



# M55

## Belt Drive, Ball Guide

- » Ordering key - see page 186
- » Accessories - see page 117
- » Additional data - see page 173

### 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

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

Parameter		M55
Stroke length (Smax), maximum	[mm]	7000
Total length (L tot), maximum	[mm]	7373
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 (Fx), maximum	[N]	
< 2,5 m/s		400
> 2,5 m/s		200
Dynamic load (Fy), maximum	[N]	750
Dynamic load (Fz), maximum	[N]	750
Dynamic load torque (Mx), maximum	[Nm]	5
Dynamic load torque (My), maximum	[Nm]	29
Dynamic load torque (Mz), maximum	[Nm]	29
Drive shaft force (Frd), maximum <sup>2</sup>	[N]	200
Input/drive shaft torque (Mta), 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> See next page for deviating values of units with other carriage types.

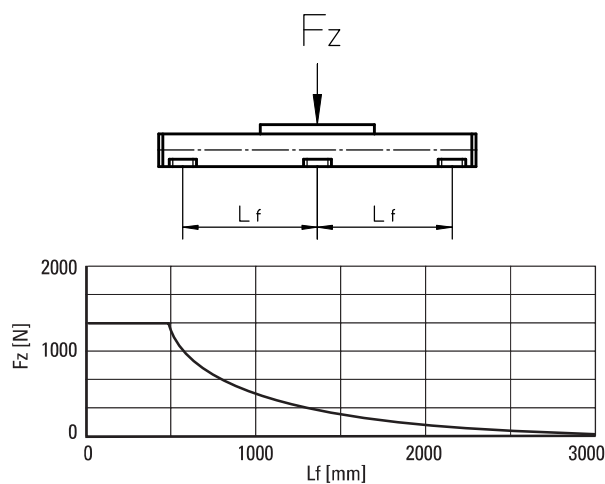
<sup>2</sup> Only relevant for units without RediMount flange.

### Carriage Idle Torque (M idle) [Nm]

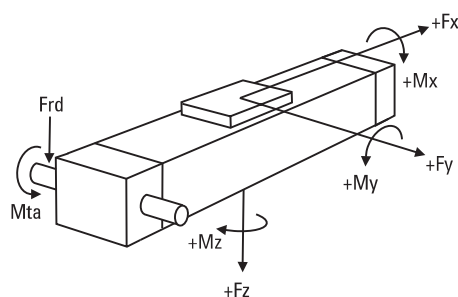
Input speed [rpm]	Single Carriage	Double Carriages
150	1,0	1,9

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

### Deflection of the Profile




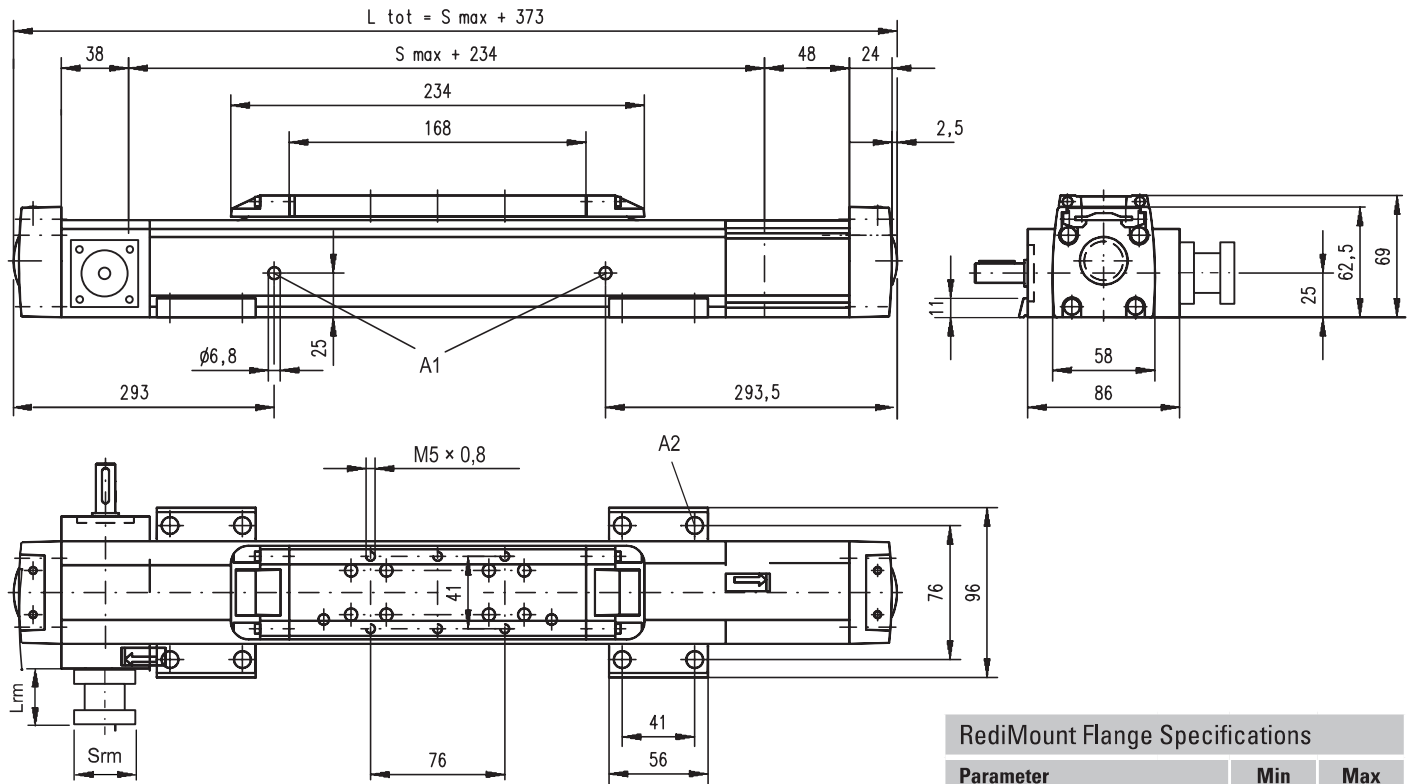
### Definition of Forces



# M55

## Belt Drive, Ball Guide

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



A1: lubrication holes  
 A2:  $\phi 9,5/\phi 5,5$  for socket head cap screw M5

Parameter		Min	Max
Flange length ( $L_{rm}$ )	[mm]	57	92
Flange square ( $S_{rm}$ )	[mm]	60	139
Flange weight *	[kg]	1,84	

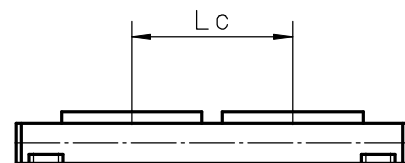
\* Max. weight including coupling and fastening screws

### Performance Specifications

for Units with Double Standard Carriage (C)

Parameter		M55
Stroke length ( $S_{max}$ ), maximum	[mm]	6750
Total length ( $L_{tot}$ ), maximum	[mm]	7373
Minimum distance between carriages ( $L_c$ )	[mm]	250
Dynamic load ( $F_y$ ), maximum	[N]	1125
Dynamic load ( $F_z$ ), maximum	[N]	1125
Dynamic load torque ( $M_y$ ), maximum	[Nm]	$L_c^1 \times 0,56$
Dynamic load torque ( $M_z$ ), maximum	[Nm]	$L_c^1 \times 0,56$
Force required to move second carriage	[N]	2
Total length ( $L_{tot}$ )	[mm]	$S_{max} + L_c + 373$
Weight of unit with zero stroke of carriages	[kg]	7,06 2,40

<sup>1</sup> Value in mm





# M75

## Belt Drive, Ball Guide

- » Ordering key - see page 186
- » Accessories - see page 117
- » Additional data - see page 173

### General Specifications

Parameter	M75 / T75
Profile size (w × h) [mm]	86 × 75
Type of belt	STD5-40
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

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

Parameter		M75
Stroke length (Smax), maximum	[mm]	12000
Total length (L tot), maximum	[mm]	12368
Linear speed, maximum	[m/s]	5,0
Acceleration, maximum	[m/s <sup>2</sup> ]	40
Repeatability	[± mm]	0,1
Input speed, maximum	[rpm]	2300
Operation temperature limits	[°C]	-20 – 70
Dynamic load (Fx), maximum	[N]	
< 2,5 m/s		900
> 2,5 m/s		450
Dynamic load (Fy), maximum	[N]	1750
Dynamic load (Fz), maximum	[N]	1750
Dynamic load torque (Mx), maximum	[Nm]	16
Dynamic load torque (My), maximum	[Nm]	84
Dynamic load torque (Mz), maximum	[Nm]	84
Drive shaft force (Frd), maximum <sup>2</sup>	[N]	600
Input/drive shaft torque (Mta), maximum	[Nm]	30
Pulley diameter	[mm]	41,38
Stroke per shaft revolution	[mm]	130
Weight	[kg]	
of unit with zero stroke		7,50
of every 100 mm of stroke		0,88
of carriage		2,00

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

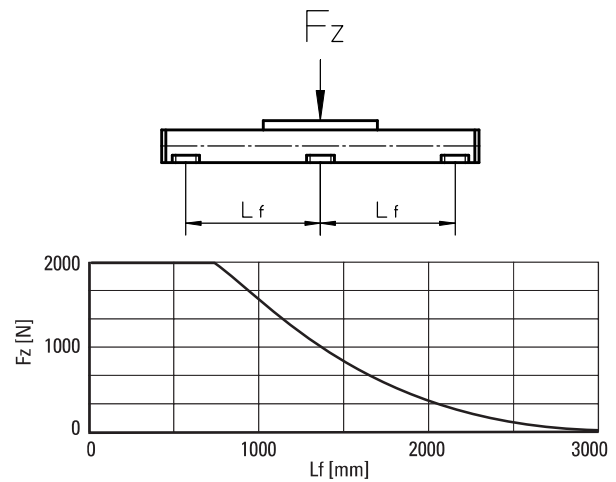
<sup>2</sup> Only relevant for units without RediMount flange.

### Carriage Idle Torque (M idle) [Nm]

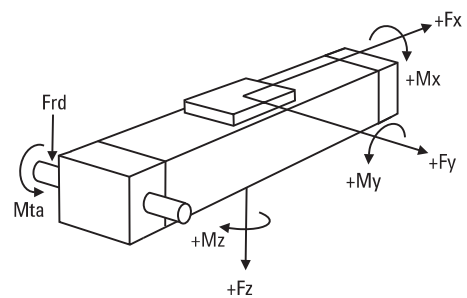
Input speed [rpm]	Single Carriage	Double Carriages
150	1,0	1,9

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

### Deflection of the Profile




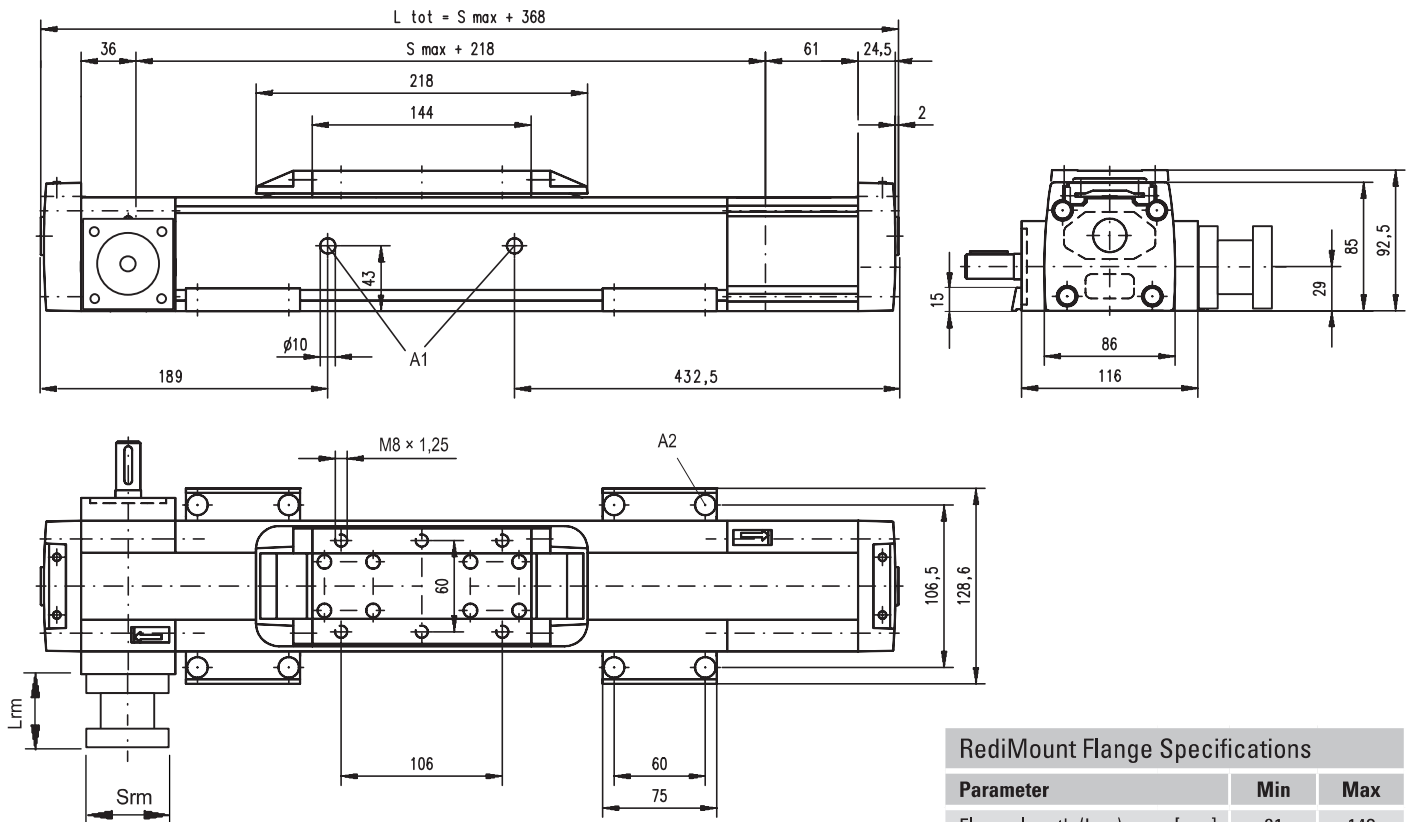
### Definition of Forces



# M75

## Belt Drive, Ball Guide

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



A1: lubrication holes  
 A2:  $\phi 13,5/\phi 8,5$  for socket head cap screw M8

Parameter		Min	Max
Flange length (Lrm)	[mm]	81	143
Flange square (Srm)	[mm]	90	200
Flange weight *	[kg]	6,00	

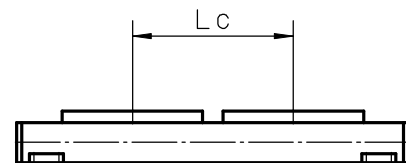
\* Max. weight including coupling and fastening screws

### Performance Specifications

for Units with Double Standard Carriage (C)

Parameter		M75
Stroke length (Smax), maximum	[mm]	11750
Total length (L tot), maximum	[mm]	12368
Minimum distance between carriages (Lc)	[mm]	250
Dynamic load (Fy), maximum	[N]	2625
Dynamic load (Fz), maximum	[N]	2625
Dynamic load torque (My), maximum	[Nm]	$Lc^1 \times 1,313$
Dynamic load torque (Mz), maximum	[Nm]	$Lc^1 \times 1,313$
Force required to move second carriage	[N]	2
Total length (L tot)	[mm]	$Smax + Lc + 368$
Weight of unit with zero stroke of carriages	[kg]	11,67 4,00

<sup>1</sup> Value in mm





# M100

## Belt Drive, Ball Guide

- » Ordering key - see page 186
- » Accessories - see page 117
- » Additional data - see page 173

### General Specifications

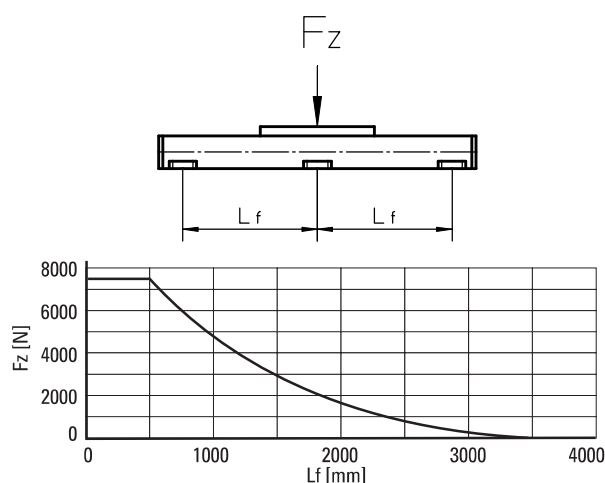
Parameter	M100
Profile size (w × h) [mm]	108 × 100
Type of belt	STD8-50
Carriage sealing system	self-adjusting steel cover band
Adjustable belt tensioning	the belt can be retensioned by the customer if necessary
Lubrication	lubrication of ball guide carriages
Included accessories	none

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

Input speed [rpm]	Single Carriage	Double Carriages
150	1,6	3,1

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

### Deflection of the Profile



### Performance Specifications

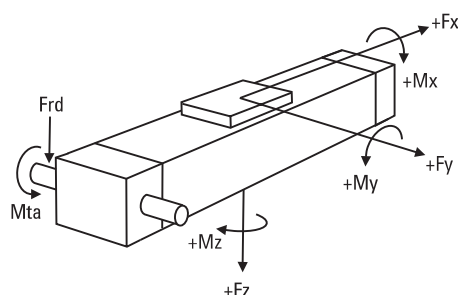
for Units with Single Standard Carriage (A)<sup>1</sup>

Parameter		M100
Stroke length (S <sub>max</sub> ), maximum	[mm]	11900
Total length (L <sub>tot</sub> ), maximum	[mm]	12361
Linear speed, maximum	[m/s]	5,0
Acceleration, maximum	[m/s <sup>2</sup> ]	40
Repeatability	[± mm]	0,1
Input speed, maximum	[rpm]	1700
Operation temperature limits	[°C]	-20 – 70
Dynamic load (F <sub>x</sub> ), maximum	[N]	
< 2,5 m/s		1250
> 2,5 m/s		625
Dynamic load (F <sub>y</sub> ), maximum	[N]	4000
Dynamic load (F <sub>z</sub> ), maximum	[N]	4000
Dynamic load torque (M <sub>x</sub> ), maximum	[Nm]	43
Dynamic load torque (M <sub>y</sub> ), maximum	[Nm]	280
Dynamic load torque (M <sub>z</sub> ), maximum	[Nm]	280
Drive shaft force (F <sub>rd</sub> ), maximum <sup>2</sup>	[N]	1000
Input/drive shaft torque (M <sub>ta</sub> ), maximum	[Nm]	45
Pulley diameter	[mm]	56,02
Stroke per shaft revolution	[mm]	176
Weight	[kg]	
of unit with zero stroke		11,61
of every 100 mm of stroke		1,43
of carriage		2,20

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


<sup>2</sup> Only relevant for units without RediMount flange.

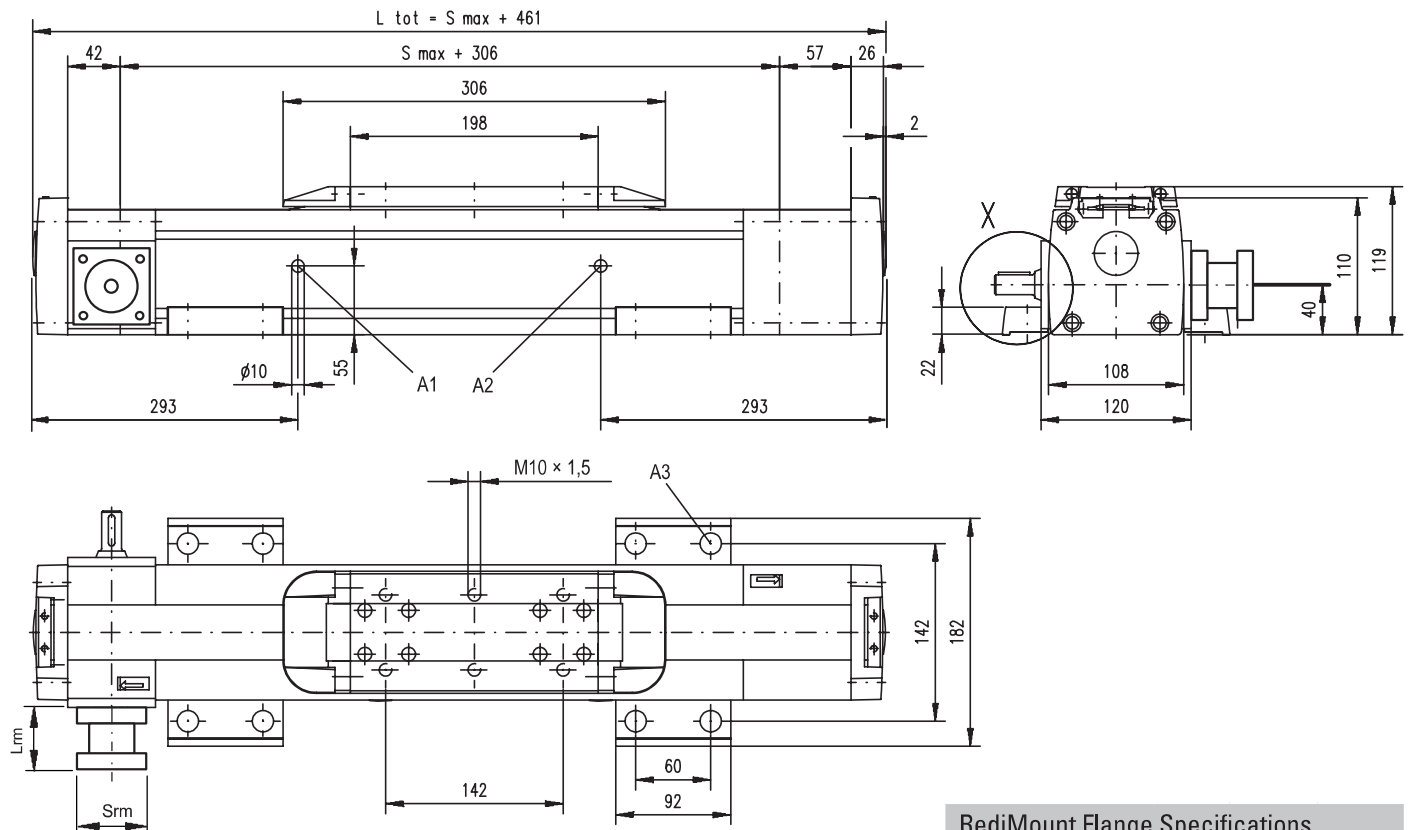
### Definition of Forces



# M100

## Belt Drive, Ball Guide

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



A1: lubrication hole  
 A2: lubrication hole (no hole if L order is < 856 mm)  
 A3:  $\phi 17/\phi 10,5$  for socket head cap screw M10

### RediMount Flange Specifications

Parameter	Min	Max
Flange length (L <sub>rm</sub> )	81	143
Flange square (S <sub>rm</sub> )	90	200
Flange weight *	6,00	

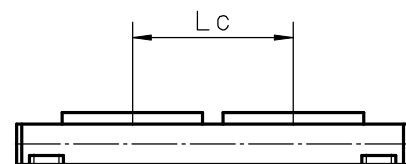
\* Max. weight including coupling and fastening screws

### Performance Specifications

for Units with Double Standard Carriage (C)

Parameter		M100
Stroke length (S <sub>max</sub> ), maximum	[mm]	11550
Total length (L <sub>tot</sub> ), maximum	[mm]	12361
Minimum distance between carriages (L <sub>c</sub> )	[mm]	350
Dynamic load (F <sub>y</sub> ), maximum	[N]	6000
Dynamic load (F <sub>z</sub> ), maximum	[N]	6000
Dynamic load torque (M <sub>y</sub> ), maximum	[Nm]	L <sub>c</sub> <sup>1</sup> × 3
Dynamic load torque (M <sub>z</sub> ), maximum	[Nm]	L <sub>c</sub> <sup>1</sup> × 3
Force required to move second carriage	[N]	2
Total length (L <sub>tot</sub> )	[mm]	S <sub>max</sub> + L <sub>c</sub> + 461
Weight of unit with zero stroke of carriages	[kg]	18,92 4,40

<sup>1</sup> Value in mm





# Ordering Keys

## Linear Motion Systems with Belt Drive and Ball Guides

### M55, M75, M100

1	2	3	4	5	6	7	8	9
MF10B	LX	999	-01000	-01500	D	N	0000	S1

#### 1. Type of unit

MF06B = M55 unit, ball guides, belt drive  
 MF07B = M75 unit, ball guides, belt drive  
 MF10B = M100 unit, ball guides, belt drive

#### 2. Transmission type

LX = inline style, directly coupled, RediMount flange  
 SX = inline style, directly coupled, no RediMount flange

#### 3. RediMount motor ID code

vww = alphanumeric motor code for suitable RediMount flange when motor is known  
 999 = RediMount code used when motor is unknown  
 XXX = for units without RediMount flange

#### 4. Maximum stroke (Smax)

-xxxxx = distance in mm

#### 5. Total length of unit (L tot)

-yyyyy = distance in mm

#### 6. Drive shaft / RediMount flange configuration<sup>1</sup>

C = shaft on left side with key way or RediMount  
 D = shaft on right side with key way or RediMount  
 M = shaft on left side with key way or RediMount, shaft on right side with key way  
 N = shaft on left side with key way, shaft on right side with key way or RediMount

#### 7. Carriage configuration

N = single standard carriage  
 Z = double standard carriages

#### 8. Distance between carriages (Lc)

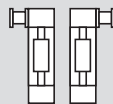
0000 = for all single standard carriage units  
 zzzz = distance in mm between carriages

#### 9. Protection option

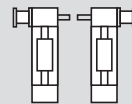
S1 = wash down protection (blank if no protection option required).

<sup>1</sup> See below for the definition of shafts.

Left, right or both sides with shafts with RediMount



Left or right with RediMount and other side a shaft without RediMount



Left or right without RediMount

