

MLSM80D

Ball Screw Drive, Ball Guide

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- » Additional data - see page 188

General Specifications

Parameter	MLSM80D
Profile size (w × h) [mm]	240 × 85
Type of screw	ball screw with double nuts
Carriage sealing system	plastic cover band
Screw supports	included in all units that require screw supports
Lubrication	central lubrication of all parts that require lubrication
Included accessories	4 × mounting clamps

Performance Specifications

for Units with Single Standard Carriage (N)¹

Parameter		MLSM80D
Stroke length (Smax), maximum	[mm]	4810
Total length (L tot), maximum	[mm]	5700
Linear speed, maximum	[m/s]	2,0
Acceleration, maximum	[m/s ²]	20
Repeatability	[± mm]	0,01
Input speed, maximum	[rpm]	3000
Operation temperature limits	[°C]	0 – 80
Dynamic load (Fx), maximum	[N]	12000
screw lead 5, 10, 20 mm		8000
screw lead 40 mm		
Dynamic load (Fy), maximum	[N]	8000
Dynamic load (Fz), maximum	[N]	8000
Dynamic load torque (Mx), maximum	[Nm]	780
Dynamic load torque (My), maximum	[Nm]	900
Dynamic load torque (Mz), maximum	[Nm]	900
Drive shaft force (Frd), maximum ²	[N]	700
Input/drive shaft torque (Mta), maximum	[Nm]	85
Ball screw diameter (d ₀)	[mm]	32
Ball screw lead (p)	[mm]	5, 10, 20, 40
Weight	[kg]	
of unit with zero stroke		29,5
of every 100 mm of stroke		2,7
of each carriage		11,5

¹ See next page for deviating values of units with other carriage types.

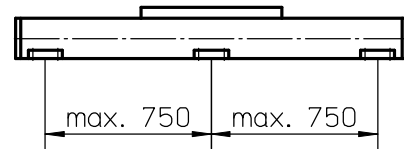
² Only relevant for units without RediMount flange.

Carriage Idle Torque (M_{idle}) [Nm]

Input speed [rpm]	Screw lead [mm]			
	p = 5	p = 10	p = 20	p = 40
150	1,6	2,2	2,5	2,8
1500	2,7	3,2	3,4	4,0
3000	3,2	4,0	4,2	4,5

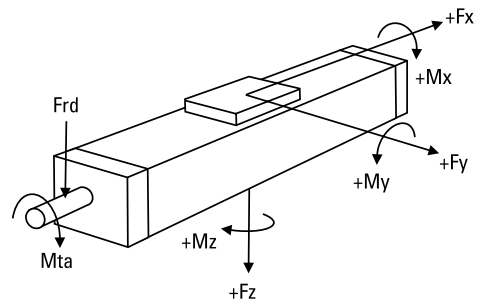
M_{idle} = the input torque needed to move the carriage with no load on it.

Deflection of the Profile



A mounting clamp must be installed at least every 750 mm to be able to operate at maximum load. Less clamps may be required if less load is being operated, see the additional technical data for more information.

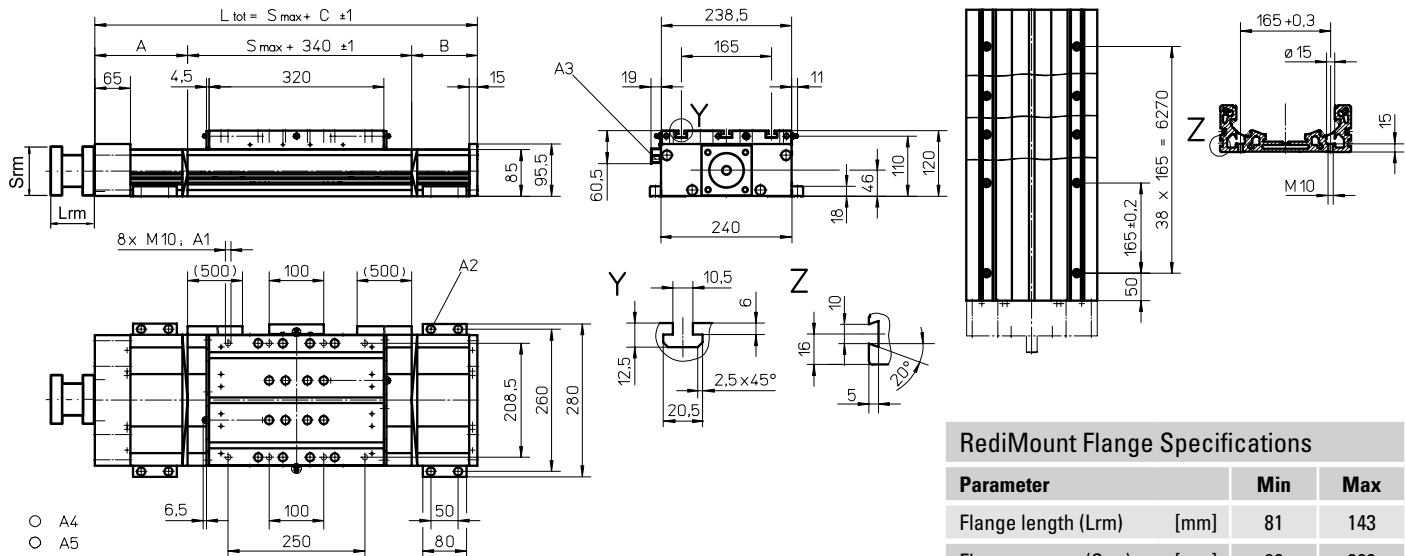
Definition of Forces



MLSM80D

Ball Screw Drive, Ball Guide

Dimensions	Projection	Online Sizing & Selection!
METRIC		www.LinearMotioneering.com



Parameter	Min	Max
Flange length (Lrm) [mm]	81	143
Flange square (Srm) [mm]	90	200
Flange weight* [kg]	5,67	

* Max. weight including coupling and fastening screws

- A1: depth 15
- A2: socket cap screw ISO4762-M8x20 8.8
- A3: ENF inductive sensor rail kit (optional - see page 166)
- A4: tapered lubricating nipple to DIN71412 M8x1 on fixed-bearing side as standard feature
- A5: can be changed over to one of the three alternative lubricating points by the customer

Stroke length (Smax) [mm]	A [mm]	B [mm]	C [mm]
0 - 750 (0 - 570)	100	90	530 (710)
751 - 1140 (571 - 960)	130	120	590 (770)
1141 - 1880 (961 - 1700)	160	150	650 (830)
1881 - 2620 (1701 - 2440)	190	180	710 (890)

Values between brackets = for units with long carriage

Stroke length (Smax) [mm]	A [mm]	B [mm]	C [mm]
2621 - 3360 (2441 - 3180)	220	210	770 (950)
3361 - 4100 (3181 - 3920)	250	240	830 (1010)
4101 - 4840 (3921 - 4660)	280	270	890 (1070)
4841 - 5000 (4661 - 4820)	310	300	950 (1130)

Performance Specifications

for Units with Single Long Carriage (L)

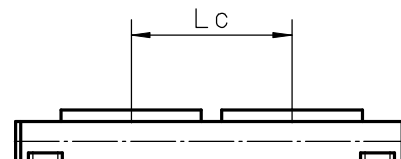
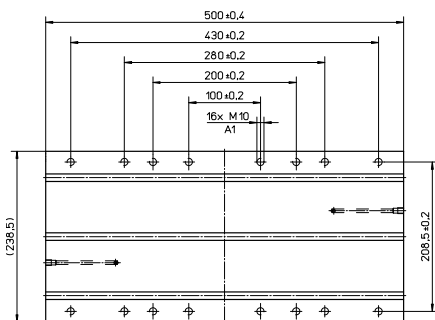
Parameter	MLSM80D
Stroke length (Smax), maximum [mm]	4630
Total length (L tot), maximum [mm]	5700
Carriage length [mm]	500
Dynamic load torque (My), maximum [Nm]	1750
Dynamic load torque (Mz), maximum [Nm]	1750
Weight [kg]	16

Performance Specifications

for Units with Double Standard Carriage (Z)

Parameter	MLSM80D
Stroke length (Smax), maximum [mm]	4410
Total length (L tot), maximum [mm]	5700
Minimum distance between carriages (Lc) [mm]	400
Dynamic load (Fy), maximum [N]	16000
Dynamic load (Fz), maximum [N]	16000
Dynamic load torque (My), maximum [Nm]	L c ¹ × 8
Dynamic load torque (Mz), maximum [Nm]	L c ¹ × 8
Force required to move second carriage [N]	35
Total length (L tot) [mm]	Smax + C + Lc

¹ Value in mm



A1: depth 15