

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/s ²]	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

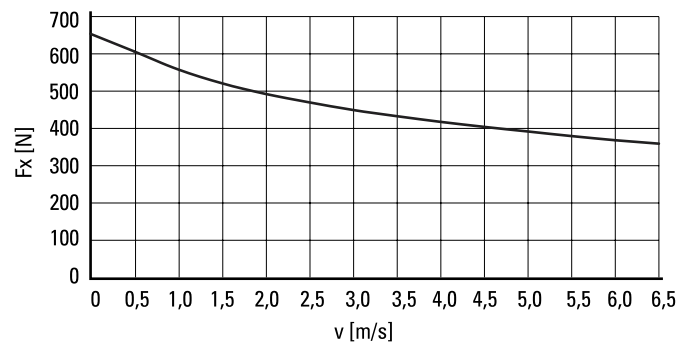
³ See diagram Force Fx

Carriage Idle Torque, (M idle) [Nm]

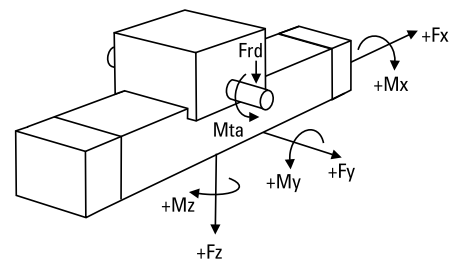
Input speed [rpm]	Idle torque [Nm]
150	1,7
1500	2,4
3250	3,8

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

Force Fx as a Function of the Speed

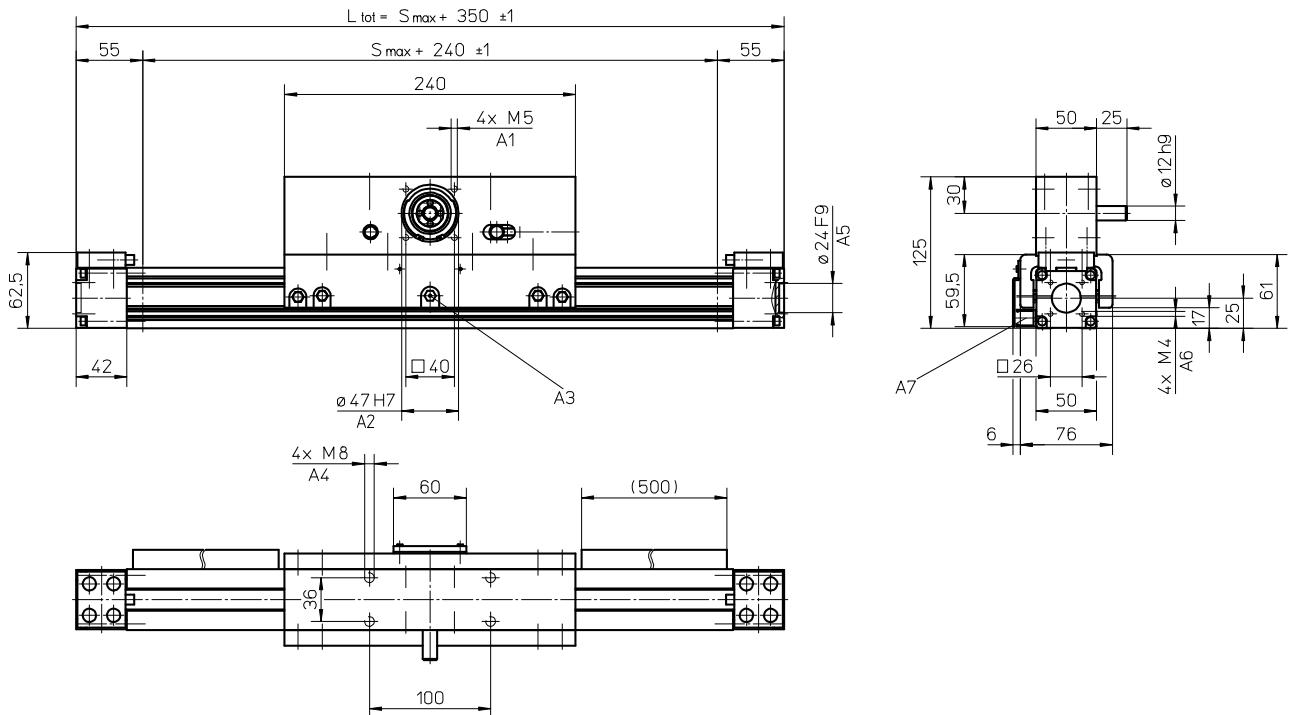


Definition of Forces



WHZ50

Belt Drive, Wheel Guide

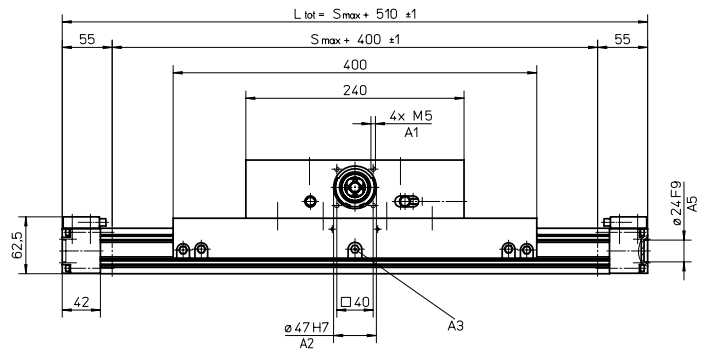


A1: depth 12
 A2: depth 3,5
 A3: funnel type lubricating nipple DIN3405-M6x1-D1
 A4: depth 16

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

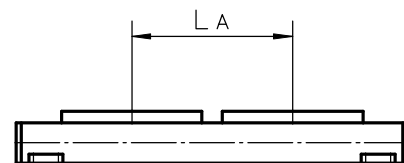


A1: depth 12
 A2: depth 3,5

A3: funnel type lubricating nipple DIN3405-M6x1-D1
 A5: depth 4

Double Carriages²

Parameter	WHZ50	
Minimum distance between carriages (LA)	[mm]	260
Dynamic load (Fy), maximum	[N]	830
Dynamic load (Fz), maximum	[N]	1460
Dynamic load torque (My), maximum	[Nm]	$L A^1 \times 0,415$
Dynamic load torque (Mz), maximum	[Nm]	$L A^1 \times 0,73$
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

WHZ80

Belt Drive, Wheel Guide

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General Specifications

Parameter	WHZ80
Profile size (w × h) [mm]	80 × 80
Type of belt	32 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		WHZ80
Stroke length (S max), maximum	[mm]	3000
Linear speed, maximum	[m/s]	10,0
Acceleration, maximum	[m/s ²]	40
Repeatability	[± mm]	0,05
Input speed, maximum	[rpm]	3000
Operation temperature limits	[°C]	0 – 80
Dynamic load (Fx), maximum	[N]	1480 ³
Dynamic load (Fy), maximum	[N]	882 ¹ / 8160 ²
Dynamic load (Fz), maximum	[N]	2100 ¹ / 14680 ²
Dynamic load torque (Mx), maximum	[Nm]	75 ¹ / 480 ²
Dynamic load torque (My), maximum	[Nm]	230 ¹ / 1610 ²
Dynamic load torque (Mz), maximum	[Nm]	100 ¹ / 900 ²
Drive shaft force (Frd), maximum	[N]	500
Drive shaft torque (Mta), maximum	[Nm]	50
Pulley diameter	[mm]	63,66
Stroke per shaft revolution	[mm]	200
Weight	[kg]	
of unit with zero stroke		11,20
of every 100 mm of stroke		0,91
of each drive station box		6,65

¹ Value for the complete unit

² Value for the wheel guide only

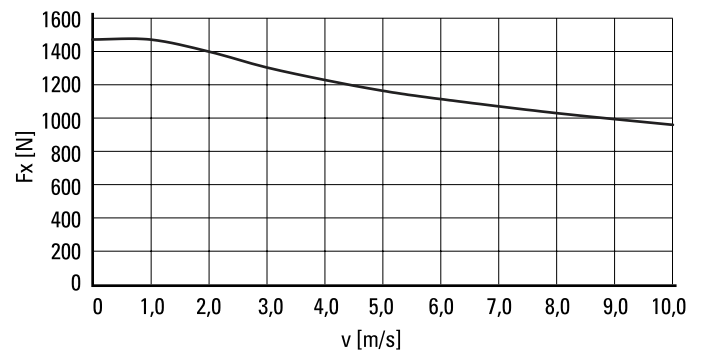
³ See diagram Force Fx

Carriage Idle Torque, (M idle) [Nm]

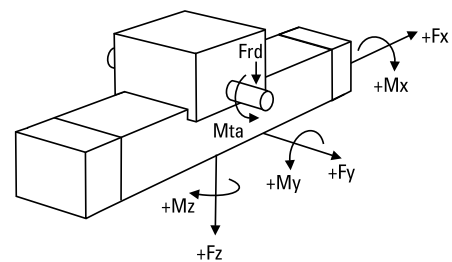
Input speed [rpm]	Idle torque [Nm]
150	2,4
1500	3,5
3000	5,0

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

Force Fx as a Function of the Speed

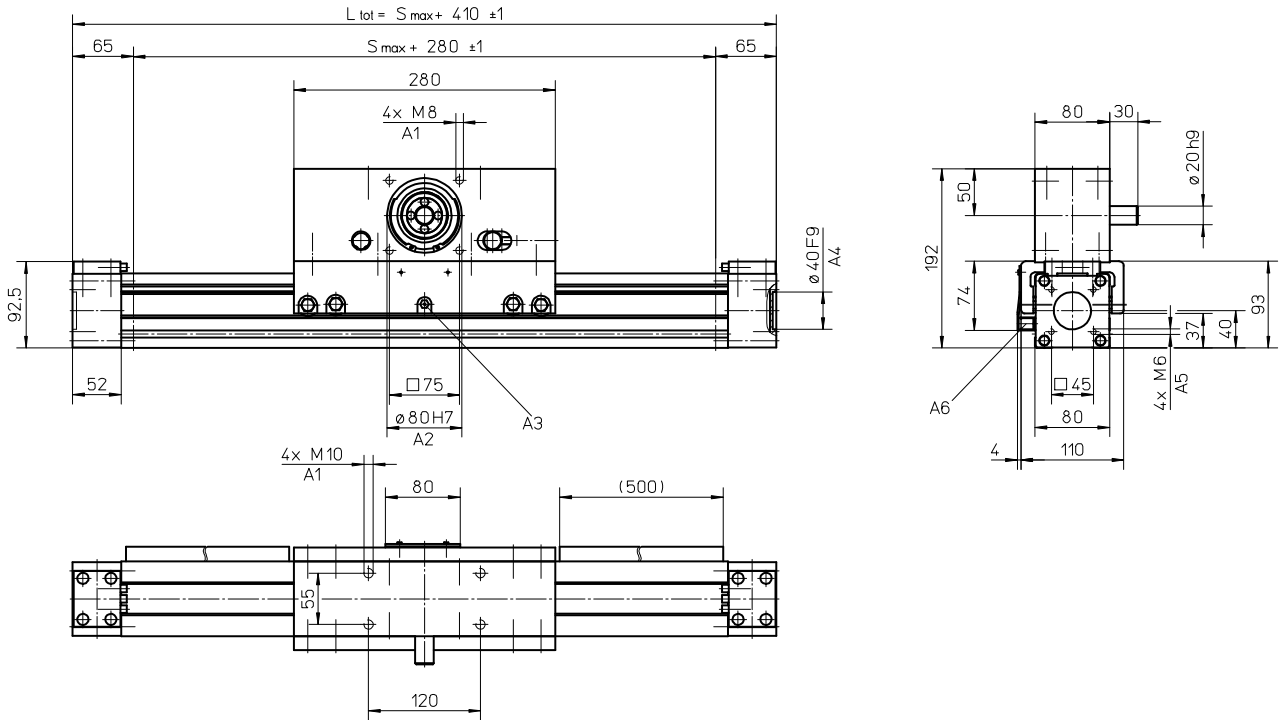


Definition of Forces



WHZ80

Belt Drive, Wheel Guide

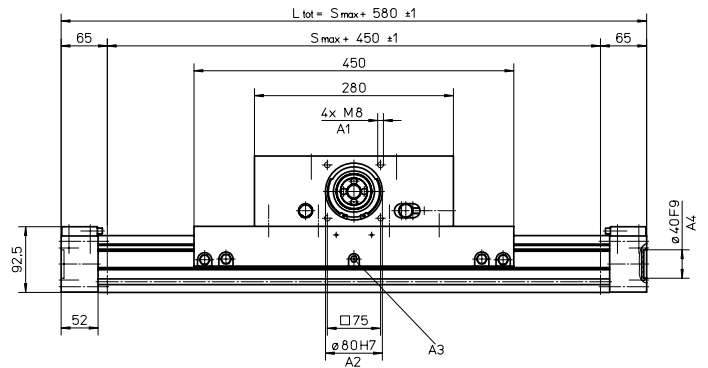


A1: depth 20
 A2: depth 3,5
 A3: funnel type lubricating nipple DIN3405-M6x1-D1

A4: depth 4
 A5: depth 15
 A6: ENF inductive sensor rail option kit (optional)

Long Carriage

Parameter		WHZ80
Carriage length	[mm]	450
Dynamic load torque (M_y), maximum	[Nm]	345
Dynamic load torque (M_z), maximum	[Nm]	150
Weight	[kg]	7,4

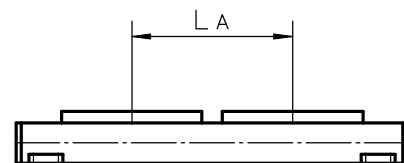


A1: depth 20
 A2: depth 3,5

A3: funnel type lubricating nipple DIN3405-M6x1-D1
 A4: depth 4

Double Carriages²

Parameter		WHZ80
Minimum distance between carriages (L_A)	[mm]	300
Dynamic load (F_y), maximum	[N]	1764
Dynamic load (F_z), maximum	[N]	4200
Dynamic load torque (M_y), maximum	[Nm]	$L A^1 \times 0,882$
Dynamic load torque (M_z), maximum	[Nm]	$L A^1 \times 2,1$
Force required to move second carriage	[N]	20
Total length (L_{tot})	[mm]	$S_{max} + 410 + L A$



¹ Value in mm

² Second carriage is always a long carriage