

# WM60D

## Ball Screw Drive, Ball Guide, Double Ball Nuts

- » Ordering key - see page 193
- » Accessories - see page 131
- » Additional data - see page 188

### General Specifications

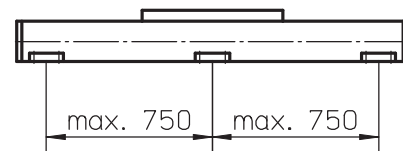
Parameter	WM60D
Profile size (w × h) [mm]	60 × 60
Type of screw	ball screw with double nut
Carriage sealing system	self-adjusting plastic cover band
Screw supports	included in all units that require screw supports
Lubrication	central lubrication of all parts that require lubrication
Included accessories	4 × mounting clamps

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

Input speed [rpm]	Screw lead [mm]		
	p = 5	p = 20	p = 50
150	0,8	1,3	1,6
1500	1,4	2,0	2,4
3000	1,8	2,3	2,6

$M_{idle}$  = 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. Units with a profile length over 6300 mm consist of two profiles where the joint between the two profiles must be adequately supported on both sides.

### Performance Specifications

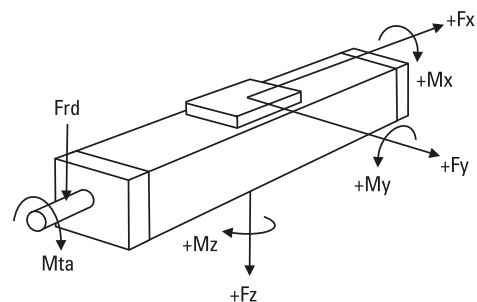
for Units with Single Standard Carriage (N)<sup>1</sup>

Parameter		WM60D
Stroke length ( $S_{max}$ ), maximum	[mm]	11000
screw lead 5, 20 mm		5000
screw lead 50 mm		
Total length ( $L_{tot}$ ), maximum	[mm]	12130
screw lead 5, 20 mm		5780
screw lead 50 mm		
Linear speed, maximum	[m/s]	2,5
Acceleration, maximum	[m/s <sup>2</sup> ]	20
Repeatability	[± mm]	0,01
Input speed, maximum	[rpm]	3000
Operation temperature limits	[°C]	0 – 80
Dynamic load ( $F_x$ ), maximum	[N]	4000
Dynamic load ( $F_y$ ), maximum	[N]	2000
Dynamic load ( $F_z$ ), maximum	[N]	2000
Dynamic load torque ( $M_x$ ), maximum	[Nm]	100
Dynamic load torque ( $M_y$ ), maximum	[Nm]	200
Dynamic load torque ( $M_z$ ), maximum	[Nm]	200
Drive shaft force ( $F_{rd}$ ), maximum <sup>2</sup>	[N]	500
Input/drive shaft torque ( $M_{ta}$ ), maximum	[Nm]	35
Ball screw diameter ( $d_o$ )	[mm]	20
Ball screw lead (p)	[mm]	5, 20, 50
Weight	[kg]	
of unit with zero stroke		6,16
of every 100 mm of stroke		0,65
of each carriage		1,99

<sup>1</sup> See next page for deviating values of units with other carriage types.

<sup>2</sup> Only relevant for units without RediMount flange.

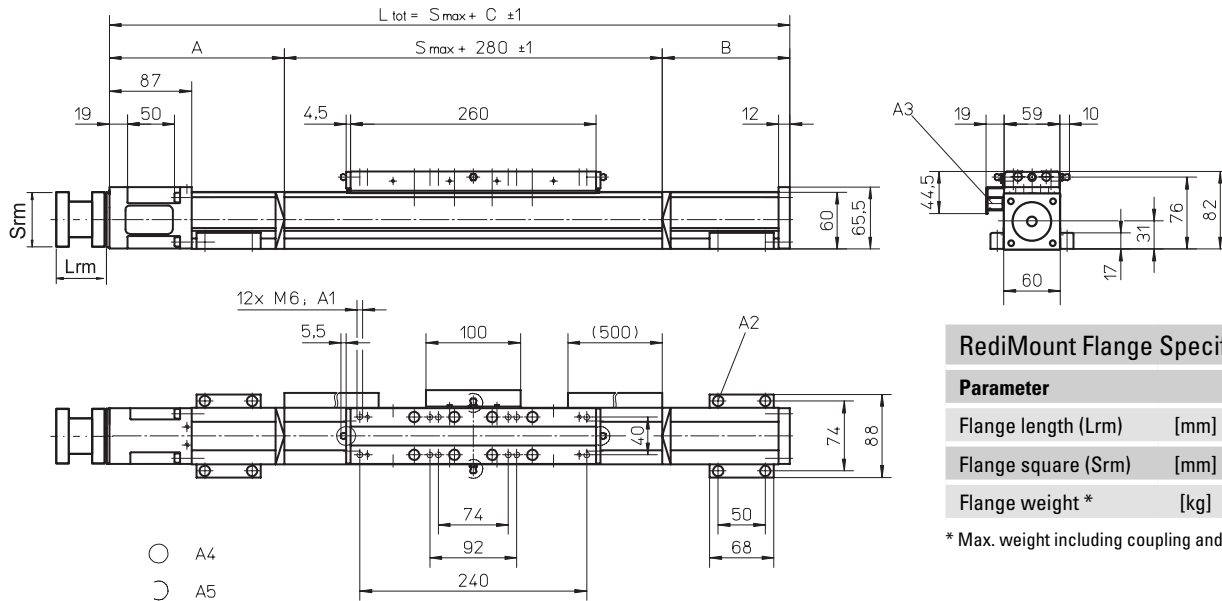
### Definition of Forces



# WM60D

<b>Dimensions</b>	<b>Projection</b>	<b>Online Sizing &amp; Selection!</b>
METRIC		<a href="http://www.LinearMotioneering.com">www.LinearMotioneering.com</a>

## Ball Screw Drive, Ball Guide, Double Ball Nuts



Parameter	Min	Max	
Flange length (Lrm)	[mm]	83	145
Flange square (Srm)	[mm]	90	200
Flange weight *	[kg]	5,64	

\* Max. weight including coupling and fastening screws

A1: depth 11  
 A2: socket cap screw ISO4762-M6x20 8.8  
 A3: ENF inductive sensor rail kit (optional - see page 166)

A4: tapered lubricating nipple to DIN71412 AM6 on fixed-bearing side as standard feature  
 A5: can be changed over to one of the three alternative lubricating points by the customer

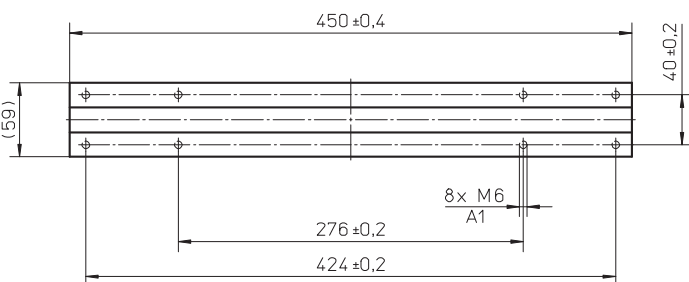
Stroke length (Smax) [mm]	A [mm]	B [mm]	C [mm]
0 - 695 (0 - 505)	115	65	460 (650)
696 - 1335 (506 - 1145)	165	115	560 (750)
1336 - 2075 (1146 - 1885)	185	135	600 (790)
2076 - 2780 (1886 - 2590)	210	160	650 (840)

Stroke length (Smax) [mm]	A [mm]	B [mm]	C [mm]
2781 - 3545 (2591 - 3355)	230	180	690 (880)
3546 - 4285 (3366 - 4095)	250	200	730 (920)
4286 - 5015 (4096 - 4825)	275	225	780 (970)
5016 - 11000 (4826 - 10810)	contact customer service		

Values between brackets = for units with long carriage

Parameter	WM60D
Stroke length (Smax), maximum screw lead 5, 20 mm screw lead 50 mm	[mm] 11000 4810
Total length (L tot), maximum screw lead 5, 20 mm screw lead 50 mm	[mm] 12320 5780
Carriage length	[mm] 450
Dynamic load torque (My), maximum	[Nm] 500
Dynamic load torque (Mz), maximum	[Nm] 500
Weight	[kg] 3,1

Parameter	WM60D
Stroke length (Smax), maximum screw lead 5, 20 mm screw lead 50 mm	[mm] 10665 4665
Total length (L tot), maximum screw lead 5, 20 mm screw lead 50 mm	[mm] 12130 5780
Minimum distance between carriages (Lc)	[mm] 335
Dynamic load (Fy), maximum	[N] 4000
Dynamic load (Fz), maximum	[N] 4000
Dynamic load torque (My), maximum	[Nm] L c <sup>1</sup> × 2
Dynamic load torque (Mz), maximum	[Nm] L c <sup>1</sup> × 2
Force required to move second carriage	[N] 20
Total length (L tot)	[mm] Smax + C + Lc



A1: depth 11

<sup>1</sup> Value in mm

