

M75

Belt Drive, Ball Guide

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General Specifications

Parameter	M75
Profile size (w × h) [mm]	86 × 75
Type of belt	STD5-40
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		M75
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]	2300
Operation temperature limits	[°C]	-20 – 70
Dynamic load (F _x), maximum	[N]	
< 2,5 m/s		900
> 2,5 m/s		450
Dynamic load (F _y), maximum	[N]	1750 ¹ / 16413 ²
Dynamic load (F _z), maximum	[N]	1750 ¹ / 30968 ²
Dynamic load torque (M _x), maximum	[Nm]	16 ¹ / 150 ²
Dynamic load torque (M _y), maximum	[Nm]	84 ¹ / 743 ²
Dynamic load torque (M _z), maximum	[Nm]	84 ¹ / 787 ²
Drive shaft force (F _{rd}), maximum	[N]	600
Drive shaft torque (M _{ta}), maximum	[Nm]	30
Pulley diameter	[mm]	41,38
Stroke per shaft revolution	[mm]	130
Weight	[kg]	
of unit with zero stroke		7,50
of every 100 mm of stroke		0,88
of carriage		2,00

¹ Value for the complete unit

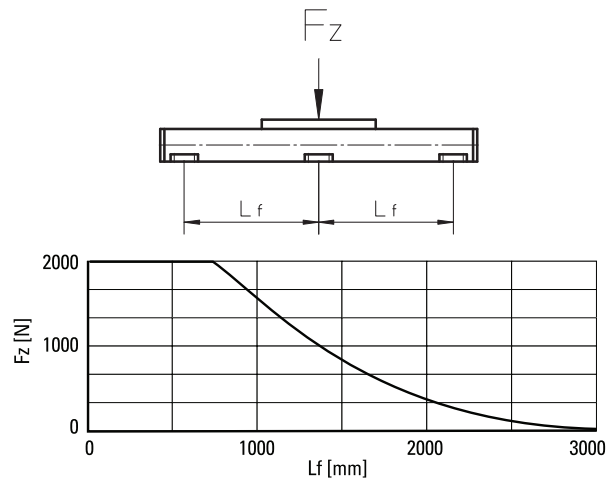
² Value for the ball guide only

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

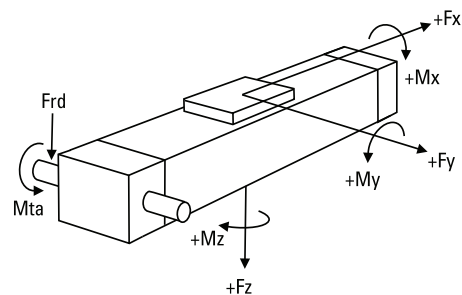
Input speed [rpm]	Single Carriage	Double Carriages
150	1,0	1,9

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

Deflection of the Profile

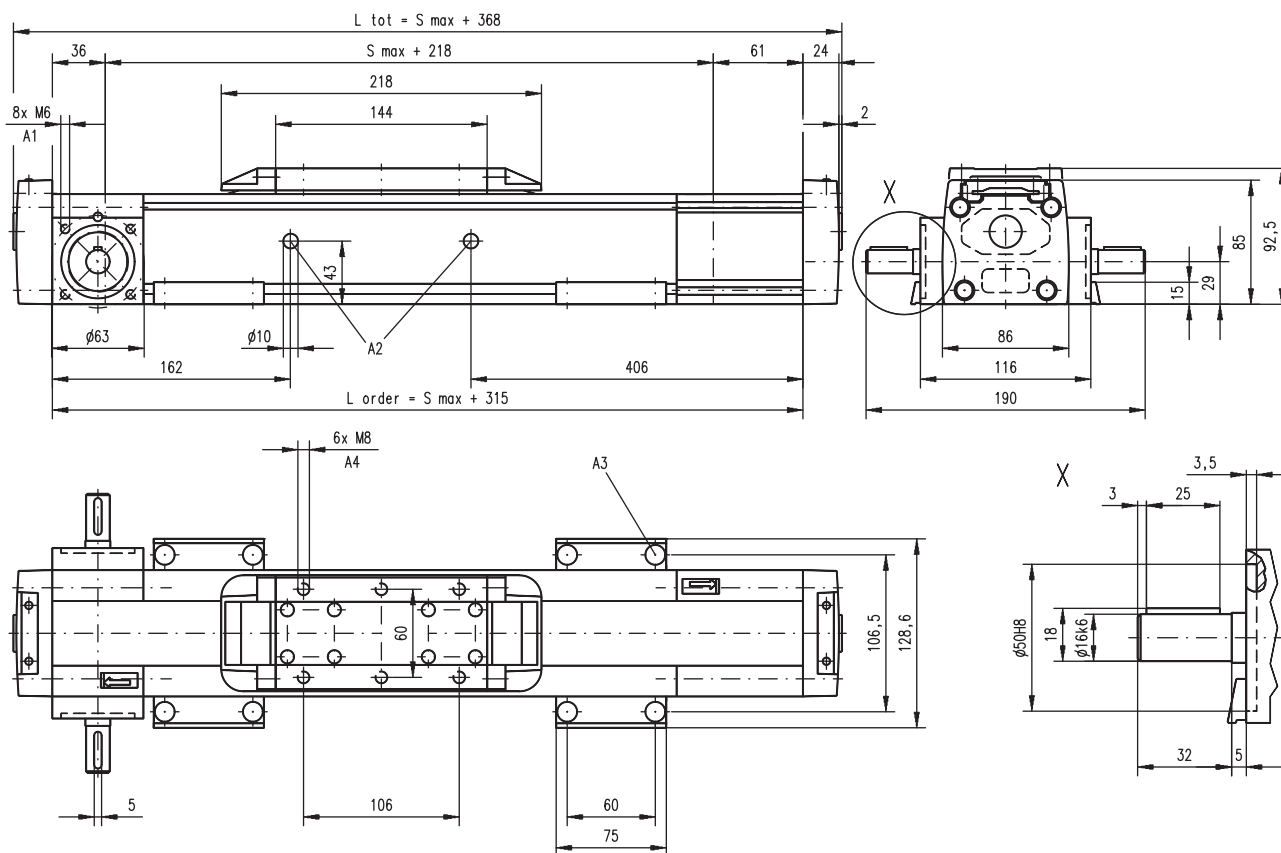


Definition of Forces



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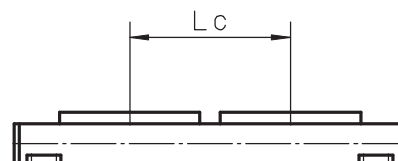


A1: depth 9, Heli coil
A2: lubrication holes

A3: $\phi 13,5/\phi 8,5$ for socket head cap screw M8
A4: depth 8, Heli coil

Double Carriages

Parameter		M75
Minimum distance between carriages (Lc)	[mm]	250
Dynamic load (Fy), maximum	[N]	2625
Dynamic load (Fz), maximum	[N]	2625
Dynamic load torque (My), maximum	[Nm]	$Lc^1 \times 1,313$
Dynamic load torque (Mz), maximum	[Nm]	$Lc^1 \times 1,313$
Force required to move second carriage	[N]	2
Ordering length (L order)	[mm]	$S_{max} + Lc + 315$
Total length (L tot)	[mm]	$L_{order} + 52$
Weight of unit with zero stroke of carriages	[kg]	11,67 4,00



¹ Value in mm