

Operating instructions

profiLINE 115

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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 44*).

1.3 Special hazard warnings

In addition, this operating instruction 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 115 movement unit (see *Figure 1 below*) 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.

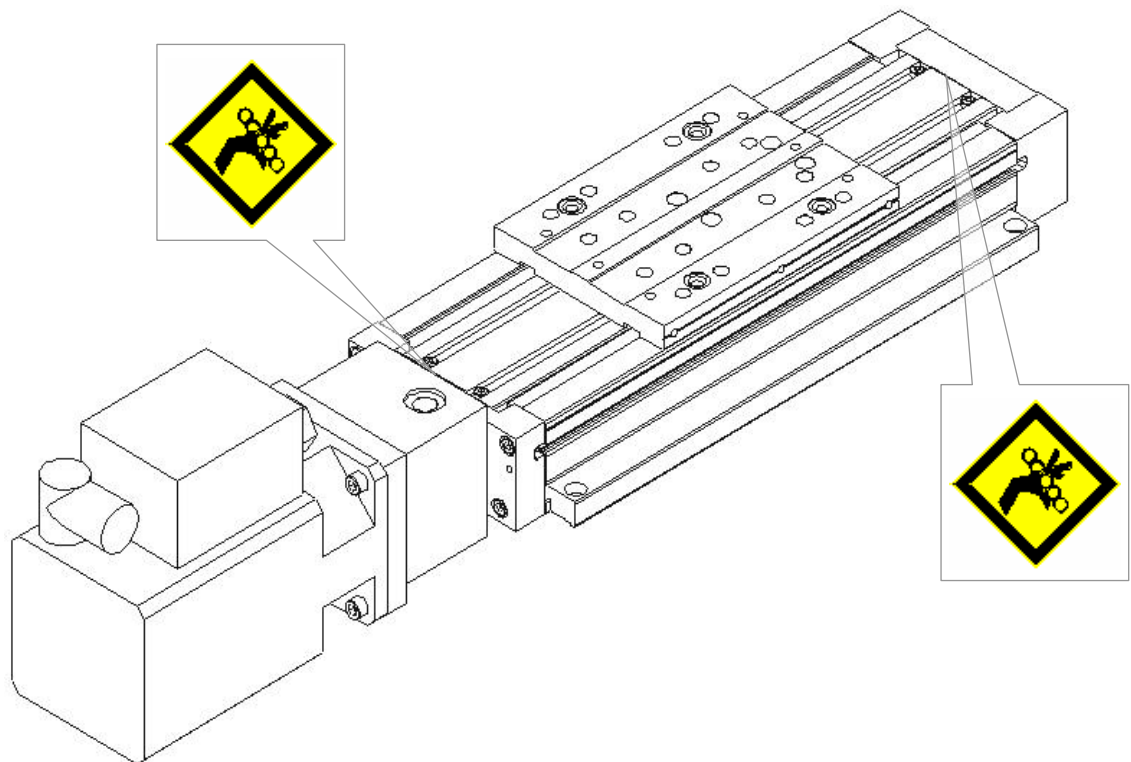


Figure 1: Module profiLINE 115

Area of application of the module profiLINE 115:

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

2.1 Reasonably foreseeable misuse

The linear module profiLINE 115 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 115 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.

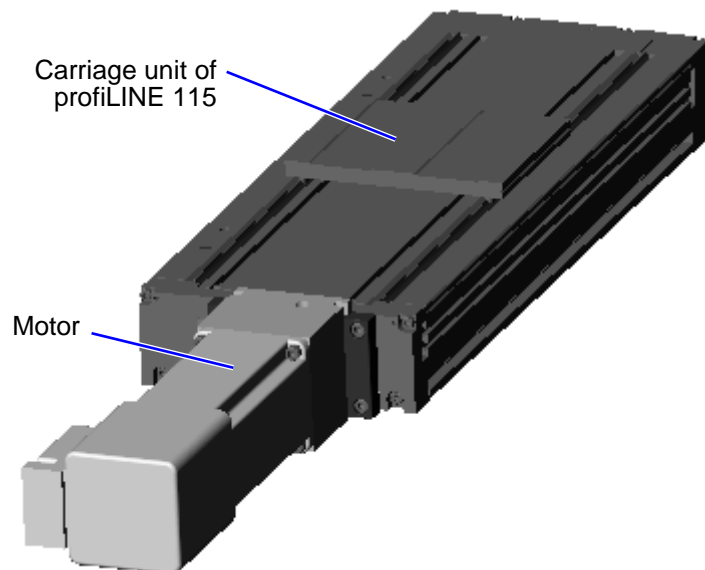


Figure 2: Carriage unit with axial motor installation

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
9	1064069
10	1064071
11	1064073
12	1064074
14	1064075
15	1064076
16	1064077
19	1064123
20	1064078

Different motor shaft diameters are available on request

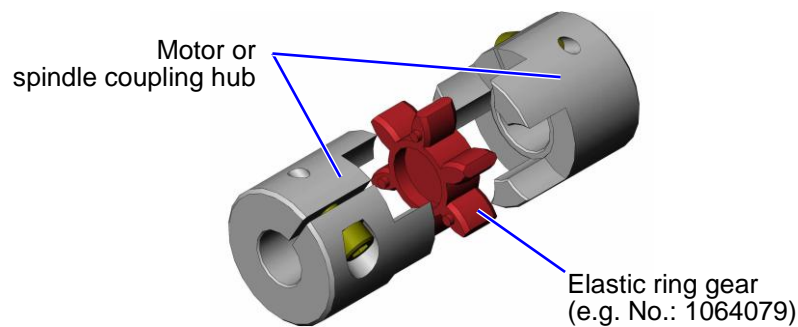


Figure 3: Pluggable coupling

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.

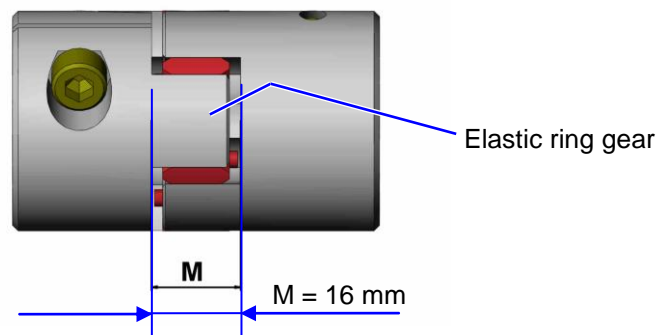


Figure 4: Coupling with installation dimension

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

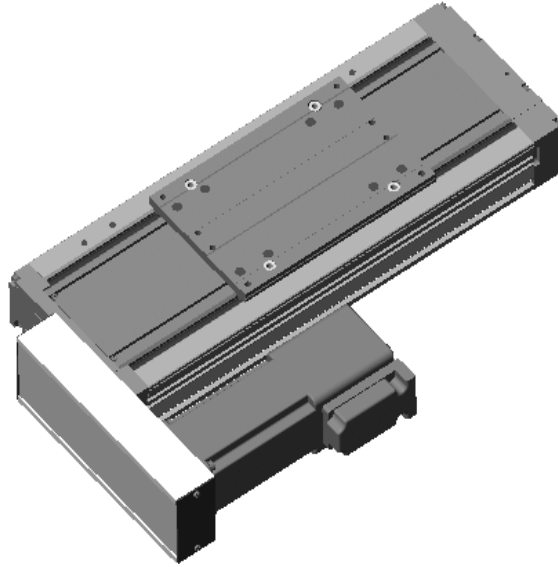


Figure 5: Motor installation via offset gearbox flange

NOTE

For an overview of the different motor installation variants, see *Motor installation variants*, page 35.

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	20	420	130
1,6:1	20	32	16	390	129,65
2:1	16	32	14	330	126,86
Special Reduction 1:1					
1:1	40	40	20	390	95
1:1	40	40	20	420	110
1:1	40	40	20	450	125
1:1	32	32	20	340	90
1:1	32	32	20	375	107,5
1:1	32	32	20	390	115
Special Reduction 1,25:1					
1,25:1	32	40	20	375	97,29
1,25:1	32	40	20	390	104,81
1,25:1	32	40	20	420	119,83
1,25:1	32	40	20	450	134,85
Special Reduction 1,6:1					
1,6:1	20	32	16	330	99,54
1,6:1	20	32	16	340	104,56
1,6:1	20	32	16	375	122,13
Special Reduction 2:1					
2:1	20	40	20	340	93,65
2:1	20	40	20	375	111,36
2:1	20	40	20	390	118,94
2:1	20	40	20	420	134,06
2:1	16	32	14	330	104,22
2:1	16	32	14	330	109,22
Special Reduction 2,5:1					
2,5:1	16	40	14	330	93,04
2,5:1	16	40	14	340	98,14
2,5:1	16	40	14	375	115,93
2,5:1	16	40	14	390	123,52

Different transmission ratios or distances between axes on request

*plain motor shaft possible

3.3 Transverse Mounting

Two methods are available for the transverse mounting of the profiLINE 115 movement units:

- basic body on carriage
- carriage on carriage

3.3.1 Mounting of basic body on carriage

The transverse mounting is performed with two clamping rails, article no. 1028966.

The overall height of the cross mounting is 134 mm.

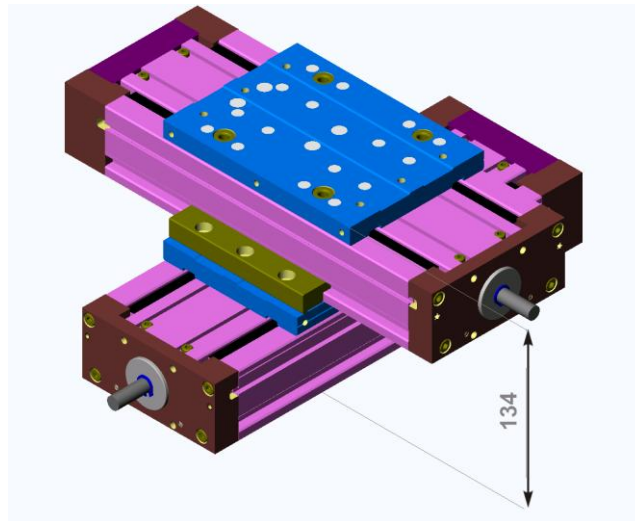


Figure 6: Basic body on the carriage

3.3.2 Mounting of carriage on carriage

The cross mounting is performed with an adapter plate, article no. 1028971 as well as two clamping rails, article no. 1028966.

The overall height of the cross mounting is 149 mm (including adapter plate).

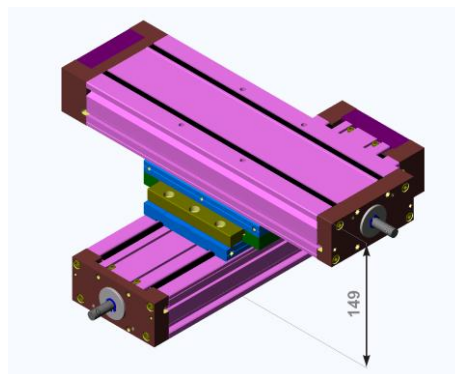


Figure 7: Carriage on carriage

3.4 Attachment

The profiLINE 115 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.

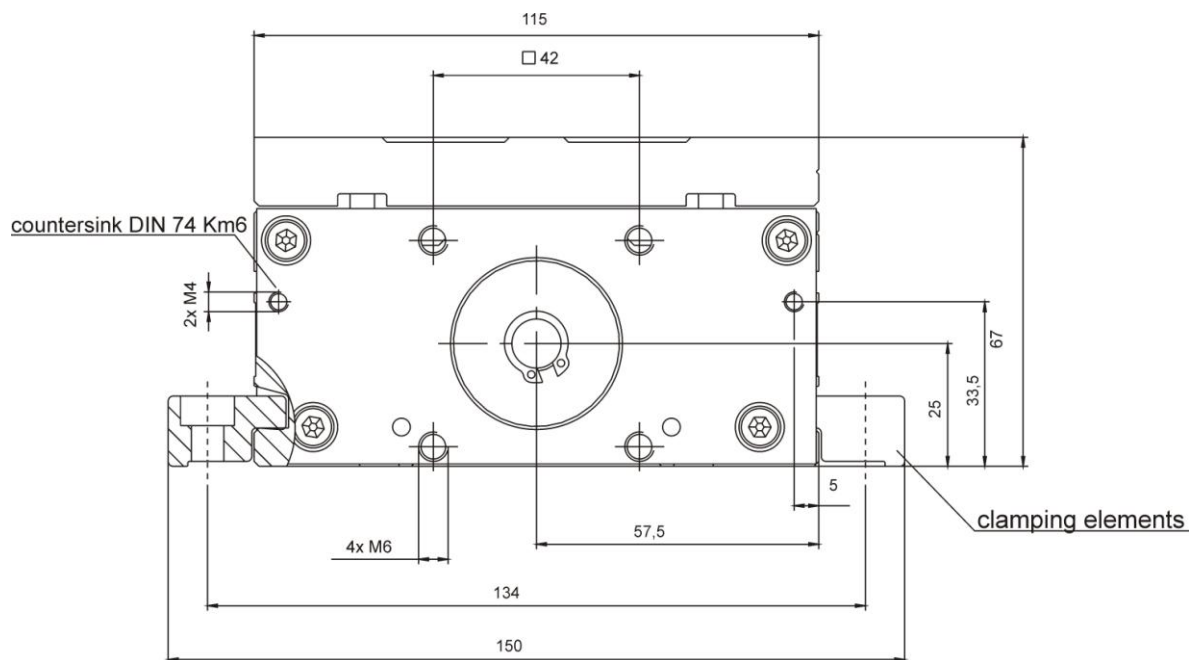


Figure 8: Attachment of profiLINE 115

The following clamping elements are available for attachment:

Part No.	Designation	Length [mm]
220701	Type 16 clamping element	16
28674	Type 105 clamping element	105
220702	Type 140 clamping element	140
1028966	Clamping element (cross mounting)	115
Subassembly no. 1000197	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.

3.4.1 Installation of actuators

The actuators (cylinders, pick-up modules, etc.) that are to be installed on the profiLINE 115 movement unit can be attached via the drilling pattern on the carriage.

Six drillings (M6) and four pin holes $\text{Ø}6^{\text{H7}}$ are available for the attachment (see *figure 9* below).

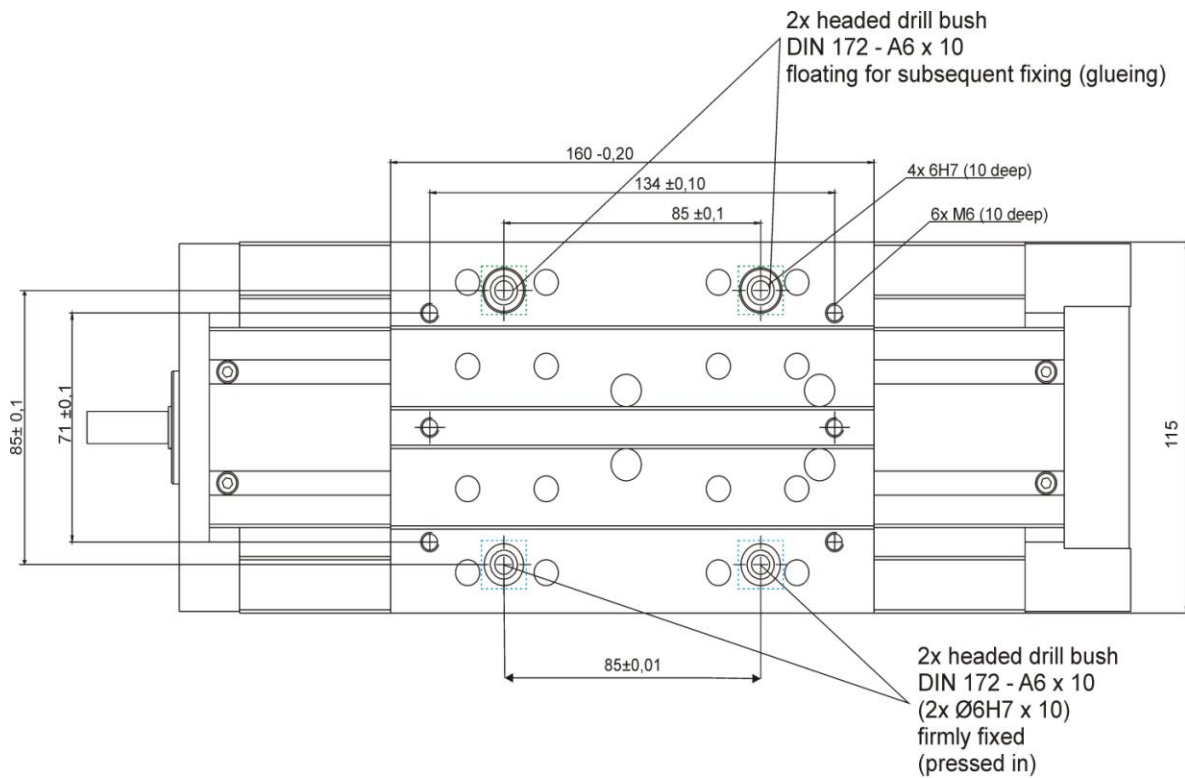


Figure 9: Drilling pattern profiLINE 115



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 115 movement unit provides the possibility to pin a transverse mounting or a specific installation without additional tool (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 and two additional drill bushings are inserted in a floating manner in larger drillings. A fixed bearing and a loose 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.

In the installation and pinning process, one of these floating drill bushings is embedded with special two-component adhesive, article No. 1027620, in the loose bearing. During the installation of the alignment pins, the drill bushing is optimally aligned to the alignment pins of the part to be pinned. This type of pinning makes possible the subsequent "fine adjustment" of the transverse mounting within one hour.

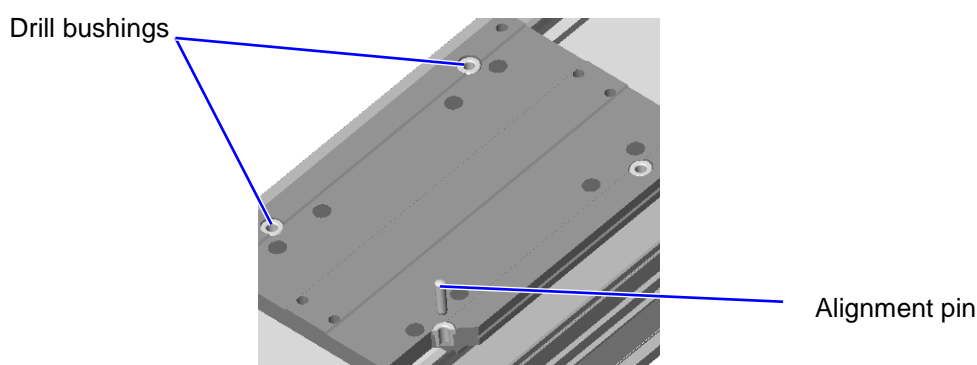


Figure 10: Drill bushings of ProfiLINE 115

Scaled drawing for alignment pins	Tolerance	Drilled hole	Article No. of drill bushing
85 x 85	± 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 contacted, red switch operating point) can be used. A LED is available for detection of the switch status. Initiators and cables are installed in an aluminium profile and routed centrally to a plug.

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 ≤ 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

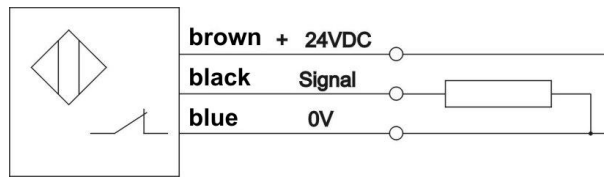


Figure 11: Electrical connection of PNP normally closed contact

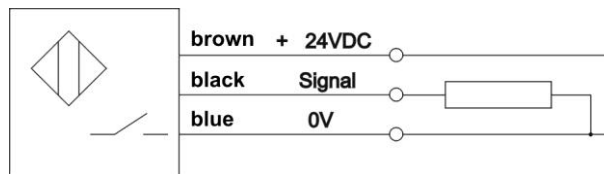


Figure 12: Electrical connection of PNP normally open contact

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

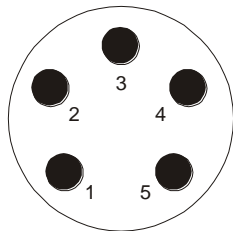


Figure 13: Plug assignment, view of pins

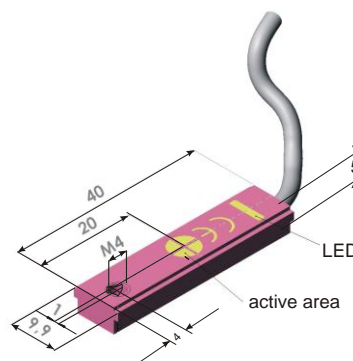


Figure 14: Initiator

3.5.2.2 External Installation of Initiators

Initiators and cables are installed in an aluminium profile and routed centrally to a plug. The aluminium profile is mounted on the side to the profiLINE 115. The attachment can be performed on the right or left side.

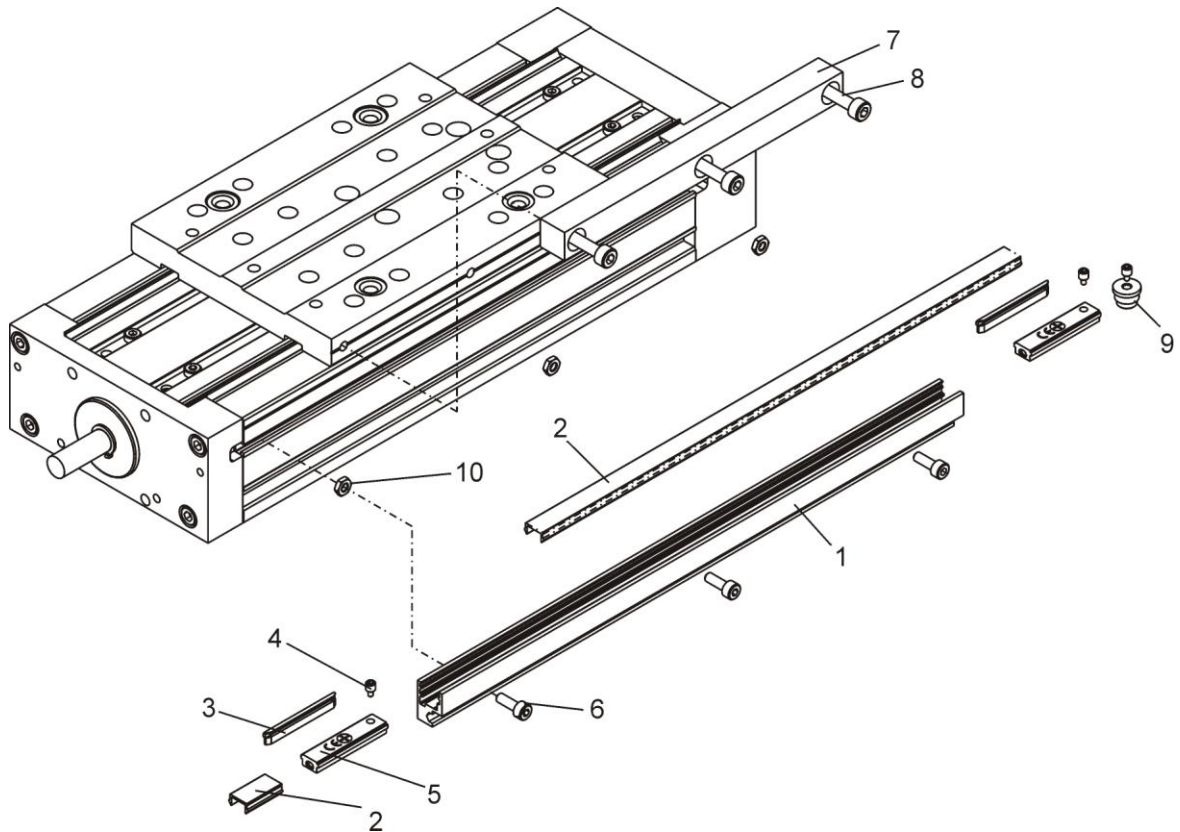


Figure 15: Installation of Initiators

No.	Designation	Article No.
1	Aluminium rail	1003692
2	Clip rail	28668
3	Limit switch holder	28585
4	Threaded pin M4	30887
5	Initiator PNP normaly closed contact	25165
6	Screw M4 x 12 DIN 913	626062
7	Switching bar	1027316
8	Screw M5 x 16 DIN 7984	626851
9	Switch rail end piece	1006129
10	Hexagon nut M4 DIN 439	626953

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 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 to also order cables and cable routing chains at IEF.

3.6 Technical data

3.6.1 Tightening torques for screw connection

Property class	M3	M4	M5	M6	M8	M10	M12	M14	M16
8.8	1,3	2,7	5,5	9,5	23	46	80	125	195
10.9	1,8	3,8	8	13	32	64	110	180	275
12.9	2,3	4,6	9,5	16	39	77	135	215	330

3.6.2 Standard strokes profiLINE 115

Preferred series		Special stroke	
Stroke [mm]	Length of basic unit LB [mm]	Stroke [mm]	Length of basic unit LB [mm]
60	315	30	285
120	375	90	345
180	435	150	405
240	495	210	465
300	555	270	525
360	615	330	585
420	675	390	645
480	735	450	705
540	795	510	765
600	855	570	825
660	915	630	885
720	975	690	945
780	1035	750	1005
840	1095	810	1065
900	1155	870	1125
960	1215	930	1185
1020	1275	990	1245

3.6.3 Type label

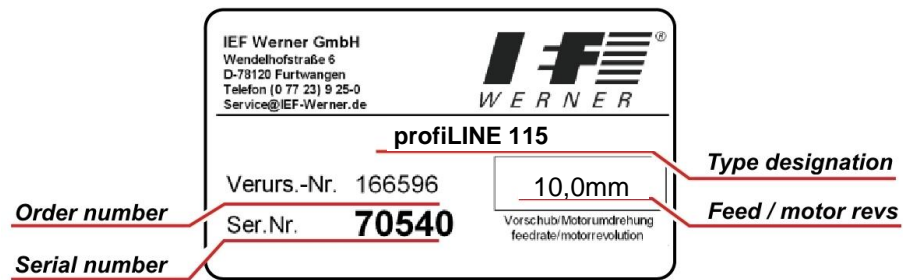


Figure 16: Type label (example)

3.6.4 Technical data of the linear module profiLINE 115

Parameter	Value
max. carrying capacity C1 [N]	3000
max. carrying capacity C2 [N]	3000
max. axial load Fx [N]	2000
max. torque Mx [Nm] (static) (see figure 17 below)	210
max. torque My [Nm] (static)	180
max. torque Mz [Nm] (static)	210
Weight[kg] Basic carriage with a stroke of 60 mm, no motor flange, no motor	6,2
Weight increase [kg] per 60 mm length	0,63
Moving carriage part, 160 mm long [kg]	~ 2,5
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]	0,2

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

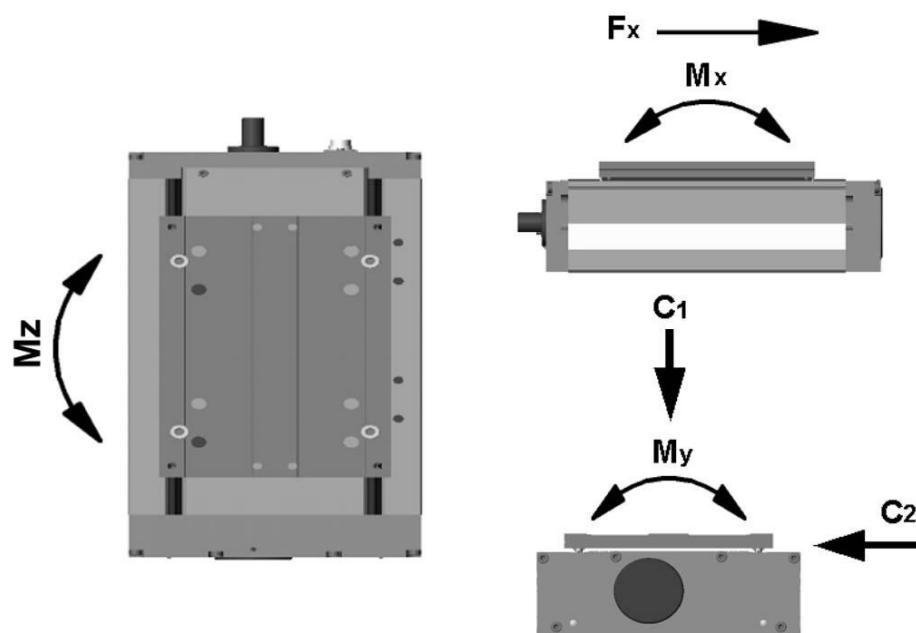


Figure 17: Torques and carrying capacity

4 Maintenance/Repairs



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 23, page 31*).

For carriages produced as of 2010, 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 10.000 km or, if this is not reached, after about two years.

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

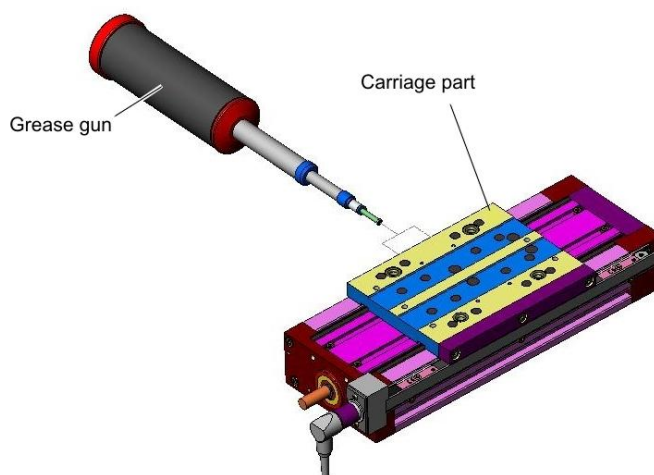


Figure 18: Guide rail system

4.2 Ball screw spindle

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

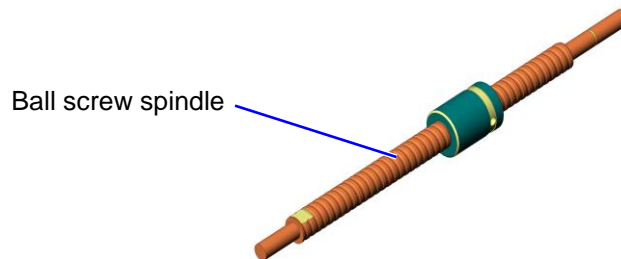


Figure 19: Ball screw spindle

When changing the ball spindle, it must be ensured that the precision groove nut, type ZM10, with the ground contact surface is applied to the inner ring of the axial bearing. The groove nut is secured by size 2 threaded pins which are attached on the side.

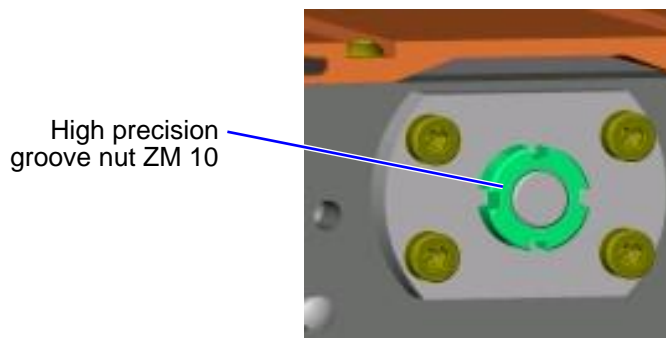


Figure 20: Groove nut

Tightening torque of groove nut [Nm]	6
Tightening torque of 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 interior against contamination.

In the case of increased friction, 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).

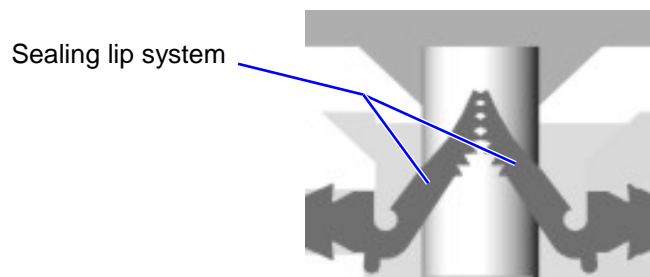


Figure 21: Sealing lip system

NOTE It must be possible to carry out adjustment, maintenance, repair, cleaning and servicing operations while machinery is at standstill.
(Directive 2006/42/EC on machinery, section I, chapter 1.6.1 machinery maintenance).

5 Troubleshooting

Interference	Reason	Correction
Increased running noise	Nominal service life of guide carriage exceeded	Replace all guide carriages (see item 20 in drawing no. 1070109 in <i>Figure 23, page 31</i>)
	Profile rail guide worn	Replace profile rail guide, replace all guide carriages (see item 20 in drawing no. TG 1070109 in <i>Figure 23, page 31</i>)
	Profile rail guide corroded	Replace profile rail guide, replace all guide carriages as well if required (see item 20 in drawing no. 1070109 in <i>Figure 23, page 31</i>)
	Axial bearing unit defective	Replace unit (see item 120 in drawing no. TG 1000604 in <i>Figure 22, page 29</i>)
	Ball screw runs dry	Relubricate ball screw (see item 390/400 in drawing no. TG 1000604 in <i>Figure 22, page 29</i>)
	Floating bearing defective	Replace ball bearing (see item 360 in drawing no. TG 1000604 in <i>Figure 22, page 29</i>). Check spindle seat, replace ball screw if required, see item 390/400 in drawing no. TG 1000604 in <i>Figure 22, page 29</i>)
	End plates are not aligned to be flush with the ball screw	Align and re-pin "fixed bearing" end plate (see item 50) and "motor" end plate (see item 70 in drawing no. TG 1000604 in <i>Figure 22, page 29</i>)
	Pluggable coupling defective	Only for axial motor installation: Replace defective coupling (see item 70-180 in drawing no. TG 1000691 in <i>Figure 25, page 33</i>)
	Coupling collides with 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 150/160/170 in drawing no. TG1000645 in <i>Figure 26, page 34</i>) Align toothed disks, to prevent unintentional contact (see item 40-140 in drawing no. TG1000645 in <i>Figure 26, page 34</i>)
Motor (motor bearing) defective	Replace motor (see <i>Figure 25, page 33 and Figure 26, page 34</i>)	
Motor with brake, brake does not open correctly	Apply current to the brake, if the brake still does not open correctly, replace motor (see <i>Figure 25, page 33 and Figure 26, page 34</i>)	
Linear unit does not move	Limit switch cable not connected Connect the cable	

Troubleshooting , continued:

Interference	Reason	Correction
Linear unit does not move	Limit switch or limit switch cable defective	Check and replace limit switch or limit switch cable if required (see item 150 in drawing no. TG1000604 in <i>Figure 22, page 29</i>)
	Soldered connection on socket became loose	Solder wires
	Motor connection incorrectly	Check and change connector assignment, if required
	Motor defective	Replace motor (see <i>Figure 25, page 33</i> and <i>Figure 26, page 34</i>)
	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 Pos. 210 in drawing no. TG1000604 in <i>Figure 22, page 29</i>)
	Axial bearing unit defective	Replace unit (see item 120 in drawing no. TG1000604 in <i>Figure 22, page 29</i>)
	Groove nut not tightened	Tighten groove nut, and secure with lateral threaded pins (see item 130 in drawing no. TG1000604 in <i>Figure 22, page 29</i>)
	ball screw defective	Replace ball screw (see item 390/400 in drawing no. TG1000604 in <i>Figure 22, page 29</i>)
	Pluggable coupling defective	Only for axial motor installation: Replace defective coupling (see items 70-180 in drawing no. TG1000691 in <i>Figure 25, page 33</i>)
	Coupling collides with the flanged housing	Align coupling
	Gearbox toothed belt not tensioned	Only for motor installation via toothed belt gearbox: Tension gearbox toothed belt (see item 150/160/170 in drawing no. TG1000645 in <i>Figure 26, page 34</i>)
	Toothed disk has play	Only for motor installation via toothed belt gearbox: Check and tighten clamping or replace, if damaged
Linear 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 115 (TG1000604)

Drawing Pos.	Article No.	Part (1) / Subassembly (0)	Usage	Designation	Wearing part = V Replacement part = E
10	diverse	1	+	See <i>section 6.3, page 32</i>	
20	627070	1		Filister head screw M4x20	
30	1027648	1		Clamping rail	
40	1028014	1	+	Clamping rail, short	
45	626705	1		Filister head screw M3x8	
50	1027204	1		Fixed bearing end plate	
60	1027281	1		Fixed bearing cover	
70	1027265	1		Motor side end plate	
80	1004271	1		Sealing lip	V
90	1004271	1		Sealing lip	V
100	1004271	1		Sealing lip	V
110	1004271	1		Sealing lip	V
120	1008976	1		Axial angular ball bearing	V
130	731905	1		Groove nut	
140	1070109	1		profiLINE 115 carriage unit	
150	025165	1		Inductive switch, PNP break	E
160	030887	1		Special screw M4x7	
170	726744	1	+	Inductive switch, PNP normally	E
180	028585	1		Limit switch holder	
190	626484	1		Filister head screw M4x25	
200	626060	1		Filister head screw M5x40	
210	626057	1		Filister head screw M5x20	
220	626058	1		Filister head screw M5x25	
230	627630	1		Oval-head screw M3x8	
240	1000316	0		Cover	
250	1000644	0		profiLINE 115 switch rail	
260	1006129	1		Switch rail lock	
270	030887	1		Special screw M4x7	
280	1027271	1		Limit switch socket	
290	025626	1		Retaining sheet metal	
300	725164	1		Angular coupling	
310	725163	1		Round plug	
320	028668	1		Plastic clip	
330	028668	1		Plastic clip	
340	626953	1		Hexagon nut M4 DIN 934	
350	626062	1		Filister head screw M4x12	
360	1005937	1		Deep groove ball bearing	V
370	626437	1		Retaining ring	
380	1000645	0	+	profiLINE 115 gearbox	
390	1000654	0	+	Ball screw spindle 16x5	V
400	1000655	0	+	Ball screw spindle 16x10	V
400	1000961	0	+	Ball screw spindle 16x16	V
410	1000691	0	+	profiLINE 115 motor flange	

+ Use according to version

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

Exploded view, article no. TG100604

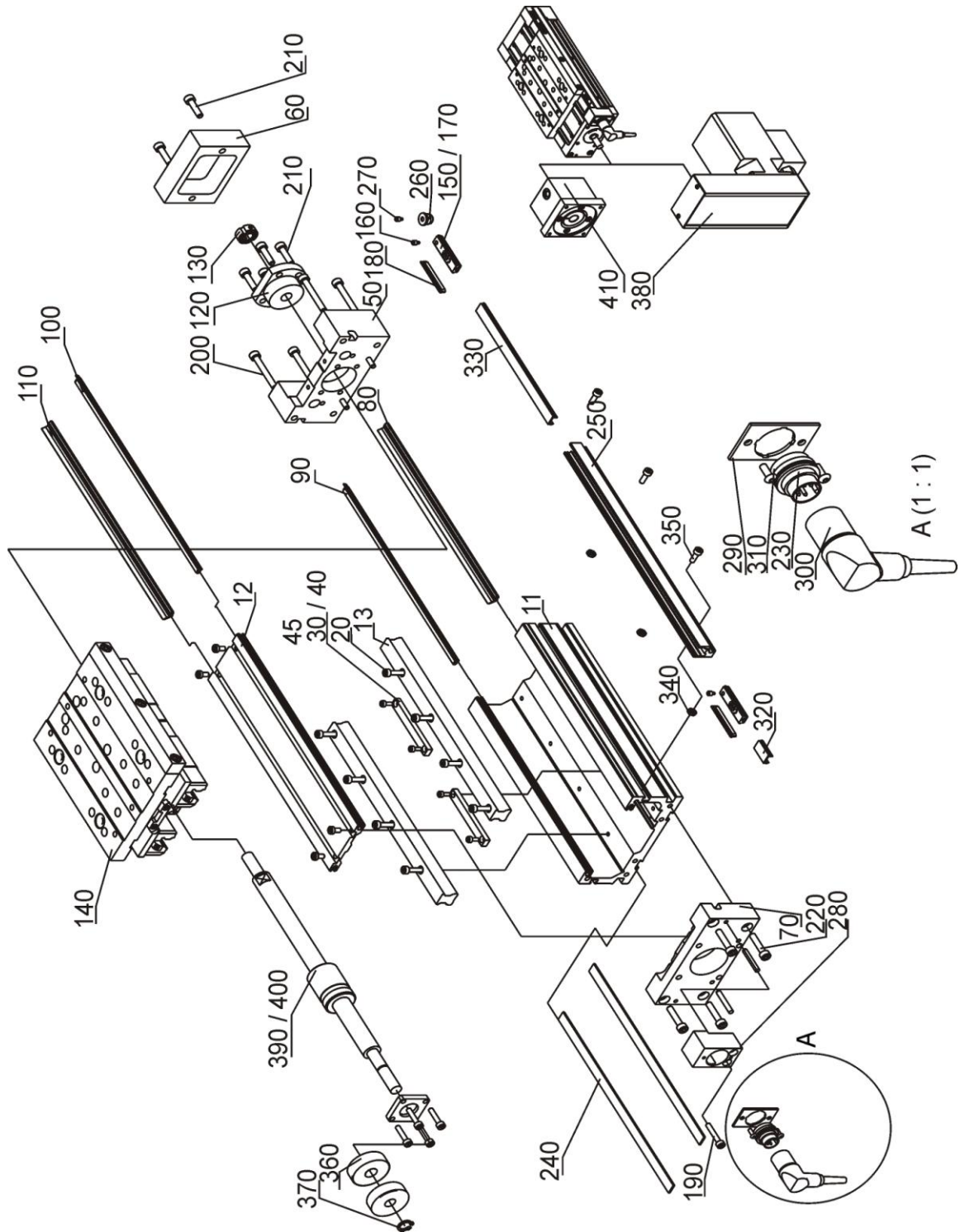


Figure 22 :Basic unit profilLINE 115 (TG100604), exploded view

6.2 Carriage unit profiLINE 115 (article no. 1070109) with lubrication

Drawing Pos.	Article No.	Part (1) / Subassembly (0)	Usage	Designation	Wear part = V Replacement part = E
10	1069472	1		ProfiLINE 115 carriage unit	
20	1046583	1		Carriage	V
30	1027280	1		Sliding plate	V
40	1027316	1		Switching bar	
50	1027268	1		Pressure plate	
60	1090920	1		Spindle flange	
80	1008755	1		Sealing plug Ø8.4	E
90	1005640	1		Sealing plug Ø10.7	E
100	1028704	1		T.-lubrication nipple	
110	626710	1		Filister head screw M4x8	
120	626851	1		Filister head screw M5x16	
130	626207	1		Filister head screw M3x6	
140	626328	1		Cylindrical pin 5m6x18	
150	627122	1		Headed drill bushes A6x10	E
160	627070	1		Filister head screw M4x20	
170	1031602	1		O-Ring NBR 70 Shore A 1.80 - 1.80	V
200	1082240	1		Steel ball type: Ø 3.048 mm	
210	626059	1		Filister head screw M5x16	

Exploded view carriage, article no. 1070109

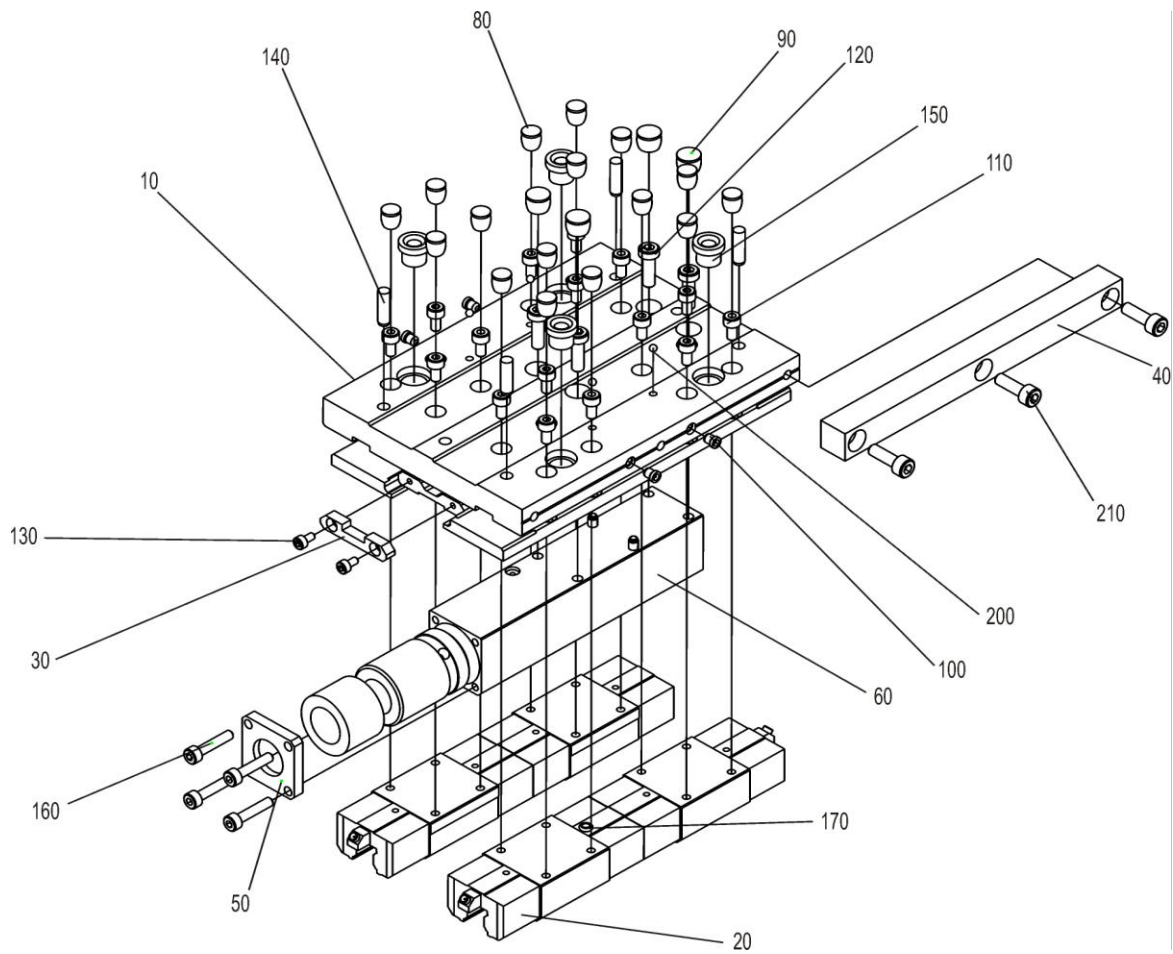


Figure 23: Exploded view carriage profilINE 115 with lubrication (article no. 1070109)

6.3 Complete basic body profilINE 115

Drawing Pos.	Article No.	Part (1) / Subassembly (0)	Usage	Designation	Wear part = V Replacement part = E
11	1027141	1	+	Basic body	
12	1027188	1	+	Cover	
13	1027365	1	+	Guide rails	V

+ use depending on design

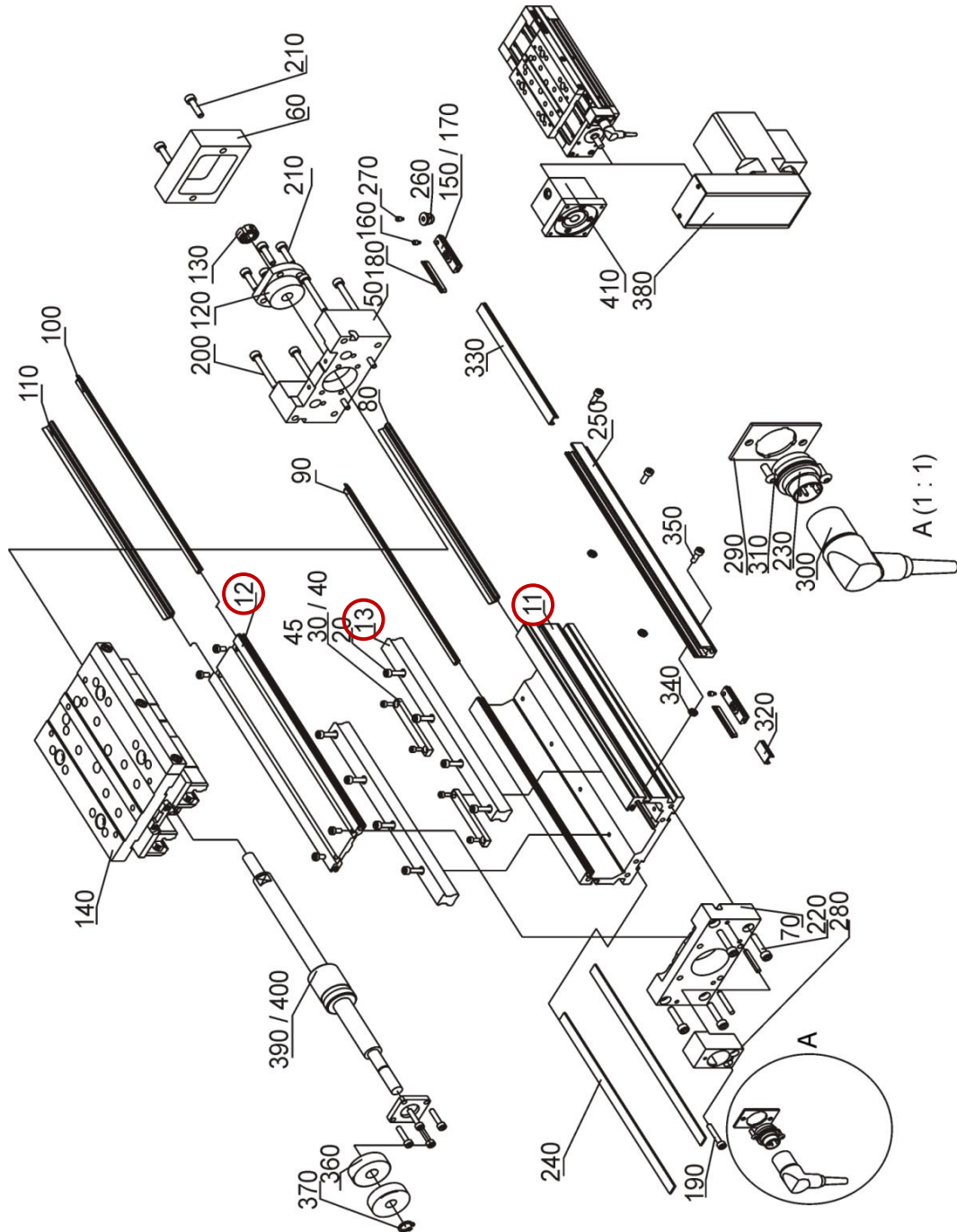


Figure 24: Complete basic body, exploded view (1000604)

6.4 Motor installation axial profiLINE 115 (TG 1000691)

Drawing Pos.	Article No.	Part (1) / Subassembly (0)	Usage	Designation	Wear part = V Replacement part = E
10	1008977	1		Coupling housing	
20-60	*	1		Flange	
70	1064079	1		Toothed ring (red)	V
80	1064071	1		Coupling at the spindle side	
80-180	*	1		Coupling at the motor side	
190	626243	1		Screw M6 x 55 DIN 912	
200	626037	1		Filister head screw M6x20	
210-220	*	1		Screw	
230	734161	1		Cover $\varnothing=12.5$	E

* Article No. depending on the components used, will be defined in detail in specific customer parts list.

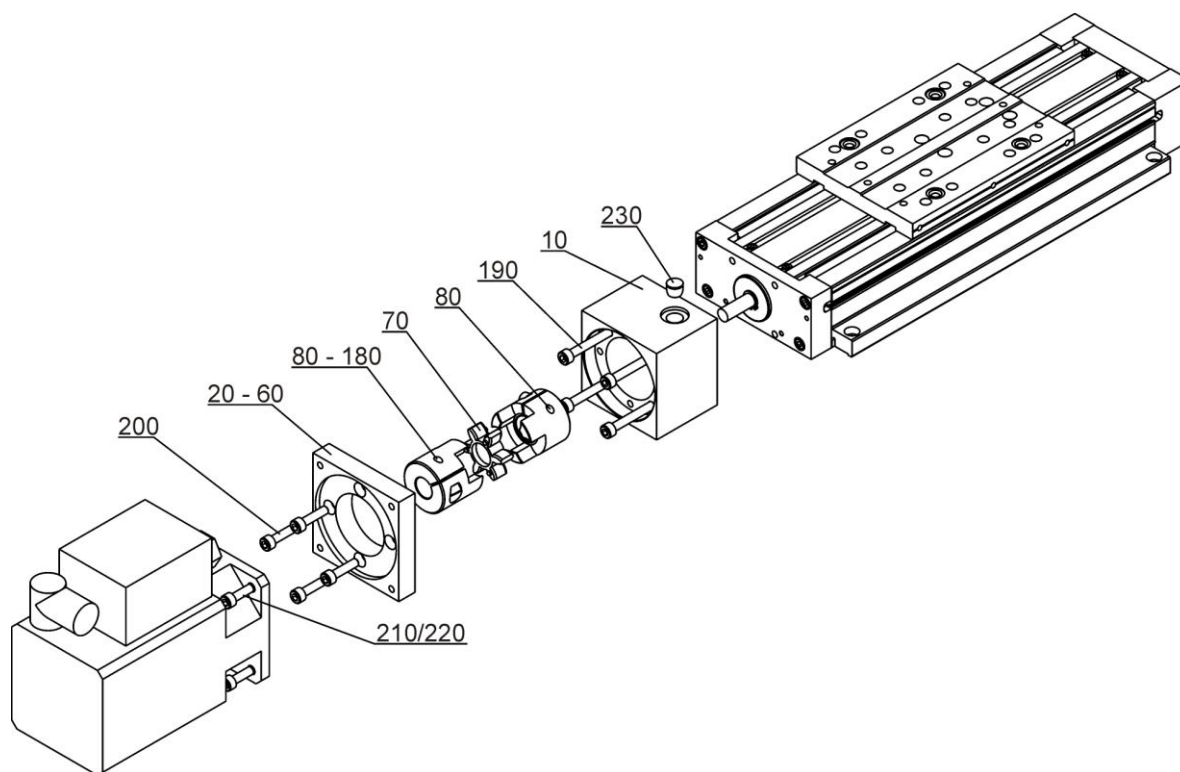


Figure 25: Axial motor flange profiLINE 115 exploded view (TG1000691)

6.5 Motor installation gearbox flange profiLINE 115 (TG 1000645)

Drawing Pos.	Article No.	Part (1) / Subassembly (0)	Usage	Designation	Wearing part = V Replacement part = E
10	1028024	1		Housing for belt transmission	
20	1003999	1		Cover from housing	
30	626072	1		Oval-head screw M4x8	
40	*	1		Toothed disk	
	*	1	+	Toothed disk of motor	
	*	1	+	Gearbox toothed belt	V
180	732767	1		Spindle clamping set DKWN10/20	
	*	1	+	Motor clamping set	
	*	1	+	Motor reducer sleeve	
260	1000258	0		Slide-on lid for gearbox	
270	1042097	1		Motion link, flat M5 / M6	

* Part No. depending on the components used, will be defined in detail in specific customer parts list
+ use according to version

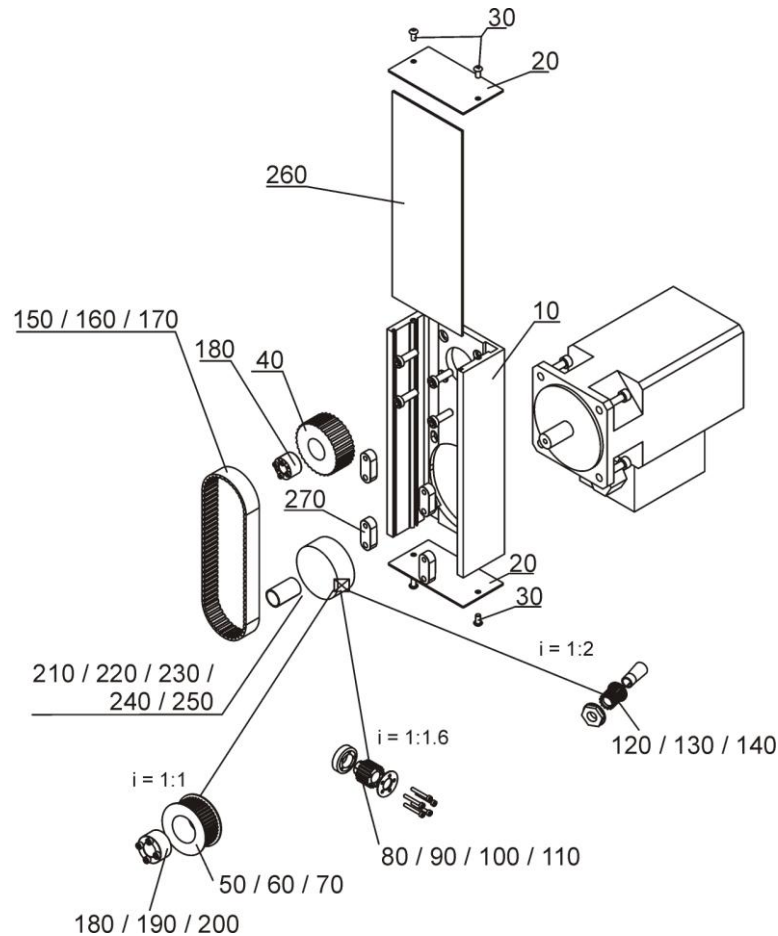


Figure 26: Belt gear of profiLINE 115, exploded view (TG1000645)

6.6 Motor installation variants

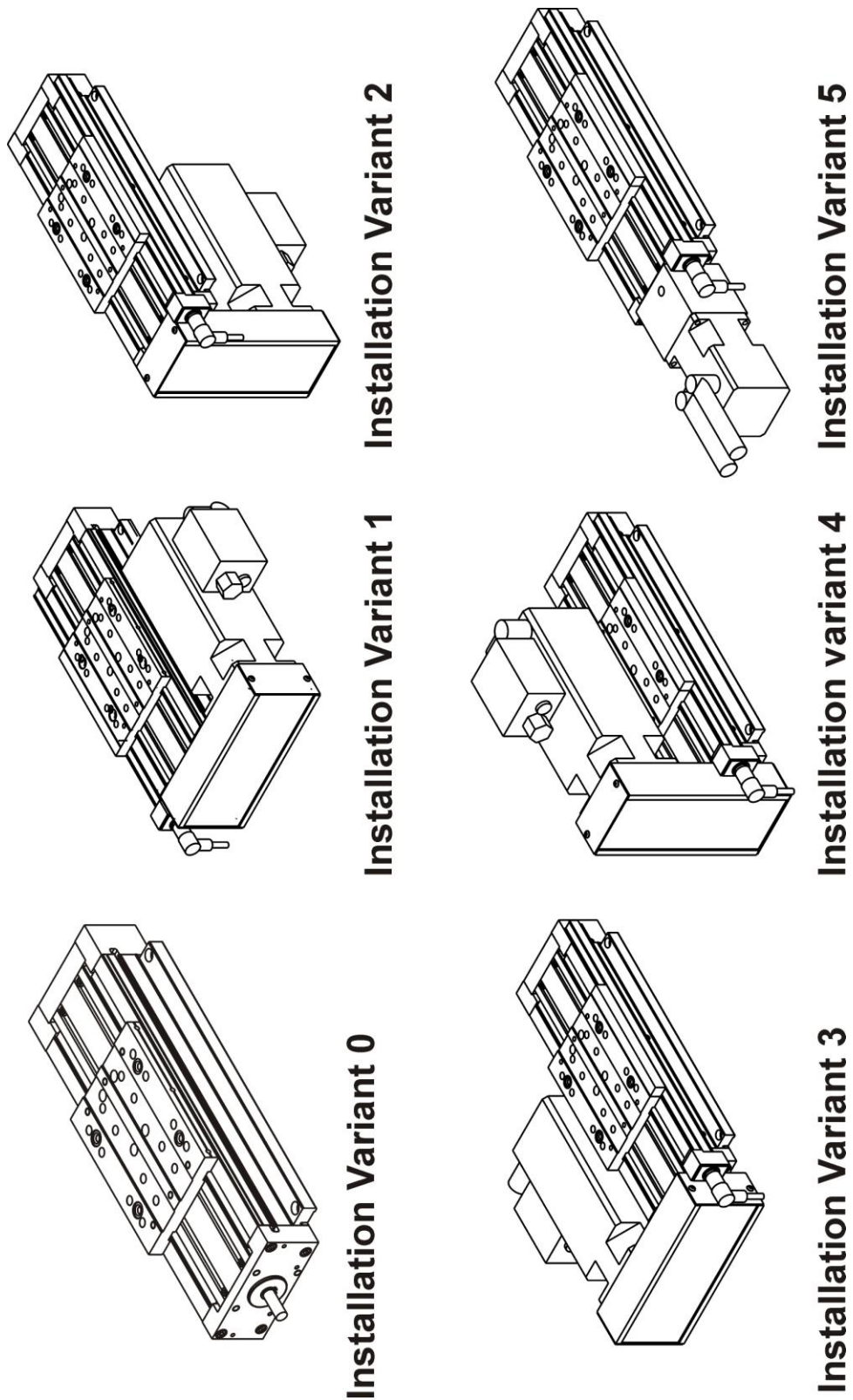
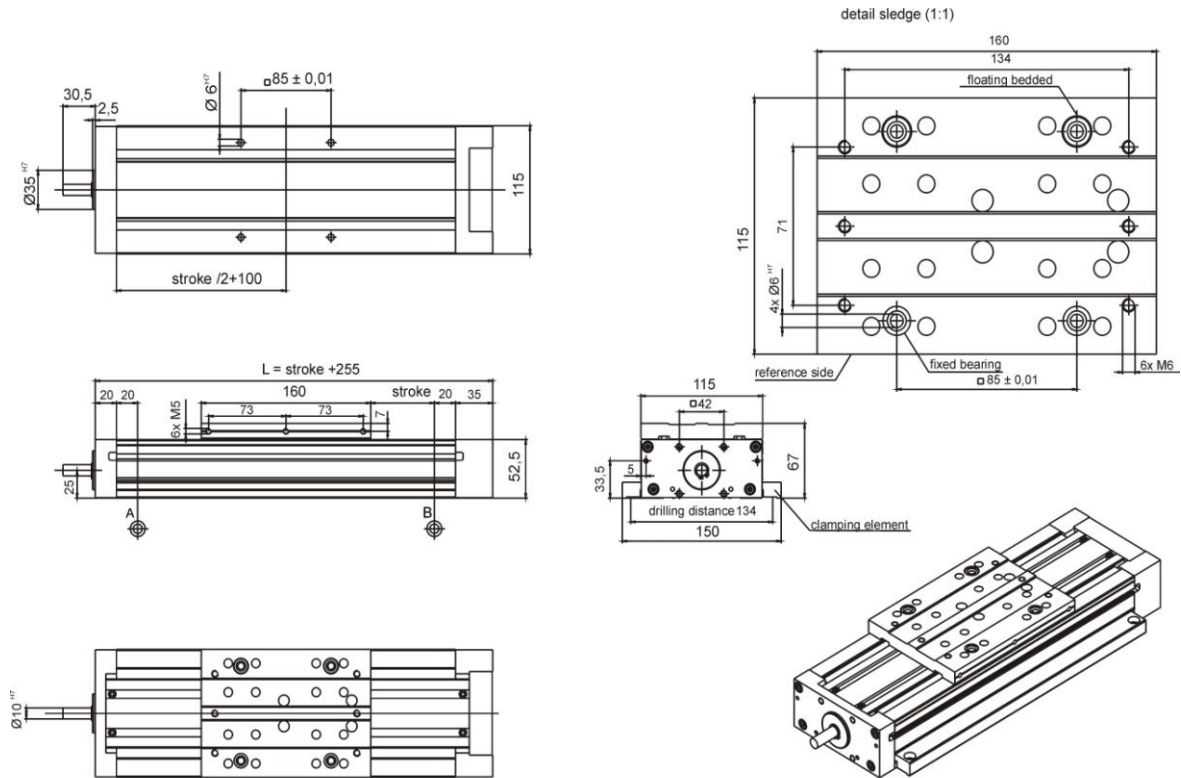


Figure 27: Motor installation variants profiLINE 115

6.6.1 Installation variant 0 profiLINE 115

TG1000604 without limit switches



A; B: Strokemlimitation, limit switches
A : reference point, standard

Figure 28: Motor installation variant 0

NOTE You can find details of the slide dimensions in *Figure 9, page 14*.

6.6.2 Installation variant 1 profiLINE 115

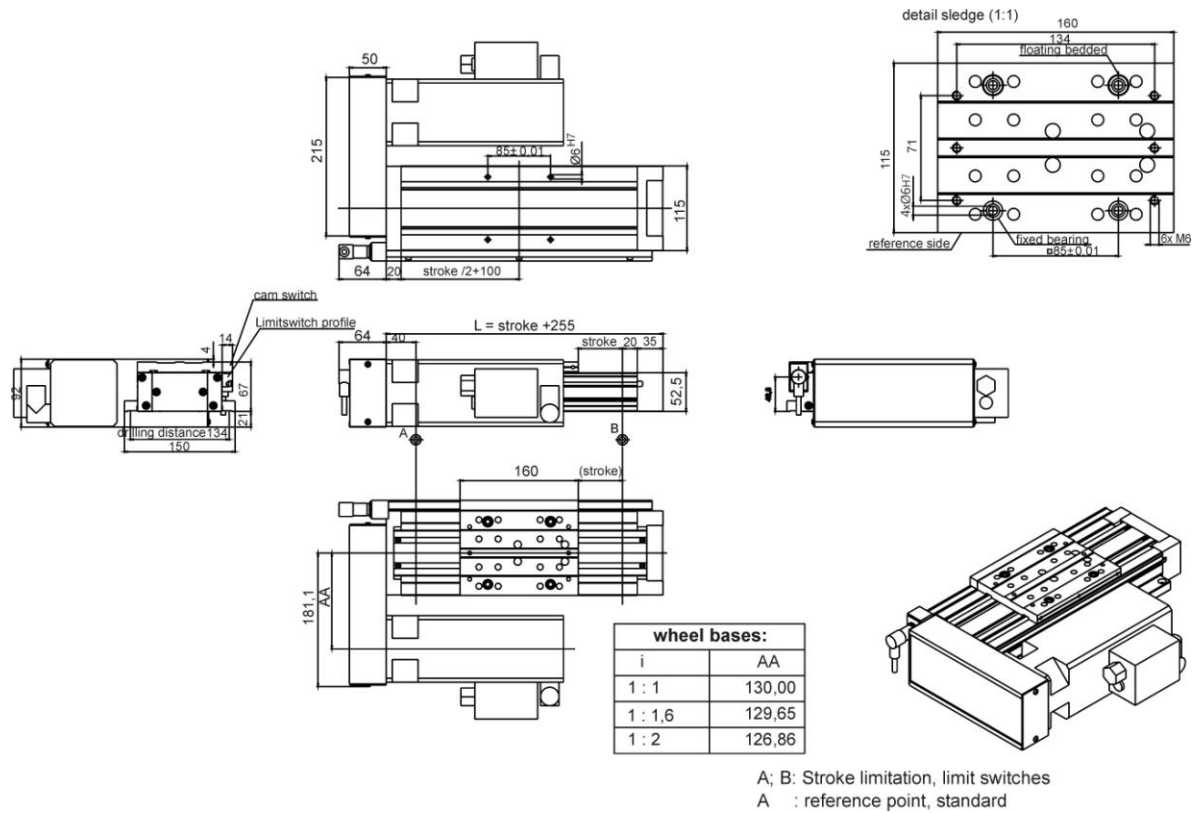


Figure 29: Motor installation variant 1

NOTE You can find details of the slide dimensions in *Figure 9, page 14*.

6.6.3 Installation variant 2 profiLINE 115

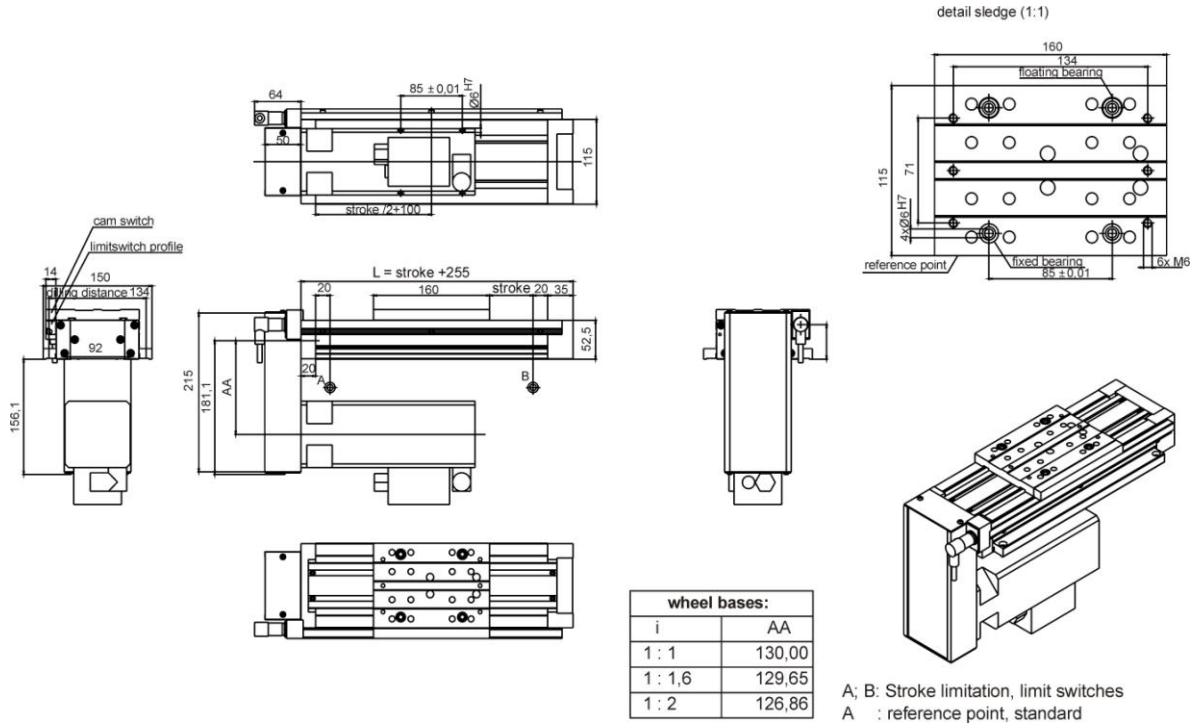


Figure 30: Motor Installation variant 2

NOTE You can find details of the slide dimensions in *Figure 9, page 14*.

6.6.4 Installation variant 3 profiLINE 115

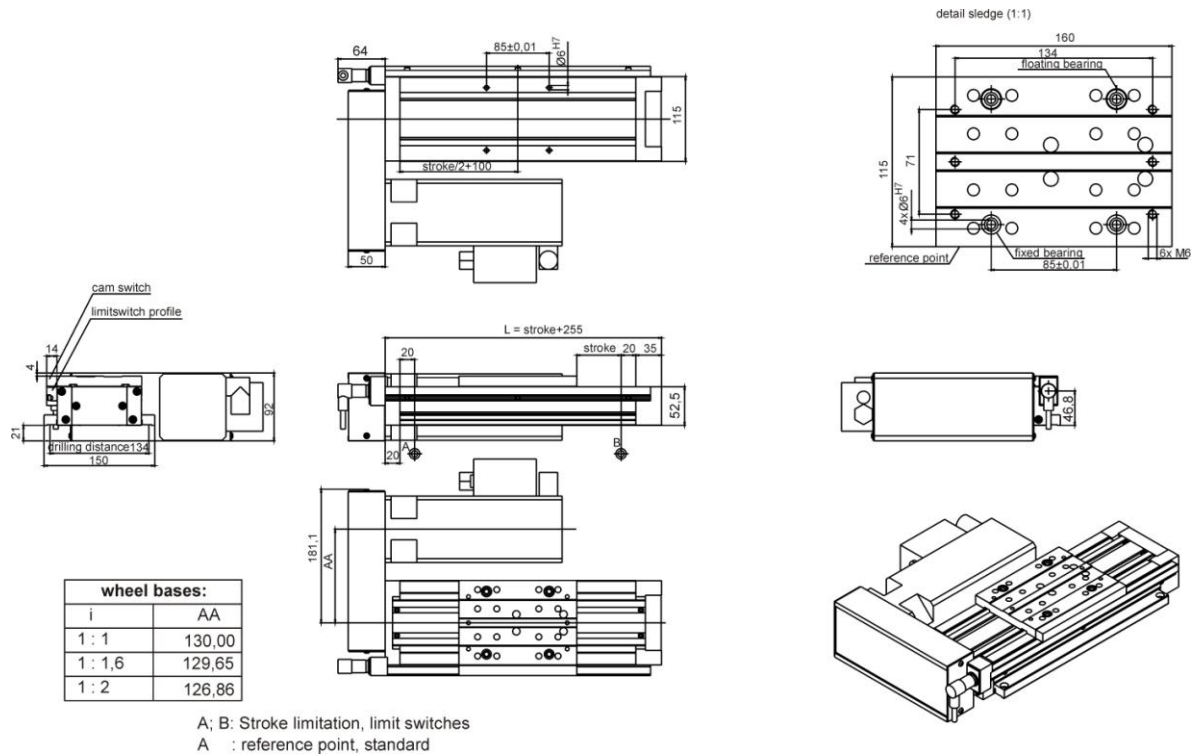


Figure 31: Motor Installation variant 3

NOTE You can find details of the slide dimensions in *Figure 9, page 14*.

6.6.5 Installation variant 4 profiLINE 115

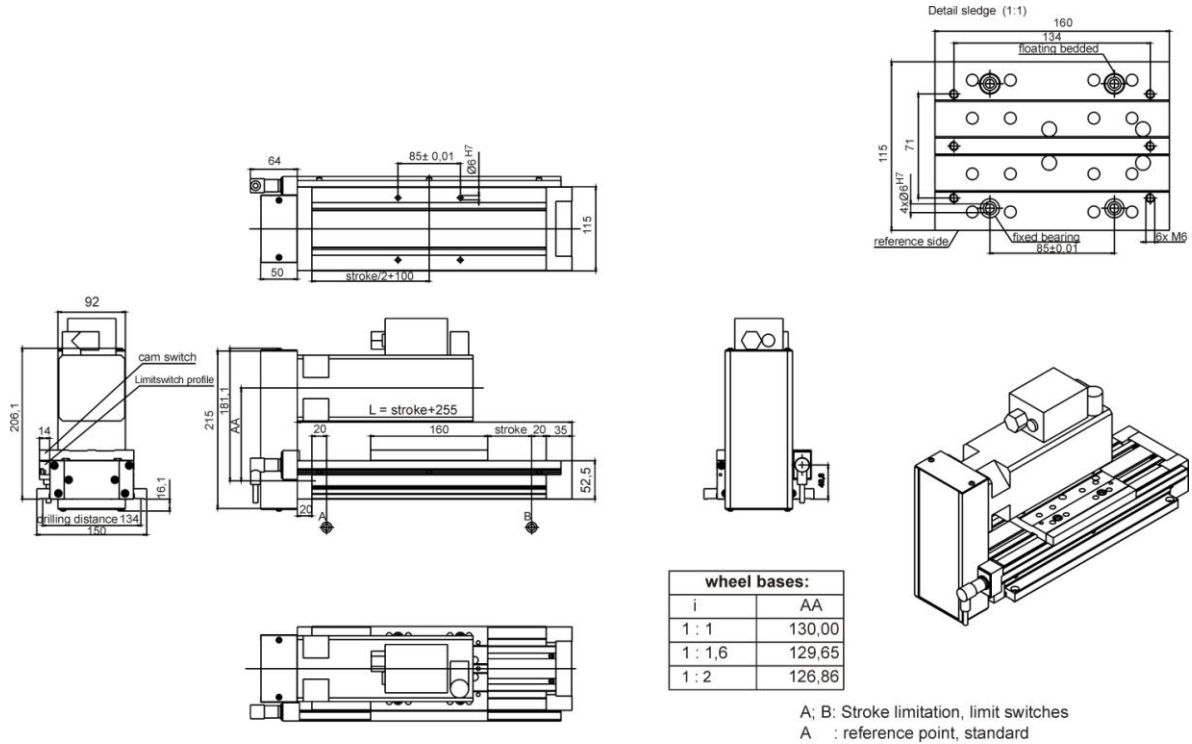


Figure 32: Motor installation variant 4

NOTE You can find details of the slide dimensions in *Figure 9, page 14*.

6.6.6 Installation variant 5 profiLINE 115

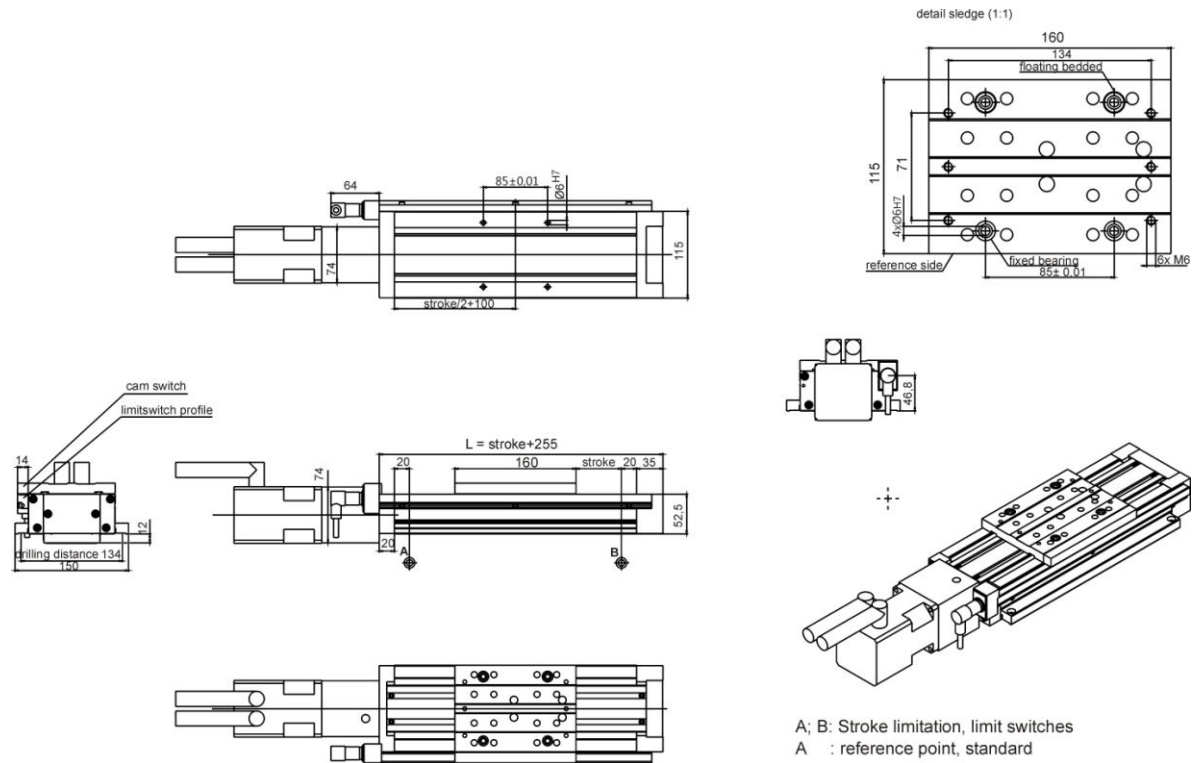


Figure 33: Motor installation variant 5

NOTE You can find details of the slide dimensions in *Figure 9, page 14*.

6.7 Clamping rail (Article No. 1028966)

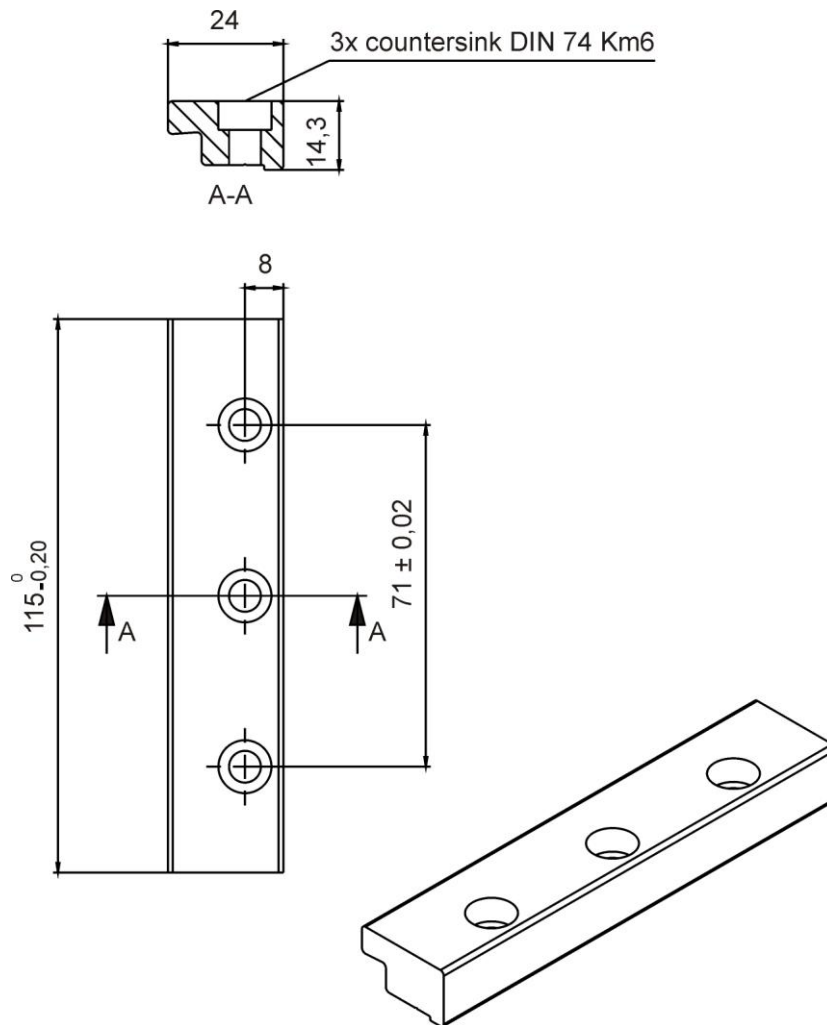


Figure 34: Clamping rail

6.8 Adapter plate (Article No. 1028971)

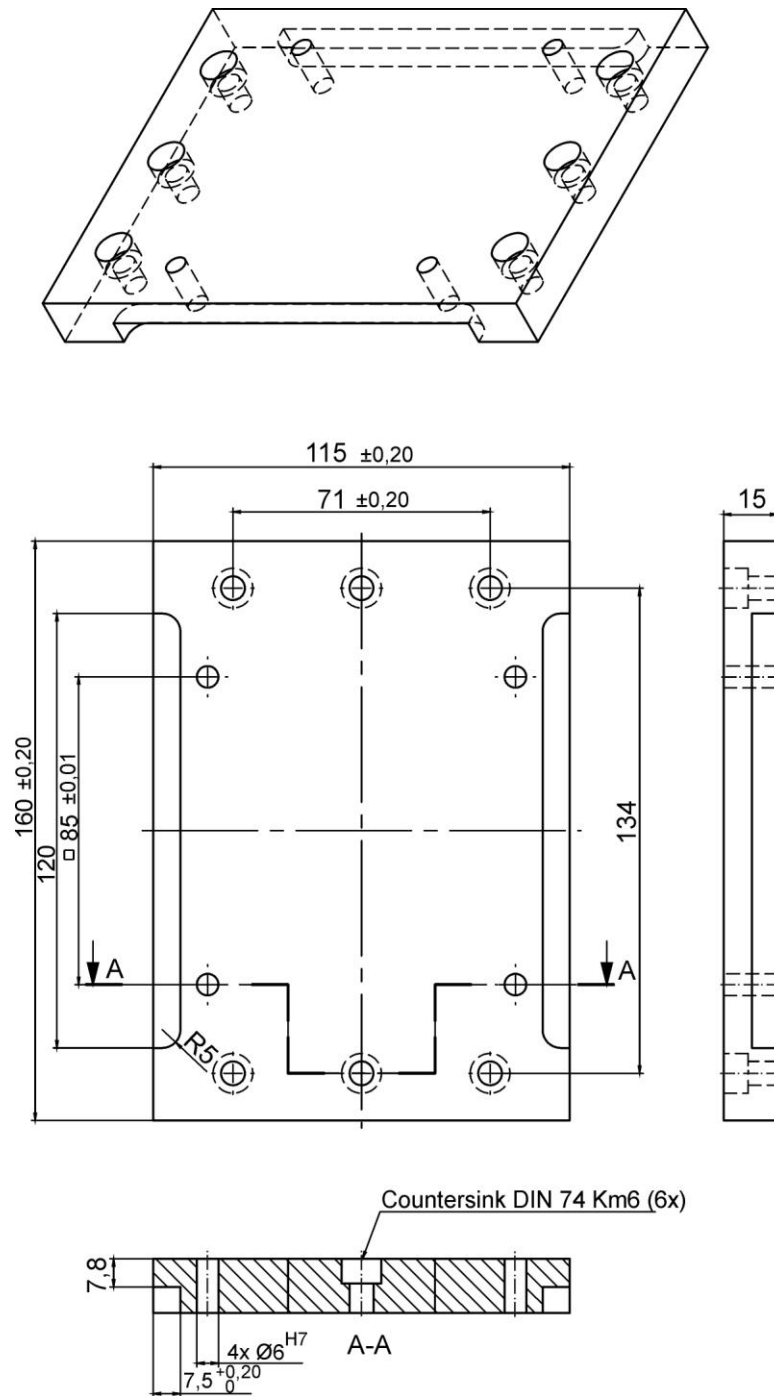


Figure 35: Adapter plate

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 115	TG1000604

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 European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility.

Directive **2014/35/EU** of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits.

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 60204-1

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, January 11, 2017

Manfred Bär (manager)