

Alpha Motion Robot

MR

Motion Robot Series





Characteristics

- High durable, non-contaminative, anti-corrosive frame
Frame은 내구성, 내오염성, 내식성을 크게 향상
- Maximum stroke of X axis is 6,000mm and maximum stroke of Y axis is 4,000mm
작업 영역은 최대 X축 5000mm, 4000mm 까지로 사용자의 선택 폭을 넓힘
- Positioning repeatability $\pm 0.1\text{mm}$
반복위치 정밀도가 $\pm 0.1\text{mm}$
- With dedicated AC servo motor for robot, convenience of maintenance and high reliability guaranteed
로봇 전용 AC servo motor를 채택하여 유지보수의 편리성 및 높은 신뢰성 실현
- Wide range configuration and application available
다양한 조합이 가능하도록 설계되어 적용시 유용성 실현

SPEC

ARM
SERIES

AR
SERIES

AG
SERIES

AD
SERIES

BR
SERIES

BG
SERIES

DAR
SERIES

DBR
SERIES

RS
SERIES

MR
SERIES

ADR
SERIES

Technology /
Material

ORDER INFORMATION

A	MR SERIES	1 AXIS
MR080	- NL	- 2000
1	2	3

B	Options										
M	75	N	R03	EC	-	C	-	5	-	1200	
4	5	6	7	8		9		10		11	



C	Options										
I	-	H	LF	B	55	-	W	-	N	-	FOO
1		2	3	4	5		6		7		8

- 1 SERIES
- 2 TYPE
- 3 STROKE (mm)
- 4 MOTOR IS MOUNTED OR NOT
- 5 MOTOR RATED OUTPUT
- 6 BRAKE OPTION
- 7 REDUCER
- 8 REDUCER TYPE
REDUCER DIRECTION
- 9 FIXING METHOD OF ROBOT
- 10 QUANTITY OF CLAMP
- 11 TORSION BAR UNIT
- 1 SENSOR
- 2 3 4 5
- CABLEVEYOR
- 6 COLOR OF ROBOT
- 7 SURFACE TREATMENT
- 8 CABLE LENGTH

ORDER INFORMATION



ALPHA
Motion
Robot



MR050



MR060

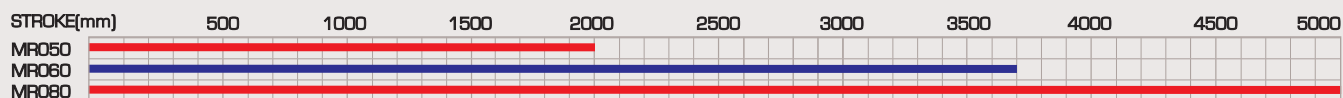


MR080

NL Shaft Left



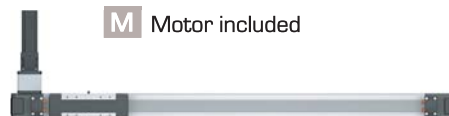
NR Shaft Right



N Motor excluded



M Motor included



10 100W

20 200W

40 400W

75 750W

N Without Brake

B With Brake

R03
1/3

R04
1/4

R05
1/5

R06
1/6

R07
1/7

R08
1/8

R09
1/9

R10
1/10

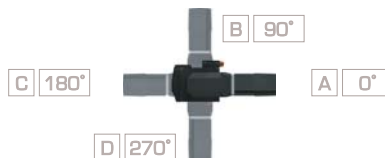
* Customized reducing ratio applicable according to customer's demand
* Please refer text regarding standard reducing ratio of each model

S Straight Reducer



MA Elbow - Reducer

MB
MC
MD



* Type for "M" of option NQ.4

C Clamp block



P Bolt plate



B Tap on button surface



N None clamp

5 5EA

* User's selection by STROKE or ALPHA's standard

N None torsion bar unit

0000 Distance (refer to option page) between actuators

* Indicate distance between actuators when TORSION BAR is used

I Internal Sensor (Standard)

E External Sensor

2 Attaching Type

N None **H** Horizontal

3 Cableveyor direction

LF Left - Front

RF Right - Front

LR Left - Rear

RR Right - Rear

4 Cableveyor selection (Hmm × Wmm)



Standard

CPS

Cleanroom

IGUS

TSUBAKI

B 28×35

C 28×55

D 28×75

E 28×100

F 29×40

G 29×60

H 29×80

I 29×100

J 28×40

K 28×60

L 28×80

M 28×100

5 The radius of curvature (mm)

45 R40 ~ R45

55 R50 ~ R55

* Please see the catalogue A90.4 for more information of cableveyor.

W White (Standard)

B Black Anodizing

N Surface Treatment (Standard)

R Raydent Surface Treatment (LM Rail)

Flexible Cable

F00 None

F03 3m

F05 5m

F07 7m

F10 10m

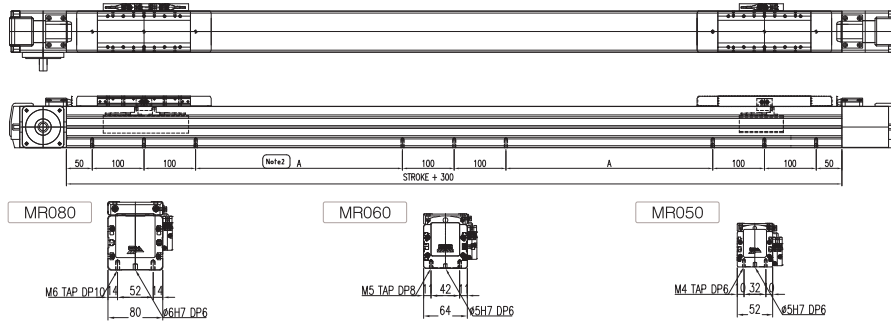
* Please do not hesitate to contact us when the cable is applied more than 10m.

B ORDER INFORMATION - OPTIONS

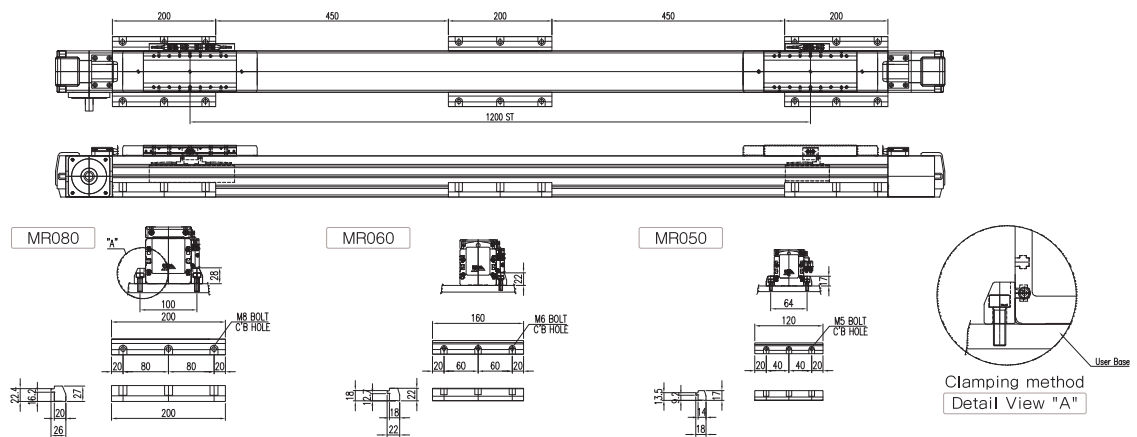
10 Quantity Of Clamp

B TAP ON BUTTON SURFACE

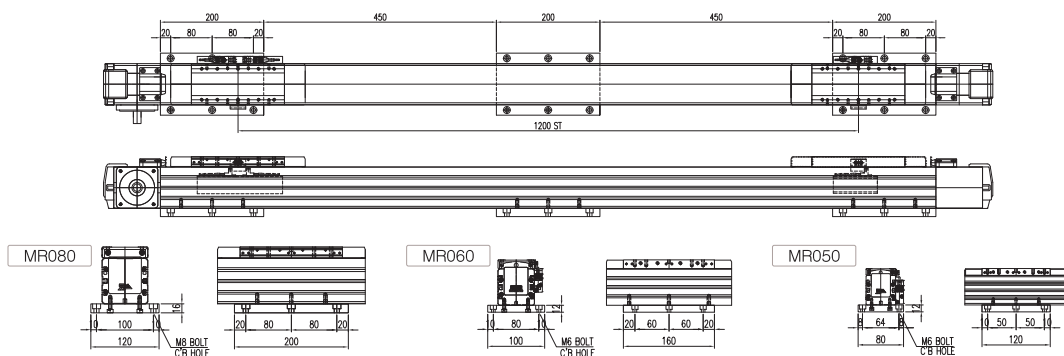
* All dimensions in mm



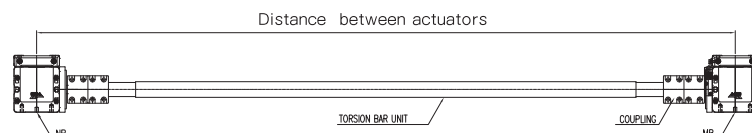
C CLAMP BLOCK



P BOLT PLATE



11 Torsion Bar Unit



CAUTION



- *Be sure to install in the direction as specified individually.
- *Installation in any other way will cause a failure.
- *For requirement of installation in any way other than the above standard installation, please consult Head Office and Agent.



- *반드시 개별적으로 지정한 방향으로 설치해 주십시오.
- *상기 표준 이외의 방법으로 설치하는 것은 고장의 원인이 됩니다.
- *상기 표준 이외의 방법으로 설치할 경우에는 대리점 및 당사에게 문의바랍니다.

NOTE1

In case that cableveyor is not affixed, it does not need to mark cableveyor specification and instead, just mark 'N'(none).

NOTE2

Please select the floor area ratio by user's using environment, using condition at below 60%

NOTE1

케이블베어를 장착하지 않을 경우에는 "N"(None)만 표기하고 다른 케이블베어 사양은 표기하지 않습니다.

NOTE2

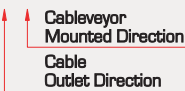
용적률은 사용자의 용적으로 검토해 주십시오.
용적률은 사용자의 사용환경, 사용조건에 따라 60%이하로 적절히 선정하십시오.

B ORDER INFORMATION - OPTIONS

2 3 4 5 Cableveyor Selecting Options

Series	Applicable Type			
MR	Horizontal	Wall Hanging	Rear	Double
	●			

Applicable Type	Cableveyor Directions			
N None [NOTE1]	L F Left-Front	R F Right-Front	L R Left-Rear	R R Right-Rear
H Horizontal				
W Wall Hanging				
R Rear				
D Double				

Cableveyor Directions			
L F	Cableveyor Mounted Direction		Cable Outlet Direction
	L Left	R Right	F Front R Rear
			 

4 5 * Cableveyor Selecting

Unit : mm

Wiring space (Pic 10-1)

STANDARD							CLEANROOM													
Selecting Item	Internal dimensions		External dimensions		Radius	Capacity (mm ²)	Selecting Item	Internal dimensions		External dimensions		Radius	Capacity (mm ²)	Selecting Item	Internal dimensions		External dimensions		Radius	Capacity (mm ²)
	H	W	Y	X	R	NOTE2 Origin		H	W	Y	X	R	NOTE2 Origin		H	W	Y	X	R	NOTE2 Origin
B	28	35	35	79.5	45	1128	F	29	40	35	60	45	1160	J	28	40	35	60	45	1120
C		55		99.5	55	980	G		60		80	55	1740	K		60		80	55	1680
D		75		119.5	75	1540	H		80		100	75	2320	L		80		100	75	2240
E		100		139.5	95	2100	I		100		120	95	2900	M		100		120	95	2800
-	-	-	-	100	2800	-	-	-	-	-	100	-	-	-	-	-	-	100	-	

CAUTION

- *Be sure to install in the direction as specified individually.
- *Installation in any other way will cause a failure.
- *For requirement of installation in any way other than the above standard installation, please consult Head Office and Agent.

주의

- *반드시 개별적으로 지정한 방향으로 설치해 주십시오.
- *상기 표준 이외의 방법으로 설치하는 것은 고장의 원인이 됩니다.
- *상기 표준 이외의 방법으로 설치할 경우에는 대리점 및 당사에 문의바랍니다.

[NOTE1] In case that cableveyor is not affixed, it does not need to mark cableveyor specification and instead, just mark 'N'(none).

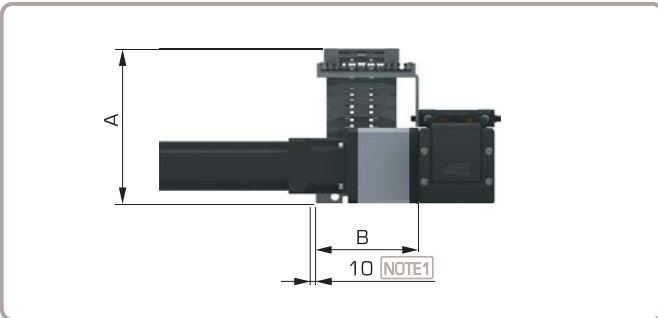
[NOTE2] Please select the floor area ratio by user's using environment, using condition at below 60%

[NOTE1] 케이블베어를 장착하지 않을 경우에는 "N"(None)만 표기하고 다른 케이블베어 사양은 표기하지 않습니다.

[NOTE2] 용적률은 사용자의 용적으로 검토해 주십시오.
용적률은 사용자의 사용환경, 사용조건에 따라 60%이하로 적절히 선정하십시오.

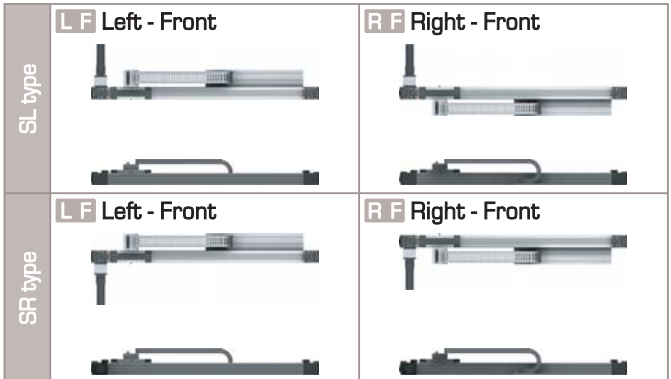
B ORDER INFORMATION

2 Horizontal Type



BASE SIZE	CABLEVEYOR		S1	S2
	Bending radius R	Internal dimentions	A	B
MR050	R045	35, 40	128	80
		55, 60	128	80
MR060	R055	55, 60	155	80
		75, 80	155	80
MR080	R055	75, 80	174	98
		100, 100	174	98

3 Cableveyor Directions



NOTE1 This is a minimum space allowance between Cableveyor and external interference when robot drives.

NOTE2 For the information of Cable veyor of blank, please contact a distributor or our company.

NOTE1 로봇을 구동할 때에 케이블베어와 외부 간섭과의 최소여유치수입니다.

NOTE2 빈칸의 케이블베어 장착은 영업점 및 폐사에 문의 바랍니다.



ALPHA ROBOT SPECIFICATIONS

Product		Rated Output	REDUCER	Max. Speed	Max. Load [H]						
		w	i	mm/s	20	40	60	80	kg		
MR SERIES	050	100	3	1500							2
			4	1250							4
			5	1000							6
			6	800							10
			8	600							18
			10	500							20
	060	200	3	2200							5
			4	1600							10
			5	1300							15
			6	1100							24
			7	950							30
			8	800							40
		400	3	2200							8
			4	1600							18
			5	1300							28
			6	1100							40
			7	950							40
			8	800							40
	080	400	3	2500							6
			4	2000							14
			5	1600							20
			6	1300							30
			8	1000							55
			10	800							80
		750	3	2500							18
			4	2000							30
			5	1600							50
			6	1300							65
			8	1000							80
			10	800							80

SPEC

 ARM
SERIES

 AR
SERIES

 AG
SERIES

 AD
SERIES

 BR
SERIES

 BG
SERIES

 DAR
SERIES

 DBR
SERIES

 RS
SERIES

 MR
SERIES

 ADR
SERIES

 Technology
Material



PROGRAM

[illegible]

Model

MR050

MR060

MR080

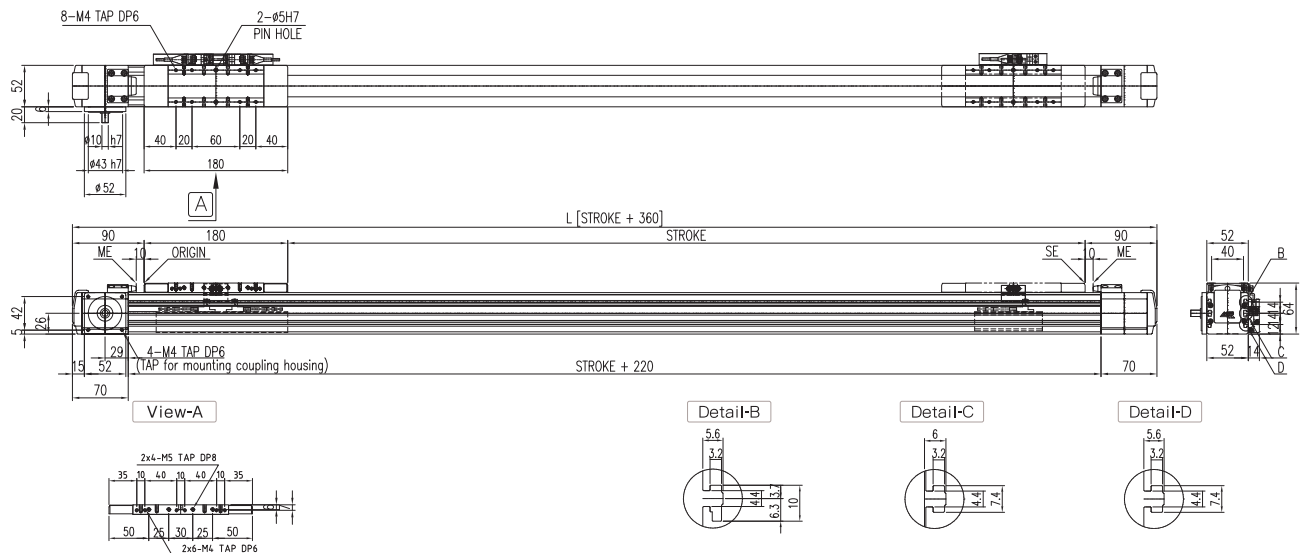
Values of () is in case of speed of 1000mm/sec. / H of Max. Load indicates Horizontal use and V of Max. Load indicates Vertical use.

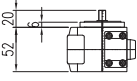
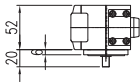
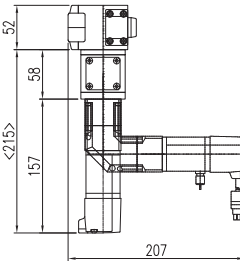
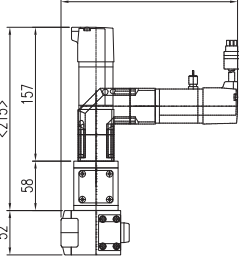
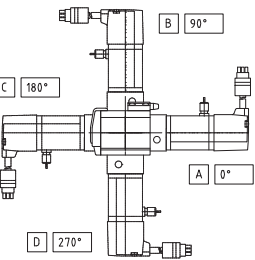
Specification		Unit	MR050-MSR(L)-10						Specification		Unit	Data				
MR050 								Acceleration		G	0.3					
								Load		kg	1	5	10	20		
								Horizontal Use		0°	300	192	86	33		
										45°	300	190	85	33		
										90°	300	300	300	300		
Note4 Wall Installation Use		0°	300	300	300	300										
		45°	300	89	41	17										
		90°	300	90	41	17										
Note4 Vertical Use		0°	300	300	280	140										
		45°	300	273	136	68										
		90°	300	300	225	112										
Estimated Condition		Max Speed : 1750 mm/s			Acceleration : 0.3 G (2.94 m/s²)											
		Life in traveled distance : 30000 km														
Rated Output		W	100W,3000 min ⁻¹													
Raducer		Ratio	3	4	5	6	8	10								
Max. Speed		Note1	mm/s	1750	1300	1050	850	650	500							
Max. Load		Note2	kg	1	3	5	10	16	20							
Stroke Range		mm	200 ~ 2000													
Repeatability		mm	± 0.1													
Drive Type		-	BELT													

MR050

N 1 AXIS

* All dimensions in mm



MR050-NL	MR050-NR	MR050-NR (M)Type of Motor mounted	MR080-NL (M)Type of Motor mounted	REDUCER DIRECTION
 4-M4 TAP DP6 (TAP for mounting coupling housing)	 4-M4 TAP DP6 (TAP for mounting coupling housing)			

Model	Stroke	Units	200	400	600	800	1000	1200	1400	1600	1800	2000	Offset(100)	⚠ CAUTION
MR050-10		kg	5.8	6.7	7.9	9.0	10.0	11.1	12.2	13.2	14.3	15.3	0.53	In case of reference position return, be cautious not to contact with peripheral units because slider transfers up to ME. ME : Mechanical End SE : Stroke End Dimensions of "< >" are subject to change by specifications of motor or gearbox(reducer).
MR050-10-R03		mm/s	1750											
MR050-10-R04		mm/s	1300											NOTE1 In case of the short stroke, it may not be reached at maximum speed. NOTE2 it is changed by operating conditions. NOTE3 In case of use of products beyond allowable overhang value, it may result in malfunction of products. NOTE4 In case of Vertical use or Wall installation use, please consult with us.
MR050-10-R05		mm/s	1050											
MR050-10-R06		mm/s	850											
MR050-10-R08		mm/s	680											
MR050-10-R10		mm/s	500											

MR080

SPEC

ARM
SERIESAR
SERIESAG
SERIESAD
SERIESBG
SERIES

DAR
SERIES

DBR
SERIESMR
SERIES

ADR
SERIES

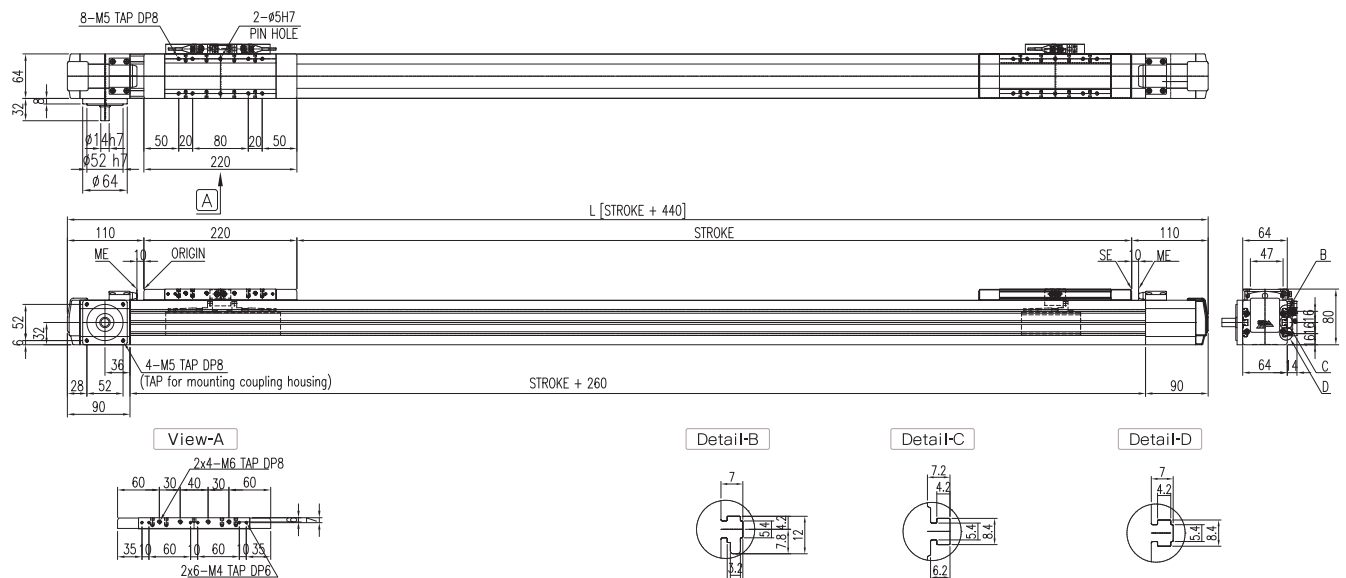
Specification	Unit	MRD60-NSR(L) - 10						
MRD60 								
Rated Output		W	100W,3000min ⁻¹					
Raducer		Ratio	3	4	5	6	8	10
Max. Speed		Note1 mm/s	2200	1600	1300	1100	950	800
Max. Load		Note2 kg	5	10	15	24	30	40
Stroke Range		mm	200 ~ 3700					
Repeatability		mm	± 0.1					
Drive Type		-	BELT					

Specification	Unit	Data					
Acceleration	G	0.3					
Load	kg	5	15	25	40		
Note3 Allowable Overhang Distance - mm	Horizontal Use		0°	270	86	49	28
			45°	270	86	49	29
			90°	350	350	350	350
	Note4 Wall Installation Use		0°	350	350	350	350
			45°	250	76	41	21
			90°	255	77	42	21
	Note4 Vertical Use		0°	350	350	218	136
			45°	350	207	124	77
			90°	350	350	240	150
	Estimated Condition	Max Speed : 2000 mm/s		Acceleration : 0.3 G (2.94 m/s²)			
Life in traveled distance : 30000 km							

MR060

N 1 AXIS

* All dimensions in mm



MR060-NL 4-M5 TAP DP8 (TAP for mounting coupling housing)	MR060-NR 4-M5 TAP DP8 (TAP for mounting coupling housing)	MR060-NR (M)Type of Motor mounted	MR060-NL (M)Type of Motor mounted	REDUCER DIRECTION
---	---	---	---	--------------------------

Model	Stroke	Units	300	500	900	1300	1700	2100	250	2900	3300	3700	Offset(100)	⚠ CAUTION
MRO60-20		kg	9.9	10.9	12.9	14.9	16.9	19.4	20.9	22.9	24.9	28.5	1.23	In case of reference position return, be cautious not to contact with peripheral units because slider transfers up to ME. -ME : Mechanical End -SE : Stroke End Dimensions of ' < ' > ' are subject to change by specifications of motor or gearbox(reducer). NOTES In case of the short stroke, it may not be reached at maximum speed. NOTES it is changed by operating conditions. NOTES In case of use of products beyond allowable overhang value, it may result in malfunction of products. NOTES In case of Vertical use or Wall installation use, please consult with us.
MRO60-20-R03		mm/s	2200											
MRO60-20-R04		mm/s	1600											
MRO60-20-R05		mm/s	1350											
MRO60-20-R06		mm/s	1100											
MRO60-20-R07		mm/s	950											
MRO60-20-R08		mm/s	800											

ORDER INFORMATION
A MR SERIES Synchronous type

MR080 - NL - 2000

1

2

3

B Options

M 75 N R03 EC - C - 5 - 1200

4

5

6

7

8

9

10

11


C Options

I - H LF B 55 - W - N - FOO

1

2

3

4

5

6

7

8

1 SERIES

2

TYPE

3

STROKE
(mm)

4

MOTOR IS
MOUNTED
OR NOT

5

MOTOR
RATED OUTPUT

6

BRAKE OPTION

7

REDUCER

8

REDUCER TYPE
REDUCER
DIRECTION

9

FIXING METHOD
OF ROBOT

10

QUANTITY
OF CLAMP

11

TORSION BAR
UNIT

1 SENSOR

2

3

4

5

CABLEVEYOR

6

COLOR OF
ROBOT

7

SURFACE
TREATMENT

8

CABLE
LENGTH

ORDER INFORMATION



ALPHA
Motion
Robot



MR050



MR060



MR080

NL Shaft Left



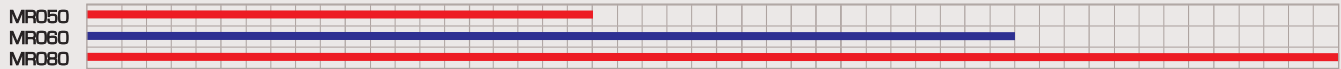
NR Shaft Right



MB Shaft Both



STROKE(mm) 500 1000 1500 2000 2500 3000 3500 4000 4500 5000



N Motor excluded



M Motor included



10 100W

20 200W

40 400W

75 750W

N Without Brake

B With Brake

R03

1/3

R04

1/4

R05

1/5

R06

1/6

R07

1/7

R08

1/8

R09

1/9

R10

1/10

* Customized reducing ratio applicable according to customer's demand
* Please refer text regarding standard reducing ratio of each model

S Straight Reducer



MA Elbow - Reducer

MB

MC

MD



C 180°

D 270°

B 90°

A 0°

* Type for "M" of option NO.4

C Clamp block



P Bolt plate



B Tap on button surface



N None clamp

5 5EA

* User's selection by STROKE or ALPHA's standard

N None torsion bar unit

0000 Distance (refew to option page) between actuctors

* Indicate distance between actuators when TORSION BAR is used

I Internal Sensor (Standard)

E External Sensor

2 Attaching Type

3 Cableveyor direction

4 Cableveyor selection (Hmm × Wmm)

5 The radius of curvature (mm)

* Please see the catalogue A90.4 for more information of cableveyor.

W White (Standard)

B Black Anodizing

N Surface Treatment (Standard)

R Raydent Surface Treatment (LM Rail)

Flexible Cable

F00 None

F03 3m

F05 5m

F07 7m

F10 10m

* Please do not hesitate to contact us when the cable is applied more than 10m.

Model

MR050

MR060

MR080

SPEC

ARM
SERIESAR
SERIESAG
SERIESAD
SERIESBR
SERIESBG
SERIESDAR
SERIESDBR
SERIESRS
SERIESMR
SERIESADR
SERIESTechnology
Material

Values of () is in case of speed of 1000mm/sec. / H of Max. Load indicates Horizontal use and V of Max. Load indicates Vertical use.

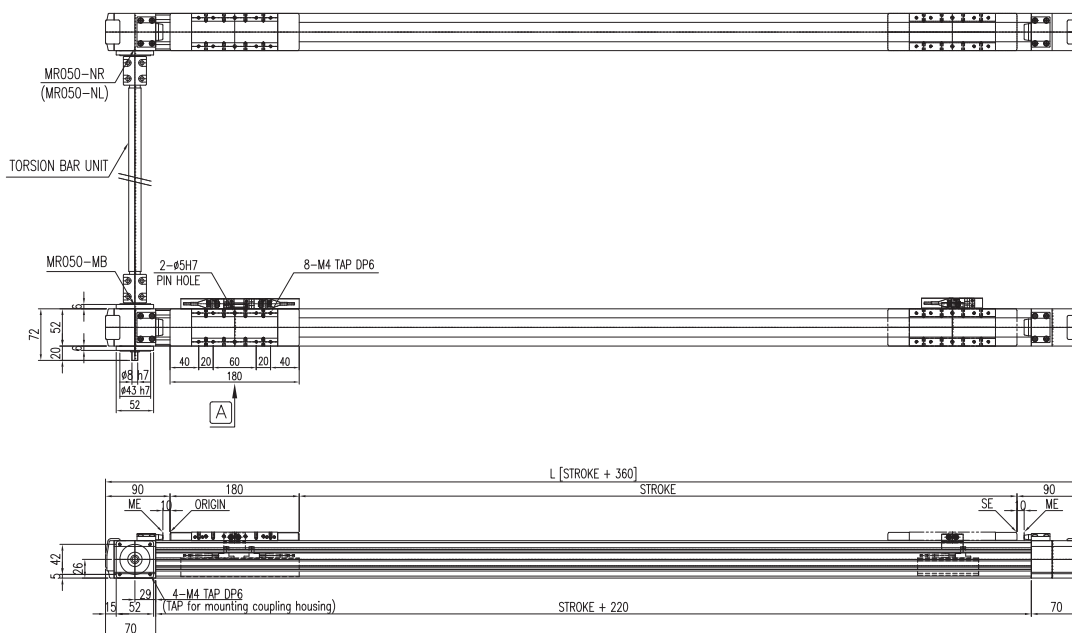
Specification	Unit	MR050-NSR(L)- 10						Specification	Unit	Data					
MR050								Acceleration	G	0.3					
Rated Output		W	100W,3000min ⁻¹					Load	kg	1	5	10	20		
Raducer		Ratio	3	4	5	6	8	10	Note3 Allowable Overhang Distance - mm	Horizontal Use 	0°	300	192	86	33
Max. Speed		Note1 mm/s	1750	1300	1050	850	650	500			45°	300	190	85	33
Max. Load		Note2 kg	1	3	5	10	16	20			90°	300	300	300	300
Stroke Range		mm	200 ~ 2000					Note4 Wall Installation Use 		0°	300	300	300	300	
Repeatability		mm	±0.1							45°	300	89	41	17	
Drive Type		-	BELT							90°	300	90	41	17	
								Note4 Vertical Use 		0°	300	300	280	140	
										45°	300	273	136	68	
										90°	300	300	225	112	
								Estimated Condition	Max Speed : 1750 mm/s		Acceleration : 0.3 G (2.94 m/s ²)				
									Life in traveled distance : 30000 km						

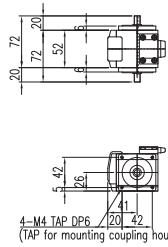
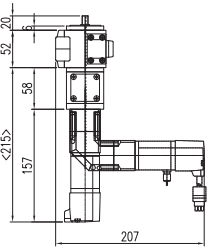
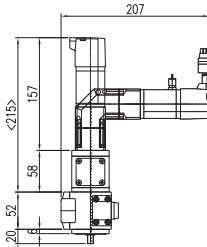
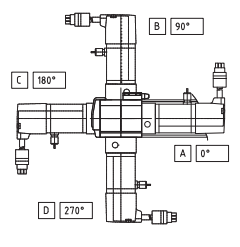
Rated Output		W	100W,3000 min ⁻¹					
Raducer		Ratio	3	4	5	6	8	10
Max. Speed	Note1	mm/s	1750	1300	1050	850	650	500
Max. Load	Note2	kg	1	3	5	10	16	20
Stroke Range		mm	200 ~ 2000					
Repeatability		mm	± 0.1					
Drive Type		-	BELT					

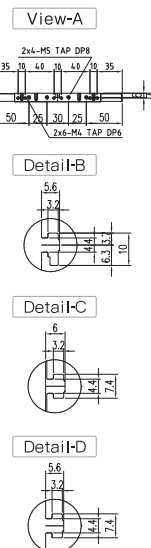
MR050 - MR

N 2 AXIS

* All dimensions in mm



MR050-MB	MR050-MR (M)Type of Motor mounted	MR050-ML (M)Type of Motor mounted	REDUCER DIRECTION
			



Model	Stroke	Units	200	400	600	800	1000	1200	1400	1600	1800	2000	Offset(100)	CAUTION
MR050-10	kg		5.8	6.7	7.9	9.0	10.0	11.1	12.2	13.2	14.3	15.3	0.53	In case of reference position return, be cautious not to contact with peripheral units because slider transfers up to ME. -ME : Mechanical End -SE : Stroke End Dimensions of "< >" are subject to change by specifications of motor or gearbox(reducer). NOTE1 In case of the short stroke, it may not be reached at maximum speed. NOTE2 it is changed by operating conditions. NOTE3 In case of use of products beyond allowable overhang value, it may result in malfunction of products. NOTE4 In case of Vertical use or Wall installation use, please consult with us.
MR050-10-R03	mm/s							1750						
MR050-10-R04	mm/s							1300						
MR050-10-R05	mm/s							1050						
MR050-10-R06	mm/s							850						
MR050-10-R08	mm/s							680						
MR050-10-R10	mm/s							500						

Model

MR050

MR060

MR080

Values of () is in case of speed of 1000mm/sec. / H of Max. Load indicates Horizontal use and V of Max. Load indicates Vertical use.

Specification		Unit	MR080-NSR(L)-10						Specification		Unit	Data			
MR080								Acceleration		G	0.3				
Rated Output		W	400W,3000min ⁻¹						Load		kg	10	30	50	80
Raducer	Note1	Ratio	3	4	5	6	8	10	Horizontal Use		0°	450	145	83	48
Max. Speed	Note2	mm/s	2500	2200	1750	1450	1100	850			45°	450	144	83	48
Max. Load	Note3	kg	5	10	18	28	50	80			90°	500	500	500	500
Stroke Range		mm	200 ~ 5000						Note4 Wall Installation Use		0°	500	500	500	500
Repeatability		mm	±0.1								45°	420	128	69	36
Drive Type		-	BELT								90°	430	131	71	37
									Note4 Vertical Use		0°	500	365	220	138
											45°	500	215	128	80
											90°	500	425	253	159
									Estimated Condition	Max Speed : 2000 mm/s		Acceleration : 0.3 G (2.94 m/s ²)			
										Life in traveled distance : 30000 km					