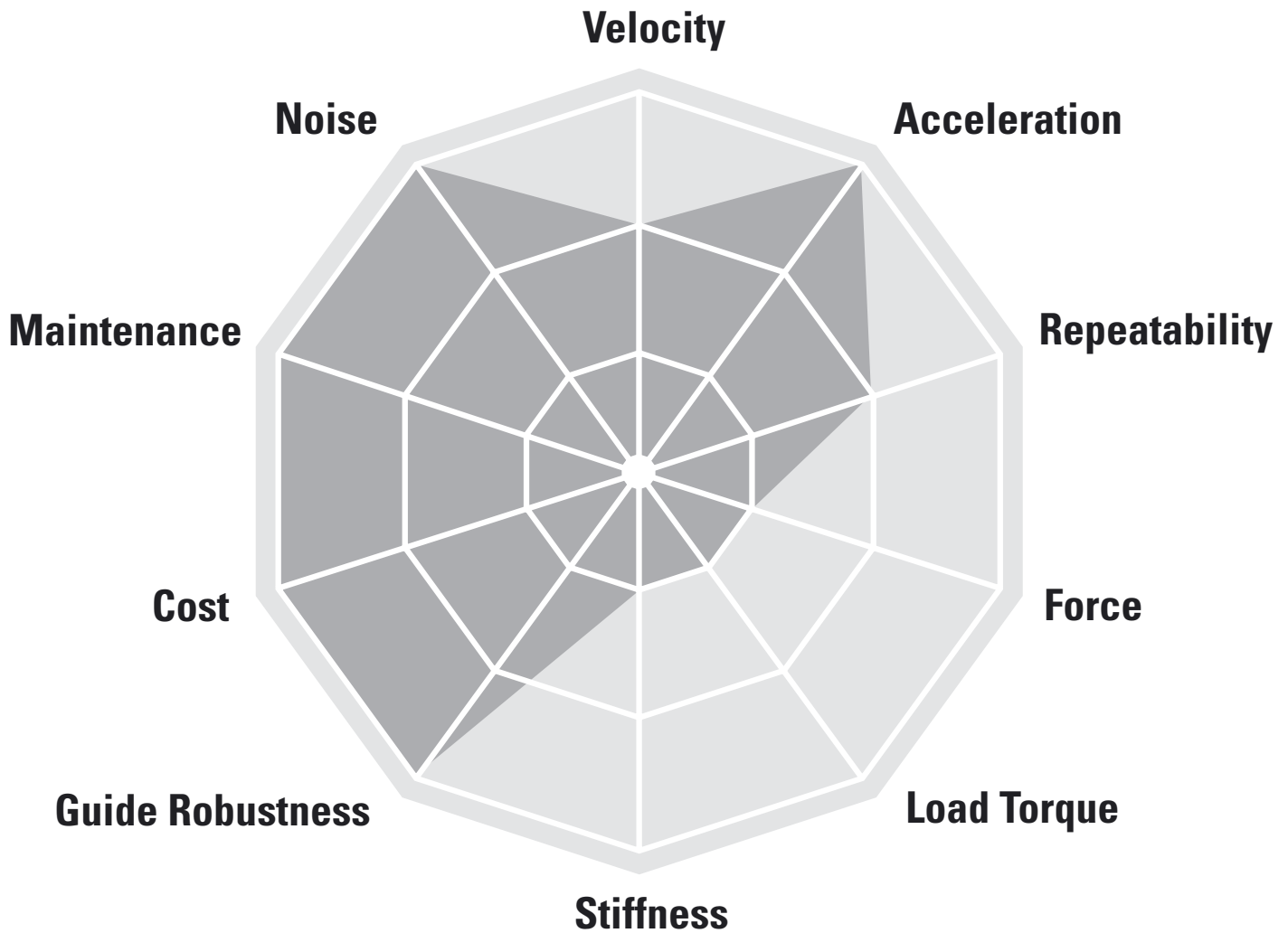


Linear Units with Belt Drive and Slide Guide

Movopart



Typical Applications

Typical applications are where low loads need to be moved at medium speed and high acceleration at low cost. These units are suited to harsh environments. Typical examples are for machines in the food, chemical, paper and wood working industry, in materials handling, cutting, scanning and printing applications.

Movopart M



Features

- Can be installed in all directions
- Patented self-adjusting prism slide guides
- Resistant to shock loads and vibrations
- Low cost

| Parameter | | M50 |
|-------------------------------------|-------|---------------|
| Profile size (width × height) | [mm] | 50 × 50 |
| Stroke length (S max), maximum | [mm] | 5000 |
| Linear speed, maximum | [m/s] | 5,0 |
| Dynamic carriage load (Fz), maximum | [N] | 400 |
| Remarks | | no cover band |
| Page | | 80 |

Movopart M



M100

Features

- Can be installed in all directions
- Self-adjusting stainless steel cover band
- Patented self-adjusting prism slide guides
- Wash down and chemical protected versions available

| Parameter | | M55 | M75 | M100 |
|-------------------------------------|-------|---------|---------|-----------|
| Profile size (width × height) | [mm] | 58 × 55 | 86 × 75 | 108 × 100 |
| Stroke length (S max), maximum | [mm] | 7000 | 12000 | 12000 |
| Linear speed, maximum | [m/s] | 5,0 | 5,0 | 5,0 |
| Dynamic carriage load (Fz), maximum | [N] | 400 | 1485 | 3005 |
| Remarks | | | | |
| Page | | 82 | 84 | 86 |

M50

Belt Drive, Slide Guide

- » Ordering key - see page 203
- » Accessories - see page 127
- » Additional data - see page 185

General Specifications

| Parameter | M50 |
|----------------------------|--|
| Profile size (w × h) [mm] | 50 × 50 |
| Type of belt | GT 5MR |
| Carriage sealing system | none |
| Adjustable belt tensioning | the belt can be retensioned by the customer if necessary |
| Lubrication | lubricated for life |
| Included accessories | none |

Performance Specifications

| Parameter | | M50 |
|--|---------------------|------------------|
| Stroke length (S max), maximum | [mm] | 5000 |
| Linear speed, maximum | [m/s] | 5,0 |
| Acceleration, maximum | [m/s ²] | 40 |
| Repeatability | [± mm] | 0,2 |
| Input speed, maximum | [rpm] | 2300 |
| 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] | 400 ¹ |
| Dynamic load (F _z), maximum | [N] | 400 ¹ |
| Dynamic load torque (M _x), maximum | [Nm] | 5 ¹ |
| Dynamic load torque (M _y), maximum | [Nm] | 21 ¹ |
| Dynamic load torque (M _z), maximum | [Nm] | 21 ¹ |
| Drive shaft force (F _{rd}), maximum | [N] | 350 |
| Drive shaft torque (M _{ta}), maximum | [Nm] | 10 |
| Pulley diameter | [mm] | 41,38 |
| Stroke per shaft revolution | [mm] | 130 |
| Weight | [kg] | |
| of unit with zero stroke | | 0,71 |
| of every 100 mm of stroke | | 0,96 |
| of carriage | | 0,33 |

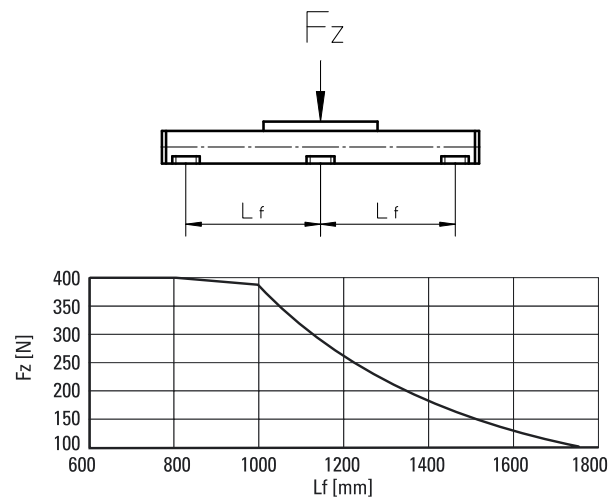
¹ Value for the complete unit

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

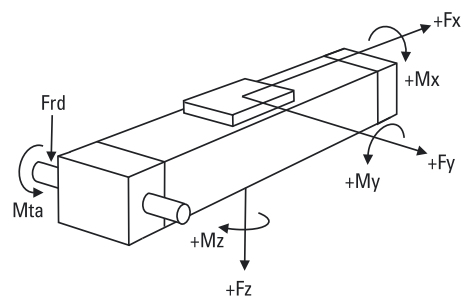
| Input speed [rpm] | Idle torque [Nm] |
|-------------------|------------------|
| 150 | 2,1 |

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

Deflection of the Profile

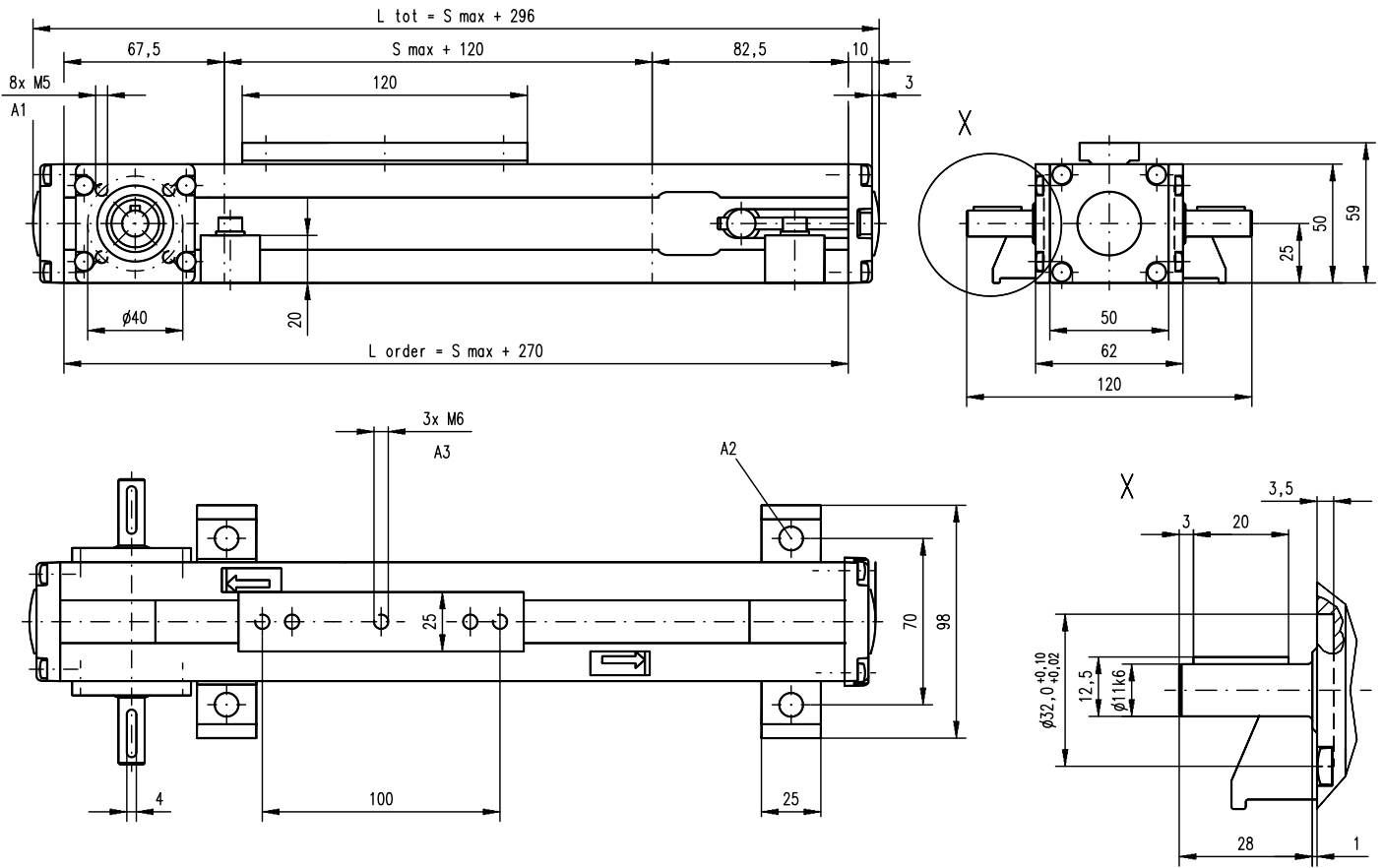


Definition of Forces



M50

Belt Drive, Slide Guide



A1: depth 8,5
 A2: $\phi 6,5$ for M6 screw
 A3: depth 9, Heli coil

M55

Belt Drive, Slide Guide

- » Ordering key - see page 203
- » Accessories - see page 127
- » Additional data - see page 185

General Specifications

| Parameter | M55 |
|----------------------------|--|
| Profile size (w × h) [mm] | 58 × 50 |
| 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 | lubricated for life |
| 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 ²] | 40 |
| Repeatability | [± mm] | 0,2 |
| 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] | 400 ¹ |
| Dynamic load (F _z), maximum | [N] | 400 ¹ |
| Dynamic load torque (M _x), maximum | [Nm] | 9 ¹ |
| Dynamic load torque (M _y), maximum | [Nm] | 21 ¹ |
| Dynamic load torque (M _z), maximum | [Nm] | 21 ¹ |
| Drive shaft force (F _{rd}), maximum | [N] | 200 |
| Drive shaft torque (M _{ta}), maximum | [Nm] | 7 |
| Pulley diameter | [mm] | 33,42 |
| Stroke per shaft revolution | [mm] | 105 |
| Weight | [kg] | |
| of unit with zero stroke | | 4,10 |
| of every 100 mm of stroke | | 0,41 |
| of carriage | | 1,10 |

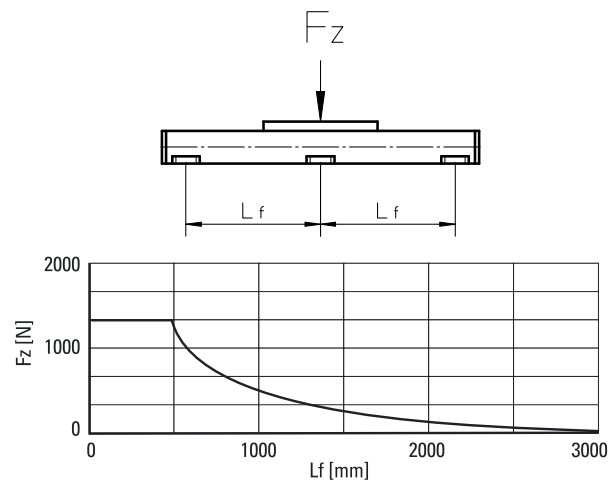
¹ Value for the complete unit

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

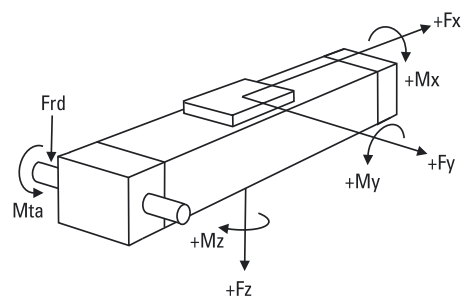
| Input speed [rpm] | Single Carriage | Double Carriages |
|-------------------|-----------------|------------------|
| 150 | 2,1 | 3,8 |

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

Deflection of the Profile

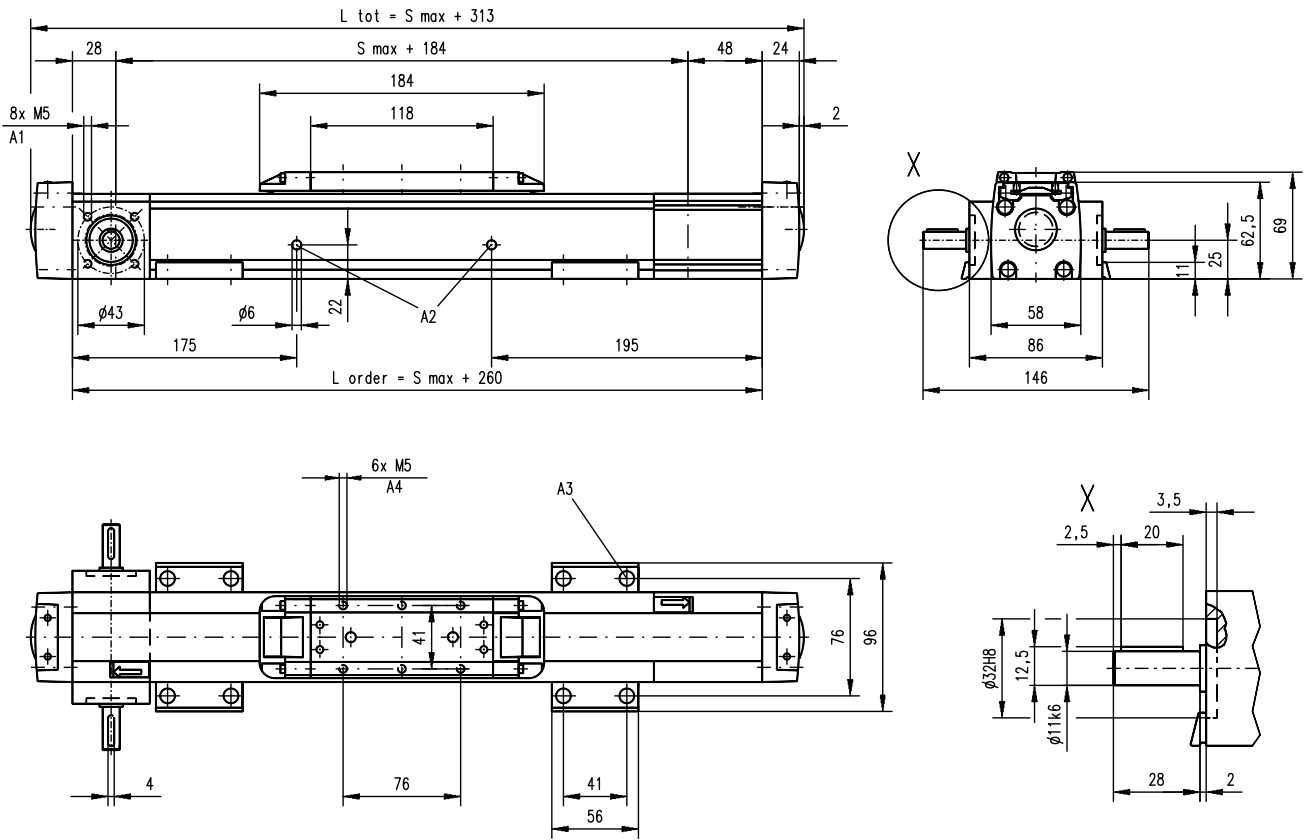


Definition of Forces



M55

Belt Drive, Slide Guide

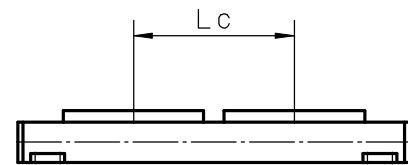


A1: depth 10, Heli coil
A2: lubrication holes

A3: $\varnothing 9,5/\varnothing 5,5$ for socket head cap screw M5
A4: depth 7,5, Heli coil

Double Carriages

| Parameter | | M55 |
|--|------|----------------------|
| Minimum distance between carriages (Lc) | [mm] | 200 |
| Dynamic load (Fy), maximum | [N] | 600 |
| Dynamic load (Fz), maximum | [N] | 600 |
| Dynamic load torque (My), maximum | [Nm] | $Lc^1 \times 0,3$ |
| Dynamic load torque (Mz), maximum | [Nm] | $Lc^1 \times 0,3$ |
| Force required to move second carriage | [N] | 35 |
| Ordering length (L order) | [mm] | $S_{max} + Lc + 260$ |
| Total length (L tot) | [mm] | $L_{order} + 53$ |
| Weight of unit with zero stroke of carriages | [kg] | 6,00 2,20 |



¹ Value in mm

M75

Belt Drive, Slide Guide

- » Ordering key - see page 203
- » Accessories - see page 127
- » Additional data - see page 185

General Specifications

| Parameter | M75 |
|----------------------------|--|
| 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 | lubricated for life |
| Included accessories | none |

Performance Specifications

| Parameter | | M75 |
|--|---------------------|-------------------|
| Stroke length (S max), maximum | [mm] | 12000 |
| Linear speed, maximum | [m/s] | 5,0 |
| Acceleration, maximum | [m/s ²] | 40 |
| Repeatability | [± mm] | 0,2 |
| 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] | 1485 ¹ |
| Dynamic load (F _z), maximum | [N] | 1485 ¹ |
| Dynamic load torque (M _x), maximum | [Nm] | 49 ¹ |
| Dynamic load torque (M _y), maximum | [Nm] | 85 ¹ |
| Dynamic load torque (M _z), maximum | [Nm] | 85 ¹ |
| Drive shaft force (F _{rd}), maximum | [N] | 600 |
| 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 | | 6,30 |
| of every 100 mm of stroke | | 0,67 |
| of carriage | | 1,50 |

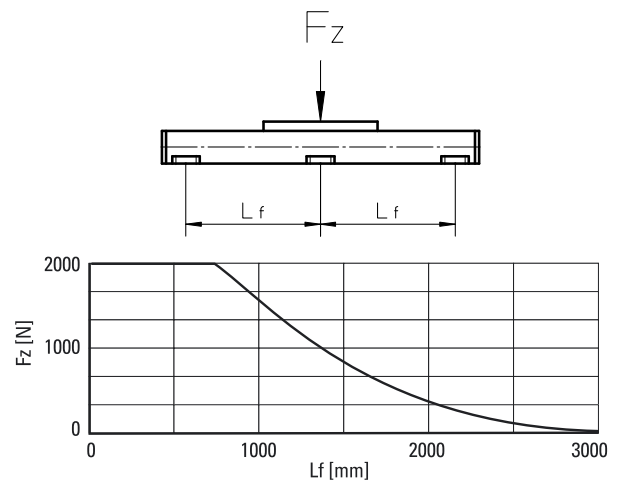
¹ Value for the complete unit

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

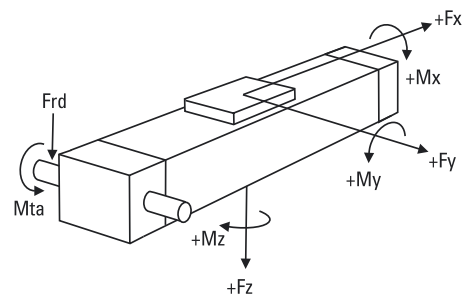
| Input speed [rpm] | Single Carriage | Double Carriages |
|-------------------|-----------------|------------------|
| 150 | 2,2 | 4,0 |

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

Deflection of the Profile

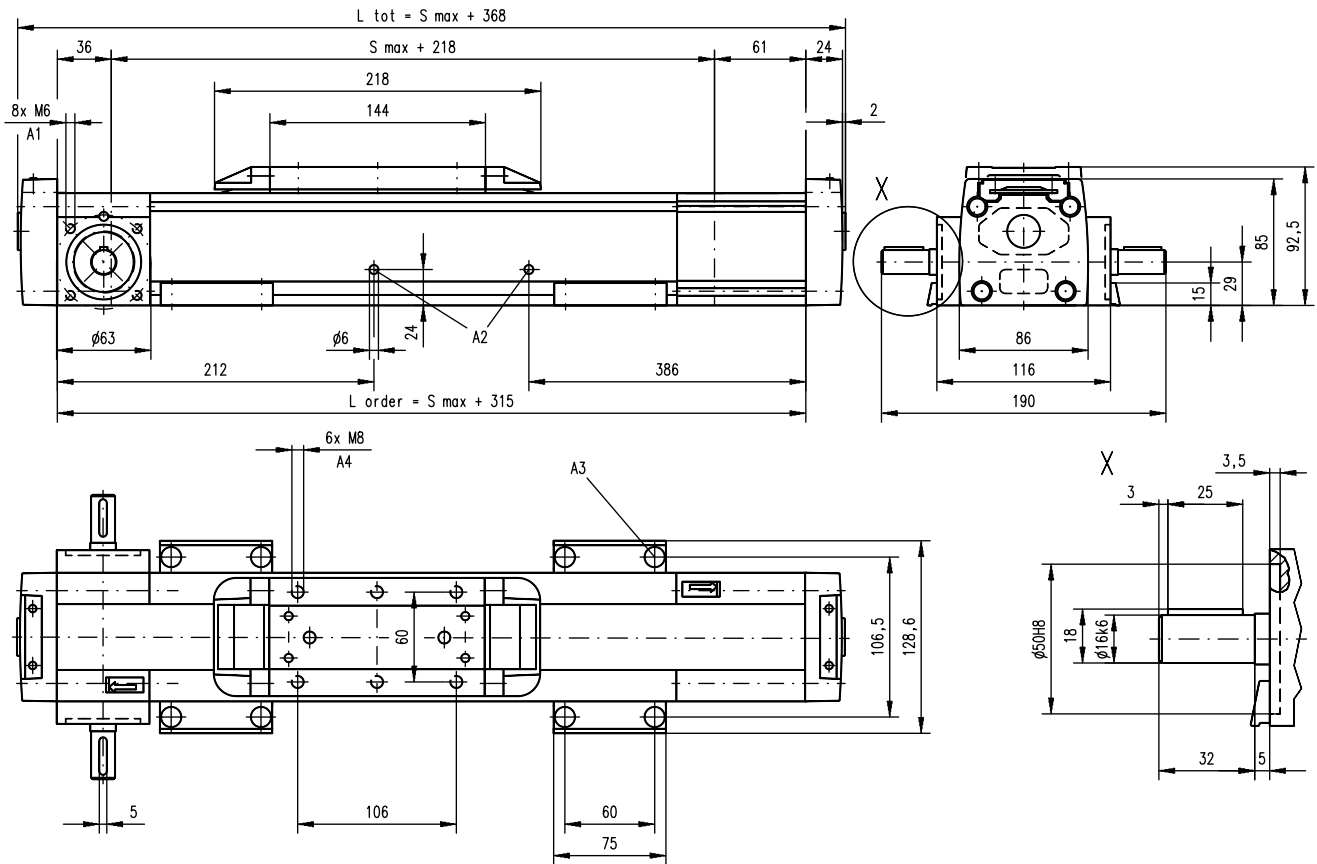


Definition of Forces



M75

Belt Drive, Slide Guide

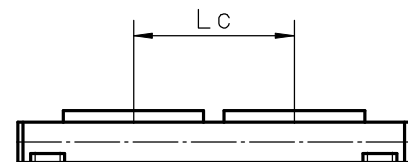


A1: depth 9, Heli coil
A2: lubrication holes

A3: $\phi 13,5/\phi 8,5$ for socket head cap screw M8
A4: depth 8, Heli coil

Double Carriages

| Parameter | M75 |
|---|----------------------|
| Minimum distance between carriages (Lc) [mm] | 250 |
| Dynamic load (Fy), maximum [N] | 2227 |
| Dynamic load (Fz), maximum [N] | 2227 |
| Dynamic load torque (My), maximum [Nm] | $Lc^1 \times 1,114$ |
| Dynamic load torque (Mz), maximum [Nm] | $Lc^1 \times 1,114$ |
| Force required to move second carriage [N] | 40 |
| Ordering length (L order) [mm] | $S_{max} + Lc + 315$ |
| Total length (L tot) [mm] | $L_{order} + 53$ |
| Weight of unit with zero stroke of carriages [kg] | 9,50 3,00 |



¹ Value in mm

M100

Belt Drive, Slide Guide

- » Ordering key - see page 203
- » Accessories - see page 127
- » Additional data - see page 185

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 | lubricated for life |
| Included accessories | none |

Performance Specifications

| Parameter | | M100 |
|--|---------------------|-------------------|
| Stroke length (S max), maximum | [mm] | 12000 |
| Linear speed, maximum | [m/s] | 5,0 |
| Acceleration, maximum | [m/s ²] | 40 |
| Repeatability | [± mm] | 0,2 |
| 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] | 3005 ¹ |
| Dynamic load (F _z), maximum | [N] | 3005 ¹ |
| Dynamic load torque (M _x), maximum | [Nm] | 117 ¹ |
| Dynamic load torque (M _y), maximum | [Nm] | 279 ¹ |
| Dynamic load torque (M _z), maximum | [Nm] | 279 ¹ |
| Drive shaft force (F _{rd}), maximum | [N] | 1000 |
| 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 | | 11,10 |
| of every 100 mm of stroke | | 1,16 |
| of carriage | | 2,40 |

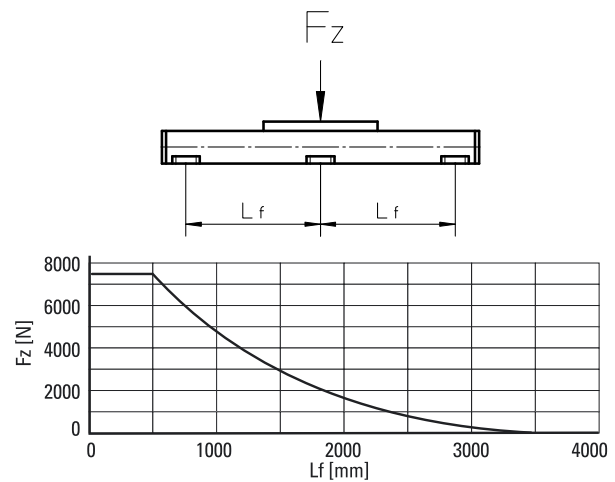
¹ Value for the complete unit

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

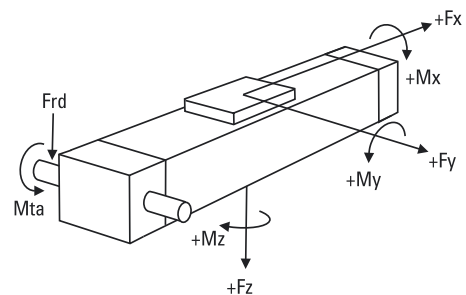
| Input speed [rpm] | Single Carriage | Double Carriages |
|-------------------|-----------------|------------------|
| 150 | 3,8 | 5,8 |

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

Deflection of the Profile

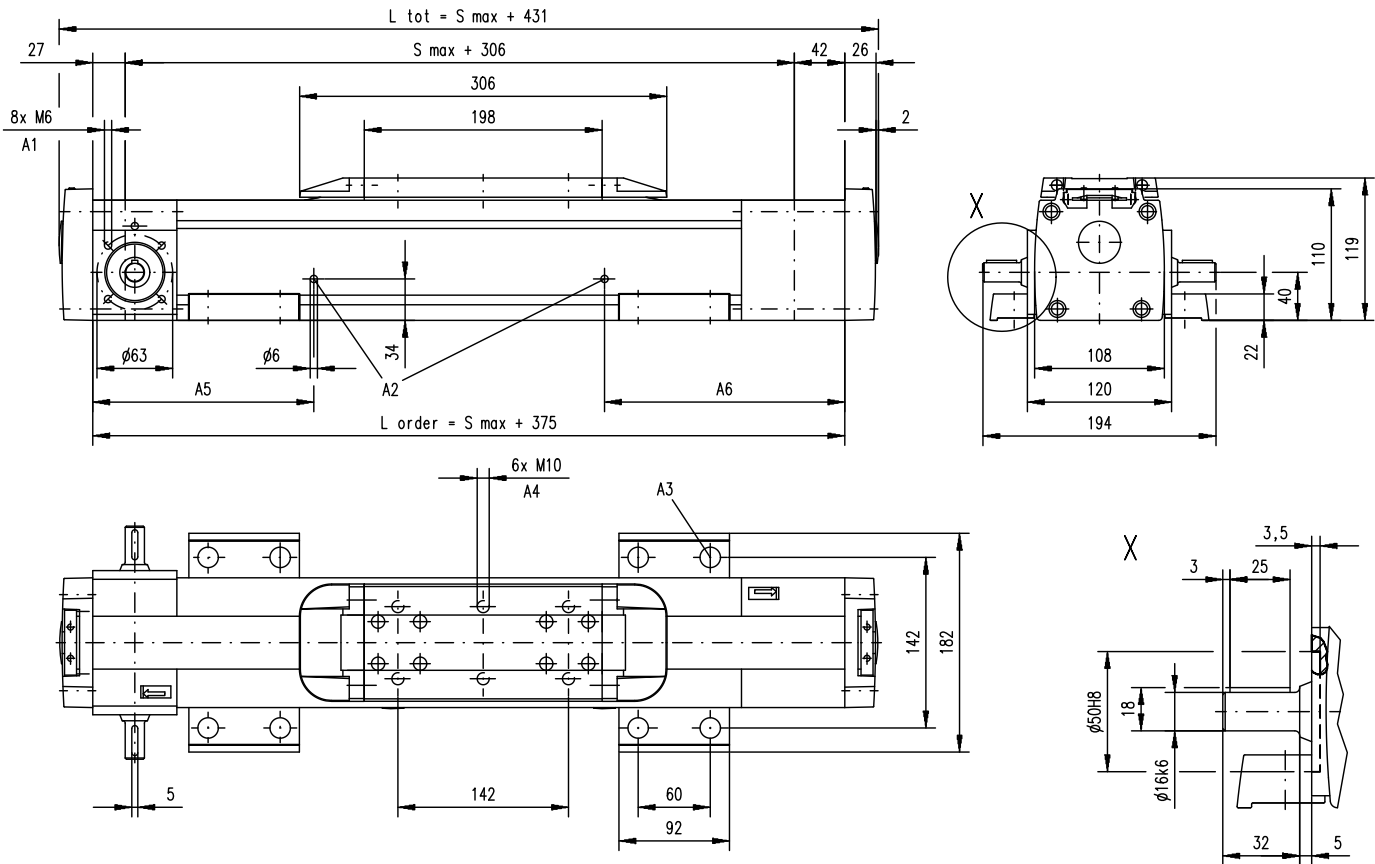


Definition of Forces



M100

Belt Drive, Slide Guide

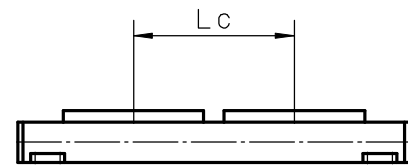


A1: Depth 9, Heli coil
 A2: lubrication holes
 A3: ø17/ø10,5 for socket head cap screw M10

A4: depth 10, Heli coil
 A5: 170 (L order ≤ 1 m), 270 (L order > 1 m)
 A6: 186 (L order ≤ 1 m), 436 (L order > 1 m)

Double Carriages

| Parameter | M100 |
|---|-------------------------|
| Minimum distance between carriages (Lc) [mm] | 350 |
| Dynamic load (Fy), maximum [N] | 4508 |
| Dynamic load (Fz), maximum [N] | 4508 |
| Dynamic load torque (My), maximum [Nm] | Lc ¹ × 2,254 |
| Dynamic load torque (Mz), maximum [Nm] | Lc ¹ × 2,254 |
| Force required to move second carriage [N] | 45 |
| Ordering length (L order) [mm] | S max + Lc + 375 |
| Total length (L tot) [mm] | L order + 56 |
| Weight of unit with zero stroke of carriages [kg] | 17,40 4,80 |



¹ Value in mm