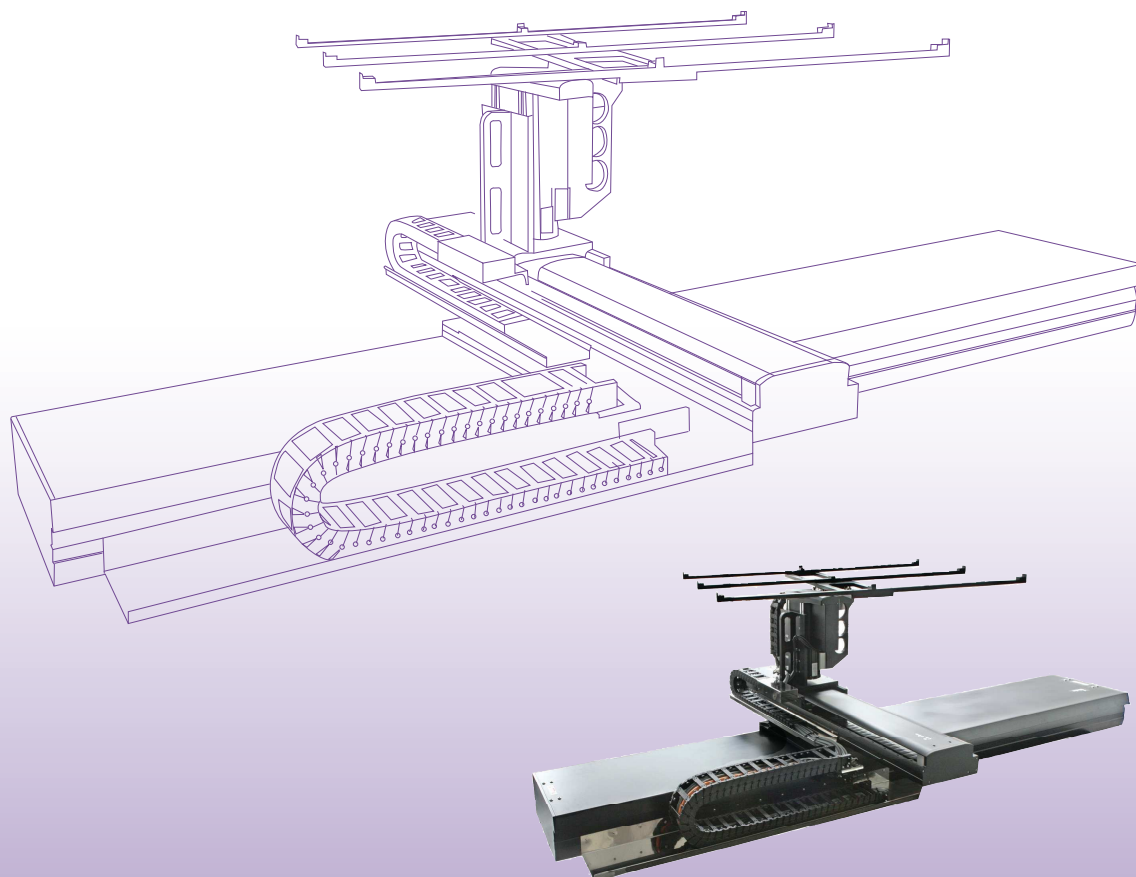


# Linear Motor robot / DLM series



## Contents

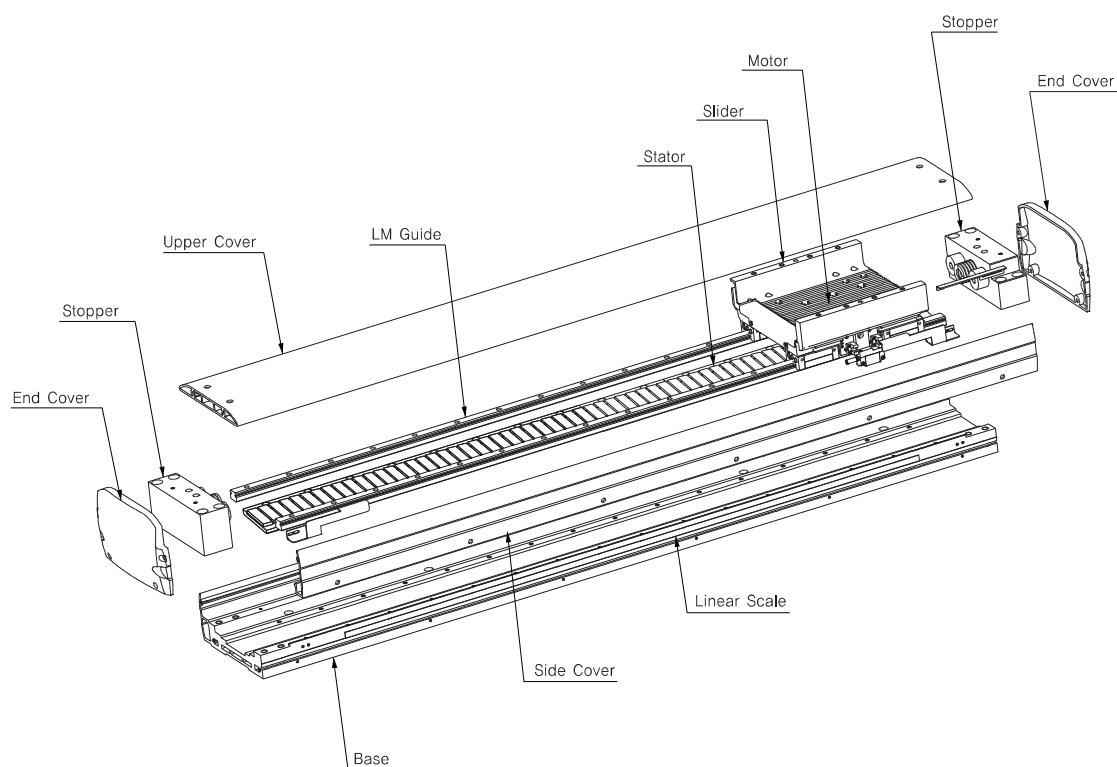
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## Feature

DLM series provide the solution of the demand for the higher speed and precision, enhanced quality, and higher performance.

Linear servo motor cartesian robot DLM series are iron-core type and multi movers on the single axis are much more space saving and lower cost

## Structure



## Higher performance assured

### 1) High acceleration\*

The maximum acceleration of 2G contributes to save the cycle time.

\* The acceleration level varies depending on the model, carrying weight and operation conditions.

### 2) High accuracy

The positioning accuracy is  $\pm 10\mu\text{m}$  per 300mm

### 3) High speed\*

The maximum speed is as high as 2m/s. The maximum speed is maintained even when moving over a long stroke.

\* The maximum speed varies depending on operation conditions.

### 4) Longer stroke

DLM series are available in overall lengths up to 5000mm.

### 5) Multi movers

2 more multi movers are available in one single actuator and each mover can be operated by independently

## Linear Motor Specification

Motor Model		LM-H2P1A-06M	LM-H2P2A-12M	LM-H2P2B-24M	LM-H2P2C-36M	LM-H2P2D-48M	LM-H2P3A-24M	LM-H2P3B-48M	LM-H2P3C-72M	LM-H2P3D-96M
Amplifier Model MR-J3		40BRJ004U500	40BRJ004U501	70BRJ004U502	200BRJ004U503	200BRJ004U504	70BRJ004U505	200BRJ004U506	350BRJ004U507	500BRJ004U508
Power Facility Capacity (kVA)		0.9	0.9	1.3	3.5	3.5	1.3	3.5	5.5	7.5
Cooling Method		Self-cooling								
Thrust	Continuous (N)	60	120	240	360	480	240	480	720	960
	Maximum (N)	150	300	600	900	1200	600	1200	1800	2400
Maximum Speed (m/s)		2								
Magnetic Attraction Force (N)		500	1000	1900	2700	3500	2000	3700	5300	7000
Mass (kg) [lb]	Primary Side	0.9 (2.0)	1.4 (3.1)	2.5 (5.6)	3.6 (8.0)	4.7 (11)	2.4 (5.3)	4.3 (9.5)	6.2 (14)	8.1 (18)
	Secondary Side	288mm / piece : 0.6 (1.4)	288mm / piece : 1.1 (2.5)				288mm / piece : 3.2 (7.1)			
		384mm / piece : 0.8 (1.8)	384mm / piece : 1.4 (3.1)				384mm / piece : 4.3 (9.5)			
		480mm / piece : 1.0 (2.2)	480mm / piece : 1.8 (4.0)				480mm / piece : 5.3 (12)			
		768mm / piece : 1.6 (3.6)	768mm / piece : 2.9 (6.4)				768mm / piece : 8.5 (19)			
Secondary Side Model		LM-H2S10-__	LM-H2S20-__				LM-H2S30-__			
Recommended Load / Motor Volume Ratio		30 times linear servo motor primary side weight maximum								
Structure		Open (protection level : IP00)								
Environ ment	Ambient Temperature	0 to 40°C (32 to 104°F) (non freezing), storage : -15 to 70°C (5 to 158°F) (non freezing)								
	Ambient Humidity	80% RH maximum (non condensing), storage : 90% RH maximum (non condensing)								
	Atmosphere	Indoors (no direct sunlight) ; no corrosive gas, inflammable gas, oil mist or dust								
	Vibration	49m/s2 maximum								
	Elevation	1000m or less above sea level								

\*The linear servo motor's maximum speed or linear encoder's rated speed, whichever is smaller, is the upper limit value of the linear servo motor's speed.  
The specification of linear motor is based on mitsubishi

## Linear Driver Specification

Motor Model			MR-J3-40BRJ004U_	MR-J3-70BRJ004U_	MR-J3-200BRJ004U_	MR-J3-350BRJ004U_	MR-J3-500BRJ004U_
Main Circuit Power Supply	Voltage/Frequency (Note1)		3-phase 200 to 230VAC 50/60Hz or 1-phase 230VAC 50/60Hz		3-phase 200 to 230VAC 50/60Hz		
	Permissible Voltage Fluctuation		For 1-phase 230VAC : 1-phase 207 to 253VAC For 3-phase 200 to 230VAC : 3-phase 170 to 253VAC		3-phase 170 to 253VAC		
	Permissible Frequency Fluctuation		±5% maximum				
Maximum Speed (m/s)	Voltage Frequency		1-phase 200 to 230VAC 50/60Hz				
	Permissible Voltage Fluctuation		1-phase 170 to 253VAC				
	Permissible Frequency Fluctuation		±5% maximum				
	Power Consumption (W)		30				45
Interface Power Supply			24VDC ±10% (required current capacity : 150mA (Note2))				
Linear Encoder Interface	Ambient Humidity		Mitsubishi high-speed serial communication				
	Pulse Train Interface	Input Signal	ABZ phase differential input signal				
	Minimum Phase Difference		200ns				
Control System			Sine-wave PWM control/current control system				
Dynamic Brake			Built-in				
Safety Features			Overcurrent shutdown, regeneration overvoltage shutdown, overload shutdown (electronic thermal), servo motor overheat protection, encoder fault protection, regeneration fault protection, undervoltage/sudden power outage protection, overspeed				
Structure			Self-cooling open (IP00)	Fan cooling open (IP00)			
Environ ment	Ambient Temperature (Note3)		0 to 55°C (32 to 131°F) (non freezing), storage: -20 to 65°C(-4 to 149°F) (non freezing)				
	Ambient Humidity		90% RH maximum (non condensing), storage: 90% RH maximum (non condensing)				
	Atmosphere		Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust				
	Elevation		1000m or less above sea level				
	Vibration		5.9m/s2 maximum				
Mass (kg [lb])			1.0 (2.2)	1.4 (3.1)	2.3 (5.1)	2.3 (5.1)	4.6 (10)

(Note1) Rated thrust and rated speed of the linear servo motor used in combination with the servo amplifier are as indicated when using the power supply voltage and frequency listed. The thrust drops when the power supply voltage is less than specified.

(Note2) 150mA is the value when all of the input/output points are used. The current capacity can be stepped down according to the number of input/output points in use.  
The specification of linear motor is based on mitsubishi

(Note3) The MR-J3-350B-RJ004 or smaller servo amplifier can be installed closely. In this case, keep the ambient temperature within 0 to 45°C (32 to 113°F) or use them with 75% or less of the effective load rate.

## Linear motor selection guide

### Structure

#### 1) Selection in advance

Selecting temporarily a motor that mass rate of primary side is less than 15 times.

#### 2) Load rate

$$M = M1 + M2 \text{ [kg]}$$

$$Ff = (\sin\alpha + \mu\cos\alpha) \times (M \times 9.8 + \text{Magnetic absorption force}) \text{ [N]}$$

#### 3) Peak force acceleration and deceleration

$$F_{ma} = M \times a + Ff \text{ [N]}$$

$$F_{md} = M \times a + Ff \text{ [N]}$$

#### 4) Continuous Force

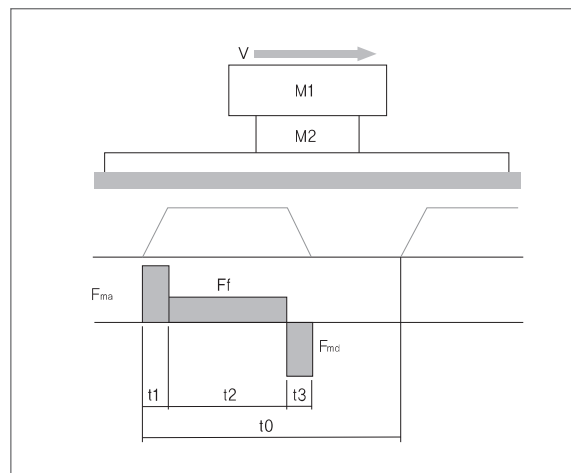
$$F_{rms} = \sqrt{(F_{ma}^2 \times t1 + Ff^2 \times t2 + F_{md}^2 \times t3) / t0} \text{ [N]}$$

#### 5) Measure of selected motor

$$F_{rms}/\eta \leq \text{Rated peak force of primary side [N]}$$

$$F_{rms}/\eta \leq \text{Maximum peak force of primary side [N]}$$

※ If the selected motor does not meet the above condition, it have to be calculated with higher peak force of mover



M1 : Load mass rate(kg)

M2 : Mass rate of primary side(kg)

a : Acceleration(m/s<sup>2</sup>)

Ff : Load rate(N)

V : Transfer speed(m/s)

α : Angle of the installed actuator and the bottom

t0 : Cycle time(s)

t1 : Acceleration time(s)

t2 : Rated time(s)

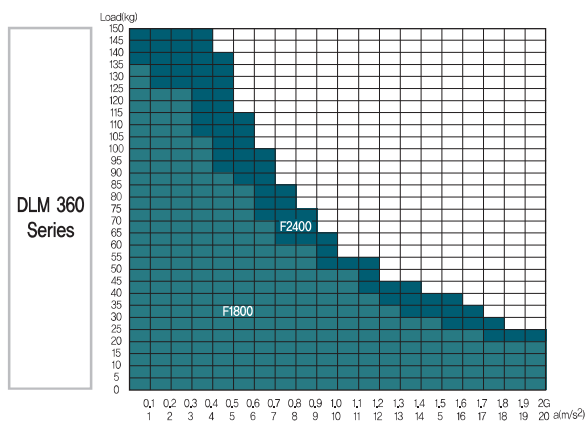
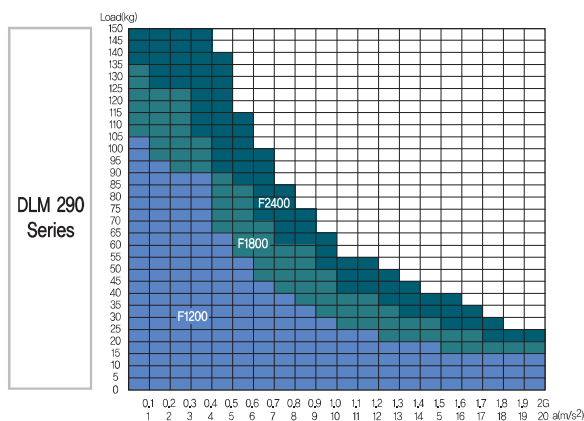
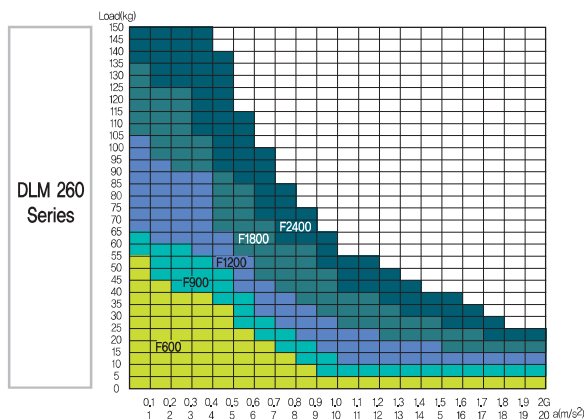
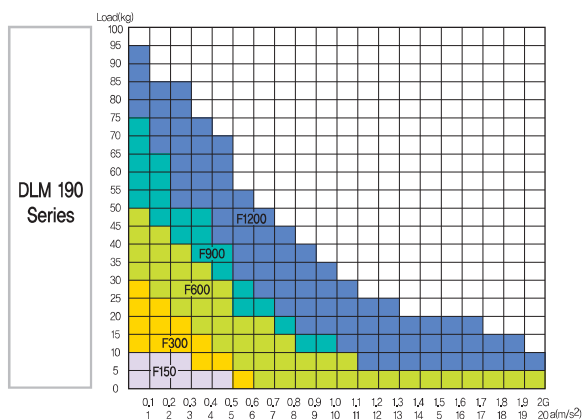
t3 : Deceleration time(s)

η : Efficiency of linear robot

μ : Friction coefficient

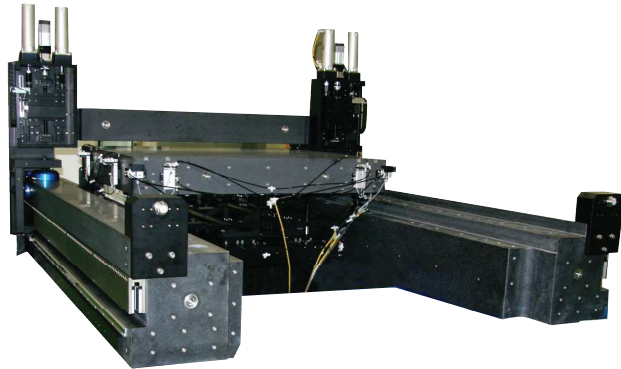
## Motor selection table

### Maximum load capacity vs. G(Acceleration)



## High Precision Stage

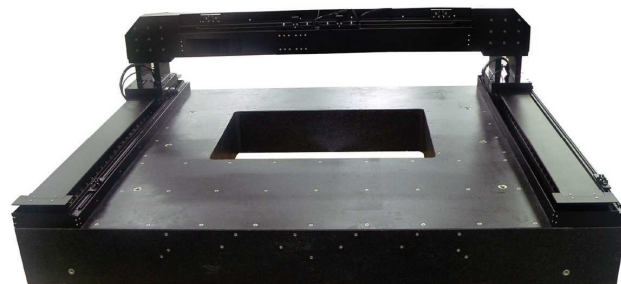
ITEM	SPECIFICATION
Travel Length	X : 2500mm, Z : 300mm
Flatness of Travel	X-Axis (Dual) : $\pm 2 \mu\text{m}$ over Full Travel
Straightness of Travel	X-Axis (Dual) : $\pm 1 \mu\text{m}$ over Full Travel
Positioning Accuracy	X Axis : $\pm 1 \mu\text{m}$ , Z Axis : $\pm 1 \mu\text{m}$
Positioning Repeatability	X Axis : $\pm 1 \mu\text{m}$ , Z Axis : $\pm 1 \mu\text{m}$
Velocity Ripple	$\pm 0.1\%$ in 100mm/sec
Payload	X-Axis (Dual) : 800kg Z-Axis (Dual) : 200kg
Mechanism	Air Bearing & Linear Motor



ITEM	SPECIFICATION
Travel Length	X : 1000mm
Flatness of Travel	X-Axis (Dual) : $\pm 10 \mu\text{m}$ over Full Travel
Straightness of Travel	X-Axis (Dual) : $\pm 10 \mu\text{m}$ over Full Travel
Positioning Accuracy	X Axis : $\pm 10 \mu\text{m}$
Positioning Repeatability	X Axis : $\pm 1 \mu\text{m}$
Velocity Ripple	$\pm 0.2\%$ in 100mm/sec
Payload	X-Axis (Dual) : 20kg
Mechanism	Air Float Unit & Linear Motor Non Contact FPD Moving System



ITEM	SPECIFICATION
Travel Length	X : 1120mm, Y : 940mm
Flatness of Travel	X-Axis (Dual) : $\pm 10 \mu\text{m}$ over Full Travel Y-Axis : $\pm 10 \mu\text{m}$ over Full Travel
Straightness of Travel	X-Axis (Dual) : $\pm 10 \mu\text{m}$ over Full Travel Y-Axis (Dual) : $\pm 10 \mu\text{m}$ over Full Travel
Positioning Accuracy	X Axis : $\pm 10 \mu\text{m}$ , Y Axis : $\pm 10 \mu\text{m}$
Positioning Repeatability	X Axis : $\pm 1 \mu\text{m}$ , Y Axis : $\pm 1 \mu\text{m}$
Velocity Ripple	$\pm 0.2\%$ in 100mm/sec
Payload	X-Axis (Dual) : 170kg
Mechanism	LM Guide & Linear Motor



## Ordering Model

**1** Series   **2** Base width   **3** Type   **4** Resolution   **5** Peak force   **6** Encoder   **7** Stroke   **8** Option  
**DLM 190 - P - R1 - F15 - I - 2000 - M1**

### 1 Series

**Name of the series : DLM is Linear servo motor cartesian robot**

DLM : Linear servo motor, Standard specifications

DLMD : Linear servo motor, Dust proof specifications

### 2 Base width

**The base width of each model**

(Ex : 190 = 190mm)

### 3 Type

**P : Iron-Core type**

### 4 Resolution

**The smallest distance, which the position measuring system detect**

01~09 : 0.1um~0.9um

R1~R9 : 1.0um~9.0um

10 : 10.0um

### 5 Peak Force

**Maximum force of motors**

(Ex : F15 = 150N, F120 = 1200N)

### 6 Encoder

**A : Absolute Encoder**

The current slider position will be retained even after the power is turned off, so origin return is not required when the power is turned on.

**I : Incremental Encoder**

The slider position data will be cleared once the power is turned off, so origin return is required whenever the power is turned on.

### 7 Stroke

**Stroke**

(Ex : 2000 = 2000mm)

### 8 Option

**Mx : Numbers of mover**

(Ex : M1=one(1) mover, M2=Two(2) movers)

**B : Brake**

**K : K1 seal grease for LM guide**

**R : Raydent**

## Model List

Series	Base width	Type	Resolution (um)	Continuous force (N)	Peak force (N)	Speed (mm/s)	Stroke (mm)	Encoder	Acceleration (G)	Payload (kg)	Option
DLM DLMD	190	P	0.1~1.0	60	150	2000	2000	I A	2	10	Mx B K R
				120	300					30	
				240	600					50	
				360	900					75	
				480	1200					95	
	260	P	0.1~1.0	240	600	2000	5000	I A	2	55	
				360	900					65	
				480	1200					105	
				720	1800					135	
				960	2400					150	
	290	P	0.1~1.0	480	1200			I A	2	105	
				720	1800					135	
				960	2400					150	
	360	P	0.1~1.0	720	1800			I A	2	135	
				960	2400					150	
				960	2400					150	

# DLM series Note

## Linear servo motor actuator

### (Note 1) Resolution

"Resolution" represents the smallest distance which the position measuring system will detect.  
"분해능"은 위치 측정 시스템에서 검출되는 최소 거리를 나타냅니다.

### (Note 2) Continuous force

It is the force that the linear servo motors can produce in continuous operation  
정격 추력은 Linear servo motor가 연속 운전에서 생산할 수 있는 힘을 말합니다.

### (Note 3) Peak force

"Peak force" is the maximum force that a motor can generate for approximately one second with peak current.  
"최대 추력"은 모터가 최대 전류에서 약 1초 동안 생성할 수 있는 최대 힘을 말합니다.

### (Note 4) Speed

Speed and resolution has relationship. To perform higher resolution, speed will be slower than maximum speed  
속도와 분해능은 상호 관계가 있습니다. 고 분해능을 수행하기 위해서는 요구되는 속도는 최대 속도보다 느려질 것입니다.

### (Note 5) Stroke

If you have a desired longer stroke than standard length of stroke, please contact the engineers of DASA Robot  
표준 stroke 이상 길이의 stroke가 요구된다면 당사 담당자와 협의해 주시기 바랍니다.

### (Note 6) Number of movers

A single axis of DLM series is able to set multiple numbers of movers and the possible mover numbers are subject to decided by stroke, peak force, and speed etc. (M2 = 2 movers)  
단축 DLM 시리즈는 복수의 운반기(mover)를 설치할 수 있으며, 가능한 설치 수량은 속도, 최대 추력, 그리고 stroke에 따라 결정됩니다.

### (Note 7) Positioning repeatability

This repeatability is not the "absolute positioning accuracy".  
It refers to the positioning accuracy of repeated movements to a pre-stored position.  
반복정밀도는 '절대 위치 정밀도'가 아닙니다. 반복정밀도는 기 저장된 위치에 대한 반복된 이동의 위치 정밀도를 말합니다.

### (Note 8) Cable length

5m length is standard. Desired cable length is optional. Maximum length is 30m.  
The performance of longer length than 15m is affected by the installation environment.  
케이블은 5m 길이가 표준이며 최대 30m까지 가능합니다.  
케이블 길이가 15m 이상일 경우 설치 환경에 따라 케이블 성능에 영향을 미칠 수 있습니다.

### (Note 9) Weight

Different peak force in the same model has each different weight. The weight can be calculated as specific calculation formula. The calculated weight is not "absolute weight" but "approximate weight"  
동일 모델에서 최대 추력이 다를 경우 무게도 달라집니다. 무게는 특별 계산 공식에 의해 계산됩니다.  
계산된 무게는 "절대 무게" 값이 아닌 "대략 무게" 값입니다.

# DLM190

Linear servo motor, Standard specifications, Base width 190mm,  
Resolution 10μm, Maximum peak force 1200N, 1~2000mm/s

Type : Iron core

Stroke : 100~2000mm

Payload : 95Kg

Series	Base width	Type	Resolution	Peak Force	Encoder	Stroke	Option
DLM	190	- P	- 10	- F120	- I	- 2000	- M1



## Basic specifications

Model	Type	Resolution(μm) (Note1)	Continus force(N) (Note2)	Peak force(N) (Note3)	Encoder	Speed(mm/s) (Note4)	Stroke(mm) (Note5)	Payload(maximum) (kg)
DLM190	P	0.1~10	60	150	I A	2000	2000	10
			120	300				30
			240	600				50
			360	900				75
			480	1200				95

## Options

Code	Description
Mx(Note6)	Number of movers
B	Brake
K	K1 seal
R	Raydent

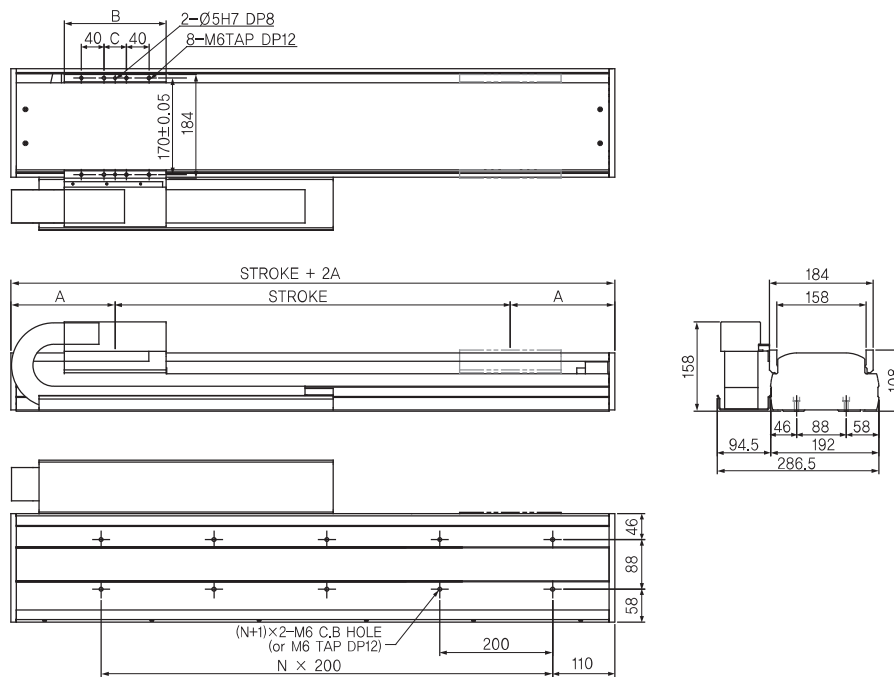
## Allowable dynamic moment

Direction	Moment(N.m)
Ma	X 141 Mp
	Y 192 Mr
Mb	X 156 My
	Z 206 Mr
Mc	Y 157 My
	Z 188 Mp

## Common specifications

Position Accuray	±6μm per 25mm/±10μm per 300mm
Position Repeatability(Note7)	±3μm (with resolution of 1μm or better)
Straightness	±10μm per 300mm
Cable length(Note8)	5m(standard), 7m, 10m(option)

## Dimension



## Dimensions Table

Peak force	A	B	C	Weight(Note9)
F15	190	180	40	5.35 + 0.02*(Stroke+440)
F30	190	180	40	5.85 + 0.02*(Stroke+440)
F60	240	270	50	7.95 + 0.02*(Stroke+536)
F90	290	370	110	8.2 + 0.02*(Stroke+632)
F120	340	470	130	12.25 + 0.02*(Stroke+728)

## Applicable controllers

Controller	Maximum number of controlled axes	Page
MR-J3	1 axis	95

## Note

Refer to the page 87 for the detail explanations of (Note1) to (Note9)



## DLM260

Linear servo motor, Standard specifications, Base width 260mm,  
Resolution 0.1~10μm, Maximum peak force 2400N, 1~2000mm/s

Type : Iron core

Stroke : 100~2000mm

Payload : 150Kg

Series	Base width	Type	Resolution	Peak Force	Encoder	Stroke	Option
DLM	260	- P	- 10	- F240	- I	- 2000	- M1



### Basic specifications

Model	Type	Resolution(μm) (Note1)	Continus force(N) (Note2)	Peak force(N) (Note3)	Encoder	Speed(mm/s) (Note4)	Stroke(mm) (Note5)	Payload(maximum) (kg)
DLM260	P	0.1~10	240	600	I A	2000	2000	55
			360	900				65
			480	1200				105
			720	1800				135
			960	2400				150

### Options

Code	Description
Mx(Note6)	Number of movers
B	Brake
K	K1 seal
R	Raydent

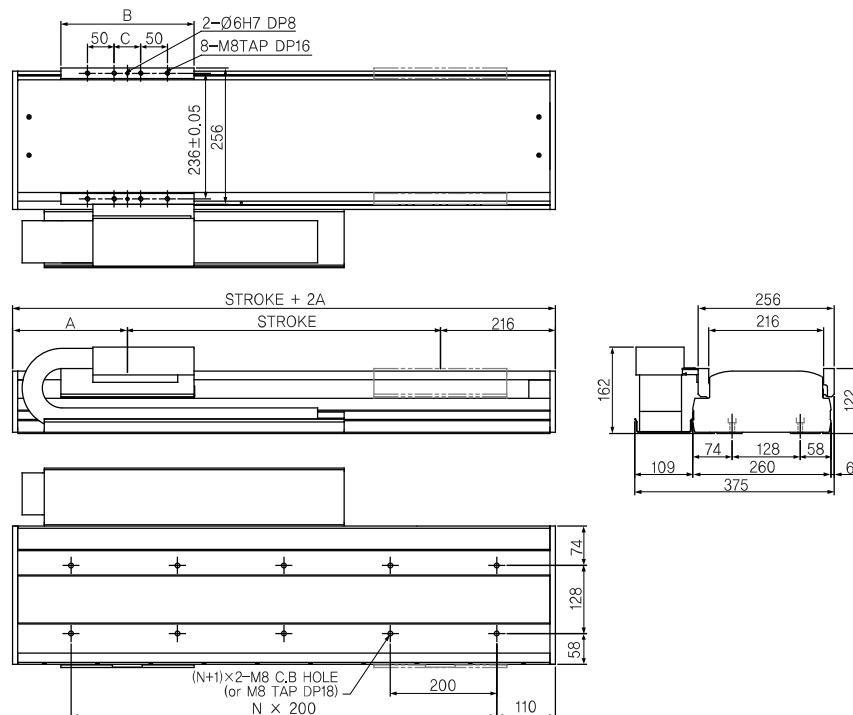
### Allowable dynamic moment

Direction	Moment(N.m)	
Ma	X	810 Mp
	Y	940 Mr
Mb	X	780 My
	Z	959 Mr
Mc	Y	749 My
	Z	898 Mp

### Common specifications

Position Accuracy	±6μm per 25mm/±10μm per 300mm
Position Repeatability(Note7)	±3μm (with resolution of 1μm or better)
Straightness	±10μm per 300mm
Cable length(Note8)	5m(standard), 7m, 10m(option)

### Dimension



### Dimensions Table

Peak force	A	B	C	Weight(Note9)
F60	200	270	50	11.4 + 0.032 * (Stroke+328)
F90	200	370	110	14.6 + 0.032 * (Stroke+424)
F120	240	270	50	17.8 + 0.032 * (Stroke+520)
F180	290	370	110	17.2 + 0.032 * (Stroke+424)
F240	340	470	130	21.2 + 0.032 * (Stroke+520)

### Applicable controllers

Controller	Maximum number of controlled axes	Page
MR-J3	1 axis	95

### Note

Refer to the page 87 for the detail explanations of (Note1) to (Note9)

# DLM290

Linear servo motor, Standard specifications, Base width 290mm,  
Resolution 0.1~10μm, Maximum peak force 2400N, 1~2000mm/s

Type : Iron core

Stroke : 500~5000mm

Payload : 150Kg

Series	Base width	Type	Resolution	Peak Force	Encoder	Stroke	Option
DLM	290	- P	- 10	- F240	- I	- 2000	- M1



## Basic specifications

Model	Type	Resolution(μm) (Note1)	Continus force(N) (Note2)	Peak force(N) (Note3)	Encoder	Speed(mm/s) (Note4)	Stroke(mm) (Note5)	Payload(maximum) (kg)
DLM290	P	0.1~10	480	1200	I A	2000	5000	105
			720	1800				135
			960	2400				150

## Options

Code	Description
Mx(Note6)	Number of movers
B	Brake
K	K1 seal
R	Raydent

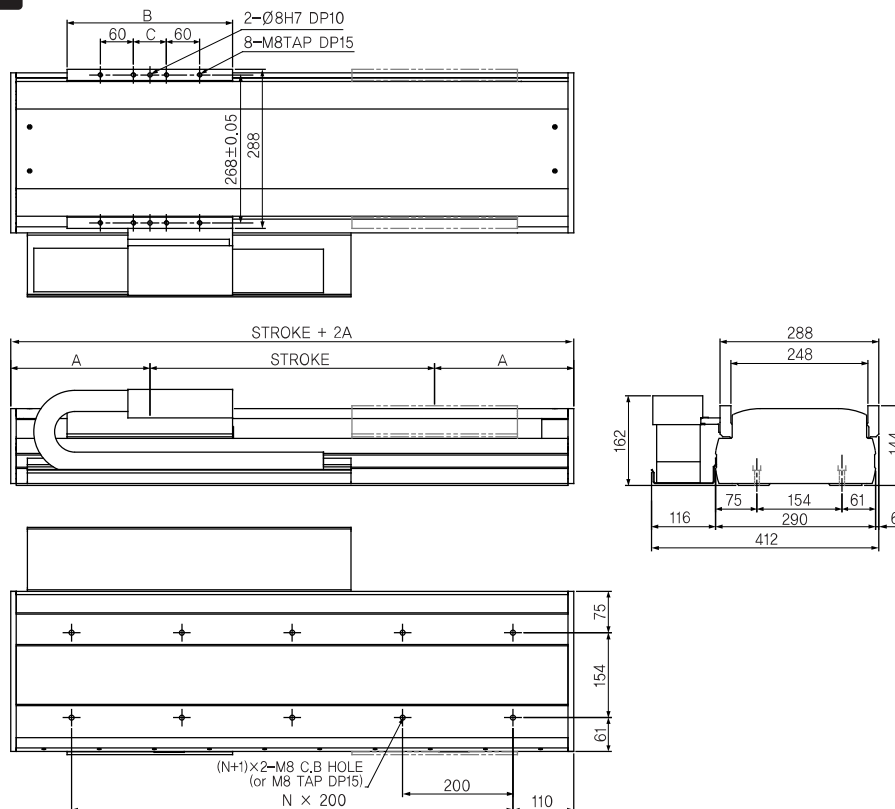
## Allowable dynamic moment

Direction	Moment(N.m)	
Ma	x	1026 Mp
	y	1667 Mr
Mb	x	1390 My
	z	1690 Mr
Mc	y	918 My
	z	1099 Mp

## Common specifications

Position Accuray	±6μm per 25mm/±10μm per 300mm
Position Repeatability(Note7)	±3μm (with resolution of 1μm or better)
Straightness	±10μm per 300mm
Cable length(Note8)	5m(standard), 7m, 10m(option)

## Dimension



## Dimensions Table

Peak force	A	B	C	Weight(Note9)
F120	250	270	50	14.2 + 0.0378 * (Stroke+560)
F180	300	370	110	18.2 + 0.0378 * (Stroke+656)
F240	350	470	130	22.2 + 0.0378 * (Stroke+752)

## Applicable controllers

Controller	Maximum number of controlled axes	Page
MR-J3	1 axis	95

## Note

Refer to the page 87 for the detail explanations of (Note1) to (Note9)

# DLM360

Linear servo motor, Standard specifications, Base width 360mm,  
Resolution 0.1~10μm, Maximum peak force 2400N, 1~2000mm/s

Type : Iron core

Stroke : 500~5000mm

Payload : 150Kg

Series	Base width	Type	Resolution	Peak Force	Encoder	Stroke	Option
DLM	360	- P -	10	- F240 -	I -	2000	- M1



## Basic specifications

Model	Type	Resolution(μm) (Note1)	Continous force(N) (Note2)	Peak force(N) (Note3)	Encoder	Speed(mm/s) (Note4)	Stroke(mm) (Note5)	Payload(maximum) (kg)
DLM360	P	0.1~10	720	1800	I A	2000	5000	135
			960	2400				150

## Options

Code	Description
Mx(Note6)	Number of movers
B	Brake
K	K1 seal
R	Raydent

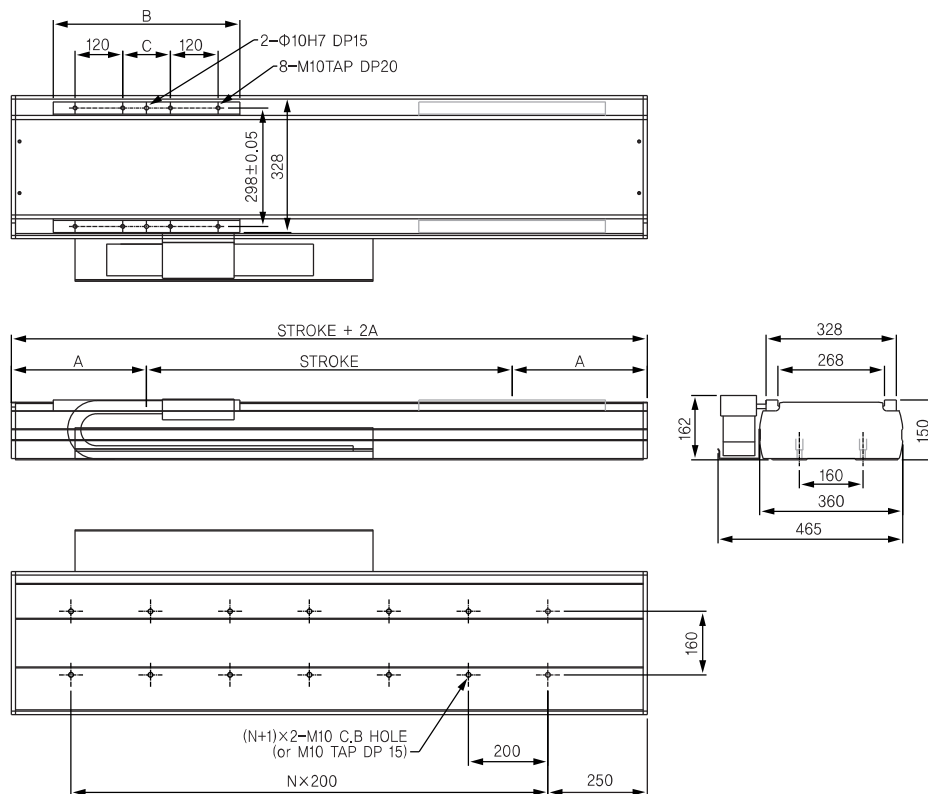
## Allowable dynamic moment

Direction	Moment(N.m)
Ma	X 1624 Mp
	Y 2344 Mr
Mb	X 1935 My
	Z 2425 Mr
Mc	Y 1601 My
	Z 1910 Mp

## Common specifications

Position Accuracy	±6μm per 25mm/±10μm per 300mm
Position Repeatability(Note7)	±3μm (with resolution of 1μm or better)
Straightness	±10μm per 300mm
Cable length(Note8)	5m(standard), 7m, 10m(option)

## Dimension



## Dimensions Table

Peak force	A	B	C	Weight(Note9)
F180	310	370	110	19.2 + 0.05 * (Stroke+564)
F240	360	470	130	23.2 + 0.05 * (Stroke+660)

## Applicable controllers

Controller	Maximum number of controlled axes	Page
MR-J3	1 axis	95

## Note

Refer to the page 87 for the detail explanations of (Note1) to (Note9)

# DLMD190

Linear servo motor, Standard specifications, Base width 190mm,  
Resolution 10μm, Maximum peak force 1200N, 1~2000mm/s

Type : Iron core

Stroke : 100~2000mm

Payload : 95Kg

Series	Base width	Type	Resolution	Peak Force	Encoder	Stroke	Option
DLMD	190	- P	- 10	- F120	- I	- 2000	- M1



## Basic specifications

Model	Type	Resolution(μm) (Note1)	Continus force(N) (Note2)	Peak force(N) (Note3)	Encoder	Speed(mm/s) (Note4)	Stroke(mm) (Note5)	Payload(maximum) (kg)
DLMD190	P	0.1~10	60	150	I A	2000	2000	10
			120	300				30
			240	600				50
			360	900				75
			480	1200				95

## Options

Code	Description
Mx(Note6)	Number of movers
B	Brake
K	K1 seal
R	Raydent

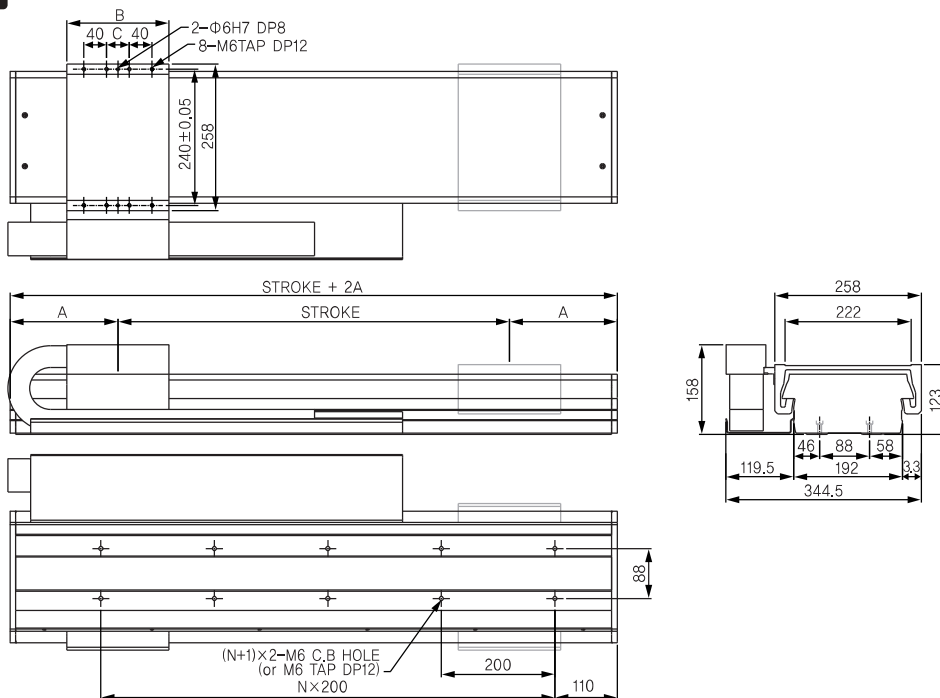
## Allowable dynamic moment

Direction	Moment(N.m)	
Ma	X	141
	Y	192
Mb	X	156
	Z	206
Mc	Y	157
	Z	188

## Common specifications

Position Accuray	±6μm per 25mm/±10μm per 300mm
Position Repeatability(Note7)	±3μm (with resolution of 1μm or better)
Straightness	±10μm per 300mm
Cable length(Note8)	5m(standard), 7m, 10m(option)

## Dimension



## Dimensions Table

Peak force	A	B	C	Weight(Note9)
F15	190	180	40	7.8 + 0.02*(Stroke+320)
F30	190	180	40	8.25 + 0.02*(Stroke+320)
F60	240	270	50	11.35 + 0.02*(Stroke+416)
F90	290	370	110	14.5 + 0.02*(Stroke+512)
F120	340	470	130	17.8 + 0.02*(Stroke+608)

## Applicable controllers

Controller	Maximum number of controlled axes	Page
MR-J3	1 axis	95

## Note

Refer to the page 87 for the detail explanations of (Note1) to (Note9)

DRM series

DRMC series

DLM series

DTR series

DSM series

IMS-J series

IM-J series

ACCESSORIES

RV series

# DLMD260

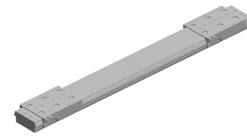
Linear servo motor, Dust proof specifications, Base width 260mm, Resolution 0.1~10μm, Maximum peak force 2400N, 1~2000mm/s

Type : Iron core

Stroke : 100~2000mm

Payload : 150Kg

Series Base width Type Resolution Peak Force Encoder Stroke Option  
DLMD 260 - P - 10 - F240 - I - 2000 - M1



## Basic specifications

Model	Type	Resolution(μm) (Note1)	Continous force(N) (Note2)	Peak force(N) (Note3)	Encoder	Speed(mm/s) (Note4)	Stroke(mm) (Note5)	Payload(maximum) (kg)
DLMD260	P	0.1~10	240	600	I A	2000	2000	55
			360	900				65
			480	1200				105
			720	1800				135
			960	2400				150

## Options

Code	Description
Mx(Note6)	Number of movers
B	Brake
K	K1 seal
R	Raydent

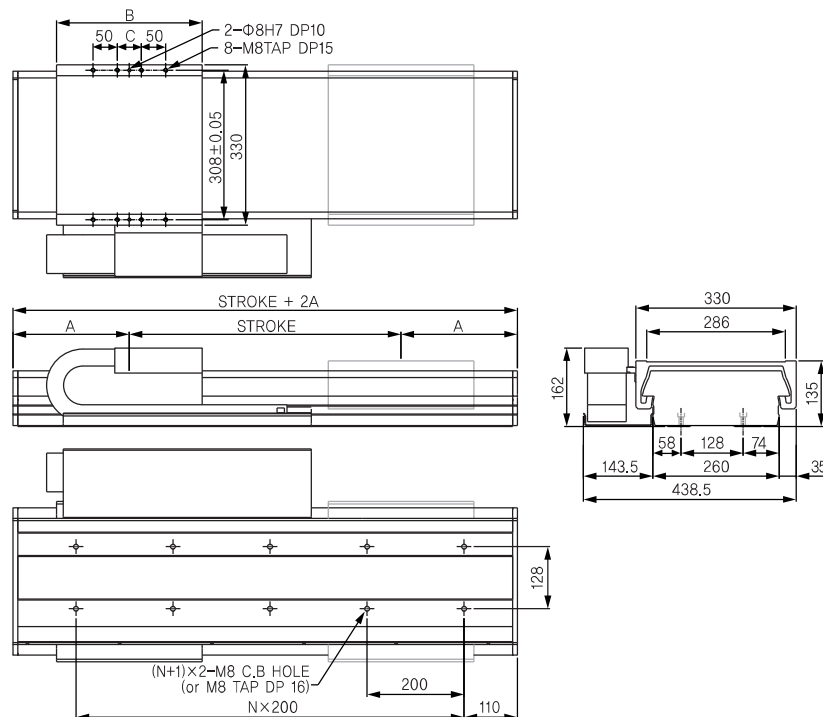
## Allowable dynamic moment

Direction	Moment(N.m)	
Ma	x	810 Mp
	y	940 Mr
Mb	x	780 My
	z	959 Mr
Mc	y	749 My
	z	898 Mp

## Common specifications

Position Accuracy	±6μm per 25mm/±10μm per 300mm
Position Repeatability(Note7)	±3μm (with resolution of 1μm or better)
Straightness	±10μm per 300mm
Cable length(Note8)	5m(standard), 7m, 10m(option)

## Dimension



## Dimensions Table

Peak force	A	B	C	Weight(Note9)
F60	200	270	50	11.4 + 0.025 * (Stroke+364)
F90	200	370	110	14.6 + 0.025 * (Stroke+460)
F120	240	270	50	17.8 + 0.025 * (Stroke+556)
F180	290	370	110	17.2 + 0.025 * (Stroke+460)
F240	340	470	130	21.2 + 0.025 * (Stroke+556)

## Applicable controllers

Controller	Maximum number of controlled axes	Page
MR-J3	1 axis	95

## Note

Refer to the page 87 for the detail explanations of (Note1) to (Note9)

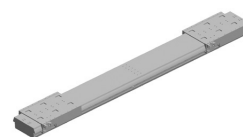
Linear servo motor, Dust proof specifications, Base width 290mm,  
Resolution 0.1~10μm, Maximum peak force 2400N, 1~2000mm/s

Type : Iron core

Stroke : 500~5000mm

Payload : 150Kg

Series	Base width	Type	Resolution	Peak Force	Encoder	Stroke	Option
DLMD	290	- P -	10	- F240 -	I	- 2000 -	M1



### Basic specifications

Model	Type	Resolution(μm) (Note1)	Continus force(N) (Note2)	Peak force(N) (Note3)	Encoder	Speed(mm/s) (Note4)	Stroke(mm) (Note5)	Payload(maximum) (kg)
DLMD290	P	0.1~10	480	1200	I A	2000	5000	105
			720	1800				135
			960	2400				150

## Options

Code	Description
Mx(Note6)	Number of movers
B	Brake
K	K1 seal
R	Raydent

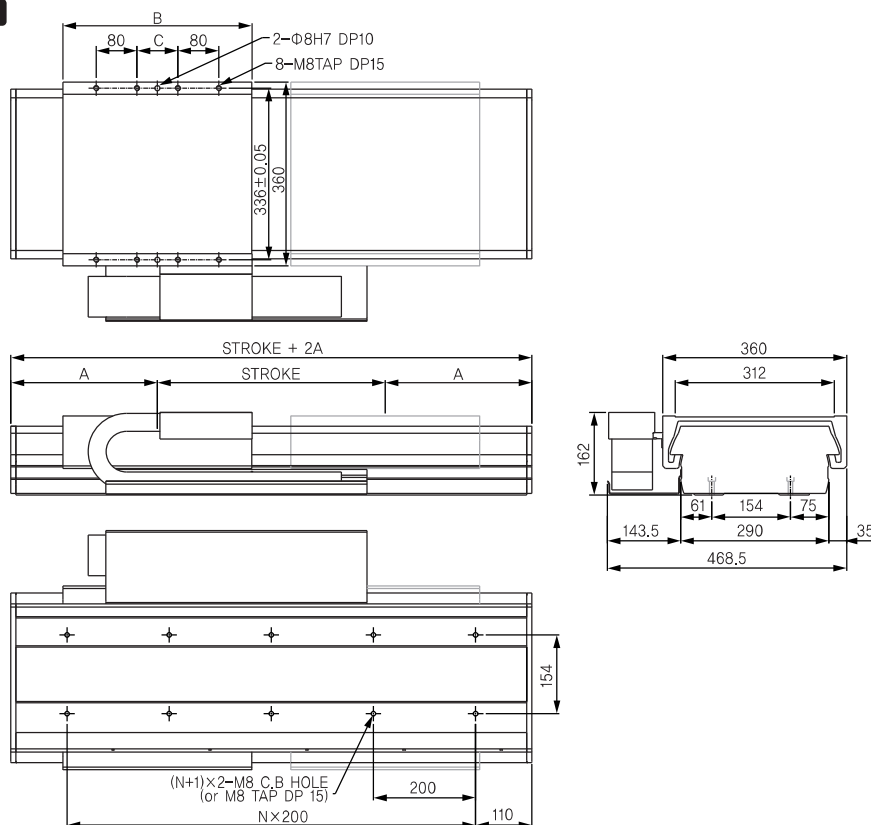
## Allowable dynamic moment

Direction		Moment(N.m)	
Ma	x	1026	Mp
	y	1667	Mr
Mb	x	1390	My
	z	1690	Mr
Mc	y	918	My
	z	1099	Mp

### Common specifications

Position Accuracy	±6μm per 25mm/±10μm per 300mm
Position Repeatability(Note7)	±3μm (with resolution of 1μm or better)
Straightness	±10μm per 300mm
Cable length(Note8)	5m(standard), 7m, 10m(option)

## Dimension



## Dimensions Table

Peak force	A	B	C	Weight(Notes9)
F120	250	270	50	14.2 + 0.0378 * (Stroke+560)
F180	300	370	110	18.2 + 0.0378 * (Stroke+656)
F240	350	470	130	22.2 + 0.0378 * (Stroke+752)

### Applicable controllers

Controller	Maximum number of controlled axes	Page
MR-J3	1 axis	95

**Note**

Refer to the page 87 for the detail explanations of (Note1) to (Note9)

# DLMD360

Linear servo motor, Dust proof specifications, Base width 290mm,  
Resolution 0.1~10μm, Maximum peak force 2400N, 1~2000mm/s

Type : Iron core

Stroke : 500~5000mm

Payload : 150Kg

Series Base width Type Resolution Peak Force Encoder Stroke Option  
DLMD 360 - P - 10 - F240 - I - 2000 - M1



## Basic specifications

Model	Type	Resolution(μm) (Note1)	Continous force(N) (Note2)	Peak force(N) (Note3)	Encoder	Speed(mm/s) (Note4)	Stroke(mm) (Note5)	Payload(maximum) (kg)
DLMD360	P	0.1~10	720	1800	I A	2000	5000	135
			960	2400				150

## Options

Code	Description
Mx(Note6)	Number of movers
B	Brake
K	K1 seal
R	Raydent

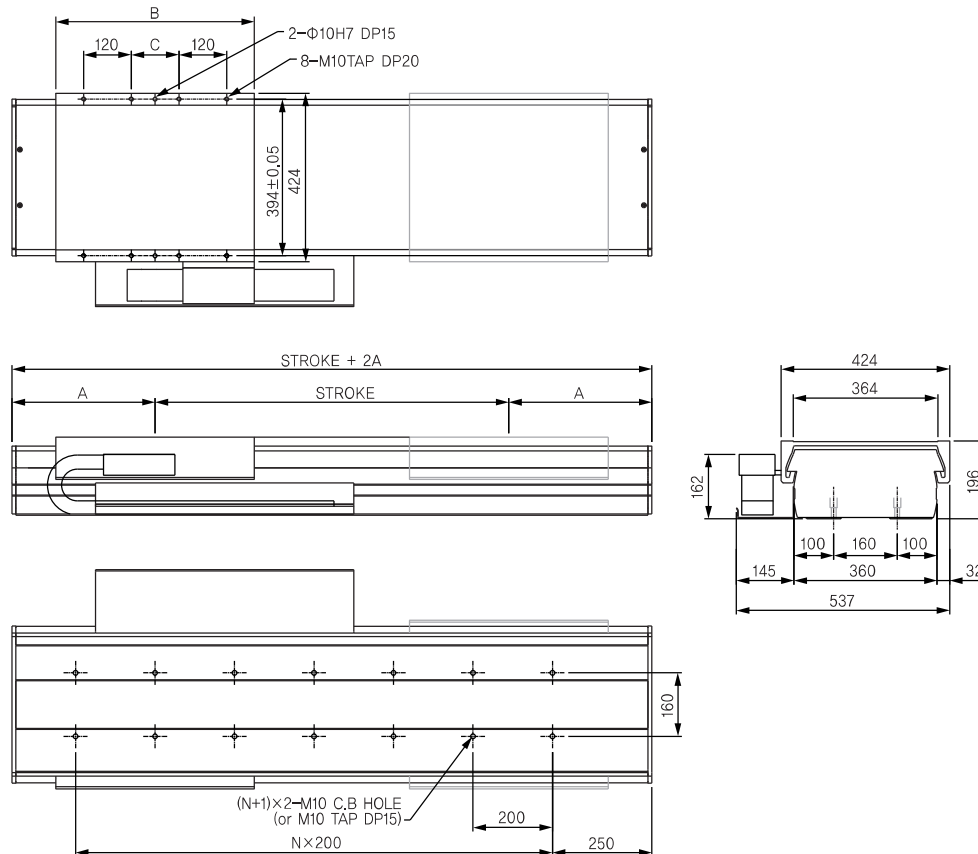
## Allowable dynamic moment

Direction	Moment(N.m)	
Ma	X	1624 Mp
	Y	2344 Mr
Mb	X	1935 My
	Z	2425 Mr
Mc	Y	1601 My
	Z	1910 Mp

## Common specifications

Position Accuray	±6μm per 25mm/±10μm per 300mm
Position Repeatability(Note7)	±3μm (with resolution of 1μm or better)
Straightness	±10μm per 300mm
Cable length(Note8)	5m(standard), 7m, 10m(option)

## Dimension



## Dimensions Table

Peak force	A	B	C	Weight(Note9)
F180	310	370	110	19.2 + 0.05 * (Stroke+564)
F240	360	470	130	23.2 + 0.05 * (Stroke+660)

## Applicable controllers

Controller	Maximum number of controlled axes	Page
MR-J3	1 axis	95

## Note

Refer to the page 87 for the detail explanations of (Note1) to (Note9)