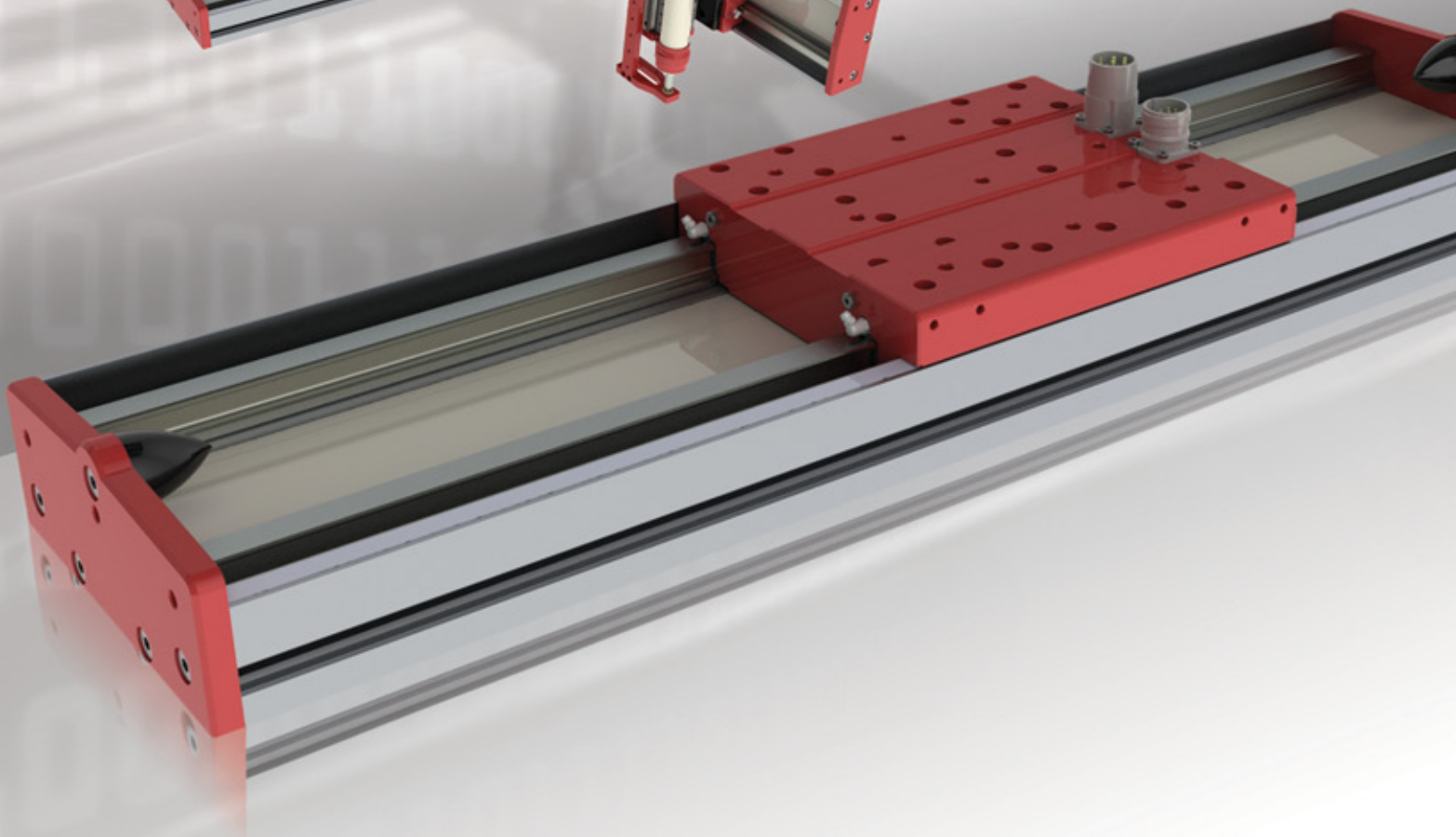
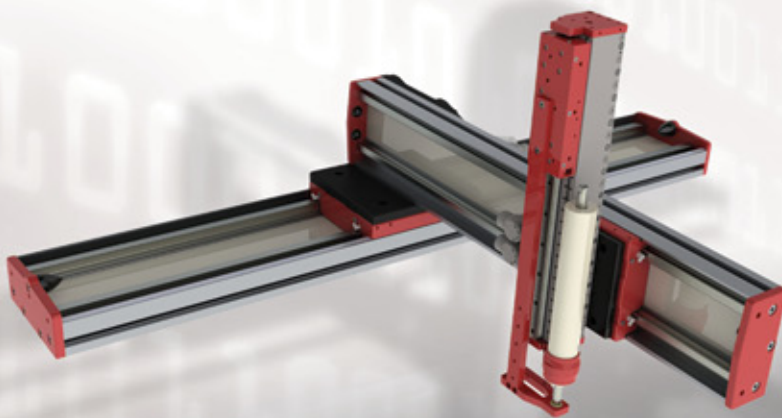




Innovation & Excellence



Linear Motor Stages

MLE 3 | MLE 5 | MLE 7 | MLU 3



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Innovation & Excellence

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Introduction

Innovation & Excellence

The ever growing needs of machines for automatic assembly, demand high quality and reliance for all components, specially those that have to make millions of cycles. As a competent partner in electromechanical solutions, SINADRIVES provides innovative products for **fast and precise positioning**. Thanks to standard plug & play linear units, we can offer **customized and flexible solutions** for packaging, plastics, pharmaceutical, or photovoltaic sectors.

The objective of SINADRIVES linear units is to make the work of technicians and engineers easier. Ready 3D models, assembled with power chains, as well as different multi axis combinations provide solutions ready for fast and precise positioning. Everything is included: profile, guides, linear motor, measuring system, end blocks, plug M23 connectors, limit switches, and power chain. The linear motor based on synchronous technology, offers considerable advantages in dynamics, accuracy, and durability. The integrated oil supply in the guide allows to operate without any maintenance. MLE and MLU motors are compatible with the best amplifiers of the world market. Just use your usual amplifier to achieve a fast commissioning of your application.

MLE Series

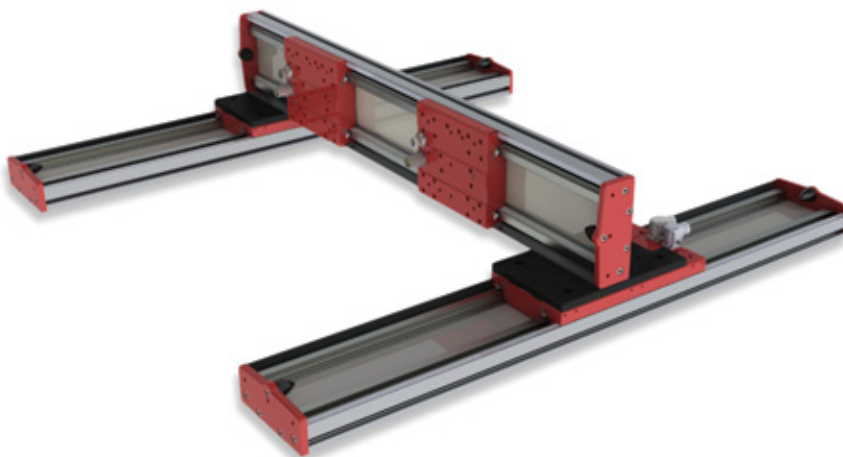
All linear units of MLE series are fully integrated and ready for plug and play. The powerful iron core motor in combination with the most compact linear unit provide an opportunity to integrate them in high speed applications.

MLU Series

The MLU series are fully integrated linear units with ironless motors. Their light weight and compact design offer a good choice for a wide range of pharmaceutical and medical applications.

Systems

Thanks to our standard linear motor stages, we can build complex systems of two or tree axis. We have solutions for a wide range of applications, with ready 3D drawings. Please turn to page 22 to see our solutions.





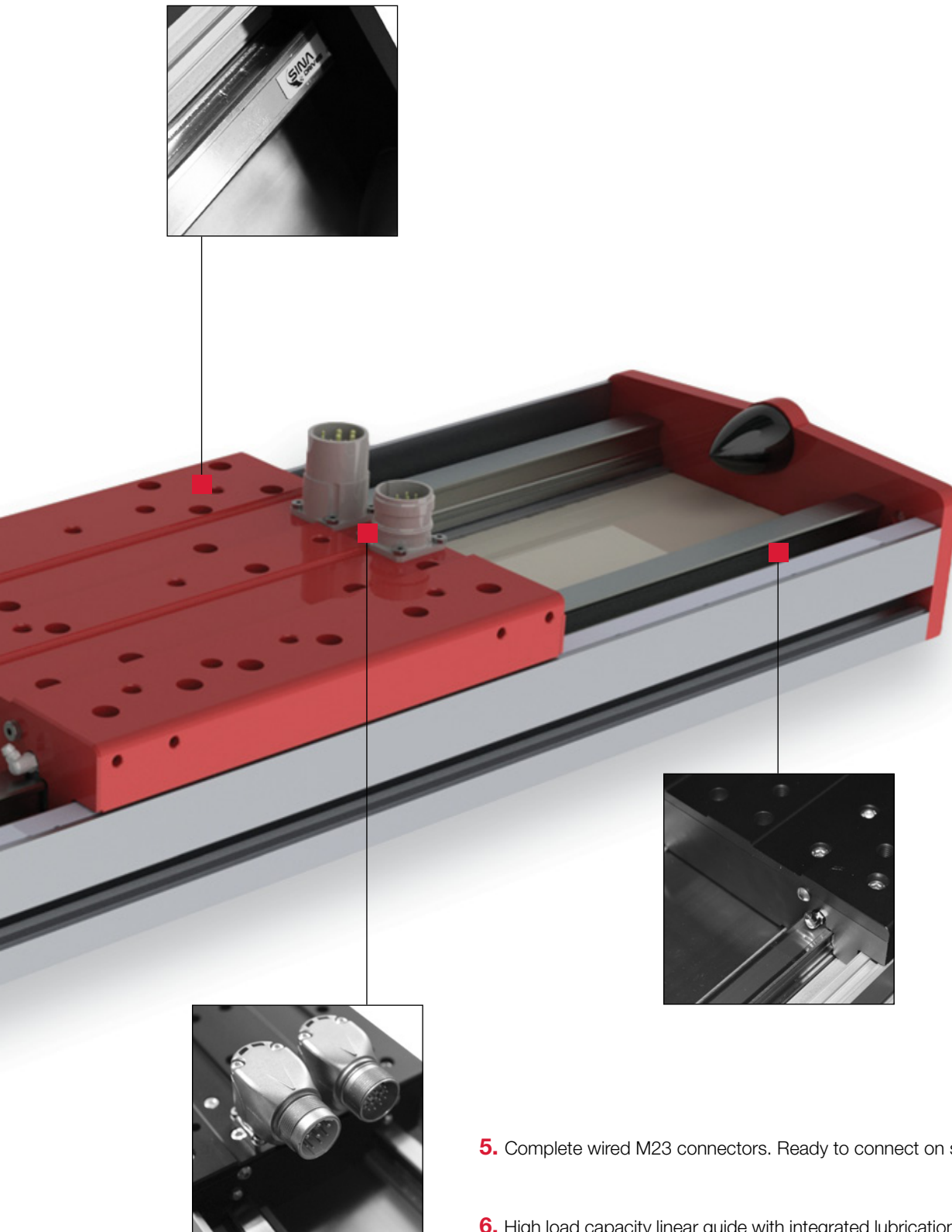
Our Features

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ML units

1. Maintenance free linear unit ready for applications requiring high dynamics, high accuracy and high durability.
2. Fully integrated linear units with linear motor, linear guide, measuring system, end switches and power chain.
3. High end linear motor suitable for the semiconductor and packaging industries.
4. Absolute measuring system with 1 Vpp output with 40 μm period and 1 μm repeatable accuracy.





5. Complete wired M23 connectors. Ready to connect on servo controller.

6. High load capacity linear guide with integrated lubrication supply up to 10.000 km.

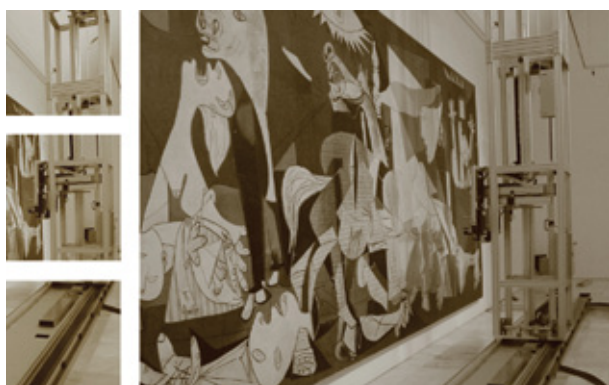
7. Fully integrated power chain with mounting pieces.

8. Optional stainless guide protection and cover protection against dust.



Applications

Innovation & Excellence



Art in Motion

Scanning of the famous Picasso's painting, Guernica.

SINADRIVES designed and produced a three axis robot, with dimensions of: 9000x4000x1000 mm.

Despite its size, this robot is compact and performs with a great repeatability.

For more information, please follow the QR code or visit our website.



Quality Control

Three axis robot produced to perform quality control on dairy products.

This robot with direct drive technology was designed to take samples of milk which were later analyzed at the laboratory.



Food Industry

Due to the growing demand of automation processes in the food industry, SINADRIVES provides solutions for handling and pick & place applications.





Applications

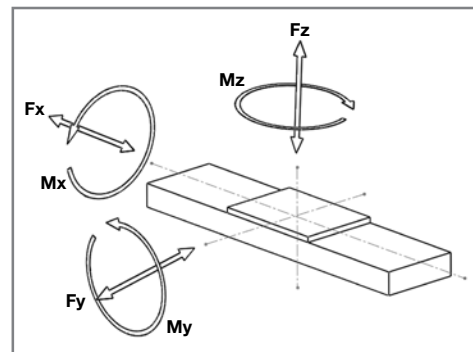
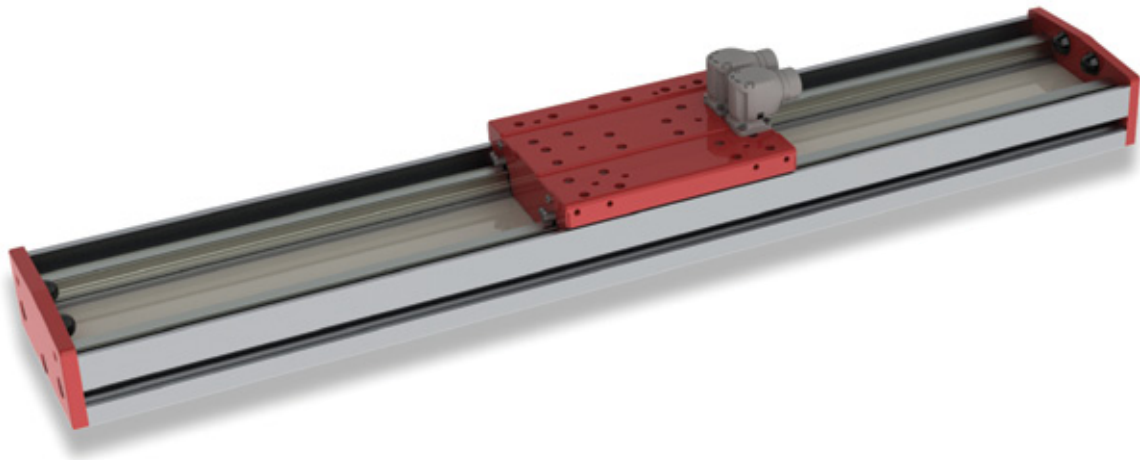
Innovation & Excellence





MLE 3 linear motor stages

Technical Description



Maximum Length without joints: up to 3.600 mm
For code descriptions please see the "Order Code" on page 18

Mechanical specifications

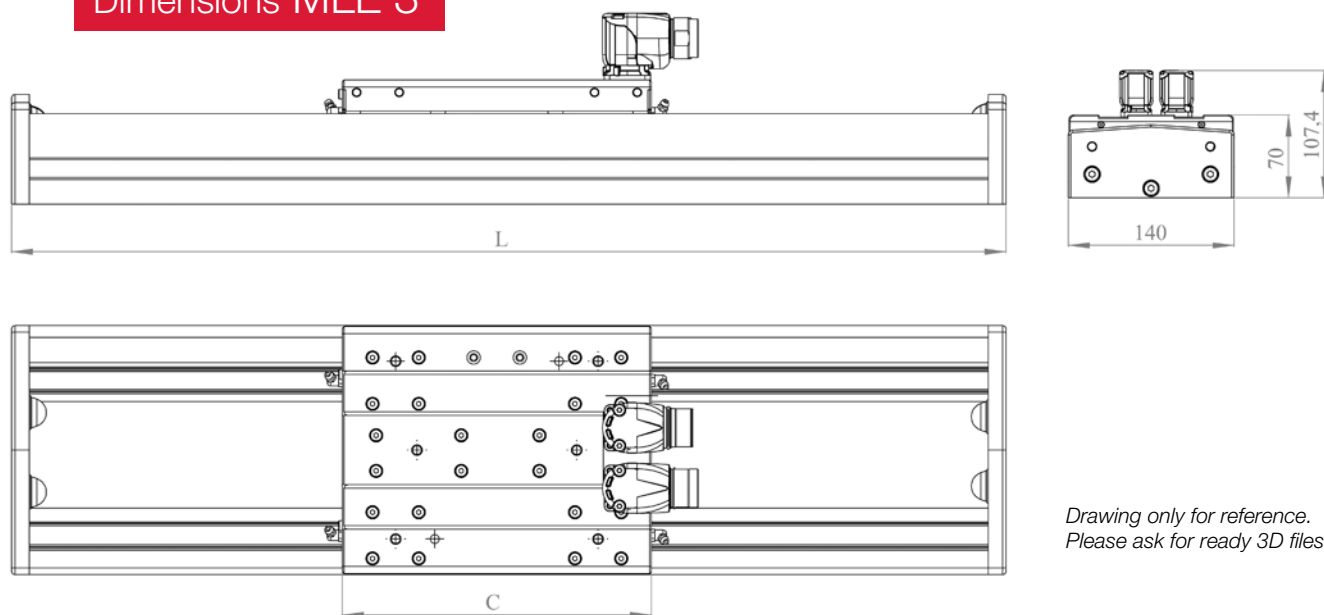
		MLE 30105		MLE 30210		MLE 30420	
		HR		HS	HR	HS	HR
Linear motor features							
Maximum speed at 560Vdc	m/s			5			
Continuous force aircooled Fx ¹⁾	N	55		105		210	
Peak force Fxp	N	105		210		420	
Nominal current	A	1,5		3,0		6,0	
Peak current	A	3,1		6,2		12,4	
Guidance features							
Fy	N	1500		1500	1500	1500	1500
Fz	N	1000		1000	1000	1000	1000
Mx	Nm	180		180	180	180	180
My	Nm	280		280	320	320	400
Mz	Nm	280		280	320	320	400
Structure profile features							
Geometrical moments of inertia Lx	mm ⁴			3,72x10 ⁵			
Geometrical moments of inertia Ly	mm ⁴			55,58x10 ⁵			
Elastic module	N/mm ²			70000			
Weight							
Weight of carriage	kg	2,2		2,9	3,1	3,8	4,1
Weight of 100 mm	kg			1,2			

¹⁾ depending on application and temperature



Dimensions MLE 3

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Drawing only for reference.
Please ask for ready 3D files.

Choice of stroke

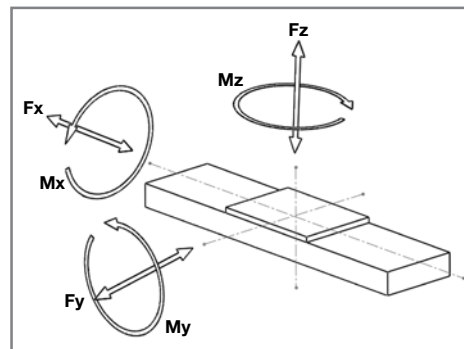
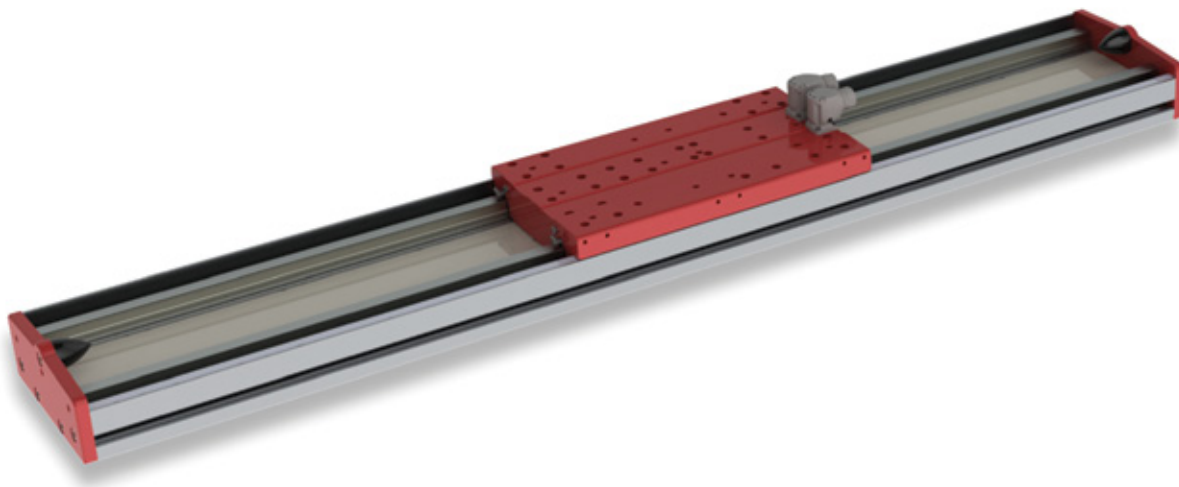
		MLE 30105		MLE 30210		MLE 30420	
		HR		HS	HR	HS	HR
Carriage length C, mm		182		182	272	272	350
Length, mm	Code	Stroke ⁽²⁾					
368	00368	146		146	56	56	-
416	00416	194		194	104	104	26
512	00512	290		290	200	200	122
560	00560	338		338	248	248	170
608	00608	386		386	296	296	218
656	00656	434		434	344	344	266
704	00704	482		482	392	392	314
752	00752	530		530	440	440	362
800	00800	578		578	488	488	410
896	00896	674		674	584	584	506
944	00944	722		722	632	632	554
1088	01088	866		866	776	776	698
1184	01184	962		962	872	872	794
1328	01328	1106		1106	1016	1016	938
1472	01472	1250		1250	1160	1160	1082
1568	01568	1346		1346	1256	1256	1178
1712	01712	1490		1490	1400	1400	1322
1856	01856	1634		1634	1544	1544	1466
1952	01952	1730		1730	1640	1640	1562
2096	02096	1874		1874	1784	1784	1706
2240	02240	2018		2018	1928	1928	1850
2336	02336	2114		2114	2024	2024	1946
2480	02480	2258		2258	2168	2168	2090
2624	02624	2402		2402	2312	2312	2234
2720	02720	2498		2498	2408	2408	2330
2864	02864	2642		2642	2552	2552	2474
3008	03008	2786		2786	2696	2696	2618
3104	03104	2882		2882	2792	2792	2714
3248	03248	3026		3026	2936	2936	2858
3392	03392	3170		3170	3080	3080	3002
3488	03488	3266		3266	3176	3176	3098

²⁾ Other stroke lengths are available upon request.



MLE 5 linear motor stages

Technical Description



Maximum Length without joints: up to 3.600 mm
For code descriptions please see the "Order Code" on page 18

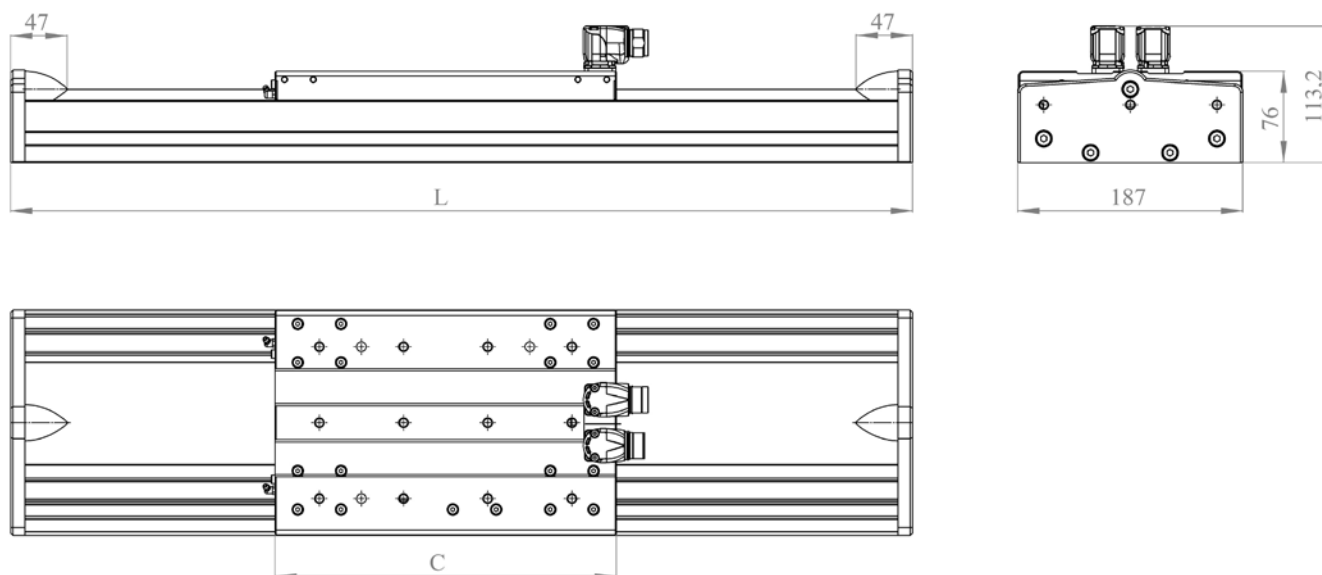
Mechanical specifications

		MLE 50400		MLE 50800		MLE 51000		MLE 51200		MLE 51600	
		S	R	S	R	S	R	S	R	S	R
Linear motor features											
Maximum speed at 560Vdc	m/s					5					
Continuous force aircooled Fx ¹⁾	N	200		400		500		600		800	
Peak force Fxp	N	400		800		1000		1200		1600	
Nominal current	A	2,5		5,0		5,2		7,5		10,0	
Peak current	A	5,0		10,0		10,4		15,0		20,0	
Guidance features											
Fy	N	3000	3000	3000	3000	3000	4500	4500	4500	4500	4500
Fz	N	2000	2000	2000	2000	2000	3000	3000	3000	3000	3000
Mx	Nm	450	450	450	450	450	750	750	750	750	750
My	Nm	600	700	700	750	750	1000	1000	1500	1500	2000
Mz	Nm	600	700	700	750	750	1000	1000	1500	1500	2000
Structure profile features											
Geometrical moments of inertia Lx	mm ⁴					5,6x10 ⁵					
Geometrical moments of inertia Ly	mm ⁴					144,63x10 ⁵					
Elastic module	N/mm ²					70000					
Weight											
Weight of carriage	kg	4,5	4,9	6,0	6,4	7,0	8,1	8,7	10,0	14,0	16,0
Weight of 100 mm	kg					1,9					

¹⁾ depending on application and temperature



Dimensions MLE 5



Drawing only for reference.
Please ask for ready 3D files.

Choice of stroke

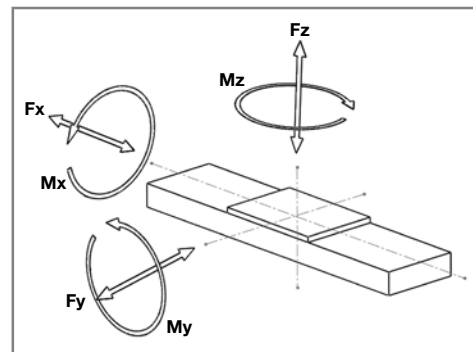
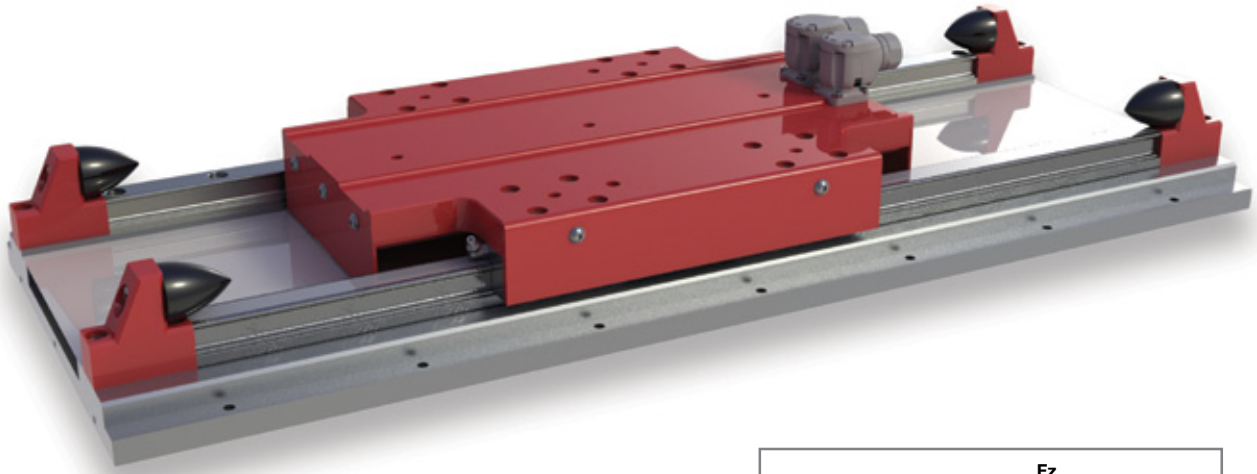
		MLE 50400		MLE 50800		MLE 51000		MLE 51200		MLE 51600	
		S	R	S	R	S	R	S	R	S	R
Carriage length C, mm		212	284	284	334	334	376	376	508	508	570
Length, mm	Code	Stroke ⁽²⁾									
462	00462	156	84	84	34	34	-	-	-	-	-
558	00558	252	180	180	130	130	88	88	-	-	-
654	00654	348	276	276	226	226	184	184	52	52	-
750	00750	444	372	372	322	322	280	280	148	148	86
846	00846	540	468	468	418	418	376	376	244	244	182
942	00942	636	564	564	514	514	472	472	340	340	278
1038	01038	732	660	660	610	610	568	568	436	436	374
1134	01134	828	756	756	706	706	664	664	532	532	470
1230	01230	924	852	852	802	802	760	760	628	628	566
1326	01326	1020	948	948	898	898	856	856	724	724	662
1422	01422	1116	1044	1044	994	994	952	952	820	820	758
1518	01518	1212	1140	1140	1090	1090	1048	1048	916	916	854
1614	01614	1308	1236	1236	1186	1186	1144	1144	1012	1012	950
1710	01710	1404	1332	1332	1282	1282	1240	1240	1108	1108	1046
1806	01806	1500	1428	1428	1378	1378	1336	1336	1204	1204	1142
1902	01902	1596	1524	1524	1474	1474	1432	1432	1300	1300	1238
1998	01998	1692	1620	1620	1570	1570	1528	1528	1396	1396	1334
2094	02094	1788	1716	1716	1666	1666	1624	1624	1492	1492	1430
2382	02382	2076	2004	2004	1954	1954	1912	1912	1780	1780	1718
2670	02670	2364	2292	2292	2242	2242	2200	2200	2068	2068	2006
2958	02958	2652	2580	2580	2530	2530	2488	2488	2356	2356	2294
3246	03246	2940	2868	2868	2818	2818	2776	2776	2644	2644	2582
3534	03534	3228	3156	3156	3106	3106	3064	3064	2932	2932	2870
3630	03630	3324	3252	3252	3202	3202	3160	3160	3028	3028	2966

²⁾ Other stroke lengths are available upon request.



MLE 7 linear motor stages

Technical Description



Maximum Length without joints: up to 3.600 mm
For code descriptions please see the "Order Code" on page 18

Mechanical specifications

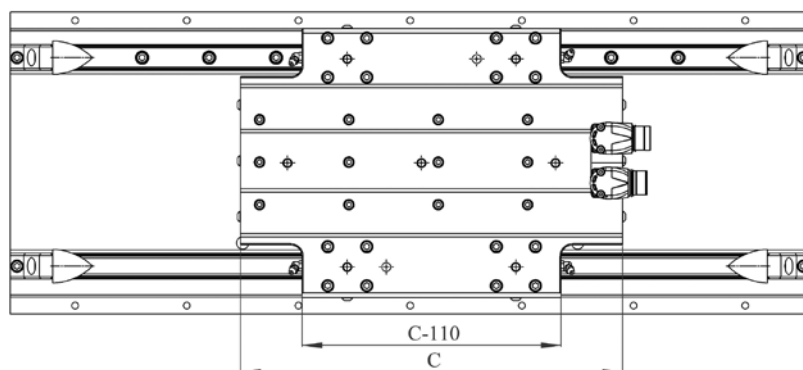
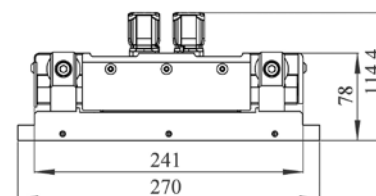
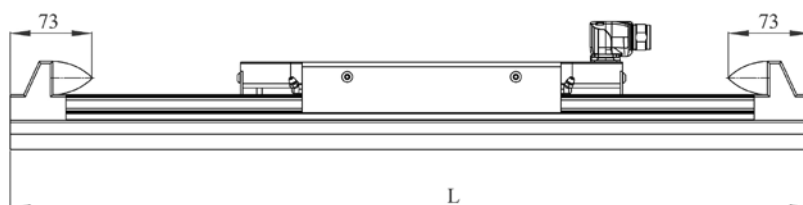
		MLE 71600	MLE 72000		MLE 74000
		NR	NS	NR	NS
Linear motor features					
Maximum speed at 560Vdc	m/s	3	2,5		2,5
Continuous force aircooled Fx ¹⁾	N	800	1000		2000
Peak force Fxp	N	1600	2000		4000
Nominal current	A	4,1	4,2		8,5
Peak current	A	10	10		20
Guidance features					
Fy	N	5000	5000	7000	7000
Fz	N	3000	3000	5000	5000
Mx	Nm	800	800	1100	1100
My	Nm	900	900	1300	1300
Mz	Nm	900	900	1300	1300
Structure profile features					
Geometrical moments of inertia Lx	mm ⁴	2,30x10 ⁵			
Geometrical moments of inertia Ly	mm ⁴	338,14x10 ⁵			
Elastic module	N/mm ²	70000			
Weight					
Weight of carriage	kg	10,5	11,5	15,0	21,5
Weight of 100 mm	kg	3,0			

¹⁾ depending on application and temperature



Dimensions MLE 7

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*Drawing only for reference.
Please ask for ready 3D files.*

Choice of stroke

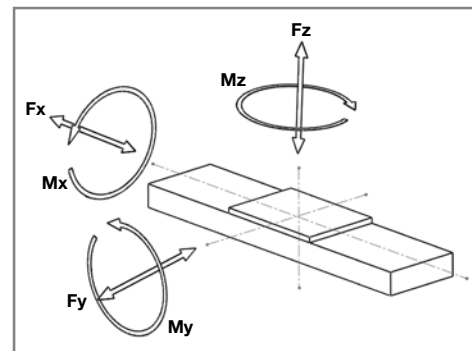
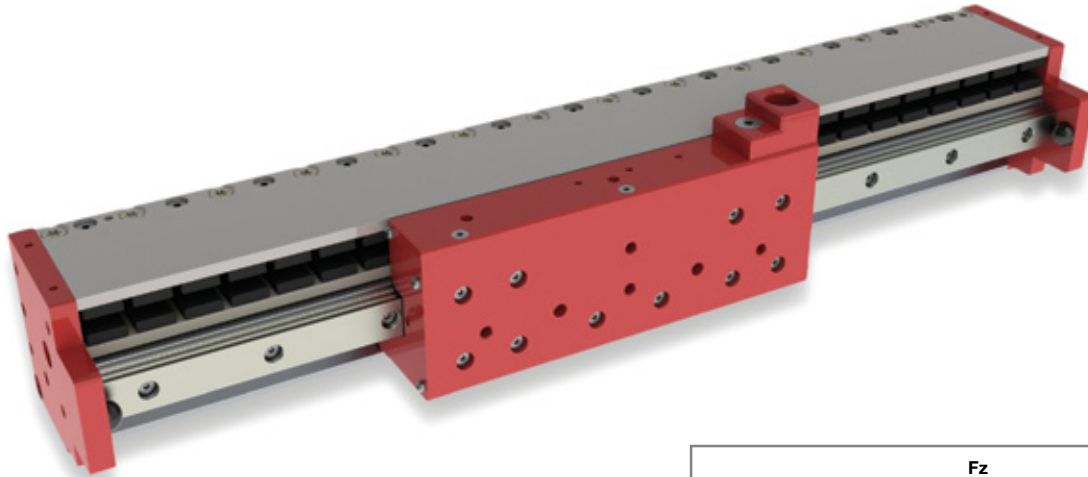
MLE 71600			MLE 72000		MLE 74000
NR			NS	NR	NS
Carriage length C, mm			342	620	620
Length, mm	Code	Stroke ⁽²⁾			
524	00524	146	146	-	-
716	00716	338	338	60	60
812	00812	434	434	156	156
908	00908	530	530	252	252
1004	01004	626	626	348	348
1100	01100	722	722	444	444
1196	01196	818	818	540	540
1292	01292	914	914	636	636
1388	01388	1010	1010	732	732
1484	01484	1106	1106	828	828
1580	01580	1202	1202	924	924
1676	01676	1298	1298	1020	1020
1772	01772	1394	1394	1116	1116
1868	01868	1490	1490	1212	1212
1964	01964	1586	1586	1308	1308
2060	02060	1682	1682	1404	1404
2156	02156	1778	1778	1500	1500
2252	02252	1874	1874	1596	1596
2348	02348	1970	1970	1692	1692
2444	02444	2066	2066	1788	1788
2636	02636	2258	2258	1980	1980
2732	02732	2354	2354	2076	2076
2828	02828	2450	2450	2172	2172
2924	02924	2546	2546	2268	2268
3020	03020	2642	2642	2364	2364
3116	03116	2738	2738	2460	2460
3212	03212	2834	2834	2556	2556
3308	03308	2930	2930	2652	2652

²⁾ Other stroke lengths are available upon request.



MLU 3 linear motor stages

Technical Description



Maximum Length without joints: up to 3.000 mm
For code descriptions please see the "Order Code" on page 19

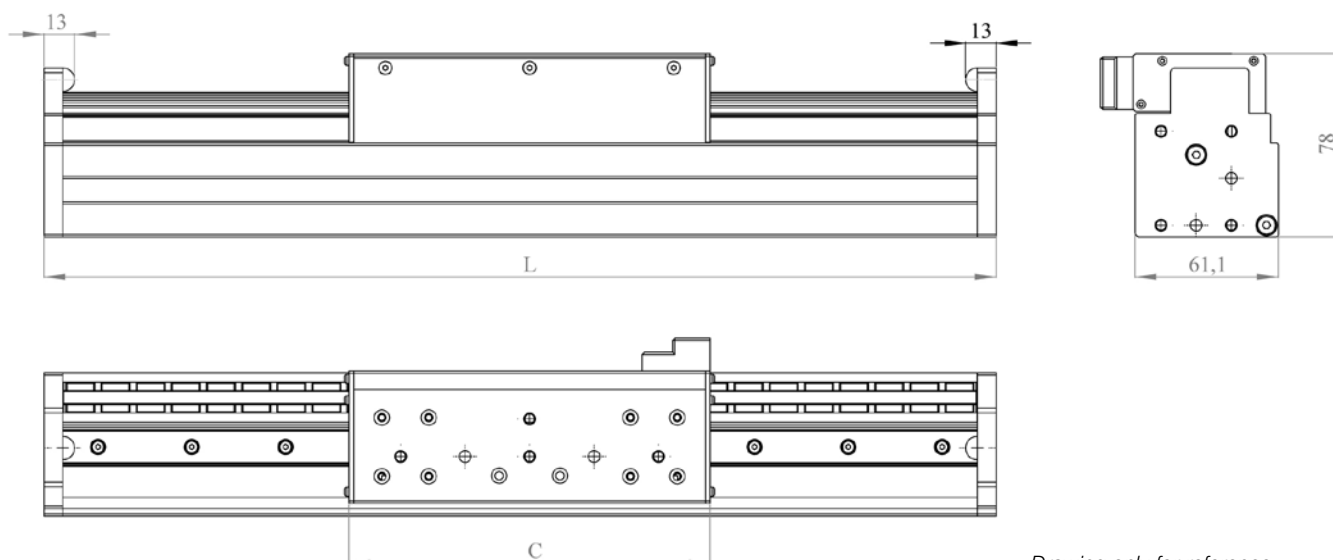
Mechanical specifications

		MLU30100		MLU30200		MLU30300		MLU30400	
		R		S	R	S	R	S	R
Linear motor features									
Maximum speed at 300Vdc	m/s					5			
Continuous force aircooled F_x ¹⁾	N	29		58		87		116	
Peak force F_{xp}	N	100		200		300		400	
Nominal current	A	0,8		1,6		2,4		3,2	
Peak current	A	2,8		5,5		8,3		11,0	
Guidance features									
F_y	N	520	520	520	520	520	520	520	750
F_z	N	520	520	520	520	520	520	520	750
M_x	Nm	15	15	15	15	15	15	15	25
M_y	Nm	70	70	87	87	100	100	100	125
M_z	Nm	70	70	87	87	100	100	100	125
Structure profile features									
Geometrical moments of inertia L_x	mm ⁴					1,44x10 ⁵			
Geometrical moments of inertia L_y	mm ⁴					2,42x10 ⁵			
Elastic module	N/mm ²					70000			
Weight									
Weight of carriage	kg	0,6	0,65	1,0	1,5	1,6	2	2,4	
Weight of 100 mm	kg				0,7				

¹⁾ depending on application and temperature



Dimensions MLU 3



Drawing only for reference.
Please ask for ready 3D files.

Choice of stroke

		MLU30100		MLU 30200		MLU 30300		MLU 30400	
		R		S	R	S	R	S	R
Carriage length C, mm		154		154	214	214	274	274	324
Length, mm	Code	Stroke ⁽²⁾							
206	00206	26	26	-	-	-	-	-	-
316	00316	136	136	76	76	16	16	16	-
406	00406	226	226	166	166	106	106	106	56
466	00466	286	286	226	226	166	166	166	116
556	00556	376	376	316	316	256	256	256	206
616	00616	436	436	376	376	316	316	316	266
706	00706	526	526	466	466	406	406	406	356
766	00766	586	586	526	526	466	466	466	416
796	00796	616	616	556	556	496	496	496	446
856	00856	676	676	616	616	556	556	556	506
916	00916	736	736	676	676	616	616	616	566
946	00946	766	766	706	706	646	646	646	596
1066	01066	886	886	826	826	766	766	766	716
1096	01096	916	916	856	856	796	796	796	746
1186	01186	1006	1006	946	946	886	886	886	836
1246	01246	1066	1066	1006	1006	946	946	946	896
1336	01336	1156	1156	1096	1096	1036	1036	1036	986
1486	01486	1306	1306	1246	1246	1186	1186	1186	1136
1576	01576	1396	1396	1336	1336	1276	1276	1276	1226
1636	01636	1456	1456	1396	1396	1336	1336	1336	1286
1726	01726	1546	1546	1486	1486	1426	1426	1426	1376
1876	01876	1696	1696	1636	1636	1576	1576	1576	1526

²⁾ Other stroke lengths are available upon request.



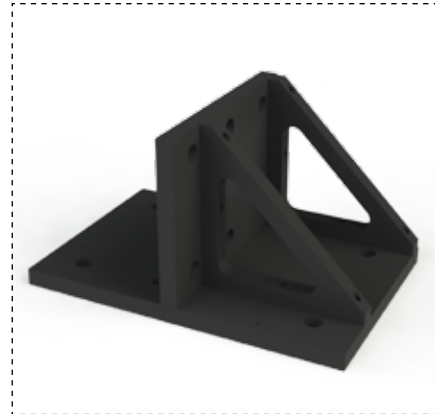
Accessories

T-slot nut, M8



Sample Code: A02001-10
T-slot nut M8, pack 10 units

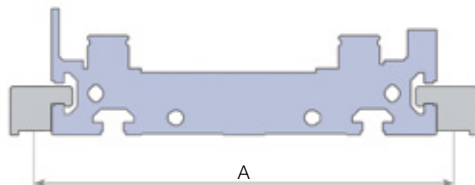
Mounting Plate



Linear Unit	Part number
MLE3xxxxx	A022E3
MLE5xxxxx	A022E5
MLE7xxxxx	A022E7

Sample Code: A022E3
Mounting plate for MLE 30210

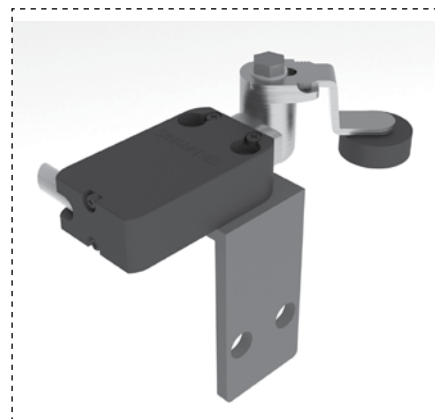
Mounting Set



Linear Unit	Part number	A
MLE3xxxxx	A02501	157
MLE5xxxxx	A02501	204

Sample Code: A02501
Mounting set (2 pieces)

Limit Switch



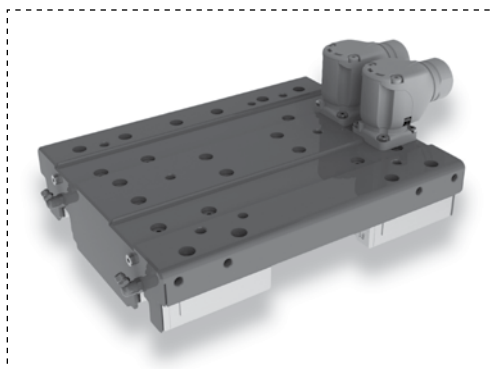
Description	Part number
Limit Switch set for MLE3	A00502-12
Limit Switch set for MLE5	A00502-11
Limit Switch set for MLE7	A00502-14
Limit Switch set for MLU3	A00502-13
Limit Switch	A00502-10

Sample Code: A00502-11
Limit Switch set (2 pieces) for MLE50800



Spare Parts

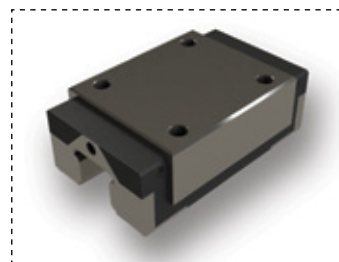
■ Carriage



Linear Unit	Part number
MLE3xxxxx	G01C000
MLE5xxxxx	B04A000
MLE7xxxxx	F16A000
MLU3xxxxx	C01C000

Sample Code: A02C000
Standard carriage for MLE30210HS

■ Block



Linear Unit	Part number
MLE3xxxxx	F0023XXX302
MLE5xxxxx	F0025XXX302
MLE7xxxxx	F0027XXX302
MLU3xxxxx	F0053XXX302

Sample Code: F00230210302
Block for MLE30210

■ Guide



Linear Unit	Part number
MLE3xxxxx	F0023XXX102
MLE5xxxxx	F0025XXX102
MLE7xxxxx	F0027XXX102
MLU3xxxxx	F0053XXX102

Sample Code: F00250800102-00750
Guide for MLE50800-00750, 750 mm long

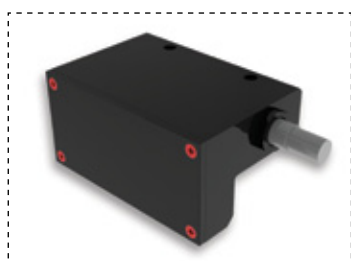
■ Measuring Tape



Linear Unit	Part number
MLE3xxxxx	F002XXXX113
MLE5xxxxx	F002XXXX113
MLE7xxxxx	F002XXXX113
MLU3xxxxx	F002XXXX113

Sample Code: F00250800113-00750
Measuring tape for MLE50800-00750, 750 mm long

■ Measuring Sensor

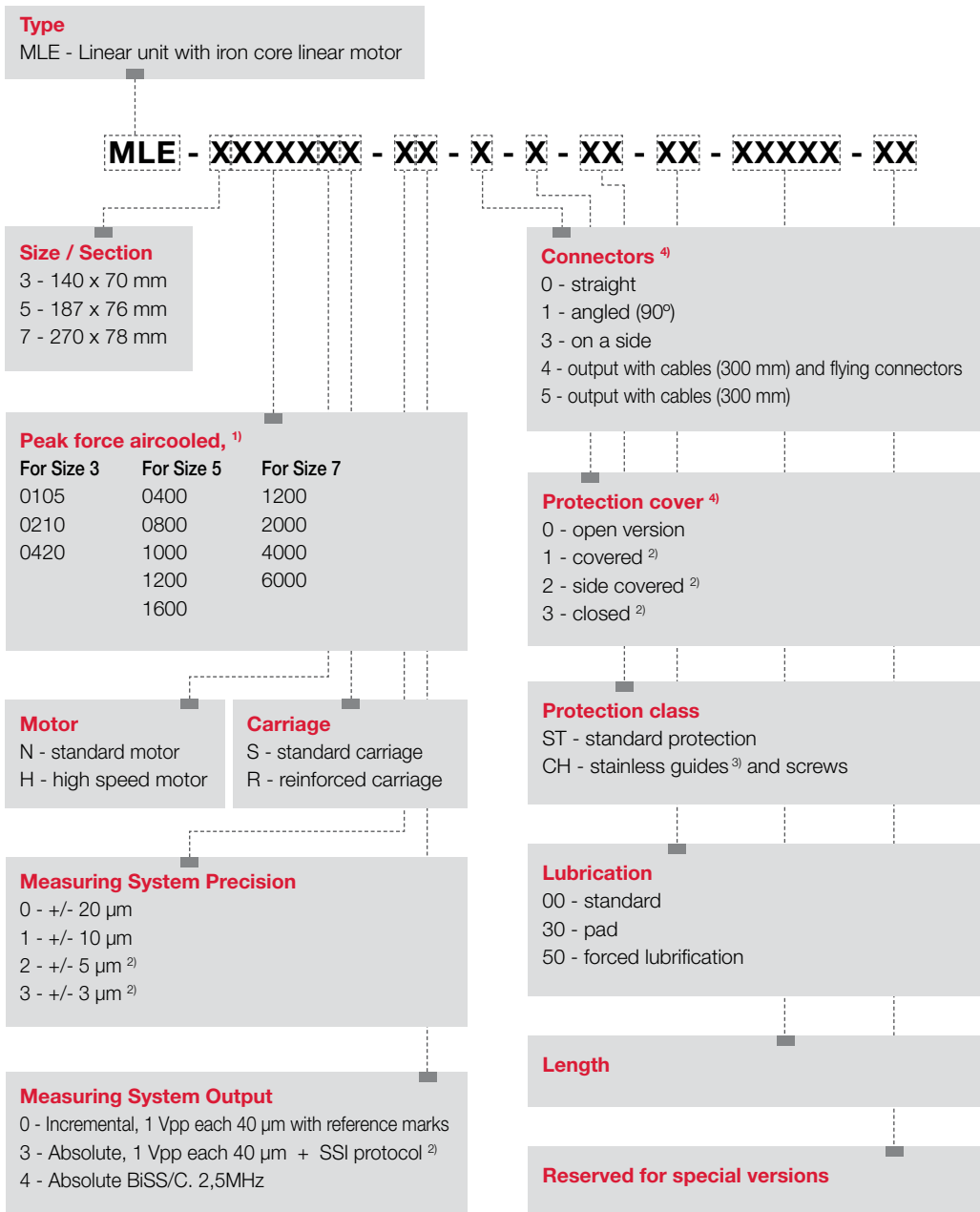


Linear Unit	Part number
MLE3xxxxx	F002XXXX311
MLE5xxxxx	F002XXXX311
MLE7xxxxx	F002XXXX317
MLU3xxxxx	F002XXXX310

Sample Code: F00250800310
Measuring sensor for MLE50800



Order Code MLE



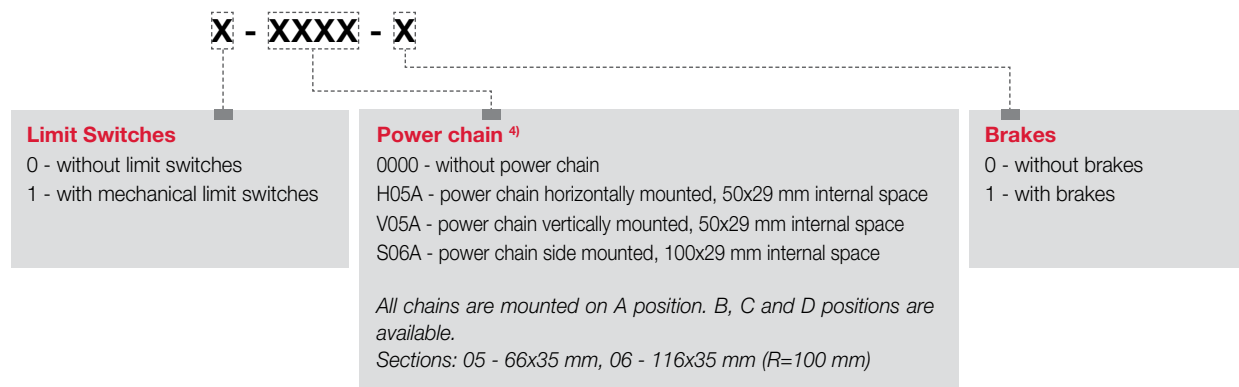
⁽¹⁾ Depends on application and temperature

⁽²⁾ Under request

⁽³⁾ Guides are chrome protected (black chromed). Stainless steel guides only on special request.

⁽⁴⁾ Please, find on page 20 the graphics describing this options.

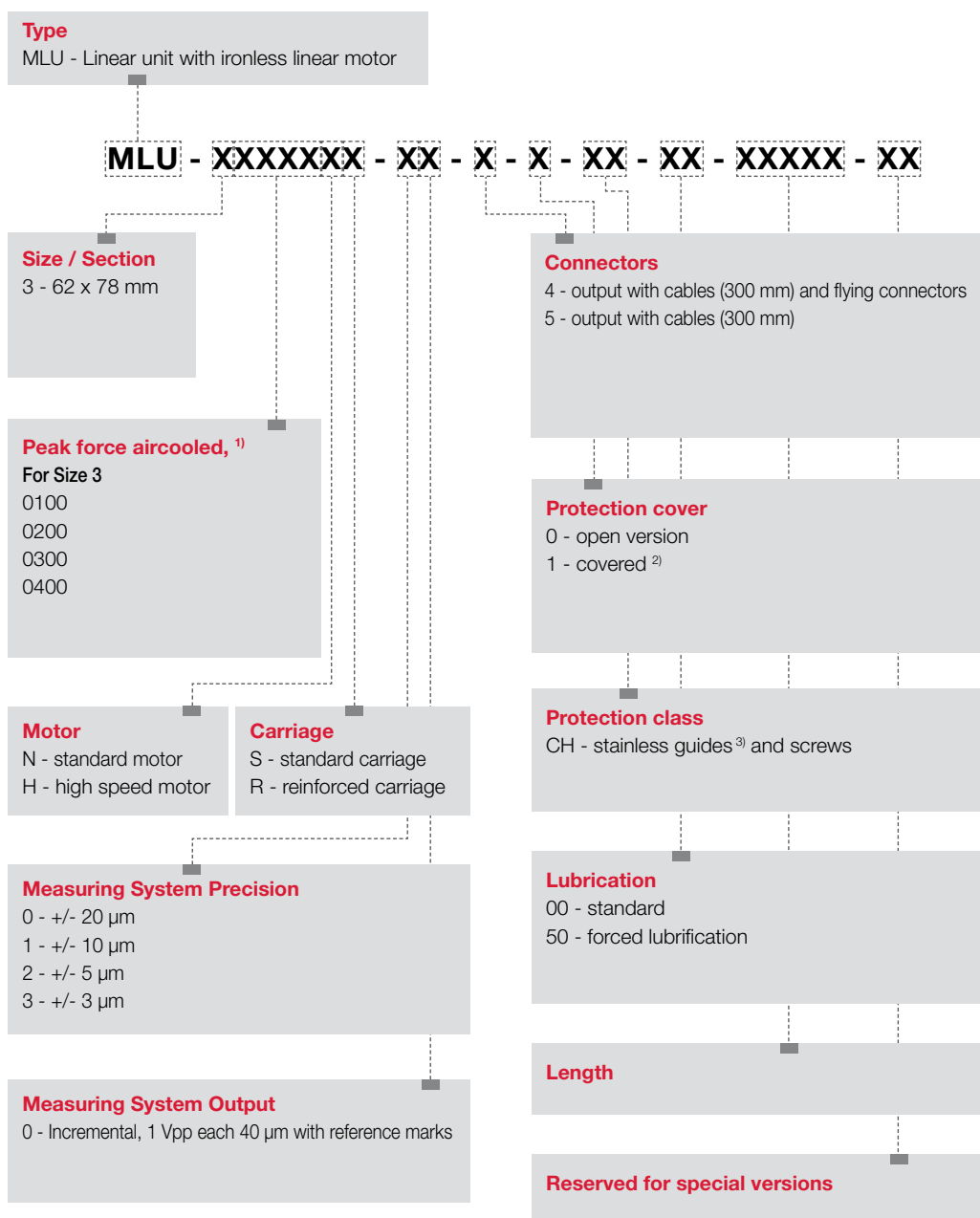
Accessories



Attention: The carriages of SINADRIVES linear motor stages are black, red design is only for the catalogue.



Order Code MLU

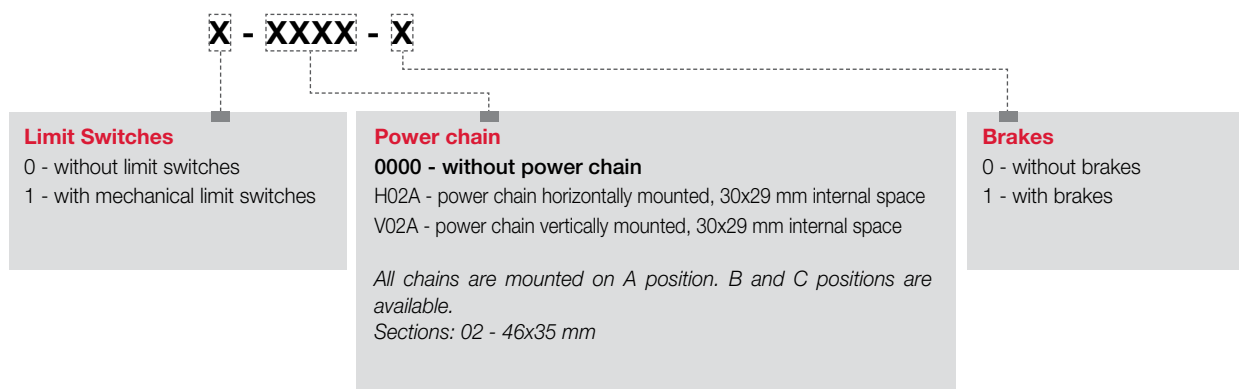


⁽¹⁾ Depends on application and temperature

⁽²⁾ Under request

⁽³⁾ Guides, steel body of carriage and balls are made of stainless steel.

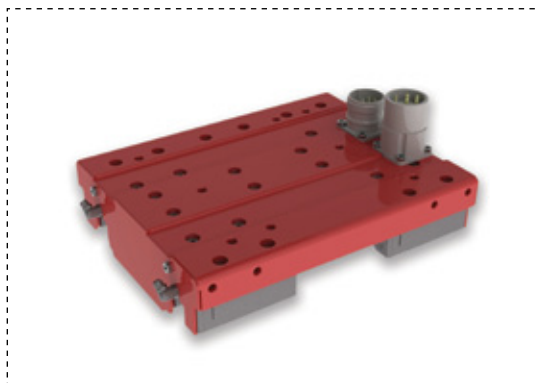
Accessories



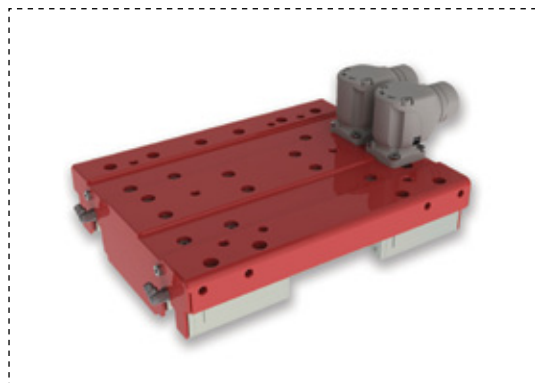
In order to give you a greater service, SINADRIVES offers you several options for connectors and cover possibilities.

Connector Options

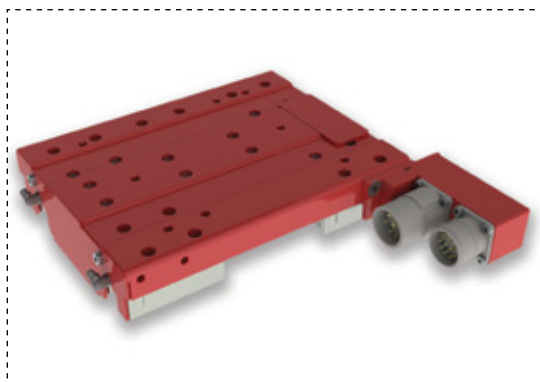
■ Straight connectors (0)



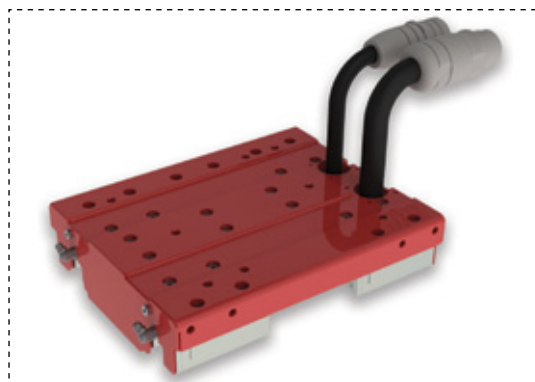
■ Angled connectors (1)



■ On a side connectors (3)

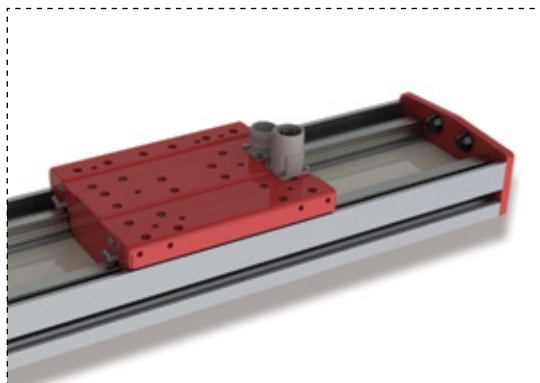


■ Output with cables and connectors (4) (5)



Cover Options

■ Open version (0)



■ Cover version (1)



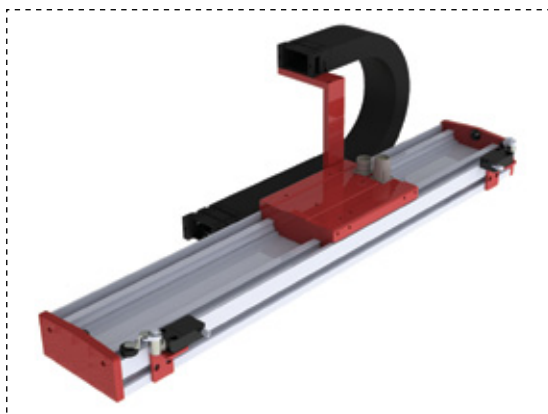


Power Chain

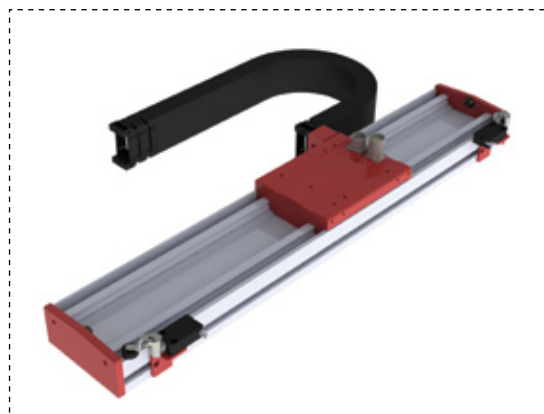
In order to provide the best and most comprehensive solution for your application, the linear units integrate power chains with different internal sections and a lot of mounting possibilities. You can save a lot of time and money, because you don't need to design special pieces for it.

Mounting Possibilities

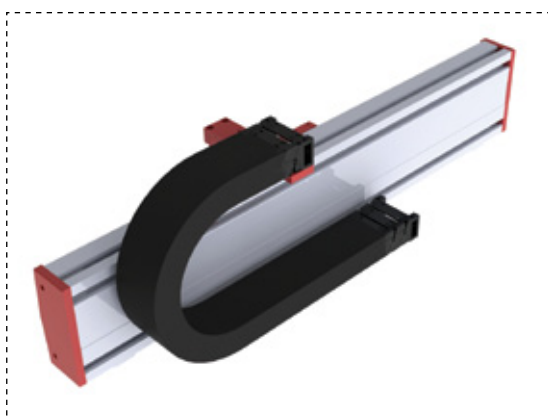
■ H - horizontally mounted (H05A)



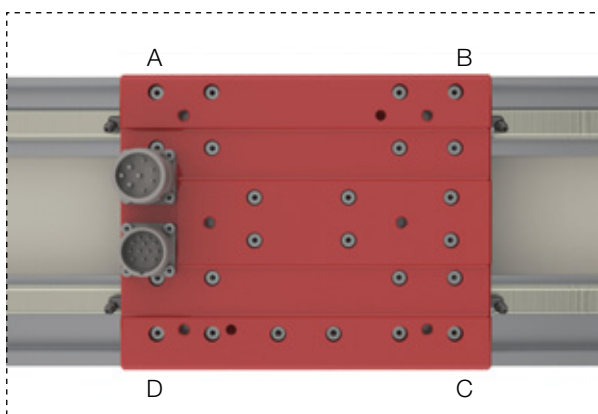
■ V - vertically mounted (V05A)



■ S - side mounted (S06A)



Mounting Position of Power Chain





Our Solutions

Innovation & Excellence

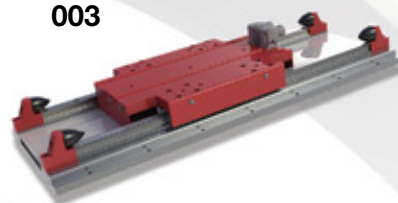
001



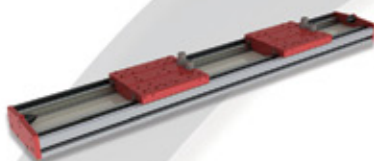
002



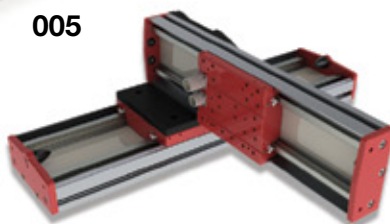
003



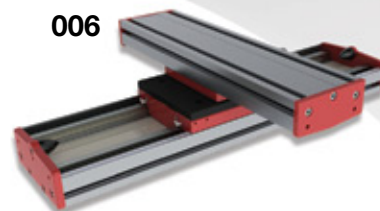
004



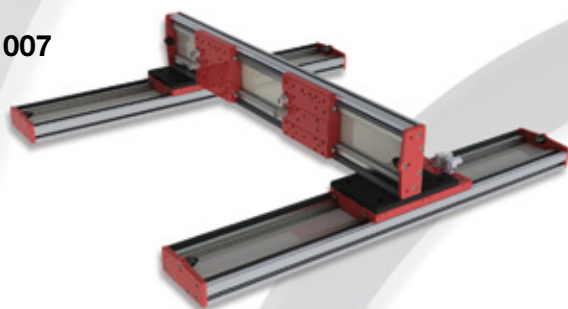
005



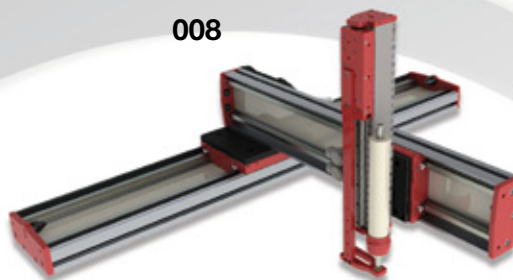
006



007



008



009





Inquiry Form

Contact person:

Company:

Phone: E-mail:

Application:

Number of axis: Stroke for each axis:

Speed / Acceleration: Repeatability:

Position: ☐ horizontal ☐ vertical ☐ inclined angle:

Complete cycle description

Moments and forces to be supported on the carriage:

Fy Fz Mx My Mz other:

Servo controller power supply:

☐ 48 Vdc ☐ 60 Vdc ☐ 115 AC ☐ 230 AC ☐ 400 AC

Hall sensor for phasing:

☐ Yes ☐ Analogic ☐ Digital ☐ No

Configuration:

(please, see page 22)

Drawing: Please, make a sketch of your application



www.sinadrives.com
info@sinadrives.com

SINADRIVES Germany:

Pilotystraße 4 | 80538 München | Germany
Tel. +49 (0) 89 255 575 898 | Fax: +49 (0) 89 255 575 899
info@sinadrives.com

SINADRIVES Spain:

Ctra. Girona - Anglés, km 106 | 17163 Bescanó | Spain
Tel. +34 972 442 452 | Fax: +34 972 442 317
info@sinadrives.com

Innovation & Excellence

Linear Units based on Direct Drives technologies

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