M55

Ball Screw Drive, Ball Guide

» Ordering key - see page 179
» Accessories - see page 117
» Additional data - see page 172

General Specifications

Parameter	M55
Profile size (w × h) [mm]	58 × 55
Type of screw	ball screw with single nut
Carriage sealing system	self-adjusting steel cover band
Screw supports	number of screw supports to be specified by customer at order
Lubrication	lubrication of ball screw
Included accessories	none

Performance Specifications

for Units with Single Standard Carriage (A)[1]

Parameter		M55
Stroke length (Smax), maximum	[mm]	2712
Total length (L tot), maximum	[mm]	2975
Linear speed, maximum	[m/s]	1,6
Acceleration, maximum	[m/s²]	8
Repeatability	[± mm]	0,05
Input speed, maximum	[rpm]	3000
Operation temperature limits	[°C]	-20 – 70
Dynamic load (Fx), maximum	[N]	1000
Dynamic load (Fy), maximum	[N]	900
Dynamic load (Fz), maximum	[N]	900
Dynamic load torque (Mx), maximum	[Nm]	9
Dynamic load torque (My), maximum	[Nm]	48
Dynamic load torque (Mz), maximum	[Nm]	48
Drive shaft force (Frd), maximum [2]	[N]	200
Input/drive shaft torque (Mta), maximum	[Nm]	12
Screw diameter (d0)	[mm]	16
Screw lead (p)	[mm]	5, 10, 20
Weight	[kg]	
of unit with zero stroke		3,90
of every 100 mm of stroke		0,56
of carriage		1,20
of option single screw support		0,83
of option double screw supports		1,88

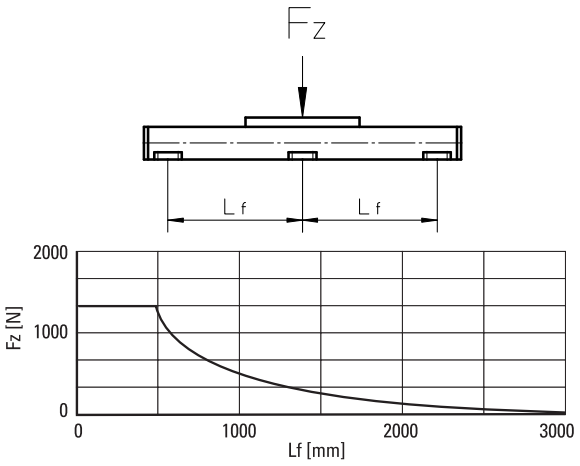
[1] See next page for deviating values of units with other carriage types.
[2] Only relevant for units without RediMount flange.

Carriage Idle Torque (M idle) [Nm]

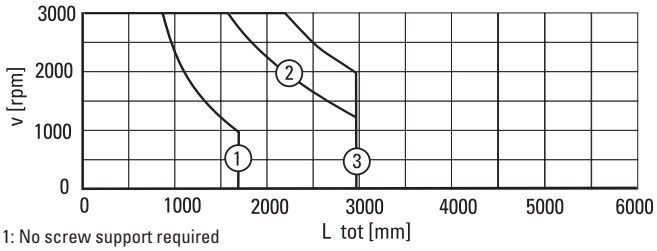
Input speed [rpm]	Screw lead [mm]		
	p = 5	p = 10	p = 20
500 - no screw supports	0,02	0,03	0,04
500 - with screw supports	0,03	0,05	0,07

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

Deflection of the Profile

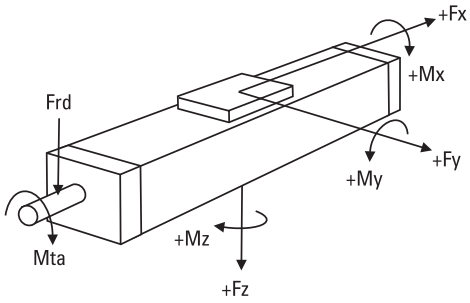


Critical Speed



1: No screw support required
2: Single screw support required
3: Double screw supports required

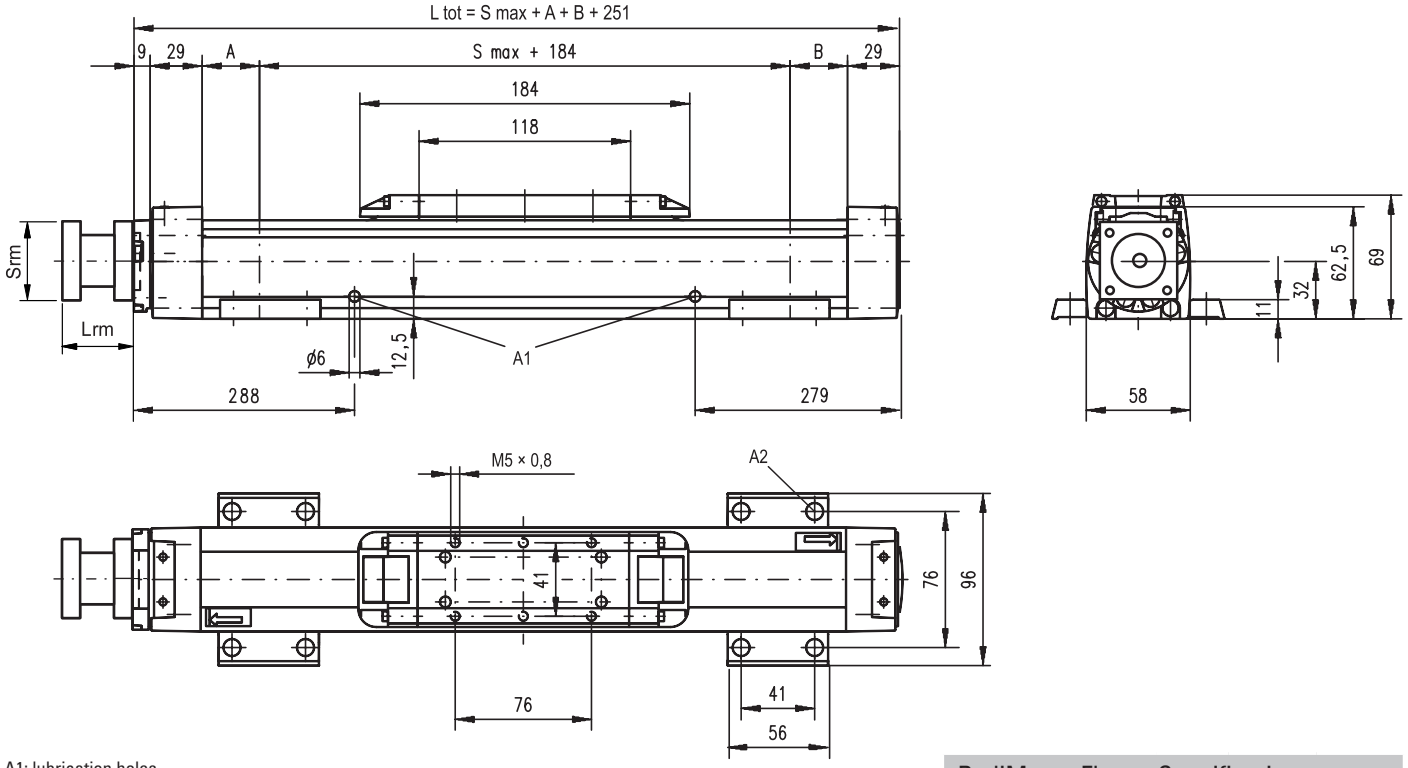
Definition of Forces



M55

Ball Screw Drive, Ball Guide

Dimensions	Projection	Online Sizing & Selection!
METRIC		www.LinearMotioneering.com



A1: lubrication holes
A2: ø9,5/ø5,5 for socket head cap screw M5

Screw support configuration	A [mm]	B [mm]	Total length (L tot) [mm]
No screw support	6	6	L tot = Smax + A + B + 251
Single screw support	40	40	L tot = Smax + A + B + 251
Double screw supports	92	92	L tot = Smax + A + B + 251

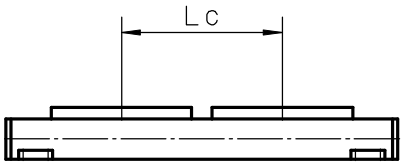
RediMount Flange Specifications			
Parameter		**Min**	**Max**
Flange length (Lrm)	[mm]	57	92
Flange square (Srm)	[mm]	60	139
Flange weight *	[kg]	1,84	

* Max. weight including coupling and fastening screws

Performance Specifications

for Units with Double Standard Carriage (C)

Parameter		M55
Stroke length (Smax), maximum	[mm]	2512
Total length (L tot), maximum	[mm]	2975
Minimum distance between carriages (Lc)	[mm]	200
Dynamic load (Fy), maximum	[N]	1350
Dynamic load (Fz), maximum	[N]	1350
Dynamic load torque (My), maximum	[Nm]	Lc[1] × 0,675
Dynamic load torque (Mz), maximum	[Nm]	Lc[1] × 0,675
Force required to move second carriage	[N]	2
Weight of unit with zero stroke of carriages	[kg]	 6,5 2,4



Screw support configuration	A [mm]	B [mm]	Total length (L tot) [mm]
No screw support	6	6	L tot = Smax + A + B + Lc + 251
Single screw support	40	40	L tot = Smax + A + B + Lc + 251
Double screw supports	92	92	L tot = Smax + A + B + Lc + 251

M75

Ball Screw Drive, Ball Guide

» Ordering key - see page 179
» Accessories - see page 117
» Additional data - see page 172

General Specifications

Parameter	M75
Profile size (w × h) [mm]	86 × 75
Type of screw	ball screw with single nut
Carriage sealing system	self-adjusting steel cover band
Screw supports	number of screw supports to be specified by customer at order
Lubrication	lubrication of ball screw
Included accessories	none

Performance Specifications

for Units with Single Standard Carriage (A)[1]

Parameter		M75
Stroke length (Smax), maximum screw lead 5, 20 mm screw lead 12,7 mm	[mm]	 3772 2665
Total length (L tot), maximum screw lead 5, 20 mm screw lead 12,7 mm	[mm]	 4075 2968
Linear speed, maximum	[m/s]	1,0
Acceleration, maximum	[m/s²]	8
Repeatability	[± mm]	0,05
Input speed, maximum	[rpm]	3000
Operation temperature limits	[°C]	-20 – 70
Dynamic load (Fx), maximum	[N]	2500
Dynamic load (Fy), maximum	[N]	2000
Dynamic load (Fz), maximum	[N]	2000
Dynamic load torque (Mx), maximum	[Nm]	18
Dynamic load torque (My), maximum	[Nm]	130
Dynamic load torque (Mz), maximum	[Nm]	130
Drive shaft force (Frd), maximum [2]	[N]	600
Input/drive shaft torque (Mta), maximum	[Nm]	30
Screw diameter (d0)	[mm]	20
Screw lead (p)	[mm]	5, 12,7, 20
Weight of unit with zero stroke of every 100 mm of stroke of carriage of option single screw support of option double screw supports	[kg]	 6,90 1,05 2,50 1,70 3,58

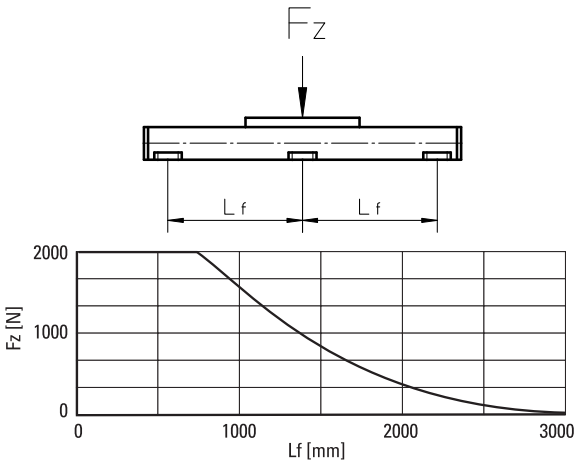
[1] See next page for deviating values of units with other carriage types.
[2] Only relevant for units without RediMount flange.

Carriage Idle Torque (M idle) [Nm]

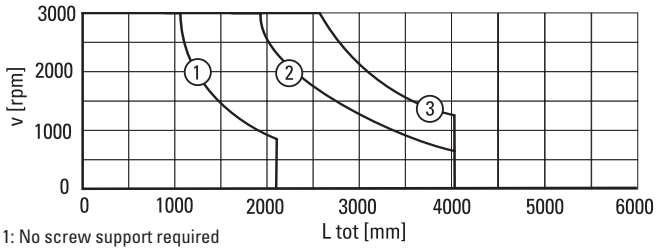
Input speed [rpm]	Screw lead [mm]		
	p = 5	p = 12,7	p = 20
500 - no screw supports	0,04	0,1	0,16
500 - with screw supports	0,06	0,12	0,2

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

Deflection of the Profile

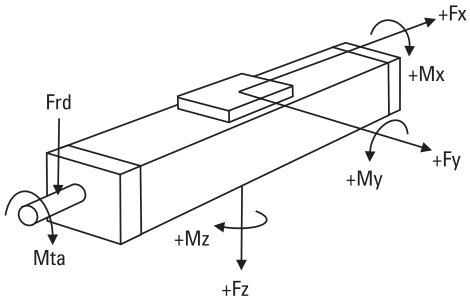


Critical Speed



1: No screw support required
2: Single screw support required
3: Double screw supports required

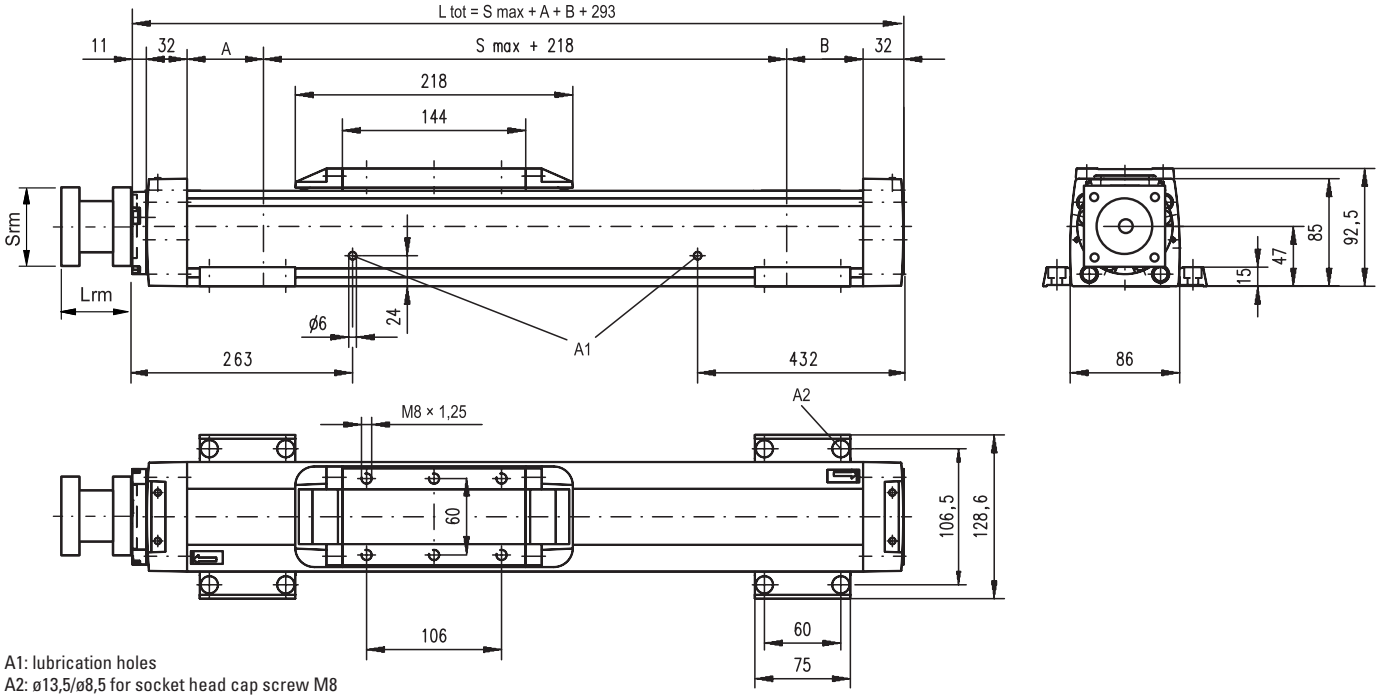
Definition of Forces



M75

Ball Screw Drive, Ball Guide

Dimensions	Projection	Online Sizing & Selection!
METRIC		www.LinearMotioneering.com



A1: lubrication holes
A2: ø13,5/ø8,5 for socket head cap screw M8

Screw support configuration	A [mm]	B [mm]	Total length (L tot) [mm]
No screw support	5	5	L tot = Smax + A + B + 293
Single screw support	60	60	L tot = Smax + A + B + 293
Double screw supports	126	126	L tot = Smax + A + B + 293

Performance Specifications

for Units with Double Standard Carriage (C)

Parameter		M75
Stroke length (Smax), maximum screw lead 5, 20 mm screw lead 12,7 mm	[mm]	 3522 2415
Total length (L tot), maximum screw lead 5, 20 mm screw lead 12,7 mm	[mm]	 4075 2968
Minimum distance between carriages (Lc)	[mm]	250
Dynamic load (Fy), maximum	[N]	3000
Dynamic load (Fz), maximum	[N]	3000
Dynamic load torque (My), maximum	[Nm]	Lc[1] × 1,5
Dynamic load torque (Mz), maximum	[Nm]	Lc[1] × 1,5
Force required to move second carriage	[N]	2
Weight of unit with zero stroke of carriages	[kg]	 12,2 5,0

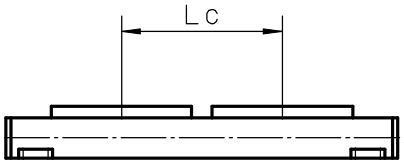
Screw support configuration	A [mm]	B [mm]	Total length (L tot) [mm]
No screw support	5	5	L tot = Smax + A + B + Lc + 293
Single screw support	60	60	L tot = Smax + A + B + Lc + 293
Double screw supports	126	126	L tot = Smax + A + B + Lc + 293

[1] Value in mm

RediMount Flange Specifications

Parameter		Min	Max
Flange length (Lrm)	[mm]	81	143
Flange square (Srm)	[mm]	90	200
Flange weight *	[kg]	5,60	

* Max. weight including coupling and fastening screws



M100

Ball Screw Drive, Ball Guide

» Ordering key - see page 179
» Accessories - see page 117
» Additional data - see page 172

General Specifications

Parameter	M100
Profile size (w × h) [mm]	108 × 100
Type of screw	ball screw with single nut
Carriage sealing system	self-adjusting steel cover band
Screw supports	number of screw supports to be specified by customer at order
Lubrication	lubrication of ball screw
Included accessories	none

Performance Specifications

for Units with Single Standard Carriage (A)[1]

Parameter		M100
Stroke length (Smax), maximum screw lead 5, 10 mm screw lead 25 mm	[mm]	 5578 4378
Total length (L tot), maximum screw lead 5, 10 mm screw lead 25 mm	[mm]	 5974 4774
Linear speed, maximum	[m/s]	1,25
Acceleration, maximum	[m/s²]	8
Repeatability	[± mm]	0,05
Input speed, maximum	[rpm]	3000
Operation temperature limits	[°C]	-20 – 70
Dynamic load (Fx), maximum	[N]	5000
Dynamic load (Fy), maximum	[N]	5000
Dynamic load (Fz), maximum	[N]	5000
Dynamic load torque (Mx), maximum	[Nm]	60
Dynamic load torque (My), maximum	[Nm]	400
Dynamic load torque (Mz), maximum	[Nm]	400
Drive shaft force (Frd), maximum[2]	[N]	1000
Input/drive shaft torque (Mta), maximum	[Nm]	45
Screw diameter (d0)	[mm]	25
Screw lead (p)	[mm]	5, 10, 25
Weight of unit with zero stroke of every 100 mm of stroke of carriage of option single screw support of option double screw supports	[kg]	 14,3 1,72 4,00 1,86 4,42

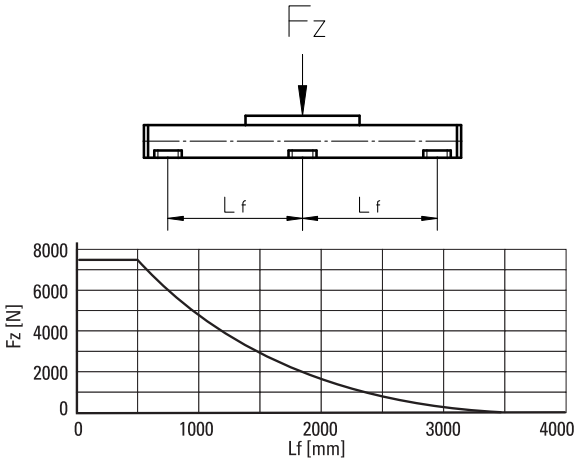
[1] See next page for deviating values of units with other carriage types.
[2] Only relevant for units without RediMount flange.

Carriage Idle Torque (M idle) [Nm]

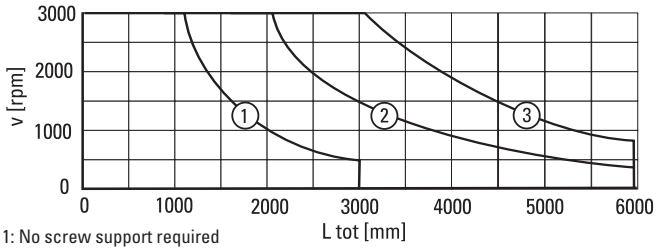
Input speed [rpm]	Screw lead [mm]		
	p = 5	p = 10	p = 25
500 - no screw supports	0,08	0,14	0,32
500 - with screw supports	0,1	0,16	0,37

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

Deflection of the Profile

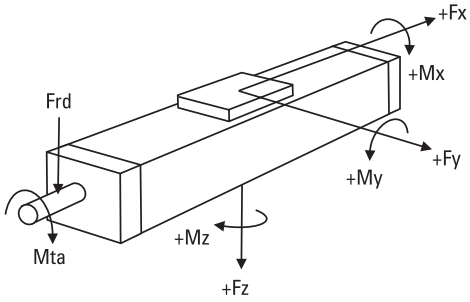


Critical Speed



1: No screw support required
2: Single screw support required
3: Double screw supports required

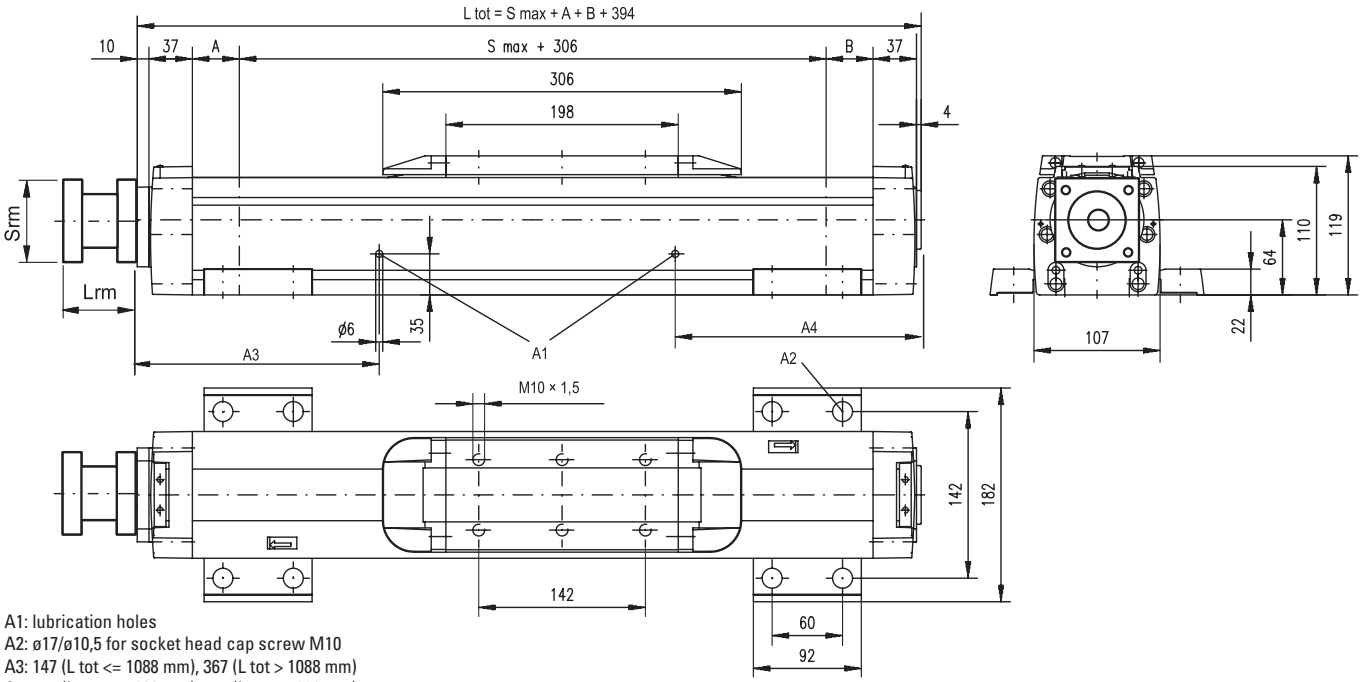
Definition of Forces



M100

Ball Screw Drive, Ball Guide

Dimensions	Projection	Online Sizing & Selection!
METRIC		www.LinearMotioneering.com



A1: lubrication holes
A2: ø17/ø10,5 for socket head cap screw M10
A3: 147 (L tot <= 1088 mm), 367 (L tot > 1088 mm)
A4: 141 (L tot <= 1088 mm), 471 (L tot > 1088 mm)

Screw support configuration	A [mm]	B [mm]	Total length (L tot) [mm]
No screw support	1	1	L tot = Smax + A + B + 394
Single screw support	31	31	L tot = Smax + A + B + 394
Double screw supports	86	86	L tot = Smax + A + B + 394

RediMount Flange Specifications

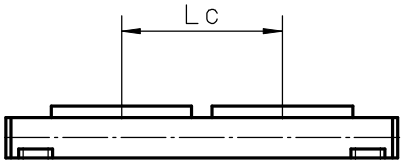
Parameter		Min	Max
Flange length (Lrm)	[mm]	81	143
Flange square (Srm)	[mm]	90	200
Flange weight *	[kg]	5,60	

* Max. weight including coupling and fastening screws

Performance Specifications

for Units with Double Standard Carriage (C)

Parameter		M100
Stroke length (Smax), maximum screw lead 5, 10 mm screw lead 25 mm	[mm]	 5228 4028
Total length (L tot), maximum screw lead 5, 10 mm screw lead 25 mm	[mm]	 5974 4774
Minimum distance between carriages (Lc)	[mm]	350
Dynamic load (Fy), maximum	[N]	7500
Dynamic load (Fz), maximum	[N]	7500
Dynamic load torque (My), maximum	[Nm]	Lc[1] × 3,75
Dynamic load torque (Mz), maximum	[Nm]	Lc[1] × 3,75
Force required to move second carriage	[N]	2
Weight of unit with zero stroke of carriages	[kg]	 25,3 8,0



Screw support configuration	A [mm]	B [mm]	Total length (L tot) [mm]
No screw support	1	1	L tot = Smax + A + B + Lc + 394
Single screw support	31	31	L tot = Smax + A + B + Lc + 394
Double screw supports	86	86	L tot = Smax + A + B + Lc + 394

[1] Value in mm