

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)¹

| Parameter | | M55 |
|--|---------------------|----------|
| Stroke length (S _{max}), maximum | [mm] | 7000 |
| Total length (L _{tot}), maximum | [mm] | 7373 |
| Linear speed, maximum | [m/s] | 5,0 |
| Acceleration, maximum | [m/s ²] | 40 |
| Repeatability | [± mm] | 0,1 |
| Input speed, maximum | [rpm] | 2850 |
| Operation temperature limits | [°C] | -20 – 70 |
| Dynamic load (F _x), maximum | [N] | |
| < 2,5 m/s | | 400 |
| > 2,5 m/s | | 200 |
| Dynamic load (F _y), maximum | [N] | 750 |
| Dynamic load (F _z), maximum | [N] | 750 |
| Dynamic load torque (M _x), maximum | [Nm] | 5 |
| Dynamic load torque (M _y), maximum | [Nm] | 29 |
| Dynamic load torque (M _z), maximum | [Nm] | 29 |
| Drive shaft force (F _{rd}), maximum ² | [N] | 200 |
| Input/drive shaft torque (M _{ta}), 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 |

¹ See next page for deviating values of units with other carriage types.

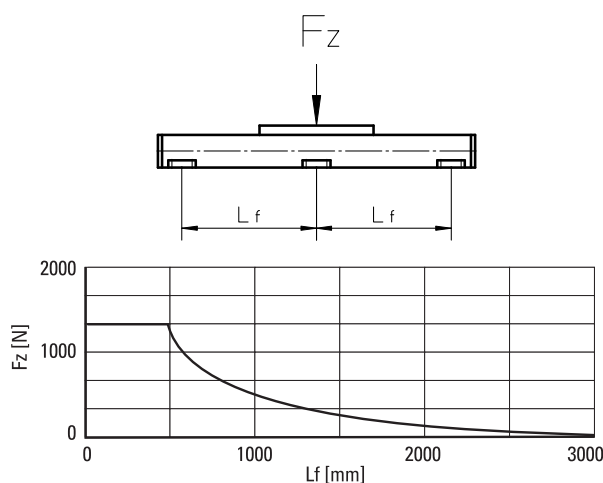
² Only relevant for units without RediMount flange.

Carriage Idle Torque (M_{idle}) [Nm]

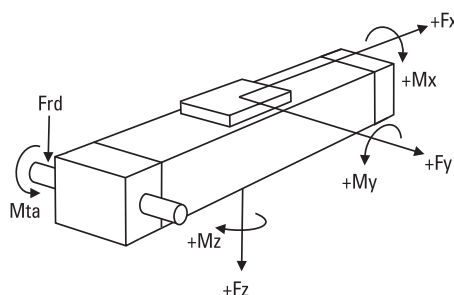
| Input speed [rpm] | Single Carriage | Double Carriages |
|-------------------|-----------------|------------------|
| 150 | 1,0 | 1,9 |

M_{idle} = the input torque needed to move the carriage with no load on it.

Deflection of the Profile



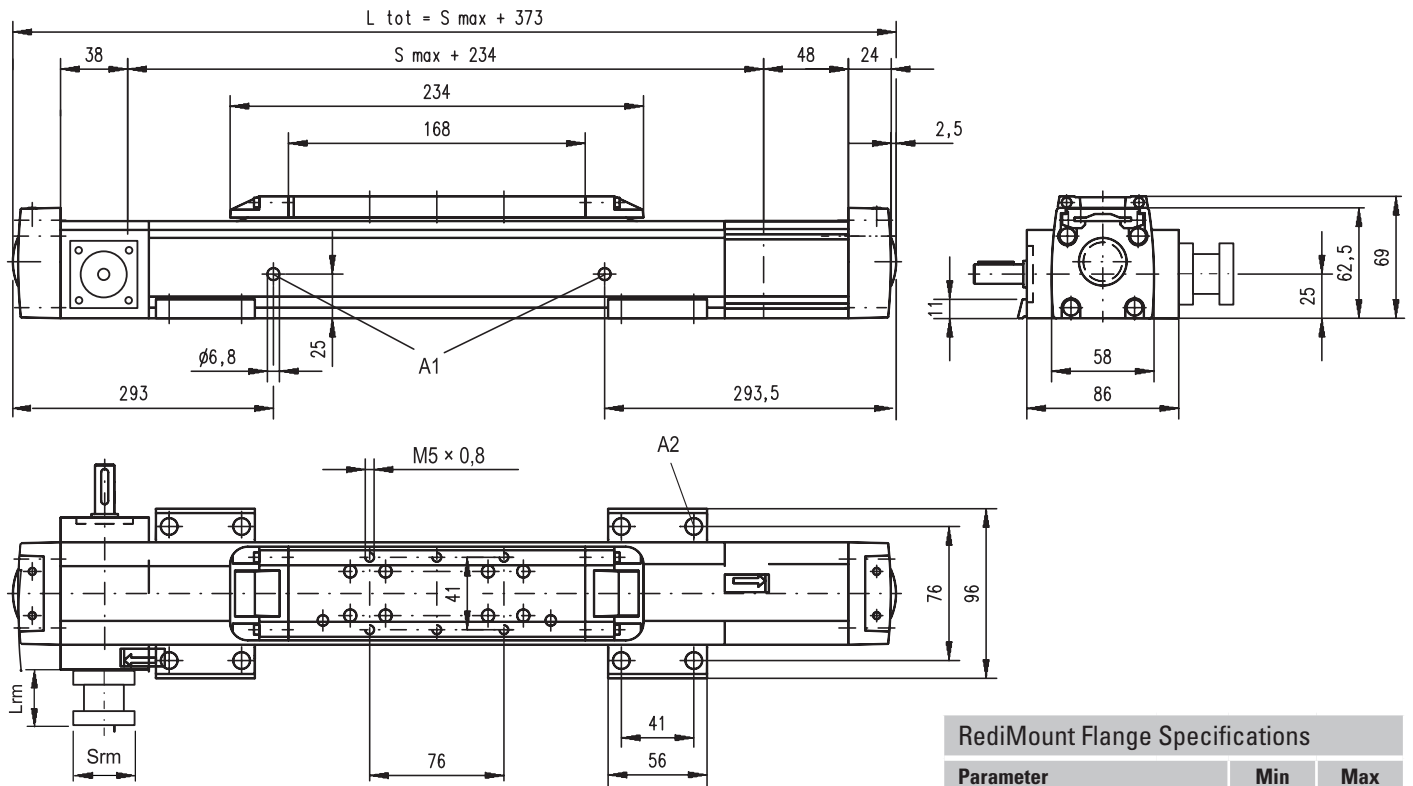
Definition of Forces



M55

Belt Drive, Ball Guide

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



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 | |

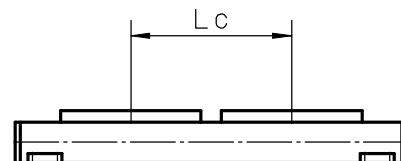
* Max. weight including coupling and fastening screws

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 |

¹ 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)¹

| Parameter | | M75 |
|--|---------------------|----------|
| Stroke length (S _{max}), maximum | [mm] | 12000 |
| Total length (L _{tot}), maximum | [mm] | 12368 |
| Linear speed, maximum | [m/s] | 5,0 |
| Acceleration, maximum | [m/s ²] | 40 |
| Repeatability | [± mm] | 0,1 |
| Input speed, maximum | [rpm] | 2300 |
| Operation temperature limits | [°C] | -20 – 70 |
| Dynamic load (F _x), maximum | [N] | |
| < 2,5 m/s | | 900 |
| > 2,5 m/s | | 450 |
| Dynamic load (F _y), maximum | [N] | 1750 |
| Dynamic load (F _z), maximum | [N] | 1750 |
| Dynamic load torque (M _x), maximum | [Nm] | 16 |
| Dynamic load torque (M _y), maximum | [Nm] | 84 |
| Dynamic load torque (M _z), maximum | [Nm] | 84 |
| Drive shaft force (F _{rd}), maximum ² | [N] | 600 |
| Input/drive shaft torque (M _{ta}), 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 |

¹ See next page for deviating values of units with other carriage types.

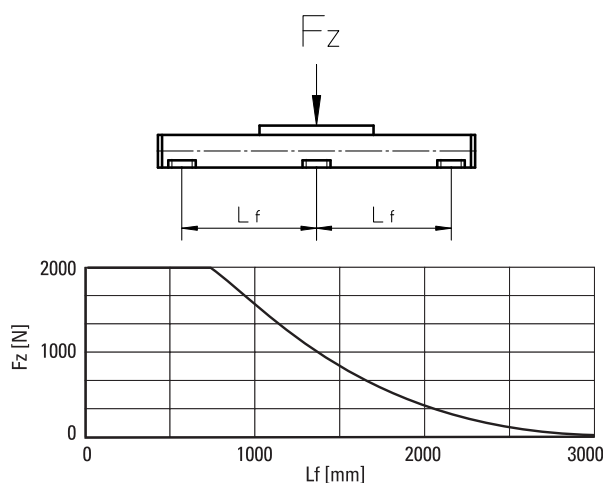
² Only relevant for units without RediMount flange.

Carriage Idle Torque (M_{idle}) [Nm]

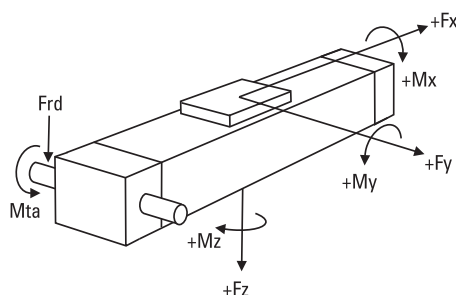
| Input speed [rpm] | Single Carriage | Double Carriages |
|-------------------|-----------------|------------------|
| 150 | 1,0 | 1,9 |

M_{idle} = the input torque needed to move the carriage with no load on it.

Deflection of the Profile



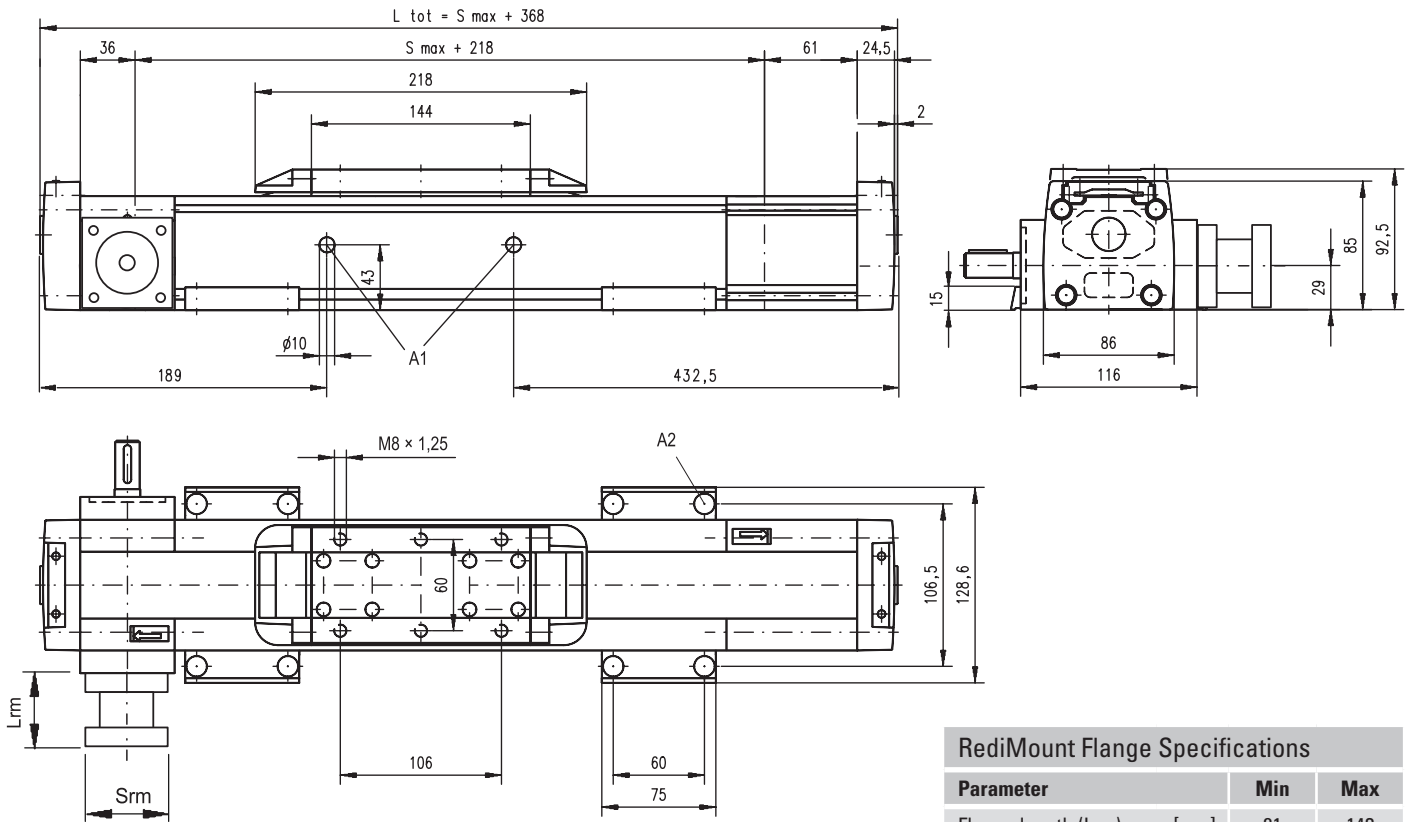
Definition of Forces



M75

Belt Drive, Ball Guide

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



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 | |

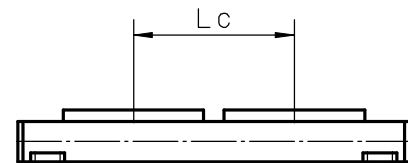
* Max. weight including coupling and fastening screws

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 |

¹ 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 |

Performance Specifications

for Units with Single Standard Carriage (A)¹

| Parameter | | M100 |
|--|---------------------|----------|
| Stroke length (S _{max}), maximum | [mm] | 11900 |
| Total length (L _{tot}), maximum | [mm] | 12361 |
| Linear speed, maximum | [m/s] | 5,0 |
| Acceleration, maximum | [m/s ²] | 40 |
| Repeatability | [± mm] | 0,1 |
| Input speed, maximum | [rpm] | 1700 |
| Operation temperature limits | [°C] | -20 – 70 |
| Dynamic load (F _x), maximum | [N] | |
| < 2,5 m/s | | 1250 |
| > 2,5 m/s | | 625 |
| Dynamic load (F _y), maximum | [N] | 4000 |
| Dynamic load (F _z), maximum | [N] | 4000 |
| Dynamic load torque (M _x), maximum | [Nm] | 43 |
| Dynamic load torque (M _y), maximum | [Nm] | 280 |
| Dynamic load torque (M _z), maximum | [Nm] | 280 |
| Drive shaft force (F _{rd}), maximum ² | [N] | 1000 |
| Input/drive shaft torque (M _{ta}), 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 |

¹ See next page for deviating values of units with other carriage types.

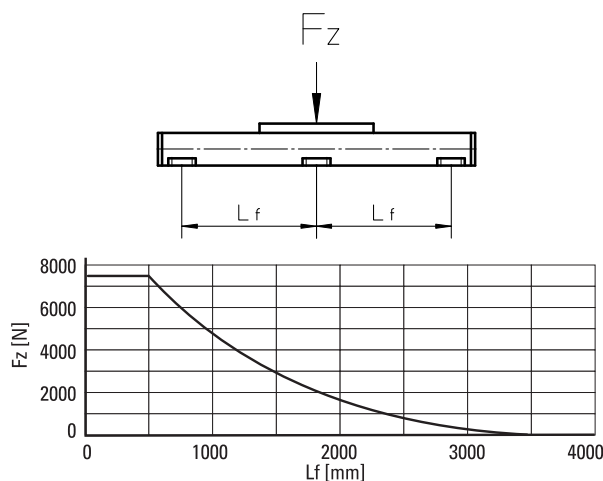
² Only relevant for units without RediMount flange.

Carriage Idle Torque (M_{idle}) [Nm]

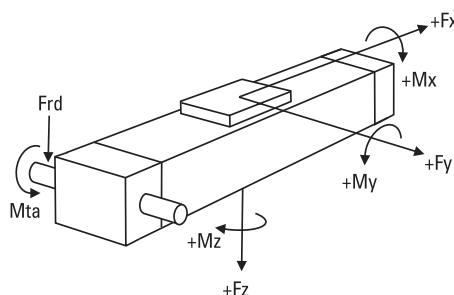
| Input speed [rpm] | Single Carriage | Double Carriages |
|-------------------|-----------------|------------------|
| 150 | 1,6 | 3,1 |

M_{idle} = the input torque needed to move the carriage with no load on it.

Deflection of the Profile



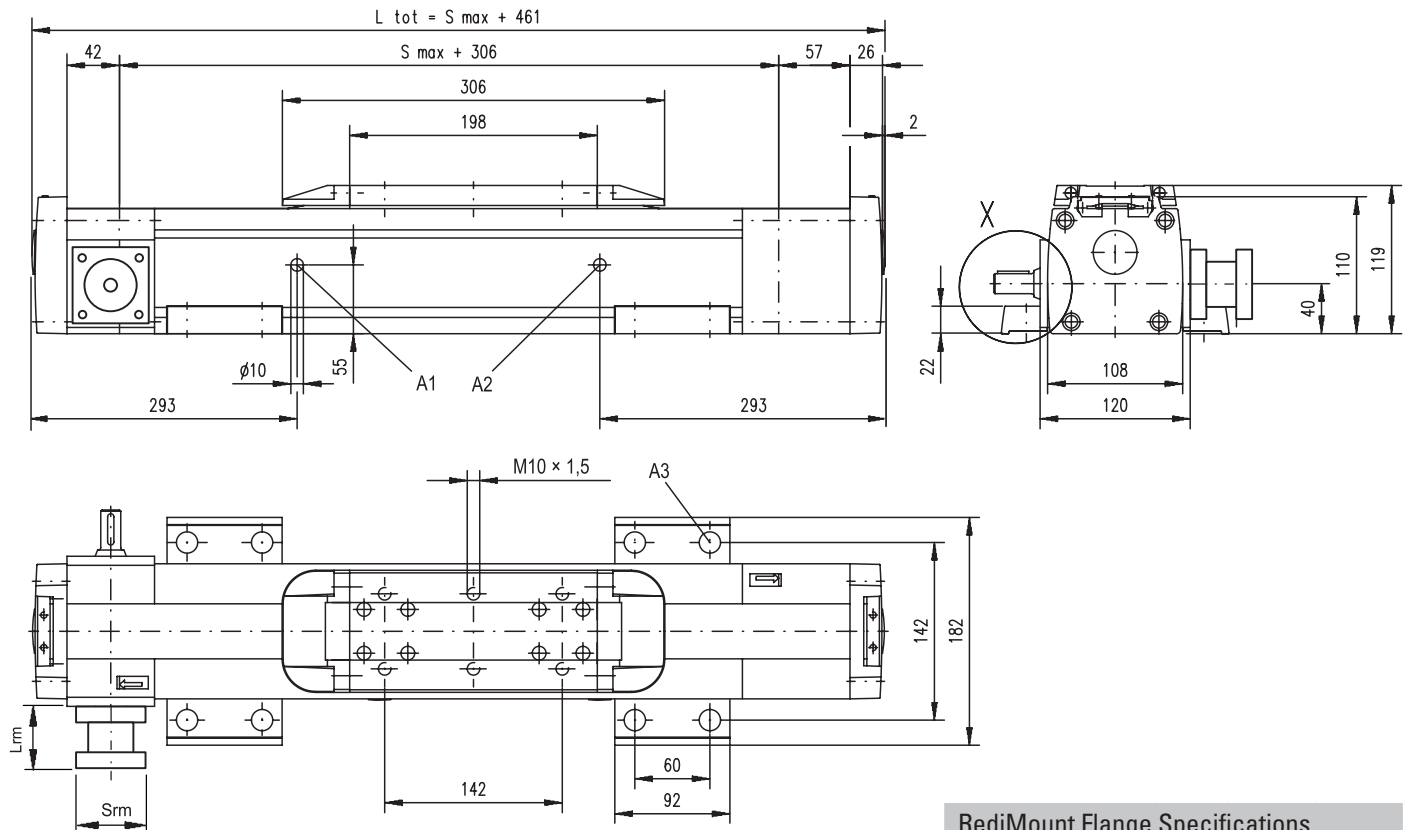
Definition of Forces



M100

Belt Drive, Ball Guide

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



A1: lubrication hole
 A2: lubrication hole (no hole if L order is < 856 mm)
 A3: ø17/ø10,5 for socket head cap screw M10

RediMount Flange Specifications

| 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 | | M100 |
|---|------|---------------------|
| Stroke length (Smax), maximum | [mm] | 11550 |
| Total length (L tot), maximum | [mm] | 12361 |
| Minimum distance between carriages (Lc) | [mm] | 350 |
| Dynamic load (Fy), maximum | [N] | 6000 |
| Dynamic load (Fz), maximum | [N] | 6000 |
| Dynamic load torque (My), maximum | [Nm] | Lc ¹ × 3 |
| Dynamic load torque (Mz), maximum | [Nm] | Lc ¹ × 3 |
| Force required to move second carriage | [N] | 2 |
| Total length (L tot) | [mm] | Smax + Lc + 461 |
| Weight of unit with zero stroke | [kg] | 18,92 |
| Weight of carriages | [kg] | 4,40 |

¹ Value in mm

