

M100

Belt Drive, Ball Guide

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General Specifications

Parameter	M100
Profile size (w × h) [mm]	108 × 100
Type of belt	STD8-50
Carriage sealing system	self-adjusting steel cover band
Adjustable belt tensioning	the belt can be retensioned by the customer if necessary
Lubrication	lubrication of ball guide carriages
Included accessories	none

Performance Specifications

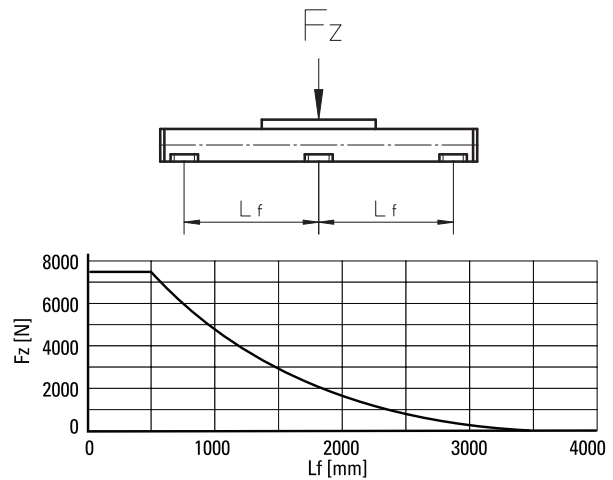
Parameter		M100
Stroke length (S max), maximum	[mm]	12000
Linear speed, maximum	[m/s]	5,0
Acceleration, maximum	[m/s ²]	40
Repeatability	[± mm]	0,1
Input speed, maximum	[rpm]	1700
Operation temperature limits	[°C]	-20 – 70
Dynamic load (F _x), maximum	[N]	
< 2,5 m/s		1250
> 2,5 m/s		625
Dynamic load (F _y), maximum	[N]	4000 ¹ / 26378 ²
Dynamic load (F _z), maximum	[N]	4000 ¹ / 49770 ²
Dynamic load torque (M _x), maximum	[Nm]	43 ¹ / 283 ²
Dynamic load torque (M _y), maximum	[Nm]	280 ¹ / 1742 ²
Dynamic load torque (M _z), maximum	[Nm]	280 ¹ / 1846 ²
Drive shaft force (F _{rd}), maximum	[N]	1000
Drive shaft torque (M _{ta}), maximum	[Nm]	45
Pulley diameter	[mm]	56,02
Stroke per shaft revolution	[mm]	176
Weight	[kg]	
of unit with zero stroke		11,61
of every 100 mm of stroke		1,43
of carriage		2,20

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

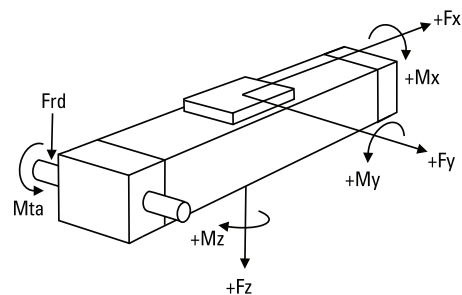
Input speed [rpm]	Single Carriage	Double Carriages
150	1,6	3,1

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

Deflection of the Profile

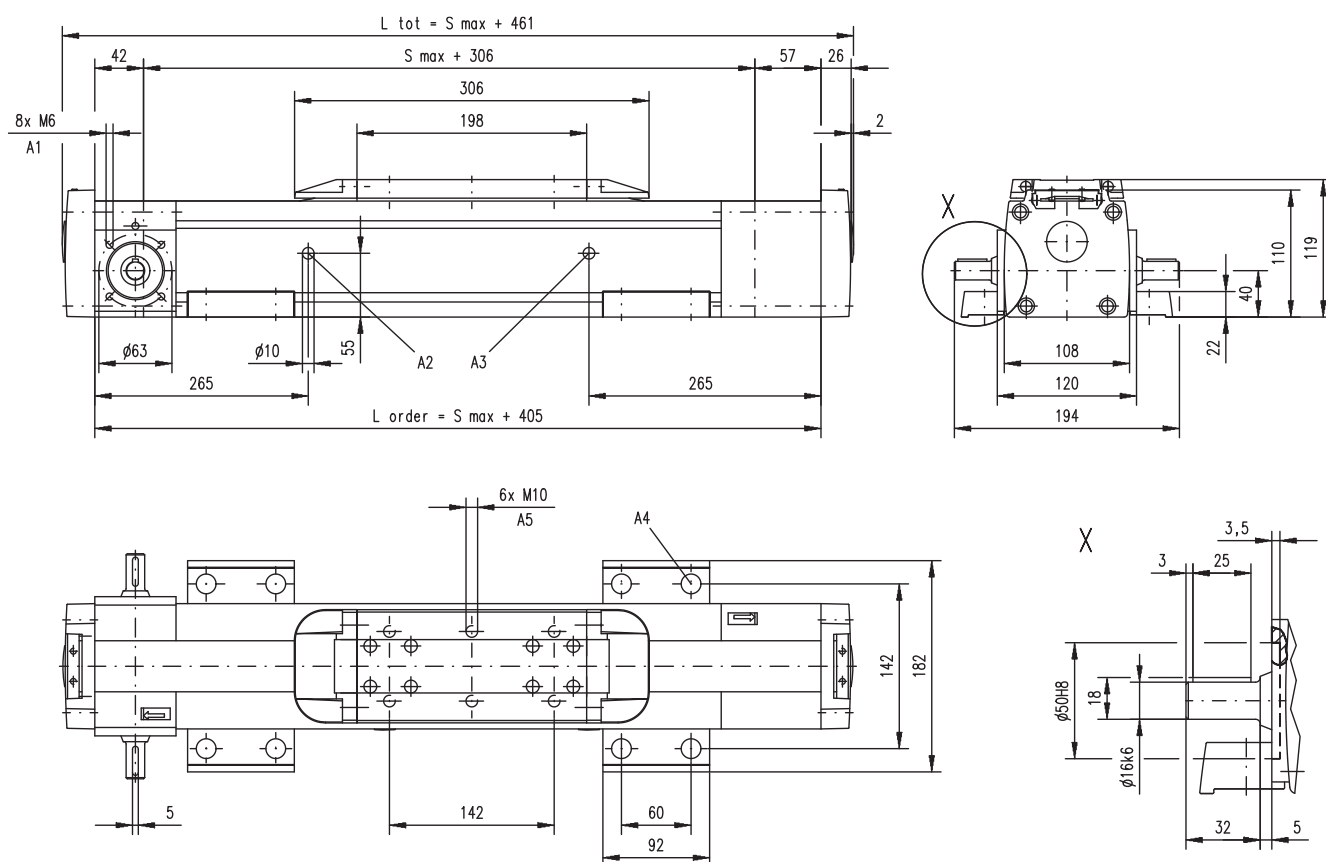


Definition of Forces



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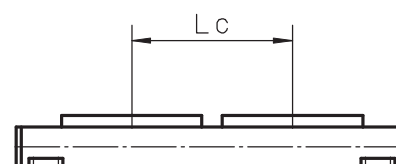


A1: depth 9, Heli coil
A2: lubrication hole

A3: lubrication hole (no hole if L order is < 856 mm)
A4: $\phi 17/\phi 10,5$ for socket head cap screw M10

Double Carriages

Parameter		M100
Minimum distance between carriages (Lc)	[mm]	350
Dynamic load (Fy), maximum	[N]	6000
Dynamic load (Fz), maximum	[N]	6000
Dynamic load torque (My), maximum	[Nm]	$Lc^1 \times 3$
Dynamic load torque (Mz), maximum	[Nm]	$Lc^1 \times 3$
Force required to move second carriage	[N]	2
Ordering length (L order)	[mm]	$S_{max} + Lc + 405$
Total length (L tot)	[mm]	$L_{order} + 56$
Weight of unit with zero stroke of carriages	[kg]	18,92 4,40



¹ Value in mm