

# WHZ50

## Belt Drive, Wheel Guide

» Ordering key - see page 209  
» Accessories - see page 131  
» Additional data - see page 181

### 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

for Units with Single Standard Carriage (N)<sup>1</sup>

Parameter		WHZ50
Stroke length (S <sub>max</sub> ), maximum	[mm]	1500
Total length (L <sub>tot</sub> ), maximum	[mm]	1850
Linear speed, maximum	[m/s]	6,5
Acceleration, maximum	[m/s <sup>2</sup> ]	40
Repeatability	[± mm]	0,05
Input speed, maximum	[rpm]	3250
Operation temperature limits	[°C]	0 – 80
Dynamic load (F <sub>x</sub> ), maximum	[N]	670 <sup>2</sup>
Dynamic load (F <sub>y</sub> ), maximum	[N]	415
Dynamic load (F <sub>z</sub> ), maximum	[N]	730
Dynamic load torque (M <sub>x</sub> ), maximum	[Nm]	16
Dynamic load torque (M <sub>y</sub> ), maximum	[Nm]	87
Dynamic load torque (M <sub>z</sub> ), maximum	[Nm]	50
Drive shaft force (F <sub>rd</sub> ), maximum <sup>3</sup>	[N]	150
Input/drive shaft torque (M <sub>ta</sub> ), 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

<sup>1</sup> See next page for deviating values of units with other carriage types.

<sup>2</sup> See diagram Force F<sub>x</sub>.

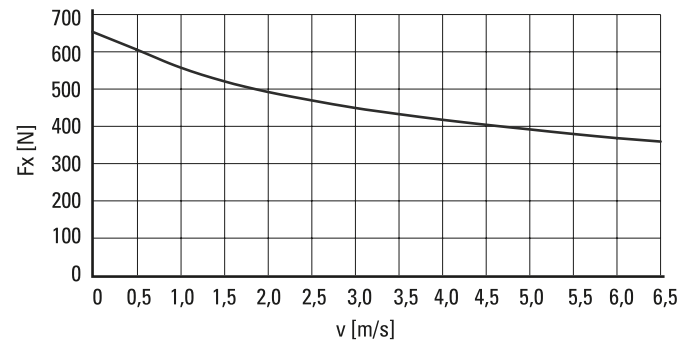
<sup>3</sup> Only relevant for units without RediMount flange.

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

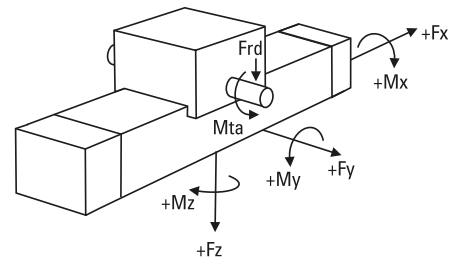
Input speed [rpm]	Idle torque [Nm]
150	1,7
1500	2,4
3250	3,8

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

### Force F<sub>x</sub> as a Function of the Speed



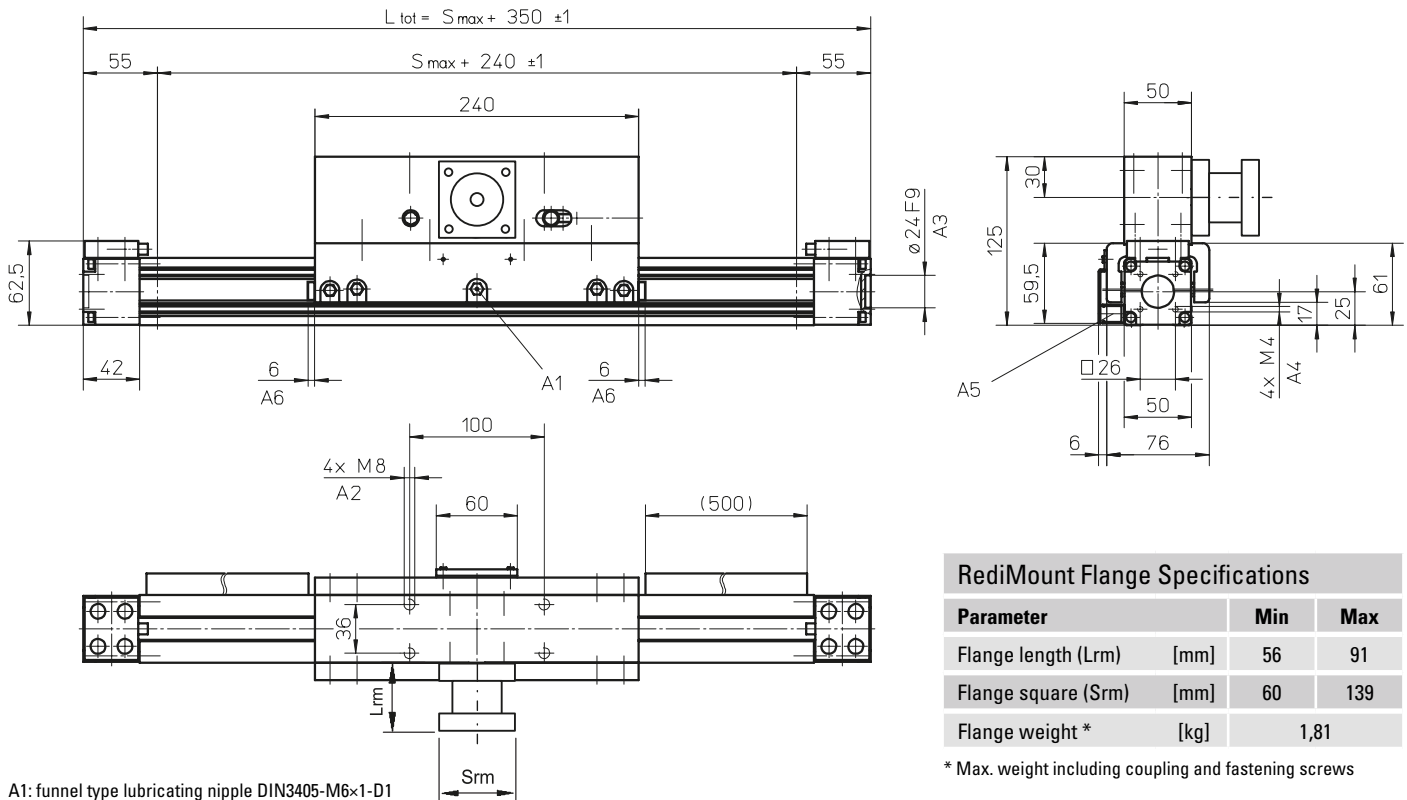
### Definition of Forces



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<b>Dimensions</b>	<b>Projection</b>	<b>Online Sizing &amp; Selection!</b>
METRIC		<a href="http://www.LinearMotioneering.com">www.LinearMotioneering.com</a>



- A1: funnel type lubricating nipple DIN3405-M6x1-D1
- A2: depth 16
- A3: depth 4
- A4: depth 8
- A5: ENF inductive sensor rail kit (optional - see page 166)
- A6: felt pad wipers on both sides of the carriage

Parameter	Min	Max
Flange length (Lrm) [mm]	56	91
Flange square (Srm) [mm]	60	139
Flange weight * [kg]	1,81	

\* Max. weight including coupling and fastening screws

### Performance Specifications for Units with Single Long Carriage (L)

Parameter	WHZ50
Stroke length (Smax), maximum [mm]	1500
Total length (L tot), maximum [mm]	2010
Carriage length [mm]	400
Dynamic load torque (My), maximum [Nm]	130
Dynamic load torque (Mz), maximum [Nm]	75
Weight [kg]	3,3

### Performance Specifications for Units with Double Standard Carriage (Z)

Parameter	WHZ50
Stroke length (Smax), maximum [mm]	1400
Total length (L tot), maximum [mm]	2010
Minimum distance between carriages (Lc) [mm]	260
Dynamic load (Fy), maximum [N]	830
Dynamic load (Fz), maximum [N]	1460
Dynamic load torque (My), maximum [Nm]	$Lc^1 \times 0,415$
Dynamic load torque (Mz), maximum [Nm]	$Lc^1 \times 0,73$
Force required to move second carriage [N]	16
Total length (L tot) [mm]	$S_{max} + 350 + Lc$

<sup>1</sup> Value in mm

