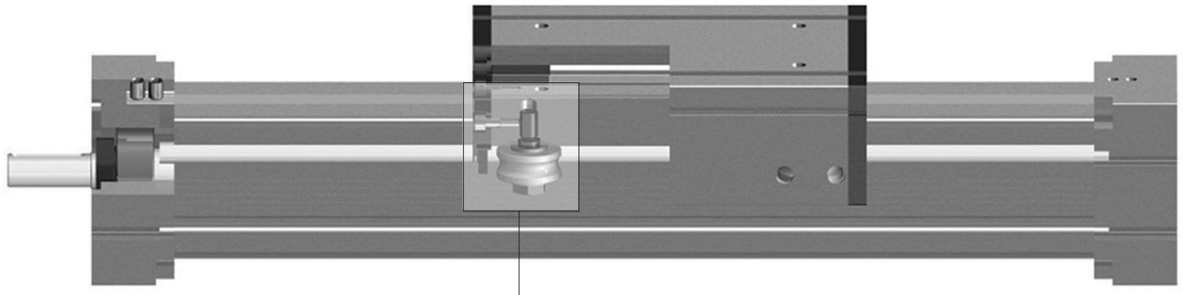
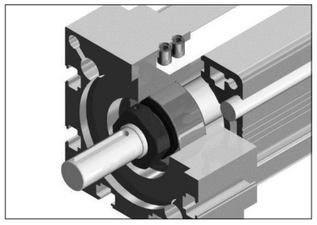
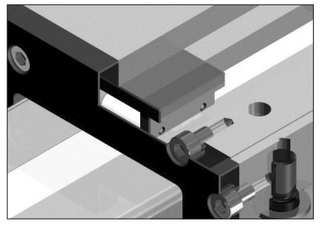
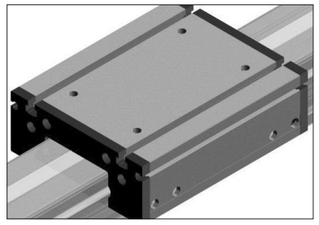




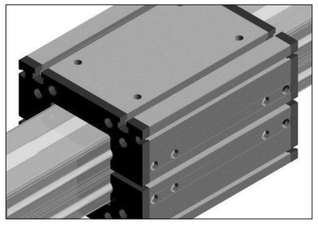
Possible to demonstrate system using various axis combination, and comfortable maintenance.
Long lifespan guaranteed by application of strong wearing-resistant aluminum material.
Convenient attachment with nut groove at side surface of rail and bearing supporter.



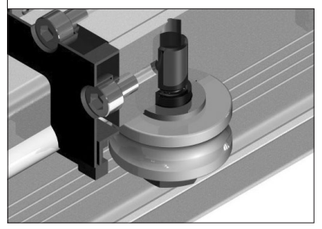
In order to prevent dust generation, belt is built-in and stainless steel cover is equipped.



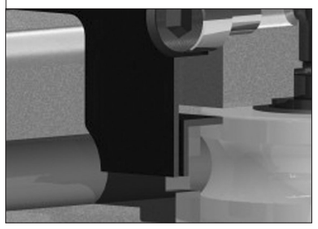
MZ 40/60/80/100
Basic slider block
* Possible for producing in any lengths for slider along with customer requirements
* Possible to select the number of roller bearings along with customer specification
S : Standard slider
T : Standard slider + Roller 2
H : Standard slider + Roller 4



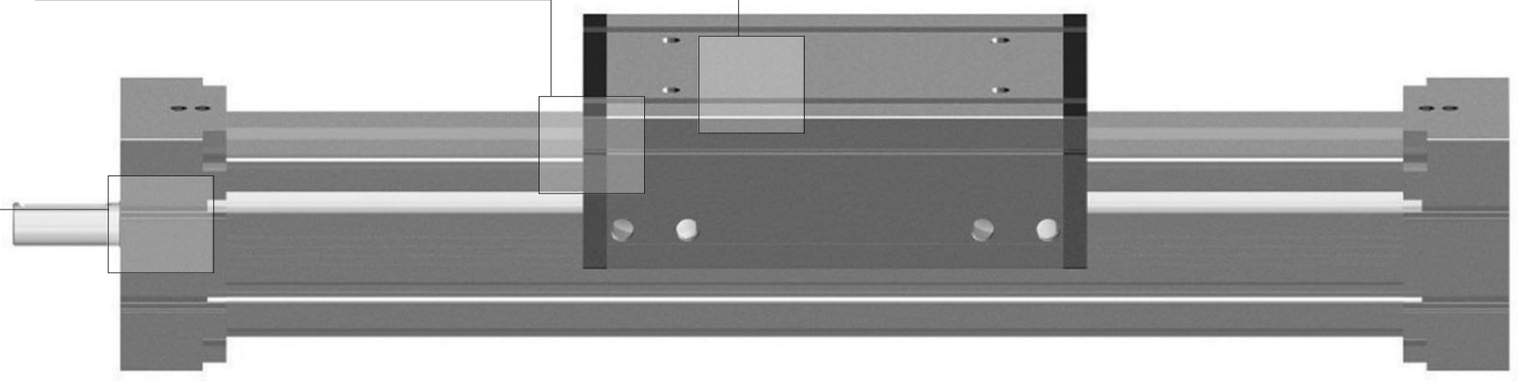
MZ 40/60/80/100-D
A structure which slider is mounted upper and lower side, suitable for heavy load rather than standard slider block and rail moving structure with fixing a slider.

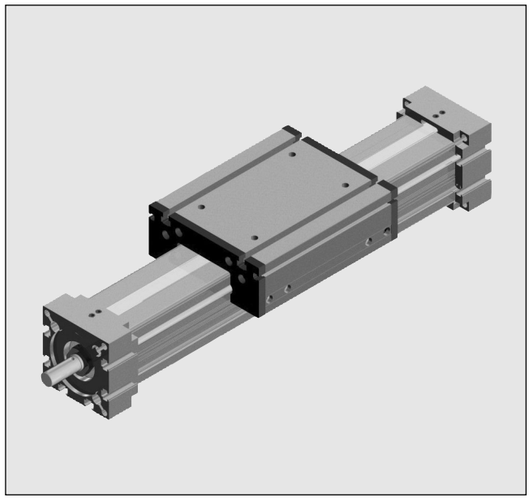


Adopting high quality bearing steel shaft, sound driving guarantee during high speed conveyance. In application of chrome plated thermal treatment bearing steel for return rod of driving part, which super finishing is processed, it shows strong performance for wearing at contact part. In application of specially designed bolt combination, keeping set pressure between bearing and return rod



With mounting wool wiper on standard type, no hardening after long term utilization unlike rubber type wiper.
Keeping constant frictional resistance of wiper by spring in sealing.





Features

- Combination of high speed linear guide and ball screw
- Combination of quality and economic performance
- Possible to select ball screw specification
- Various slider selection option
- Responding to various customer requirements such as mounting, accessory formation, etc.

Order type

MZ – 40 – ◯ – S – 500 – L10 – 1

1 2 3 4 5 6 7

1 TYPE

2 Type number
40, 60, 80, 100

3 Slider type
Non-symbol: Standard
D: Upper/Lower slider

4 Slider type
S: Standard slider
T : Standard slider + Roller 2
H : Standard slider + Roller 4

5 Rail length

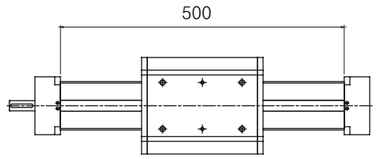
6 Ball screw type

Index		Size			
Type	Ball Screw	40	60	80	100
L5	16×5	○			
L10	16×10	○			
	25×10		○	○	○
L25	25×25		○	○	○
L32	32×32				○

7 Quantity

▶ Ordering of Module

MZ – 40 – □ – S – 500 – L10 – 1



▶ Accessory

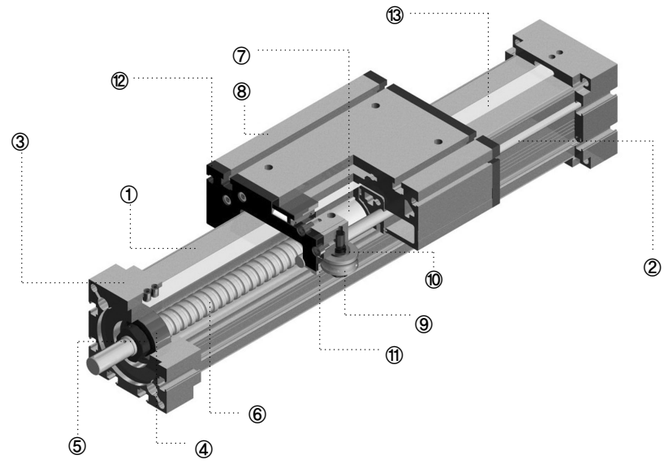
☐ Motor (Name of company :)
(Model name :)
(Power : 〈kw〉)

☐ Reducer
☐Pulley Reducer
☐Name of company :)
(Model name :)
(Model name :)

☐ MSK (Sensor Bracket)
☐Photo Sensor
☐Proximity Sensor

☐ MBK (Mounting block)
Quantity : EA

☐ Urethane stopper



▶ Specification of Components

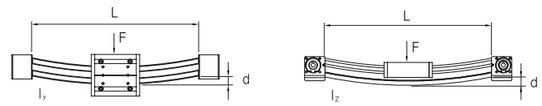
No	Component name		Material	No	Component name	Material
1	Rail		Aluminum alloy	8	Slider	Aluminum alloy
2	Product No.	Shaft	Ball screw nut	9	Track roller	Bearing steel
	40	Ø6				
	60	Ø10				
	80	Ø12				
	100	Ø16				
3	Bearing housing		Aluminum alloy	10	Flat washer	–
4	Bearing		–	11	Wiper	FELT
5	Lock nut		–	12	Sealing	EP
6	Ball screw		Cr-Mo steel	13	Steel cover	Stainless
7	Ball screw nut		–			

▶ Performance sheet

repeating accuracy	±0.025mm
Pitch accuracy	±0.05mm / 300mm
Straightness of rail	0.35mm/m
Parallelism between shafts	±0.02mm/m
Tolerance of length	±0.5mm

▶ Rail MAX. 3000mm

▶ Max. deflection of rail



*Formula for deflection of rail is the same to the whole dimension.

$$d = \frac{F \times L^3}{192 \times E \times I}$$

E : Young's modulus, aluminum – 70,000N/mm²
d : deflection [mm]
F : load [N]
L : free length [mm]
I : 2nd moment of area [mm⁴]

▶ Formula

• Driving torque

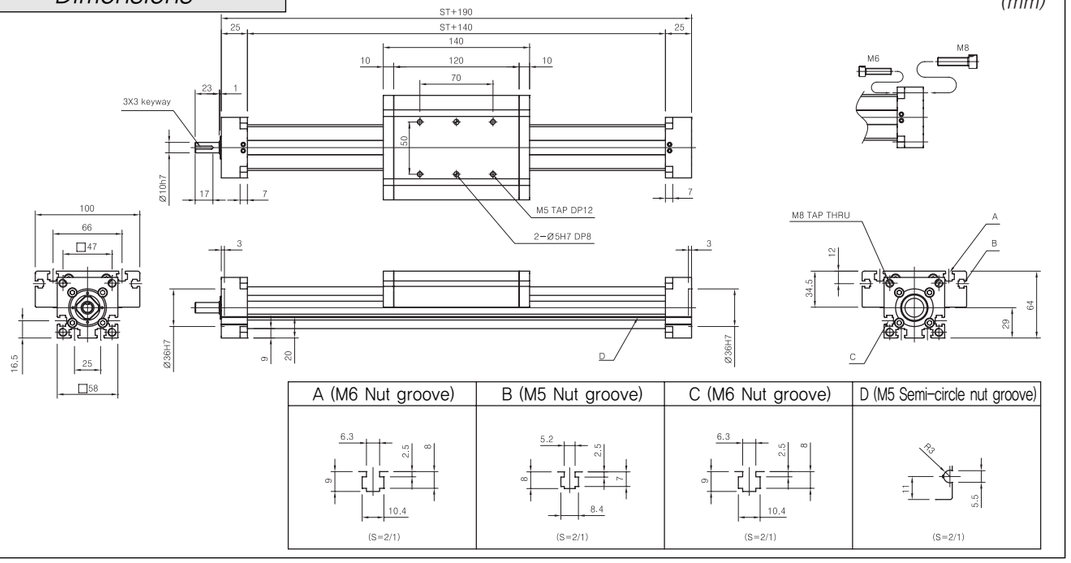
$$T_d = \frac{F \times P \times S \times \mu}{2000 \times \pi \times \varepsilon}$$

$$P_m = \frac{T_d \times n}{9550}$$

F : Applied load(N)
P : Screw pitch(mm)
S : Safety coefficient
n : Screw rotation number per min. (min^{-1})
μ : Frictional coefficient
ε : Screw efficiency ~ 0.9
T_d : Driving torque (Nm)
P_m : Motor power (kw)

Dimensions

(mm)



A (M6 Nut groove)	B (M5 Nut groove)	C (M6 Nut groove)	D (M5 Semi-circle nut groove)
(S=2/1)	(S=2/1)	(S=2/1)	(S=2/1)

▶ Technical data

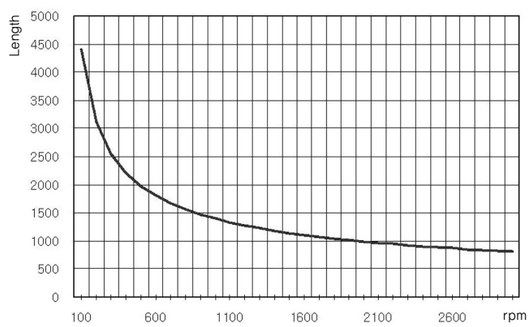
- Standard ball-screw · · · · · · · · · · · · · · · · · · 16×5
  16×10
- No-load torque
  1605 · 0.25Nm
  1610 · 0.44Nm
- 2'nd moment of area · · · · · · · · · · · · · · · · · · I_y=1.4×10^5㎜^{4}
  I_z=1.4×10^5㎜^{4}
- Weights
  Basic weight with zero stroke · · · · · · · · · · · · · 1.9㎏
  Weight/100㎜ stroke · · · · · · · · · · · · · · · · · · 0.38㎏

▶ Ball screw allowable rotation number

$$N = \lambda \times \frac{D}{L} \times 10^7$$

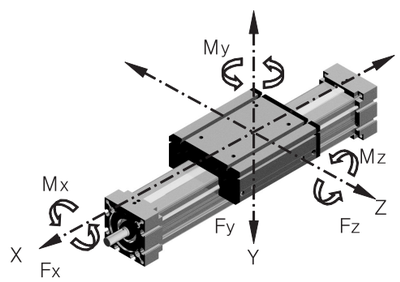
N : allowable rotation number
L : allowable rotation number
D : Screw shaft sectional area
λ : 15.1

▶ Ball screw allowable rotation number graph



* If rotation speed increases, U ball screw may cause resonance owing to original frequency of screw axis, which causes disability of motion, so that it should be set to utilize under resonance point (risky speed).

▶ Forces and moments

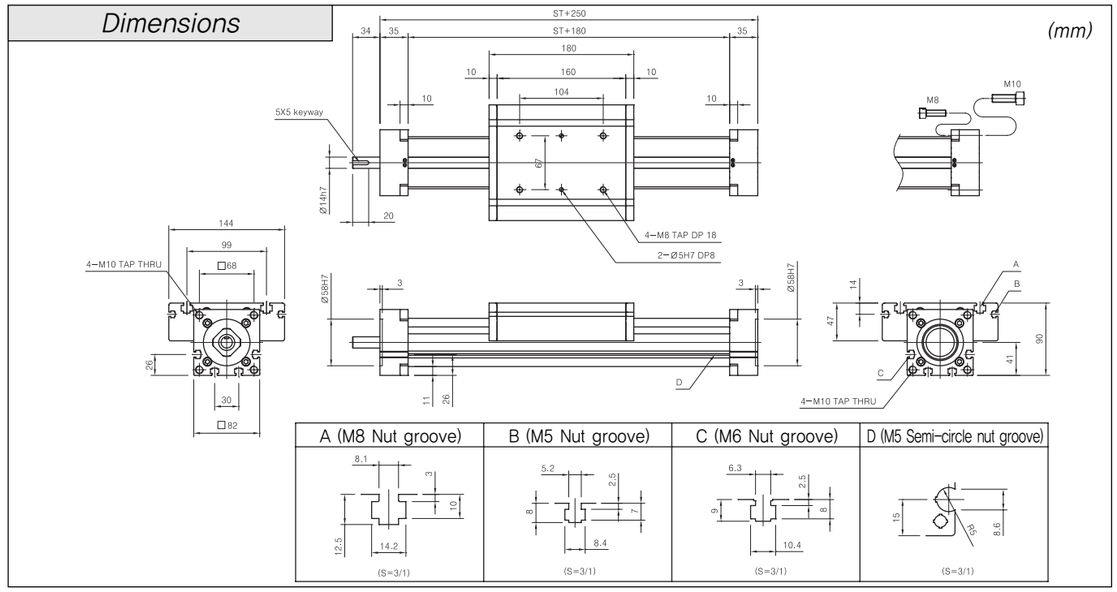


Slider Type	Forces/ Torques	Fx (N)	Fy (N)	Fz (N)	Mx (Nm)	My (Nm)	Mz (Nm)
MZ40	STATIC	1400	700	900	20	28	22
	DYNAMIC	1150	650	500	15	17	10

* Having bigger value in case of selecting slider special specification (T,H)

Dimensions

(mm)



A (M8 Nut groove)	B (M5 Nut groove)	C (M6 Nut groove)	D (M5 Semi-circle nut groove)
(S=3/1)	(S=3/1)	(S=3/1)	(S=3/1)

▶ Technical data

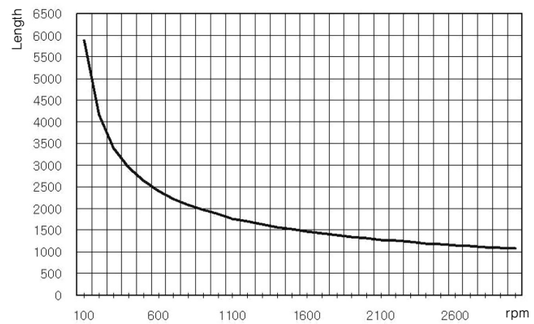
- Standard ball-screw · · · · · · · · · · · · · · · · · · 25×10
  25×25
- No-load torque
  2510 · 0.6Nm
  2525 · 0.8Nm
- 2'nd moment of area · · · · · · · · · · · · · · · · · · I_y=6.8×10^5㎜^{4}
  I_z=7.0×10^5㎜^{4}
- Weights
  Basic weight with zero stroke · · · · · · · · · · · · · 5.8㎏
  Weight/100㎜ stroke · · · · · · · · · · · · · · · · · · 0.86㎏

▶ Ball screw allowable rotation number

$$N = \lambda \times \frac{D}{L} \times 10^7$$

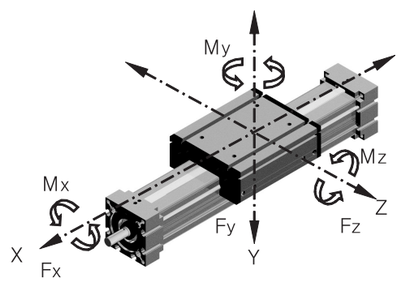
N : allowable rotation number
L : allowable rotation number
D : Screw shaft sectional area
λ : 15.1

▶ Ball screw allowable rotation number graph



* If rotation speed increases, U ball screw may cause resonance owing to original frequency of screw axis, which causes disability of motion, so that it should be set to utilize under resonance point (risky speed).

▶ Forces and moments

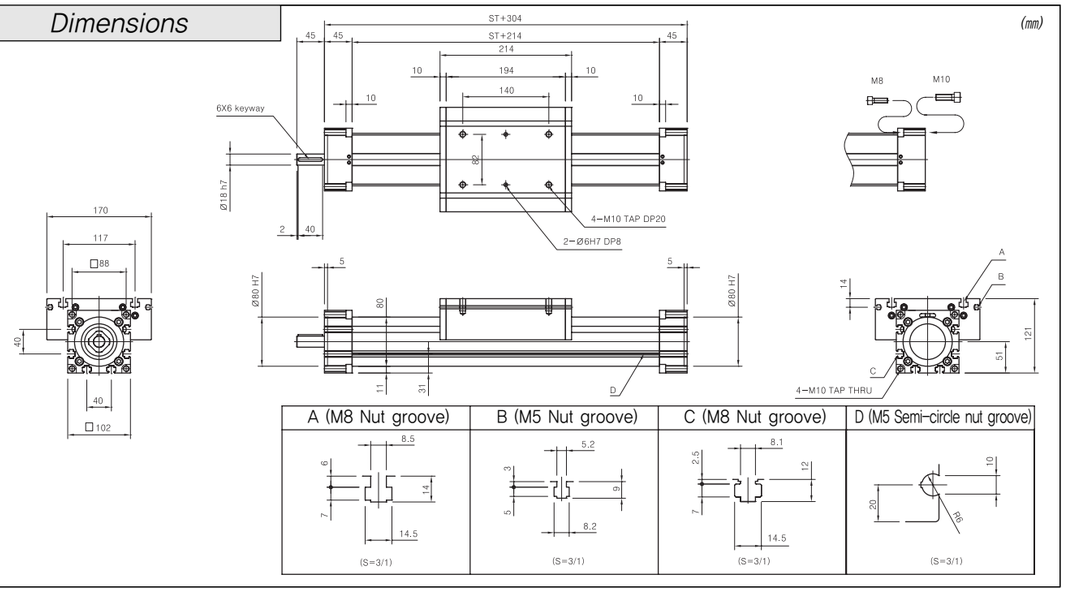


Slider Type	Forces/ Torques	Fx (N)	Fy (N)	Fz (N)	Mx (Nm)	My (Nm)	Mz (Nm)
MZ60	STATIC	2400	1500	2700	57	120	86
	DYNAMIC	1800	990	1800	33	95	66

* Having bigger value in case of selecting slider special specification (T,H)

Dimensions

(mm)



▶ Technical data

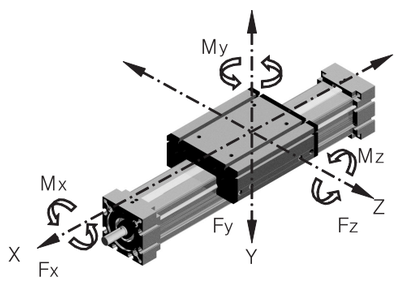
- Standard ball-screw · · · · · · · · · · · · · · · · · · 25×10
  25×25
- No-load torque
  2510 · 0.6Nm
  2525 · 0.8Nm
- 2'nd moment of area · · · · · · · · · · · · · · · · · I_y=23.8×10⁵㎟
  I_z=24.5×10⁵㎟
- Weights
  Basic weight with zero stroke · · · · · · · · · · · · 11kg
  Weight/100㎜ stroke · · · · · · · · · · · · · · · · · · 1.7kg

▶ Ball screw allowable rotation number

$$N = \lambda \times \frac{D}{L} \times 10^7$$

N : allowable rotation number
L : allowable rotation number
D : Screw shaft sectional area
λ : 15.1

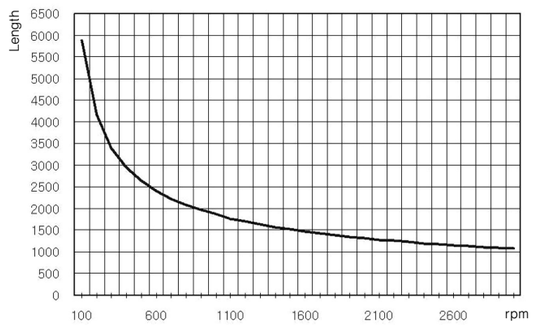
▶ Forces and moments



Slider Type	Forces/ Torques	Fx (N)	Fy (N)	Fz (N)	Mx (Nm)	My (Nm)	Mz (Nm)
MZ80	STATIC	2400	1500	2700	80	140	100
	DYNAMIC	1800	990	1800	50	110	75

* Having bigger value in case of selecting slider special specification (T,H)

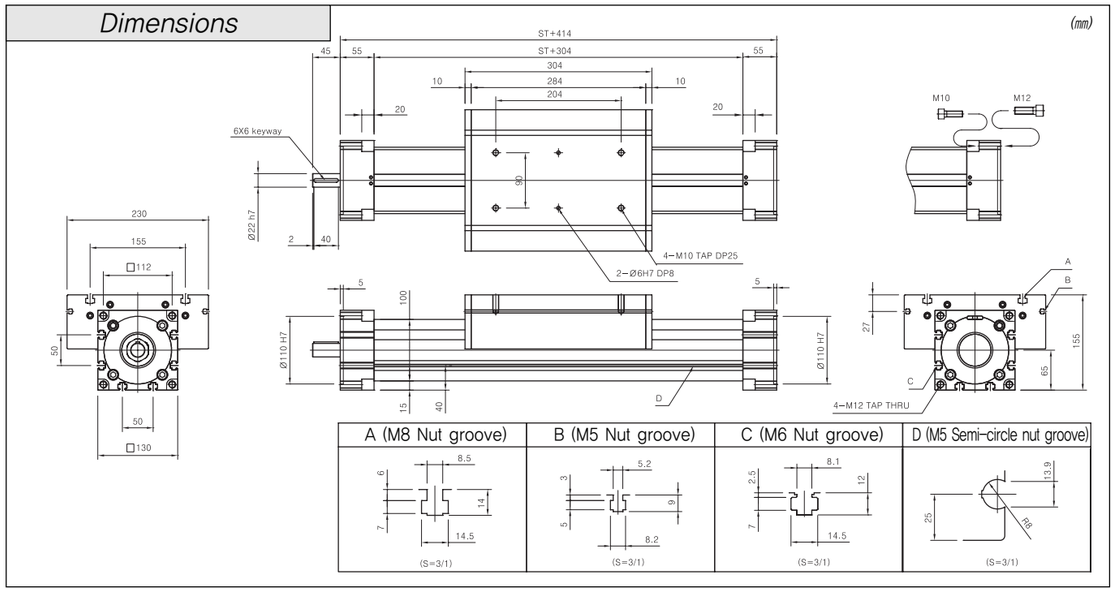
▶ Ball screw allowable rotation number graph



* If rotation speed increases, U ball screw may cause resonance owing to original frequency of screw axis, which causes disability of motion, so that it should be set to utilize under resonance point (risky speed).

Dimensions

(mm)



▶ Technical data

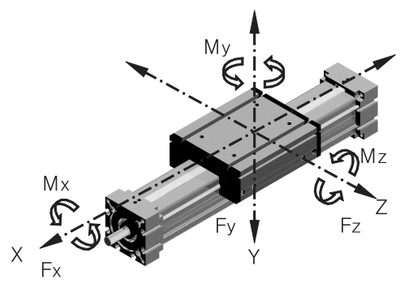
- Standard ball-screw · · · · · · · · · · · · · · · · · · 25×10
  25×25
  32×32
- No-load torque
  2510 · 0.6Nm
  2525 · 0.8Nm
  3232 · 0.9Nm
- 2'nd moment of area · · · · · · · · · · · · · · · · · I_y=58.4×10⁵㎟
  I_z=61.9×10⁵㎟
- Weights
  Basic weight with zero stroke · · · · · · · · · · · · 20kg
  Weight/100㎜ stroke · · · · · · · · · · · · · · · · · · 2.2kg

▶ Ball screw allowable rotation number

$$N = \lambda \times \frac{D}{L} \times 10^7$$

N : allowable rotation number
L : allowable rotation number
D : Screw shaft sectional area
λ : 15.1

▶ Forces and moments

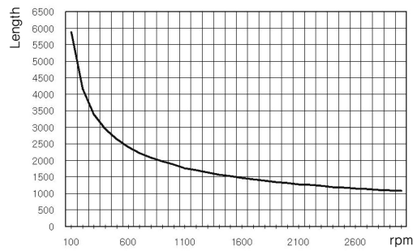


Slider Type	Forces/ Torques	Fx (N)	Fy (N)	Fz (N)	Mx (Nm)	My (Nm)	Mz (Nm)
MZ100	STATIC	9000	3300	7200	280	690	380
	DYNAMIC	7500	2000	5800	200	470	250

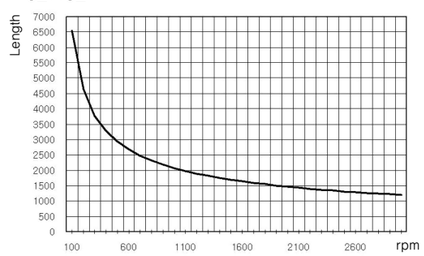
* Having bigger value in case of selecting slider special specification (T,H)

▶ Ball screw allowable rotation number graph

- 25×10/25×25



- 32×32



* If rotation speed increases, U ball screw may cause resonance owing to original frequency of screw axis, which causes disability of motion, so that it should be set to utilize under resonance point (risky speed).