WHZ50

Belt Drive, Wheel Guide

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General Specifications

Parameter	WHZ50
Profile size (w × h) [mm]	50 × 50
Type of belt	16 ATL 5
Carriage sealing system	none
Adjustable belt tensioning	the belt can be retensioned by the customer if necessary
Lubrication	lubrication of carriage and guide surfaces
Included accessories	-

Performance Specifications

Parameter		WHZ50
Stroke length (S max), maximum	[mm]	1500
Linear speed, maximum	[m/s]	6,5
Acceleration, maximum	[m/s²]	40
Repeatability	[± mm]	0,05
Input speed, maximum	[rpm]	3250
Operation temperature limits	[°C]	0 – 80
Dynamic load (Fx), maximum	[N]	670[3]
Dynamic load (Fy), maximum	[N]	415[1] / 2820[2]
Dynamic load (Fz), maximum	[N]	730[1] / 5080[2]
Dynamic load torque (Mx), maximum	[Nm]	16[1] / 100[2]
Dynamic load torque (My), maximum	[Nm]	87[1] / 500[2]
Dynamic load torque (Mz), maximum	[Nm]	50[1] / 280[2]
Drive shaft force (Frd), maximum	[N]	150
Drive shaft torque (Mta), maximum	[Nm]	17
Pulley diameter	[mm]	38,2
Stroke per shaft revolution	[mm]	120
Weight	[kg]	
of unit with zero stroke		4,50
of every 100 mm of stroke		0,42
of each drive station box		2,90

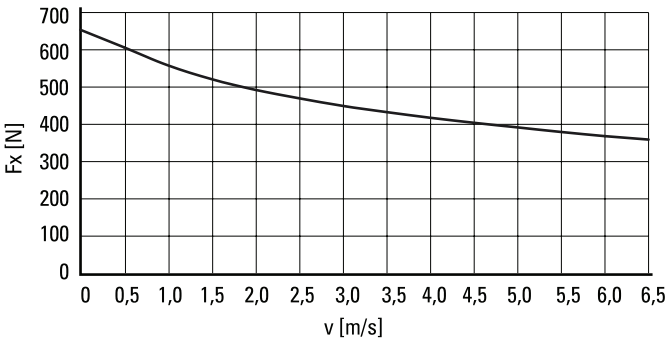
[1] Value for the complete unit
[2] Value for the wheel guide only
[3] See diagram Force Fx

Carriage Idle Torque, (M idle) [Nm]

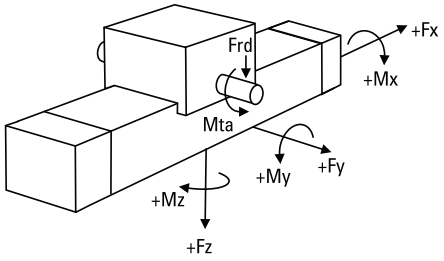
Input speed [rpm]	Idle torque [Nm]
150	1,7
1500	2,4
3250	3,8

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

Force Fx as a Function of the Speed



Definition of Forces



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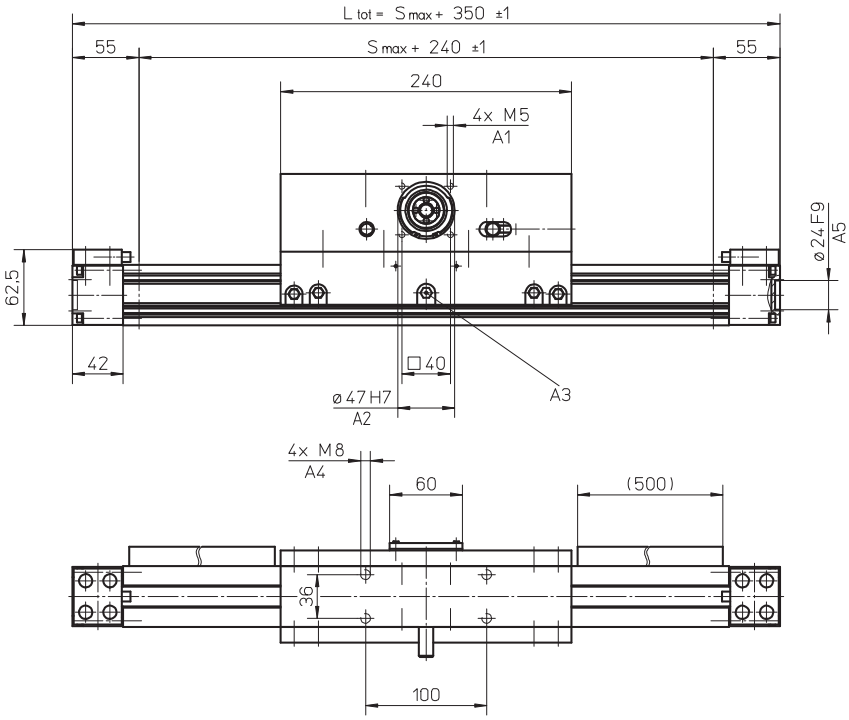
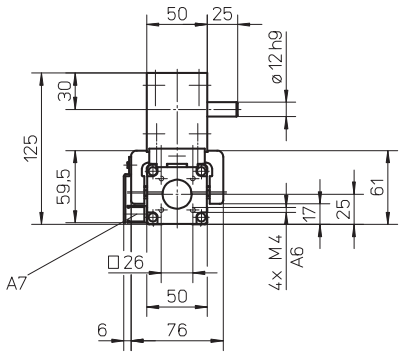
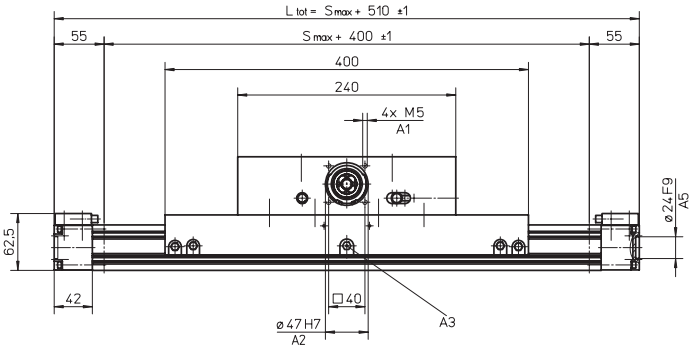




A1: depth 12
A2: depth 3,5
A3: funnel type lubricating nipple DIN3405-M6×1-D1
A4: depth 16
A5: depth 4
A6: depth 8
A7: ENF inductive sensor rail option kit (optional)

Long Carriage

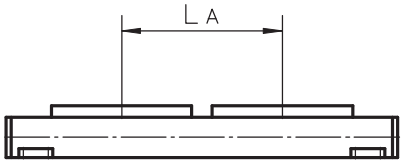
Parameter		WHZ50
Carriage length	[mm]	400
Dynamic load torque (My), maximum	[Nm]	130
Dynamic load torque (Mz), maximum	[Nm]	75
Weight	[kg]	3,3



A1: depth 12
A2: depth 3,5
A3: funnel type lubricating nipple DIN3405-M6×1-D1
A5: depth 4

Double Carriages[2]

Parameter		WHZ50
Minimum distance between carriages (L_A)	[mm]	260
Dynamic load (Fy), maximum	[N]	830
Dynamic load (Fz), maximum	[N]	1460
Dynamic load torque (My), maximum	[Nm]	L_A[1] × 0,415
Dynamic load torque (Mz), maximum	[Nm]	L_A[1] × 0,73
Force required to move second carriage	[N]	16
Total length (L tot)	[mm]	S max + 350 + L_A



[1] Value in mm
[2] Second carriage is always a long carriage