

Assembly Instructions for H- and B Guide with Linear Motor

Version 1.2

H-Guide Series:

H01-23x86/...

H01-23x166/...

H01-37x166/..

H01-37x286/...

H01-48x250/...



B-Guide Series

B01-37x166/..

B01-37x286/...

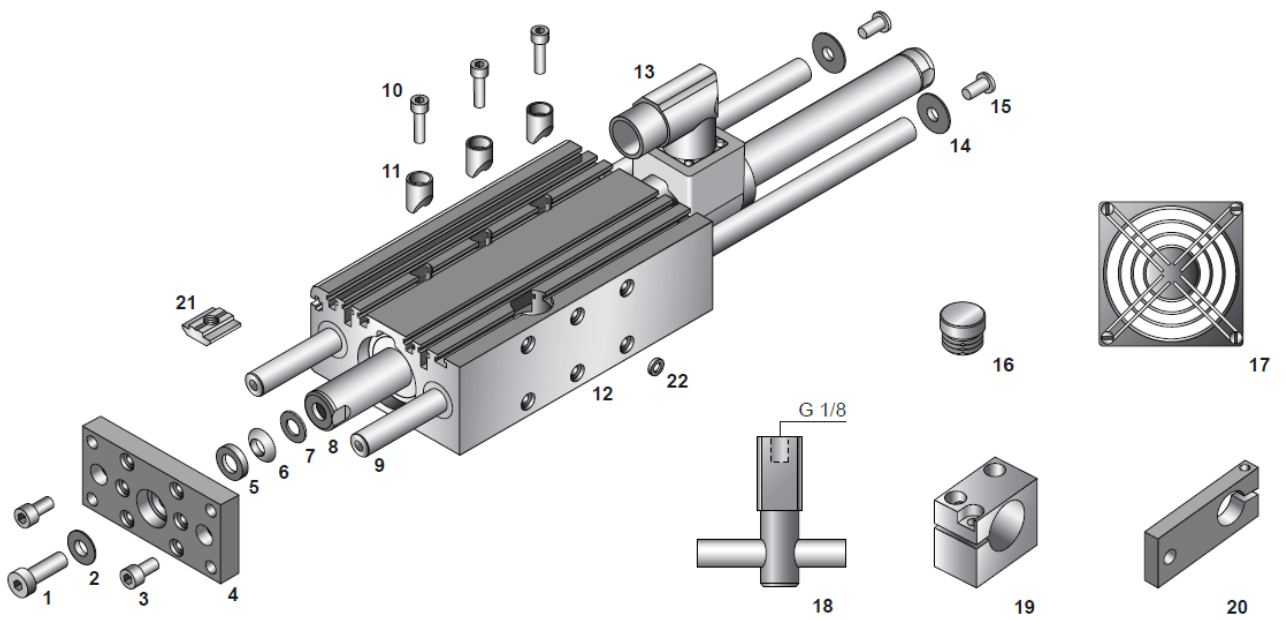
B01-48x250/...



Assembling H-and B-Guide



H-Guides



Assembling H-and B-Guide



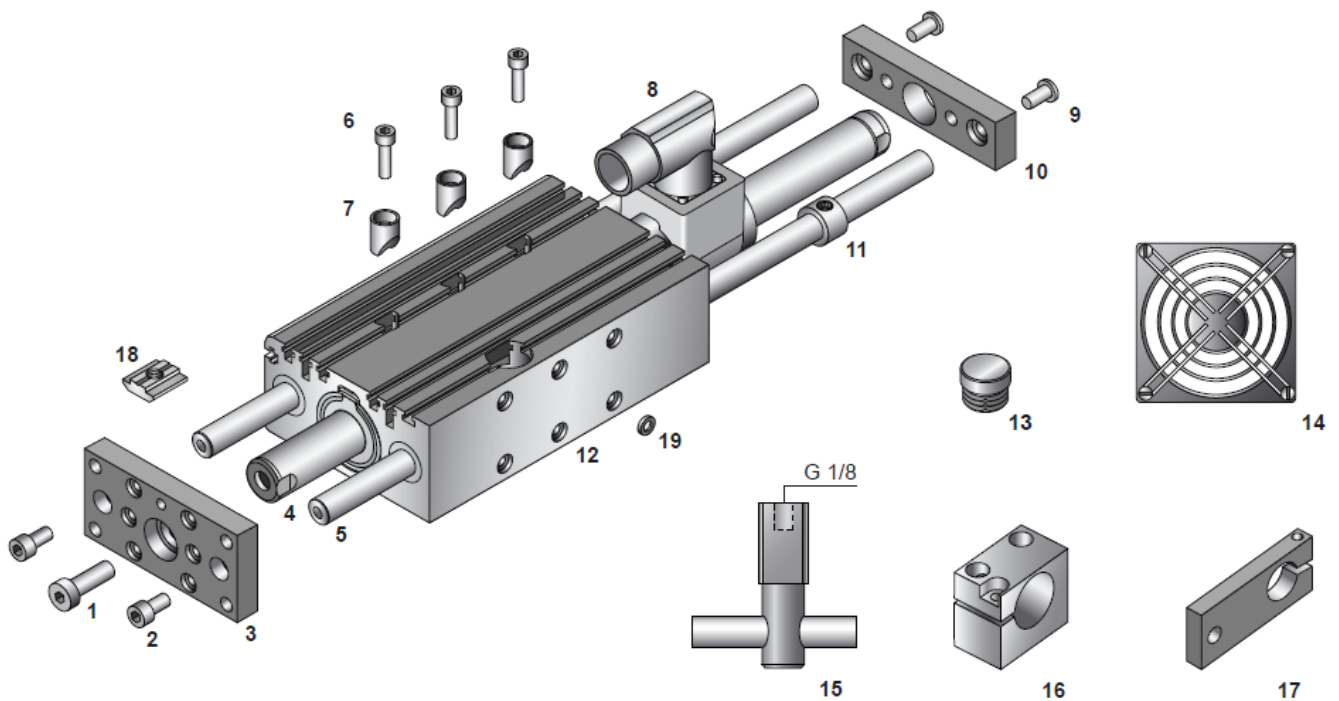
Part List H-Guides

	Linear Guide	H01-23x86	H01-23x166	H01-37x166	H01-37x286	H01-48x250
1	Slider screw	ISO 4762 M5x18	ISO 4762 M5x18	DIN7984 M8x25	DIN7984 M8x25	DIN7984 M10x35
2	Socket washer (f)	DIN 6319 c / M6	DIN 6319 c / M6	DIN 6319 c / M8	DIN 6319 c / M8	DIN 6319 c / M10
3	Shaft screw	ISO 4762 M5x12	ISO 4762 M5x12	ISO 4762 M6x12	ISO 4762 M6x12	ISO 4762 M8x20
4	Front plate	HF01-23 0150-5004	HF01-23 0150-5004	HF01-37 0150-5005	HF01-37 0150-5005	HF01-48 0150-5087
5	Ball washer (r)	DIN 6319 d / M5	DIN 6319 d / M5	DIN 6319 d / M8	DIN 6319 d / M8	DIN 6319 d / M10
6	Socket washer (r)	DIN 6319 c / M5	DIN 6319 c / M5	DIN 6319 c / M8	DIN 6319 c / M8	DIN 6319 c / M10
7	Dished washer	DIN 2093A 10/5,2/0,5	DIN 2093A 10/5,2/0,5	DIN 2093A 16/8,2/0,9	DIN 2093A 16/8,2/0,9	DIN 2093A 20/10,2/1,1
8	Slider	PL01-12x...	PL01-12x...	PL01-20x...	PL01-20x...	PL01-28x...
9	Hardened steel shafts for ball bearings	HL01-10x160 HL01-10x260 HL01-10x360	HL01-10x260 HL01-10x360 HL01-10x460	HL01-12x260 HL01-12x360 HL01-12x460	HL01-12x360 HL01-12x460 HL01-12x560	HL01-16x440 HL01-16x530 HL01-16x650 HL01-16x740
	Stainless steel shafts for plain bushings GF	HL01-10x160-GF HL01-10x260-GF HL01-10x360-GF	HL01-10x260-GF HL01-10x360-GF HL01-10x460-GF	HL01-12x260-GF HL01-12x360-GF HL01-12x460-GF	HL01-12x360-GF HL01-12x460-GF HL01-12x560-GF	HL01-16x440-GF HL01-16x530-GF HL01-16x650-GF HL01-16x740-GF
10	Clamping screw	ISO 4762 M5x18	ISO 4762 M5x18	ISO 4762 M5x18	ISO 4762 M5x18	ISO 4762 M6x25
11	Clamping cylinder	HZ01-23/37 0150-5053	HZ01-23/37 0150-5053	HZ01-23/37 0150-5053	HZ01-23/37 0150-5053	HZ01-48 0150-5086
12	Guide block with ball bearings	HS01-23x86 0150-5000	HS01-23x166 0150-5001	HS01-37x166 0150-5002	HS01-37x286 0150-5003	HS01-48x250 0150-5088
	Guide block with plain bushing GF	HS01-23x86-GF 0150-5060	HS01-23x166-GF 0150-5061	HS01-37x166-GF 0150-5062	HS01-37x286-GF 0150-5063	HS01-48x250-GF 0150-5089
13	Stator	PS01-23x80...	PS01-23x160...	PS01-37x120...	PS01-37x240...	PS01-48x240...
14	Washer	5x20/1,5	5x20/1,5	6x20/1,5	6x20/1,5	8x30/2,0
15	Shaft screw	ISO 7380 M5x12	ISO 7380 M5x12	ISO 7380 M6x12	ISO 7380 M6x12	ISO 7380 M8x16
16	Brake hole cap	-	-	HDPE 20mm	HDPE 20mm	HDPE 24mm
	Ball bearing	SKF LBBR10-LS	SKF LBBR10-LS	SKF LBBR12-LS	SKF LBBR12-LS	SKF LBBR16-LS
	Plain bushing GF	HGF01-23	HGF01-23	HGF01-37	HGF01-37	HGF01-48
Fan						
17	Set	HV01-23 0150-5050	HV01-23 0150-5050	HV01-37/48 0150-5051	HV01-37/48 0150-5051	HV01-37/48 0150-5051
Brake						
18	Pneumatic Brake	-	-	HB01-37 0150-5052	HB01-37 0150-5052	HB01-48 0150-5098
Magspring						
19	Flange	MF01-20/H23 0250-2306	MF01-20/H23 0250-2306	MF01-37/H37 0250-2307	MF01-37/H37 0250-2307	MF01-37/H37 0250-2307
20	Adapter	MA01-20/H23 0250-0116	MA01-20/H23 0250-0116	MA01-37/H37 0250-0117	MA01-37/H37 0250-0117	MA01-37/H48 0250-0118
Accessories						
21	Sliding Block	-	-	-	-	PFN01-8/M6 0150-3245
22	Center Sleeve	HC01-09/04 0150-3251	HC01-09/04 0150-3251	HC01-09/04 0150-3251	HC01-09/04 0150-3251	HC01-11/05 0150-3252

Assembling H-and B-Guide



B-Guides



Assembling H-and B-Guide



Part List B-Guides

Parts List				
	Bridge Guide	B01-37x166	B01-37x286	B01-48x250
1	Slider screw	ISO 4762 M5x18	DIN7984 M8x25	DIN7984 M10x35
2	Shaft screw	ISO 4762 M6x12	ISO 4762 M6x12	ISO 4762 M8x20
3	Front plate	BF01-37 0150-5112	BF01-37 0150-5112	BF01-48 0150-5110
4	Slider	PL01-19x...	PL01-19x...	PL01-27x...
5	Hardened steel shafts for ball bearings	HL01-12x390	HL01-12x490	HL01-16x397
		HL01-12x490 HL01-12x590	HL01-12x590 HL01-12x690	HL01-16x487 HL01-16x607 HL01-16x697
	Stainless steel shafts for plain bushings GF	HL01-12x390-GF	HL01-12x490-GF	HL01-16x397-GF
		HL01-12x490-GF HL01-12x590-GF	HL01-12x590-GF HL01-12x690-GF	HL01-16x487-GF HL01-16x607-GF HL01-16x697-GF
6	Clamping screw	ISO 4762 M5x18	ISO 4762 M5x18	ISO 4762 M6x25
7	Clamping cylinder	HZ01-23/37 0150-5053	HZ01-23/37 0150-5053	HZ01-48 0150-5086
8	Stator	PS01-37x120...	PS01-37x240...	PS01-48x240...
9	Shaft screw	ISO 4762 M6x12	ISO 4762 M6x12	ISO 4762 M8x20
10	Front plate	BR01-37 0150-5113	BR01-37 0150-5113	BR01-48 0150-5111
11	Rear end stop			
12	Guide block with ball bearings Guide block with plain bushings GF	HS01-37x166 0150-5002	HS01-37x286 0150-5003	HS01-48x250 0150-5088
		HS01-37x166-GF 0150-5062	HS01-37x286-GF 0150-5063	HS01-48x250-GF 0150-5089
13	Brake hole cap	HDPE 20mm	HDPE 20mm	HDPE 24mm
	Ball bearing	SKF LBBR12-LS	SKF LBBR12-LS	SKF LBBR12-LS
	Plain bushings GF	HGF01-37	HGF01-37	HGF01-48
Fan				
14	Set	HV01-37/48 0150-5051	HV01-37/48 0150-5051	HV01-37/48 0150-5051
Brake				
15	Pneumatic brake	HB01-37 0150-5052	HB01-37 0150-5052	HB01-48 0150-5098
Magspring				
16	Flange	MF01-37/H37 0250-2307	MF01-37/H37 0250-2307	MF01-37/H37 0250-2307
17	Adapter	MA01-37/H37 0250-0117	MA01-37/H37 0250-0117	MA01-37/H48 0250-0118
Accessories				
18	Sliding Block	-	-	PFN01-8/M6 0150-3245
19	Center Sleeve	HC01-09/04 0150-3251	HC01-09/04 0150-3251	HC01-11/05 0150-3252

Assembling H-and B-Guide



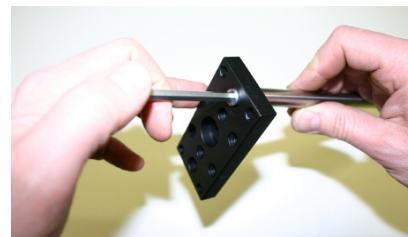
1. Pre-assemble Guide Unit

1a



Mounting plate, rods , safety washers, screws

1b



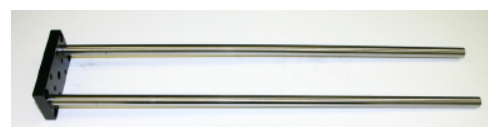
Fasten mounting plate to the rods with screws provided (Loctite 243).

1c



Mounting plate detail

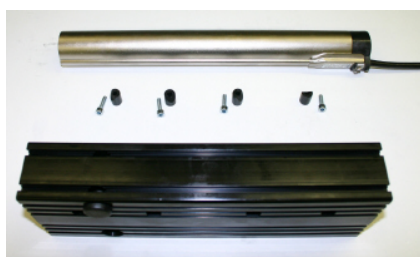
1d



Assembled Guide Unit (without safety washers)

2. Mounting of Stator into the Guide Flange

2a



Stator, Guide Flange, clamping elements and screws

2b



Clamping element and M5x18 screw.

2c



Place clamping elements into Guide Flange (do not tighten screws)

2d



Insert Stator (clamping parts may have to be moved)

2e



Tighten stator clamping screws (torque: 200 Ncm (1.47 ft lbs)).



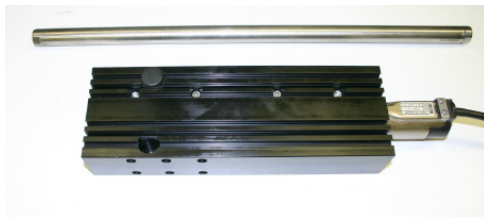
Assembled Unit. Check that end of stator is on the right side, mounting holes on the bottom.

Assembling H-and B-Guide



3. Placing Slider into Stator

3a



Slider and Guide Flange assembled with Stator

3b



End of the slider with lasered serial number

3c



Place **lubricated** (LinMot grease LU02) Slider into the Stator (End without serial number)

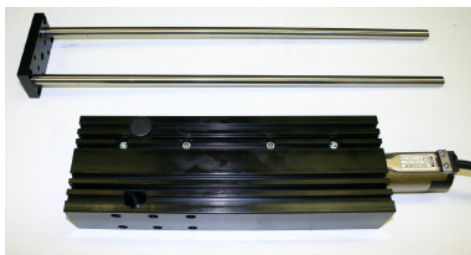
3d



End of the slider with serial number must be on the forward end as shown!

4. Insert Guide Unit into Guide Flange

4a



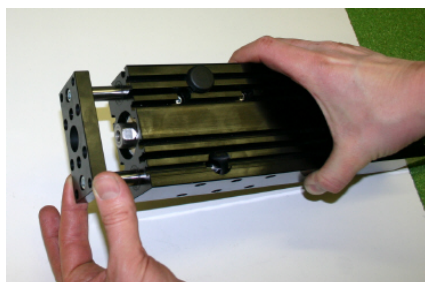
Guide Unit and Guide Flange

4b



Move **lubricated** (ball bearing grease eg.SKF LGMT2) Guide Unit slowly into Guide

4c



Check that Guide Unit moves freely

If Guide Unit does not move freely in Guide Flange, loosen mounting screws, move Guide Unit completely into Guide Flange and tighten Mounting Plate screws again.





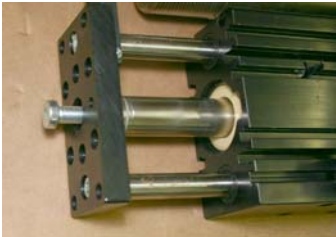

Assembling H-and B-Guide



5H. Installation of Slider and <u>H</u>- Guide Unit	
5Ha	 <p>Mounting screw, adjustment washers (ball and socket washers), dished washer</p>
5Hb	 <p>Function: Ball and socket washers adjust for angular offset between linear motor slider and Guide Unit</p>
5Hc	 <p>Place ball washer size M6 ! or M8 on screw. (Its socket is milled into the mounting plate) and slide screw through hole in mounting plate.</p>
5Hd	 <p>Place second ball, socket washer (M5 or M8) and disc spring on screw and start screw into slide threads.</p>
5He	 <p>Detail: Ball and socket washer, disc spring</p>
5Hf	 <p>Move Guide Unit completely into Flange and then tighten screw.</p>
5Hg	 <p>Move Guide Unit out and re-tighten the screw using a wrench on slider (<u>Loctite 243</u>).</p>
5Hh	 <p>If slider and Guide Unit do not move freely, loosen screw and start again at step 5f .</p>
5Hi	 <p>Fasten safety washers to end of Guide rods.</p>
	 <p>Assembled Unit</p>

Assembling H-and B-Guide



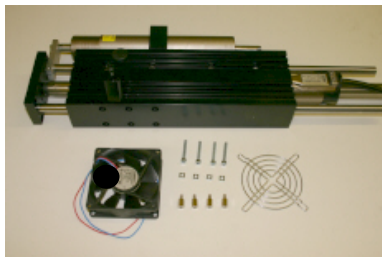
5B. Installation of Slider and <u>B</u> - Guide Unit			
<p>5Ba</p>	 <p>Insert Stator into Guide Check: End of the slider with serial number must be on the forward end as shown!</p>	<p>5Bb</p>	 <p>Place front plate with rods</p>
<p>5Bc</p>	 <p>Mount 'Rear end stop Ring' and Rear plate (note side and direction of plate!)</p>	<p>5Bd</p>	 <p>Note side and direction of rear plate</p>
<p>5Be</p>	 <p>Fasten Front Screw</p>	<p>5Bf</p>	 <p>Assembled Unit</p>

Assembling H-and B-Guide



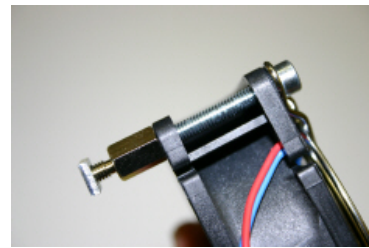
6. Installing cooling fan

6a



Fan with guard (blow direction against flange), spacers, rectangular nuts

6b



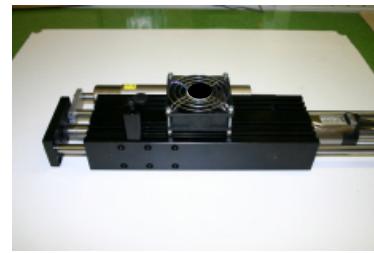
Fan with pre-assembled mounting parts.

6c



Place fan on H-Guide with rectangular nuts in 'T'-slot of H-Guide, tighten screws.

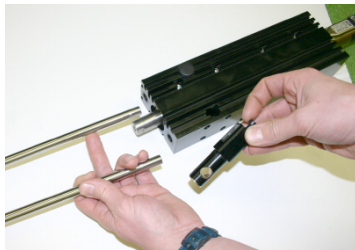
6d



Assembled Unit with fan. Blow direction against flange!

7. Installing pneumatic brake ('37' and '48' models only)

7a



Guide Unit, Guide Flange with linear motor and brake

7b



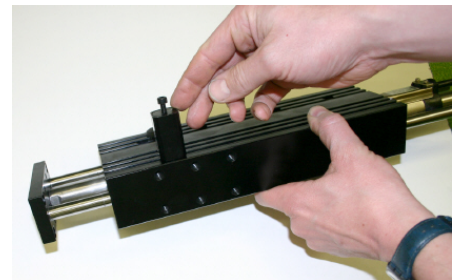
Function: The brake is spring loaded to clamp the rod when air pressure is released.

7c



Insert brake and move Guide Unit slowly into the Flange, passing rod through bore of brake assembly.

7d













Assembled H-Guide with brake

Assembling H-and B-Guide



8. Mounting of the magnetic spring *MagSpring*®

<p>8a</p>	 <p>Parts: 'H'-Guide Assembly, <i>MagSpring</i>, Mounting Flange, Coupling, Misc. Hardware</p>	<p>8b</p>	 <p>Pre-assemble mounting screws and rectangular nuts on to mounting Flange.</p>
<p>8c</p>	 <p>Place Flange on 'H'-Guide with rectangular nuts in 'T'-slot of H'-Guide.</p>	<p>8d</p>	 <p>Tighten mounting Flange screws only enough to make mounting Flange 'snug' on H-Guide</p>
<p>8e</p>	 <p>Insert <i>MagSpring</i> into mounting Flange and lightly tighten clamping screw</p>	<p>8f</p>	 <p>Align <i>MagSpring</i> with H-Guide rods. Note: Axis of <i>MagSpring</i> must be absolutely parallel to rods of H-Guide</p>
<p>8g</p>	 <p>Tighten mounting Flange screws (Note: with M01-37 <i>MagSprings</i> it will be necessary to remove <i>MagSpring</i> from the mounting bracket in order to tighten mounting Flange screws – replace <i>MagSpring</i>)</p>	<p>8h</p>	 <p>Move <i>Magspring</i> to desired position and tighten clamping screw (200 Ncm (1.48 ft lbs)).</p>
<p>8i</p>	 <p>Attach coupling to end of <i>MagSpring</i> (M5x16, disc spring, Loctite 243) and clamp to H- Guide rod.</p>	<p>8j</p>	 <p>Check Alignment – all parts must move freely. If tight spots or resistance to free movement is noted, realign as necessary</p>

Assembling H-and B-Guide

LinMot®

CAUTION

MAGSPRING AND 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 PNICED BETWEEN THE SLIDER AND NEARBY STEEL PARTS IS A VERY REAL POSSIBILITY IF CAUTION IS NOT EXERCISED.



MAGSPRING SLIDERS 'SNAP' TO THEIR CENTER POSITION WHEN RELEASED, OR UPON POWER SHUTDOWN OF THE MACHINE THEY ARE INSTALLED ON. ACCORDINGLY, CARE MUST BE TAKEN TO GUARD AGAINST INJURY TO PEOPLE IN THE AREA WHERE THE MAGSPRINGS ARE BEING USED



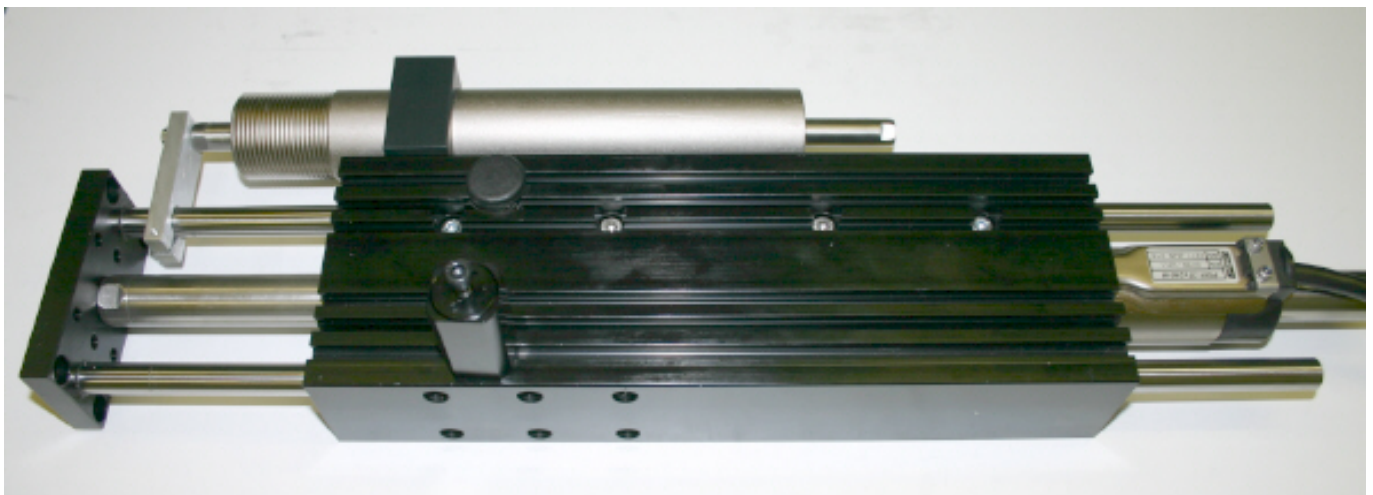
The *LinMot®* H-and B Guide (or Rodded Actuator) is a modular system that is made up through the selection of the components selected and assembled for each specific application:

1. Linear Motor is selected for required performance and suitable Slider Length
2. H-Guide assembly is selected based on Motor size and stroke needed
3. Accessories, such as *MagSpring®*, Pneumatic Brake and Cooling Fan may be added as necessary.

This manual shows all assembly procedures, though most applications will not require that various accessories be used

For further data and technical information refer to component data sheets which can be downloaded from www.LinMot.com and www.MagSpring.com.

It is recommended to use a threadlocker like Loctite 243 for all bolted connections.



H-Guide (or Rodded Actuator) assembled: H01-37x266 H-Guide with LinMot® P01-37x240 linear motor, M01-37x230 MagSpring® and Pneumatic Brake.