

# M55

## Belt Drive, Ball Guide

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### General Specifications

Parameter	M55
Profile size (w × h) [mm]	58 × 55
Type of belt	22-STD SM5-HP
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		M55
Stroke length (S max), maximum	[mm]	7000
Linear speed, maximum	[m/s]	5,0
Acceleration, maximum	[m/s <sup>2</sup> ]	40
Repeatability	[± mm]	0,1
Input speed, maximum	[rpm]	2850
Operation temperature limits	[°C]	-20 – 70
Dynamic load (F <sub>x</sub> ), maximum	[N]	
< 2,5 m/s		400
> 2,5 m/s		200
Dynamic load (F <sub>y</sub> ), maximum	[N]	750 <sup>1</sup> / 5435 <sup>2</sup>
Dynamic load (F <sub>z</sub> ), maximum	[N]	750 <sup>1</sup> / 6968 <sup>2</sup>
Dynamic load torque (M <sub>x</sub> ), maximum	[Nm]	5 <sup>1</sup> / 49 <sup>2</sup>
Dynamic load torque (M <sub>y</sub> ), maximum	[Nm]	29 <sup>1</sup> / 212 <sup>2</sup>
Dynamic load torque (M <sub>z</sub> ), maximum	[Nm]	29 <sup>1</sup> / 212 <sup>2</sup>
Drive shaft force (F <sub>rd</sub> ), maximum	[N]	200
Drive shaft torque (M <sub>ta</sub> ), maximum	[Nm]	12
Pulley diameter	[mm]	33,42
Stroke per shaft revolution	[mm]	105
Weight	[kg]	
of unit with zero stroke		4,80
of every 100 mm of stroke		0,53
of carriage		1,20

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

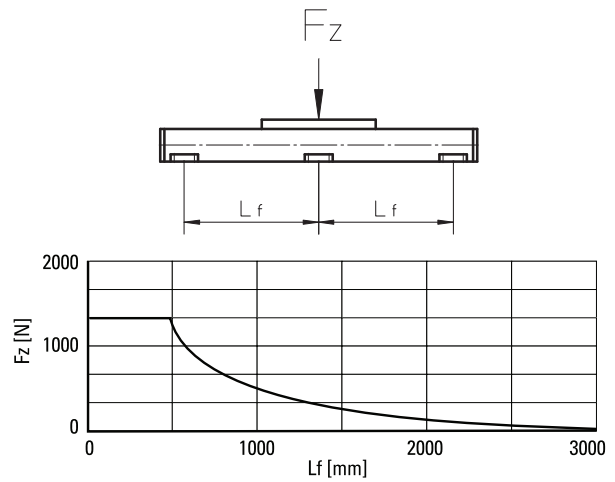
<sup>2</sup> Value for the ball guide only

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

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

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

### Deflection of the Profile



### Definition of Forces

