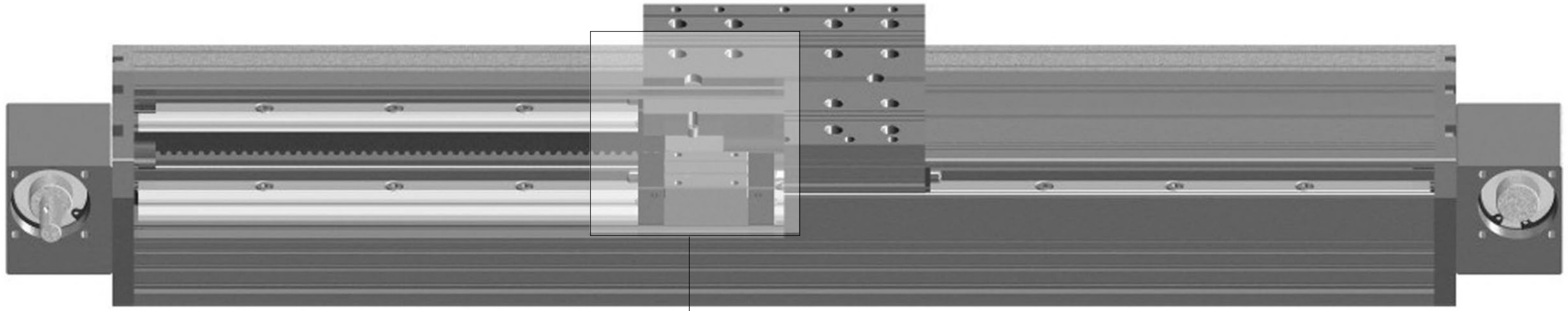
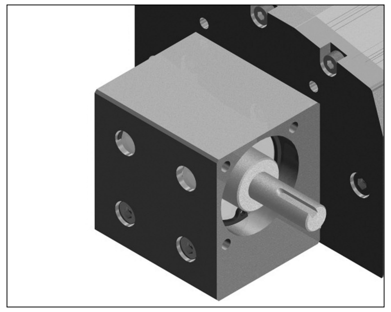
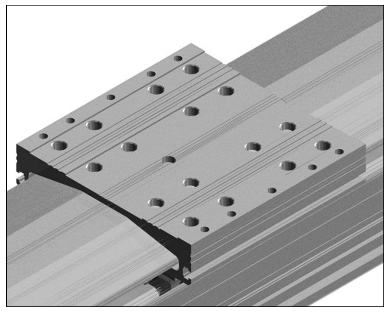
LM Guide attached belt driving linear module

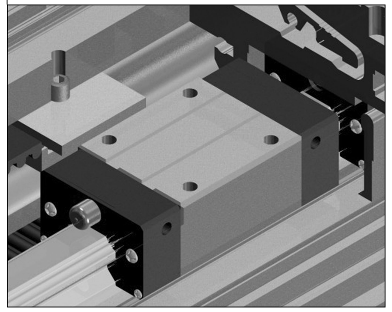




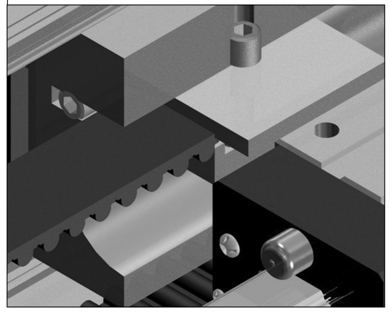
Advantageous for attaching at various motor and reducer models



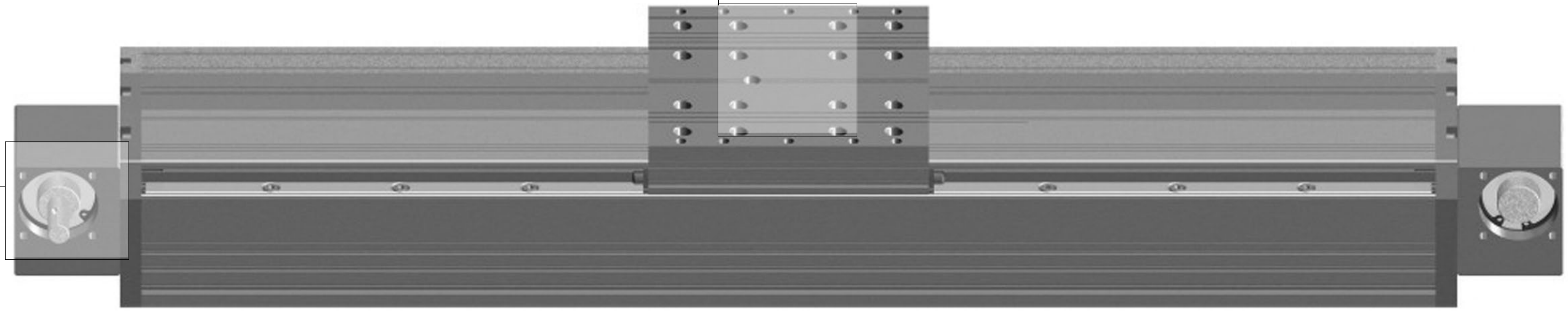
Possible to produce various types slider along with customer requirements

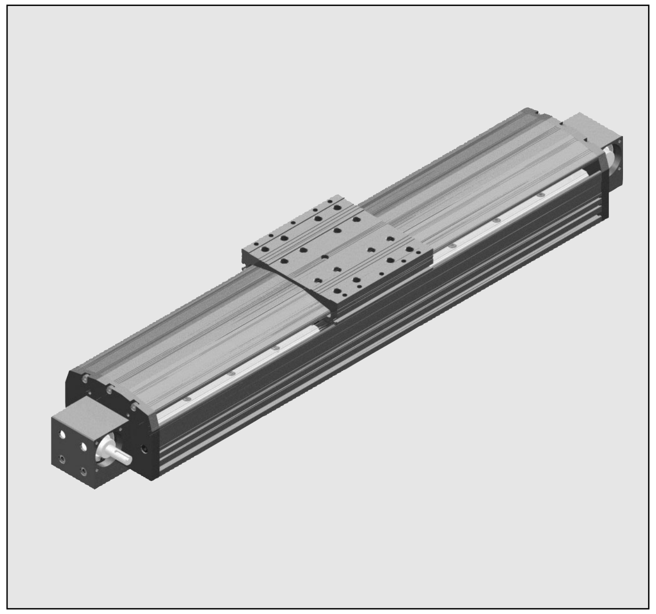


High strength and high precision LM guide applied



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.





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

LRB – 100 – 800 – 0100 – 5

1 2 3 4 5

1 TYPE

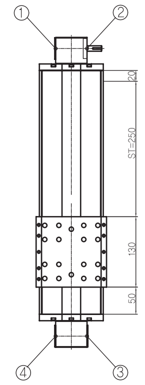
2 Type number
100, 120, 166, 210

3 STROKE

4 Coupling attachment type
0 : Standard slider
1 : COUPLING TYPE
2 : SHAFT TYPE

5 Quantity

▶ Ordering of Module



LRB – 100 – 250 – 0100 – 5

COUPLING 사양

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

▶ Accessory

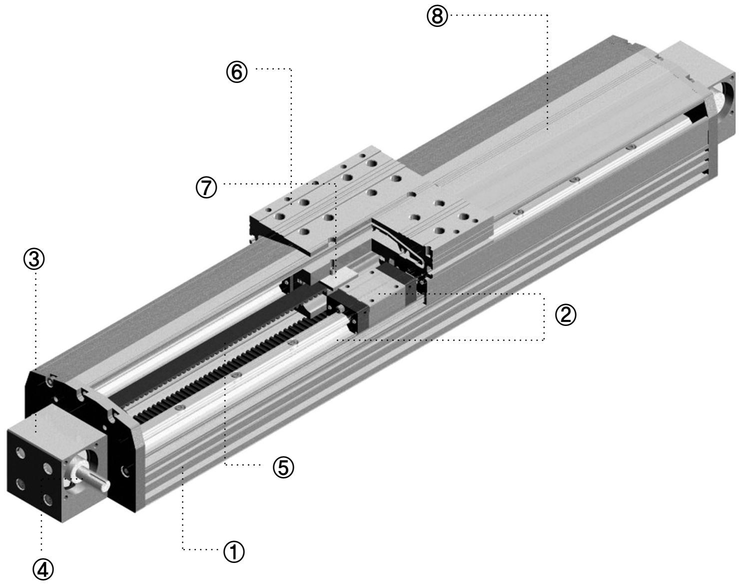
☐ **Motor** (Name of company:)
(Model name :)
(Power : 〈kw〉)

☐ **Reducer**
☐Pulley Reducer
☐Others(Name of company:)
(Model name :)
(Reduction gear ratio :)

☐ **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	7	Timing belt	Urethane
2	Product No.	LM GUIDE	Bearing steel	6	Slider	Aluminum alloy
	100	No.20 / 1RAIL 1BLOCK				
	120	No.15 / 2RAIL 4BLOCK				
	166	No.15 / 2RAIL 4BLOCK				
	210	No.25 / 2RAIL 4BLOCK				
3	Pulley box		Aluminum alloy	7	Belt clip	Carbon steel
4	Timing pulley		High carbon steel	8	COVER	Aluminum alloy

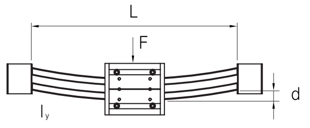
▶ Performance Sheet

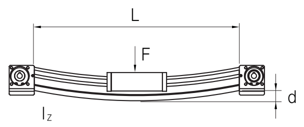
Repeating accuracy	±0.08㎜
Straightness of rail	0.35㎜/m
Parallelism between shafts	±0.02㎜/m
Tolerance of length	±0.5㎜

▶ Timing belt specification and Max. stroke

Model No.	Stoke	Belt type	Belt width	Material of velt
100	3830	RPP5	15	Polyurethane With Steel cord
120	3800	RPP5	15	
166	3760	RPP5	25	
210	3710	RPP8	30	

▶ Max. deflection of rail





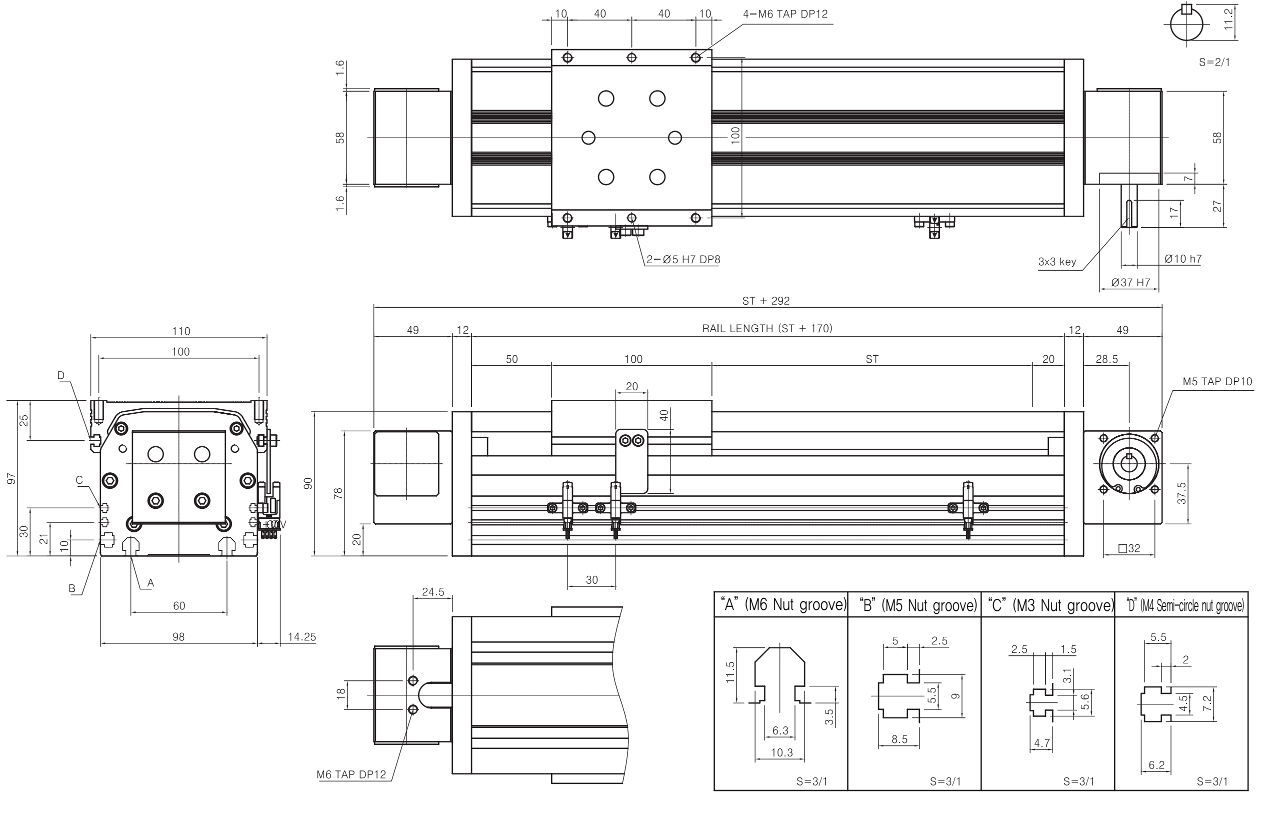
*Formula for deflection of rail is the same to the whole dimension.

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

E : Young's modulus, aluminum – 70,000N/mm^2
d : deflection [mm]
F : load [N]
L : free length [mm]
I : 2'nd moment of area [mm^4]

LRB 100

Dimensions

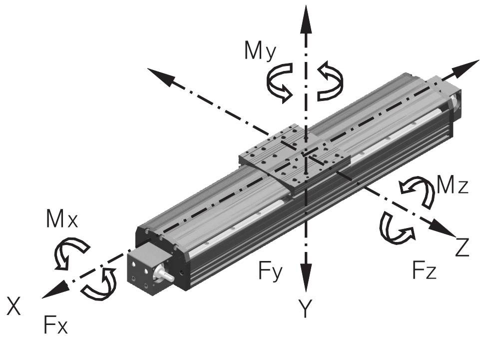


▶ Technical data

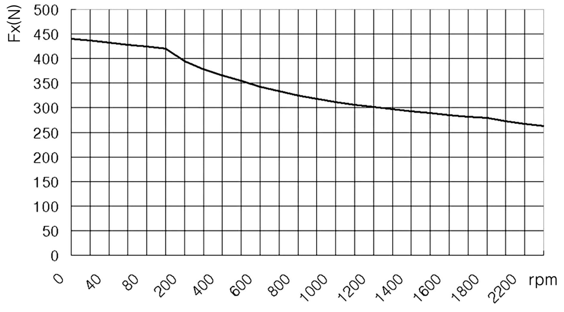
- Speed · Max. 1.6㎧
- Acceleration · Max. 3㎨
- Pulley P. C. D. · · · · · · · · · · · · · · · · · · · 31.83㎜
- Stroke per revolution · · · · · · · · · · · · · · · · ≒100㎜/rev.
- 2'nd moment of area · · · · · · · · · · · · · · · · $I_y=20.6\times10^5$㎜^{4}
  $I_z=4.6\times10^5$㎜^{4}
- No-load torque · · · · · · · · · · · · · · · · · · · 0.8N㎙
- Weights

  Basic weight with zero stroke · · · · · · · · · · · 3.3㎏
  Weight/100㎜ stroke · · · · · · · · · · · · · · · · · 0.7㎏

▶ Forces and moments



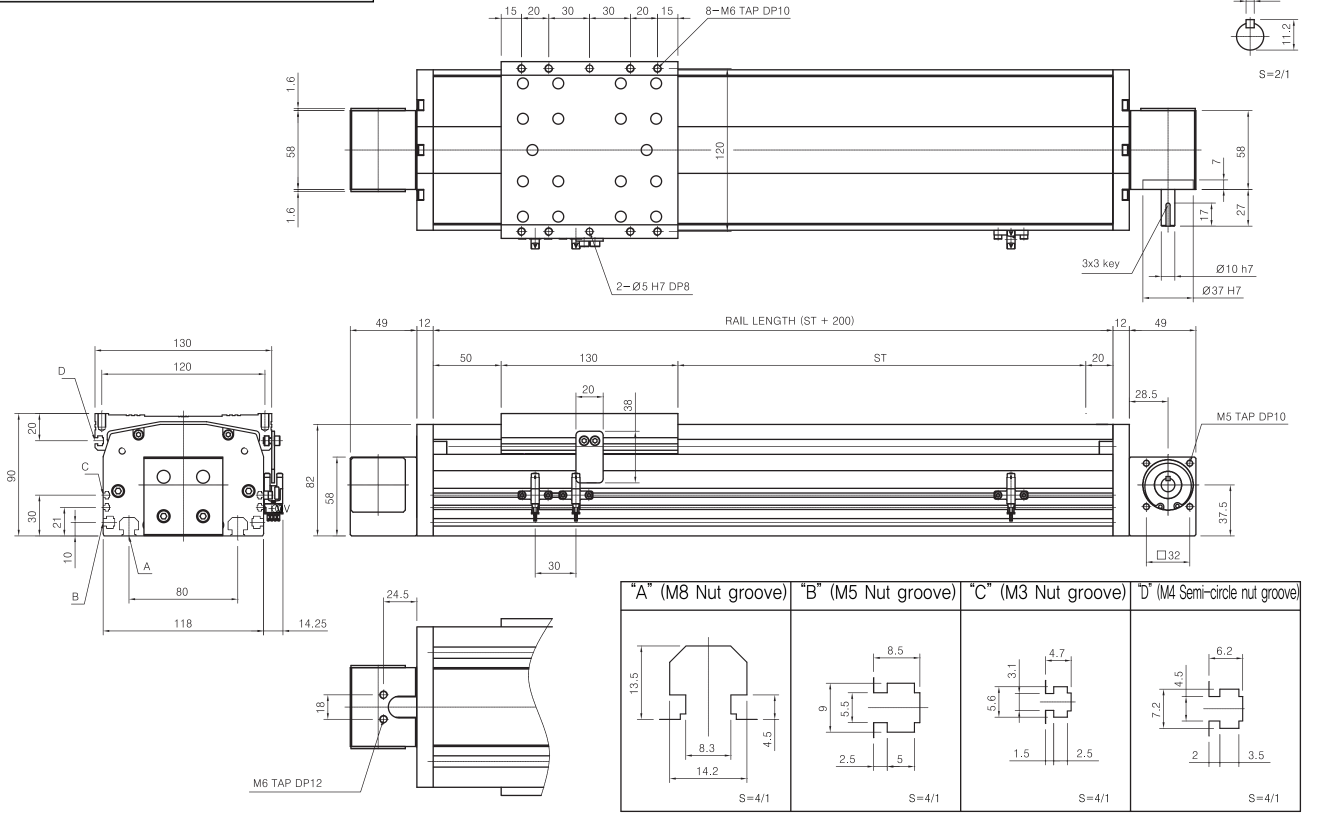
Slider Type	Forces/ Torques	Fx (N)	Fy (N)	Fz (N)	Mx (Nm)	My (Nm)	Mz (Nm)
LRB100	STATIC	Max.440	25,088	25,088	216	176	176
	DYNAMIC		14,210	14,210	129	106	106



* Fx depends on speed, see respective chart.

LRB 120

Dimensions

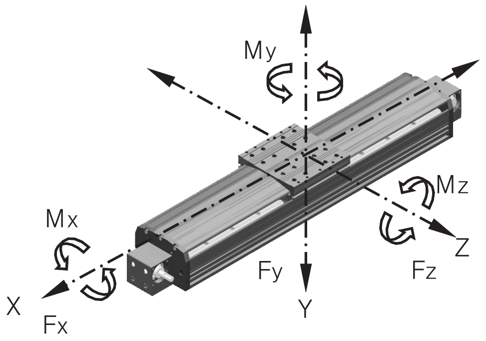


▶ Technical data

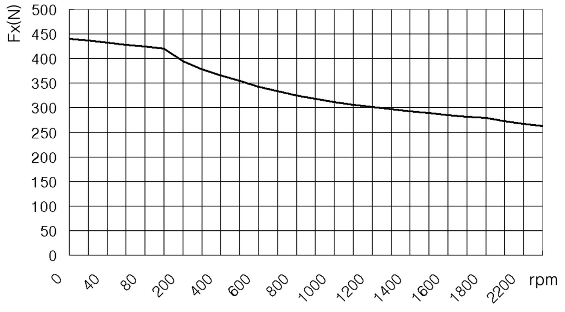
- Speed · Max. 1.6㎧
- Acceleration · Max. 3㎨
- Pulley P. C. D. · · · · · · · · · · · · · · · · · · · 31.83㎜
- Stroke per revolution · · · · · · · · · · · · · · · · ≒100㎜/rev.
- 2'nd moment of area · · · · · · · · · · · · · · · · $I_y=33.3\times10^5$㎜^{4}
  $I_z=3.93\times10^5$㎜^{4}
- No-load torque · · · · · · · · · · · · · · · · · · · 1.2N㎙
- Weights

  Basic weight with zero stroke · · · · · · · · · · · 4.4㎏
  Weight/100㎜ stroke · · · · · · · · · · · · · · · · · 1.0㎏

▶ Forces and moments



Slider Type	Forces/ Torques	Fx (N)	Fy (N)	Fz (N)	Mx (Nm)	My (Nm)	Mz (Nm)
LRB120	STATIC	Max.440	53,704	53,704	549	235	235
	DYNAMIC		33,320	33,320	330	141	141

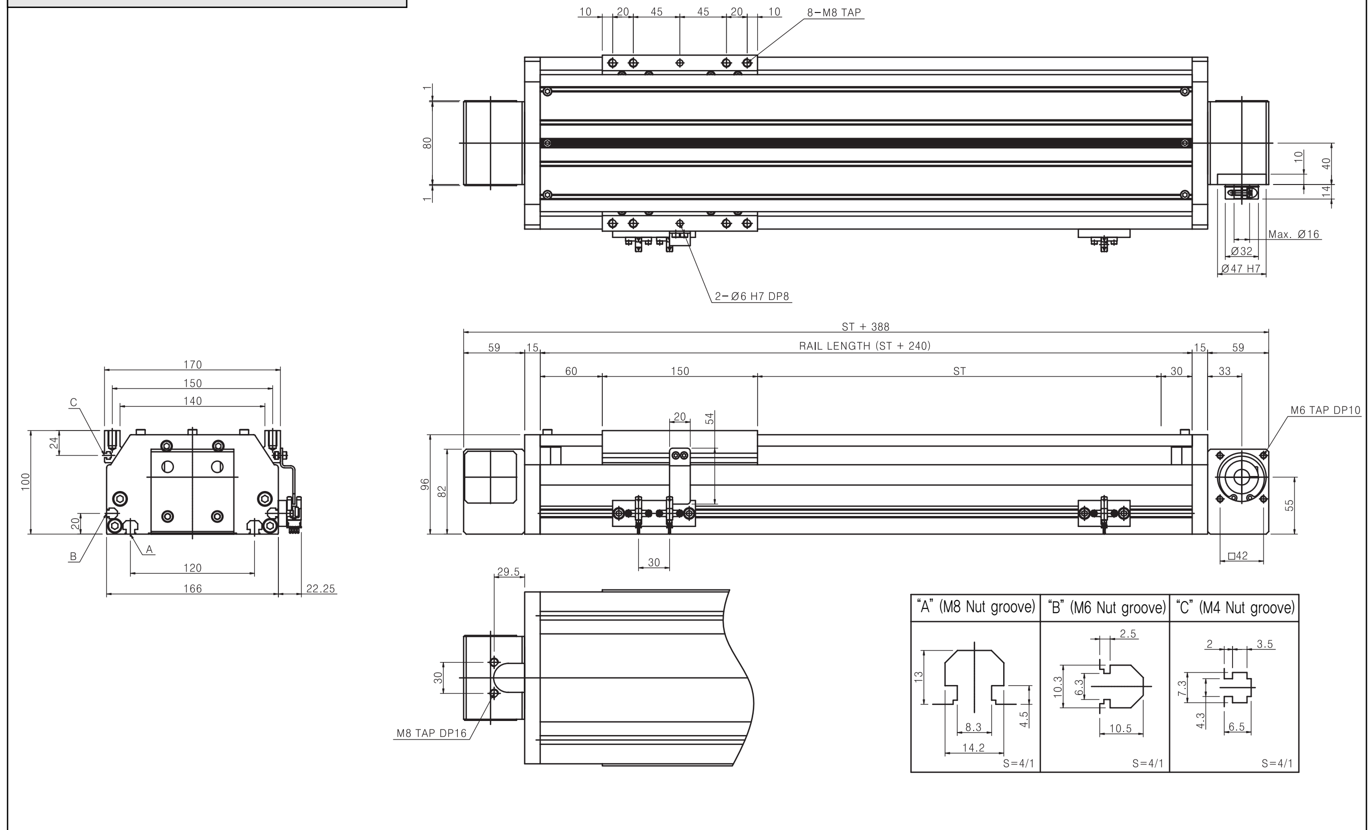


* Fx depends on speed, see respective chart.

LRB 166

Dimensions

(㎜)

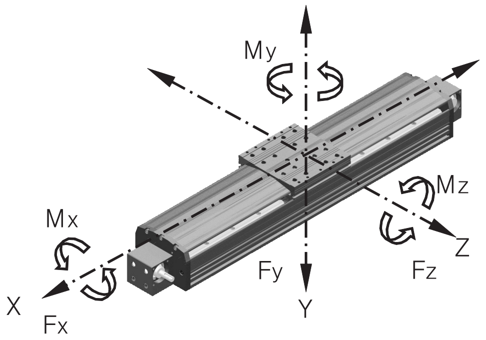


▶ Technical data

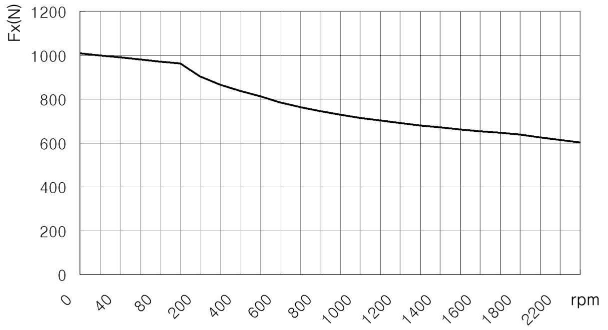
- Speed · Max. 2㎧
- Acceleration · Max. 5㎨
- Pulley P. C. D. · · · · · · · · · · · · · · · · · · · 41.38㎜
- Stroke per revolution · · · · · · · · · · · · · · · · ≒130㎜/rev.
- 2'nd moment of area · · · · · · · · · · · · · · · · I_y=13.0×10⁶㎜⁴
  I_z=1.14×10⁶㎜⁴
- No-load torque · · · · · · · · · · · · · · · · · · · 1.2N㎝
- Weights

  Basic weight with zero stroke · · · · · · · · · · · 7.3㎏
  Weight/100㎜ stroke · · · · · · · · · · · · · · · · 1.4㎏

▶ Forces and moments



Slider Type	Forces/ Torques	Fx (N)	Fy (N)	Fz (N)	Mx (Nm)	My (Nm)	Mz (Nm)
LRB166	STATIC	Max.1000	53,704	53,704	824	274	274
	DYNAMIC		33,320	33,320	494	165	165

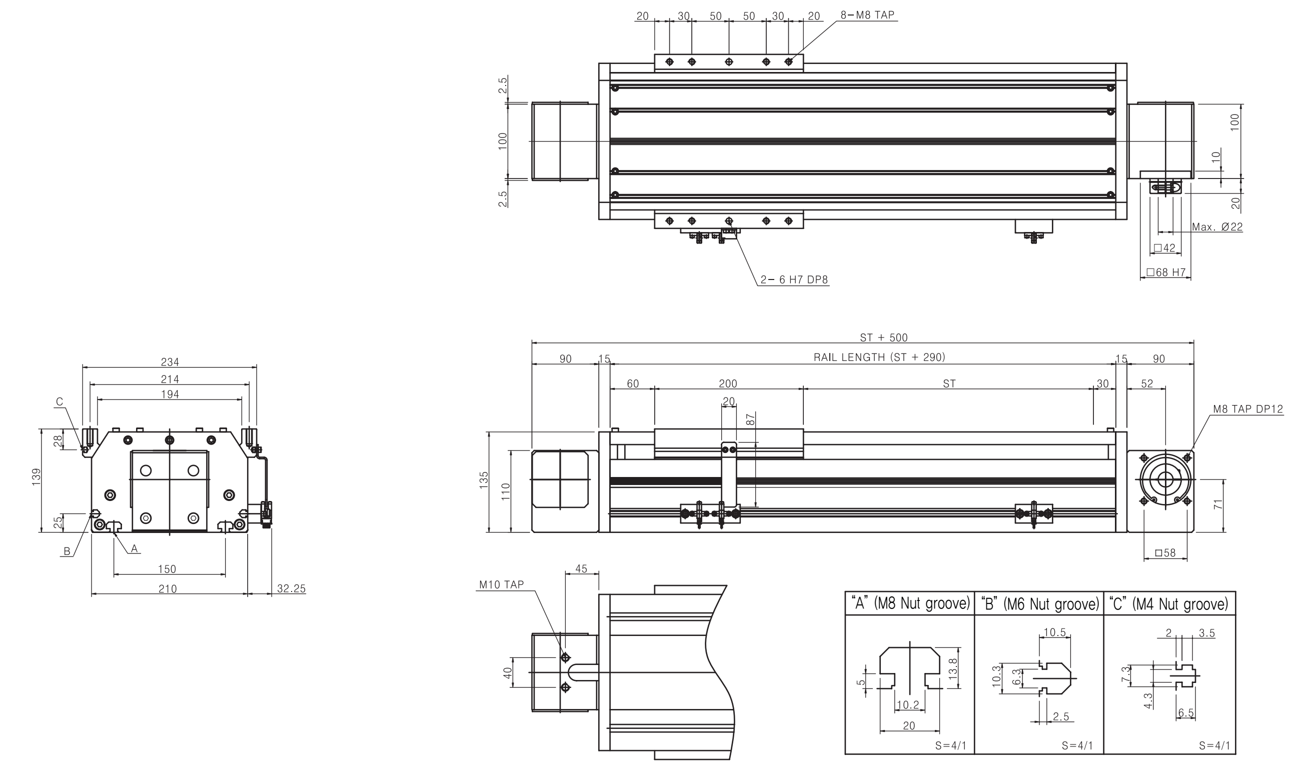


＊ Fx depends on speed, see respective chart.

LRB 210

Dimensions

(㎜)

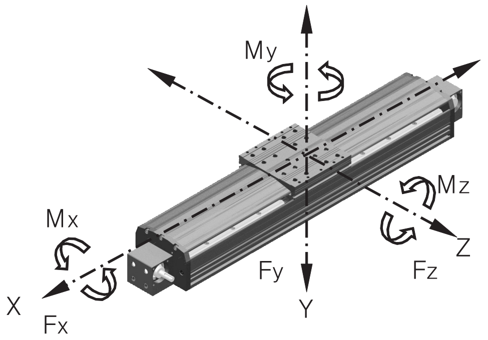


▶ Technical data

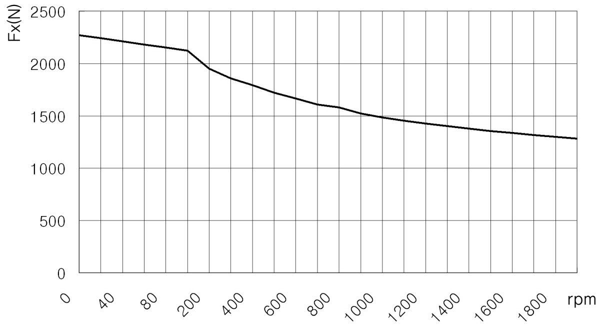
- Speed · Max. 2㎧
- Acceleration · Max. 8㎨
- Pulley P. C. D. · · · · · · · · · · · · · · · · · · · 61.12㎜
- Stroke per revolution · · · · · · · · · · · · · · · · ≒192㎜/rev.
- 2'nd moment of area · · · · · · · · · · · · · · · · I_y=37.5×10⁶㎜⁴
  I_z=4.35×10⁶㎜⁴
- No-load torque · · · · · · · · · · · · · · · · · · · 2N㎝
- Weights

  Basic weight with zero stroke · · · · · · · · · · · 18.5㎏
  Weight/100㎜ stroke · · · · · · · · · · · · · · · · 2.8㎏

▶ Forces and moments



Slider Type	Forces/ Torques	Fx (N)	Fy (N)	Fz (N)	Mx (Nm)	My (Nm)	Mz (Nm)
LRB210	STATIC	Max.2200	156,800	156,800	3,673	1,632	1,632
	DYNAMIC		83,888	83,888	2,204	979	979

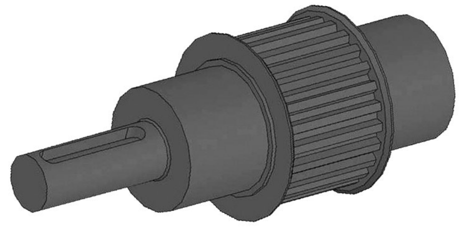


＊ Fx depends on speed, see respective chart.

PULLEY OPTION

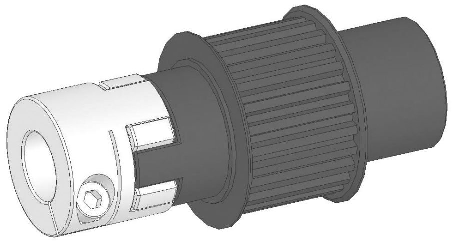
● PSH Type

One body type pulley that having driving shaft



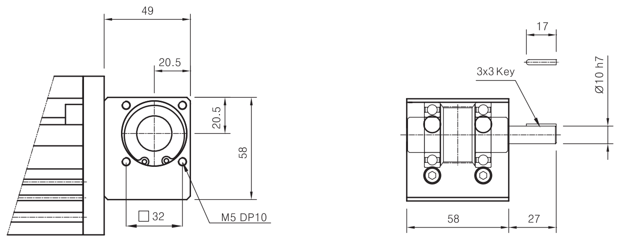
● PCP Type

This type pulley is joined with Jaw-coupling directly and supplied with coupling.

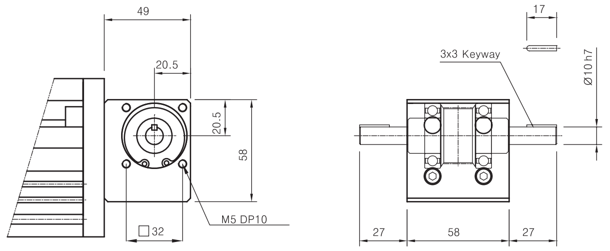


LRB100

PSH-S

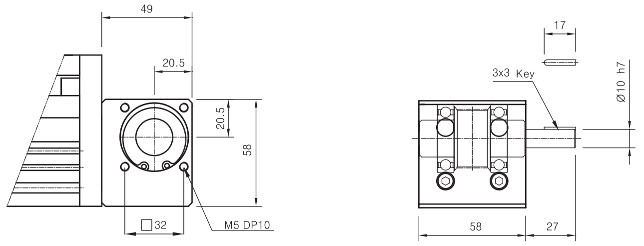


PSH-D

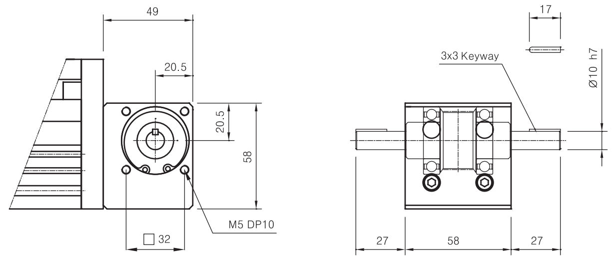


LRB120

PSH-S

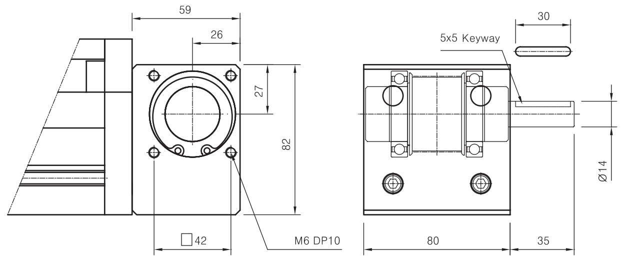


PSH-D

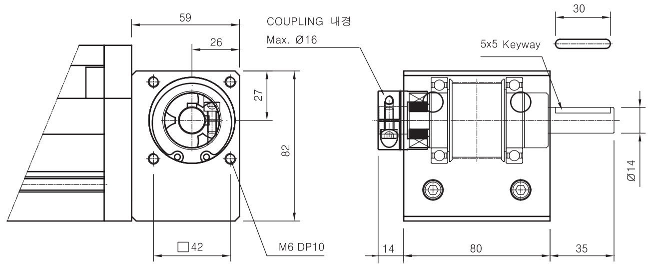


LRB166

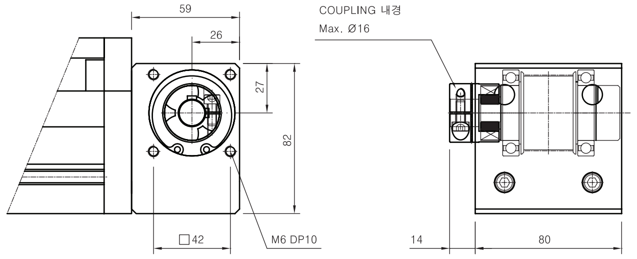
PSH-S



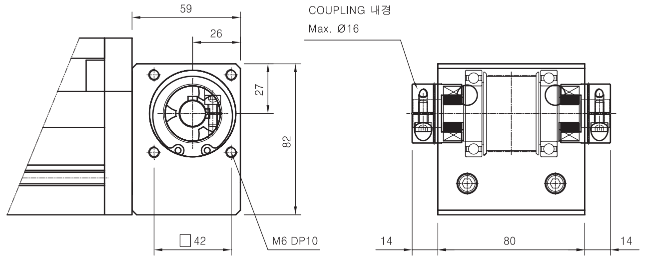
PSH-C



PCP-S

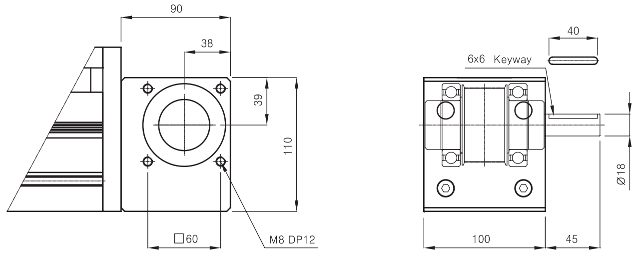


PCP-D

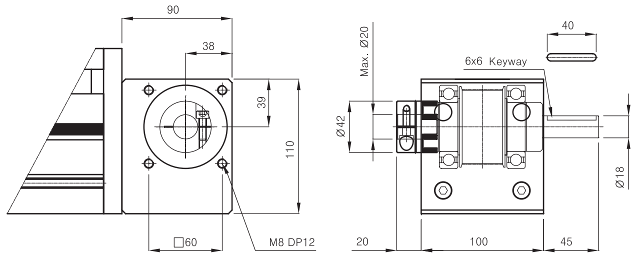


LRB210

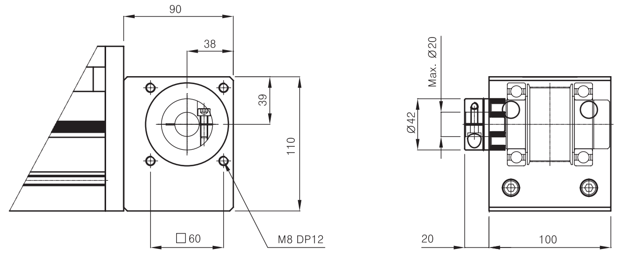
PSH-S



PSH-C



PCP-S



PCP-D