

# WM40S

## Ball Screw Drive, Ball Guide, Single Ball Nut

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

### General Specifications

Parameter	WM40S
Profile size (w × h) [mm]	40 × 40
Type of screw	ball screw with single nut
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)<sup>1</sup>

Parameter		WM40S
Stroke length (Smax), maximum	[mm]	2000
Total length (L tot), maximum	[mm]	2300
Linear speed, maximum	[m/s]	0,25
Acceleration, maximum	[m/s <sup>2</sup> ]	20
Repeatability	[± mm]	0,02
Input speed, maximum	[rpm]	3000
Operation temperature limits	[°C]	0 – 80
Dynamic load (Fx), maximum	[N]	1000
Dynamic load (Fy), maximum	[N]	450
Dynamic load (Fz), maximum	[N]	600
Dynamic load torque (Mx), maximum	[Nm]	10
Dynamic load torque (My), maximum	[Nm]	30
Dynamic load torque (Mz), maximum	[Nm]	30
Drive shaft force (Frd), maximum <sup>2</sup>	[N]	100
Input/drive shaft torque (Mta), maximum	[Nm]	3
Ball screw diameter (do)	[mm]	12
Ball screw lead (p)	[mm]	5
Weight	[kg]	
of unit with zero stroke		1,50
of every 100 mm of stroke		0,30
of each carriage		0,36

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

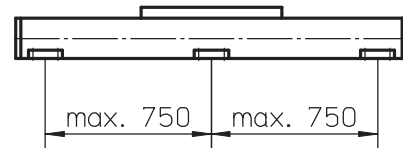
<sup>2</sup> Only relevant for units without RediMount flange.

### Carriage Idle Torque (M idle) [Nm]

Input speed [rpm]	Screw lead [mm]
	p = 5
150	0,3
1500	0,5
3000	0,8

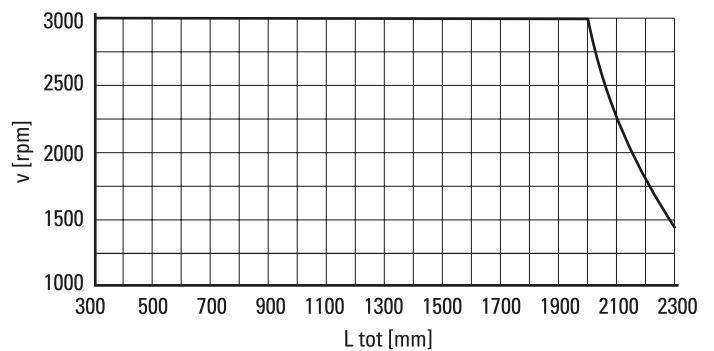
M idle = the input torque needed to move the carriage with no load on it.

### Deflection of the Profile

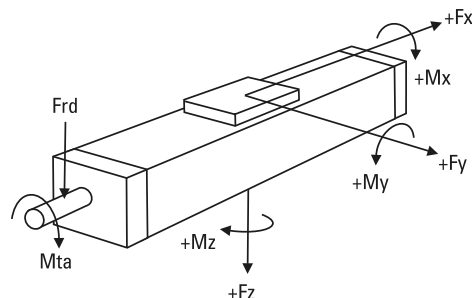


A mounting clamp must be installed at least every 750 mm to be able to operate at maximum load. Less clamps may be required if less load is being operated, see the additional technical data for more information.

### Critical Speed



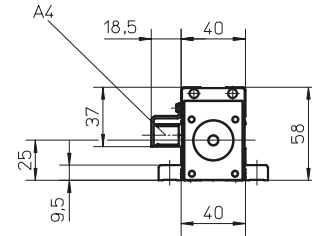
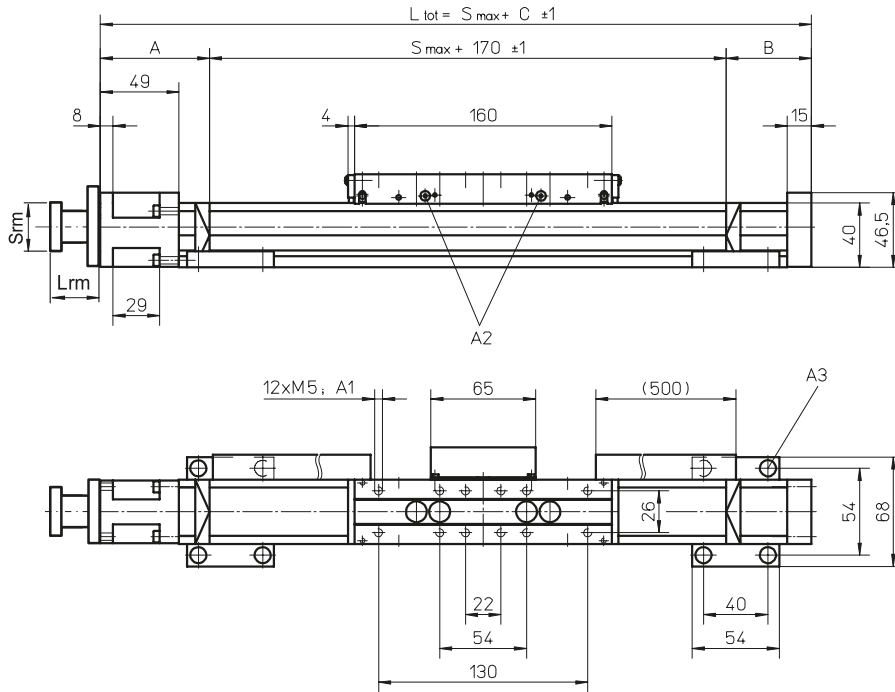
### Definition of Forces



# WM40S

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

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Parameter	Min	Max
Flange length (L <sub>rm</sub> ) [mm]	59	94
Flange square (S <sub>rm</sub> ) [mm]	60	139
Flange weight * [kg]	1,86	

\* Max. weight including coupling and fastening screws

A1: depth 7

A2: lubricating nipple on both sides DIN3405 D 1/A

A3: socket cap screw ISO4762-M5×12 8.8

A4: ENF inductive sensor rail kit (optional - see page 166)

Stroke length (S <sub>max</sub> ) [mm]	A [mm]	B [mm]	C [mm]
0 – 500	65	35	270
501 – 1100	65	45	280
1101 – 2000	70	60	300

## Performance Specifications

for Units with Double Standard Carriage (Z)

Parameter	WM40S
Stroke length (S <sub>max</sub> ), maximum [mm]	1825
Total length (L <sub>tot</sub> ), maximum [mm]	2300
Minimum distance between carriages (L <sub>c</sub> ) [mm]	175
Dynamic load (F <sub>y</sub> ), maximum [N]	900
Dynamic load (F <sub>z</sub> ), maximum [N]	1200
Dynamic load torque (M <sub>y</sub> ), maximum [Nm]	L <sub>c</sub> <sup>1</sup> × 0,45
Dynamic load torque (M <sub>z</sub> ), maximum [Nm]	L <sub>c</sub> <sup>1</sup> × 0,6
Force required to move second carriage [N]	4
Total length (L <sub>tot</sub> ) [mm]	S <sub>max</sub> + C + L <sub>c</sub>

<sup>1</sup> Value in mm

