

# WM80D

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

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### General Specifications

Parameter	WM80D
Profile size (w × h) [mm]	80 × 80
Type of screw	ball screw with double nuts
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		WM80D
Stroke length (S max), maximum screw lead 5, 10, 20 mm screw lead 50 mm	[mm]	11000 5000
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 <sub>x</sub> ), maximum	[N]	5000
Dynamic load (F <sub>y</sub> ), maximum	[N]	3000 <sup>1</sup> / 57420 <sup>2</sup>
Dynamic load (F <sub>z</sub> ), maximum	[N]	3000 <sup>1</sup> / 54950 <sup>2</sup>
Dynamic load torque (M <sub>x</sub> ), maximum	[Nm]	350 <sup>1</sup> / 1360 <sup>2</sup>
Dynamic load torque (M <sub>y</sub> ), maximum	[Nm]	300 <sup>1</sup> / 4230 <sup>2</sup>
Dynamic load torque (M <sub>z</sub> ), maximum	[Nm]	300 <sup>1</sup> / 4220 <sup>2</sup>
Drive shaft force (F <sub>rd</sub> ), maximum	[N]	700
Drive shaft torque (M <sub>ta</sub> ), maximum	[Nm]	55
Ball screw diameter (d <sub>0</sub> )	[mm]	25
Ball screw lead (p)	[mm]	5, 10, 20, 50
Weight	[kg]	
of unit with zero stroke		11,57
of every 100 mm of stroke		1,08
of each carriage		4,26

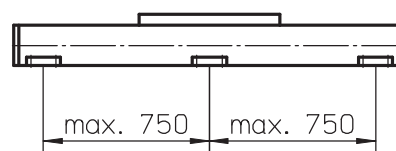
<sup>1</sup> Value for the complete unit  
<sup>2</sup> Value for the ball guide only

### Carriage Idle Torque (M<sub>idle</sub>) [Nm]

Input speed [rpm]	Screw lead [mm]			
	p = 5	p = 10	p = 20	p = 50
150	1,1	1,5	1,8	2,3
1500	1,7	2,1	2,3	3,0
3000	2,1	2,5	2,6	3,6

M<sub>idle</sub> = 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. Units with a profile length over 6300 mm consists of two profiles where the joint between the two profiles must be adequately supported on both sides.

### Definition of Forces

