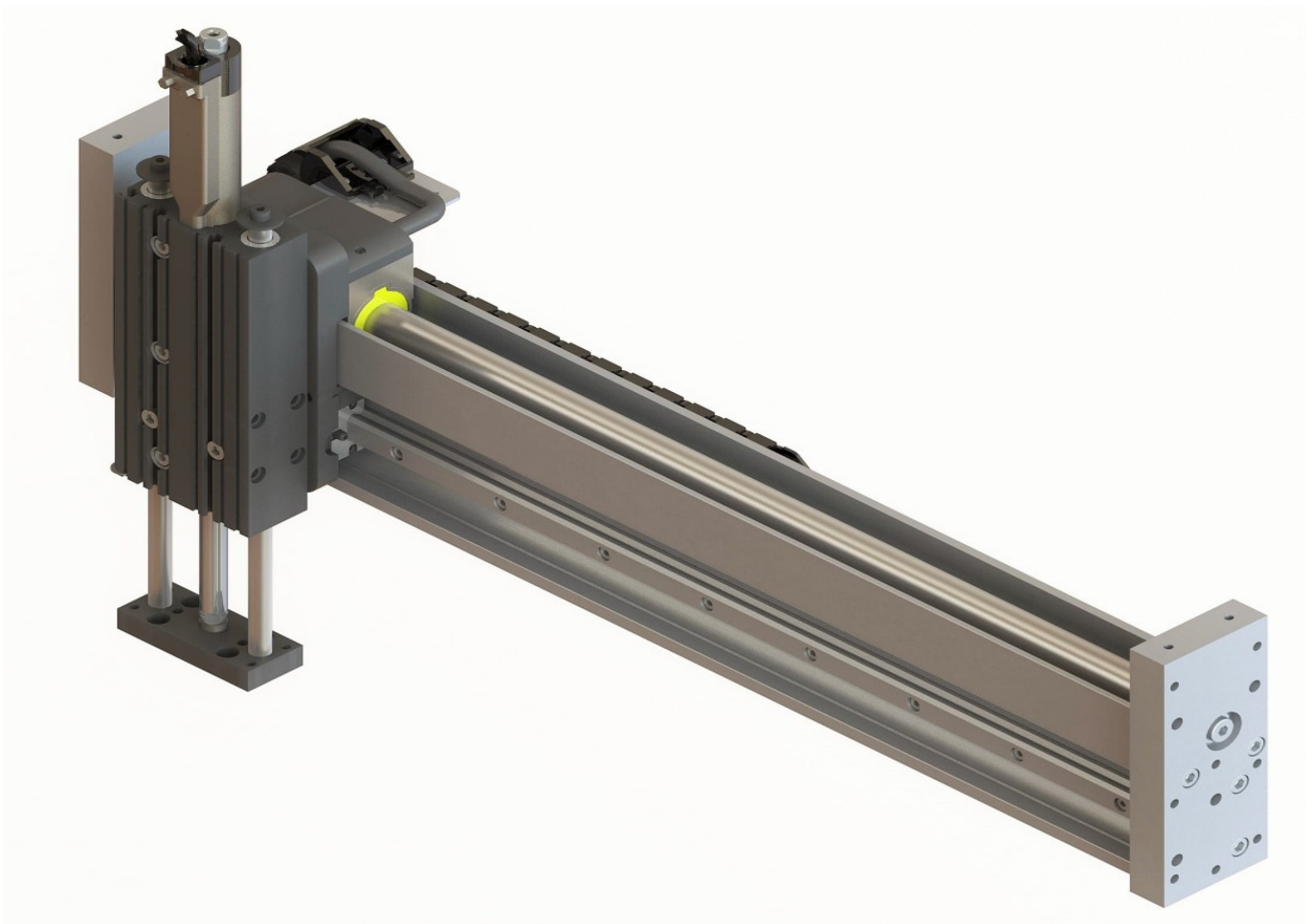


LinMot® F01-37S and F01-48 Guides

Version 1.76e



CAUTION

LINMOT SLIDERS CONTAIN NEODYMIUM MAGNETS WHICH MAY DISTURB OR DAMAGE MAGNETIC DATA CARRIERS AND DELICATE ELECTRONIC EQUIPMENT MERELY BY COMING CLOSE TO THEM.



WHEN HANDLING SLIDERS BE AWARE THAT, DUE THE STRONG MAGNETIC ATTRACTION, INJURY FROM FINGERS BEING PINCHED BETWEEN THE SLIDER AND NEARBY STEEL PARTS IS A VERY REAL POSSIBILITY IF CAUTION IS NOT EXERCISED.



THE SLIDERS OF LINMOT[®] MOTORS CAN REACH TEMPERATURES WHICH MAY CAUSE BURNS UPON BEING TOUCHED.



THE SLIDERS AND SHAFTS OF LINMOT[®] LINEAR-ROTARY MOTORS ARE FAST-MOVING MACHINE PARTS. THE USER MUST TAKE ALL NECESSARY PRECAUTIONS TO PREVENT THEIR BEING TOUCHED (PROVIDE COVERS, PROTECTION AGAINST TOUCHING ETC.).



The complete documentation including technical data, drawings and accessories can be downloaded from the download area on the web page www.LinMot-USA.com .

CAD files and STEP files can be downloaded from the CAD download area on the web page www.LinMot-USA.com .

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Example Layout

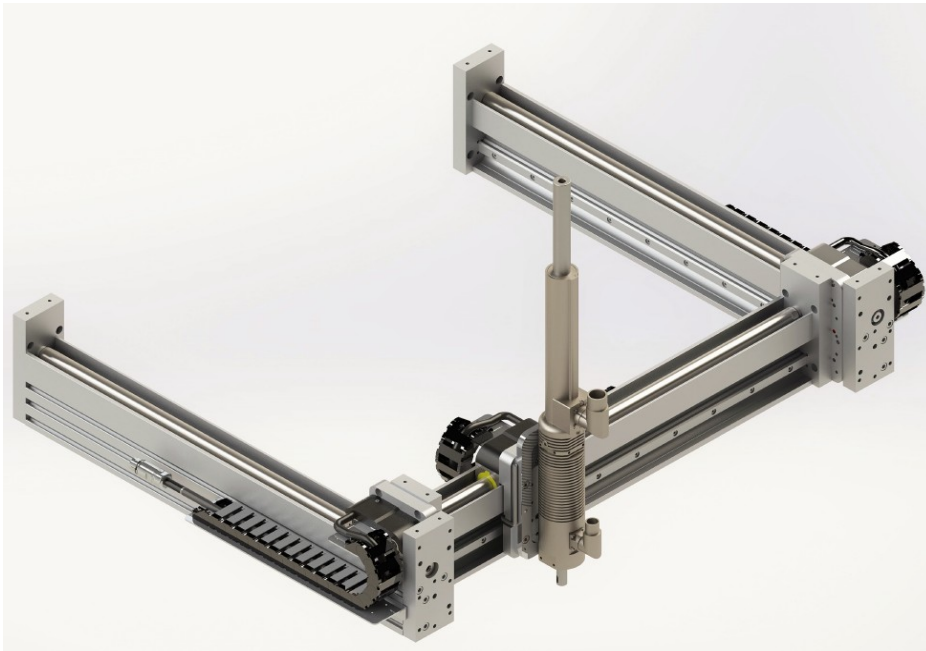


Figure 1: Gantry-Design with three F01-37S guides



Figure 2: F01-37S guide with two independent motors on the same track

Description

The LinMot F01-37S and F01-48 guides are moving stator applications with tubular linear motors. The mechanical design is based on a special aluminum profile on which a high precision profile rail guide is attached. Use of ball bearings in the carriages guarantee a reliable and smooth operation. The design of both guides is very similar but different in the dimensions.

F-guides can be mounted together into a gantry design (Fig. 1) without any additional adapters. It is also possible to run more than one motor on the same guide (Fig. 2). There are two sizes of motors available for each size of F-guide; the PS01-37Sx60 offers highest velocity on a very short design while the PS01-37Sx120 presents double the peak force with an additional 60mm length. The motors of the PS01-48 series offers a peak force up to 1000 N (250 lbf).

Together with the H01 guides for the vertical axis (Fig. 3) and the linear rotary motors of the PR01-52 series (Fig. 4&5) the F-guides offer a powerful toolbox for any automation task.

Figure 3: F01-37S Guide with mounted H01-23 guide for z-axis



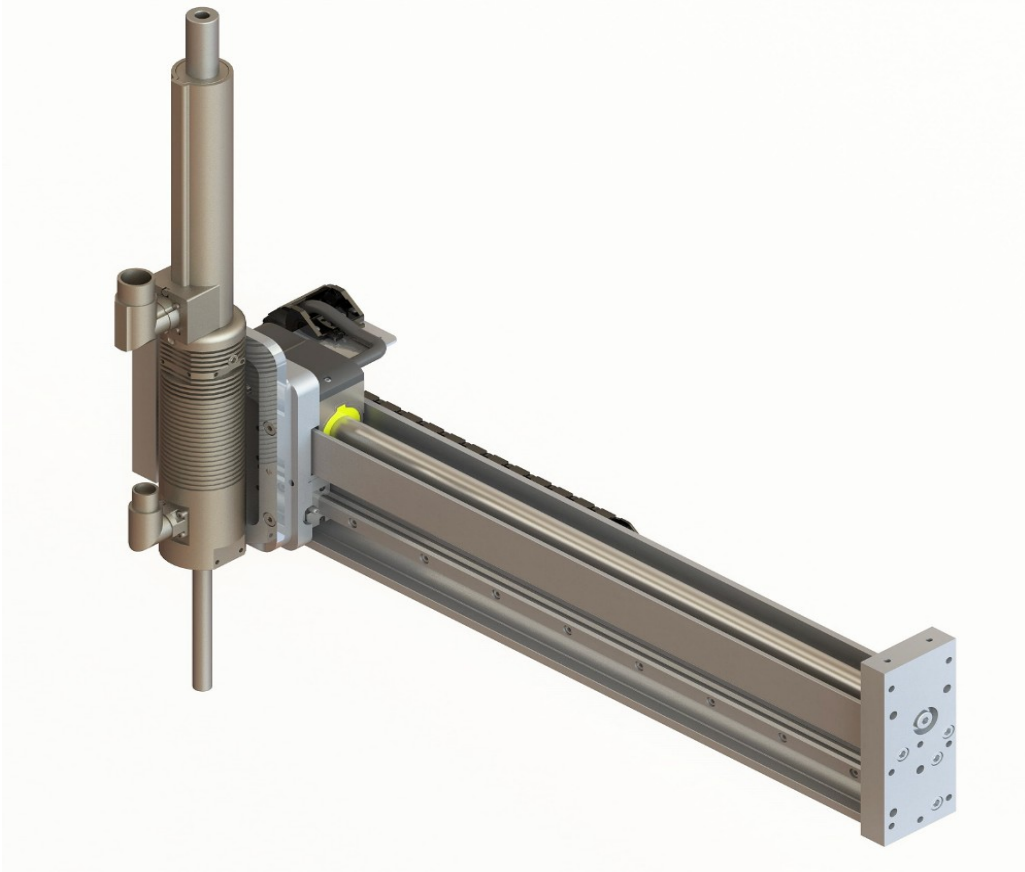


Figure 4: F01-37S Guide with mounted linear rotary motor PR01-52

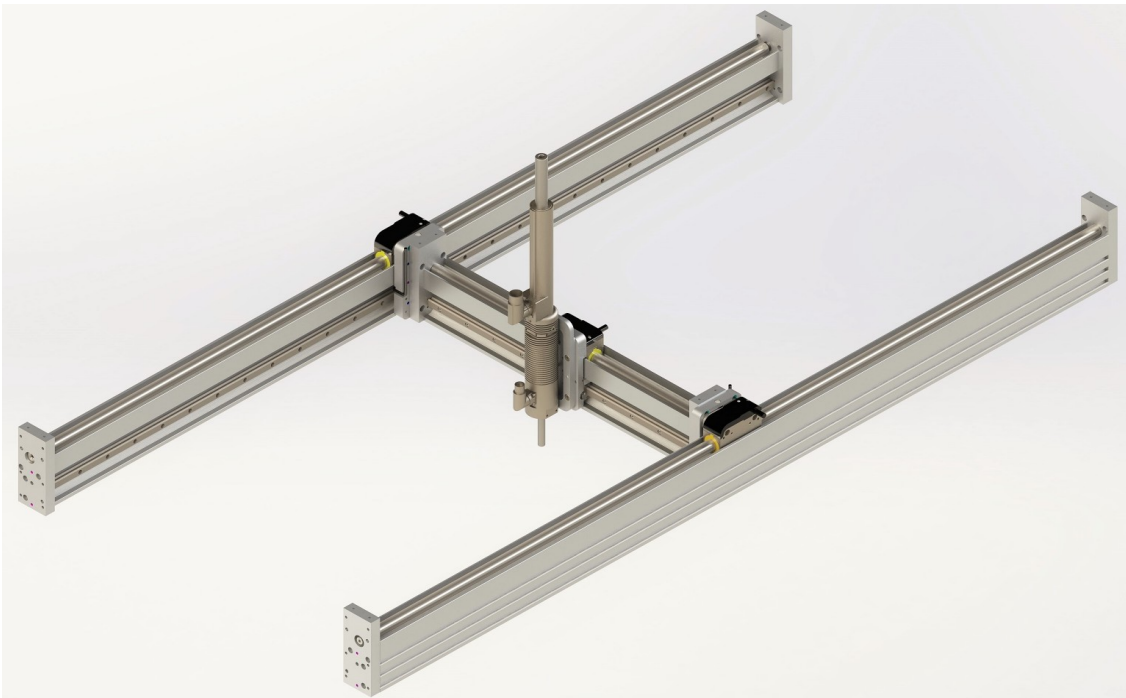


Figure 5: Gantry Design with mounted linear rotary motor PR01-52

Technical data for F01-37 Guide

| | | value | Note |
|---------------------------------------|----------------------|---|---------------------------------|
| Static load rating | C | 15'400 N (3462 lbf) | See chapter bearing load |
| Dynamic load rating | C ₀ | 8'400 N (1888 lbf) | See chapter bearing load |
| Static moment load | M _{x0} | 103 Nm (75.9 lb ft) | See chapter bearing load |
| | M _{y0} | 90 Nm (66.3 lb ft) | See chapter bearing load |
| | M _{z0} | 90 Nm (66.3 lb ft) | See chapter bearing load |
| Dynamic moment load | M _x | 56 Nm (41.3 lb ft) | See chapter bearing load |
| | M _y | 49 Nm (36.1 lb ft) | See chapter bearing load |
| | M _z | 49 Nm (36.1 lb ft) | See chapter bearing load |
| | | | |
| Max velocity | v _{max} | 5 m/s (196 in/s) | Depending on motor |
| Max acceleration | a _{max} | 75 m/s ² (2952 in/s ²) | Depending on motor |
| | | | |
| | | | |
| Stator PS01-37Sx60 | | | |
| Peak Force | F _{peak} | 122 N (27.4 lbf) | |
| Continuous Force | F _{cont} | 20 N (4.5 lbf) | |
| Max phase current @ 72VDC | I _{max} | 12 A | |
| Moving mass total | m _{lin tot} | 1100 g (2.42 lb) | Stator, carriage, adapter plate |
| Repeatability without external Sensor | | +/- 0.05 mm (+/- 0.002 in) | |
| Repeatability with external Sensor | | +/- 0.01 mm (+/- 0.0004 in) | With external sensor |
| Friction (estimation) | F _r | 7 N (1.6 lbf) | Dependent on application |
| | | | |
| Stator PS01-37Sx120 | | | |
| Peak Force | F _{peak} | 255 N (57.3 lbf) | |
| Continuous Force | F _{cont} | 35 (7.8 lbf) | |
| Max phase current @ 72VDC | I _{max} | 15 A | |
| Moving mass total | m _{lin tot} | 1470 g (3.24 lb) | Stator, carriage, adapter plate |
| Repeatability without external Sensor | | +/- 0.05 mm (+/- 0.002 in) | |
| Repeatability with external Sensor | | +/- 0.01 mm (+/- 0.0004 in) | With external sensor |
| Friction (estimation) | F _r | 7 N (1.6 lbf) | Dependent on application |
| | | | |
| | | | |

To calculate the motor specific application data we recommend to use the sizing tool LinMot Designer. (see Download sector on www.LinMot.com)

Dimensions and mass of F01-37S guides

| Description | Part-No | Length total | Mass |
|--------------------|----------------|---------------------|--------------------|
| F01-37Sx300 | 0150-5453 | 330 mm (13.0 in) | 3430 g (7.57 lb) |
| F01-37Sx400 | 0150-5449 | 430 mm (16.9 in) | 4310 g (9.5 lb) |
| F01-37Sx500 | 0150-5450 | 530 mm (20.9 in) | 5220 g (11.51 lb) |
| F01-37Sx600 | 0150-5424 | 630 mm (24.8 in) | 6100 g (13.45 lb) |
| F01-37Sx800 | 0150-5425 | 830 mm (32,7 in) | 7860 g (17.33 lb) |
| F01-37Sx1000 | 0150-5426 | 1030 mm (40.6 in) | 9640 g (21.25 lb) |
| F01-37Sx1200 | 0150-5427 | 1230 mm (48.4 in) | 11400 g (25.13 lb) |
| F01-37Sx1400 | 0150-5428 | 1430 mm (56.3 in) | 13200 g (29.10 lb) |
| F01-37Sx1600 | 0150-5429 | 1630 mm (64.2 in) | 14930 g (32.92 lb) |
| F01-37Sx2000 | 0150-5430 | 2030 mm (79.9 in) | 18490 g (40.76 lb) |

Mass including end-plates, profile rail and slider (without stator and adapter plate)

Mass and Friction F01-37 for LinMot Designer and LinMot Talk

Select Stator: PS01-37Sx60 or PS01-37Sx120 high performance
Select Slider: according to the guide length

Select Motor Layout: "Moving Stator"

Mass: "add Stator mass"
Mass: with carrier kit F01-37S/FWK: 600 g
with carrier kit F01-37S/FWK-F: 790 g (guides \geq 1400 mm length)

Dry friction: 7 N

Note: Depending on the application the mass of the high flex cable(s) must be considered.

Technical data for F01-48 Guide

| | | value | Note |
|---------------------------------------|----------------------|---|---------------------------------|
| Static load rating | C | 30'800 N (6924 lbf) | See chapter bearing load |
| Dynamic load rating | C ₀ | 16'800 N (3776 lbf) | See chapter bearing load |
| Static moment load | M _{x0} | 206 Nm (151.8 lb ft) | See chapter bearing load |
| | M _{y0} | 180 Nm (132.6 lb ft) | See chapter bearing load |
| | M _{z0} | 180 Nm (132.6 lb ft) | See chapter bearing load |
| Dynamic moment load | M _x | 112 Nm (82.6 lb ft) | See chapter bearing load |
| | M _y | 98 Nm (72.2 lb ft) | See chapter bearing load |
| | M _z | 98 Nm (72.2 lb ft) | See chapter bearing load |
| | | | |
| Max velocity | v _{max} | 3 m/s (118 in/s) | Depending on motor |
| Max acceleration | a _{max} | 50 m/s ² (1968 in/s ²) | Depending on motor |
| | | | |
| | | | |
| Stator PS01-48X240F-C | | | |
| Peak Force | F _{peak} | 550 N (123.6 lbf) | |
| Continuous Force | F _{cont} | 145 N (32.6 lbf) | |
| Max phase current @ 72VDC | I _{max} | 26 A | |
| Moving mass total | m _{lin tot} | 4900 g (10.8 lb) | Stator, carriage, adapter plate |
| Repeatability without external Sensor | | +/- 0.05 mm (+/- 0.002 in) | |
| Repeatability with external Sensor | | +/- 0.01 mm (+/- 0.0004 in) | With external sensor |
| Friction (estimation) | F _r | 30 N (6.7 lbf) | Dependent on application |
| | | | |
| Stator PS01-48X360F-C | | | |
| Peak Force | F _{peak} | 1024 N (230.1 lbf) | |
| Continuous Force | F _{cont} | 203 N (45.7 lbf) | |
| Max phase current @ 72VDC | I _{max} | 32 A | |
| Moving mass total | m _{lin tot} | 6250 g (13.8 lb) | Stator, carriage, adapter plate |
| Repeatability without external Sensor | | +/- 0.05 mm (+/- 0.002 in) | |
| Repeatability with external Sensor | | +/- 0.01 mm (+/- 0.0004 in) | With external sensor |
| Friction (estimation) | F _r | 34 N (7.6 lbf) | Dependent on application |
| | | | |
| | | | |

| Stator PS01-48X240F-HP-C | | | |
|---------------------------------------|--------------|-----------------------------|---------------------------------|
| Peak Force | F_{peak} | 572 N (129 lbf) | |
| Continuous Force | F_{cont} | 170 N (38 lbf) | |
| Max phase current @ 72VDC | I_{max} | 25.9 A | |
| Moving mass total | $m_{in tot}$ | 4900 g (10.8 lb) | Stator, carriage, adapter plate |
| Repeatability without external Sensor | | +/- 0.05 mm (+/- 0.002 in) | |
| Repeatability with external Sensor | | +/- 0.01 mm (+/- 0.0004 in) | With external sensor |
| Friction (estimation) | F_r | 30 N (6.7 lbf) | Dependent on application |
| | | | |

To calculate the motor specific application data we recommend to use the sizing tool LinMot Designer. (see Download sector on www.LinMot.com)

Dimensions and mass of F01-48 guides

| Description | Part-No | Length total | Mass |
|--------------------|----------------|----------------------|---------------------|
| F01-48x500 | 0150-5469 | 540 mm (21.3 in) | 6.93 kg (15.27 lb) |
| F01-48x620 | 0150-5470 | 660 mm (26.0 in) | 8.19 kg (18.04 lb) |
| F01-48x800 | 0150-5471 | 840 mm (33.1 in) | 10.19 kg (22.46 lb) |
| F01-48x1010 | 0150-5472 | 1050 mm (41.3 in) | 12.45 kg (27.44 lb) |
| F01-48x1220 | 0150-5473 | 1260 mm (49,6 in) | 14.70 kg (32.42 lb) |
| F01-48x1400 | 0150-5474 | 1440 mm (56.7 in) | 16.71 kg (36.84 lb) |
| F01-48x1610 | 0150-5475 | 1650 mm (65,0.4 in) | 18.97 kg (41.81 lb) |
| F01-48x1820 | 0150-5476 | 1860 mm (73.2 in) | 21.23 kg (46.81 lb) |
| F01-48x2000 | 0150-5477 | 2040 mm (80.3 in) | 23.18 kg (51.09 lb) |
| F01-48x2210 | 0150-5478 | 2250 mm (88,6 in) | 25.44 kg (56.09 lb) |
| F01-48x2450 | 0150-5479 | 2490 mm (98.0 in) | 28.03 kg (61.79 lb) |

Mass including end-plates, profile rail and slider (without stator and adapter plate)

Mass and Friction F01-48 for LinMot Designer and LinMot Talk

Select Stator: PS01-48x240F..., PS01-48x360F... or PS01-48x240F-HP-C
 Select Slider: according to the guide length

Select Motor Layout: "Moving Stator"

Mass: "add Stator mass"
 PS01-48Fx240 (HP) Mass: Flange and carrier kit F01-48/FWK-F: 2970 g
 PS01-48Fx360 Mass: Flange and carrier kit F01-48/FWK-F: 3370 g

Dry friction: 34 N

Note: Depending on the application the mass of the high flex cable(s) must be considered.

Drive Setup

The best way to setup a F-Guide together with a LinMot drive is to follow the wizard of the LinMot-Talk software. Detailed information about this wizard can be found in the manuals about the drives. Please note the following screen shots of the wizard which may help to answer some questions

Wizard LinMot-Talk Software

Select the right stator and slider length

(Note: F01-37Sx1600-F relates to a slider PL01-20x1600/1540-HP
stator selection: see label on the stator)

Select 'regular' for Slider mounting direction (comment: in this kind of application the slider direction is not important).

Step 1/8: Actuator Selection

Actuator Data File: PS01-37Sx60-HP-N-AGI.adp

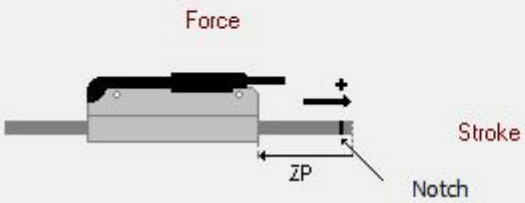
Stator: PS01-37Sx60-HP-N-AGI

Slider: PL01-20x1600/1540-HP (L: 1600mm; D: 20mm)

The slider can be identified by its length.

Slider Mounting Direction: Regular

The sliders are not symmetric. The value of ZP (Zero Position) depends on the mounting direction relative to the stator. Therefore the available stroke range changes with the mounting direction.



The diagram illustrates a slider assembly. A black actuator is mounted on a grey slider. A red arrow labeled 'Force' points to the right, indicating the direction of movement. A red arrow labeled 'Stroke' points to the right, indicating the range of motion. A red arrow labeled 'ZP' points to the left, indicating the Zero Position. A red arrow labeled 'Notch' points to a notch on the slider.

Define Payload

The mass of the carriage-kit is about 465 g. The friction is about 7 N. In gantry design, the friction may be higher. (See Chapter “Mass and Friction F01-37 for LinMot Designer and LinMot Talk” and “Mass and Friction F01-48 for LinMot Designer and LinMot Talk”.)



Step 4/8: Feed Forward Parameters

Mechanical Layout
Moving Part of Motor:
Orientation Angle (-90°..+90°): °

Moving Mass
Stator: g
Additional Load Mass: g

Friction Forces
Dry Friction: N
Viscous Friction: N/(m/s)

MagSpring (or other constant force)
External Constant Force: N
Force Direction:



PID Controller

See recommended values to start (the values are higher than normal motor without F-guide)
Increase the values if needed. If the payload is high, then increase the D-Filter time as well.
(Default D-Filter time = 400 us).

Step 5/8: PID Position Controller

PID Position Controller Setting

P Gain: A/mm (P=2.5, D=4, I=0)
D Gain: A/(m/s) (P=6.2, D=10, I=0)
I Gain: A/(mm*s)
D Filter Time: us

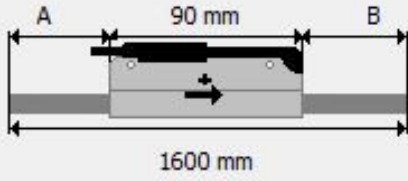
Noise Filter:
Dead Band: mm Enable Noise Filter

Homing

Measure the distance B, which is the distance between the carriage and the end-plate, if the carriage is at the other end of the guide.

Step 7/8: Homing II

Distance from Stator End to Slider End at the Home Position



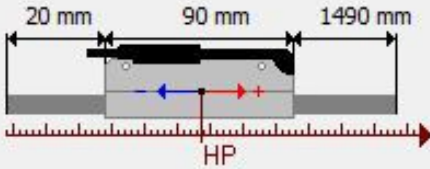
Distance A: mm

Distance B: mm

Step 8/8: Homing III

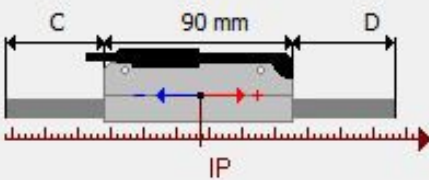
Definition of the Application Reference System

Home Position (HP): mm



Move to the Initial Position at the End of the Homing Procedure

Initial Position (IP): mm



Full length of stroke

To use the full length of the mechanical stroke on a F01-37S guide it is necessary to switch off the 'Maximal Position' error.

The screenshot shows the 'Errors & Warnings' section of the LinMot software. The 'Maximal Position' error is currently disabled (unchecked). The following table lists the errors and their status:

| Name | Value | Raw Data | UPID | Type |
|-------------------------------|-------|----------|-------|------|
| Logic Supply Voltage Too Low | True | 1h | 157Ch | Bool |
| Logic Supply Voltage Too High | True | 1h | 157Dh | Bool |
| Motor Supply Voltage Too Low | True | 1h | 157Eh | Bool |
| Motor Supply Voltage Too High | True | 1h | 157Fh | Bool |
| Motor Short Time Overload | True | 1h | 1580h | Bool |
| Motor Temp Sensor | True | 1h | 1581h | Bool |
| PTC Temp Sensor | True | 1h | 1582h | Bool |
| Motor Slider Missing | True | 1h | 1584h | Bool |
| Motor Hall Signals Missing | True | 1h | 1585h | Bool |
| External Position Sensor | True | 1h | 1586h | Bool |
| Position Lag Always | True | 1h | 1587h | Bool |
| Position Lag Standing | True | 1h | 1588h | Bool |
| Minimal Position | True | 1h | 158Ch | Bool |
| Maximal Position | False | 0h | 158Dh | Bool |
| RR Check | True | 1h | 158Eh | Bool |
| RR Hot Calculated | True | 1h | 158Fh | Bool |
| Check Stator Type | True | 1h | 1590h | Bool |

Or change the minimal and maximal position

The screenshot shows the 'Position Limits' section of the LinMot software. The 'Minimal Position' is set to -100 mm and the 'Maximal Position' is set to 100 mm. The following table lists the position limits:

| Name | Value | Raw Data | UPID | Type |
|------------------|---------|-----------|-------|--------|
| Minimal Position | -100 mm | FFF0BDC0h | 146Eh | SInt32 |
| Maximal Position | 100 mm | 000F4240h | 146Fh | SInt32 |

Order Information for Guide F01-37S

The guides will be delivered pre-assembled. See section 'Assembling of components' if additional stators or parts must be installed later. Go step by step though the following order procedure:

1. Step: Select F01-37S guide

| Description | Part-No | Length total | Stroke w. PS01-37Sx60* | Stroke w. PS01-37Sx120* |
|----------------|-----------|--------------|------------------------|-------------------------|
| F01-37Sx300 | 0150-5453 | 330 mm | 200 mm (7.8") | 140 mm (5.5") |
| F01-37Sx400 | 0150-5449 | 430 mm | 300 mm (11.8") | 240 mm (9.4") |
| F01-37Sx500 | 0150-5450 | 530 mm | 400 mm (15.7") | 340 mm (13.3") |
| F01-37Sx600 | 0150-5424 | 630 mm | 500 mm (19.6") | 440 mm (17.3") |
| F01-37Sx800 | 0150-5425 | 830 mm | 700 mm (27.5") | 640 mm (25.1") |
| F01-37Sx1000 | 0150-5426 | 1030 mm | 900 mm (35.4") | 840 mm (33") |
| F01-37Sx1200 | 0150-5427 | 1230 mm | 1100 mm (43.3") | 1040 mm (40.9") |
| F01-37Sx1400-F | 0150-5428 | 1430 mm | 1300 mm (51.1") | 1240 mm (48.8") |
| F01-37Sx1600-F | 0150-5429 | 1630 mm | 1500 mm (59") | 1440 mm (56.6") |
| F01-37Sx2000-F | 0150-5430 | 2030 mm | 1900 mm (74.7") | 1840 mm (72.4") |

*Stroke tolerance: +0 mm/ -5 mm
Guide including end-plates and profile rail

2. Step: Select Slider

| Description | Part-No | For Guide |
|-------------------------|-----------|----------------|
| PL01-20x305/260-HP-PF | 0150-1427 | F01-37Sx300 |
| PL01-20x405/360-HP-PF | 0150-1428 | F01-37Sx400 |
| PL01-20x505/460-HP-PF | 0150-1429 | F01-37Sx500 |
| PL01-20x605/560-HP-PF | 0150-1430 | F01-37Sx600 |
| PL01-20x805/760-HP-PF | 0150-1431 | F01-37Sx800 |
| PL01-20x1005/960-HP-PF | 0150-1432 | F01-37Sx1000 |
| PL01-20x1205/1160-HP-PF | 0150-1433 | F01-37Sx1200 |
| PL01-20x1405/1360-HP-PF | 0150-1434 | F01-37Sx1400-F |
| PL01-20x1605/1560-HP-PF | 0150-1435 | F01-37Sx1600-F |
| PL01-20x2005/1960-HP-PF | 0150-1436 | F01-37Sx2000-F |

One slider is necessary for each guide.

3. Step: Select type and quantity of Carriage-Kit

| Description | Part-No | Description |
|---------------|-----------|---|
| F01-37S/FWK | 0150-5480 | Carriage and ground plate for guides <1400 mm |
| F01-37S/FWK-F | 0150-5481 | Carriage and ground plate for guides >= 1400 mm |

It is possible to run more than one carriage on one guide. Kit includes carriage, adapter plate and all screws to mount stator and carriage.

Note: F01-37S guides equal or longer than 1400 mm need F01-37S/FWK-F carriage kits. The ground plate of the F01-37S/FWK-F is 7 mm thicker than the ground plate of the F01-37S/FWK. That means all mounted parts are moved by 7 mm. See dimensions in brackets on the drawings.

Spare part: Carriage (from SKF) without adapter plate: LLTHC 15 U-T2 P5 Part-No 0150-5265

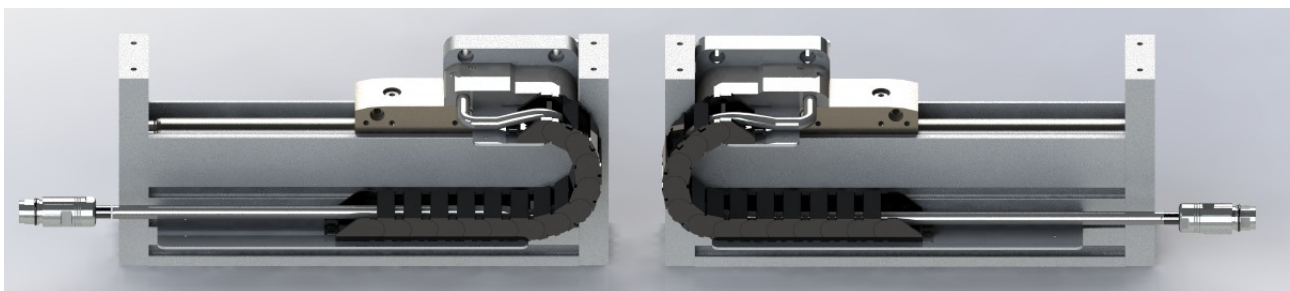
4. Step: Select type and quantity of Stator

| Description | Part-No | |
|------------------------|-----------|---|
| PS01-37Sx60-HP-N-AGI | 0150-2549 | 37 series HP stator with N connector (IP50) |
| PS01-37Sx120F-HP-N-AGI | 0150-2550 | 37 series HP stator with N connector (IP50) |

It is possible to run more than one stator on one guide. Each stator needs its own carriage-kit.

If different stators are ordered, it is necessary to note the assembling sequence of the stators (from left to right) on the guide, viewing angle from the site with the trailing chain (see pictures Design 'cable to the left' or 'cable to the right').

(e.g. 3 stators in the sequence (from left to right): PS01-37Sx60 / PS01-37Sx60 / PS01-37Sx120)



F-Guide assembled 'cable to the left'
Part-No. 0140-0008

F-Guide assembled 'cable to the right' (default)
Part-Np. 0140-0007

5. Step: Select Trailing chain kit or trailing chain (optional)

5.1 Trailing chain kit

| Description | Part-No | For Guide | Length of trailing chain |
|--------------------|----------------|------------------|---------------------------------|
| F01-TC300-37 | 0150-5457 | F01-37Sx300 | Ca 200 mm |
| F01-TC400-37 | 0150-5456 | F01-37Sx400 | Ca 300 mm |
| F01-TC500-37 | 0150-5455 | F01-37Sx500 | Ca 400 mm |
| F01-TC600-37 | 0150-5439 | F01-37Sx600 | Ca 500 mm |
| F01-TC800-37 | 0150-5440 | F01-37Sx800 | Ca 600 mm |
| F01-TC1000-37 | 0150-5441 | F01-37Sx1000 | Ca 700 mm |
| F01-TC1200-37 | 0150-5442 | F01-37Sx1200 | Ca 800 mm |
| F01-TC1400-37 | 0150-5443 | F01-37Sx1400-F | Ca 900 mm |
| F01-TC1600-37 | 0150-5444 | F01-37Sx1600-F | Ca 1000 mm |
| F01-TC2000-37 | 0150-5445 | F01-37Sx2000-F | Ca 1200 mm |

Includes trailing chain and brackets to mount the trailing chain to the stator and the guide. (The kit can not be used for multiple carriage applications).

5.2 Trailing chain

| Description | Part-No | For Guide | Length of trailing chain |
|--------------------|----------------|------------------|---------------------------------|
| F01h-KS300 | 0160-0983 | F01-37Sx300 | Ca 200 mm |
| F01h-KS400 | 0160-0981 | F01-37Sx400 | Ca 300 mm |
| F01h-KS500 | 0160-0982 | F01-37Sx500 | Ca 400 mm |
| F01h-KS600 | 0160-0971 | F01-37Sx600 | Ca 500 mm |
| F01h-KS800 | 0160-0972 | F01-37Sx800 | Ca 600 mm |
| F01h-KS1000 | 0160-0973 | F01-37Sx1000 | Ca 700 mm |
| F01h-KS1200 | 0160-0974 | F01-37Sx1200 | Ca 800 mm |
| F01h-KS1400 | 0160-0975 | F01-37Sx1400-F | Ca 900 mm |
| F01h-KS1600 | 0160-0976 | F01-37Sx1600-F | Ca 1000 mm |
| F01h-KS2000 | 0160-0977 | F01-37Sx2000-F | Ca 1200 mm |

Only trailing chain without any brackets

6. Step: Select Trailing chain cables (high-flex cable)

| Description | Part-No | Description | For Motor |
|--------------------|----------------|---|--------------------------|
| KS03-R/N-1.5 | 0150-3563 | Trailing chain cable 1.5 m with R/N-connector | PS01-37Sx60 |
| KS03-R/N-2 | 0150-3564 | Trailing chain cable 2 m with R/N-connector | PS01-37Sx60 |
| KS03-R/N-3 | 0150-3565 | Trailing chain cable 3 m with R/N-connector | PS01-37Sx60 |
| | | | |
| KS05-09-R/N-1.5 | 0150-3880 | Trailing chain cable 1.5 m with R/N-connector | PS01-37Sx120 |
| KS05-09-R/N-2 | 0150-3881 | Trailing chain cable 2 m with R/N-connector | PS01-37Sx120 |
| KS05-09-R/N-3 | 0150-3882 | Trailing chain cable 3 m with R/N-connector | PS01-37Sx120 |
| | | | |
| KS03-R/R-1.5 | 0150-3566 | Trailing chain cable 1.5 m with R/R-connector | PR01-52x40-R/37x120F-... |
| KS03-R/R-2 | 0150-3567 | Trailing chain cable 2 m with R/R-connector | PR01-52x40-R/37x120F-... |
| KS03-R/R-3 | 0150-3568 | Trailing chain cable 3 m with R/R-connector | PR01-52x40-R/37x120F-... |
| | | | |
| KS03-C/C-1.5 | 0150-3569 | Trailing chain cable 1.5 m with C/C-connector | PR01-52x40-R/37x120F-.. |
| KS03-C/C-2 | 0150-3570 | Trailing chain cable 2 m with C/C-connector | PR01-52x40-R/37x120F-.. |
| KS03-C/C-3 | 0150-3571 | Trailing chain cable 3 m with C/C-connector | PR01-52x40-R/37x120F-.. |

The trailing chain cable should be as short as possible. Use an extension cable for the connection between the trailing chain cable and the drive.

- PS01-37Sx60 stators which are built into the F01-37S guides need KS03-R/N-.. cables
- PS01-37Sx120 stators which are built into the F01-37S guides need KS05-09-R/N-.. cables
- Trailing chain cable max. length is limited up to 3 m
- The rotary part of the PR01-52x40-R/37x120F-..motors or the PS01-23x ...-R stators need KS03-R/R-... cables
- The lineary part of the PR01-52x40-R/37x120F-..motors or PS01-37x ... -C stators need KS03-C/C-... cables

7. Step: External Sensor-Kit (optional)

| Description | Part-No | |
|-------------|-----------|---|
| F01-37S-SK | 0150-5446 | Identical for all guides, cable length 2m |

The external sensor kit includes sensor MS01-1/D Part- No 0150-1840, sensor adapter plate and mounting screws. The magnetic strip must be ordered separately.

8. Step: Magnetic strip (optional)

| Description | Part-No | For Guide |
|-------------|-----------|----------------|
| F01-MB300 | 0150-5454 | F01-37Sx300 |
| F01-MB400 | 0150-5451 | F01-37Sx400 |
| F01-MB500 | 0150-5452 | F01-37Sx500 |
| F01-MB600 | 0150-5431 | F01-37Sx600 |
| F01-MB800 | 0150-5432 | F01-37Sx800 |
| F01-MB1000 | 0150-5433 | F01-37Sx1000 |
| F01-MB1200 | 0150-5434 | F01-37Sx1200 |
| F01-MB1400 | 0150-5435 | F01-37Sx1400-F |
| F01-MB1600 | 0150-5436 | F01-37Sx1600-F |
| F01-MB2000 | 0150-5437 | F01-37Sx2000-F |

Only one magnetic strip is needed for several motors with external position sensor kits to run on one guide.

9. Step: Adapter plate for linear rotary motors (optional)

| Description | Part-No | For linear rotary motors |
|--------------------|----------------|--|
| F01k-PR01-52 | 0160-2536 | PR01-52x40-R/37x120F-HP-C-80 (-L) PR01-52x60-R/37x120F-HP-C-100 (-L) |
| F01k-PR01-52x60 | 0160-2657 | PR01-52x60-R/37x120F-HP-C-100 (-L) PR01-52x60-R/37x120F-HP-C-150 (-L) |
| F01k-PR01-84* | 0160-2594 | PR01-84x80-C/48x240F-C100 (-L) (-G0x) PR01-84x80-C/48x360F-C100 (-L) (-G0x) |

The adapter plates must be mounted to a F01-37S/FWK or F01-37S/FWK-F carriage kit.

Note: H01-23x.. , H01-37x... and B01-23x.. , B01-37x.. -guides can directly be mounted to the F01-37S/FWK or F01-37S/FWK-F carriage kit.

10. Step: Nuts for T-Slot (optional)

| Description | Part-No | |
|--------------------|----------------|---|
| Nut N8 / M4 | 0150-2189 | Nut for 8 mm slots of F01 guides with M4 thread |
| Nut N8 / M6 | 0150-2558 | Nut for 8 mm slots of F01 guides with M6 thread |

Dimensions see drawings

Order example:

Example 1: F01-37S guide shorter than 1400 mm

| pcs | Description | Part-No | comment |
|------------|---------------------------------------|----------------|-------------------------------|
| 1 | F01-37Sx800 | 0150-5425 | F01-37S guide 800 mm |
| 1 | PL01-20x805/760-HP | 0150-1431 | Slider HP for F-guidance |
| 1 | F01-37S/FWK | 0150-5480 | Carriage kit (Guide <1400 mm) |
| 1 | PS01-37Sx120F-HP-N-AGI | 0150-2550 | Stator (linear motor) |
| 1 | F01-TC800 | 0150-5440 | Trailing chain kit |
| 1 | KS03-R/N-2 | 0150-3564 | Trailing chain cable 2 m |
| 1 | F-Guide assembled 'cable to the left' | 0140-0008 | |

Example 2: F01-37S guide longer than 1400 mm with optional external sensor

| pcs | Description | Part-No | comment |
|------------|--|----------------|--------------------------------------|
| 1 | F01-37Sx1600-F | 0150-5429 | F01-37S guide 1600 mm |
| 1 | PL01-20x1605/1560-HP-PF | 0150-1435 | Slider HP for F-guidance |
| 1 | F01-37S/FWK-F | 0150-5481 | Carriage kit (guide >= 1400 mm) |
| 1 | PS01-37Sx60-HP-N-AGI | 0150-1549 | Stator (linear motor) |
| 1 | F01-TC1600 | 0150-5444 | Trailing chain kit |
| 1 | KS03-R/N-2 | 0150-3564 | Trailing chain cable 2 m |
| 1 | F01-37S-SK | 0150-5446 | External Sensor kit, cable length 2m |
| 1 | F01-MB1600 | 0150-5436 | Magnetic Strip for F01-37Sx1600 |
| 1 | F-Guide assembled 'cable to the right' (default) | 0140-0007 | |

Example 3: F01-37S guide longer than 1400 mm with 3 moving stators

| pcs | Description | Part-No | comment |
|------------|--|----------------|--------------------------------------|
| 1 | F01-37Sx1600-F | 0150-5429 | F01-37S guide 1600 mm |
| 1 | PL01-20x1605/1560-HP-PF | 0150-1435 | Slider HP for F-guidance |
| 3 | F01-37S/FWK-F | 0150-5481 | Carriage kit (guide >= 1400 mm) |
| 2 | PS01-37Sx120F-HP-N-AGI | 0150-2550 | Stator (linear motor) |
| 1 | PS01-37Sx60-HP-N-AGI | 0150-1549 | Stator (linear motor) |
| 3 | KS03-R/N-2 | 0150-3564 | Trailing chain cable 2 m |
| 4 | Nut N8 / M6 | 0150-2558 | Nuts for T-Slot to mount the F-Guide |
| 1 | Note: Sequence of stators: PS01-37Sx120F / PS01-37Sx120F /PS01-37Sx60F | | or Drawing |
| 1 | F-Guide assembled 'cable to the right' (default) | 0140-0007 | Note: S01-37Sx120F |
| 1 | F-Guide assembled 'cable to the right' (default) | 0140-0007 | Note: PS01-37Sx120F |
| 1 | F-Guide assembled 'cable to the left' | 0140-0008 | Note: PS01-37Sx60F |

Order Information for Guide F01-48

The guides will be delivered pre-assembled. See section 'Assembling of components' if additional stators or parts must be installed later. Go step by step through the following order procedure:

1. Step: Select F01-48 guide

| Description | Part-No | Length total | Stroke w.ith PS01-48x240F-C | Stroke w.ith PS01-48x360F-C |
|-------------|-----------|-------------------|-----------------------------|-----------------------------|
| F01-48x500 | 0150-5469 | 540 mm (21.3 in) | 200 mm (7.8") | 80 mm (3.1") |
| F01-48x620 | 0150-5470 | 660 mm (26.0 in) | 320 mm (12.5") | 200 mm (7.8") |
| F01-48x800 | 0150-5471 | 840 mm (33.1 in) | 500 mm (19.6") | 380 mm (14.9") |
| F01-48x1010 | 0150-5472 | 1050 mm (41.3 in) | 710 mm (27.9") | 590 mm (23.2") |
| F01-48x1220 | 0150-5473 | 1260 mm (49,6 in) | 920 mm (36.2') | 800 mm (31.4") |
| F01-48x1400 | 0150-5474 | 1440 mm (56.7 in) | 1100 mm (43.3") | 980 mm (38.5") |
| F01-48x1610 | 0150-5475 | 1650 mm (64.9 in) | 1310 mm (51.5") | 1190 mm (46.8") |
| F01-48x1820 | 0150-5476 | 1860 mm (73.2 in) | 1520 mm (59.8") | 1400 mm (55.1") |
| F01-48x2000 | 0150-5477 | 2040 mm (80.3 in) | 1700 mm (66.9") | 1580 mm (62.2") |
| F01-48x2210 | 0150-5478 | 2250 mm (88,6 in) | 1960 mm (77.1") | Not available |
| F01-48x2450 | 0150-5479 | 2490 mm (98.0 in) | 2150 mm (84.6") | Not available |

2. Step: Select type and quantity of Stators and Flanges

| Description | Part-No | |
|-------------------|-----------|--|
| PS01-48x240F-C | 0150-1220 | 48 series stator with C connector |
| PS01-48x240F-HP-C | 0150-2991 | 48 series HP stator with C connector |
| PF03-48x226 | 0150-5489 | Flange for PS01-48x240F-C and F01-48 Guide |
| PS01-48x360F-C | 0150-1269 | 48 series stator with C connector |
| PF03-48x346 | 0150-5490 | Flange for PS01-48x360F-C and F01-48 Guide |

Each stator needs a flange to be mounted on an a ground plate F01-48/FWK-F.

It is possible to run more than one stator on one guide. Each stator needs its own carriage-kit.

If different stators are ordered, it is necessary to note the assembling sequence of the stators (from left to right) on the guide, viewing angle from the site with the trailing chain (see pictures Design 'cable to the left' or 'cable to the right').

(e.g. 3 stators in the sequence (from left to right): PS01-48x240F / PS01-48x240F / PS01-48x360F)



F-Guide assembled 'cable to the left'
Part-No. 0140-0008



F-Guide assembled 'cable to the right' (default)
Part-Np. 0140-0007

3. Step: Select quantity of Carriage-Kit

| Description | Part-No | Description |
|--------------|-----------|---|
| F01-48/FWK-F | 0150-5488 | Kit includes 2 carriages and ground plate |

It is possible to run more than one carriage on one guide. Kit includes 2 carriages, ground plate and all screws to mount stator, flange and carriage.

Spare part: Carriage (from SKF) without ground plate:
LLTHC 15 U-T2 P5 Part-No 0150-5265 (2 pcs necessary)

4. Step: Select Slider

| Description | Part-No | For Guide |
|-------------------|-----------|-------------|
| PL01-28x500/420 | 0150-1382 | F01-48x500 |
| PL01-28x620/540 | 0150-1383 | F01-48x620 |
| PL01-28x800/720 | 0150-1385 | F01-48x800 |
| PL01-28x1010/930 | 0150-1387 | F01-48x1010 |
| PL01-28x1220/1140 | 0150-1388 | F01-48x1220 |
| PL01-28x1400/1320 | 0150-1389 | F01-48x1400 |
| PL01-28x1610/1530 | 0150-1390 | F01-48x1610 |
| PL01-28x1820/1740 | 0150-1395 | F01-48x1820 |
| PL01-28x2000/1920 | 0150-1396 | F01-48x2000 |
| PL01-28x2210/2130 | 0150-1397 | F01-48x2210 |
| PL01-28x2450/2370 | 0150-1398 | F01-48x2450 |

One slider is necessary for each guide.

| Description | Part-No | For Guide |
|----------------------|-----------|----------------|
| PL01-28x500/450-HP | 0150-3822 | F01-48x500-HP |
| PL01-28x620/570-HP | 0150-3823 | F01-48x620-HP |
| PL01-28x800/750-HP | 0150-3825 | F01-48x800-HP |
| PL01-28x1010/960-HP | 0150-3827 | F01-48x1010-HP |
| PL01-28x1220/1170-HP | 0150-3828 | F01-48x1220-HP |
| PL01-28x1400/1350-HP | 0150-3829 | F01-48x1400-HP |
| PL01-28x1610/1560-HP | 0150-3830 | F01-48x1610-HP |
| PL01-28x1820/1770-HP | 0150-3831 | F01-48x1820-HP |
| PL01-28x2000/1950-HP | 0150-3832 | F01-48x2000-HP |
| PL01-28x2210/2160-HP | 0150-3833 | F01-48x2210-HP |
| PL01-28x2450/2400-HP | 0150-3834 | F01-48x2450-HP |

One slider is necessary for each guide.

5. Step: Select Trailing chain kit or trailing chain (optional)

5.1 Trailing chain kit

| Description | Part-No | For Guide | Length of trailing chain |
|--------------------|----------------|------------------|---------------------------------|
| F01-TC500-48 | 0150-5498 | F01-48x500 | Ca 400 mm |
| F01-TC600-48 | 0150-5499 | F01-48x620 | Ca 500 mm |
| F01-TC800-48 | 0150-5500 | F01-48x800 | Ca 600 mm |
| F01-TC1000-48 | 0150-5509 | F01-48x1010 | Ca 700 mm |
| F01-TC1200-48 | 0150-5502 | F01-48x1220 | Ca 800 mm |
| F01-TC1400-48 | 0150-5503 | F01-48x1400 | Ca 900 mm |
| F01-TC1600-48 | 0150-5504 | F01-48x1610 | Ca 1000 mm |
| F01-TC1800-48 | 0150-5505 | F01-48x1820 | Ca 1100 mm |
| F01-TC2000-48 | 0150-5506 | F01-48x2000 | Ca 1200 mm |
| F01-TC2200-48 | 0150-5507 | F01-48x2210 | Ca 1300 mm |
| F01-TC2400-48 | 0150-5508 | F01-48x2450 | Ca 1400 mm |

Includes trailing chain and brackets to mount the trailing chain to the stator and the guide. (The kit can not be used for multiple carriage applications).

5.2 Trailing chain

| Description | Part-No | For Guide | Length of trailing chain |
|--------------------|----------------|------------------|---------------------------------|
| F01h-KS500 | 0160-0982 | F01-48x500 | Ca 400 mm |
| F01h-KS600 | 0160-0971 | F01-48x620 | Ca 500 mm |
| F01h-KS800 | 0160-0972 | F01-48x800 | Ca 600 mm |
| F01h-KS1000 | 0160-0973 | F01-48x1010 | Ca 700 mm |
| F01h-KS1200 | 0160-0974 | F01-48x1220 | Ca 800 mm |
| F01h-KS1400 | 0160-0975 | F01-48x1400 | Ca 900 mm |
| F01h-KS1600 | 0160-0976 | F01-48x1610 | Ca 1000 mm |
| F01h-KS1800 | 0160-1011 | F01-48x1820 | Ca 1100 mm |
| F01h-KS2000 | 0160-0977 | F01-48x2000 | Ca 1200 mm |
| F01h-KS2200 | 0160-1012 | F01-48x2210 | Ca 1300 mm |
| F01h-KS2400 | 0160-1013 | F01-48x2450 | Ca 1400 mm |

Only trailing chain without any brackets

6. Step: Select Trailing chain cables (high-flex cable)

PS01-48x240F-C, PS01-48x240F-HP-C PS01-48x360F-C should be used with KS10 trailing chain (high flex) cables.

| Description | Part-No | Description | For Drives |
|-------------|-----------|---|---------------------|
| KS10-C/C-2 | 0150-1816 | Trailing chain cable 2 m with C/C-connector | Extension cable |
| KS10-C/C-4 | 0150-1817 | Trailing chain cable 4 m with C/C-connector | Extension cable |
| | | | |
| KS10-W/C-4 | 0150-1807 | Trailing chain cable W/C, 4 m | E1100, E1200 series |
| KS10-W/C-5 | 0150-1860 | Trailing chain cable W/C, 5 m | E1100, E1200 series |
| KS10-W/C-6 | 0150-1858 | Trailing chain cable W/C, 6 m | E1100, E1200 series |
| KS10-W/C-8 | 0150-1808 | Trailing chain cable W/C, 8 m | E1100, E1200 series |
| | | | |
| KS10-Y/C-4 | 0150-2439 | Trailing chain cable Y/C, 4 m | C1100, C1200 series |
| KS10-Y/C-6 | 0150-2440 | Trailing chain cable Y/C, 4 m | C1100, C1200 series |
| KS10-Y/C-8 | 0150-2441 | Trailing chain cable Y/C, 8 m | C1100, C1200 series |

See LinMot databook or e-catalogue for more cable options.

7. Step: External Sensor-Kit (optional)

| Description | Part-No | |
|-------------|-----------|---|
| F01-37S-SK | 0150-5446 | Identical for all guides, cable length 2m |

The external sensor kit includes sensor MS01-1/D Part- No 0150-1840, sensor adapter plate and mounting screws. The magnetic strip must be ordered separately.

8. Step: Magnetic strip (optional)

| Description | Part-No | For Guide |
|-------------|-----------|-------------|
| F01-MB500 | 0150-5452 | F01-48x500 |
| F01-MB620 | 0150-5461 | F01-48x620 |
| F01-MB800 | 0150-5432 | F01-48x800 |
| F01-MB1010 | 0150-5462 | F01-48x1010 |
| F01-MB1220 | 0150-5463 | F01-48x1220 |
| F01-MB1400 | 0150-5435 | F01-48x1400 |
| F01-MB1610 | 0150-5464 | F01-48x1610 |
| F01-MB1820 | 0150-5465 | F01-48x1820 |
| F01-MB2000 | 0150-5437 | F01-48x2000 |
| F01-MB2210 | 0150-5467 | F01-48x2210 |
| F01-MB2450 | 0150-5468 | F01-48x2450 |

9. Step: Adapter plate for linear rotary motors (optional)

| Description | Part-No | For linear rotary motors |
|---------------------|----------------|--|
| F01k-PR01-52x40/60 | 0160-2536 | PR01-52x40-R/37x120F-HP-C-80 (-L) PR01-52x60-R/37x120F-HP-C-100 (-L) |
| F01k-PR01-52x60-150 | 0160-2657 | PR01-52x60-R/37x120F-HP-C-150 (-L) |
| F01k-PR01-84 | 0160-2594 | PR01-84x80-C/48x240F-C100 (-L) (-G0x) PR01-84x80-C/48x360F-C100 (-L) (-G0x) |

The adapter plates must be mounted to a F01-48/FWK-F carriage kit.

Note: all H- and B-guides can directly be mounted to the F01-48/FWK-F carriage kit.

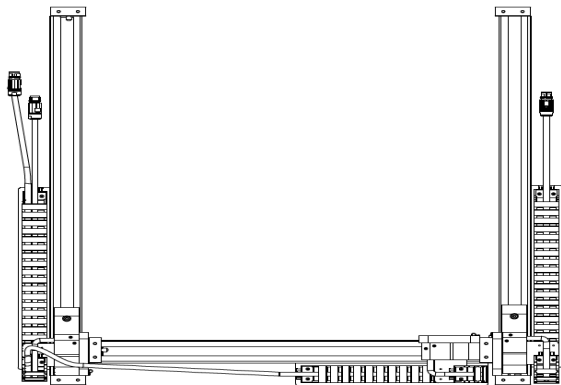
10. Step: Nuts for T-Slot (optional)

| Description | Part-No | |
|--------------------|----------------|---|
| Nut N8/M4 | 0150-2189 | Nut for 8 mm slots of F01 guides with M4 thread |
| Nut N8/M6 | 0150-2558 | Nut for 8 mm slots of F01 guides with M6 thread |

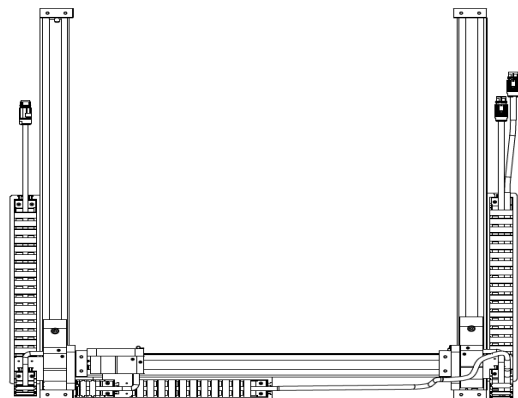
Dimensions: see drawings

Gantry Design

Single axes of gantry design will be delivered pre-assembled. Please note direction of the cables

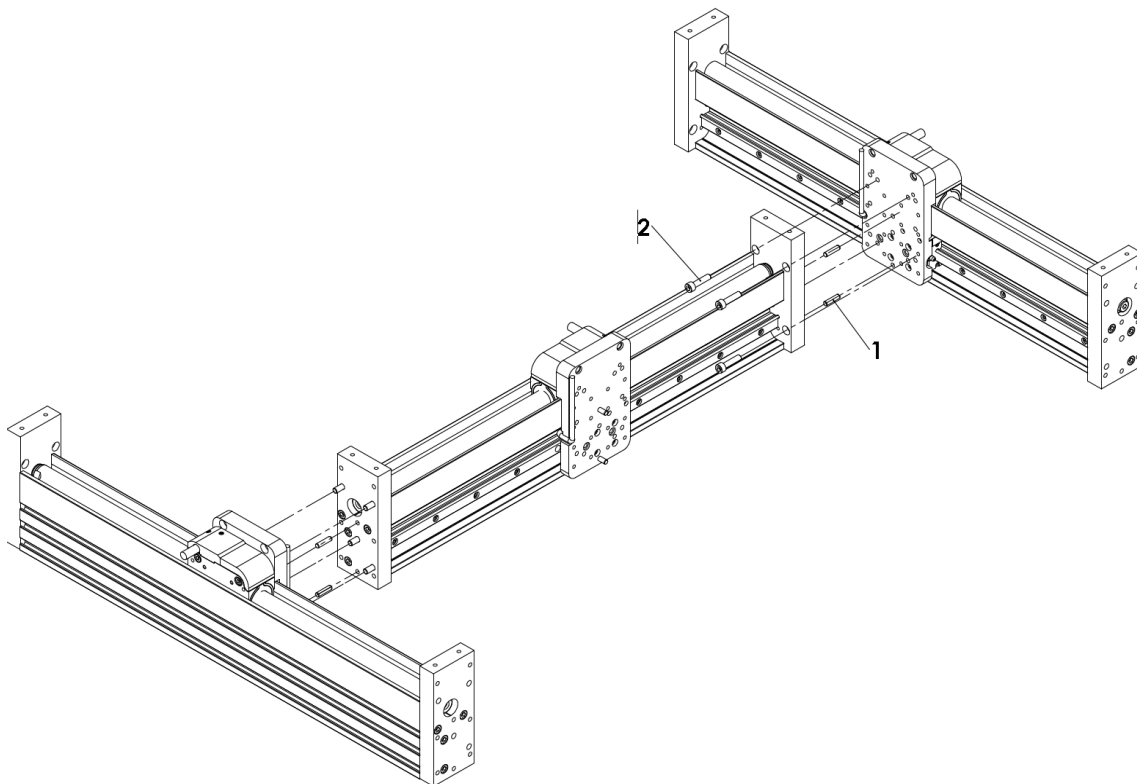


F-Guide assembled 'cable to the left'
Part-No. 0140-0008



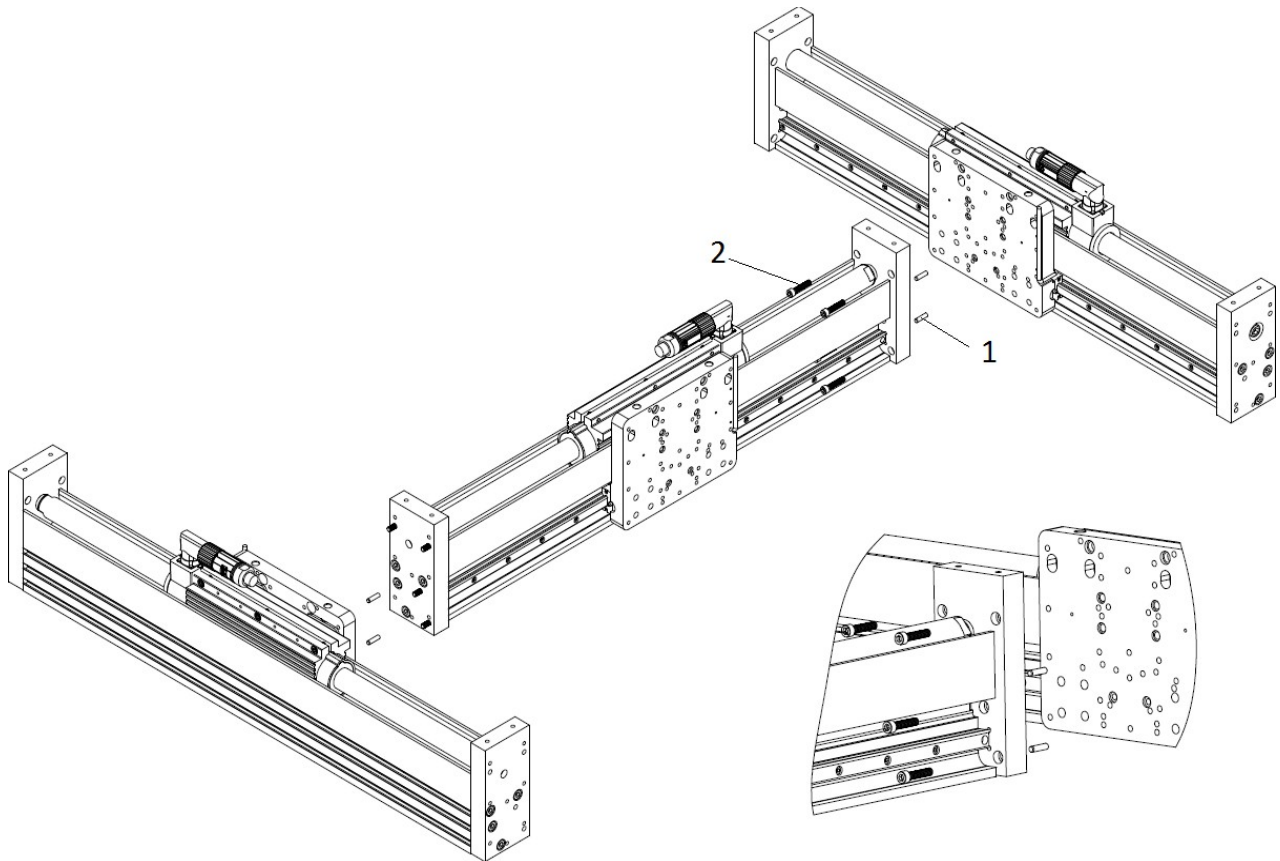
F-Guide assembled 'cable to the right' (default)
Part-No. 0140-0007

Assembly of Gantry design F01-37x Guides



1. Pins 5x20 mm (2 pcs on both sides)
2. Screws M6x25 (4 pcs on both sides)

Assembly of Gantry design F01-48x Guides



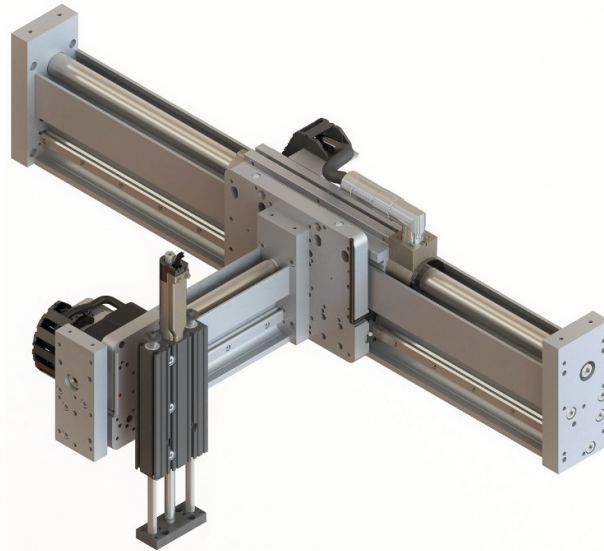
1. Pins 5x20 mm (2 pcs on both sides)
2. Screws M6x35 (4 pcs on both sides)

Combination of F01-48 and F01-37S guides

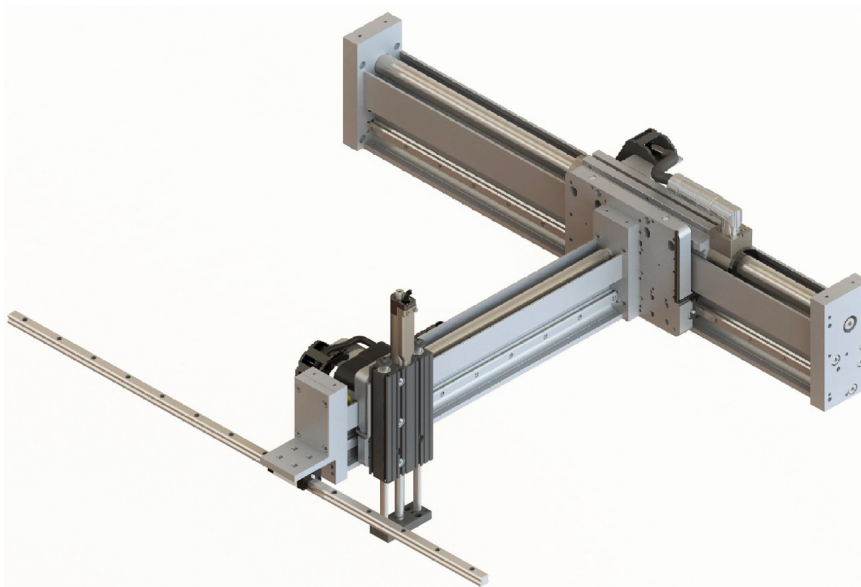
F01-37 guides can directly be mounted to the bigger F01-48 guides. It is also possible to realize semi gantry constructions as shown below.

Semi gantry design

Semi gantry designs are very cost effective solutions. It is possible to realize a semi gantry without an additional X-guide as long as the F01-37 guide is short (max 400 mm) and some vibrations are acceptable. However in high performance applications, heavy load conditions, or long Y-axis strokes an additional X-guide must be considered.

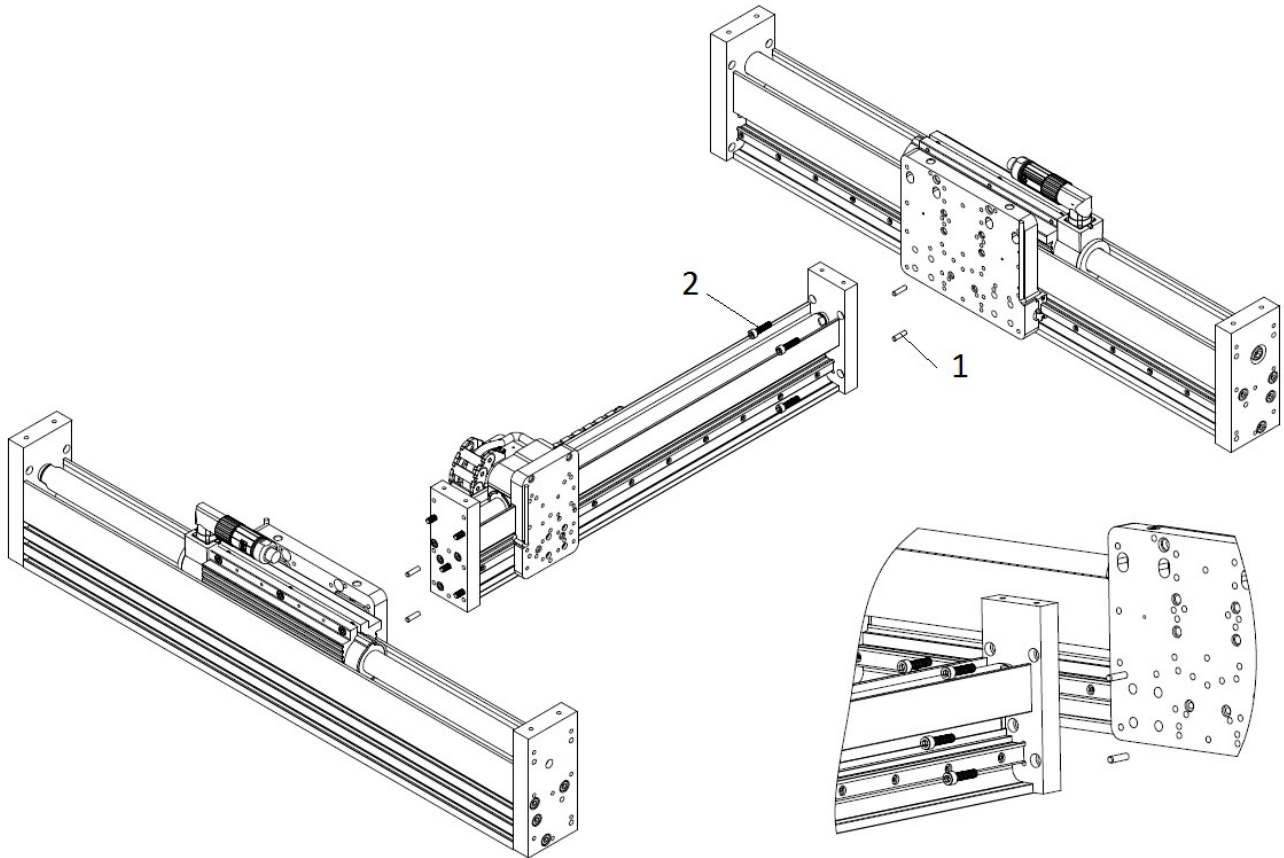


Semi gantry design: F01-48 guide (X-axis), short F01-37 guide (y-axis), H01-23 guide (Z-axis)



Semi gantry design: F01-48 guide (X-axis), F01-37S guide (Y-Axis) with additional X-guide to eliminate vibrations, H01-23 guide (Z-axis)

Assembly of Semi gantry design



- 1. Pins 5x20 mm (2 pcs)
- 2. Screws M6x30 (4 pcs)

Multiple carrier design example

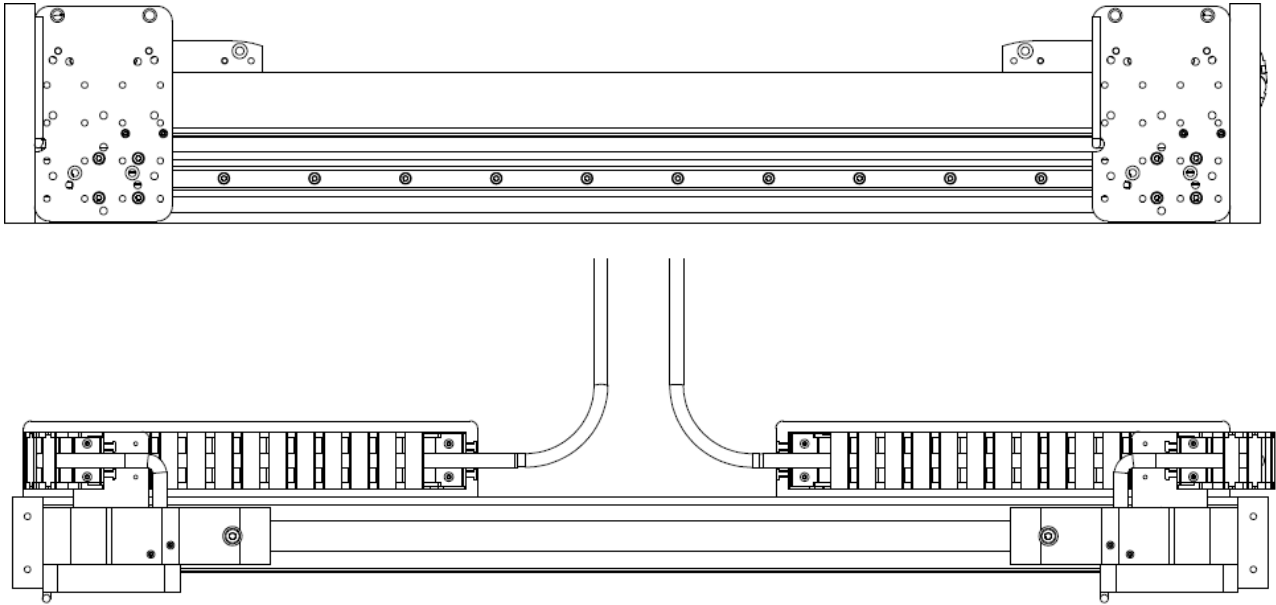


Fig 1 and 2: The picture shows possibility to arrange the trailing chains for a multiple carrier design with available adapters.

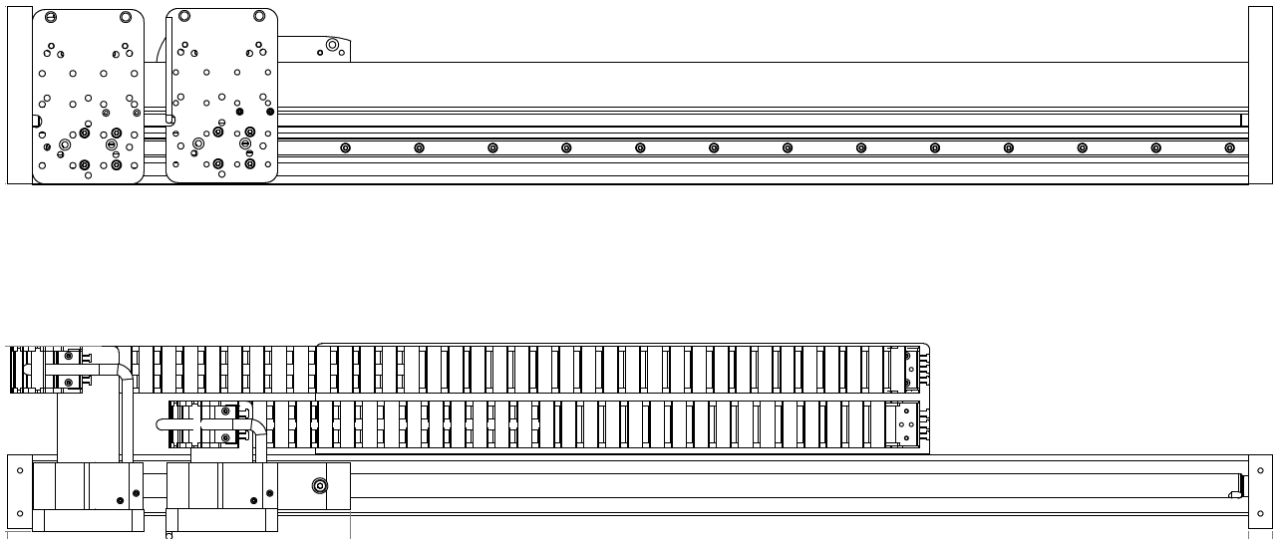
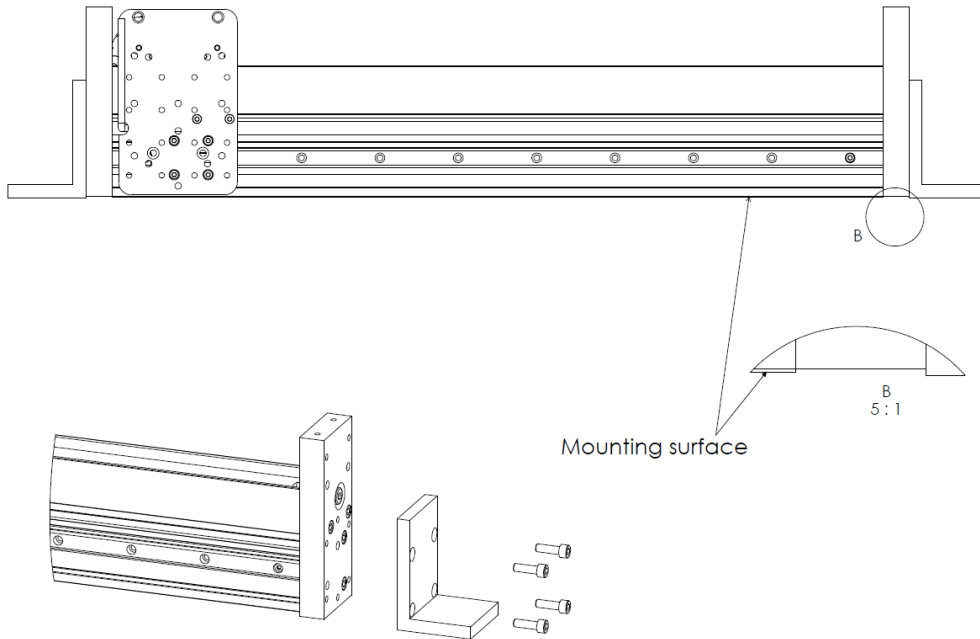


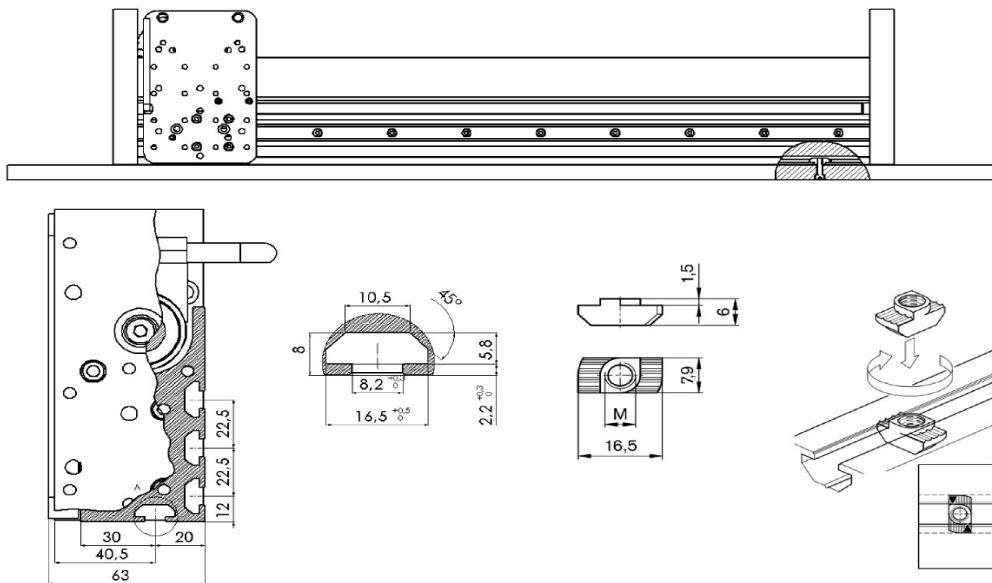
Fig 3 and 4: The picture shows another possibility to arrange the trailing chains for a multiple carrier design. Because of the huge number of design variations the adapters must be produced by the customer.

Mounting instructions



Mounting by side plates

Note: To get the best accuracy and alignment, it is important that the extrusion profile of the guide is pressed to the reference surface and not the end plates.



Mounting 'from the bottom' with nuts and T-slots. Orientation: "Slider to the top"

Note: F01-37S and F01-48 guides, which are 1400 mm or longer, must be mounted with the "slider to the top", as shown in the drawings. Shorter guides can be mounted in every direction. In this case the user has to mount the trailing chain cables corresponding.

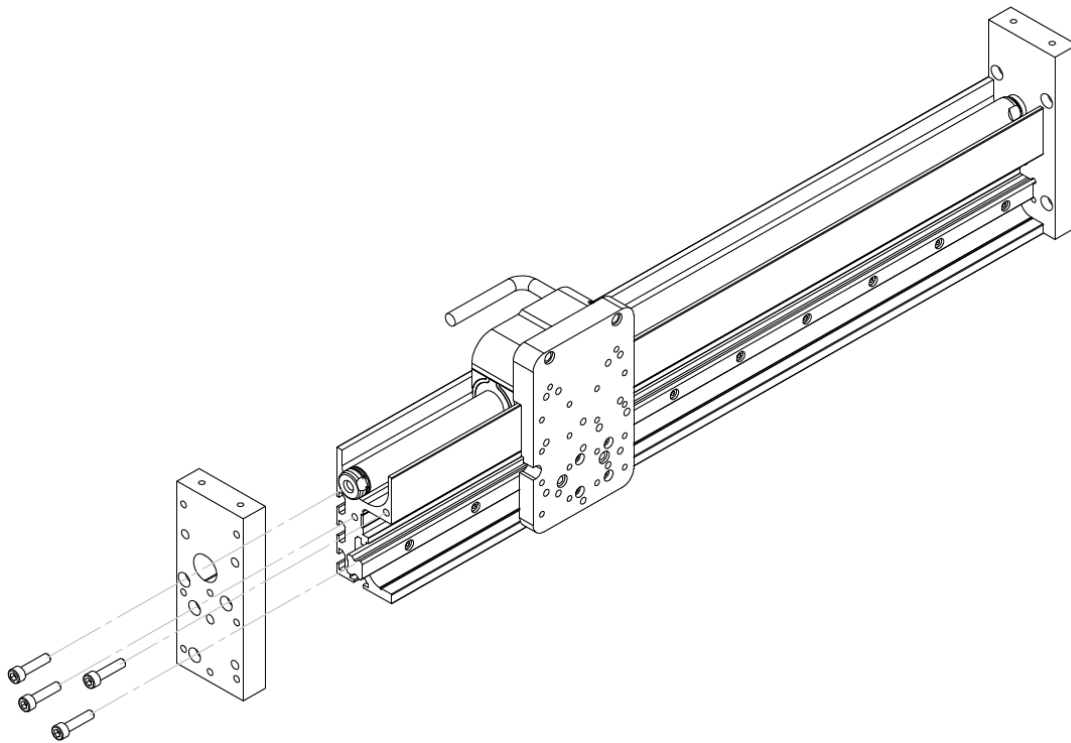
Assembling Instructions

F01-37 guides will normally be delivered completely assembled. In case of replacements or if additional carriages/motors should be installed the following installation guides must be considered. Use always threadlocker.

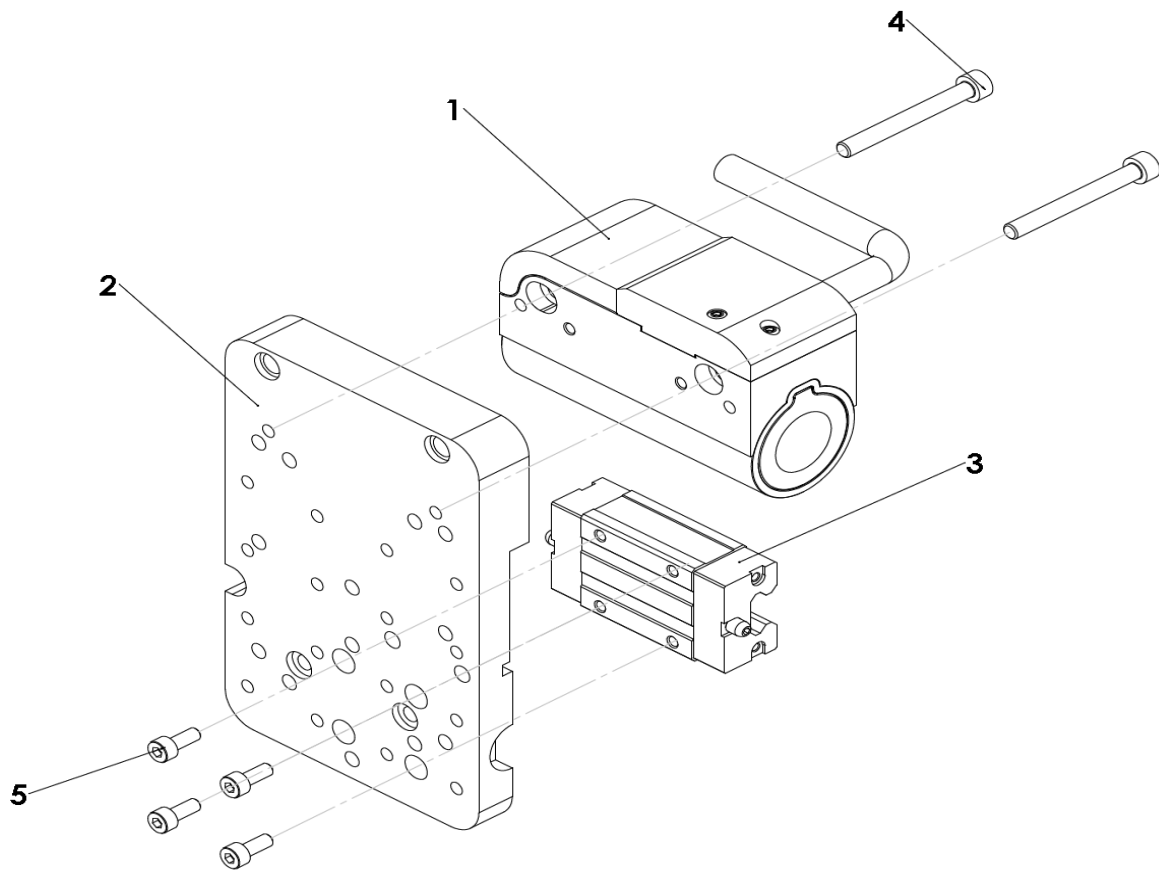
Direction of the motor cable

According to the application and trailing chain installation of the motor cable, the outlet must be selected. See installation guide of the short stators PS01-37Sx... for details.

Assembly and disassembly of the motors and carriages

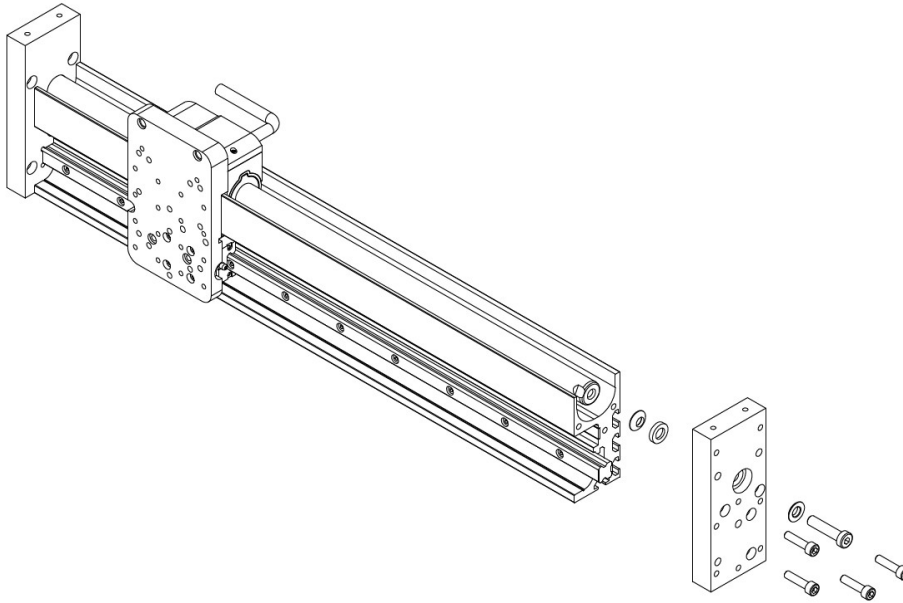


Disassemble the end plate from the side where the slider is in the loose bearing (not fixed by the screw). Support the slider with non-iron parts so that it can not fall into the guide and remove the end plate.



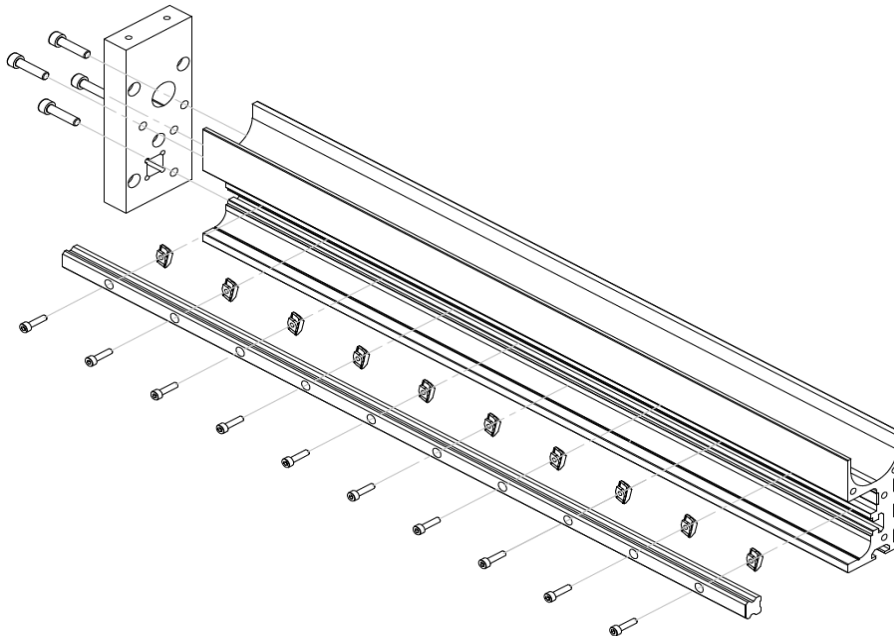
1. Move the carriage (3) carefully on the profile rail. Mount adapter plate (2) with screws 5 (M4x8) to the carriage. Make sure that the adapter plate (2) is aligned to the profile rail (use 90° bracket) ! Now tighten screws 5.
Mount stator (1) with screws 4 (M5x45) to the adapter plate (2). (The direction of the stator may depend on the needs of the application).
2. Assemble end plate with screws M6x25
3. Loosen screws 4 to align the stator. Move the carriage unit to the loosen bearing side of the guide. Then tighten screws 4 .
4. Move carriage unit to the side with the fixed bearing and loose screws 4 once again if the carriage shows heavy friction. Re-tighten screws 4.
5. Move the carriage unit to the side with the loose bearing, If the carriage shows heavy friction then loose screws from the end plate and tighten screws again. Loosen screws 4 to align the stator. Move the carriage unit to the loose bearing side of the guide. Then tighten screws 4
6. Move the carriage unit to the side with the fixed bearing, If the carriage shows still heavy friction then loosen the M8 screw of the slider and tight it again. Then start alignment process as written before again (steps 3 to 6.)

Assembly of the slider



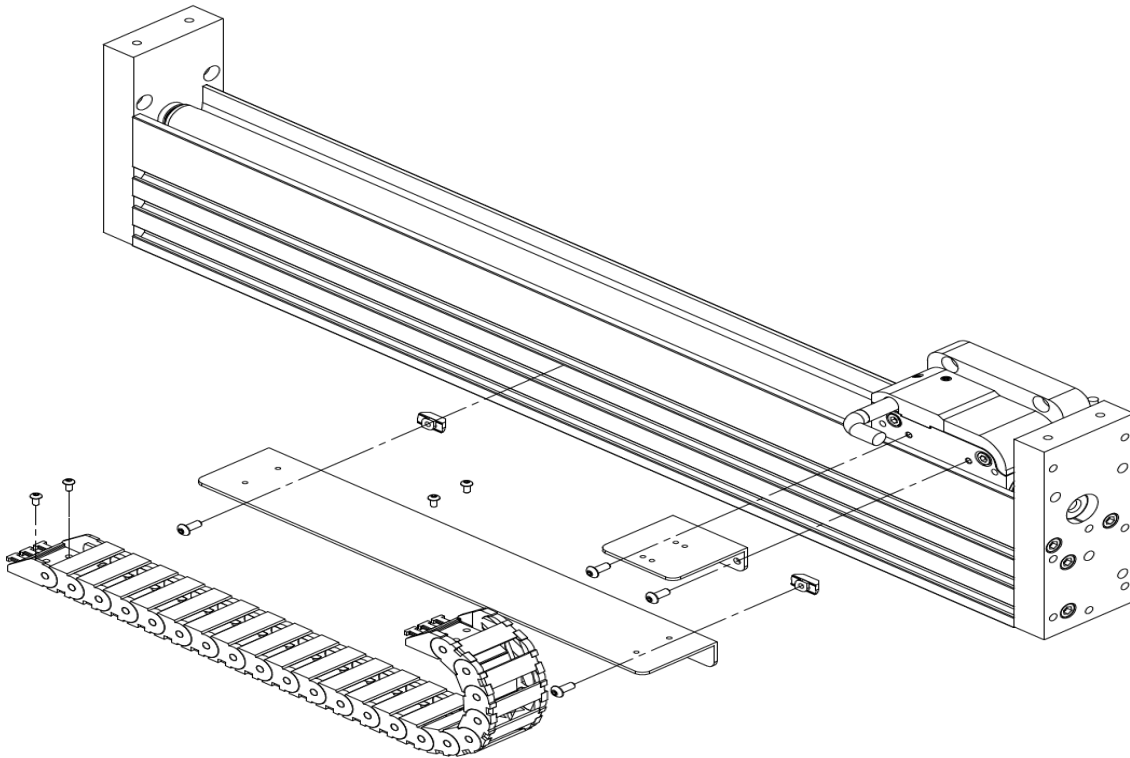
Select the end of the slider without the notches and fasten slider with screw M8x35 to the end plate. Mount spherical washers on both sides of the end plate. Use conical washer on the side of the slider.

Assembly of the railway



Use M4x16 screws and nuts to mount the railway to the profile. Align the railway with the profile. Every position for the screws must be used. The end plates are mounted with M6x25 screws.

Assembly of Trailing Chain Kit

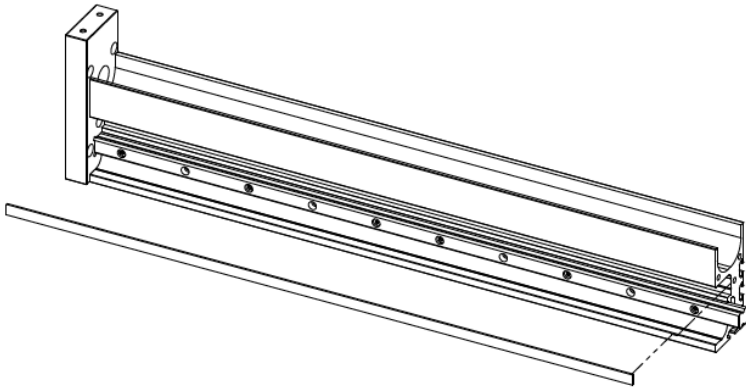


Mount the L-profile with M4x10 screws and nuts into the middle or lower slot of the guide depending on the bend radius of the high flex cables. Mount the adapter to the stator with 2 screws M4x5. Fix the trailing chain to the L-profile and the adapter with 4 screws M3x6.

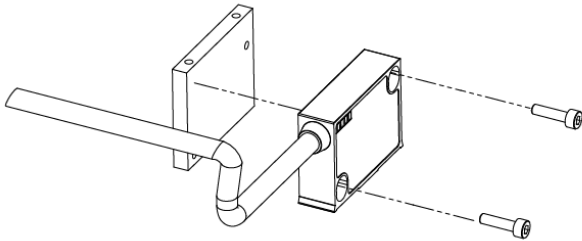


Trailing chains are located in parallel (side by side) for multiple motor applications. Adapters and L-profiles for the chains are depending on the application and must be designed by the user.

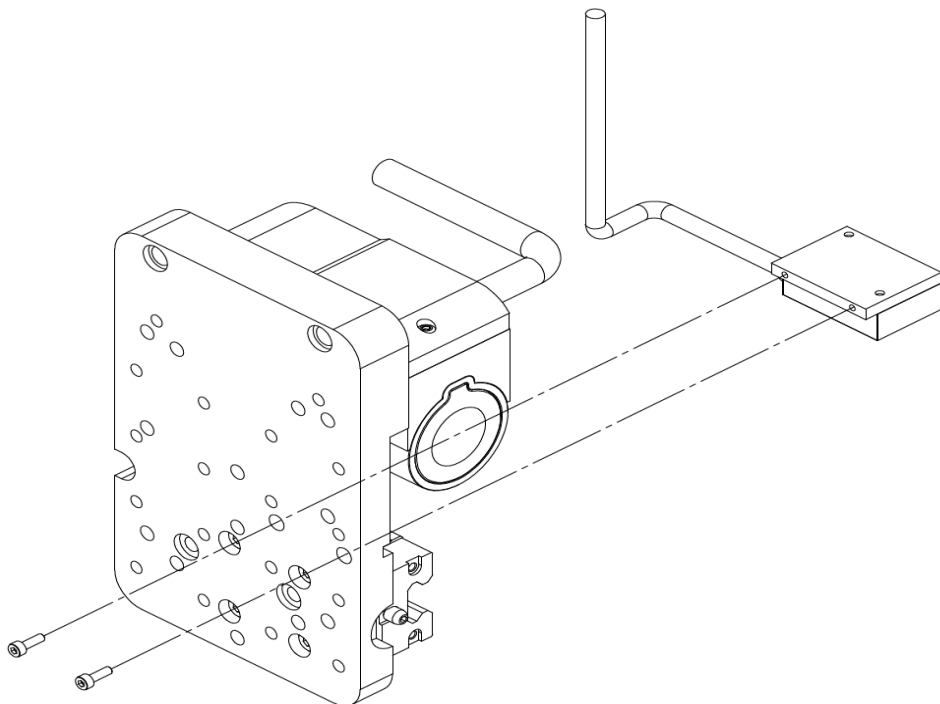
Assembly of an external sensor-kit



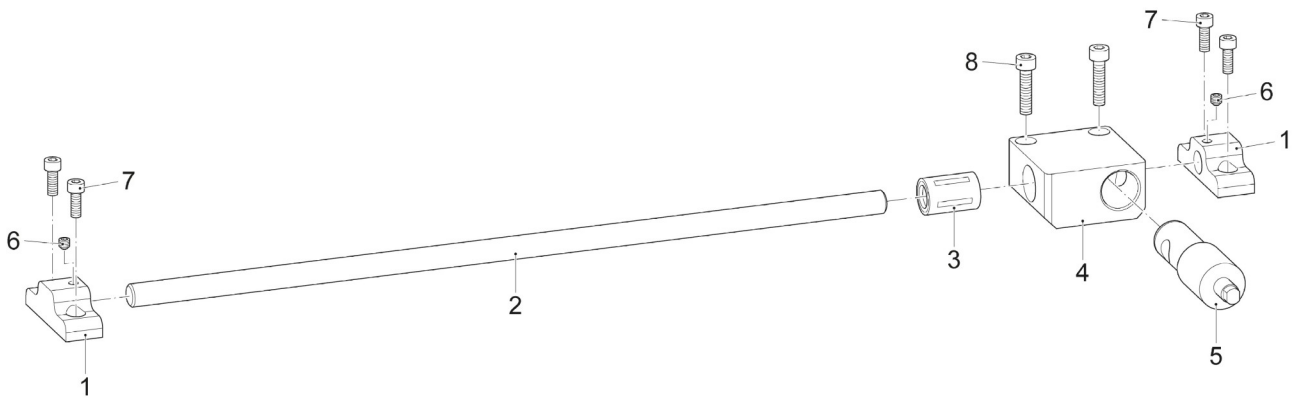
- 1.) Clean slot on guide profile
- 2.) Stick magnetic strip into the slot
- 3.) Screw sensor with 2 pcs M3x12 on the adapter plate and adjust distance according to the installation guide for the external sensor.



- 4.) Install adapter with sensor to the backside of the adapter plate (2 pcs M2.5x8) . Secure sensor cable with bracket to the adapter plate (M3x6).



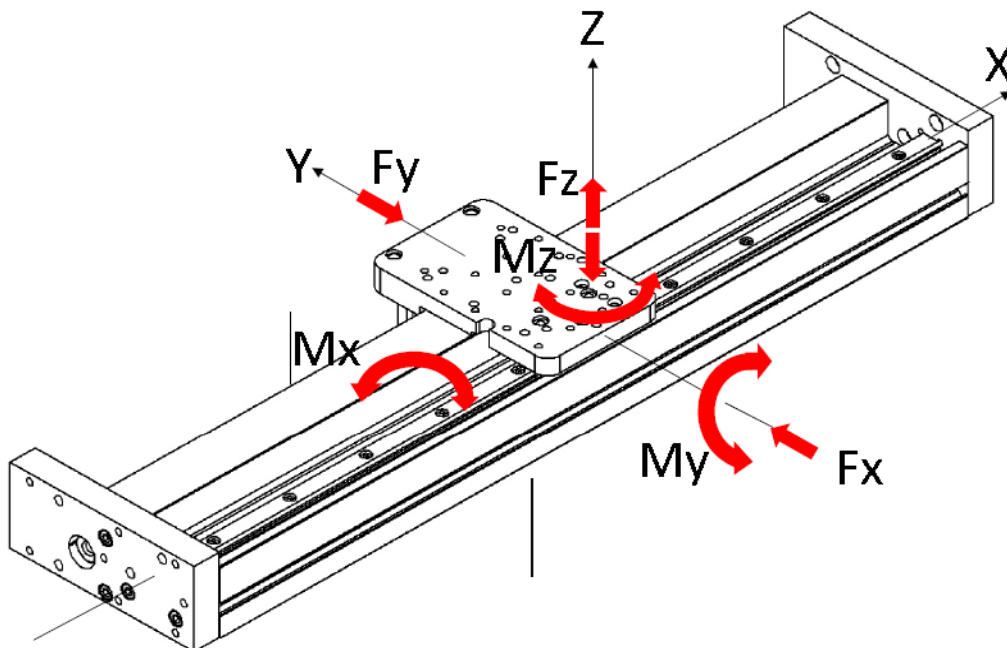
Assembly of an external holding brake (pneumatic)



The optional pneumatic break has a holding force of 1000N. It is available for all strokes.

- 1 Clean slot on guide profile
- 2 Put the pneumatic vent over the rod and fix it on the carriage kit
- 3 Fix it on the side panels and screw it on the F-Module

Bearing load on F01-37S guides



Static and dynamic bearing loads Fx und Fy

F01-37S guide

SKF profile rail guide: LLT Size 15 profil rail, carriage LLTHC 15 U-T2 P5

See SKF Manual 'Profile rail guides LLT' (www.SKF.com, document: 12942_1_EN_LL2013.pdf) for additional information about lifetime and maintenance. (LLT Size 15 profil rail, carriage LLTHC 15 U-T2 P5)

Load capacity static: $C_0 := 15,400 \text{ N}$
 Load capacity dynamic: $C := 8,400 \text{ N}$

The static and dynamic load bearing will normally not be calculated because a reasonable application will be limited by the motor performance and not the load bearing. To calculate the application data we recommend to use the analyzing program LinMot Designer (see Downloads sector on www.LinMot.com)

If the application shows massive static forces, e.g. if a press is punching on parts which are moved on the guide, then the load bearing must be evaluated carefully.

Calculation of the static load bearing F_x and F_y

To calculate the static bearing load you need the factor f_d for the load condition, the desired static safety factor s_0 , and the resulting force F_{res} . The static load of the F01-37S guide is: $C_0 := 15,400 \text{ N}$

Load condition f_d

Max velocity $v_{max} < 2 \text{ m/s}$: $f_d = 1 \dots 1.5$
 Max acceleration $v_{max} > 2 \text{ m/s}$: $f_d = 1.5 \dots 3$

static safety factor s_0

normal conditions: $s_0 \geq 2$
 medium vibration or impact loads: $s_0 = 3-5$
 high vibration or impact loads: $s_0 > 5$

resulting Force F_{res}

$$F_{res} := \text{abs}(F_x) + \text{abs}(F_y)$$

Evaluation of the static load

$$F_{res} := \text{abs}(F_x) + \text{abs}(F_y) < C_0 / (f_d * s_0)$$

Sample:

C_0 of the F01-37S guide: $C_0 := 15,400 \text{ N}$
 Load in y-direction: $F_{res} := \text{abs}(F_y)$
 Max velocity: $v_{max} = 1.5 \text{ m/s} \rightarrow f_d = 1$
 High vibration or impact loads: $s_0 := 5$

$$F_{res} := \text{abs}(F_x) + \text{abs}(F_y) < C_0 / (f_d * s_0)$$

$$:= \text{abs}(F_y) := 15,400 \text{ N} / (1 * 5) := 3,080 \text{ N}$$

Note:

The static load bearing must normally not be calculated because it is impossible to move a payload of 308 kg with a P01-37S motor. However impacts from presses must be considered.

Static and dynamic moment load Mxyz

F01-37S guide

| Direction of moment | Static | Dynamic |
|----------------------------|---------------------|--------------------|
| M_x | 103 Nm (75.9 lb ft) | 56 Nm (41.3 lb ft) |
| M_y | 90 Nm (66.3 lb ft) | 49 Nm (36.1 lb ft) |
| M_z | 90 Nm (66.3 lb ft) | 49 Nm (36.1 lb ft) |

Recommended:

We recommend a tilting moment (M_x) to a maximum of 8Nm.

With more than 8 Nm, the stability is not guaranteed and the live time of the F-guide will be reduced.

$M_x = F_x \cdot z$ [Nm]

If the torque is higher than 8Nm, we recommend a E-Guide (EM01-37 or EM01-48).

To minimize the moment load it is recommended to mount a payload as close as possible to the carriage. In case of overhanging loads the moments must be reviewed.

See SKF Manual 'Profile rail guides LLT' (www.SKF.com, document: 12942_1_EN_LLT_2013.pdf) for additional information about lifetime and maintenance. (LLT Size 15 profil rail, carriage LLTHC 15 U-T2 P5).

Electrical connection of th PS01-37S stators

Attention!

Do not connect or disconnect motor while there is power on the servo drive.

Use only double shielded original LinMot cable. Cables from other sources must be checked precisely before commissioning. Incorrect connections can destroy the drive and stator.



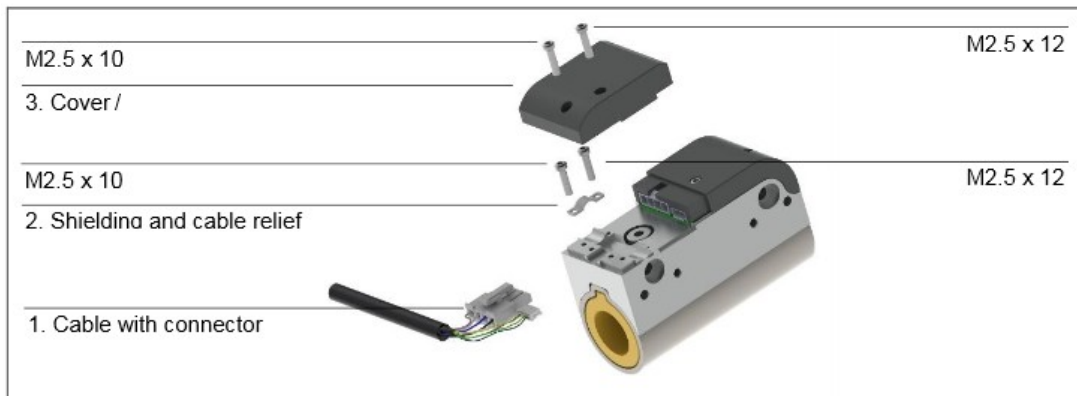
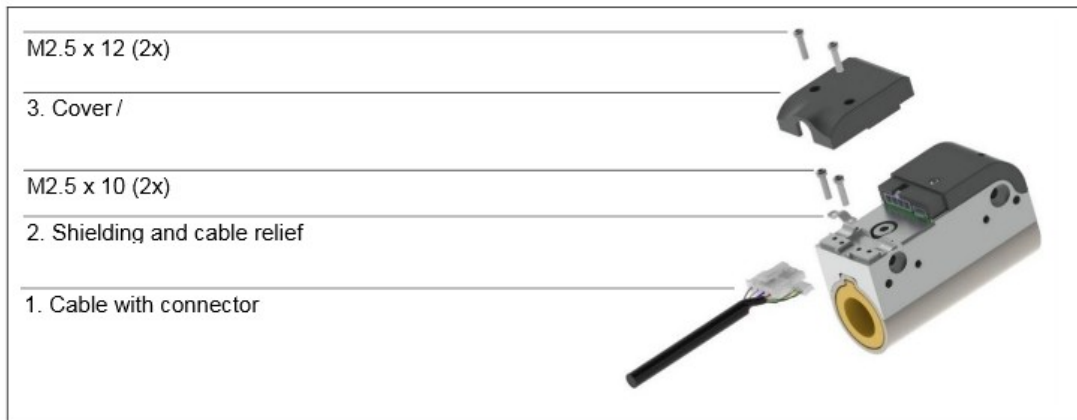
| | | | |
|------------------------------------|--|---|--------------|
| Connector Type | | N-Connector | |
| Series | | <i>PS01-37Sx60F-HP-N</i> <i>PS01-37Sx120F-HP-N</i> | |
| | | PIN | Wire |
| Phase1+ | | 4 | red |
| Phase1- | | 3 | pink |
| Phase2+ | | 2 | blue |
| Phase2- | | 1 | grey |
| +5V | | A | white |
| GROUND* | | B | Inner shield |
| Sensor Sin | | C | yellow |
| Sensor Cos | | D | green |
| Temp sensor | | E | black |
| SHIELD* of stator and stator cable | | Case (cable relief) | Outer shield |
| Connector on the stator (-cables) | | | |

(The electrical connection of PS01-37Sx60-HP-N-AGI and PS01-37Sx120-HP-N-AGI is identical to the versions PS01-37Sx60-HP-N and PS01-37Sx120-HP-N)

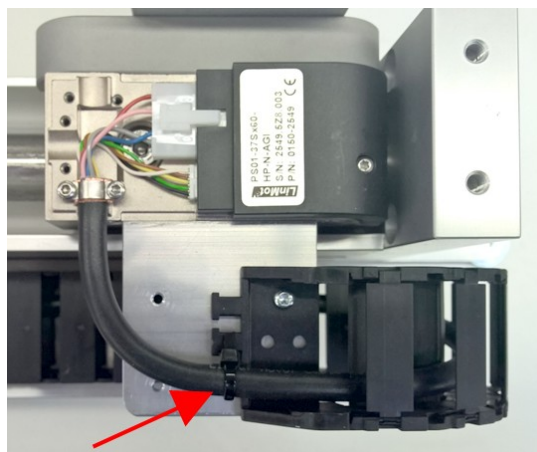
Adapter cables are available with different connectors and in different length. Please find a list of these options in the LinMot data book on www.linmot.com. If you need a special cable, please contact LinMot directly (see contact information on last page).

Installation of the motor cable

Depending on the direction of the cable exit, it may happen that the cables are above the screw holes. It is important to ensure that the screw holes are available before screwing!



In every case make sure that the cable is properly secured outside of the stator (see arrow!) and the bending radius of the high-flex cable is maintained:



KS03 high flex cable: min. bending for fix installation: 1 inch
 min. bending for moving applications: 2 inch

Mounting „long“ Loads on the F-Guide

If 'long' loads (e.g. the PR01-52x60-R/37x120F-HP-C-150 linear rotary unit) are mounted to an F-guide, an additional guide rail should be used to prevent vibration. The guide may also be necessary if the movements are fast and/or the z-movement includes a high force (e.g. to press a cap on a bottle.) In general, jerk limited profiles should be implemented in all linear motors for all movements.

The guide rail should be installed at the top end of the load. Note that tolerances between the mounting points must be compensated to eliminate any tension

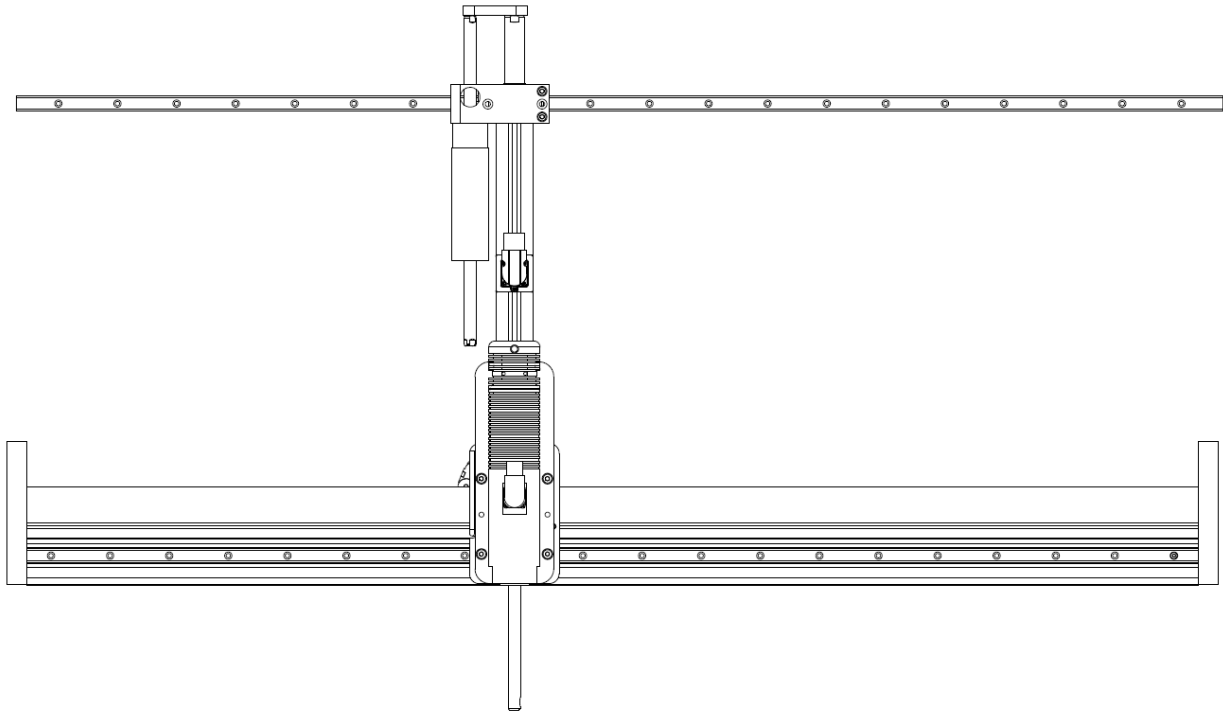
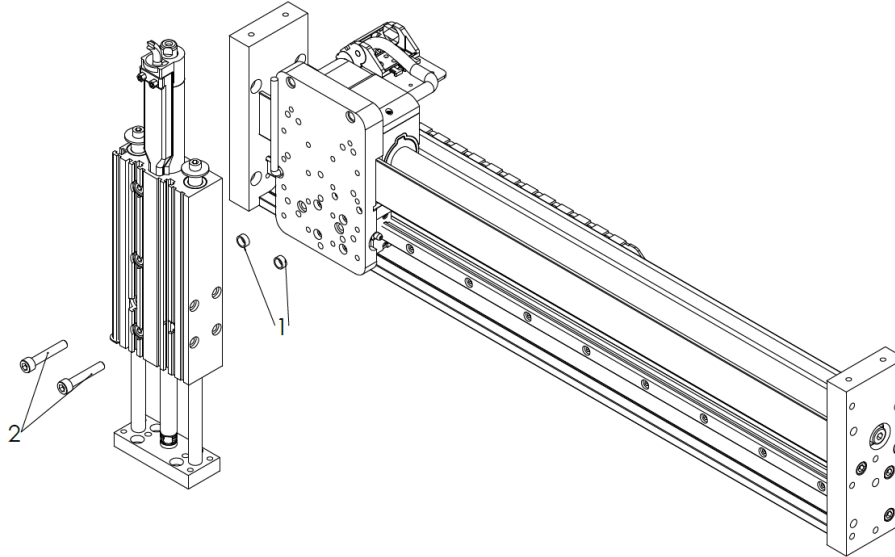


Figure: Additional guide mounted to the top end of the load to prevent vibrations.

Mounting LinMot products on F-Guides

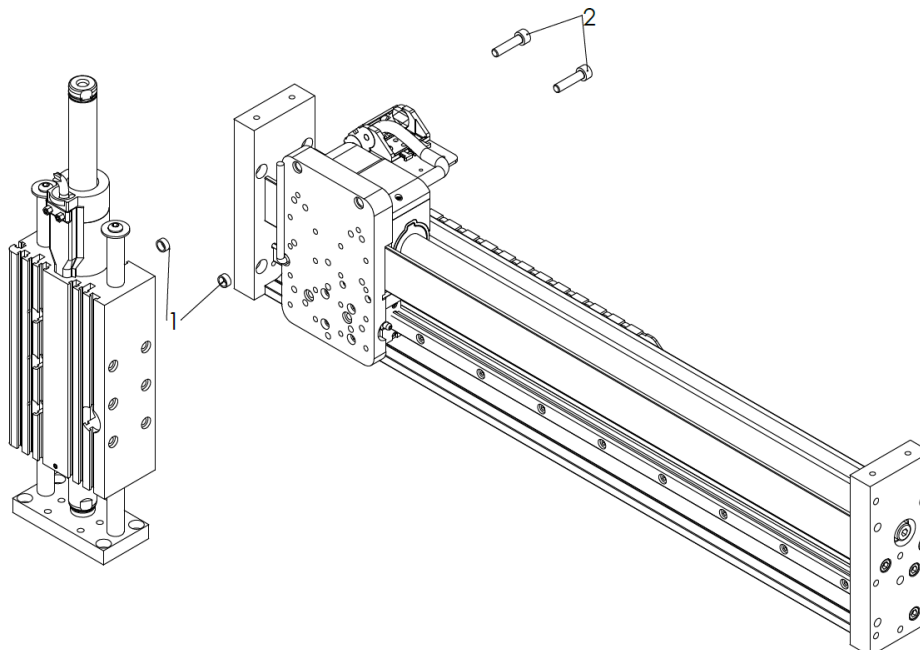
H-Guides, B-Guides and DM-Guides on F01-37x F-Guide

H01-23x Guide / B01-23x Guide



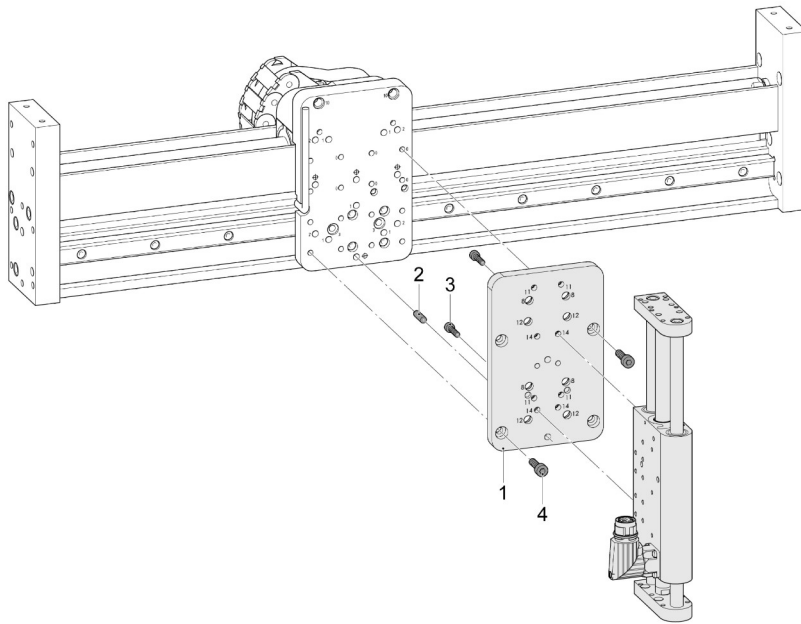
1. Centering sleeve D9x4mm (2 pcs, Part-No. 0150-3251)
2. Screws M6x35 (2 pcs)

H01-37x Guide / B01-37x Guide



1. Centering sleeve D9x4mm (2 pcs, Part-No. 0150-3251)
2. Screws M6x25 (2 pcs)

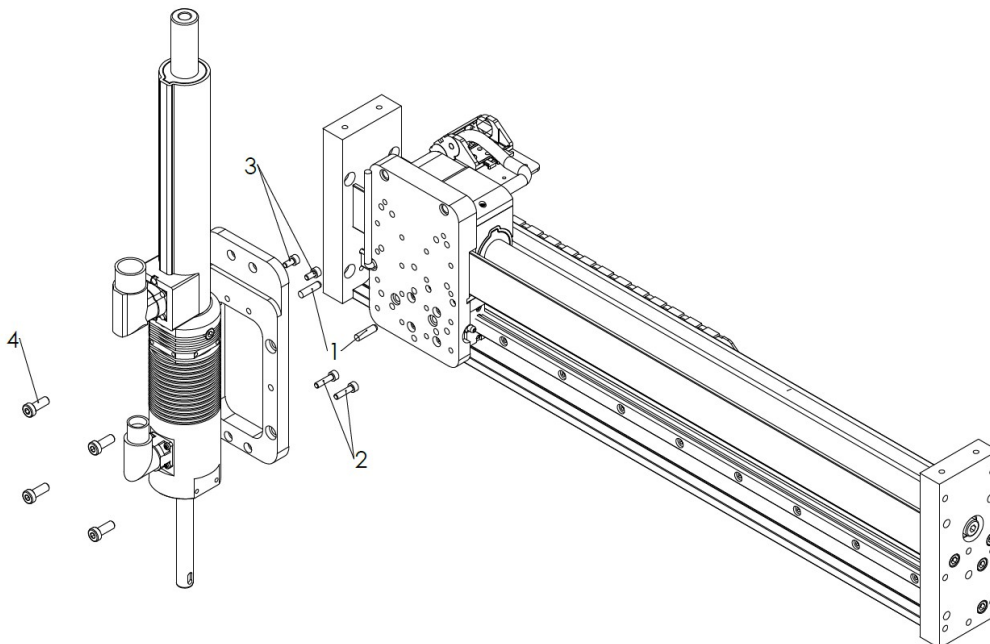
DM01-23x Guide



1. Adapter plate MAP-03 (0150-4022) with screws for F01-37S

Linear-Rotary Motors PR01- on F01-37x F-Guide

PR01-52x40-R/37x120F-HP-C-80 (-L)



Mounting is done with the adapter plate **F01k-PR01-52x40/60 (Part-No. 0160-2536)**

NOTE: All the mounting parts are already included (1 - 4)

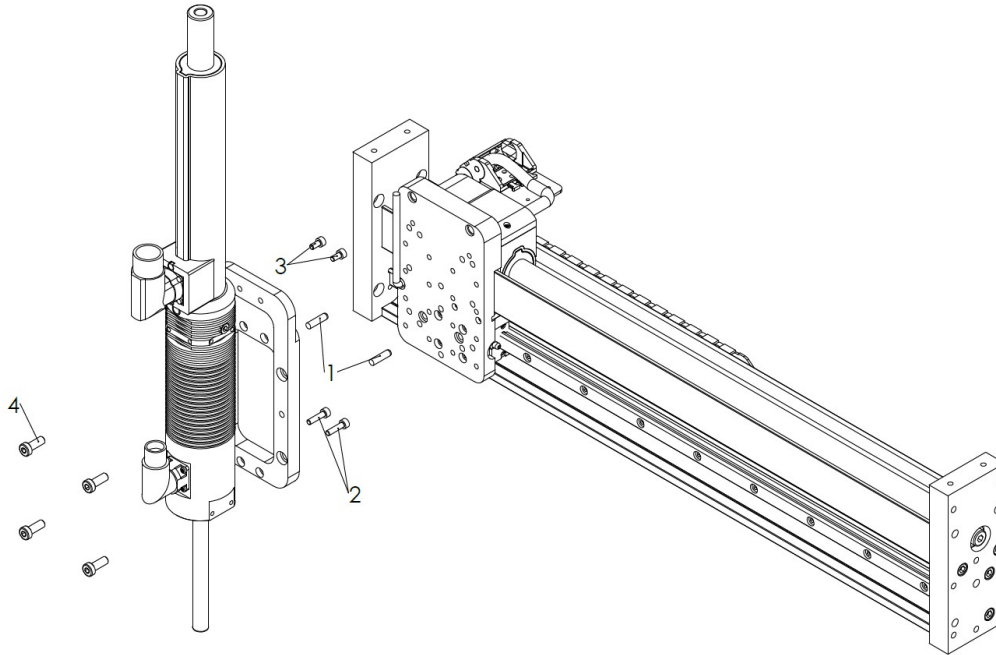
1. Pins 5x20 mm (2 pcs)

3. Screws M4x8 (2 pcs)

2. Screws M4x14 (2 pcs)

4. Screws M6x16 (4 pcs)*

PR01-52x60-R/37x120F-HP-C-100 (-L)

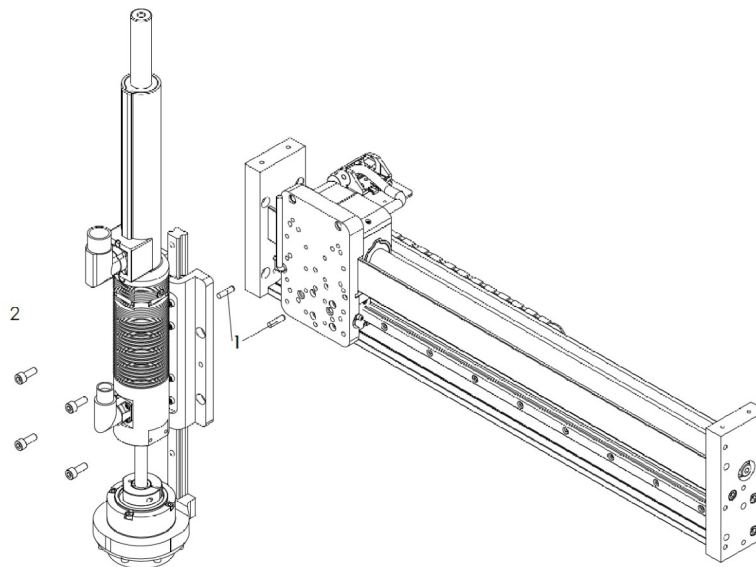


Mounting this part is done with the adapter **F01k-PR01-52x40/60 (Part-No. 0160-2536)**

NOTE: All the mounting parts are already included (1 - 4)

- | | |
|-------------------------|-------------------------|
| 1. Pins 5x20 mm (2 pcs) | 3. Screws M4x8 (2 pcs) |
| 2. Screws M4x14 (2 pcs) | 4. Screws M6x16 (4 pcs) |

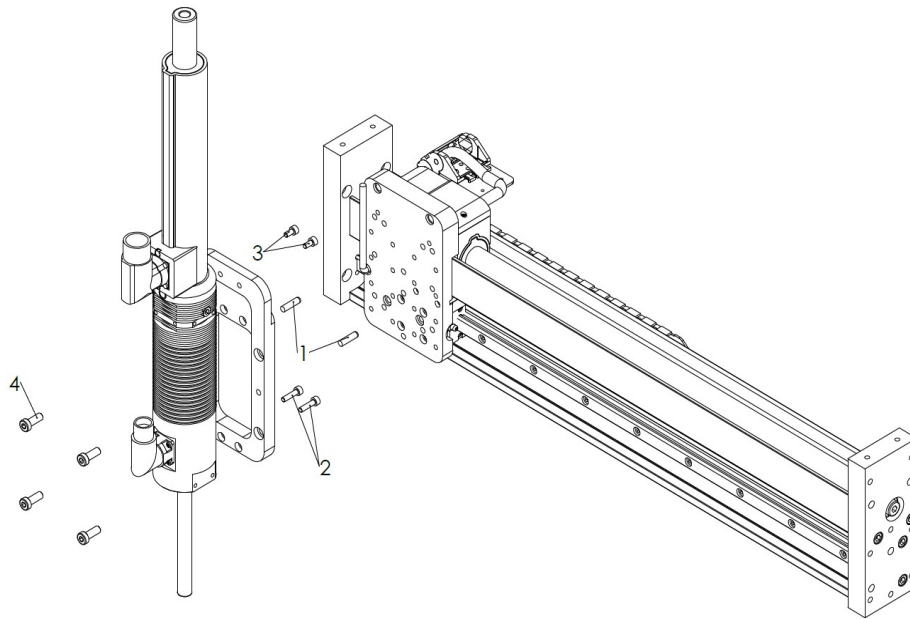
PR01-52x60-R-G/37x120F-HP-C-100-G05 (G10)



- | |
|-------------------------|
| 1. Pins 5x20 mm (2 pcs) |
| 2. Screws M6x16 (4 pcs) |

NOTE: Additional guide mounted to the top end of the load to prevent vibrations may be required. For more information see chapter Mounting „long“ Loads on the F-Guide.

PR01-52x60-R/37x120F-HP-C-150 (-L)



Mounting this part is done with the adapter plate **F01k-PR01-52x60-150 (Part-No. 0160-2657)**

NOTE: All the mounting parts are already included (1 - 4)

1. Pins 5x20 mm (2 pcs)

3. Screws M4x8 (2 pcs)

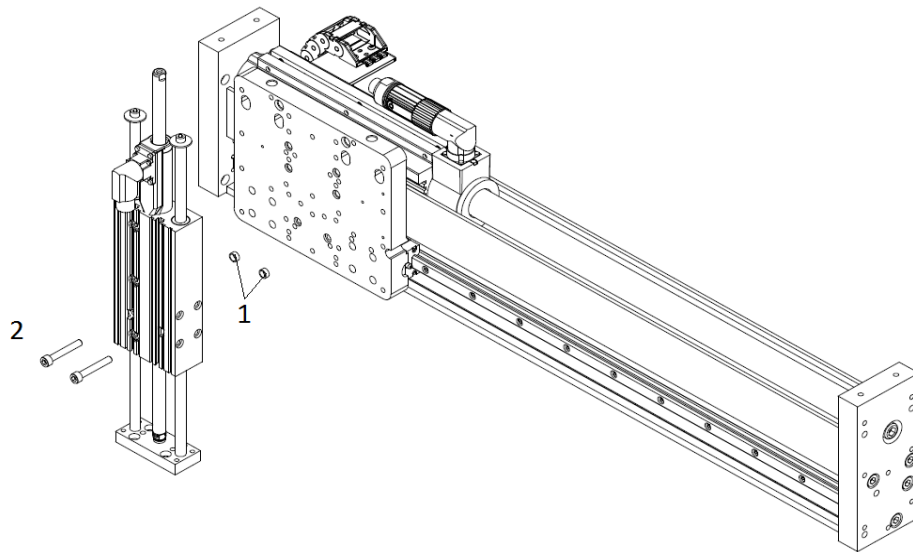
2. Screws M4x14 (2 pcs)

4. Screws M6x16 (4 pcs)

NOTE: Additional guide mounted to the top end of the load to prevent vibrations may be required. For more information see chapter Mounting „long“ Loads on the F-Guide.

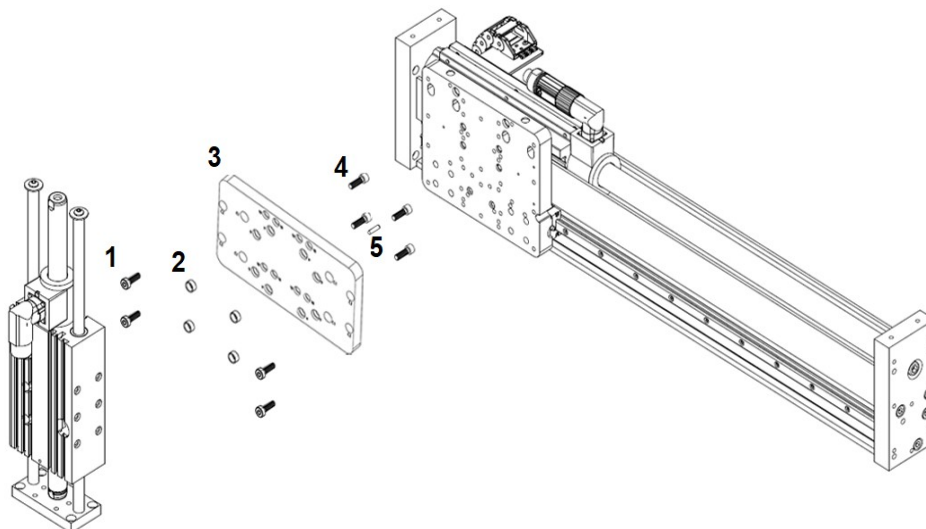
H-Guides and B-Guides on F01-48x F-Guide

H01-23x Guide / B01-23x Guide



1. Centering sleeve D9x4mm (2 pcs, Part-No. 0150-3251)
2. Screws M6x40 (2 pcs)

H01-37x Guide / B01-37x Guide

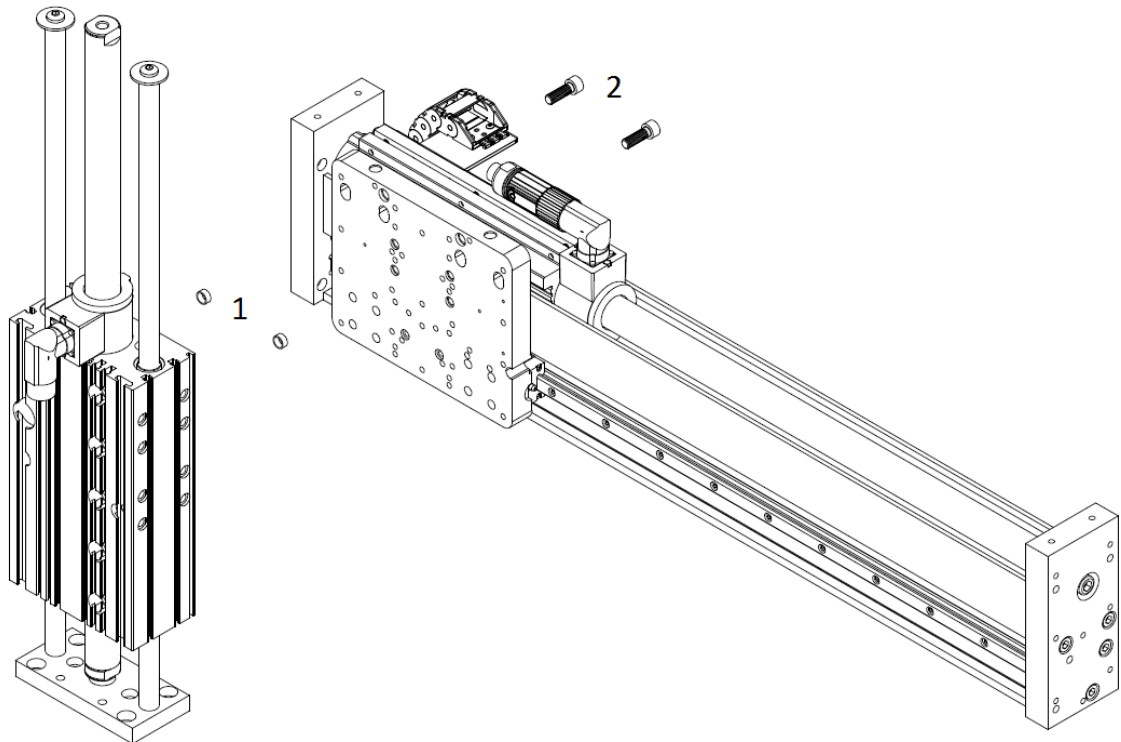


Mounting this part is done with the adapter MAP-02 (**Part-No. 0150-3959**)

NOTE: All the mounting parts are already included (1 - 5)

1. Screws M6x20 (4 pcs)
2. Centering sleeve D9x4mm (4 pcs, Part-No. 0150-3251)
3. Adapter (0160-1713)
4. Screws M6x18 (4 pcs)
5. Pin 5x20 mm (1 pc)

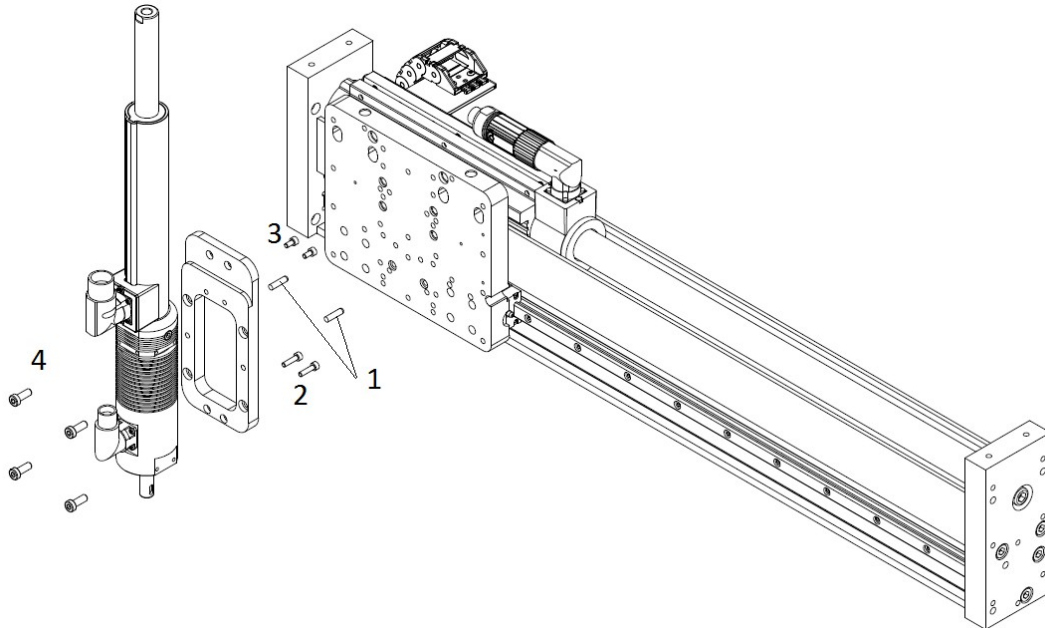
H01-48x Guide / B01-48x Guide



- 1. Centering sleeve D11x5mm (2 pcs, Part-No. 0150-3252)
- 2. Screws M8x25 (2 pcs)

Linear-Rotary Motors PR01- on F01-48x F-Guide

PR01-52x40-R/37x120F-HP-C-80 (-L)

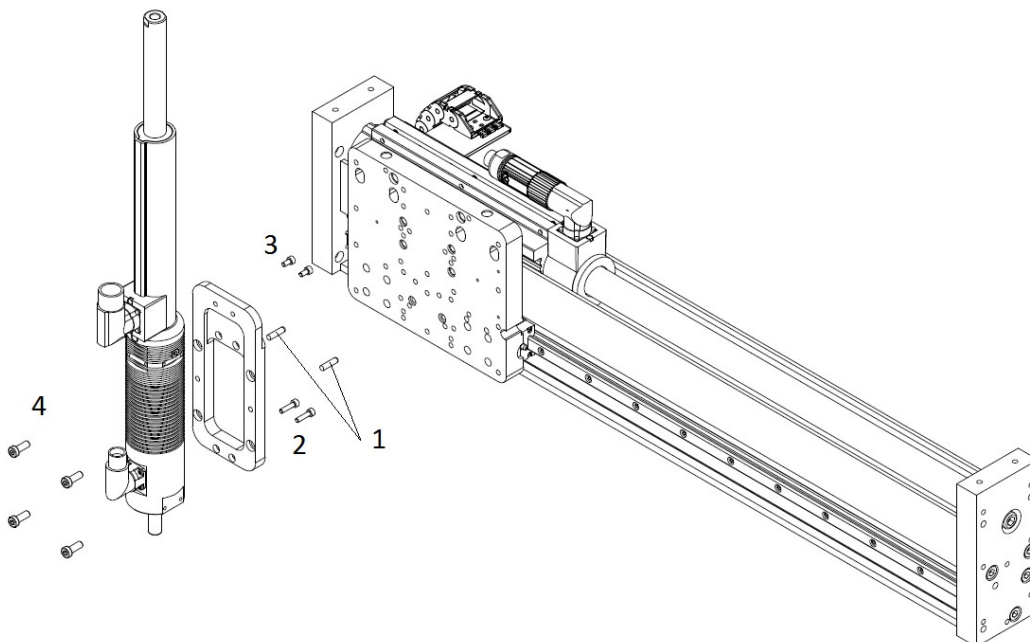


Mounting is done with the adapter plate **F01k-PR01-52x40/60 (Part-No. 0160-2536)**

NOTE: All the mounting parts are already included (1 - 4)

- | | |
|-------------------------|--------------------------|
| 1. Pins 5x20 mm (2 pcs) | 3. Screws M4x8 (2 pcs) |
| 2. Screws M4x14 (2 pcs) | 4. Screws M6x16 (4 pcs)* |

PR01-52x60-R/37x120F-HP-C-100 (-L)

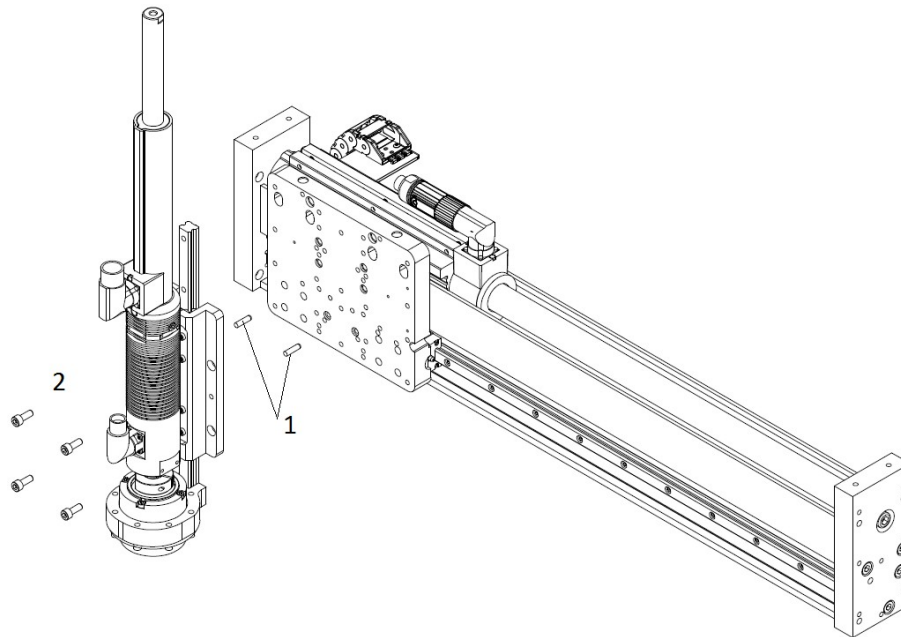


Mounting this part is done with the adapter plate **F01k-PR01-52x40/60 (Part-No. 0160-2536)**

NOTE: All the mounting parts are already included (1 - 4)

- | | |
|-------------------------|-------------------------|
| 1. Pins 5x20 mm (2 pcs) | 3. Screws M4x8 (2 pcs) |
| 2. Screws M4x14 (2 pcs) | 4. Screws M6x16 (4 pcs) |

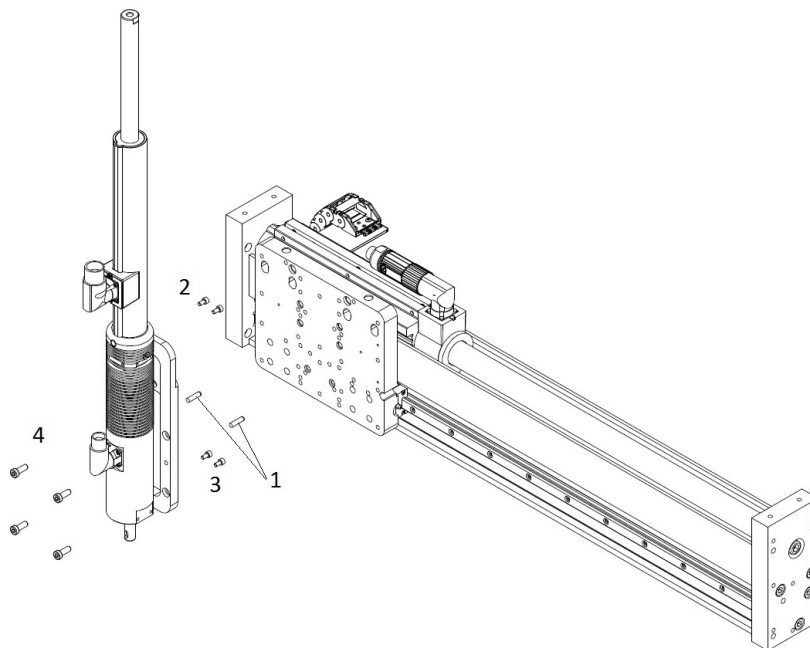
PR01-52x60-R-G/37x120F-HP-C-100-G05 (G10)



1. Pins 5x20 mm (2 pcs)
2. Screws M6x20 (4 pcs)

NOTE: Additional guide mounted to the top end of the load to prevent vibrations may be required. For more information see chapter Mounting „long“ Loads on the F-Guide.

PR01-52x60-R/37x120F-HP-C-150 (-L)



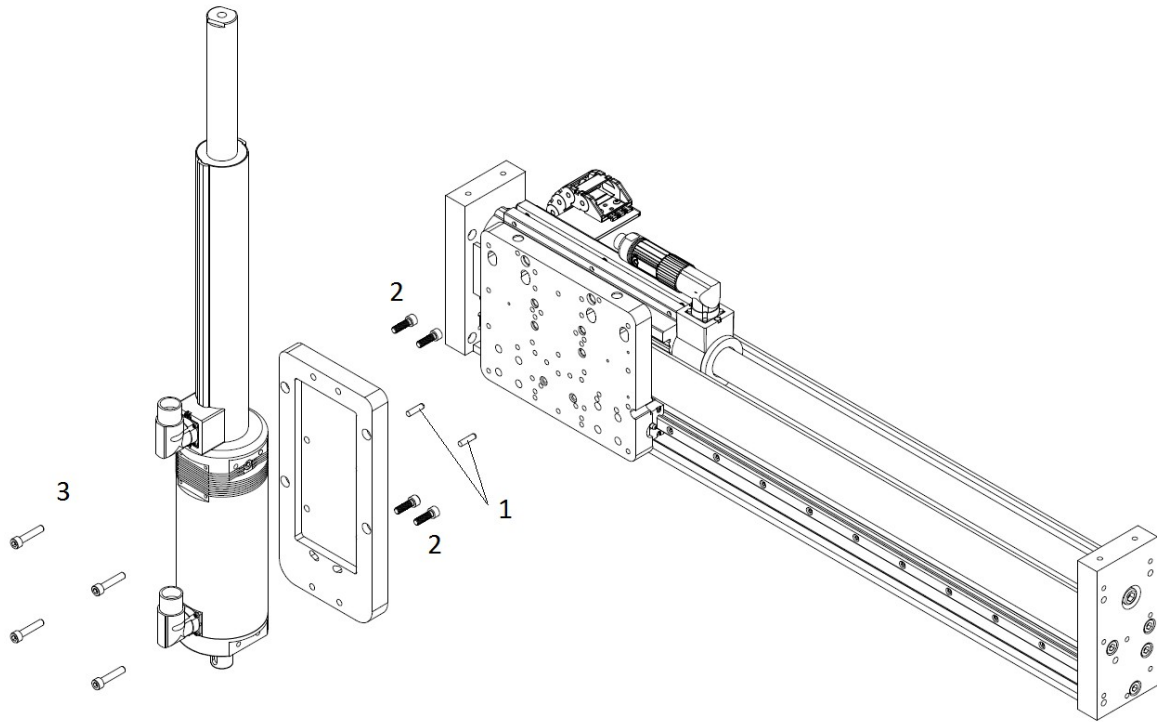
Mounting this part is done with the adapter plate **F01k-PR01-52x60-150 (Part-No. 0160-2657)**

NOTE: All the mounting parts are already included (1 - 4)

1. Pins 5x20 mm (2 pcs)
2. Screws M4x14 (2 pcs)
3. Screws M4x8 (2 pcs)
4. Screws M6x16 (4 pcs)

NOTE: Additional guide mounted to the top end of the load to prevent vibrations may be required. For more information see chapter Mounting „long“ Loads on the F-Guide.

PR01-84x80-C/48xXXF-C-100 (-L)



Mounting this part is done with the adapter plate **F01k-PR01-84 (Part-No. 0160-2594)**

NOTE: All the mounting parts are already included (1 - 3)

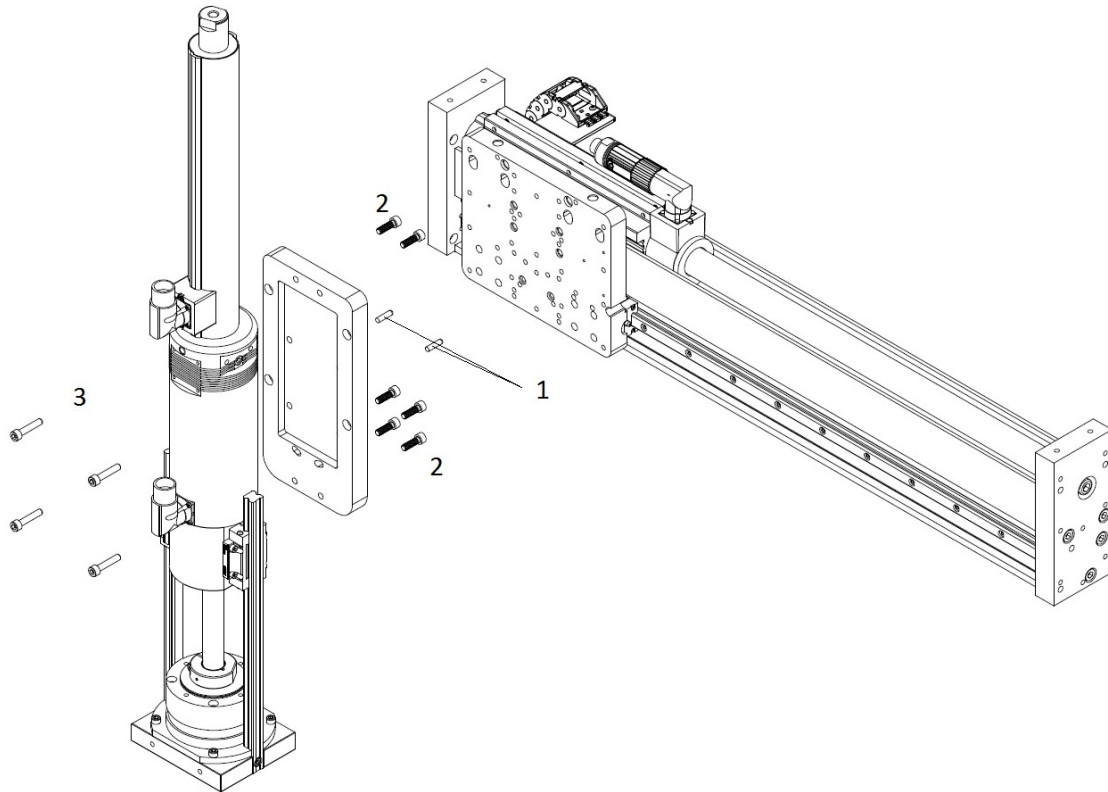
1. Pins 5x20 mm (2 pcs)

3. Screws M6x18 (4 pcs)

2. Screws M6x30 (4 pcs)

NOTE: Additional guide mounted to the top end of the load to prevent vibrations may be required. For more information see chapter Mounting „long“ Loads on the F-Guide.

PR01-84x80-C/48xXXF-C-100 (G0x)



Mounting this part is done with the adapter plate **F01k-PR01-84 (Part-No. 0160-2594)**

NOTE: All the mounting parts are already included (1 - 3)

1. Pins 5x20 mm (2 pcs)

3. Screws M6x18 (4 pcs)

2. Screws M6x30 (6 pcs)

NOTE: Additional guide mounted to the top end of the load to prevent vibrations may be required. For more information see chapter Mounting „long“ Loads on the F-Guide.

Maintenance

Maintenance of Carriages

Relubrication of carriages

The lubrication intervals for profile rail guides depend primarily on the average running speed, operating temperature and grease quality. Where contamination, use of coolants, vibration, shock loads etc. form part of the environmental conditions, it is advisable to increase re-lubrication intervals accordingly.

The following re-lubrication intervals should be used until empirical values are available.

for velocities $v < 1\text{m/s}$
Constant main load $< 0.30 C$ every 1200 km

(C = Load Capacity)

See SKF Manual 'Profile rail guides LLT' (www.SKF.com, document: 12942_1_EN_LLT_2013.pdf) for additional information about lifetime and maintenance.

Quantity of lubricant for carriages

Quantity of lubricant:= $0,4\text{ cm}^3$

Lubricant for carriages

Lubricant: SKF LGEP 2

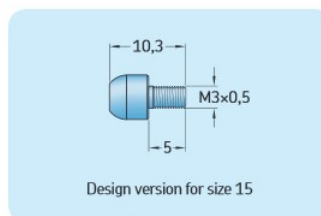
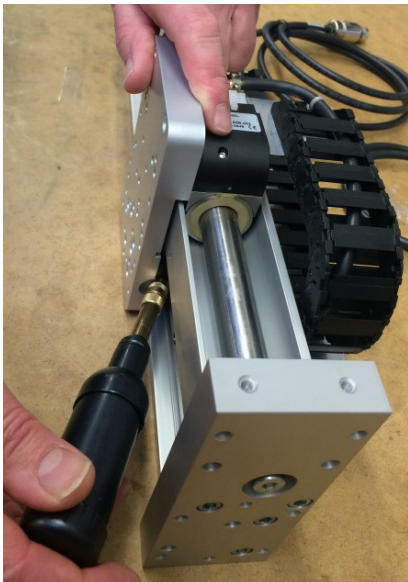


Figure: Relubrication with grease press.

Grease nipple

Maintenance of LinMot Motors

LinMot Stators will be shipped with an initial lubrication. Maintenance will only be required if the motors run 'dry' or there is a heavy pollution of the motors.

Under normal industrial conditions (5 days, 8hr/day) one inspection every 3 months is adequate. Where conditions differ, as with severe and permanent fouling, direct sunshine, operation out in the open, increased operating temperature etc., the maintenance intervals must be shortened till empirical values for the particular application are obtained.

Assembling of the Motors

The sliders must be cleaned first. Sliders with a length of more than 500 mm (20 in) must be lubricated with LU02. Lubricate the slider with a soft fabric or manually. 4 g of lubricant per meter slider is enough to create a film of lubricant on the surface of the sliders. (4 g (0.14 oz) is about ½ of a hazelnut). **Do not over lubricate!** Especially in higher operating temperatures, over lubrication can lead to a gumming of the lubricant. (In such a situation the motor must be cleaned completely.)

Inspection

Inspections have to be executed according to the operating condition and the load of motors. Following points have to be checked during inspection:

- Is a film of lubricant on the slider?
- Is the lubricant not sticky?
- Can the slider be moved easily?

If the motors are heavily polluted respectively if no film of lubricant is on the slider, then stators and sliders must be cleaned and lubricated again.

Cleaning

Pull the sliders carefully out of the Stator: Attention: huge magnetic attraction! Use non magnetic material (e.g. wood) to cover close-by iron constructions. Clean slider completely with cleaning agent LU06. The stators should also be cleaned with a soft fabric and LU06 until all dirt is removed. After that lubricate the bore of the stators with about 2-3 g (=0.1 oz) Lubricant LU02. There should only be a slight film of lubricant. **Do not over lubricate!** Slider should be lubricated according to the chapter 'Assembling of the Motors'.

Lubricant

The lubricant reduces the friction between the chromium-nickel steel surface of the slider and the reinforced plastic plain bearing.

The following lubricant is recommended:

| | | |
|------------------------------------|----------------|---------------------------|
| LinMot® Lubricant LU02-08 | (8g) | Art. No. 0150-1953 |
| LinMot® Lubricant LU02-50 | (50g) | Art. No. 0150-1954 |
| LinMot® Lubricant LU02-1000 | (1000g) | Art. No. 0150-1955 |

LinMot® LU02 Lubricant corresponds to KLÜBERSYNTH UH1 14-31 which was developed for the food processing industry.

Cleaning Agent

The following Cleaning Agent spray is recommended for LinMot Stators and Sliders:

LinMot[®] **Spray LU06-250 (250ml) Art. No. 0150-2394**

LinMot[®] LU06 Lubricant corresponds to KLÜBERSYNTH NH1 4—2 which was developed for the food processing industry.

Storage / transport

Sliders are to be stored and transported only in the plastic containers (with cardboard inlay) provided for this, or already fitted in *LinMot*[®] motors and secured.

Maximum storage temperature: 70 °C

Caution: Handling Instructions for Sliders

LinMot Slider

LinMot® Linear Motor sliders must be handled with care especially if not assembled within the stator! Damaging or warping of the slider can result in shortened life and/or failure of the motor. The slider is essentially a high-precision machine component consisting of neodymium magnets and plastic materials assembled in a thin steel tube. Do not use sliders who are already damaged on the surface (scratches, deformation, etc.). This can provide a further damage of the stator! Keep slider away from unshielded flame or heat. Temperature of more than 120°C will cause demagnetization.



Magnetism

LinMot® sliders contain neodymium magnets which may disturb or damage magnetic data carriers and delicate electronic equipment merely by coming close to them. Examples for such equipment are: television and computer monitors, credit cards and EC-cards, computers, floppy discs and other data storage medium, video tapes, mechanical watches, hearing devices and loudspeaker. Heart pacemakers can be disturbed by strong magnets. Keep a minimum distance of 1m.



Crushing

When handling sliders be aware that, due the strong magnetic attraction, serious injury from fingers being pinched between the slider and nearby steel parts is a very real possibility if caution is not exercised.



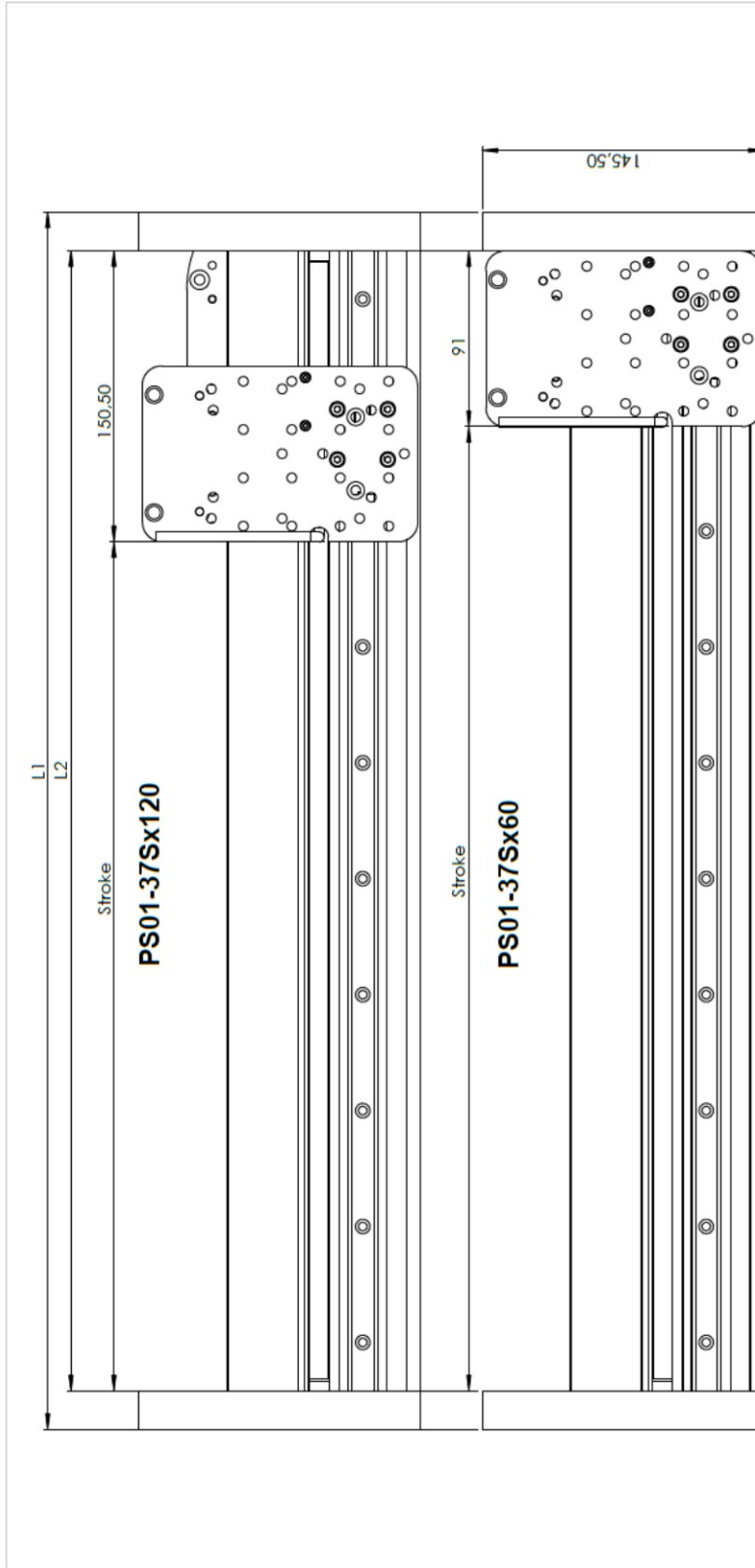
No modification of sliders provided to customers is allowed!

Do not modify the slider in any way. Any modification could destroy the included magnets and magnet dust can be generated. Magnet dust is flammable! NdFeB-Magnets are not made of steel. These magnets are sintered and therefore highly breakable.



Drawings F01-37S

Stroke Range F01-37S guide



| | L1 | L2 | Stroke PS01-37Sx60 | Stroke PS0137Sx120 | Tolerance Stroke |
|----------------|------|------|--------------------|--------------------|------------------|
| F01-37Sx300 | 330 | 290 | 200 | 140 | +0 / -5 |
| F01-37Sx400 | 430 | 390 | 300 | 240 | +0 / -5 |
| F01-37Sx500 | 530 | 490 | 400 | 340 | +0 / -5 |
| F01-37Sx600 | 630 | 590 | 500 | 440 | +0 / -5 |
| F01-37Sx800 | 830 | 790 | 600 | 640 | +0 / -5 |
| F01-37Sx1000 | 1030 | 990 | 700 | 840 | +0 / -5 |
| F01-37Sx1200 | 1230 | 1190 | 110 | 1040 | +0 / -5 |
| F01-37Sx1400-F | 1430 | 1390 | 1300 | 1240 | +0 / -5 |
| F01-37Sx1600-F | 1630 | 1590 | 1500 | 1440 | +0 / -5 |
| F01-37Sx2000-F | 2030 | 1990 | 1900 | 1840 | +0 / -5 |

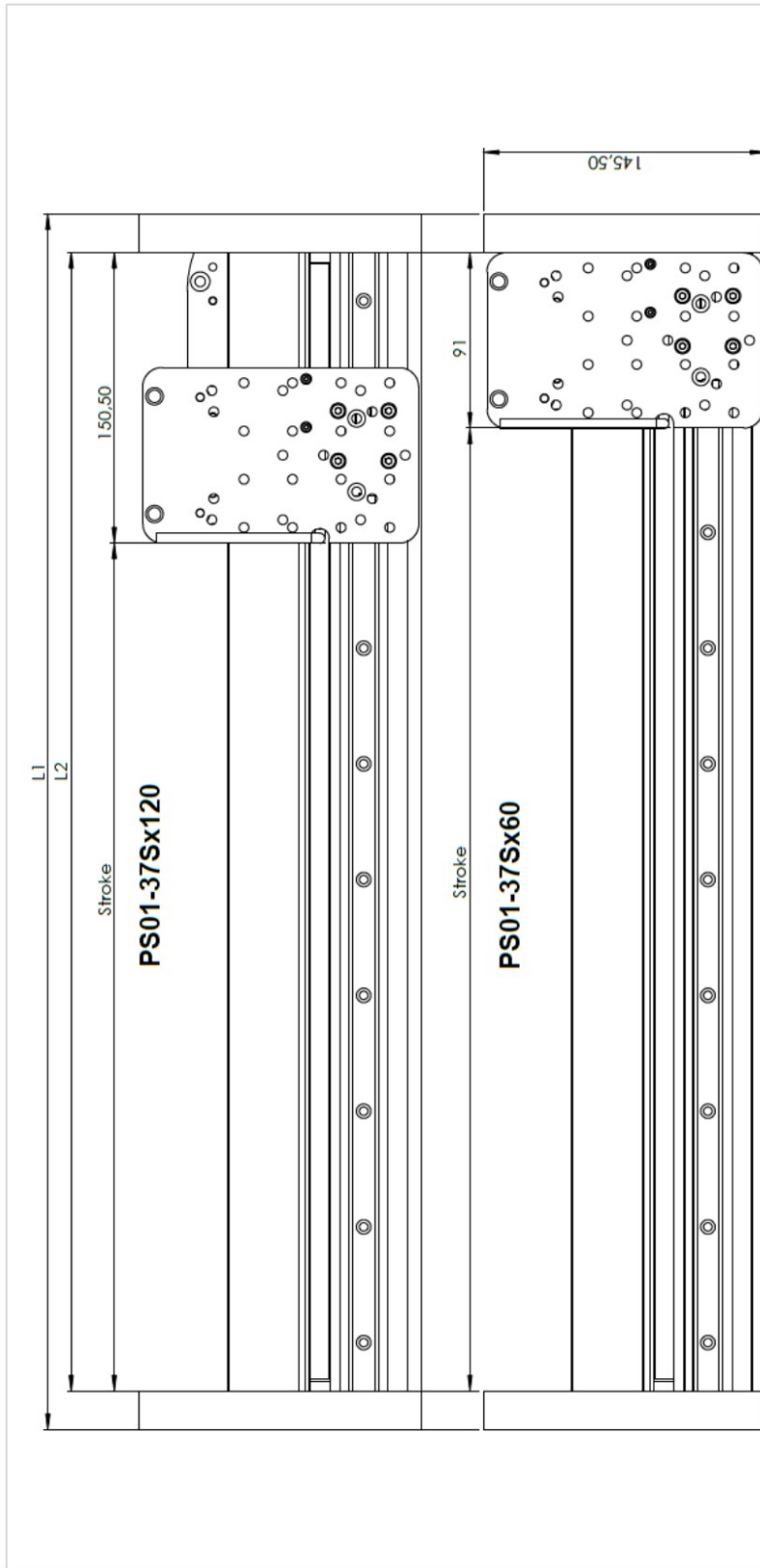
F01-37S
Stroke Range

Gezeichnet: 05.06.2014 D. Marinkovic
 Datename: 0180-0719_HubbereichF01
 Material: 0180-0719_Massstab
 Ersatz für: 12.02.2015/dm
 Status: 12.02.2015/dm
 Änderungen: A1 12.02.2015/dm
 Zeichnungsnummer: 0180-0719 A
 Format: A3

NTI AG, LinMot
 1:2
 HubbereichF01

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Dimensions F01-37S guide



| | L1 | L2 | Stroke PS01-37Sx60 | Stroke PS0137Sx120 | Tolerance Stroke |
|----------------|------|------|--------------------|--------------------|------------------|
| F01-37Sx300 | 330 | 290 | 200 | 140 | +0 / -5 |
| F01-37Sx400 | 430 | 390 | 300 | 240 | +0 / -5 |
| F01-37Sx500 | 530 | 490 | 400 | 340 | +0 / -5 |
| F01-37Sx600 | 630 | 590 | 500 | 440 | +0 / -5 |
| F01-37Sx800 | 830 | 790 | 600 | 640 | +0 / -5 |
| F01-37Sx1000 | 1030 | 990 | 700 | 840 | +0 / -5 |
| F01-37Sx1200 | 1230 | 1190 | 110 | 1040 | +0 / -5 |
| F01-37Sx1400-F | 1430 | 1390 | 1300 | 1240 | +0 / -5 |
| F01-37Sx1600-F | 1630 | 1590 | 1500 | 1440 | +0 / -5 |
| F01-37Sx2000-F | 2030 | 1990 | 1900 | 1840 | +0 / -5 |

F01-37S
Stroke Range

Gezeichnet: 05.06.2014 D. Marnikovic
 Dateiname: 0180-0719_HubbereichF01
 Zeichnungsnummer: 0180-0719 A
 Format: A3

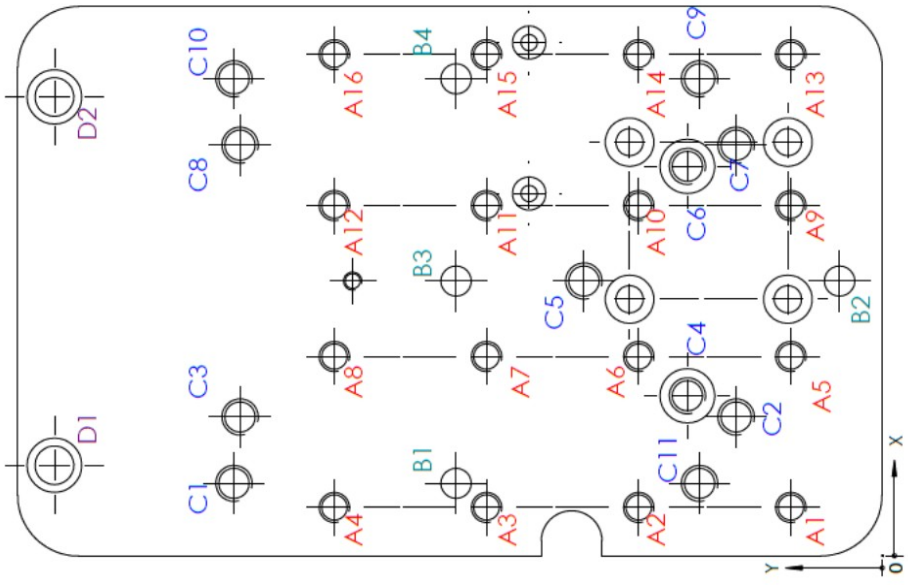
Material:
 Ersatz für:
 Status: 12.02.2015/dm
 Änderungen:
 A 12.02.2015/dm

NTI AG, LinMot
 Messstab 1:2
 Zeichnungssymbol:

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Dimensions F01-37S-AP ground plate

| Option holes | | |
|--------------|--------|--------------------|
| Label | X-POS. | Y-POS. Dimensionen |
| A1 | 8 | 15 M5x12 |
| A2 | 8 | 40 M5x12 |
| A3 | 8 | 65 M5x10 |
| A4 | 8 | 90 M5x10 |
| A5 | 33 | 15 M5x12 |
| A6 | 33 | 40 M5x12 |
| A7 | 33 | 65 M5x10 |
| A8 | 33 | 90 M5x10 |
| A9 | 58 | 15 M5x12 |
| A10 | 58 | 40 M5x12 |
| A11 | 58 | 65 M5x10 |
| A12 | 58 | 90 M5x10 |
| A13 | 83 | 15 M5x12 |
| A14 | 83 | 40 M5x12 |
| A15 | 83 | 65 M5x10 |
| A16 | 83 | 90 M5x10 |



| Solely LinMot Product | | | |
|-----------------------|--------|--------|-------------|
| Label | X-POS. | Y-POS. | Dimensionen |
| C1 | 12 | 106,50 | PR01-52 |
| C2 | 23 | 24 | Gantry |
| C3 | 23 | 105,50 | Gantry |
| C4 | 26,50 | 32 | H01-23 |
| C5 | 45,50 | 49 | Gantry |
| C6 | 64,50 | 32 | H01-23 |
| C7 | 68 | 24 | Gantry |
| C8 | 68 | 105,50 | Gantry |
| C9 | 79 | 30 | PR01-52 |
| C10 | 79 | 106,50 | PR01-52 |
| C11 | 12 | 30 | PR01-52 |

| Solely LinMot Product | | | |
|-----------------------|--------|--------|-------------|
| Label | X-POS. | Y-POS. | Dimensionen |
| D1 | 15 | 136 | H01-37 |
| D2 | 76 | 136 | H01-37 |

| Central mounting hole | | |
|-----------------------|--------|--------------------|
| Label | X-POS. | Y-POS. Dimensionen |
| B1 | 12 | 70 Ø5x10 |
| B2 | 45,50 | 7 Ø5x10 |
| B3 | 45,50 | 70 Ø5x10 |
| B4 | 79 | 70 Ø5x10 |

F01-37S-AP
Ground plate
Dimensions

Gezeichnet: 11.06.2014 D. Marinkovic
Dateiname: 0180-0719_HubbereichF01

Material: Ersatz für:
Status: 12.02.2015/dm
Änderungen

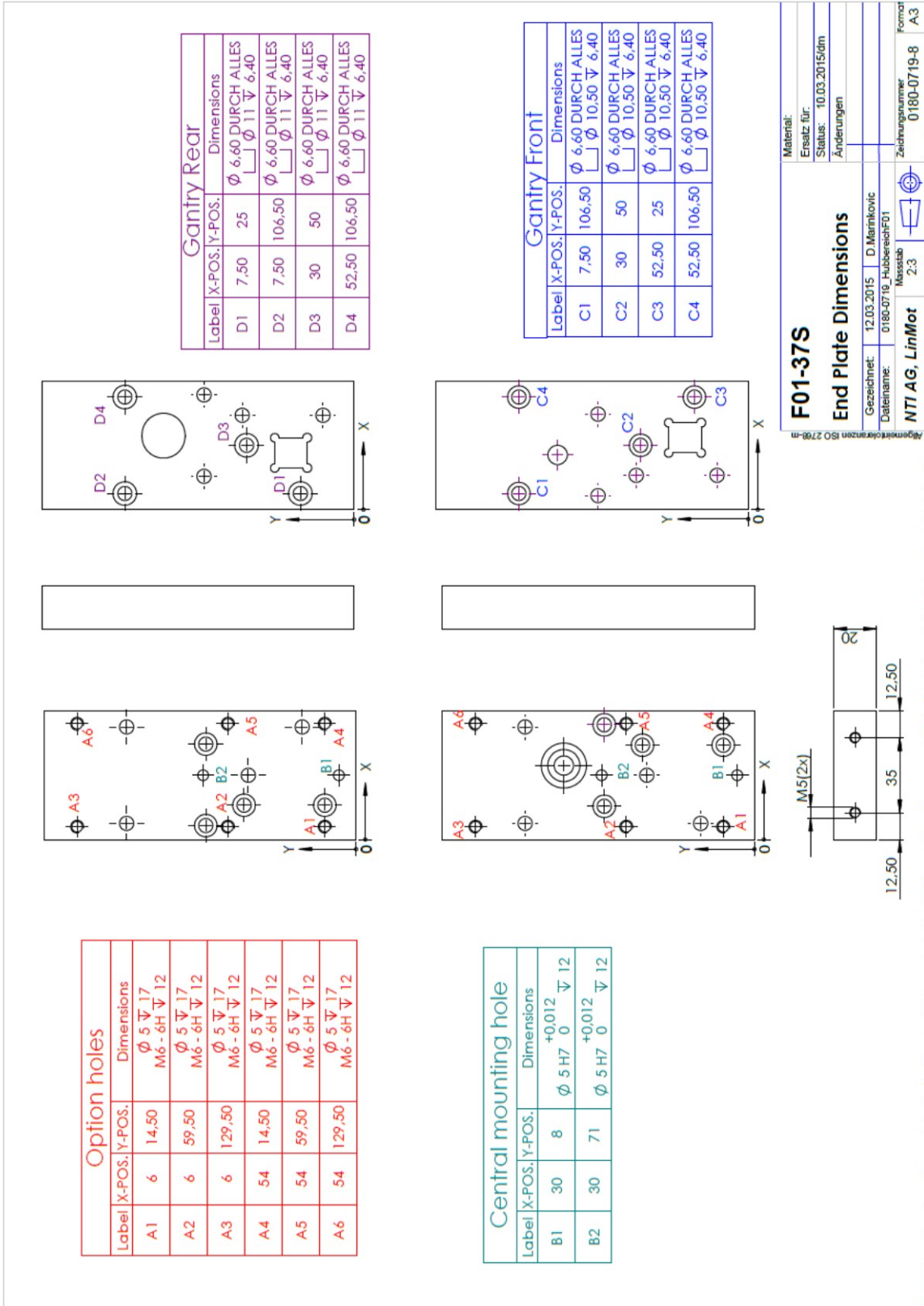
Zeichnungsnummer: 0180-0719-5A
Format: A3

NTI AG, LinMot
Maststab: 3:2
Zeichnungsnummer: 0180-0719-5A
Format: A3

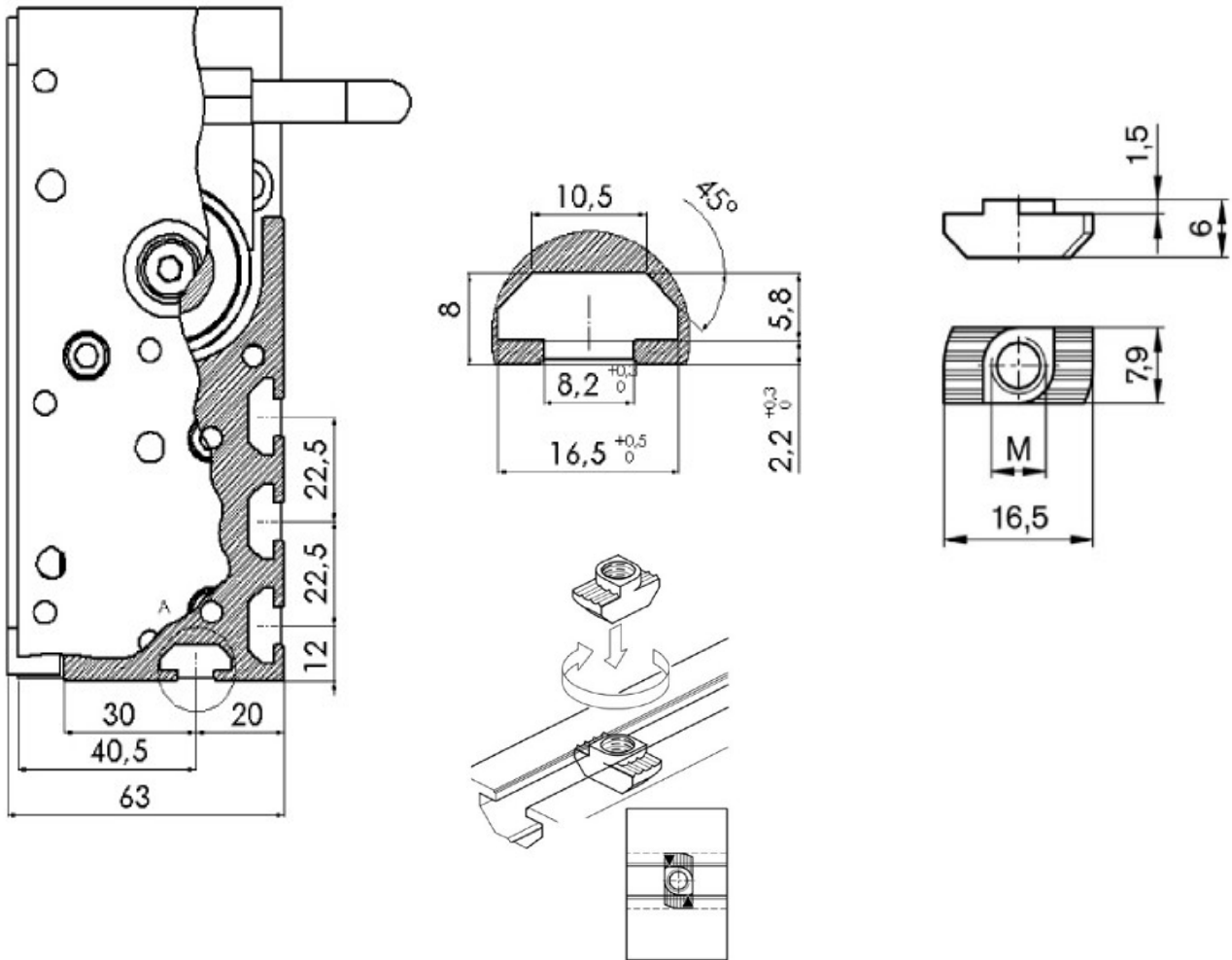
Agencija za razvoj ISO 2768-m
Agencija za razvoj ISO 2768-m
Agencija za razvoj ISO 2768-m
Agencija za razvoj ISO 2768-m

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Dimensions F01-37S end plates

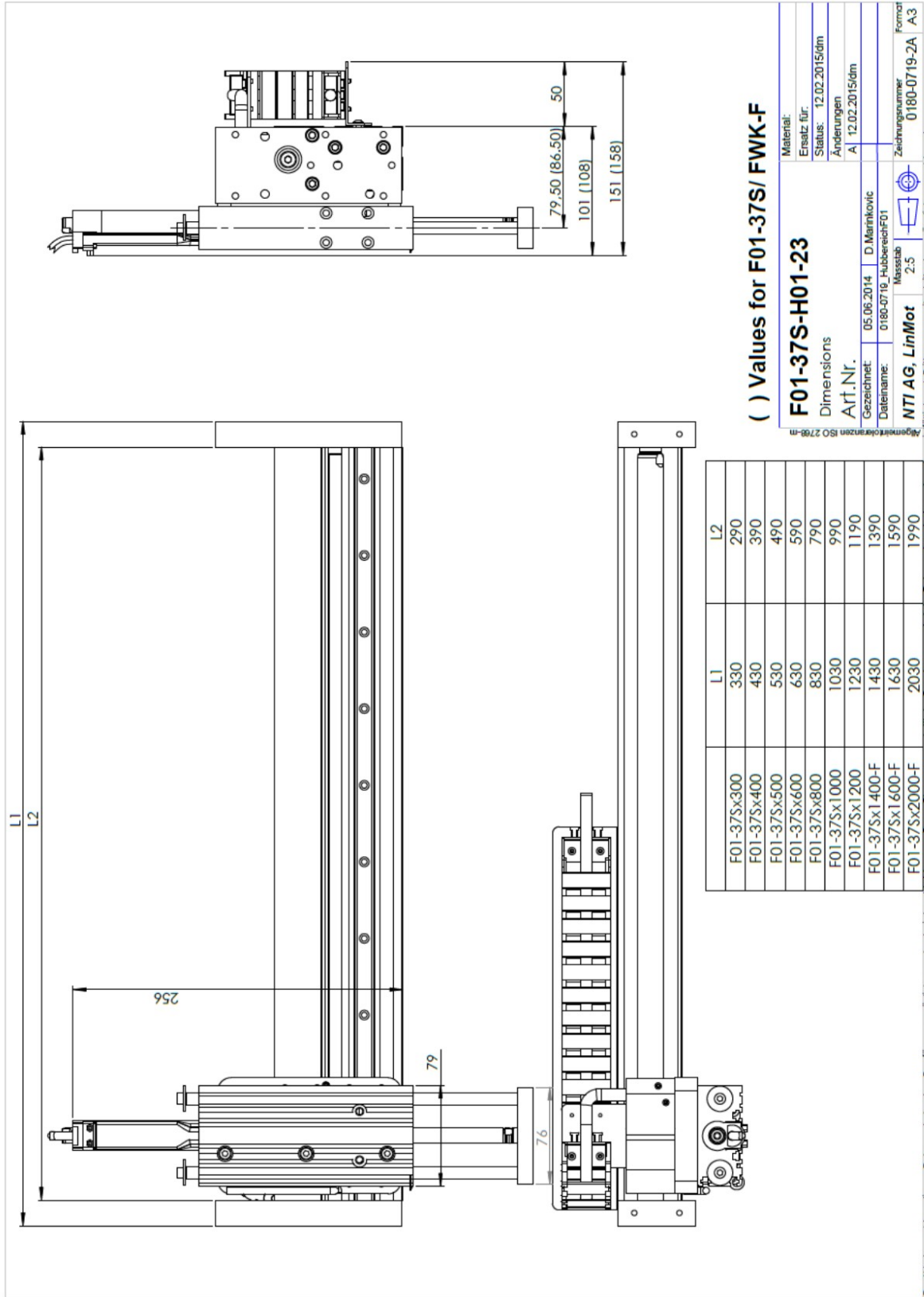


Dimensions F01-37S T-slots

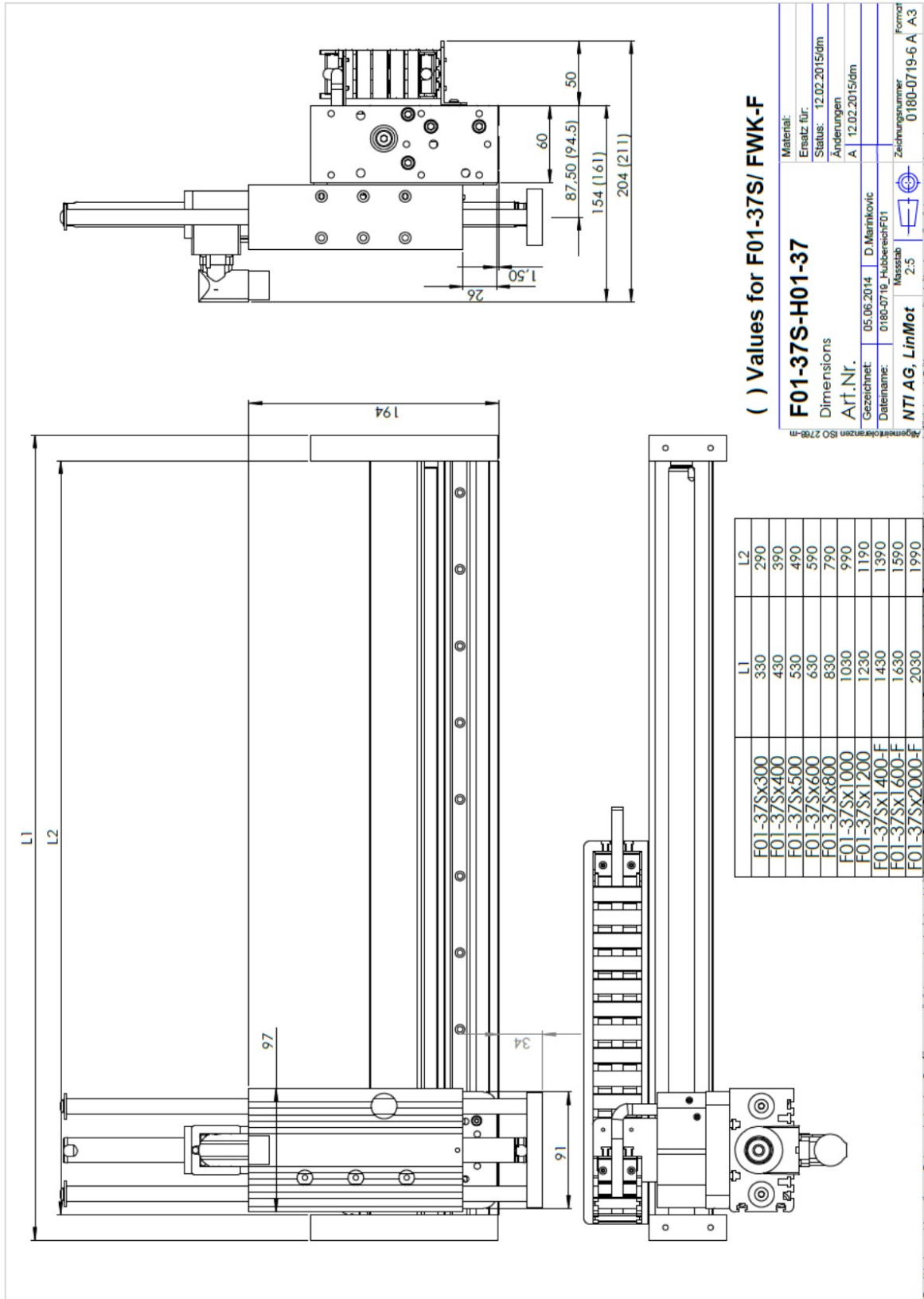


| Description | Part-No | |
|-------------|-----------|---|
| Nut N8 / M4 | 0150-2189 | Nut for 8 mm slots of F01-37S guides with M4 thread |
| Nut N8 / M6 | 0150-2558 | Nut for 8 mm slots of F01-37S guides with M6 thread |

Dimensions with H01-23x86 guide

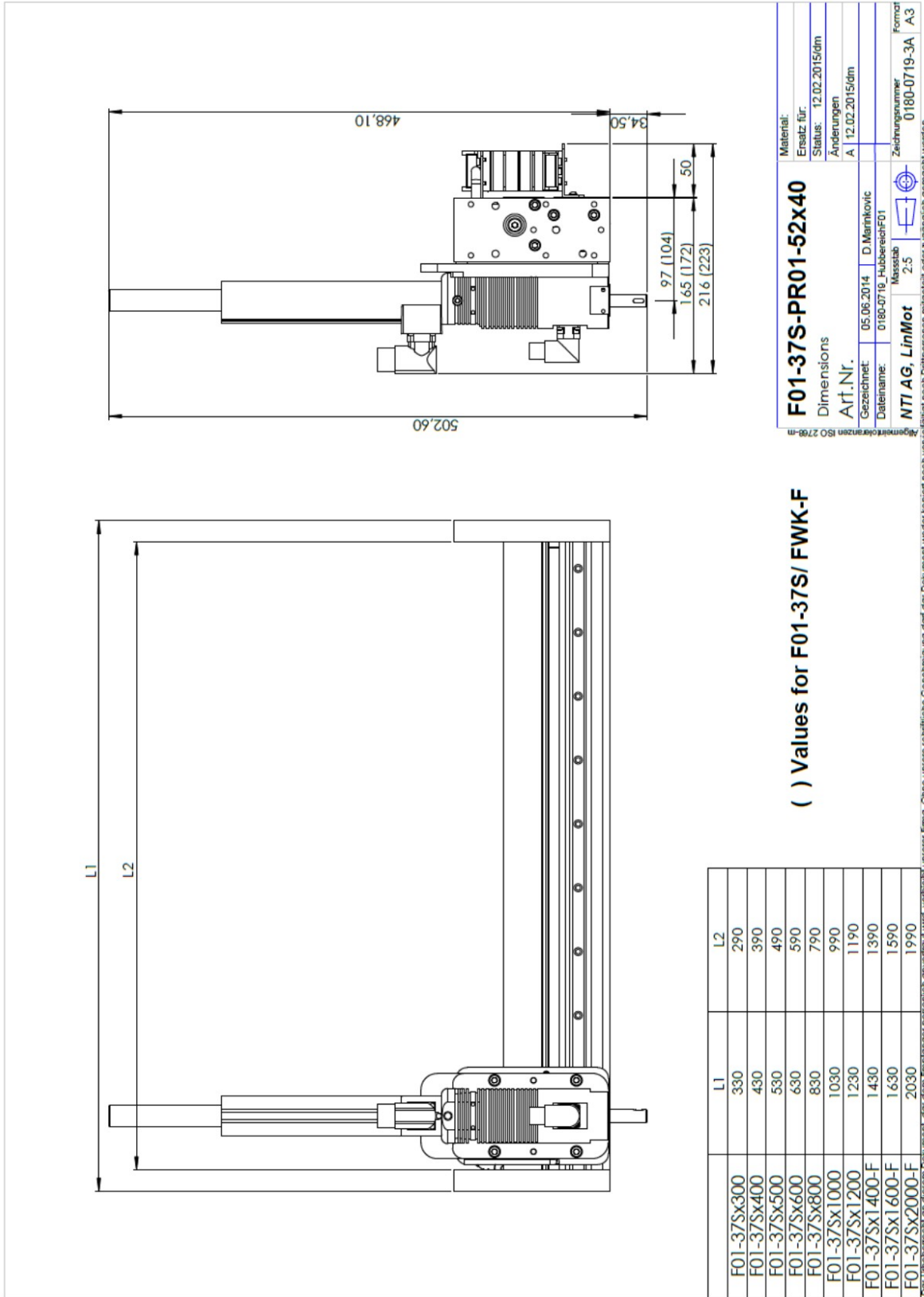


Dimensions with H01-37x166 guide



Dimensions with PR01-52x40-R/37x120F-HP-C-80/-L

*NOTE: Long "load" on F-Guide mounting restrictions. For more information see page 33



Dimensions with PR01-52x60-R/37x120F-HP-C-100/L

***NOTE:** Long "load" on F-Guide mounting restrictions. For more information see page 33

() Values for F01-37S/ FWK-F

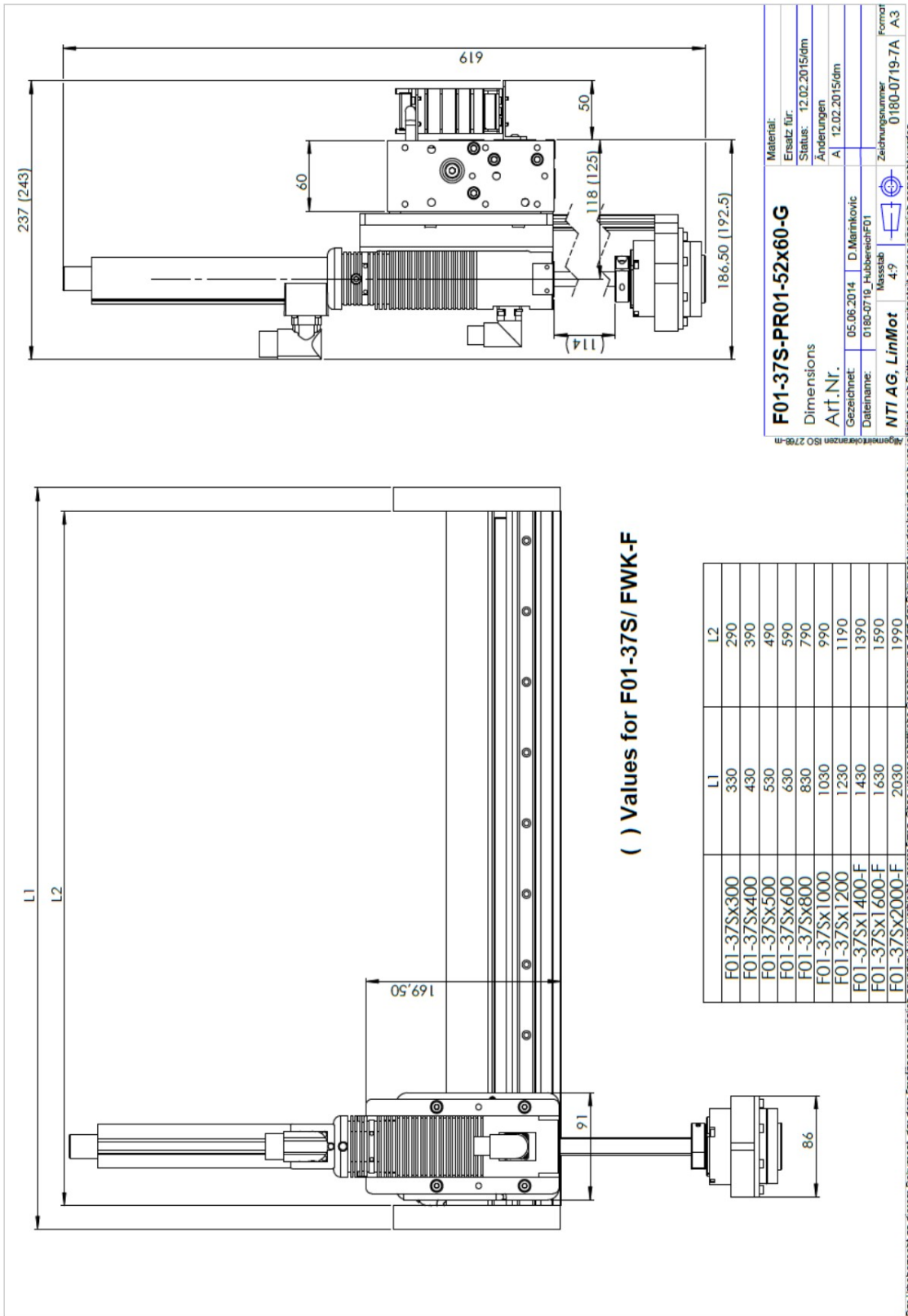
| | L1 | L2 |
|----------------|------|------|
| F01-37Sx300 | 330 | 290 |
| F01-37Sx400 | 430 | 390 |
| F01-37Sx500 | 530 | 490 |
| F01-37Sx600 | 630 | 590 |
| F01-37Sx800 | 830 | 790 |
| F01-37Sx1000 | 1030 | 990 |
| F01-37Sx1200 | 1230 | 1190 |
| F01-37Sx1400-F | 1430 | 1390 |
| F01-37Sx1600-F | 1630 | 1590 |
| F01-37Sx2000-F | 2030 | 1990 |

| | |
|---------------------------|---------------------------|
| F01-37S-PR01-52x60 | |
| Material: | |
| Ersatz für: | |
| Status: | 12.02.2015/äm |
| Änderungen: | |
| Art. Nr.: | A 12.02.2015/äm |
| Gezeichnet: | 05.06.2014 D. Manfinkovic |
| Dateline: | 0180-0719_HubereichF01 |
| NTI AG, LinMot | Massstab 4:1 |
| Zeilungsnummer | 0180-0719-4A |
| Format | A3 |

Algemeintoleranzen ist 0.2768 mm
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Dimensions with PR01-52x60-R/37x120F-HP-C-100-G

*NOTE: Long "load" on F-Guide mounting restrictions. For more information see page 33



F01-37S-PR01-52x60-G

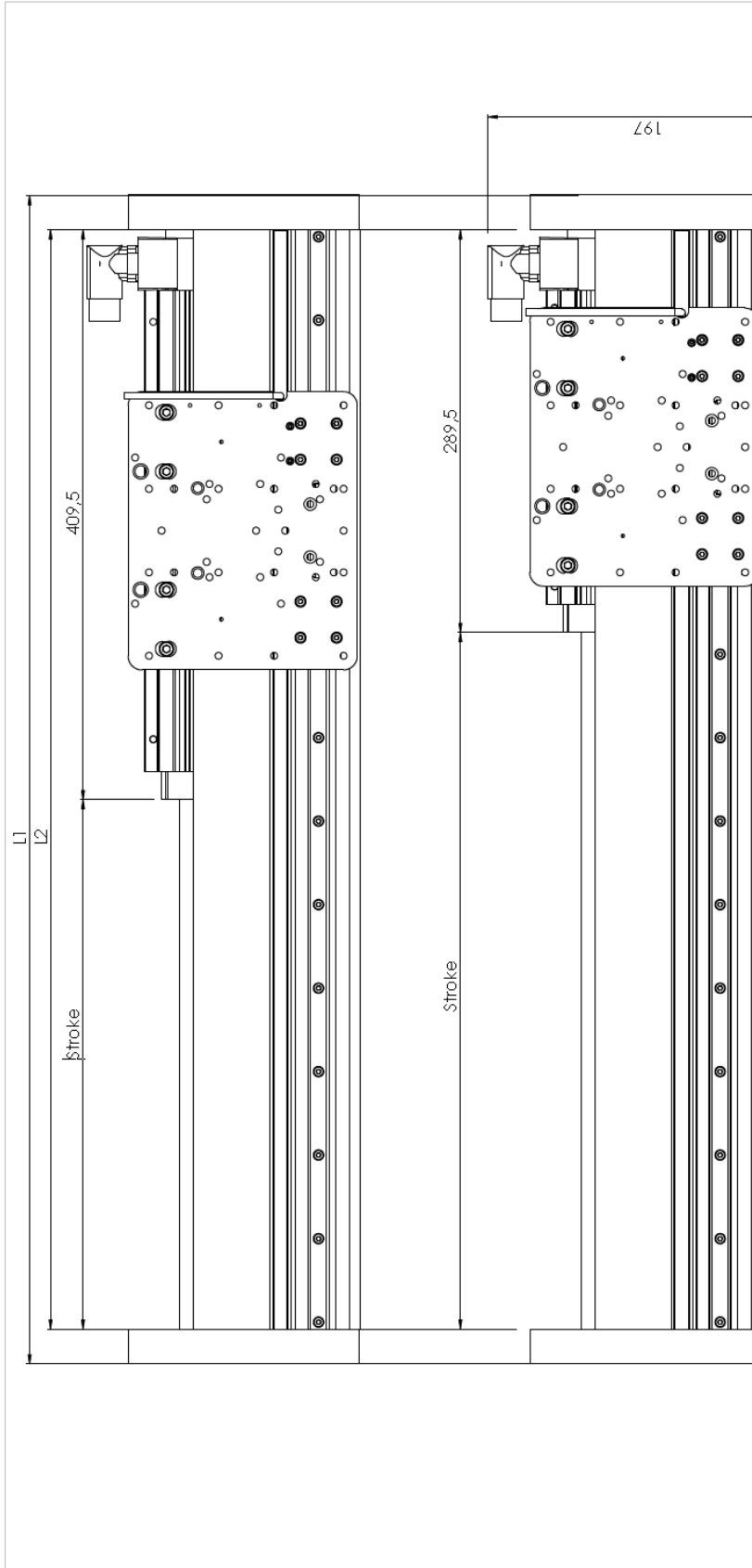
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 Status: 12.02.2015/dm
 Änderungen:
 A1 12.02.2015/dm

Dimensions
 Art. Nr.
 Gezeichnet: 05.06.2014 D. Meinkevic
 Dateiname: 0180-0719_HubbereichF01

NTI AG, LinMot
 Masstab 4:9
 Zeichnungsnummer 0180-0719-7A
 Format A3

Drawings F01-48

Stroke Range F01-48 guide



| | L1 | L2 | Stroke PS01-48x240F-C | Stroke PS01-48x360F-C |
|-------------|------|------|-----------------------|-----------------------|
| F01-48x500 | 540 | 490 | 200,5 | 80,5 |
| F01-48x620 | 660 | 610 | 320,5 | 200,5 |
| F01-48x800 | 840 | 790 | 500,5 | 380,5 |
| F01-48x1010 | 1050 | 1000 | 710,5 | 590,5 |
| F01-48x1220 | 1260 | 1210 | 920,5 | 800,5 |
| F01-48x1400 | 1440 | 1390 | 1100,5 | 980,5 |
| F01-48x1610 | 1650 | 1600 | 1310,5 | 1190,5 |
| F01-48x1820 | 1860 | 1810 | 1520,5 | 1400,5 |
| F01-48x2000 | 2040 | 1990 | 1700,5 | 1580,5 |
| F01-48x2210 | 2250 | 2250 | 1960,5 | - |
| F01-48x2450 | 2490 | 2440 | 2150,5 | - |

F01-48
Stroke Range

Gezeichnet: 05.06.2015, D. Marinkovic
 Dateiname: nraamse-hitzesekel_F01-48

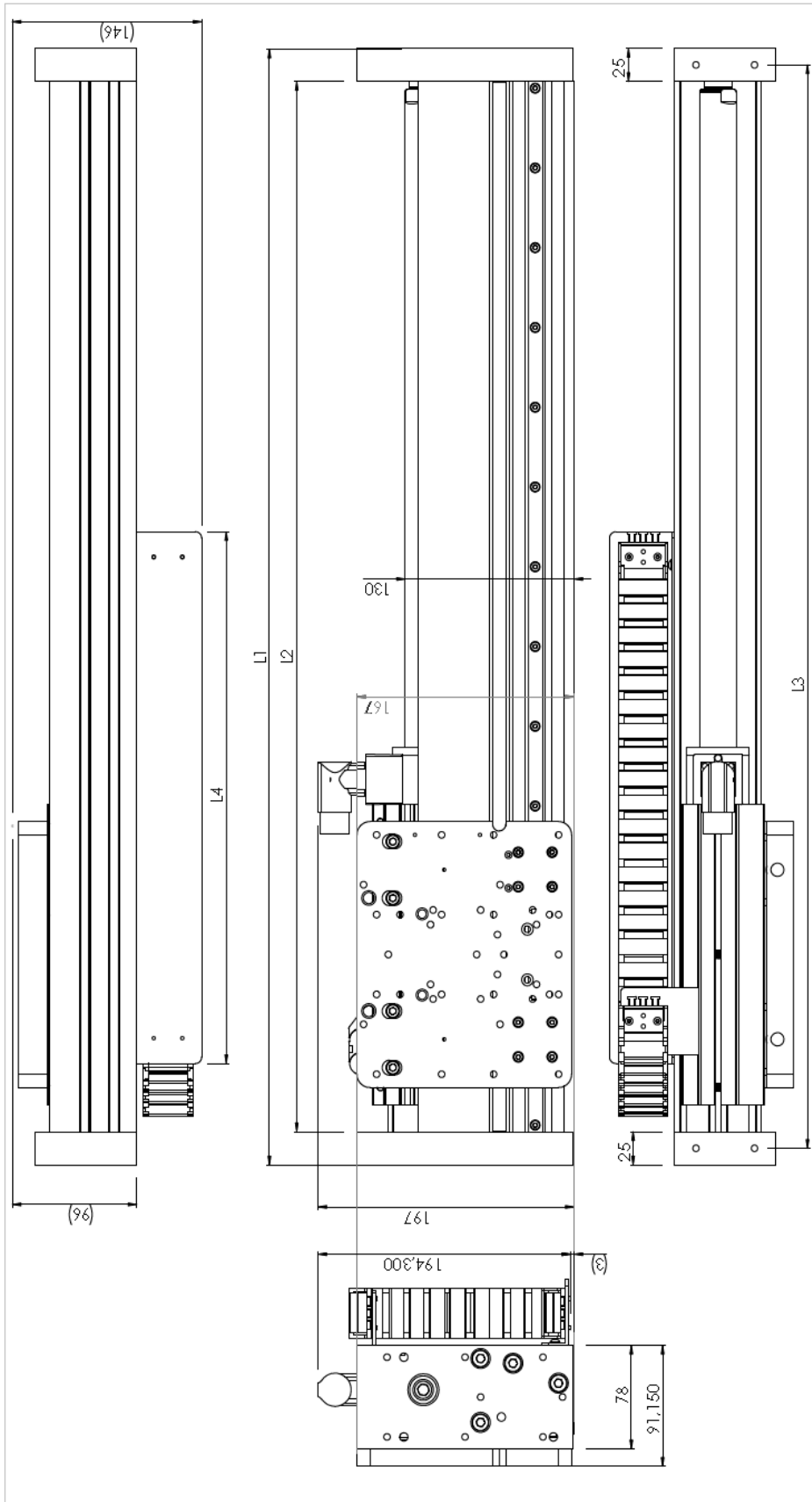
NTI AG, LinMot
 Messstab: 1:2

Material:
 Ersatz für:
 Status: 06.06.2016/am
 Änderungen:
 Zeichnungsnummer: 0180-0788
 Formvor: A2

Änderungshistorie ISO 2768-m

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Dimensions F01-48 guide



| | L1 | L2 | L3 | L4 |
|-------------|------|------|------|------|
| F01-48x500 | 540 | 490 | 515 | 250 |
| F01-48x620 | 660 | 610 | 635 | 300 |
| F01-48x800 | 840 | 790 | 815 | 400 |
| F01-48x1010 | 1050 | 1000 | 1025 | 500 |
| F01-48x1220 | 1250 | 1210 | 1235 | 600 |
| F01-48x1400 | 1440 | 1390 | 1415 | 700 |
| F01-48x1610 | 1650 | 1600 | 1625 | 800 |
| F01-48x1820 | 1860 | 1810 | 1835 | 800 |
| F01-48x2000 | 2040 | 1990 | 2015 | 1000 |
| F01-48x2210 | 2250 | 2250 | 2225 | 1000 |
| F01-48x2450 | 2490 | 2440 | 2450 | 1250 |

F01-48
Dimensions

Gezeichnet: 05.05.2015 D. Matkovic
 Dateien: dimensions/waerren_f01-48
 NTL AG, LinMot Masstab 1:2

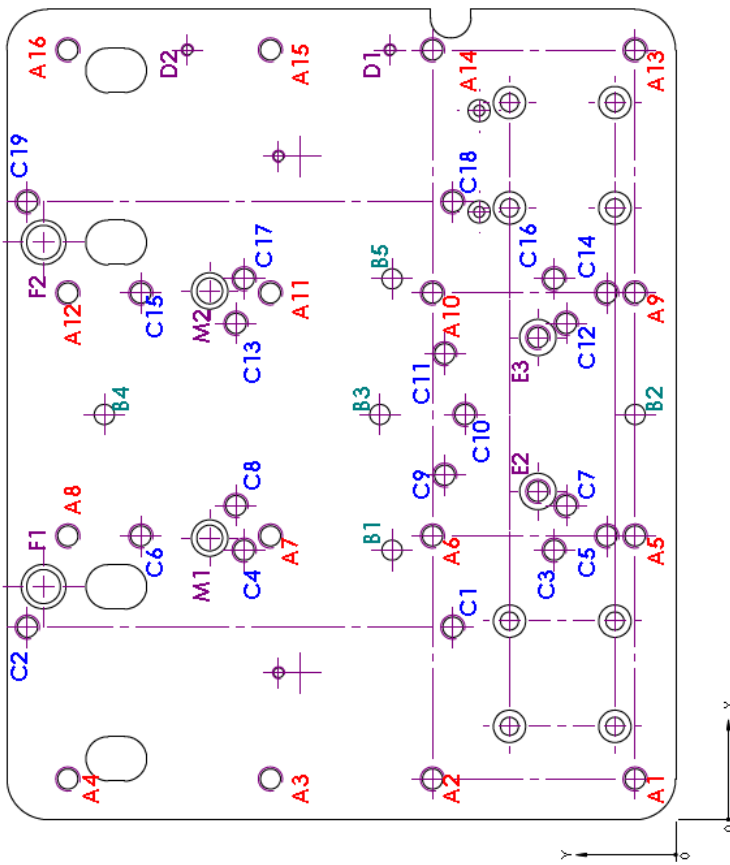
Material:
 Ersatz für:
 Status: 05.05.2015 am
 Änderungen

Zuletzt geändert: 01.08.2015
 Form: A2

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Dimensions F01-48 ground plate

| Option holes | | |
|--------------|--------|---------------------|
| Label | X-POS. | Y-POS. / Dimensions |
| A1 | 10 | 10 M6x18 |
| A2 | 10 | 60 M6x18 |
| A3 | 10 | 100 M6x18 |
| A4 | 10 | 150 M6x18 |
| A5 | 70 | 10 M6x18 |
| A6 | 70 | 60 M6x18 |
| A7 | 70 | 100 M6x18 |
| A8 | 70 | 150 M6x18 |
| A9 | 130 | 10 M6x18 |
| A10 | 130 | 60 M6x18 |
| A11 | 130 | 100 M6x18 |
| A12 | 130 | 150 M6x18 |
| A13 | 190 | 10 M6x18 |
| A14 | 190 | 60 M6x18 |
| A15 | 190 | 100 M6x18 |
| A16 | 190 | 150 M6x18 |



| Central mounting hole | | |
|-----------------------|--------|---------------------|
| Label | X-POS. | Y-POS. / Dimensions |
| B1 | 66,50 | 70 Ø 5 ∇ 12 |
| B2 | 100 | 10 Ø 5 ∇ 12 |
| B3 | 100 | 73 Ø 5 ∇ 12 |
| B4 | 100 | 141 Ø 5 ∇ 12 |
| B5 | 133,50 | 70 Ø 5 ∇ 12 |

| Solely LinMot Produkt | | |
|-----------------------|--------|--------------|
| Label | X-POS. | Y-POS. |
| D1 | 190 | 70,50 Kabel |
| D2 | 190 | 120,50 Kabel |
| E2 | 81 | 34 H01-23 |
| E3 | 119 | 34 H01-23 |
| F1 | 57,50 | 156 H01-48 |
| F2 | 142,50 | 156 H01-48 |
| M1 | 69,50 | 115 H01-37 |
| M2 | 130,50 | 115 H01-37 |

| Solely LinMot Produkt | | |
|-----------------------|--------|---------------------------|
| Label | X-POS. | Y-POS. / Dimensions |
| C1 | 47,50 | 55 PR01-84 / PR01-84G |
| C2 | 47,50 | 160 PR01-84 / PR01-84G |
| C3 | 66,50 | 30 PR01-52 / PR01-52G |
| C4 | 66,50 | 106,50 PR01-52 / PR01-52G |
| C5 | 70 | 17 Gantry F01-48 |
| C6 | 70 | 132 Gantry F01-48 |
| C7 | 77,50 | 27 Gantry F01-37S |
| C8 | 77,50 | 108,50 Gantry F01-37S |
| C9 | 85 | 57 Gantry F01-48 |
| C10 | 100 | 52 Gantry F01-37S |
| C11 | 115 | 57 Gantry F01-48 |
| C12 | 122,50 | 27 Gantry F01-37S |
| C13 | 122,50 | 108,50 Gantry F01-37S |
| C14 | 130 | 17 Gantry F01-48 |
| C15 | 130 | 132 Gantry F01-48 |
| C16 | 133,50 | 30 PR01-52 / PR01-52G |
| C17 | 133,50 | 106,50 PR01-52 / PR01-52G |
| C18 | 152,50 | 55 PR01-84 / PR01-84G |
| C19 | 152,50 | 160 PR01-84 / PR01-84G |

F01-48-APW-F
Ground Plate
Dimensions

Gezeichnet: 06.06.2015 D. Marinkovic
Dateiname: dimensions_f01-48

Material: Stahl
Ersatz für: DE DE 2150
Status: DE DE 2150
Änderungen:

Zeichnungskenn: 0180-0788-3
Formot: A2

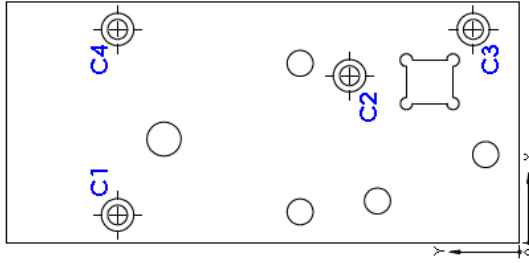
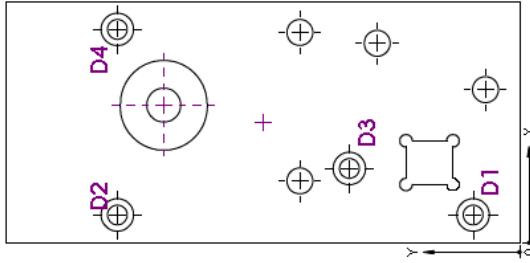
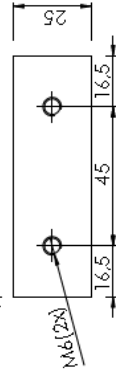
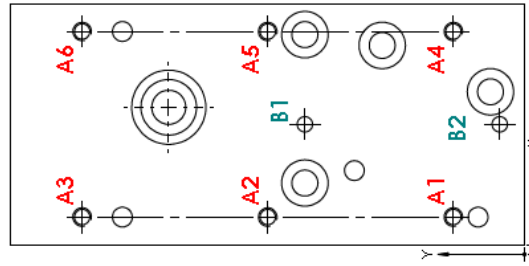
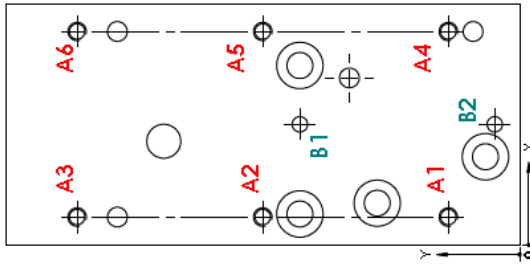
NTI AG, LinMot
Mitarbeiter: 43

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Dimensions F01-48 end plate

| Option holes | | |
|--------------|--------|---|
| Label | X-POS. | Y-POS. Dimensions |
| A1 | 9 | 23 $\begin{matrix} \text{Ø } 5 \text{ H } 7 \\ \text{M6} - 6\text{H} \end{matrix} \nabla 12$ |
| A2 | 9 | 83 $\begin{matrix} \text{Ø } 5 \text{ H } 7 \\ \text{M6} - 6\text{H} \end{matrix} \nabla 12$ |
| A3 | 9 | 143 $\begin{matrix} \text{Ø } 5 \text{ H } 7 \\ \text{M6} - 6\text{H} \end{matrix} \nabla 12$ |
| A4 | 69 | 23 $\begin{matrix} \text{Ø } 5 \text{ H } 7 \\ \text{M6} - 6\text{H} \end{matrix} \nabla 12$ |
| A5 | 69 | 83 $\begin{matrix} \text{Ø } 5 \text{ H } 7 \\ \text{M6} - 6\text{H} \end{matrix} \nabla 12$ |
| A6 | 69 | 143 $\begin{matrix} \text{Ø } 5 \text{ H } 7 \\ \text{M6} - 6\text{H} \end{matrix} \nabla 12$ |

| Central Mounting hole | | |
|-----------------------|--------|--|
| Label | X-POS. | Y-POS. Dimensions |
| B1 | 39 | 71 $\begin{matrix} +0,012 \\ \text{Ø } 5 \text{ H } 7 \\ 0 \end{matrix} \nabla 12$ |
| B2 | 39 | 8 $\begin{matrix} +0,012 \\ \text{Ø } 5 \text{ H } 7 \\ 0 \end{matrix} \nabla 12$ |



| Gantry Rear | | |
|-------------|--------|--|
| Label | X-POS. | Y-POS. Dimensions |
| D1 | 9 | 15 $\begin{matrix} \text{Ø } 6,400 \text{ DURCH ALLES} \\ \text{Ø } 10,500 \nabla 6,400 \end{matrix}$ |
| D2 | 9 | 130 $\begin{matrix} \text{Ø } 6,400 \text{ DURCH ALLES} \\ \text{Ø } 10,500 \nabla 6,400 \end{matrix}$ |
| D3 | 24 | 55 $\begin{matrix} \text{Ø } 6,400 \text{ DURCH ALLES} \\ \text{Ø } 10,500 \nabla 6,400 \end{matrix}$ |
| D4 | 69 | 130 $\begin{matrix} \text{Ø } 6,400 \text{ DURCH ALLES} \\ \text{Ø } 10,500 \nabla 6,400 \end{matrix}$ |

| Gantry Front | | |
|--------------|--------|--|
| Label | X-POS. | Y-POS. Dimensions |
| C1 | 9 | 130 $\begin{matrix} \text{Ø } 6,400 \text{ DURCH ALLES} \\ \text{Ø } 10,500 \nabla 6,400 \end{matrix}$ |
| C2 | 54 | 55 $\begin{matrix} \text{Ø } 6,400 \text{ DURCH ALLES} \\ \text{Ø } 10,500 \nabla 6,400 \end{matrix}$ |
| C3 | 69 | 15 $\begin{matrix} \text{Ø } 6,400 \text{ DURCH ALLES} \\ \text{Ø } 10,500 \nabla 6,400 \end{matrix}$ |
| C4 | 69 | 130 $\begin{matrix} \text{Ø } 6,400 \text{ DURCH ALLES} \\ \text{Ø } 10,500 \nabla 6,400 \end{matrix}$ |

F01-48

End Plate Dimensions

| | | |
|------------------|---------------------------|--------------|
| Gezeichnet: | 05.06.2015 | D. Mannkotte |
| Dateiname: | endplate_dimension_f01-48 | |
| Material: | Alu | |
| Material: | Alu | |
| Ersatz für: | 05.06.2015 | |
| Status: | 05.06.2015 | |
| Änderungen: | | |
| Zeichnungskriter | 0180-0788-4 | Format A2 |

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Declaration of Conformity CE-Marking

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CH-8957, Spreitenbach

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| Products | Art.-No. |
|------------------------|-----------------|
| PS01-37Sx60-HP-N-AGI | 0150-2549 |
| PS01-37Sx120F-HP-N-AGI | 0150-2550 |
| | |
| PS01-48x240F-C | 0150-1220 |
| PS01-48x240F-HP-C | 0150-2991 |
| PS01-48x360F-C | 0150-1269 |

Is conform to the provisions of directives

2014/30/EU (EMCD)

based on the following standards

EN61800-3

Spreitenbach, 19. 4. 2016



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