

WM40S

Ball Screw Drive, Ball Guide, Single Ball Nut

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General Specifications

Parameter	WM40S
Profile size (w × h) [mm]	40 × 40
Type of screw	ball screw with single 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

Performance Specifications

Parameter		WM40S
Stroke length (S max), maximum	[mm]	2000
Linear speed, maximum	[m/s]	0,25
Acceleration, maximum	[m/s ²]	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 ¹ / 5300 ²
Dynamic load (Fz), maximum	[N]	600 ¹ / 6790 ²
Dynamic load torque (Mx), maximum	[Nm]	10 ¹ / 30 ²
Dynamic load torque (My), maximum	[Nm]	30 ¹ / 230 ²
Dynamic load torque (Mz), maximum	[Nm]	30 ¹ / 230 ²
Drive shaft force (Frd), maximum	[N]	100
Drive shaft torque (Mta), maximum	[Nm]	3
Ball screw diameter (do)	[mm]	12
Ball screw lead (p)	[mm]	5
Weight of unit with zero stroke of every 100 mm of stroke of each carriage	[kg]	1,50 0,30 0,36

¹ Value for the complete unit

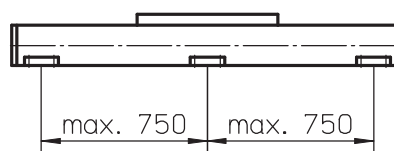
² Value for the ball guide only

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

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

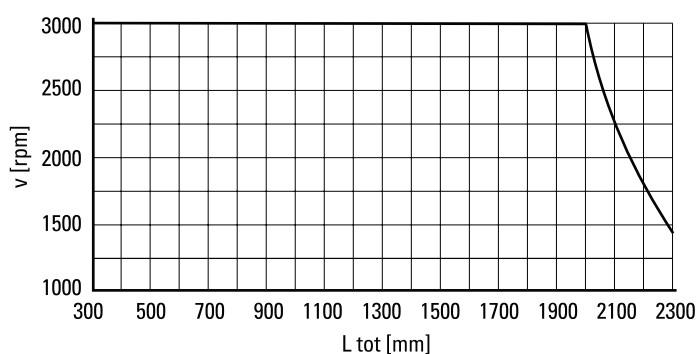
M_{idle} = the input torque needed to move the carriage with no load on it.

Deflection of the Profile

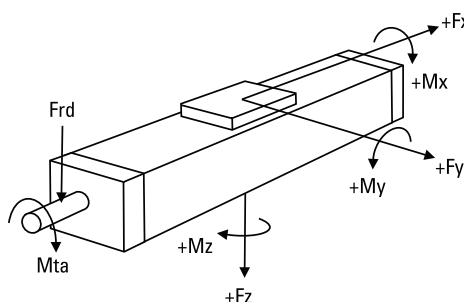


A mounting clamp must be installed at least at every 750 mm to be able to operate the maximum load. Less clamps may be required if less load is being operated, see the additional technical data for more information.

Critical Speed

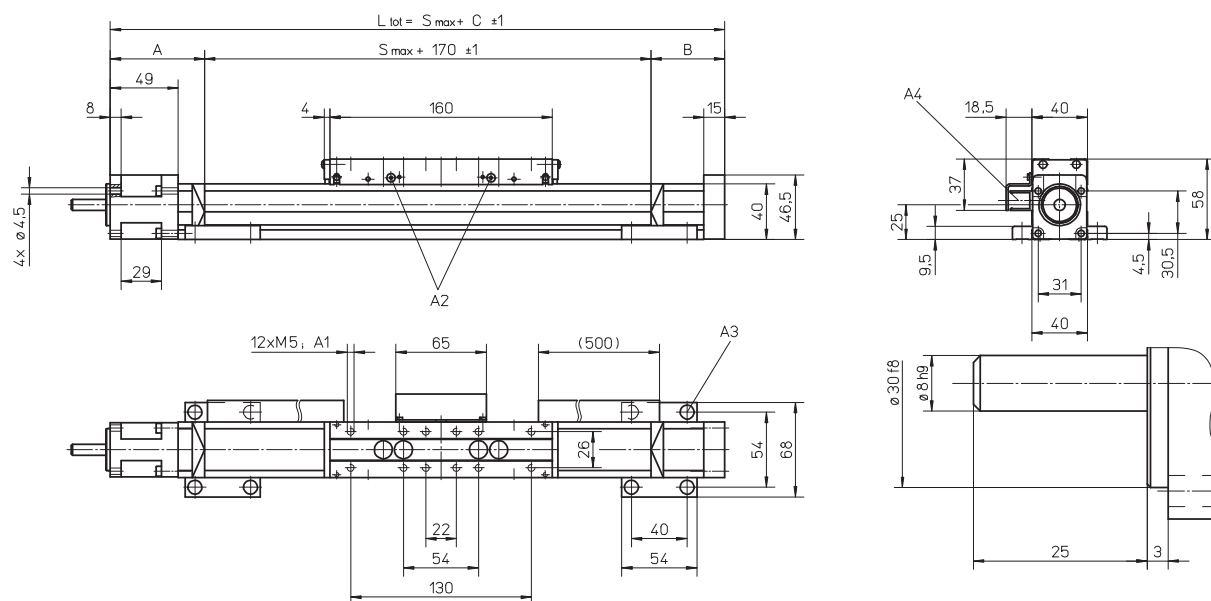


Definition of Forces



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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 option kit (optional)

Stroke length (S max) [mm]	A [mm]	B [mm]	C [mm]
0 – 500 (0 – 450)	65	35	270 (320)
501 – 1100 (451 – 1050)	65	45	280 (330)
1101 – 2000 (1051 – 1950)	70	60	300 (350)

Values between brackets = for units with long carriage

Double Carriages

Parameter	WM40S
Minimum distance between carriages (L A) [mm]	175
Dynamic load (F _y), maximum [N]	900
Dynamic load (F _z), maximum [N]	1200
Dynamic load torque (M _y), maximum [Nm]	L A ¹ × 0,45
Dynamic load torque (M _z), maximum [Nm]	L A ¹ × 0,6
Force required to move second carriage [N]	40
Total length (L tot) [mm]	S max + C + L A

¹ Value in mm

