

WM60X

Ball Screw Drive, Ball Guide, Left/right Moving Carriages

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General Specifications

| Parameter | WM60X |
|---------------------------|---|
| Profile size (w × h) [mm] | 60 × 60 |
| Type of screw | ball screw with double nut |
| Carriage sealing system | self-adjusting plastic cover band |
| Screw supports | included in all units that require screw supports |
| Lubrication | central lubrication of all parts that require lubrication |
| Included accessories | 4 × mounting clamps |

Performance Specifications

| Parameter | | WM60X |
|--|---------------------|--|
| Stroke length (S max), maximum | [mm] | 10340 |
| Linear speed, maximum | [m/s] | 0,25 |
| Acceleration, maximum | [m/s ²] | 20 |
| Repeatability | [± mm] | 0,01 |
| Input speed, maximum | [rpm] | 3000 |
| Operation temperature limits | [°C] | 0 – 80 |
| Dynamic load (F _x), maximum | [N] | 4000 |
| Dynamic load (F _y), maximum | [N] | 2000 ¹ / 45980 ² |
| Dynamic load (F _z), maximum | [N] | 2000 ¹ / 42320 ² |
| Dynamic load torque (M _x), maximum | [Nm] | 100 ¹ / 740 ² |
| Dynamic load torque (M _y), maximum | [Nm] | 200 ¹ / 2990 ² |
| Dynamic load torque (M _z), maximum | [Nm] | 200 ¹ / 3250 ² |
| Drive shaft force (F _{rd}), maximum | [N] | 500 |
| Drive shaft torque (M _{ta}), maximum | [Nm] | 35 |
| Ball screw diameter (d _o) | [mm] | 20 |
| Ball screw lead (p) | [mm] | 5 |
| Weight | [kg] | |
| of unit with zero stroke | | 10,33 |
| of every 100 mm of stroke | | 0,65 |
| of each carriage | | 1,99 |

¹ Value for the complete unit

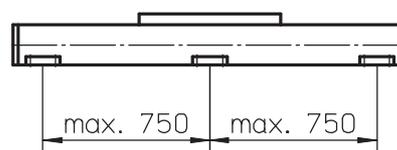
² Value for the ball guide only

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

| Input speed [rpm] | Screw lead [mm] |
|-------------------|-----------------|
| | p = 5 |
| 150 | 1,6 |
| 1500 | 2,8 |
| 3000 | 3,6 |

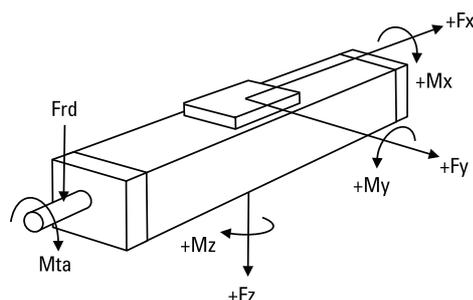
M_{idle} = the input torque needed to move the carriage with no load on it.

Deflection of the Profile



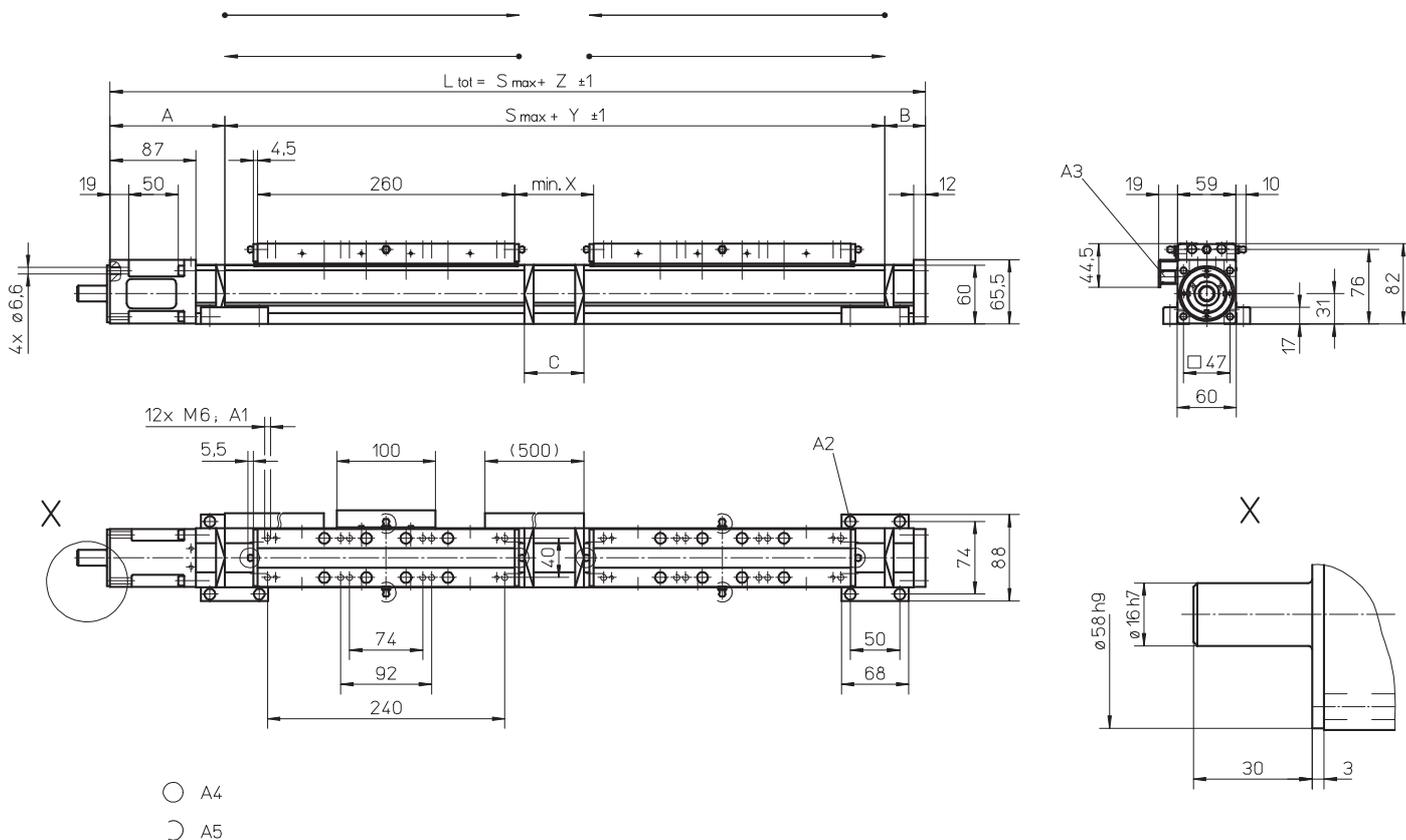
A mounting clamp must be installed at least at every 750 mm to be able to operate the maximum load. Less clamps may be required if less load is being operated, see the additional technical data for more information. Units with a profile length over 5400 mm consists of two profiles where the joint between the two profiles must be adequately supported on both sides.

Definition of Forces



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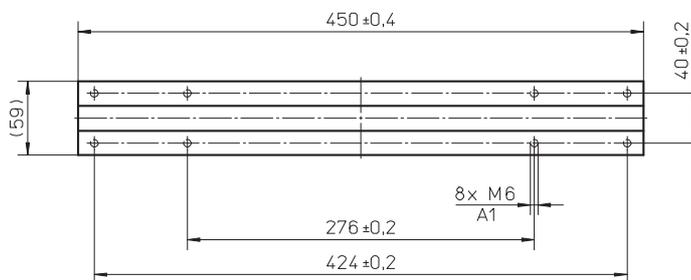
A1: depth 11
 A2: socket cap screw ISO4762-M6x20 8.8
 A3: ENF inductive sensor rail option kit (optional)

A4: tapered lubricating nipple to DIN71412 AM6 on fixed-bearing side as standard feature
 A5: can be changed over to one of the three alternative lubricating points by the customer

| Stroke length (S max) [mm] | A [mm] | B [mm] | C [mm] | X [mm] | Y [mm] | Z [mm] |
|-----------------------------|--------------------------|--------|--------|--------|--------|--------|
| 0 - 1390 (0 - 1200) | 115 | 65 | 60 | 80 | 620 | 800 |
| 1391 - 2670 (1201 - 2480) | 165 | 115 | 210 | 230 | 770 | 1050 |
| 2671 - 4150 (2481 - 3960) | 185 | 135 | 250 | 270 | 810 | 1130 |
| 4151 - 5560 (3961 - 5370) | 210 | 160 | 300 | 320 | 860 | 1230 |
| 5561 - 10340 (5371 - 10150) | contact customer service | | | | | |

Values between brackets = for units with long carriage

| Long Carriage | | WM60X |
|-----------------------------------|------|-------|
| Parameter | | |
| Carriage length | [mm] | 450 |
| Dynamic load torque (My), maximum | [Nm] | 500 |
| Dynamic load torque (Mz), maximum | [Nm] | 500 |
| Weight | [kg] | 3,1 |



A1: depth 11