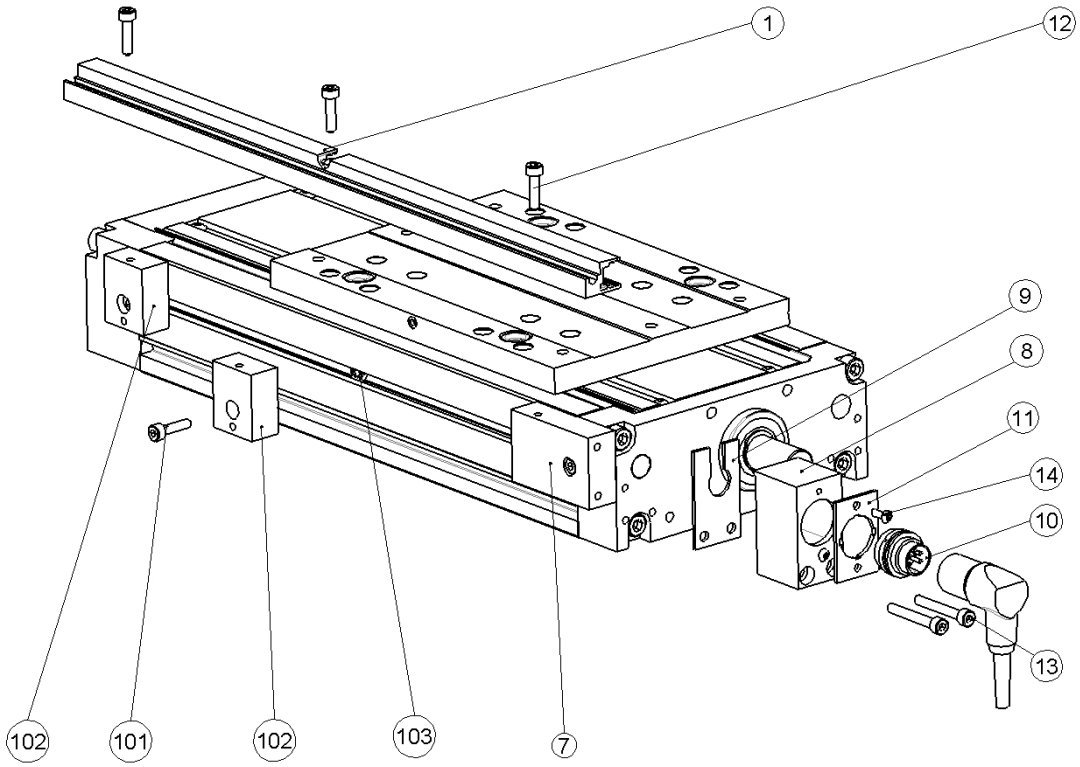

Figure 16: External installation of the initiators (Zn; 1010438)

No.	Designation	Article no.
1	Aluminium strip	1003692
7	Holder	1008967
8	Adapter piece	1006140
9	Cover	1006139
10	Connector	725163
11	Retaining plate	025626
12	Screw M4 x 16 DIN 7984	626061
13	Screw M4 x 30 DIN 912	626485
14	Screw M3 x 6 DIN 7380	626164
101	Screw M4 x 12 DIN 912	656836
102	Holder	1008969
103	Nut M4 DIN 439	626953

3.5.2.4 Integrated installation of the initiators

In case of integrated installation, the initiators are within the movement unit and are protected against contamination or mechanical influences (see *Figure 17*).

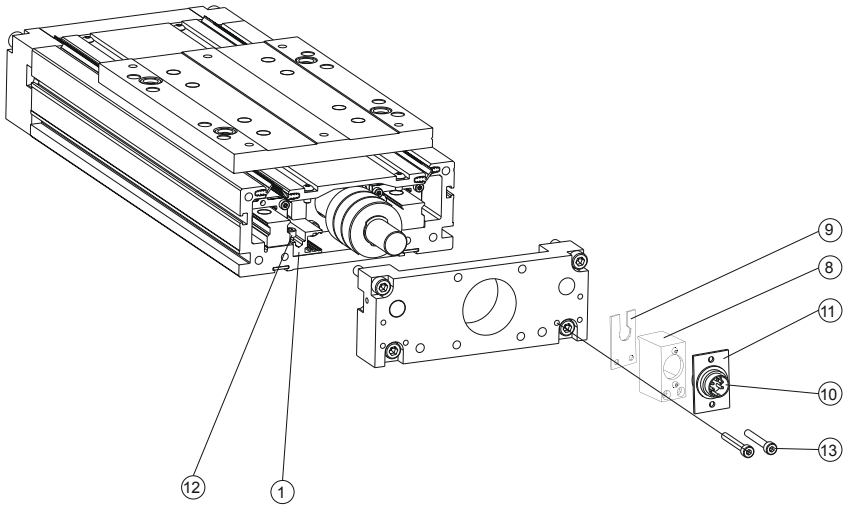

Figure 17: Integrated installation of the initiators

No.	Designation	Article no.
1	Aluminium strip	1003692
8	Adapter piece	1006140
9	Cover	1006139
10	Connector	725163
11	Retaining plate	25626
12	Screw M4 x 14 DIN 7984	1016016
13	Screw M4 x 30 DIN 912	626485

NOTE At integrated installation of the initiators, particularly observe that only screws according to DIN 7984 (flat-head) are used, because the guide carriages would otherwise be damaged.

3.5.3 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:

$$r_{min} \geq \textbf{10 x cable diameter}$$

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 to also order cables and cable routing chains at IEF-Werner GmbH.

3.6 Technical data

3.6.1 Tightening torques for screw connection

Screw 8.8 DIN 912	M3	M4	M5	M6	M8
Torque [Nm]	1.3	2.7	5.5	9.5	23

3.6.2 Standard strokes profiLINE140

Preferred series		Special stroke	
Stroke [mm]	Length of basic unit LB [mm]	Stroke [mm]	Length of basic unit LB [mm]
60	285	30	255
120	345	90	315
180	405	150	375
240	465	210	435
300	525	270	495
360	585	330	555
420	645	390	615
480	705	450	675
540	765	510	735
600	825	570	795
660	885	630	855
720	945	690	915
780	1005	750	975
840	1065	810	1035
900	1125	870	1095
960	1185	930	1155
1020	1245	990	1215

3.6.3 Type label

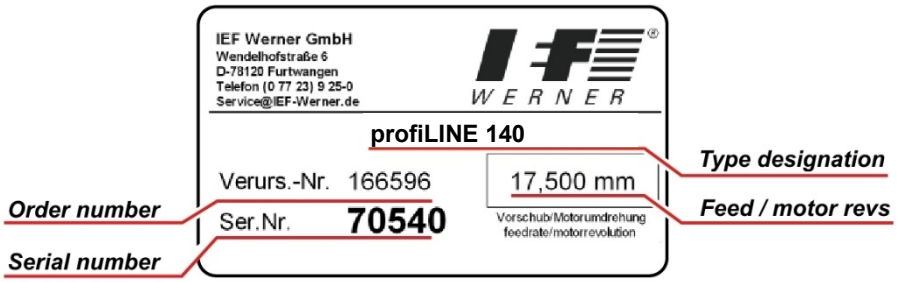

Figure 18: Type label (example)

3.6.4 Technical data of the linear module profiLINE 140

Parameter	Value
max. carrying capacity C_1 [N]	3000
max. carrying capacity C_2 [N]	3000
max. axial load F_x [N]	3000
max. torque M_x [Nm] (static)	250
max. torque M_y [Nm] (static)	250
max. torque M_z [Nm] (static)	250
Weight [kg] Basic carriage with a stroke of 60 mm, no motor flange, no motor	7.1
Weight increase [kg] per 60 mm length	0.76
Moving carriage part, 185 mm long [kg]	~ 2,4
Temperature range [°C]	(0 ... +60) °C
Processing precision [µm / 500 mm] *	≤ 40
Repetition accuracy [µm]	± 20
Lead screw error [µm / 300 mm] *	≤ 50
Basic moment of friction [Nm]	0.3

* 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. We recommend using continuous clamping profiles for the attachment of the movement unit.

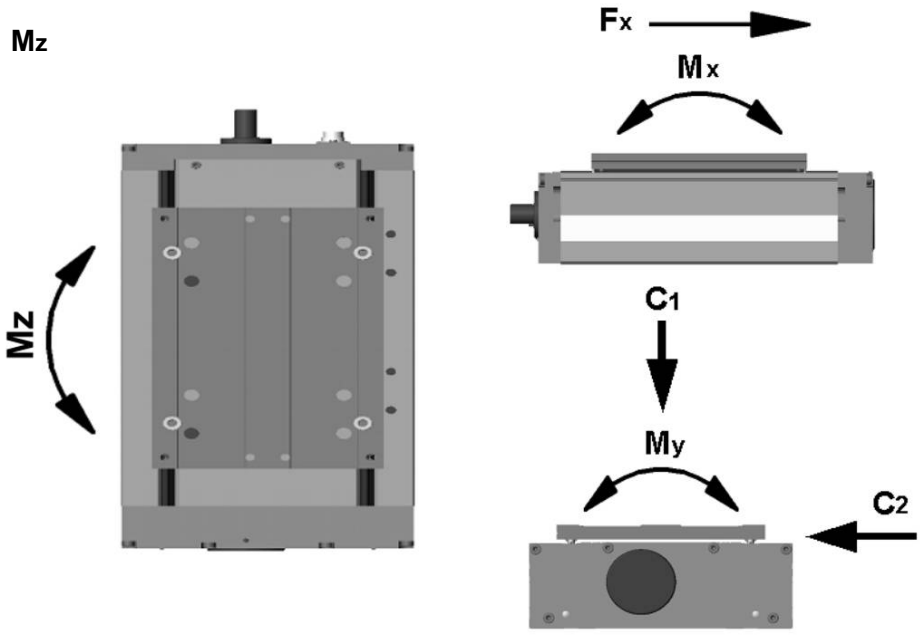

Figure 19: Torques and carrying capacity

4 Maintenance

CAUTION

Preventive maintenance, lubrication and repairs must only be performed by specialist personnel who have read and understood the operating instructions.
Only use original replacement parts, otherwise IEF-Werner GmbH will not accept any warranty.

CAUTION

Always power down the system before starting repairs.

During the design of the linear axis, great importance was placed on the use of low-maintenance components. All roller elements were provided with lifetime lubrication in the factory. However, to ensure a long service life, we recommend regular maintenance.

The required maintenance intervals depend on the ambient conditions. The maintenance intervals should be reduced for unfavourable ambient conditions.

4.1 Guide rail system

The guide carriages are equipped with long-time lubrication by default. The additional ball chain, which prevents metallic contact friction between the balls, and therefore wear, is used for improved lubrication and, as a consequence, extremely long relubrication periods. Lubricant Dynalub 510 is used to grease the guide carriages. Never use any grease that contains ester oils. The guide carriages each have one grease nipple at the front. These grease nipples become accessible after removal of the cover (see *Figure 25, page 31*).

For carriages produced after October 2005, the guide carriages can be lubricated from the outside on the left and right via the central connections of the carriage.

Under regular operating conditions, relubrication should take place after an operating performance of 10000 km or, if this is not reached, after about two years.

Relubrication is performed, e.g., with a special grease press (IEF-item no.: 1055123).

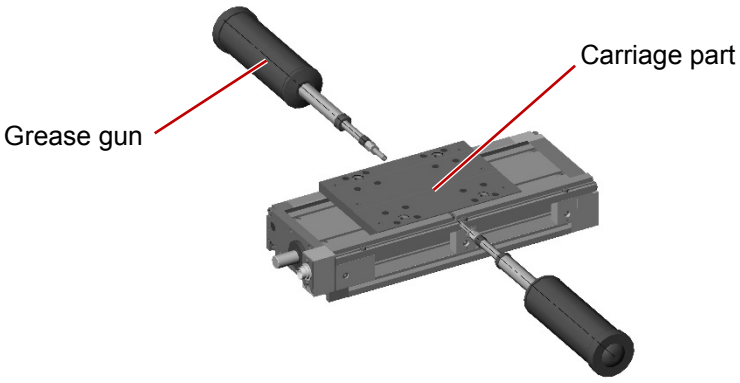

Figure 20: Guide rail system

4.2 Ball screw spindle

The ball screw spindles are equipped with a wiper system. The ball screw spindles are filled with grease ex works. The recommended maintenance intervals under regular ambience conditions are approx. 600 operating hours.

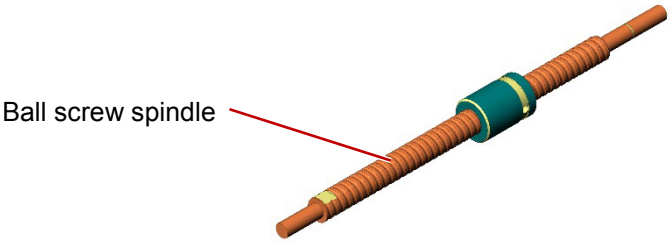

Figure 21: Ball screw spindle

The high-precision groove nut is installed so that the ground contact surface contacts the inner ring of the axial bearing. It is secured by the lateral size 2 threaded pins.

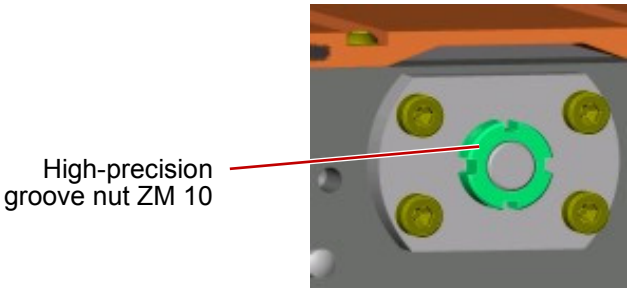

Figure 22: Groove nut

Tightening torque of the groove nut [Nm]	6
Tightening torque of the threaded pin [Nm]	1
IEF article number of the groove nut	731905

4.3 Sealing lip system

The movement unit is equipped with a sealing lip system of oil- and coolant-resistant NBR material 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 (article no.: 1004271).

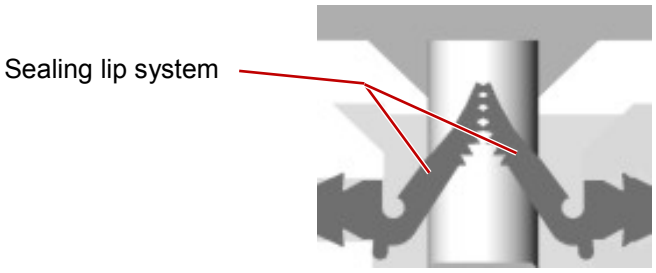

Figure 23: Sealing lip system

5 Troubleshooting

Interference	Reason	Correction
Increased running noise	Nominal service life of guide carriage exceeded	Replace all guide carriages (see item 110 in drawing TG1000900 in *Figure 25, page 31*)
	Profile rail guide worn	Replace profile rail guide (see item 21 in drawing TG1000303 in *Figure 24, page 29*), replace all guide carriages (see item 110 in drawing TG1000900 in *Figure 25, page 31*)
	Profile rail guide corroded	Replace profile rail guide (see item 21 in drawing TG1000303 in *Figure 24, page 29*), replace guide carriages as well if required (see item 110 in drawing TG1000900 in *Figure 25, page 31*)
	Axial bearing unit defective	Replace unit (see item 25 in drawing TG1000900 in *Figure 24, page 29*)
	Ball screw runs dry	Relubricate ball screw (see item 24 in drawing TG1000303 in *Figure 24, page 29*)
	Floating bearing defective	Replace ball bearing (see item 26 in drawing TG1000303 in *Figure 24, page 29*) Check spindle seat, replace ball screw as required (see item 24 in drawing TG1000303 in *Figure 24, page 29*)
	End plates are not aligned to be flush with the ball screw	Align and re-pin "fixed bearing" end plate (see item 16 in drawing TG1000303 in *Figure 24, page 29*), and motor end plate (see item 17 in drawing TG1000303 in *Figure 24, page 29*)
	Pluggable coupling defective	**Only for axial motor installation:** Replace defective coupling (see items 54, 55, 56 in drawing TG1000315 in *Figure 26, page 35*)
	Coupling collides with the flanged housing	Align coupling
	Gearbox toothed belt defective or running against the retaining rings of the toothed disk	**Only for motor installation via toothed belt gearbox:** Replace toothed belt (see item 67 in drawing TG1000308 in *Figure 27, page 37*) Align toothed disks to prevent contact (see items 64, 66 in drawing TG1000308 in *Figure 27, page 37*)
	Motor (motor bearing) defective	Replace motor (see item 57 in drawing TG1000315 in *Figure 26, page 35*)
	Motor with brake, brake does not open correctly	Apply current to the brake, if the brake still does not open correctly, replace motor (see item 57 in drawing TG1000315 in *Figure 26, page 35*)
Linear drive unit does not move	Limit switch cable not connected.	Connect the cable

Troubleshooting, continued

Interference	Reason	Correction
Linear drive unit does not move	Limit switch defective	Replace limit switch (see item 5 in drawing in *Figure 15, page 18*)
	Limit switch cable defective	Check limit switch cable
	Solder connection on socket has come loose	Solder on wires
	Motor connected incorrectly	Check and change connector assignment, if required
	Motor defective	Replace motor (see item 57 in drawing TG1000315 in *Figure 26, page 35*)
	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 (see item 49 in drawing TG1000303 in *Figure 24, page 29*)
	Axial bearing unit defective	Replace unit (see item 25 in drawing TG1000900 in *Figure 24, page 29*)
	Groove nut not tightened	Tighten groove nut, secure with lateral threaded pins (see item 27 in drawing TG1000303 in *Figure 24, page 29*)
	Ball screw nut defective	Replace ball screw (see item 24 in drawing TG1000303 in *Figure 24, page 29*)
	Pluggable coupling defective	**Only for axial motor installation:** Replace defective coupling (see items 54, 55, 56 in drawing TG1000315 in *Figure 26, page 35*)
	Coupling collides with the flanged housing	Align coupling
	Gearbox toothed belt not tensioned	**Only for motor installation via toothed belt gearbox:**Tension toothed belt (see item 67 in drawing TG1000308 in *Figure 27, page 37*)
	Toothed disk has play	**Only for motor installation via toothed belt gearbox:** Check and tighten clamping sets or replace, if damaged (see items 63, 65 in drawing TG1000308 in *Figure 27, page 37*)
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

6 Parts lists and drawings

6.1 Basic unit profiLINE 140 (TG 1000303)

Drawing item	Article no.	Part (1) / subassembly (0)	Usage	Designation	Wear part = V Replacement part = E
15	1000288	0		Basic unit	
16	1008813	1		Fixed bearing end plate	
17	1008794	1		Motor end plate	
18	1008971	1		Fixed coverlid	
19	1000287	0		Carriage cover	
20	1005611	1		Clamping rail	
21	1016012	1		Guide rail	V
23	1016023	1		Plastic sealing caps	E
24	*	0		Spindle	V
25	1008976	1		Axial angular ball bearing	V
26	627093	1		Deep groove ball bearing	V
27	731905	1		Groove nut	
28	1004271	0		Sealing lip	V
29	1004271	0		Sealing lip	V
31	626890	1		Locking ring 15 DIN 471	
32	1005640	1	+	Sealing plug D=10.7	E
33	1008879	1		End plate cover	
37	626340	1		Cylindrical pin 6m6 x 20 DIN 6325	
38	626988	1		Cylindrical pin 6m6 x 32 DIN 6325	
40	1000316	0		Cover	
41	626706	1		Screw M3 x 10 DIN 7991	
42	625179	1		Fillister head screw. M4 x 10 DIN 7380	
43	626123	1		Screw M4 x 6 DIN 7991	
45	627070	1		Screw M4 x 20 DIN 912	
47	626040	1		Screw M6 x 20 DIN 912	
48	627158	1		Screw M6 x 30 DIN 912	
49	626034	1		Screw M6 x 40 DIN 6912	
501	1000900	0		Carriage profiLINE140	

+ use depending on design

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

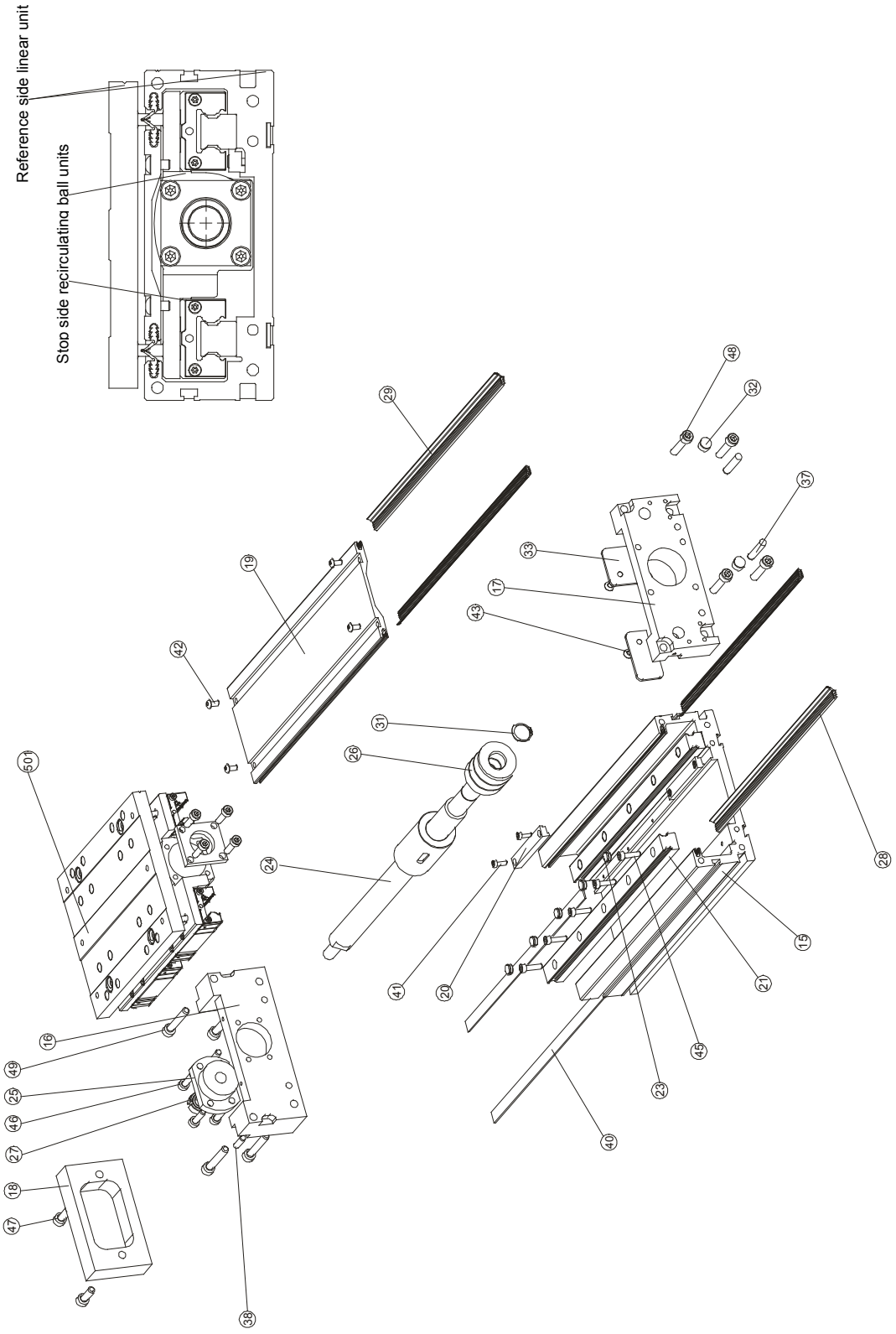

Figure 24: Basic unit profiLINE 140, exploded view (TG1000303)

6.2 Carriage unit profiLINE 140 (TG 1000900)

Drawing item	Article no.	Part (1) / subassembly (0)	Designation	Wear part = V Replacement part = E
10	1053986	1	Carriage body with lubrication, Type: profiLINE	
20	626328	1	Cylindrical pin, DIN 6325, type: 5m6 x 18	
30	626710	1	Cylindrical screw, tin-plated, DIN 912, type: M4 x 8	
40	1008755	1	Sealing plug d=8.4 nature	E
50	627122	1	Headed drill bushes, DIN 172, type: A6 x 10	
60	1028704	1	Funnel lubrication nipple, DIN 3405, type: D4	
70	1082240	1	Steel ball, type: 3.048 mm∅	
80	1016410	1	Plain bearing profiLINE140	V
90	1008965	1	Pressure plate	
100	626057	1	Cylindrical screw, tin-plated, DIN 912, type: M5 x 20	
110	1029382	1	Guide carriage with ball roller chain, narrow, type: size15, class P	V
120	1054150	1	Lubrication tube	
130	1022701	1	O-Ring NBR 70 Shore A, type: 2,50-1,00	V
140	1054156	1	Grease adapter	
150	1054366	1	O-Ring NBR 70 Shore A, type: 10,50-1,50	V
160	736317	1	Plastic hose, blue, type: PUN-3x0.5-BL	

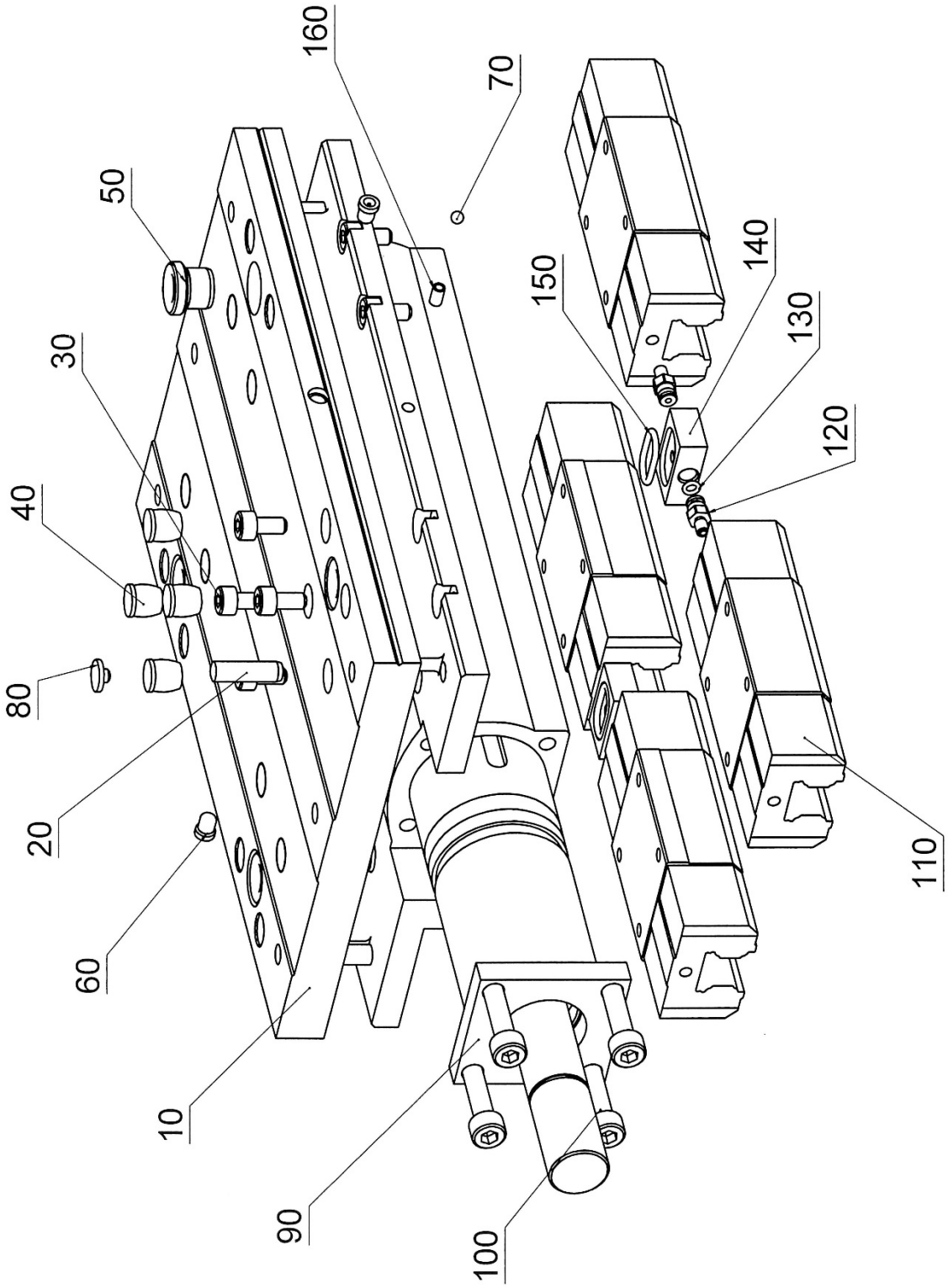

Figure 25: Exploded view carriage profiLINE 140 with lubrication (TG1000900)

6.3 Parts list limit switch strip internal (TG 1000338)

See *Figure 15, page 18* and *Figure 17, page 20*.

Drawing item	Article no.	Part (1) / subassembly (0)	Usage	Designation	Wear part = V Replacement part = E
1	1003692	0		Aluminium strip	
2	028668	1		Clip strip	
3	028585	1		Limit switch holder	
4	030887	1		Threaded pin M4	
5	025165	1		Initiator PNP normally closed contact	E
5	726744	1		Initiator PNP normally open contact	E
8	1006140	1		Adapter piece	
9	1006139	1		Cover	
10	725163	1		Connector	
11	025626	1		Retaining plate	
12	626061	1		Screw M4 x 16 DIN 7984	
13	626485	1		Screw M4 x 30 DIN 912	
14	626164	1		Screw M3 x 6 DIN 7380	

6.4 Parts list limit switch strip external (TG 1000338)

See *Figure 16, page 19*.

Drawing item	Article no.	Part (1) / subassembly (0)	Usage	Designation	Wear part = V Replacement part = E
1	1003692	0		Aluminium strip	
2	028668	1		Clip strip	
3	028585	1		Limit switch holder	
4	030887	1		Threaded pin M4	
5	025165	1		Initiator PNP normally closed contact	E
5	726744	1		Initiator PNP normally open contact	E
8	1006140	1		Adapter piece	
9	1006139	1		Cover	
10	725163	1		Connector	
11	025626	1		Retaining plate	
12	626061	1		M4 x 16 DIN 7984	
13	626485	1		Screw M4 x 30 DIN 912	
14	626164	1		Screw M3 x 6 DIN 7380	
7	1008967	1		Holder	
101	626836	1		Screw M4 x 14 DIN 912	
102	1008969	1		Holder	
103	626953	1		Nut M4 DIN 439	

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6.5 Motor installation, axial (TG 1000315)

Drawing item	Article no.	Part (1) / subassembly (0)	Usage	Designation	Wear part = V Replacement part = E
74	626037	1		Screw M6x20 DIN 912	
51	1008977	1		Coupling housing	
52	*	1	+	Flange	
53	734161	1		Sealing plug d=10.7	
54	1064076	1		Coupling hub spindle	
55	1064079	1		Ring gear (red)	V
56	*	1	+	Coupling hub motor	
57	*	1	+	Motor	V
58	626244	1		Screw M6 x 60 DIN 912	
59	*	1	+	Screw	

+ use depending on design

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

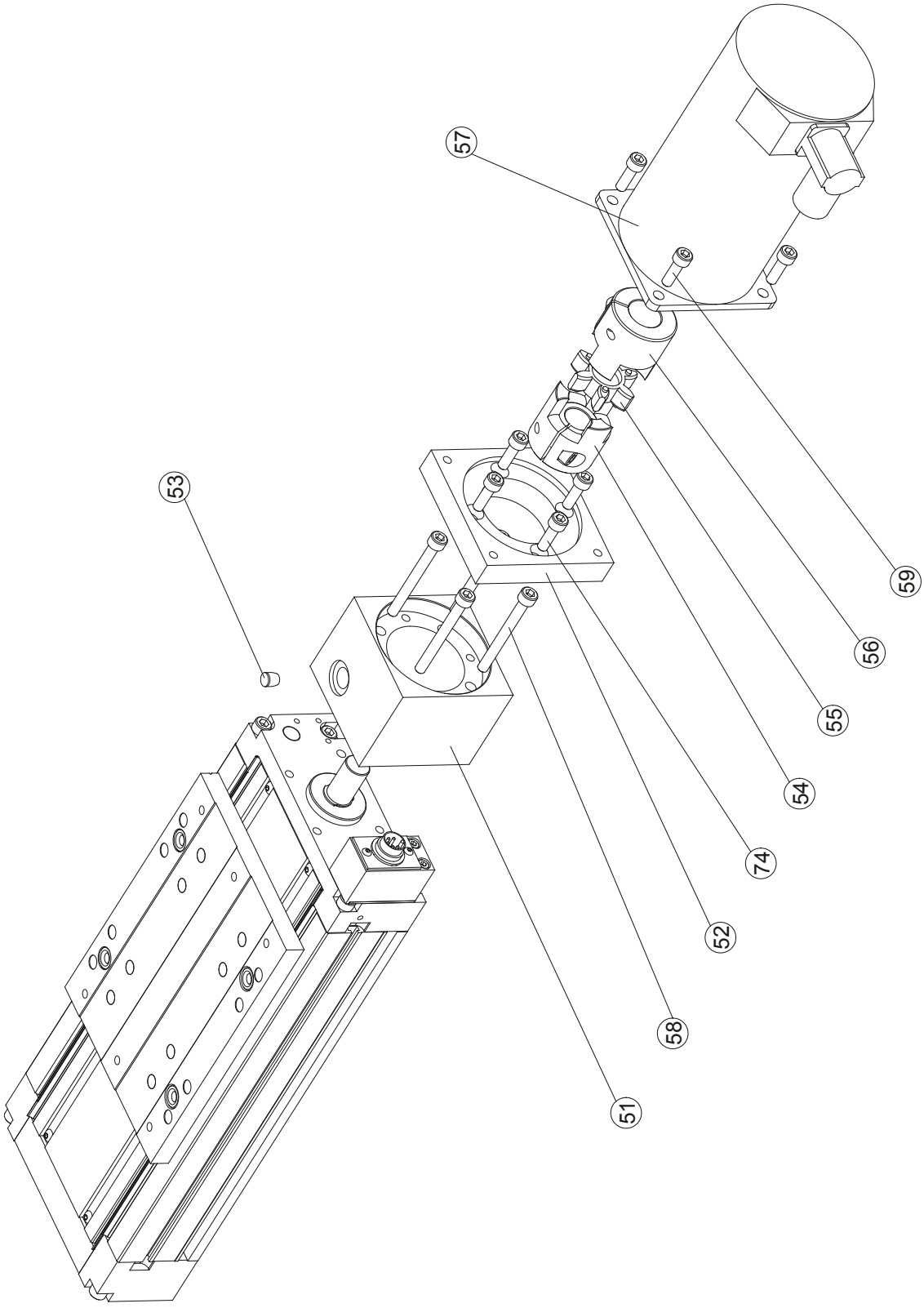

Figure 26: Axial motor flange profiLINE 140

6.6 Motor installation, gear flange (TG 1000308)

Drawing item	Article no.	Part (1) / subassembly (0)	Usage	Designation	Wear part = V Replacement part = E
57	*	1		Motor	V
60	*	0		Housing for belt gear	
61	1003999	1		Cover	
62	1004001	1		Insertion cover	
63	527263	1	+	Clamping set 15/28	
64	*	1		Toothed disc of spindle	
65	*	1	+	Clamping set	
66	*	1		Toothed disc of motor	
67	*	1		Gear toothed belt	V
68	1042097	1		Motion link, flat M5 / M6	
70	*	0		Reducer sleeve	
71	*	1		Screw	
72	626764	1		Screw M6 x 12 DIN 912	
73	626072	1		Screw M4 x 8 DIN 7380	

+ use depending on design

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

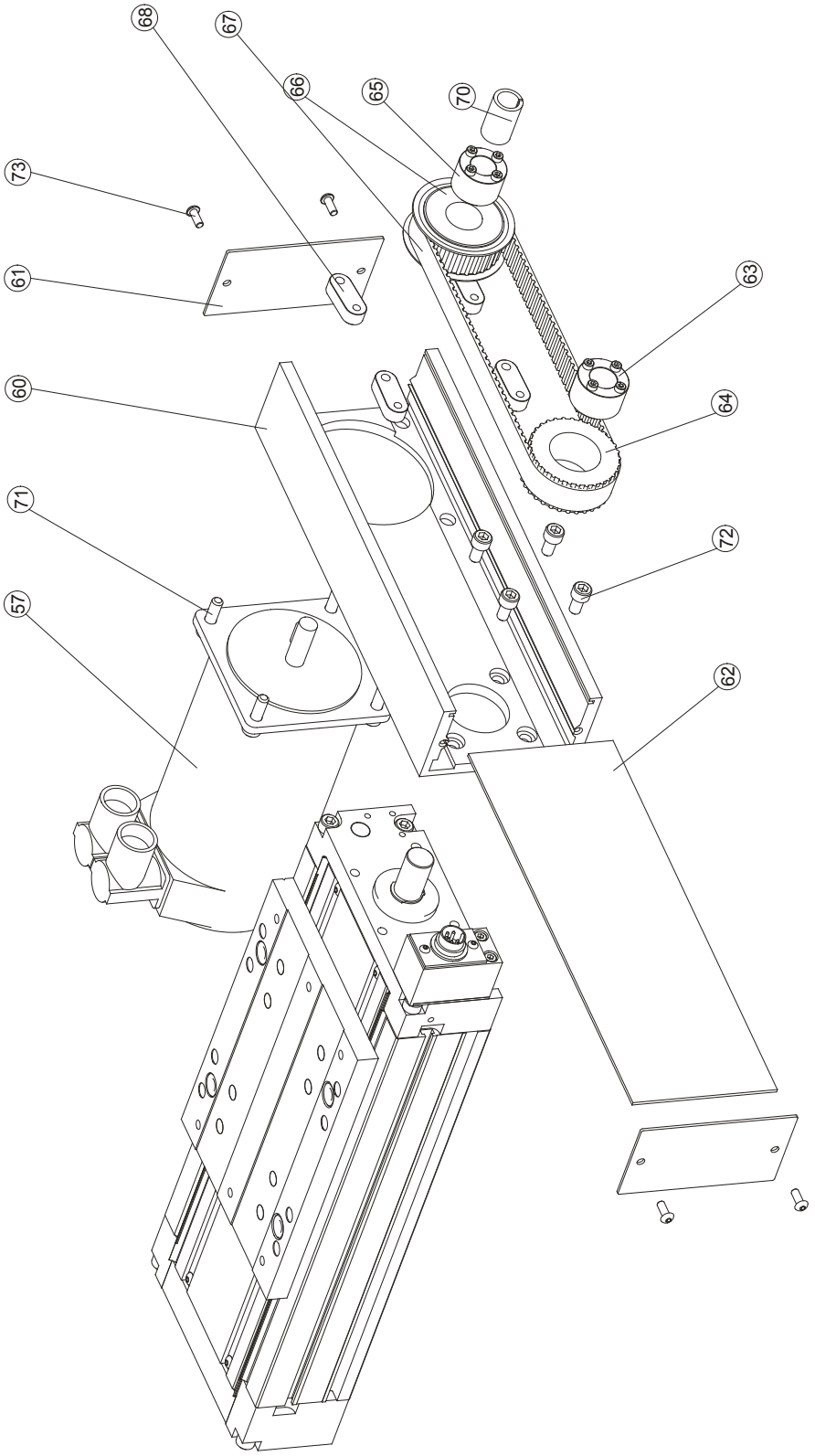

Figure 27: Belt gear of profiLINE 140

6.7 Motor installation variants

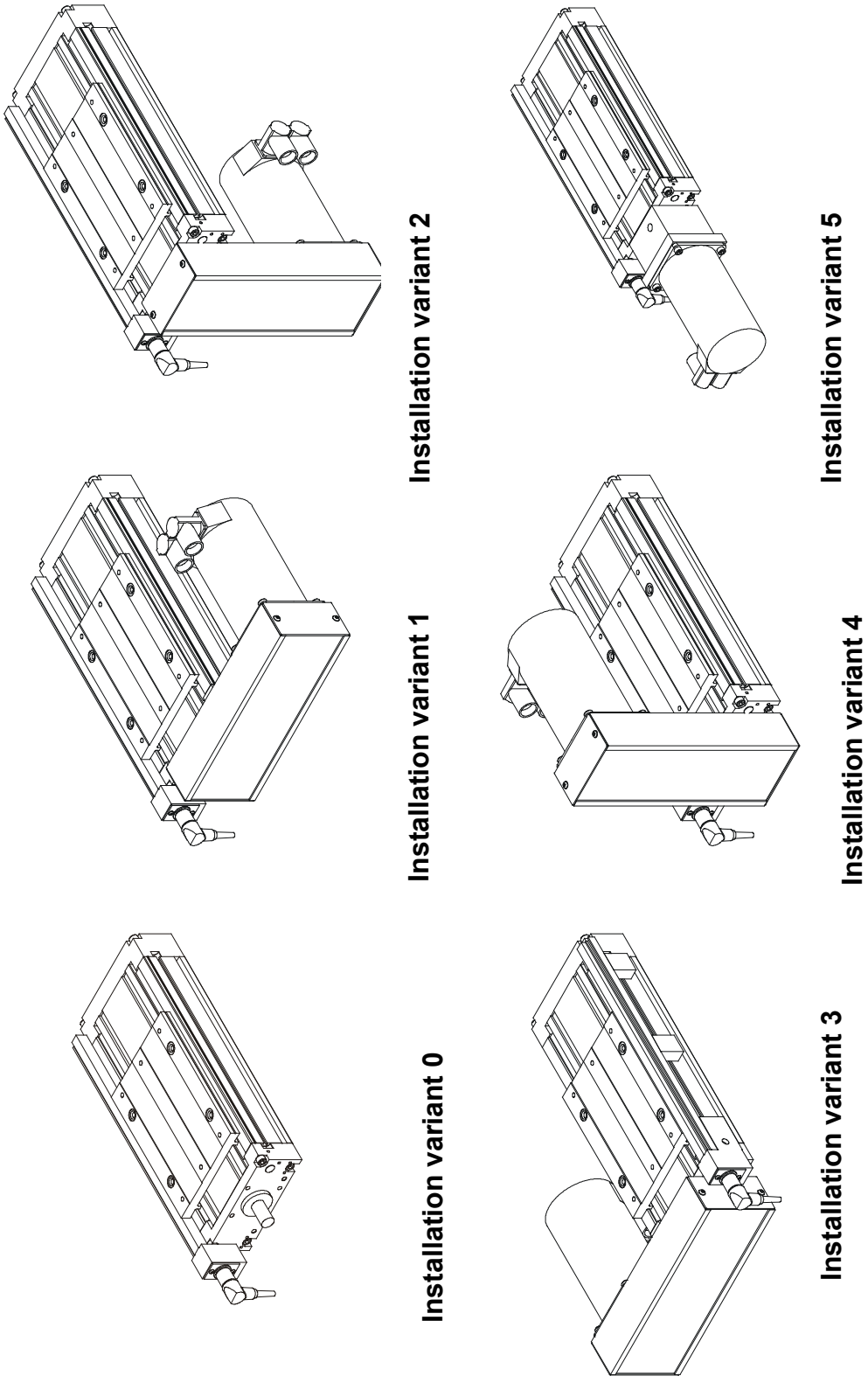

Figure 28: Motor installation variants profiLINE140

6.7.1 Installation variant 0 profiLINE 140

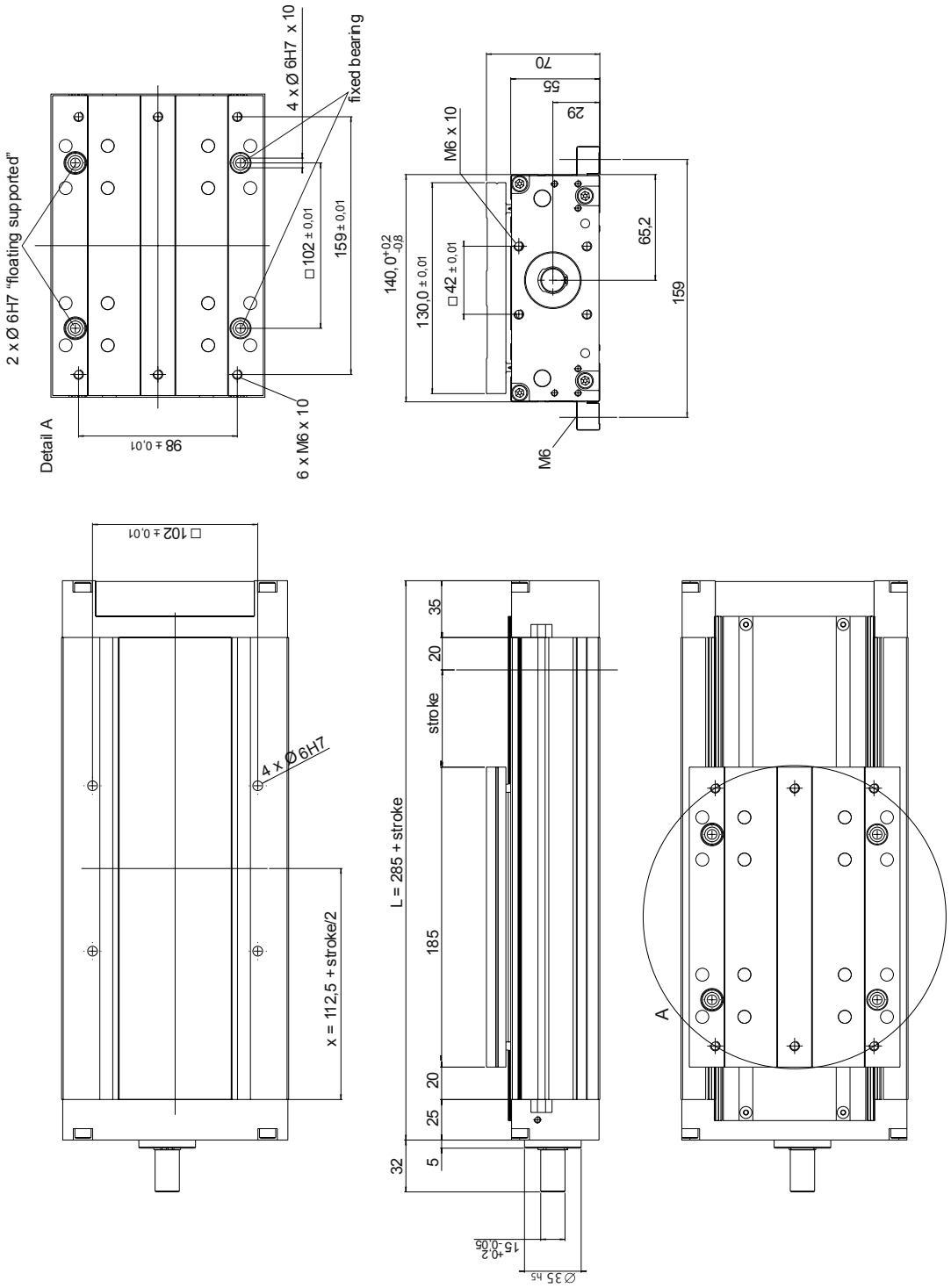

Figure 29: Installation variant 0

6.7.2 Installation variant 1 profiLINE 140

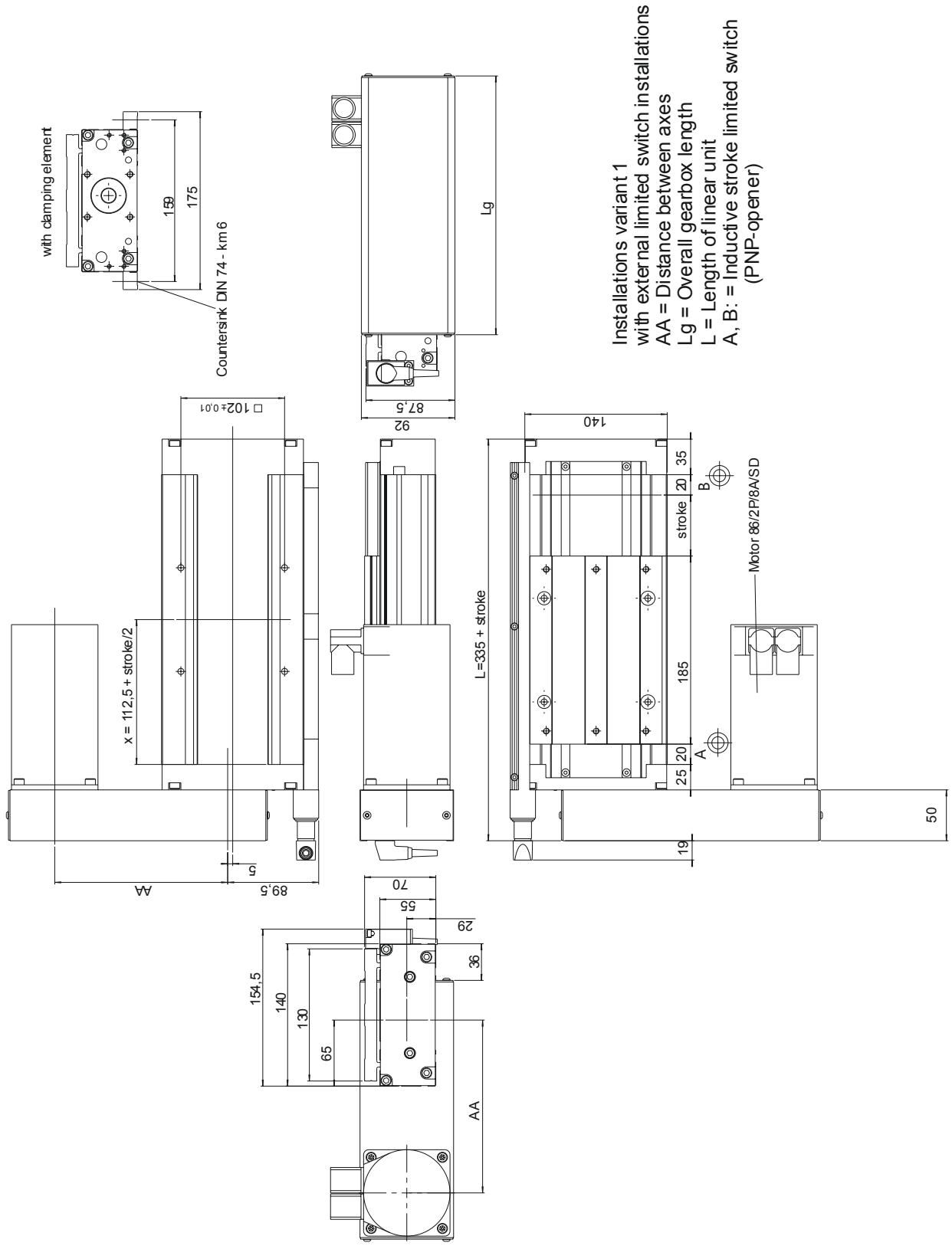

Figure 30: Installation variant 1

6.7.3 Installation variant 2 profiLINE 140

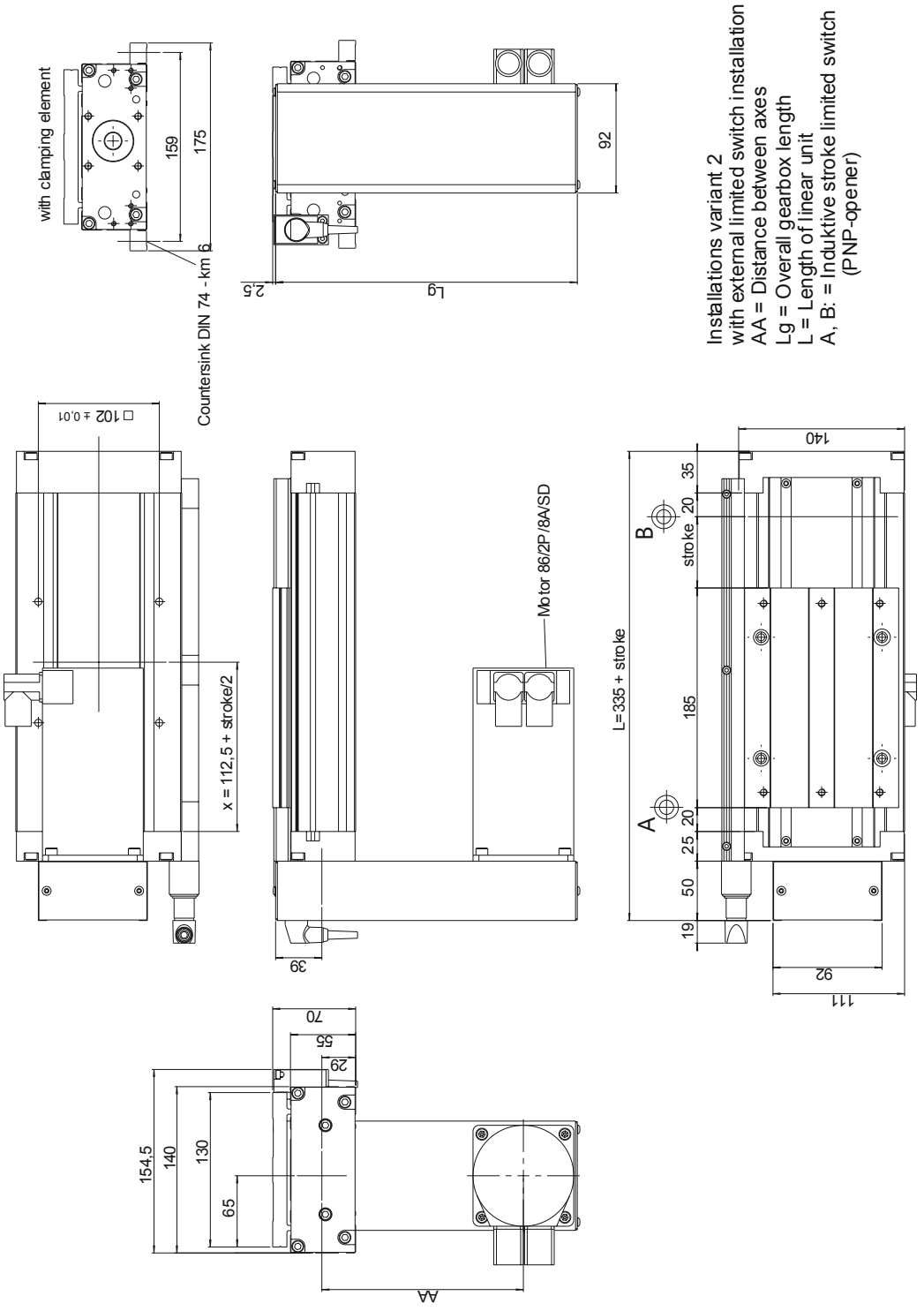

Figure 31: Installation variant 2

6.7.4 Installation variant 3 profiLINE 140

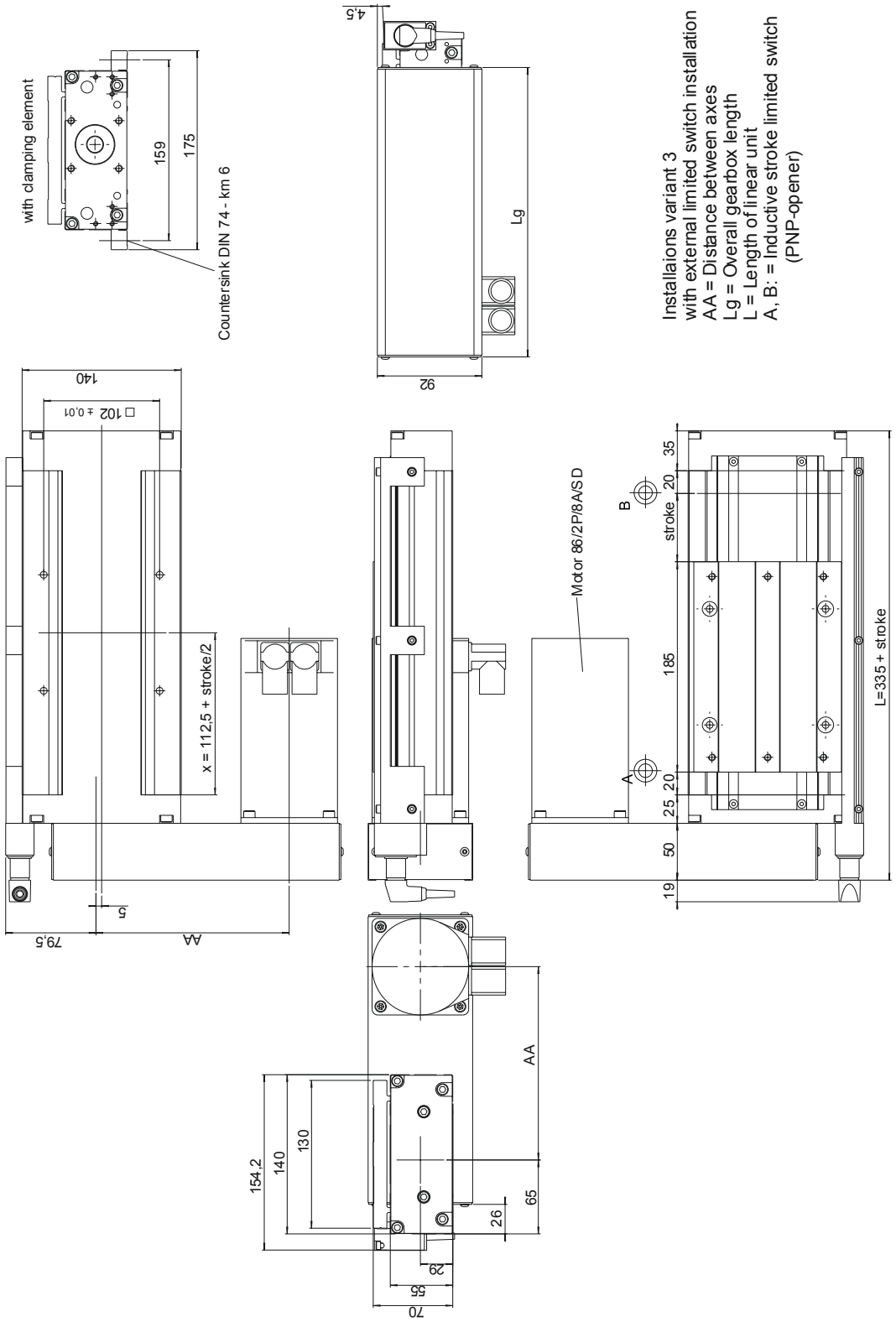

Figure 32: Installation variant 3

6.7.5 Installation variant 4 profiLINE 140

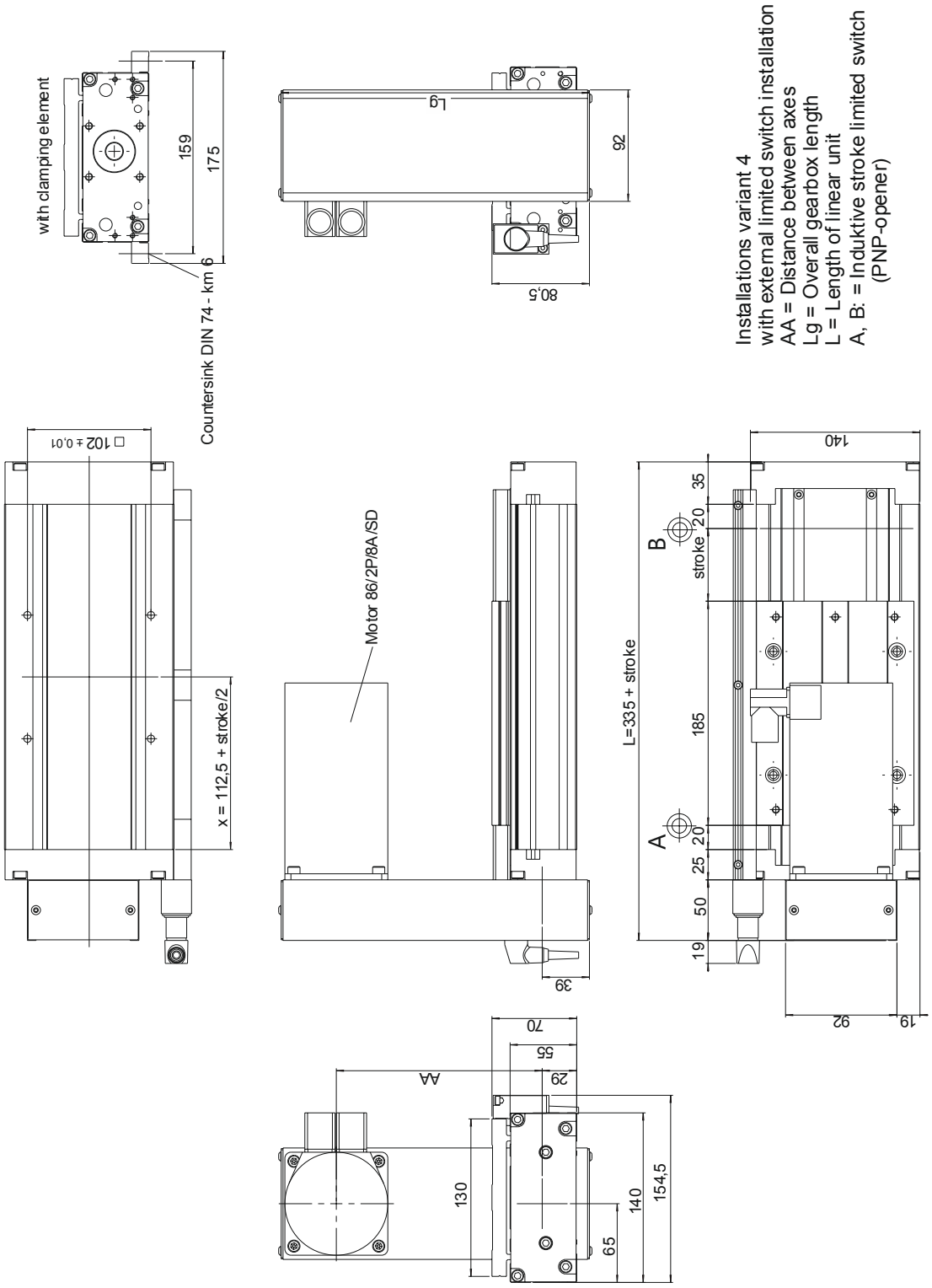

Figure 33: Installation variant 4

6.7.6 Installation variant 5 profiLINE 140

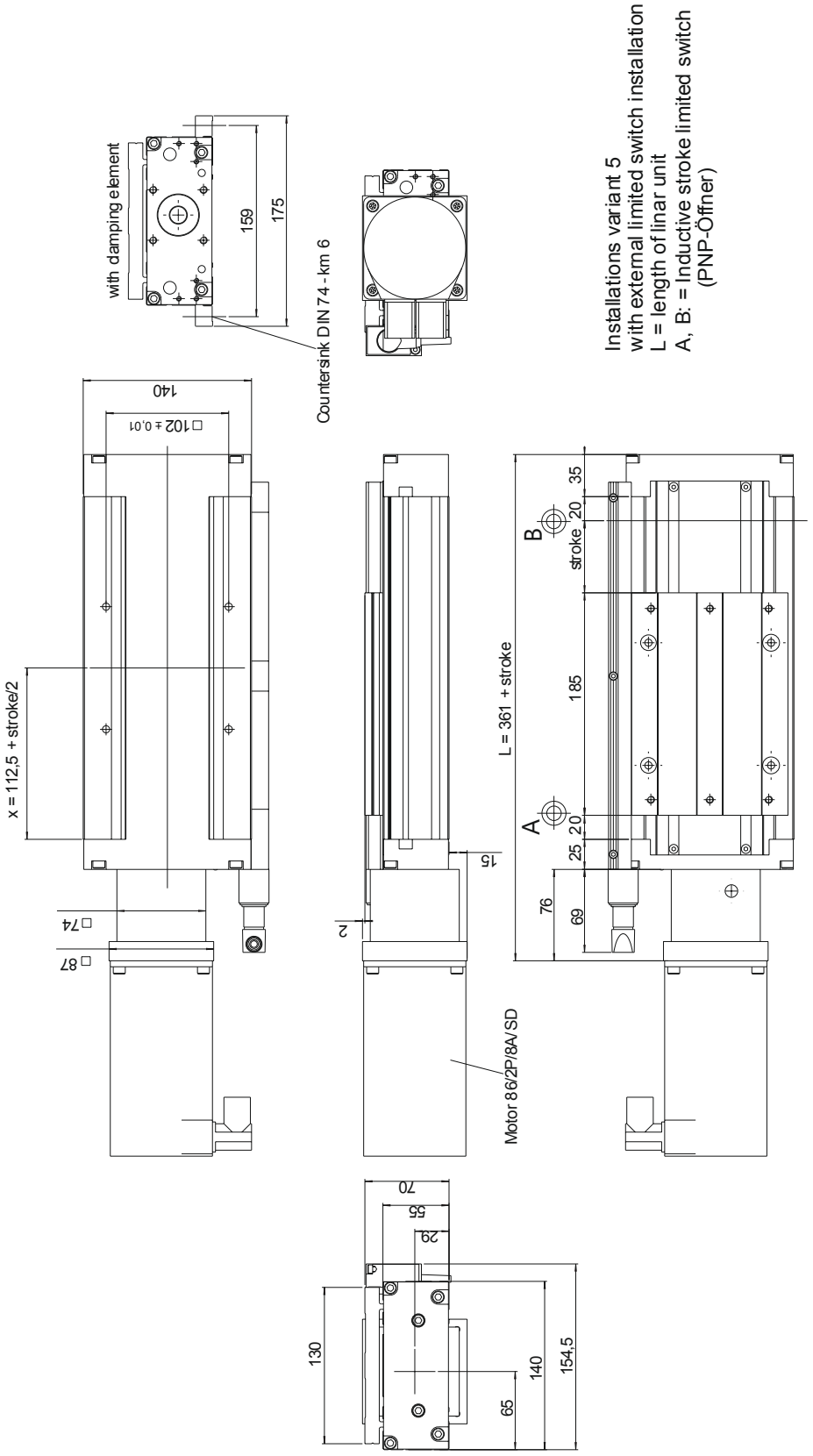

Figure 34: Installation variant 5

6.8 Adapter plate (Part No.: 1010169)

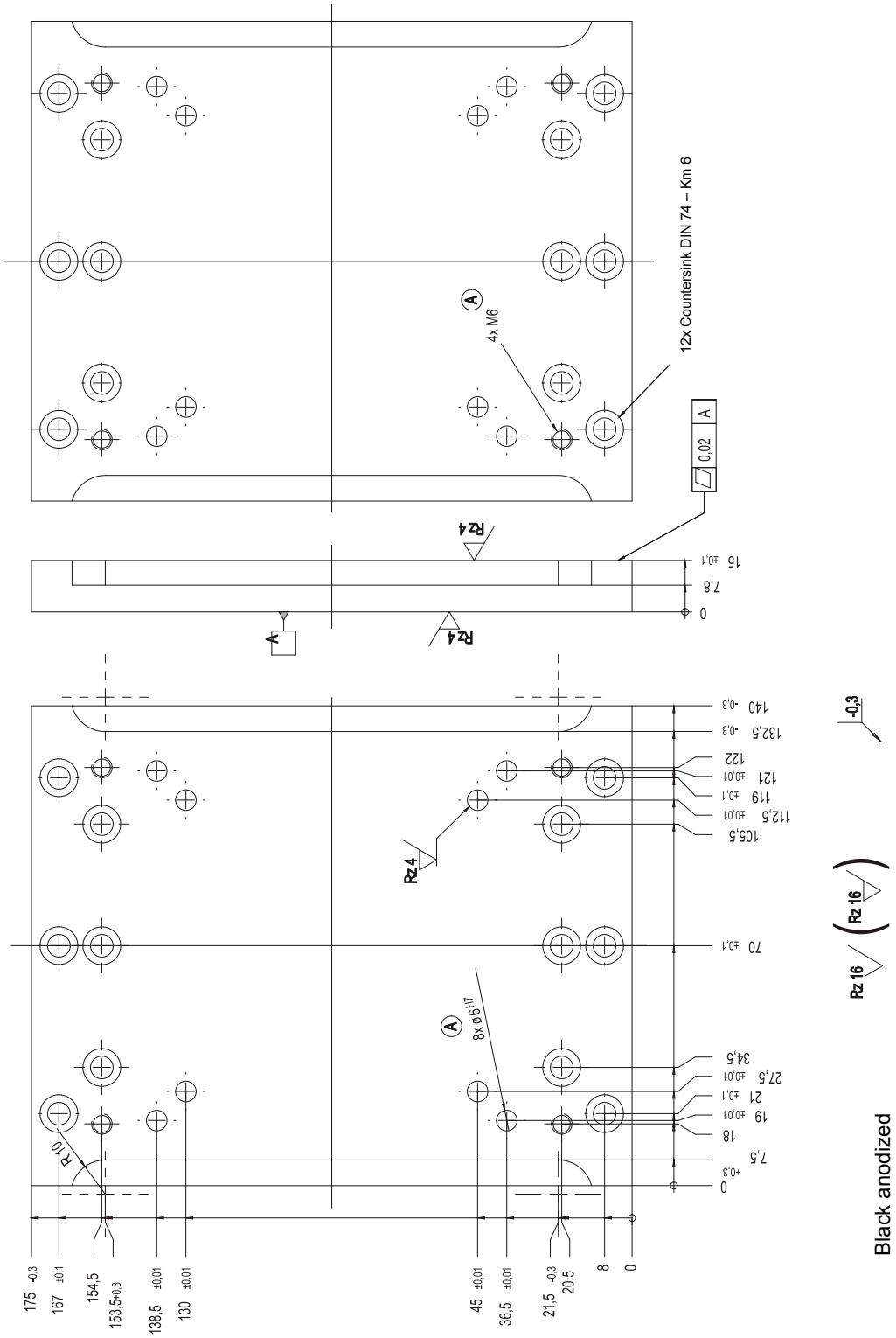

Figure 35: Adapter plate (1010169)

6.9 Adapter plate (Part No.: 1016530)

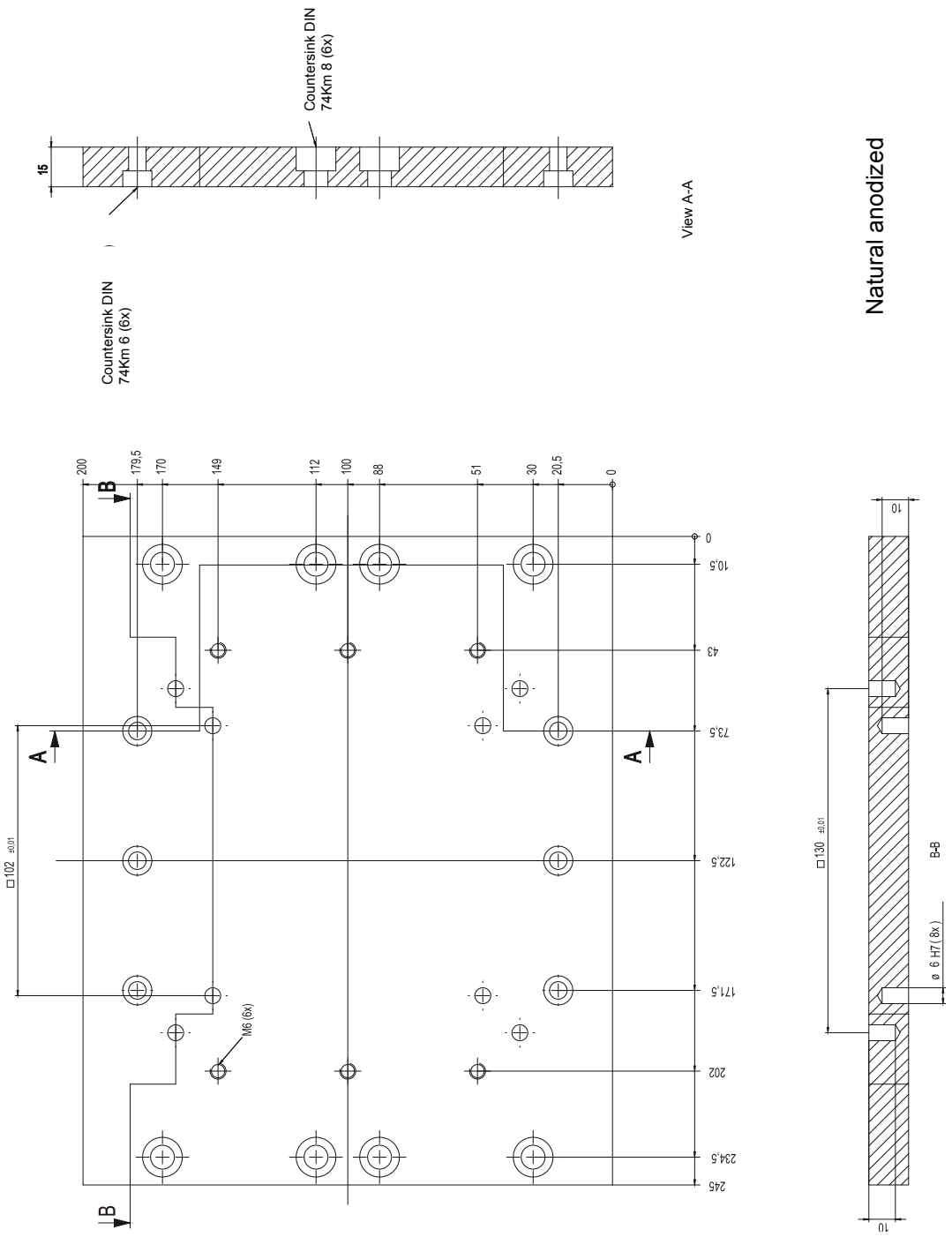

Figure 36: Adapter plate (1016530)

6.10 Clamping rail M105 (Part No.: 1010173)

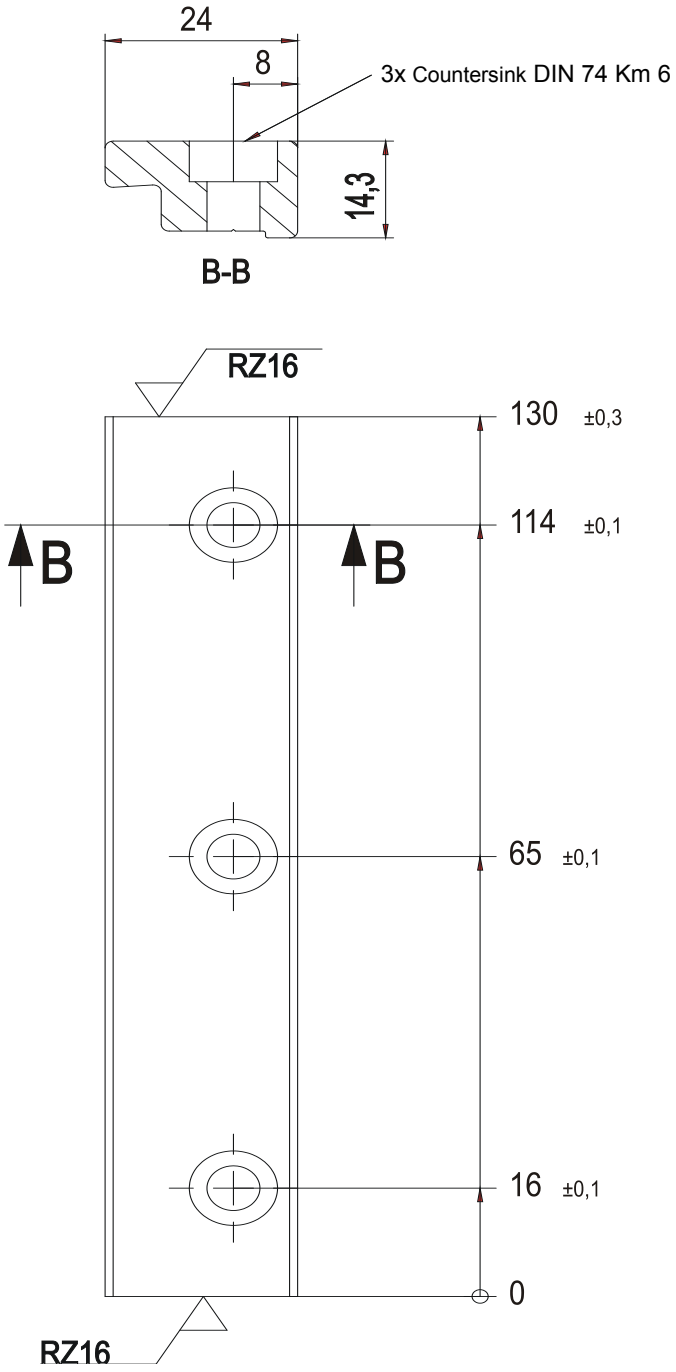

Figure 37: Clamping rail (1010173)

7 Declaration of incorporation

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

The manufacturer:

IEF-Werner GmbH

Wendelhofstraße 6

78120 Furtwangen - Germany

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

Designation	IEF-Werner parts group number
Module profiLINE 140	TG1000303

where possible based on the scope of delivery, correspond 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;

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 were 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:
  EN ISO 12100-1,-2 / EN ISO 13857 / EN ISO 13850 / EN 60201-1

Commissioning of the incomplete machine delivered by us is not permitted until it has been determined that the overall system into which the incomplete machine 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, 05 March 2019 Stefan Deck (Manager)