

# WH120

## Belt Drive, Wheel Guide

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- » Accessories - see page 137
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### General Specifications

Parameter	WH120
Profile size (w × h) [mm]	120 × 110
Type of belt	50ATL10
Carriage sealing system	none
Adjustable belt tensioning	the belt can be retensioned by the customer if necessary
Lubrication	lubrication of guiding surfaces
Included accessories	4 × mounting clamps

### Performance Specifications

Parameter		WH120
Stroke length (S max), maximum	[mm]	11000
Linear speed, maximum	[m/s]	10,0
Acceleration, maximum	[m/s <sup>2</sup> ]	40
Repeatability	[± mm]	0,05
Input speed, maximum	[rpm]	2308
Operation temperature limits	[°C]	0 – 80
Dynamic load (F <sub>x</sub> ), maximum	[N]	5000 <sup>3</sup>
Dynamic load (F <sub>y</sub> ), maximum	[N]	4980 <sup>1</sup> / 40500 <sup>2</sup>
Dynamic load (F <sub>z</sub> ), maximum	[N]	9300 <sup>1</sup> / 64800 <sup>2</sup>
Dynamic load torque (M <sub>x</sub> ), maximum	[Nm]	500 <sup>1</sup> / 3140 <sup>2</sup>
Dynamic load torque (M <sub>y</sub> ), maximum	[Nm]	930 <sup>1</sup> / 5830 <sup>2</sup>
Dynamic load torque (M <sub>z</sub> ), maximum	[Nm]	500 <sup>1</sup> / 3640 <sup>2</sup>
Drive shaft force (F <sub>rd</sub> ), maximum	[N]	700
Drive shaft torque (M <sub>ta</sub> ), maximum	[Nm]	200
Pulley diameter	[mm]	82,76
Stroke per shaft revolution	[mm]	260
Weight	[kg]	
of unit with zero stroke		17,00
of every 100 mm of stroke		1,64
of each carriage		5,50

<sup>1</sup> Value for the complete unit

<sup>2</sup> Value for the wheel guide only

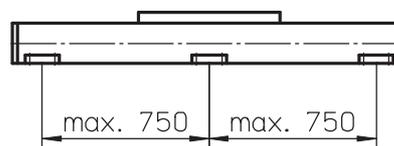
<sup>3</sup> See diagram Force F<sub>x</sub>

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

Input speed [rpm]	Idle torque [Nm]
150	4,8
1500	7,0
2308	10,0

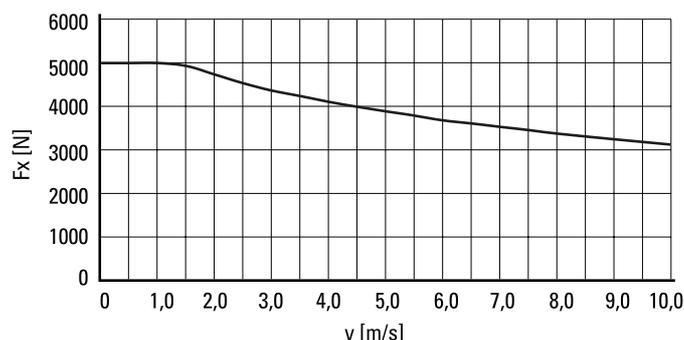
M<sub>idle</sub> = the input torque needed to move the carriage with no load on it.

### Deflection of the Profile

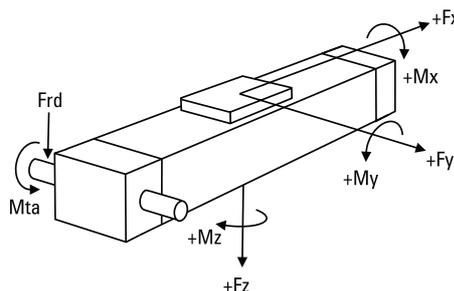


A mounting clamp must be installed at least at every 750 mm to be able to operate the maximum load. Less clamps may be required if less load is being operated, see the additional technical data for more information. Units with a profile length over 4900 mm consists of two profiles where the joint between the two profiles must be adequately supported on both sides.

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

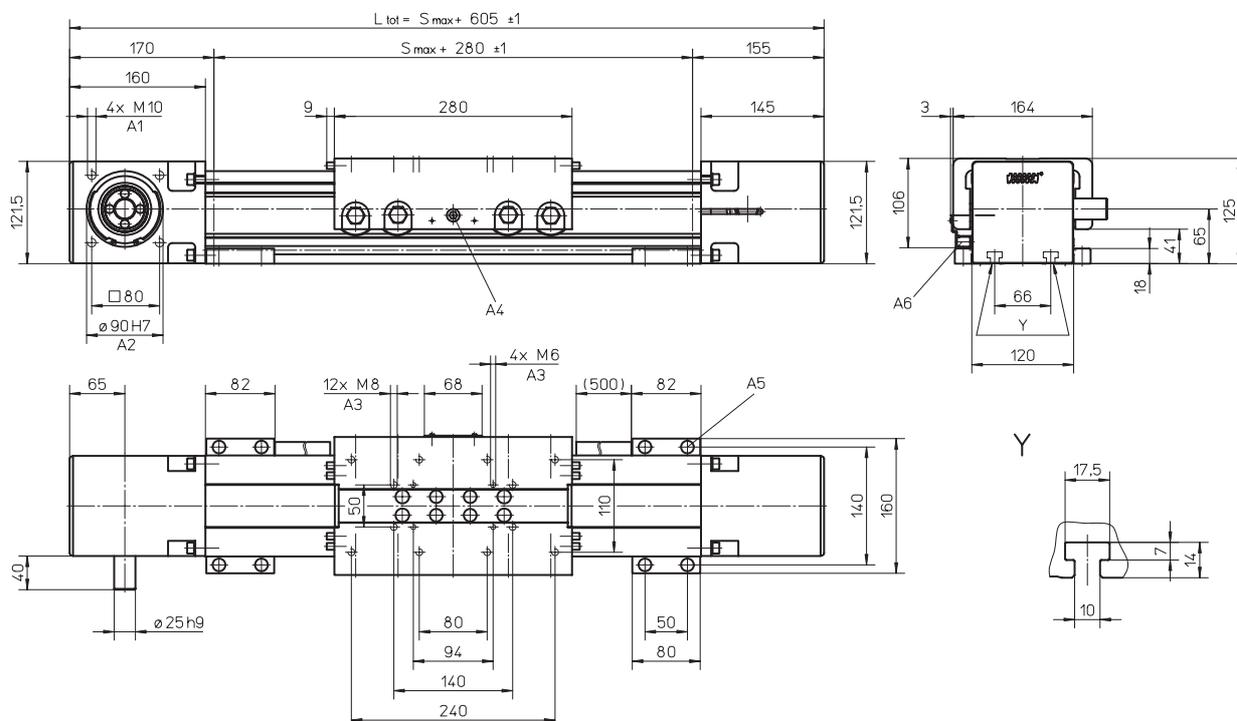


### Definition of Forces



# WH120

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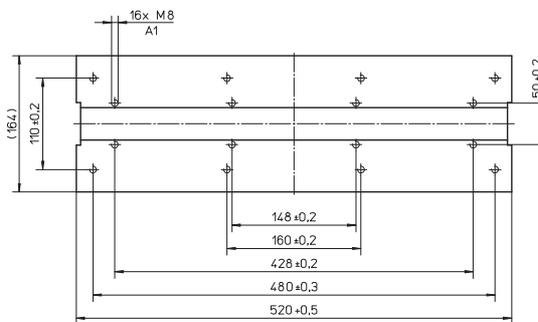


A1: depth 20  
A2: depth 7  
A3: depth 12

A4: funnel type lubricating nipple DIN3405-M6x1-D1  
A5: socket cap screw ISO4762-M8x20 8.8  
A6: ENF inductive sensor rail option kit (optional)

### Long Carriage

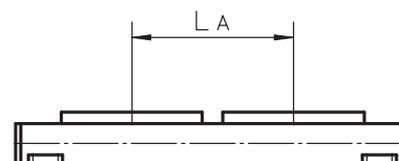
Parameter	WH120	
Carriage length	[mm]	520
Dynamic load torque ( $M_y$ ), maximum	[Nm]	1395
Dynamic load torque ( $M_z$ ), maximum	[Nm]	750
Weight	[kg]	8,67



A1: depth 12

### Double Carriages

Parameter	WH120	
Minimum distance between carriages ( $L_A$ )	[mm]	300
Dynamic load ( $F_y$ ), maximum	[N]	9960
Dynamic load ( $F_z$ ), maximum	[N]	18600
Dynamic load torque ( $M_y$ ), maximum	[Nm]	$L A^1 \times 4,98$
Dynamic load torque ( $M_z$ ), maximum	[Nm]	$L A^1 \times 9,3$
Force required to move second carriage	[N]	30
Total length ( $L_{tot}$ )	[mm]	$S_{max} + 605 + L A$



<sup>1</sup> Value in mm