

WIDE LINEAR TABLE MLA



The Wide Linear Table has been created with the same philosophy as the MLS, but with the aim of extending the field of application.

This MLA table is ideal when the dimensions and load positioning require a larger bearing area. This is achieved with the MLA version, which has a wider carriage

and base plate and increased stability due to the increased distance between the guideways.

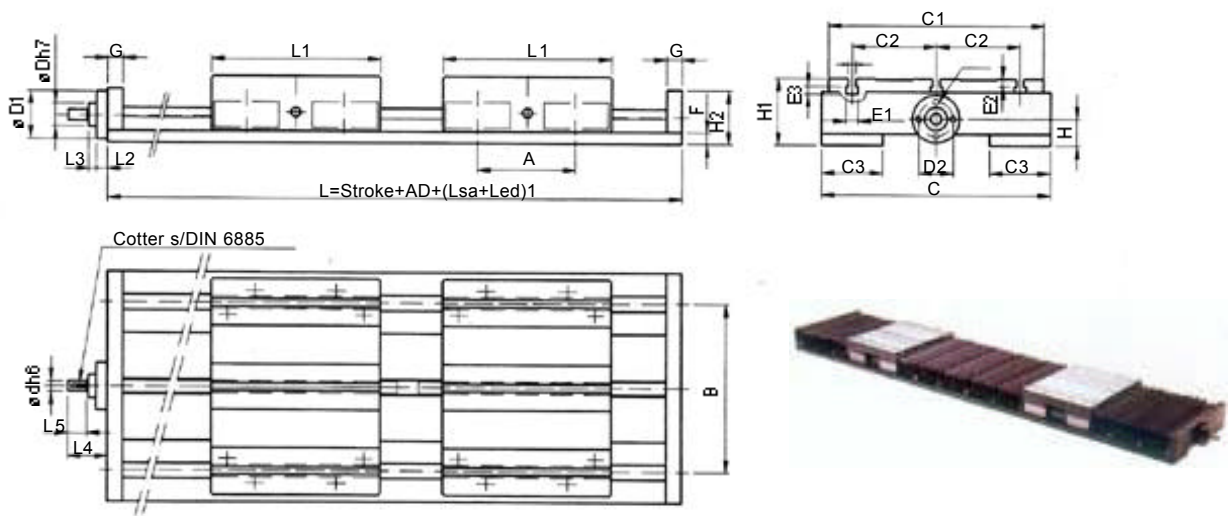
The MLA-RL (right hand-left hand), completes the MLS range, for applications that require simultaneous movements in opposite directions.

DESIGN EXAMPLE

Wide linear table MLA, Size 1020, Double nut, Screw pitch 5 mm, Stroke 1000 mm, without steady rest, Total length 1300 mm, without protecting bellows, with motor mounting and coupling.

	MLA	1020	FM	5	1000	0 SA	1300	0	MGK
Wide linear table MLA									
Size 1020 / 1532									
Nut	Simple = F Doble = FM								
Pitch	1020: 5 / 20 / 50 1532: 5 / 10 / 20 / 40								
Stroke									
Supports SA									
Total lengthl									
Bellows ²									
Motor mounting and coupling MGK									

WIDE LINEAR TABLE MLA-RL



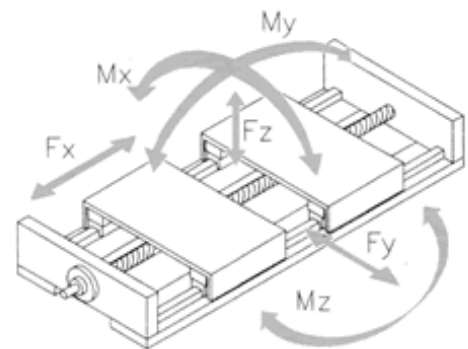
DIMENSIONS

Size	A	B	C	C1	C2	C3	d	d1	D	D1	D2	E	E1	E2	E3	F
1020	142	220	300	282	110	80	14	M8	30	62	45	10	16	10	8	15
1532	211	300	420	375	150	120	20	M8	50	89	65	12	18	12	8	20

Size	G	H	H1	H2	L1	L2	L3	L4	L5	AD
1020	20	35	87	70	220	15	10	52	25	520
1532	25	51	115	97	300	20	13	75	40	700

TECHNICAL DATA

Size	Fx N	Fy N	Fz N	Mx Nm	My Nm	Mz Nm
1020	2300	26000	29000	3190	2000	1700
1532	9000	38000	42800	6400	4490	3900



Size	Screw Pitch mm	Speed max. rpm	Speed. max. m/min	Accel. max. m/s ²	Screw Diameter mm	Table's mass Stroke 0 kg	Each 100 kg	Slide kg	Screw Inertia kgm ² /m	Position Accuracy mm	Length ³ Max. mm
1020	5,20,50	3000	150	10	20	31	1,4	8,3	8,8.10 ⁻⁵	±0,05	5600
1532	5,10,20,40	3000	120	10	32	70	2,7	17,1	6,4.10 ⁻⁴	±0,05	5600

¹ LSA: Supports (whenever the length requires)

Led: Additional space, for micro switches, etc.

² The bellows reduce the useful stroke

³ For other strokes please contact NIASA's technical department

⁴ Each slide moves half of the stroke indicated.

SELECTION OF THE TABLE'S SIZE

EXAMPLE 1

If you wish to select the correct table to work in the following conditions:

Left to right movement. 400 N constant force in y direction on each slide, with values for $X_y = 60$ mm and $Z_y = 180$ mm. It will receive light impacts, but the table will be completely supported along its length. It will work at a constant speed of 18 m/min. with frequent direction changes.

Preselection of table **MLA-RL 1020**

$F_z = 29000$ N $A = 142$ mm
 $E = 0,8$ $B = 220$ mm
 $f_L = 0,7$ $F_m = 400$ N

$$X_y/A = 60/142 = 0,42 \rightarrow K = 2,3$$

$$Z_y/B = 180/220 = 0,82 \rightarrow K = 3,4$$

$$K = 2,3 \times 3,4 = 7,8$$

$$L = (29000 \times 0,8 \times 0,7 / (400 \times 7,8))^3 \times 5 \times 10^4 = 7,1 \times 10^6 \text{ (m)}$$

The table MLA-RL 1020 has a more than acceptable useful life, and therefore, we choose this table.

EXAMPLE 2

We need a linear table to work with a oscillating movement, with loads ranging from 2000 N to 3000 N at 50% in Z direction entirely centered, where $X_z = 0$ $Y_z = 0$. The working speed will be of 16 m/min and the table will be running 16 hours/day, therefore we need a minimum life of 5×10^6 m.

Preselection of table **MLS 1532**

$F_z = 42800$ N $A = 161$ mm
 $E = 0,6$ $B = 142$ mm
 $f_L = 0,5$

$$F_m = \sqrt[3]{2000^3 \times 50/100 + 3000^3 \times 50/100} = 2596 \text{ N}$$

$$X_y/A = 0/161 = 0 \rightarrow K = 1$$

$$Z_y/B = 0/142 = 0 \rightarrow K = 1$$

$$K = 1 \times 1 = 1$$

$$L = (42800 \times 0,6 \times 0,5 / (2596 \times 1))^3 \times 5 \times 10^4 = 6,05 \times 10^6 \text{ (m)}$$

The table MLS 1532 has a more than acceptable useful life, and therefore, we choose this table.

DESIGN EXAMPLE

Wide linear table MLA-RL, Size 1020, Single nut, Screw pitch 5 mm, Stroke 1000 mm, without SA supports, Total length 1300 mm, without protecting bellows, with motor mounting and coupling.

	MLA-RL	1020	F	5	1000	0 SA	1300	0	MGK
Wide linear table	MLA-RL								
Size	1020 / 1532								
Nut	Single = F								
Pitch	1020: 5 1532: 5								
Stroke ⁴									
SA supports									
Total length ¹									
Bellows ²	With bellows : 1 Without bellows : 0								
Motor mounting and coupling	MGK								