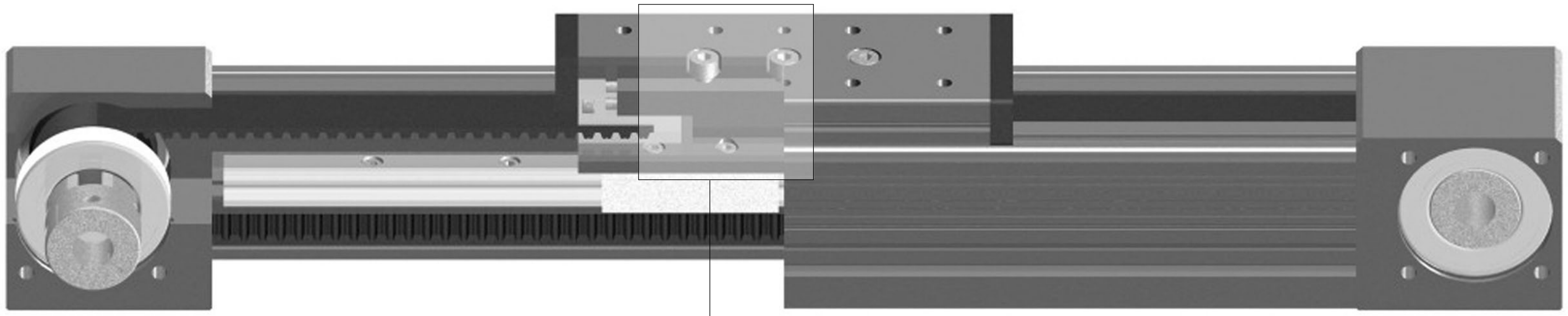
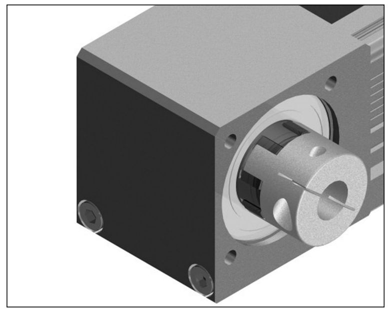
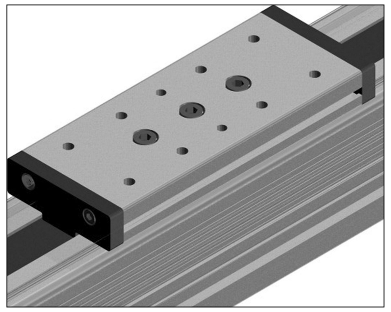
REAL GUIDE *QB series*

LM Guide Attached Belt Driving Module

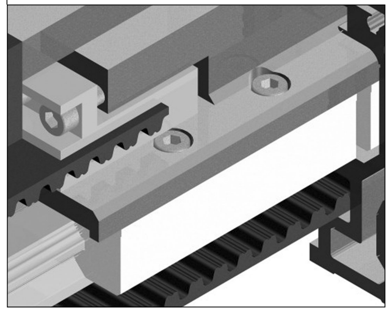




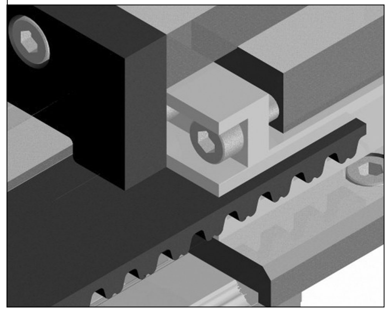
Advantageous for attaching at various motor and reducer models



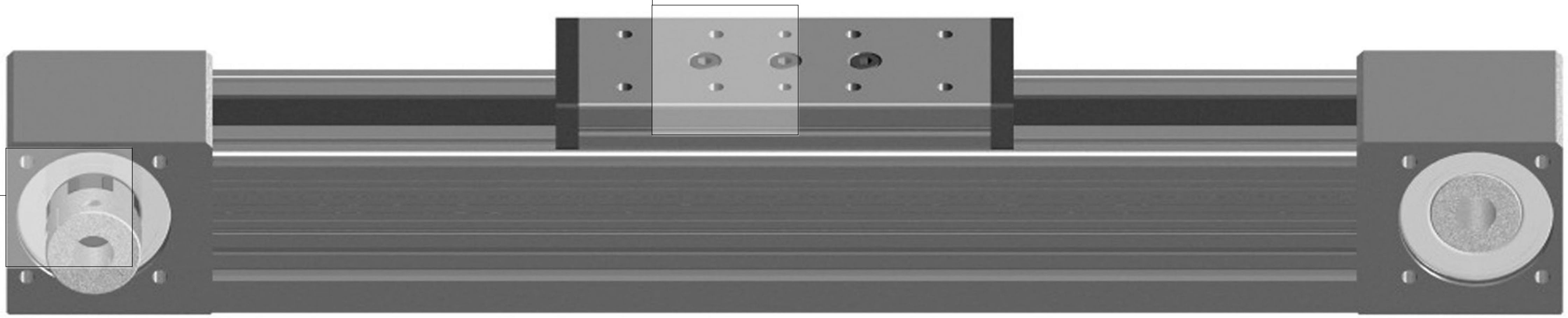
Possible to produce various types slider along with customer requirements



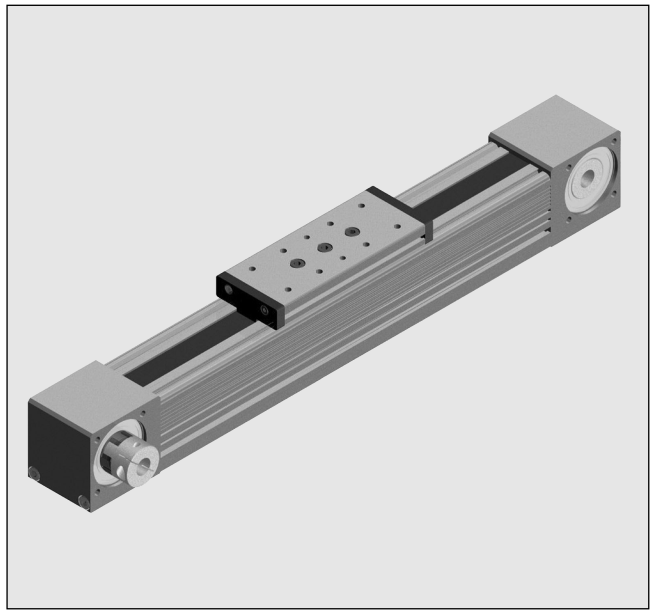
High strength and high precision LM guide applied



Iron core reinforced RPP type belt allows high location precision under heavy torque and reduction of frictional noise during high speed conveyance, which shows greatly upgraded performance than classic timing belt.



QB 60, 80, 100



Features

- Combination of LM guide and belt driving unit
- Compact design with high strength structure
- Designed for various combinations, comfortable for multi-shaft combination
- Iron core reinforcing high tension timing belt applied
- Easy maintenance
- Responding to various customer requirements such as mounting, accessory formation, etc.

Order type

1 2 3 4

QB – E – 80 – 800 – 0100 – 5

1 2 3 4 5 6

1 TYPE

2 LM reinforcement
Non-symbol : Standard
E : LM reinforced

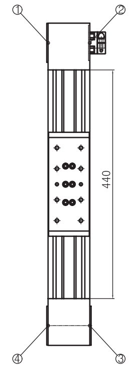
3 Type number
60, 80, 100

4 Rail length

5 Coupling attaching type
0 : STANDARD
1 : COUPLING TYPE
2 : SHAFT TYPE

6 Quantity

▶ Ordering of Module



QB – 80 – 440 – 0100 – 5

COUPLING 사양

Position ① : 내경 ☐ – KEY 6×6
Position ② : 내경 ☐ – KEY ☐
Position ③ : 내경 ☐ – KEY ☐
Position ④ : 내경 ☐ – KEY ☐

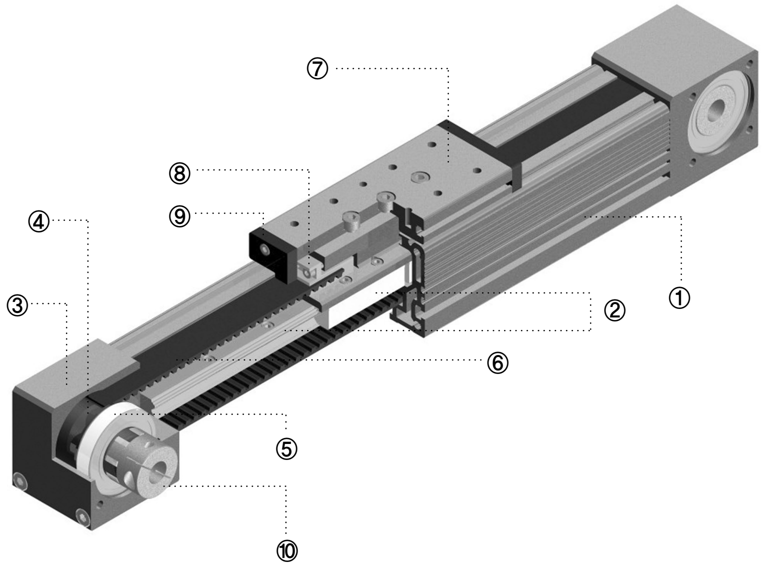
▶ Accessory

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

☐ **Reducer**
□Pulley Reducer
□기 타 (Name of company :)
(Model name :)
(Reduction gear ratio :)

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

☐ **Urethane stopper**



▶ Specification of Components

No	Component name		Material	No	Component name	Material
1	Rail		Aluminum alloy	6	Timing belt	Sealing
2	Product No.	LM GUIDE		7	Slider	Aluminum alloy
	60	No.15 / 1RAIL 2BLOCK				
	80	No.20 / 1RAIL 2BLOCK				
	100	No.30 / 1RAIL 2BLOCK				
3	Pulley box		Aluminum alloy	8	Belt clip	Carbon steel
4	Bearing		High carbon steel	9	Sealing	EP
5	Timing pulley			10	COUPLING	Aluminum alloy

▶ Performance sheet

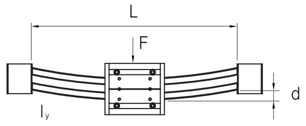
repeating accuracy	±0.05㎜
Straightness of rail	0.35㎜/m
Parallelism between shafts	±0.02㎜/m
Tolerance of length	±0.5㎜

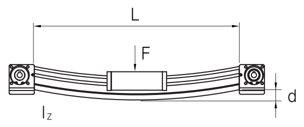
▶ Timing belt dimension and Rail size

Model No.	Length	Belt type	Belt width	Material of velt
60	3000	RPP5	25	Polyurethane With Steel cord
80	4000	RPP8	30	
100	4000	RPP8	50	

▶ LM연결없이 제작가능한 최대길이

▶ Max. deflection of rail





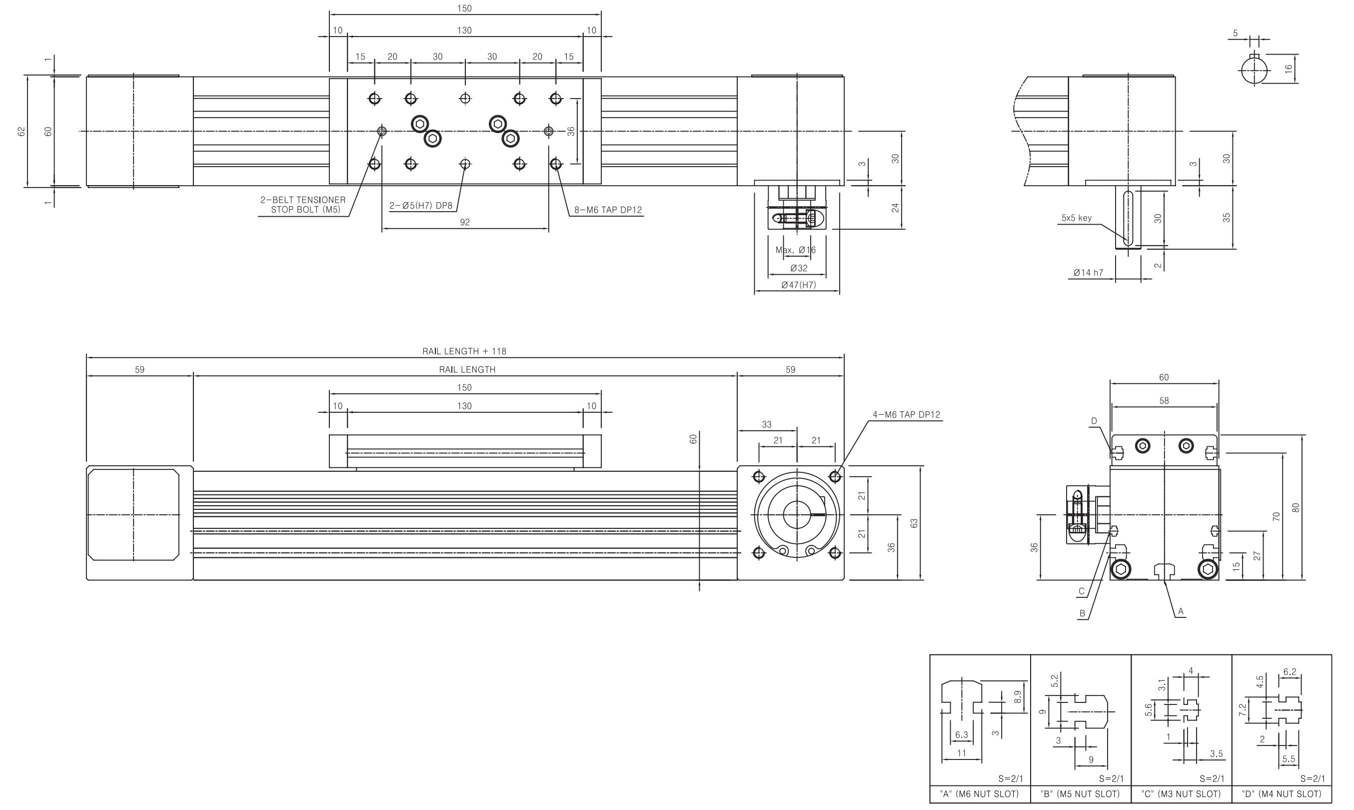
*Formula for deflection of rail is the same to the whole dimension.

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

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

Dimensions

(㎜)

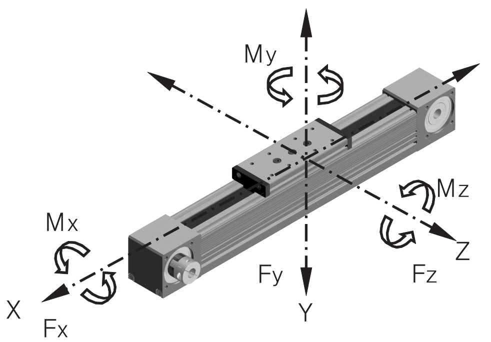


＊Rails that esceed Max. rail length without joint also available on customer's request.

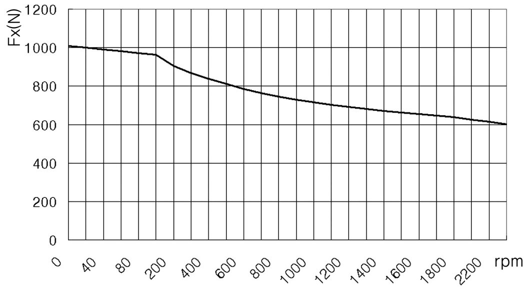
▶ Technical data

• Speed	Max. 5㎧
• Pulley P. C. D.	41.38㎜
• Stroke per revolution	≒130㎜/rev.
• 2'nd moment of area	I_y=4.8×10^5㎜^{4} I_z=4.3×10^5㎜^{4}
• No-load torque	1.0N㎧
• Weights	
Basic weight with zero stroke	4㎏
Weight/100㎜ stroke	0.53㎏

▶ Forces and moments



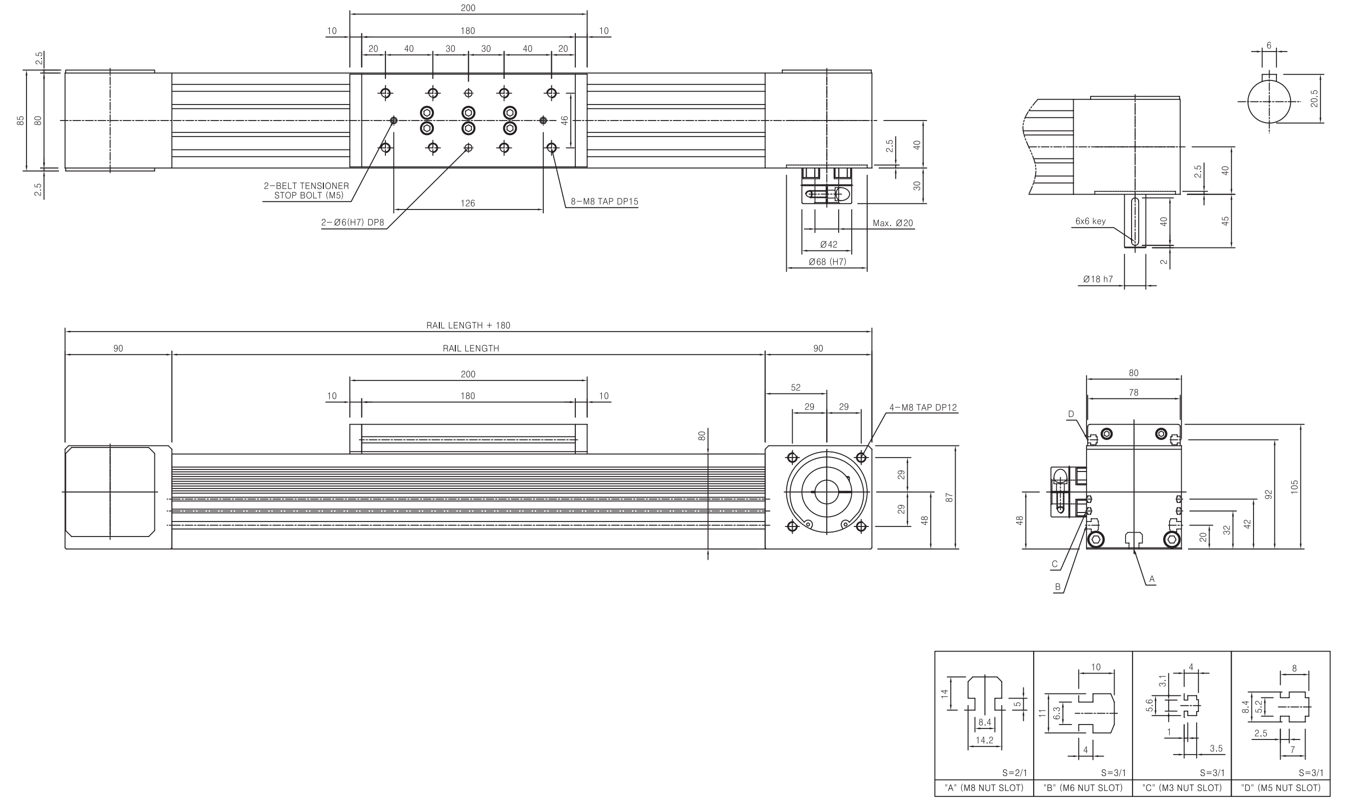
Slider Type	Forces/ Torques	Fx (N)	Fy (N)	Fz (N)	Mx (Nm)	My (Nm)	Mz (Nm)
QB60	STATIC	Max.1000	26,852	26,852	137	98	98
	DYNAMIC		16,660	16,660	82	59	59



＊Fx depends on speed, see respective chart.

Dimensions

(㎜)

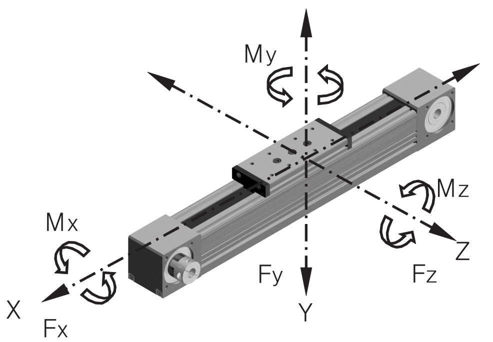


＊Rails that esceed Max. rail length without joint also available on customer's request.

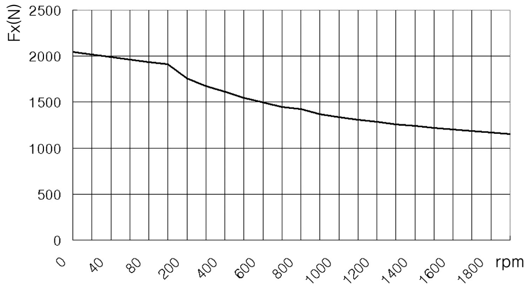
▶ Technical data

• Speed	Max. 5㎧
• Pulley P. C. D.	56.02㎜
• Stroke per revolution	≒176㎜/rev.
• 2'nd moment of area	I_y=18.7×10^5㎜^{4} I_z=16.5×10^5㎜^{4}
• No-load torque	1.4N㎧
• Weights	
Basic weight with zero stroke	10.9㎏
Weight/100㎜ stroke	1.1㎏

▶ Forces and moments



Slider Type	Forces/ Torques	Fx (N)	Fy (N)	Fz (N)	Mx (Nm)	My (Nm)	Mz (Nm)
QB80	STATIC	Max.2044	50,176	50,176	432	353	353
	DYNAMIC		28,420	28,420	259	212	212

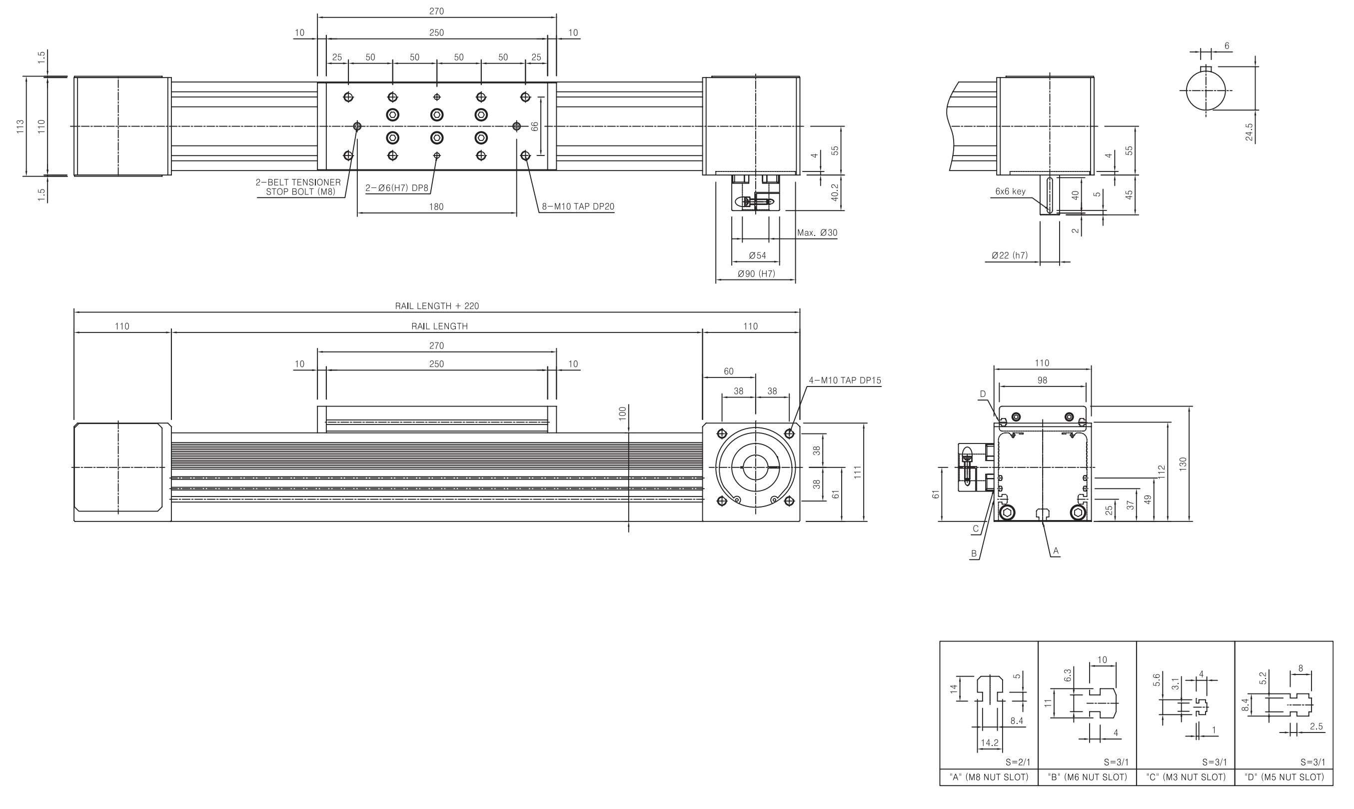


＊Fx depends on speed, see respective chart.)

QB 100

Dimensions

(㎜)

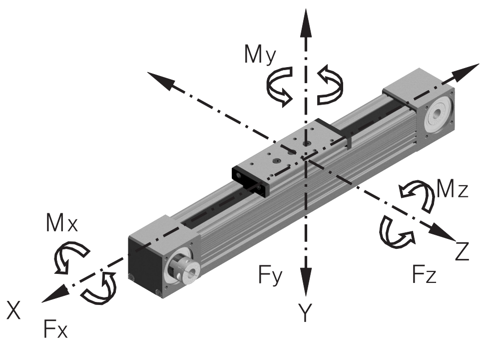


* Rails that esceed Max. rail length without joint also available on customer's request.

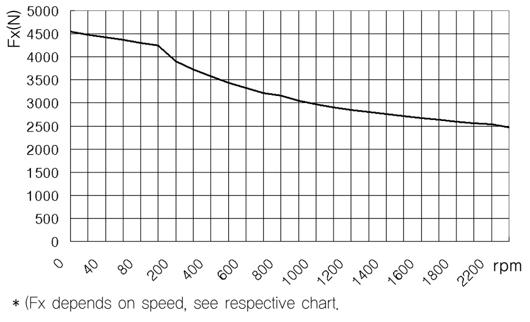
▶ Technical data

- Speed · Max. 5㎧
- Pulley P. C. D. · · · · · · · · · · · · · · · · · · · 71.30㎜
- Stroke per revolution · · · · · · · · · · · · · · · · ≒224㎜/rev.
- 2'nd moment of area · · · · · · · · · · · · · · · · · $I_y=48.8\times10^5$㎜^{4}
  $I_z=43.0\times10^5$㎜^{4}
- No-load torque · · · · · · · · · · · · · · · · · · · 1.8N㎙
- Weights
  Basic weight with zero stroke · · · · · · · · · · · 20.2㎏
  Weight/100㎜ stroke · · · · · · · · · · · · · · · · 1.7㎏

▶ Forces and moments



Slider Type	Forces/ Torques	Fx (N)	Fy (N)	Fz (N)	Mx (Nm)	My (Nm)	Mz (Nm)
QB100	STATIC	Max.4540	107,604	107,604	1,177	981	981
	DYNAMIC		58,408	58,408	706	589	589

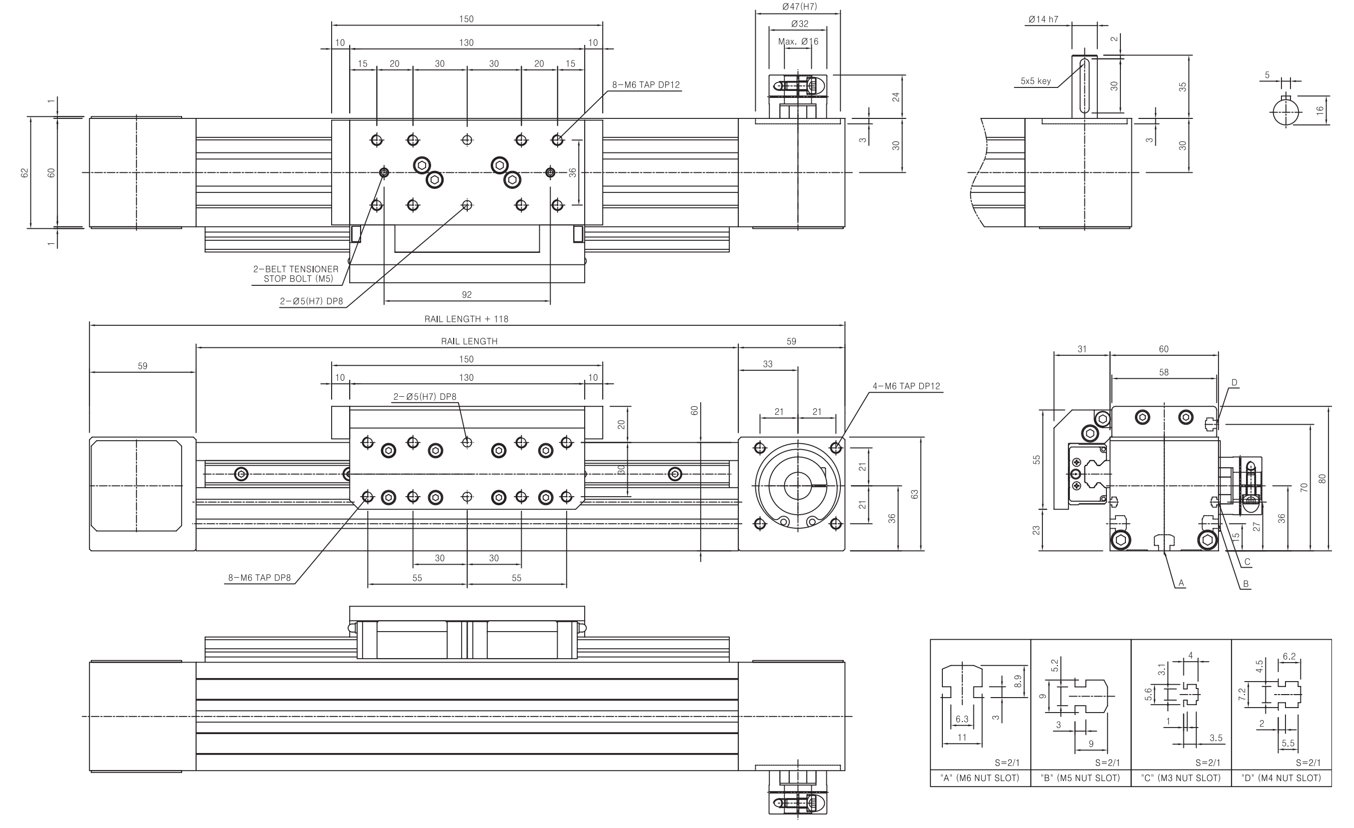


* (Fx depends on speed, see respective chart.

QBE 60

Dimensions

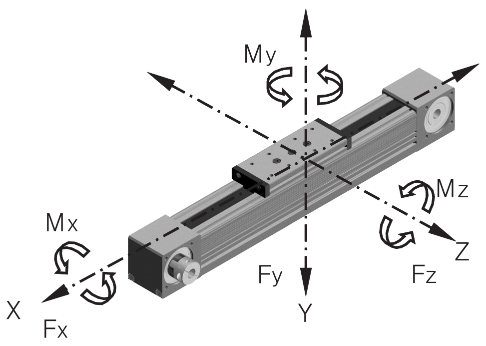
(㎜)



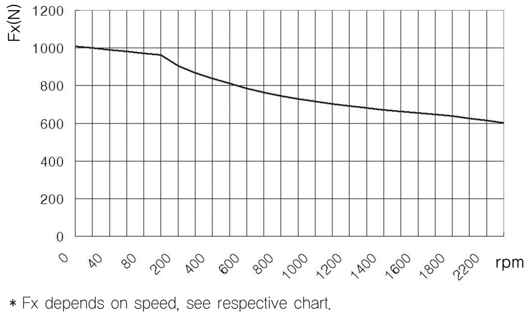
▶ Technical data

- Speed · Max. 5㎧
- Acceleration · Max. 20㎨
- Pulley P. C. D. · · · · · · · · · · · · · · · · · · · 41.38㎜
- Stroke per revolution · · · · · · · · · · · · · · · · ≒130㎜/rev.
- 2'nd moment of area · · · · · · · · · · · · · · · · · $I_y=4.3\times10^5$㎜^{4}
  $I_z=4.8\times10^5$㎜^{4}
- No-load torque · · · · · · · · · · · · · · · · · · · 1.7N㎙
- Weights
  Basic weight with zero stroke · · · · · · · · · · · 4.5㎏
  Weight/100㎜ stroke · · · · · · · · · · · · · · · · 0.68㎏

▶ Forces and moments



Slider Type	Forces/ Torques	Fx (N)	Fy (N)	Fz (N)	Mx (Nm)	My (Nm)	Mz (Nm)
QBE60	STATIC	Max.	53,704	53,704	275	196	196
	DYNAMIC	1000	33,320	33,320	165	118	118

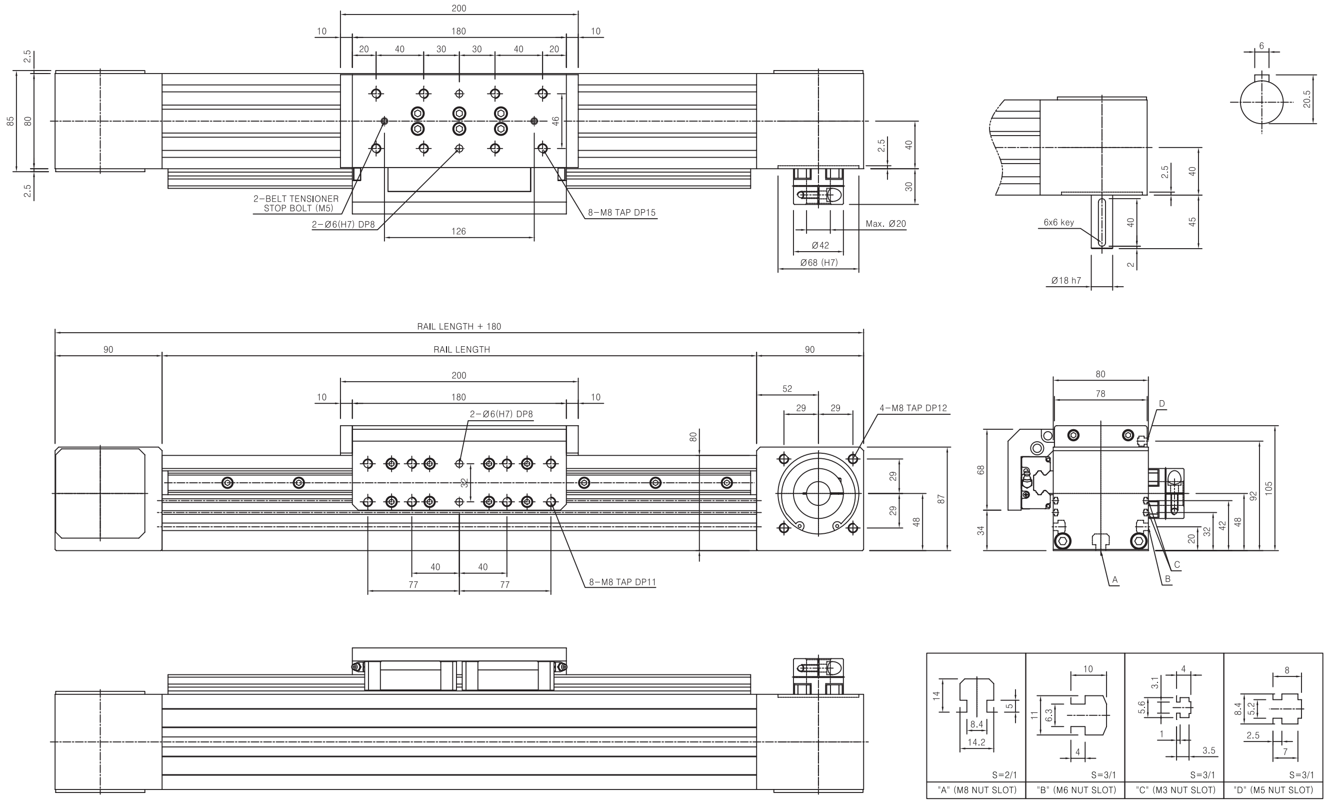


* Fx depends on speed, see respective chart.

QBE 80

Dimensions

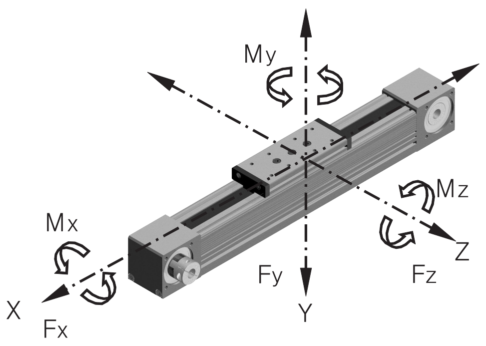
(㎜)



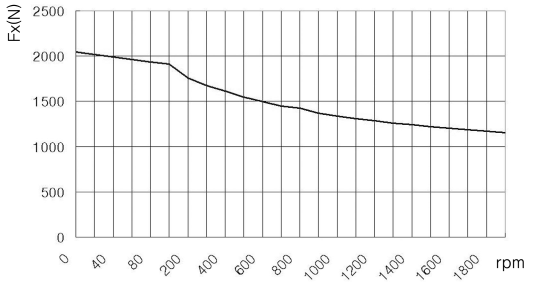
▶ Technical data

• Speed	Max. 5㎧
• Acceleration	Max. 20㎨
• Pulley P. C. D.	56.02㎜
• Stroke per revolution	≒176㎜/rev.
• 2'nd moment of area	$I_y=16.5\times10^5$㎜^{4} $I_z=18.7\times10^5$㎜^{4}
• No-load torque	1.8N㎙
• Weights	
Basic weight with zero stroke	13.6㎏
Weight/100㎜ stroke	1.4㎏

▶ Forces and moments



Slider Type	Forces/ Torques	Fx (N)	Fy (N)	Fz (N)	Mx (Nm)	My (Nm)	Mz (Nm)
QBE80	STATIC	Max.	156,800	100,352	863	706	706
	DYNAMIC	2044	83,888	56,840	518	424	424

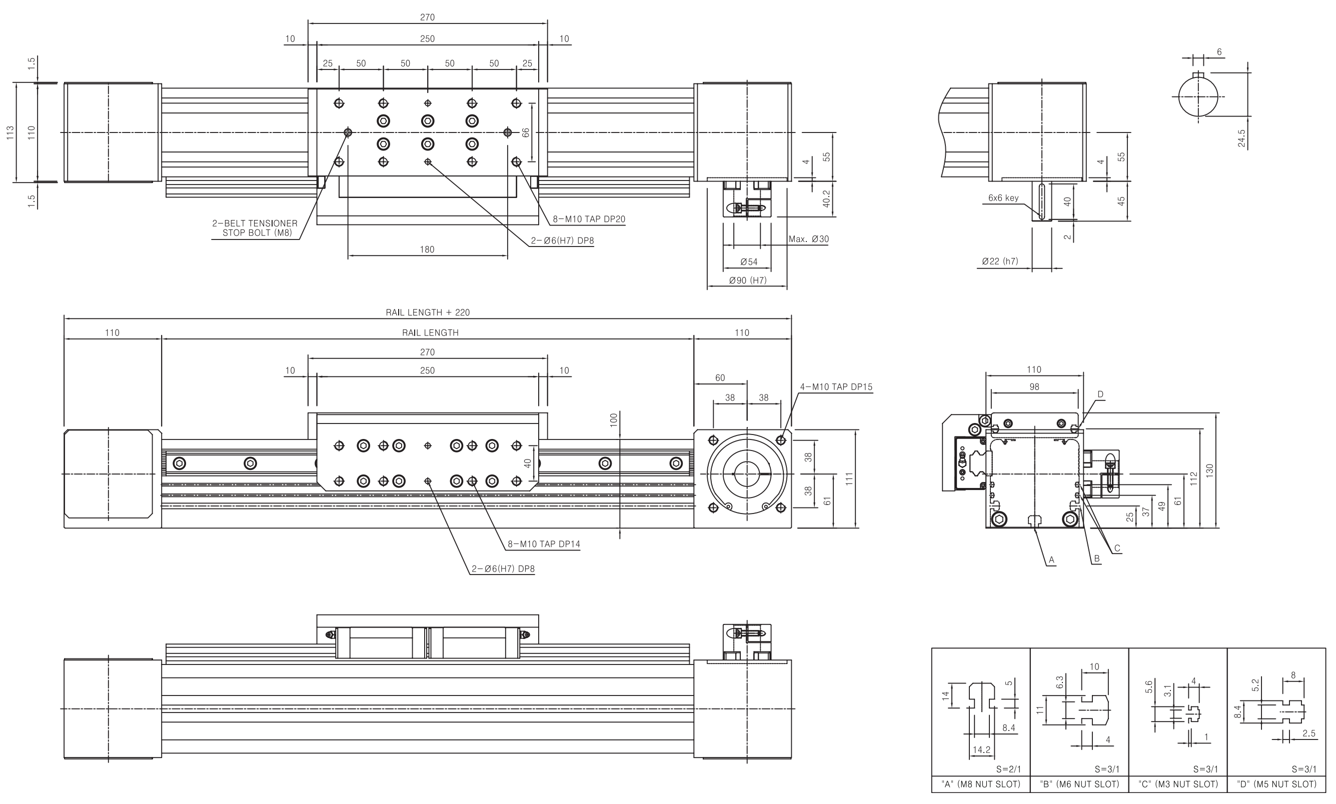


＊ Fx depends on speed, see respective chart.

QBE 100

Dimensions

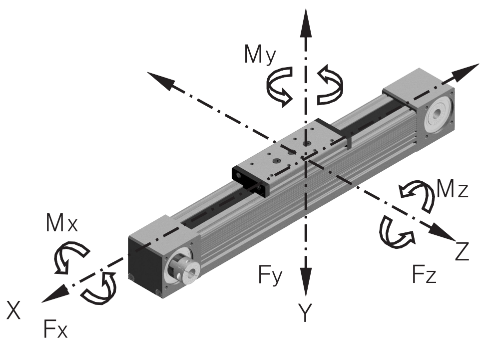
(㎜)



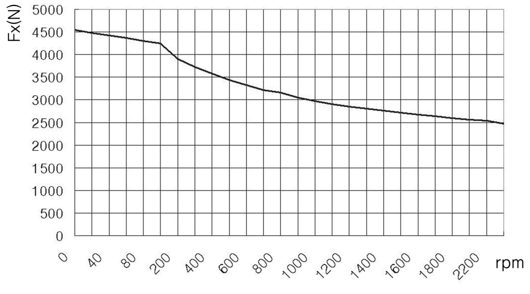
▶ Technical data

• Speed	Max. 5㎧
• Acceleration	Max. 20㎨
• Pulley P. C. D.	71.30㎜
• Stroke per revolution	≒224㎜/rev.
• 2'nd moment of area	$I_y=43.0\times10^5$㎜^{4} $I_z=48.8\times10^5$㎜^{4}
• No-load torque	2.1N㎙
• Weights	
Basic weight with zero stroke	24.5㎏
Weight/100㎜ stroke	2.2㎏

▶ Forces and moments



Slider Type	Forces/ Torques	Fx (N)	Fy (N)	Fz (N)	Mx (Nm)	My (Nm)	Mz (Nm)
QBE100	STATIC	Max.	156,800	100,352	2,354	1,962	1,962
	DYNAMIC	4540	83,888	56,840	1,413	1,177	1,177



＊ Fx depends on speed, see respective chart.