

WZ80

Ball Screw Drive, Ball Guide

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General Specifications

Parameter	WZ80
Profile size (w × h) [mm]	80 × 80
Type of screw	single nut ball screw
Lubrication	central lubrication of all parts that require lubrication
Included accessories	4 × mounting clamps

Performance Specifications

Parameter	WZ80
Stroke length (S max), maximum [mm]	500
Linear speed, maximum [m/s]	1,5
Acceleration, maximum [m/s ²]	20
Repeatability [± mm]	0,02
Input speed, maximum [rpm]	3000
Operation temperature limits [°C]	0 – 80
Dynamic load (F _x), maximum [N]	3500 ¹
Dynamic load (F _y), maximum [N]	3000 ²
Dynamic load (F _z), maximum [N]	3000 ²
Dynamic load torque (M _x), maximum [Nm]	150 ¹
Drive shaft force (F _{rd}), maximum [N]	700
Drive shaft torque (M _{ta}), maximum [Nm]	55
Ball screw diameter (d ₀) [mm]	25
Ball screw lead (p) [mm]	5, 10, 20, 50
Weight [kg]	
of unit with zero stroke	7,5
of every 100 mm of stroke	1,35
of the rod with zero stroke	3,0
of every 100 mm of rod	0,5

¹ Value for the complete unit

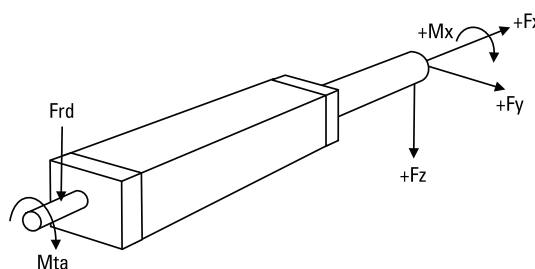
² See diagram Maximum Rod Side Forces (F_y, F_z)

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

Input speed [rpm]	Screw lead [mm]			
	p = 5	p = 10	p = 20	p = 50
150	0,6	1,1	1,3	1,8
1500	1,1	1,5	1,6	2,2
3000	1,4	1,8	1,8	2,7

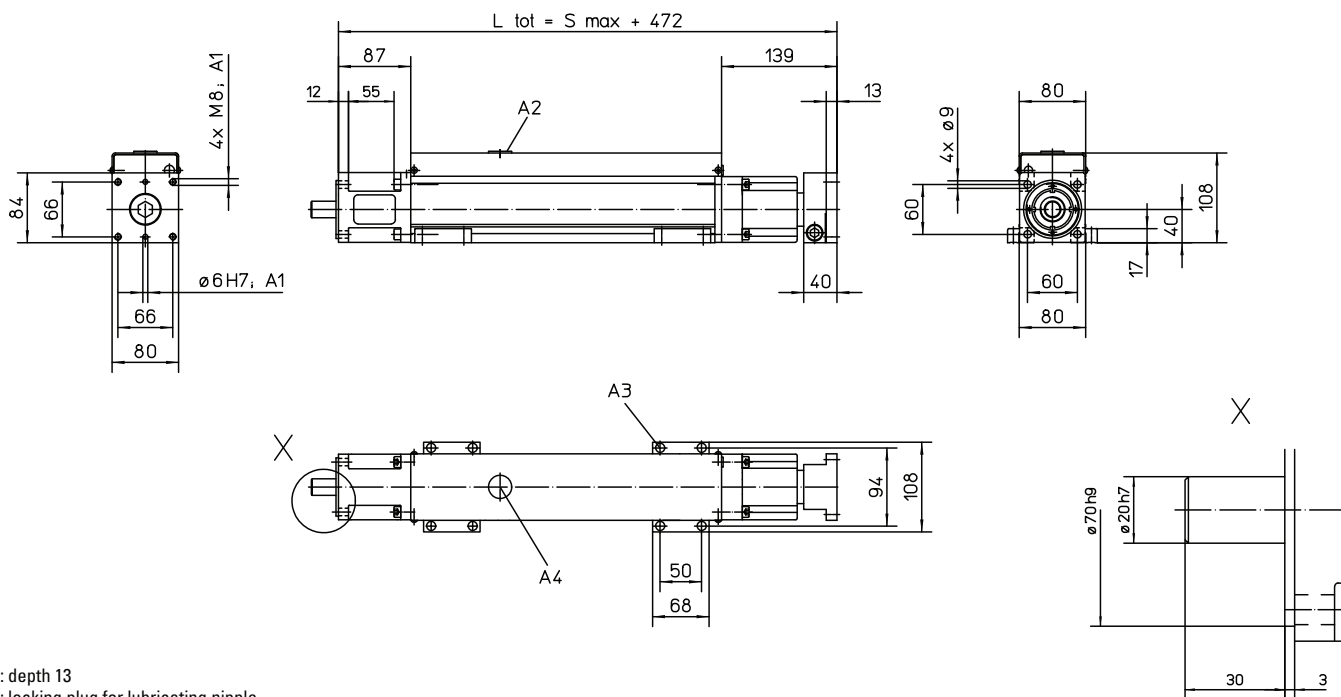
M_{idle} = the input torque needed to move the rod with no load on it.

Definition of Forces



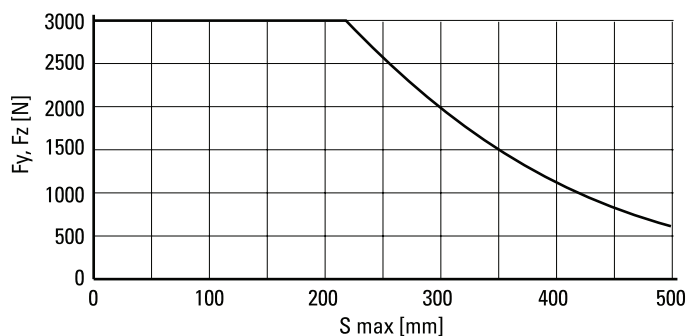
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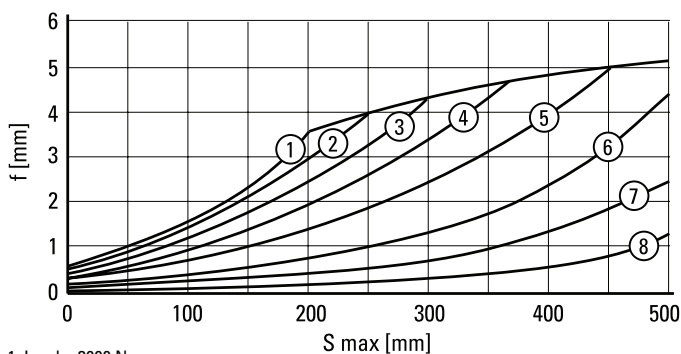


- A1: depth 13
- A2: locking plug for lubricating nipple
- A3: socket cap screw ISO4762-M6×20 8.8
- A4: tapered lubricating nipple to DIN71412 AM6 as standard feature

Maximum Rod Side Forces (F_y, F_z)



Deflection (f) of Rod due to F_y and F_z



- 1: Load = 3000 N
- 2: Load = 2500 N
- 3: Load = 2000 N
- 4: Load = 1500 N
- 5: Load = 1000 N
- 6: Load = 500 N
- 7: Load = 250 N
- 8: Load = 125 N

Torsion (ϕ) of Rod due to M_x

