

MB series

Hirata



- ◆ Highly rigid configurations
- ◆ Flexible configurations & combinations
- ◆ Customization available
- ◆ High Maintainability by the adoption of battery-less motors

MB series

- Frame Width 100/120/150/200 mm
- Operating strokes 200 ~ 1500 mm
- Operating Speed 300 ~ 2000 mm/s
- Loadable weight 5 ~ 200 kg

FEATURES

- ◆ **High rigid configurations**
Industry leading performance
- ◆ **Flexible configurations & combinations**
Supporting pairing with various modules
- ◆ **Customization available**
Supporting special requirements
- ◆ **High Maintainability by the adoption of battery-less motors**
(MB-120 / 150 series only)

• MB-120 series



• MB-150 series



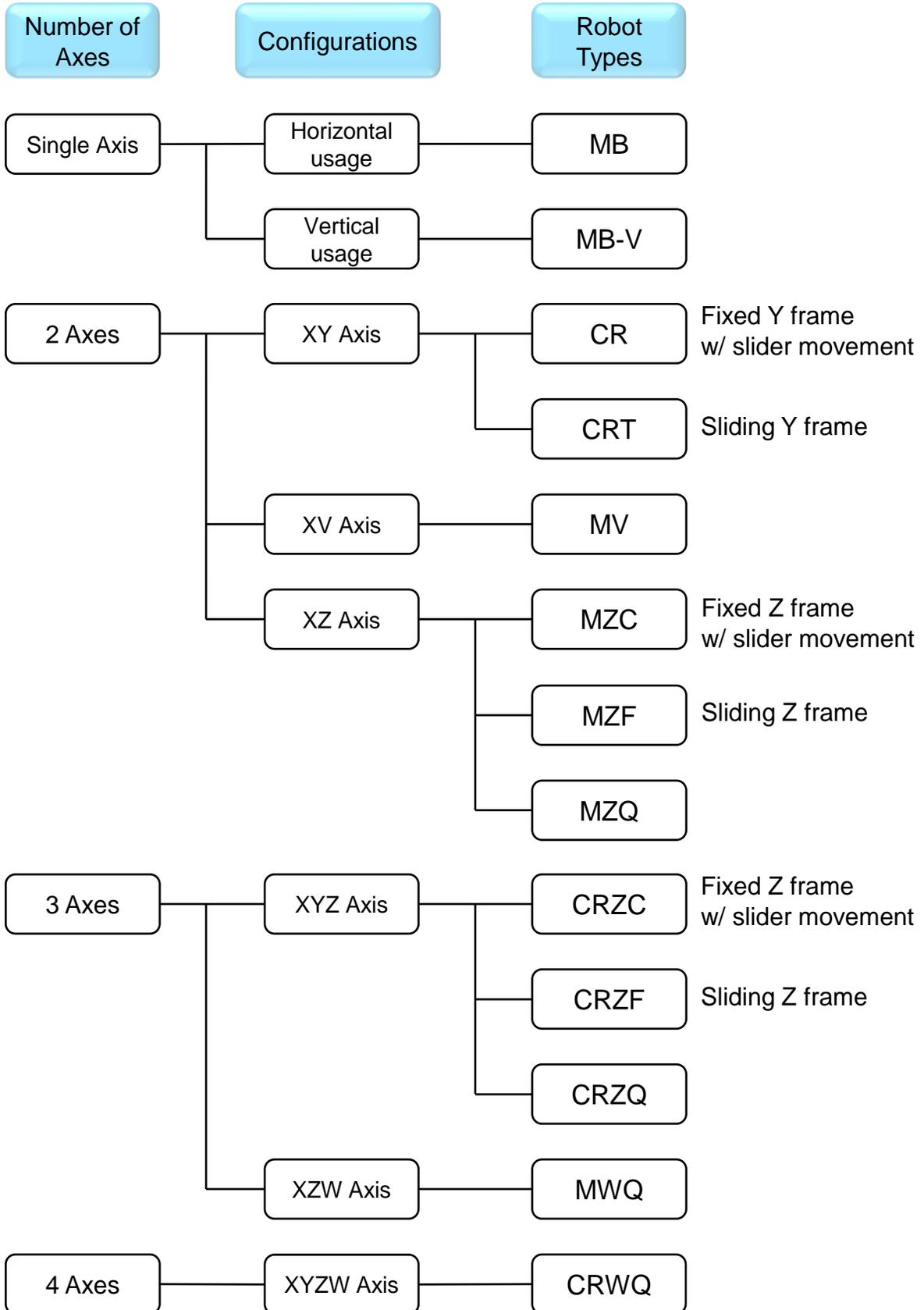
• MB-100 series



• MB-200 series



ROBOT LINEUP



ROBOT LINEUP MB-120/150 series

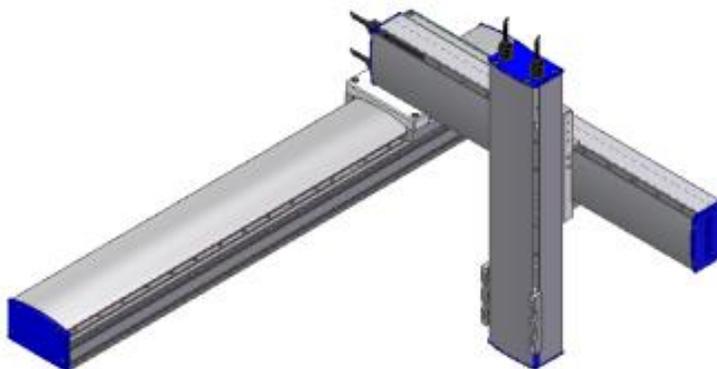
Single Axis
(Horizontal)
MB



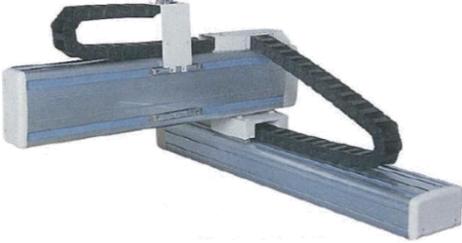
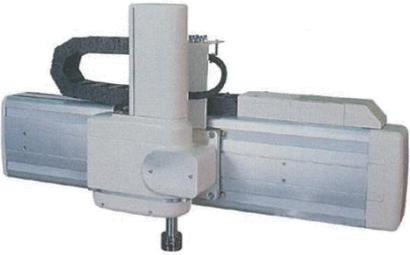
2 Axes
(XY Axis)
CR



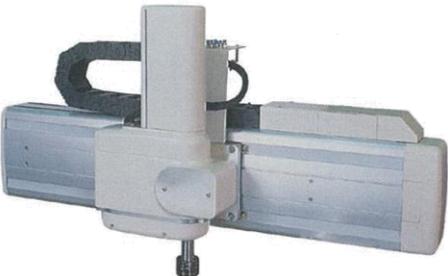
3 Axis
(XYZ Axis)
CRZC



ROBOT LINEUP MB-100/200 series

<p>Single Axis (Horizontal) MB</p>		<p>Single Axis (Vertical) MB-V</p>	
<p>2 Axes (XY) CR</p>	 <p>Fixed Y frame with slider movement</p>	<p>2 Axes (XY) CRT</p>	 <p>Sliding Y frame</p>
<p>2 Axes (XZ) MZC</p>	 <p>Fixed Z frame with slider movement</p>	<p>2 Axes (XZ) MZF</p>	 <p>Sliding Z frame</p>
<p>2 Axes (XZ) MZQ</p>		<p>2 Axes (XV) MV</p>	

ROBOT LINEUP MB-100/200 series

<p>3 Axes (XYZ) CRZC</p>	 <p>Fixed Z frame with slider movement</p>	<p>3 Axes (XYZ) CRZF</p>	 <p>Sliding Z frame</p>
<p>3 Axes (XYZ) CRZC (w/ support axis)</p>	 <p>Fixed Z frame with slider movement</p>	<p>3 Axes (XYZ) CRZF (with support axis)</p>	 <p>Sliding Z frame</p>
<p>3 Axes (XZW) MWQ</p>		<p>3 Axes (XYZ) CRZQ</p>	
<p>4 Axes (XYZW) CRWQ</p>			

Type Selection

1. Select Robot Configuration by checking “ROBOT LINEUP” in previous sheets.
*For example, select CRZC type for 3 axes “XYZ configurations” with MB-120/150 series.)
2. Select a robot type by checking required payload, stroke, and speed from 3 Axes XYZ configuration (CRZC type).
(For example, select CRZC-H1512 when a workpiece with robot hands weighs 3kg, 1500mm/s is needed for synthesized speed, and 1000mm is a required X Axis stroke.
3. See “Specifications” sheets and check robot dimensions, options, pairing orientation, allowable moment & inertia, and robot weight.
4. See below tables of Part Number Description and specify a final part number of your request. (Sample robot part number: CRZC-H1512-700-A-500-T-A-300-AB-RR)

Part Number Description MB-120/150 Series

Axis Type	Axis configuration	Type	Robot Part Number
Single Axis	Horizontal	MB	MB - <u>N</u> <u>1 2 0</u> - <u>3 0 0</u> - □ - □ ① ② ④ ⑦ ⑧
2 Axes	XY	CR	CR - <u>N</u> <u>1 5 1 2</u> - <u>7 0 0</u> - □ - □ - <u>5 0 0</u> - □ - □ - <u>R R</u> ① ② ③ ④ ⑦ ⑧ ⑤ ⑦ ⑧ ⑨
3 Axes	XYZ	CRZC	CRZC - <u>N</u> <u>1 5 1 2</u> - <u>7 0 0</u> - □ - □ - <u>5 0 0</u> - □ - □ - <u>7 0 0</u> - □ - □ - <u>R R</u> ① ② ③ ④ ⑦ ⑧ ⑤ ⑦ ⑧ ⑥ ⑦ ⑧ ⑨

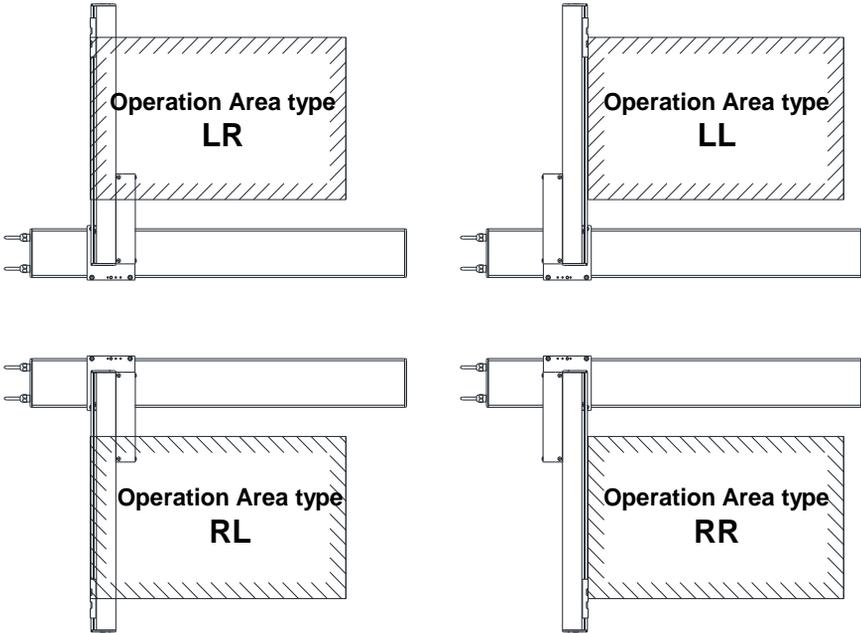
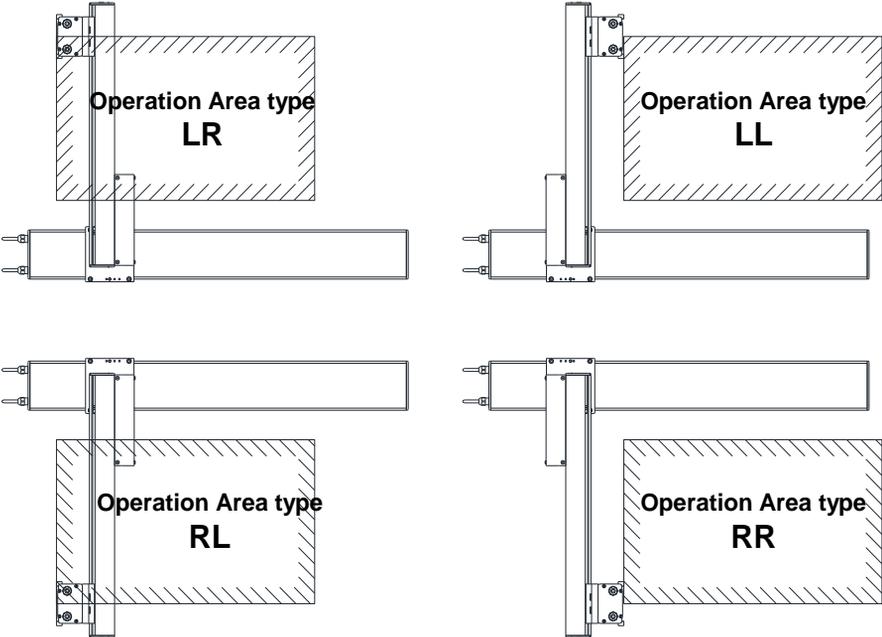
Part Number Description		
#	Content	Selection
①	Speed	T : 300mm/s N : 600mm/s H : 1200mm/s S : 1800mm/s U : 2400mm/s
②	Frame width, X Axis	12 : 120mm 15 : 150mm
③	Frame width, Y & Z Axis	12 : 120mm
④	X Axis Stroke	Standard Stroke : 300mm • 500mm • 700mm <i>*Other strokes are available, check function & specification sheet.</i>
⑤	Y Axis Stroke	Standard Stroke : 300mm • 500mm • 700mm <i>*Other strokes are available, check function & specification sheet.</i>
⑥	Z Axis Stroke	Standard Stroke : 300mm • 500mm • 700mm <i>*Other strokes are available, check function & specification sheet.</i>
⑦	A-CAL (Auto Calibration) orientation	N/A : Motor side T : Tail side
⑧	Option	A : Overrun Sensor B : Motor with brake C : Motor without battery
⑨	Pairing orientation	See a list of robot combinations

Part Number Description MB-100/200 Series

Axis Type	Axis configuration	Type	Robot Part Number	
Single Axis	Horizontal	MB	MB	- <u>N 1 0 2 A</u> □ - <u>7 0 0 M</u> - R - □ □ ① ② ⑤⑥⑦ ⑧ ⑪ ⑫ ⑭⑮
	Vertical	MB-V		
2 Axes	XY	CR	CR	- <u>N 2 0 1 0 A</u> □ - <u>7 0 0 M</u> - <u>5 0 0 M</u> - R R - □ □ ① ② ⑥⑦ ⑧ ⑪ ⑨ ⑪ ⑫ ⑭⑮
		CRT	CRT	
	XZ	MZC	MZC	- <u>N 2 0 2 0 A</u> □ - <u>7 0 0 M</u> - <u>3 0 0 T</u> - R - □ □ ① ② ④ ⑥⑦ ⑧ ⑪ ⑩ ⑪ ⑫ ⑭⑮
		MZF	MZF	
		MZQ	MZQ	- <u>H 2 0 2 A</u> □ - <u>7 0 0 T</u> - <u>2 0 0</u> - R - □ □ ① ② ⑤⑥⑦ ⑧ ⑪ ⑩ ⑫ ⑭⑮
	XV	MV	MV	- <u>N 2 0 1 0 A</u> □ - <u>7 0 0 M</u> - <u>5 0 0 M</u> - R R - □ □ ① ② ③ ⑥⑦ ⑧ ⑪ ⑨ ⑪ ⑫ ⑭⑮
3 Axes	XYZ	CRZC	CRZC	- <u>N 2 0 2 0 A</u> □ □ - <u>7 0 0 M</u> - <u>5 0 0 M</u> - <u>3 0 0 T</u> - R R - □ □ ① ② ④ ⑥⑦⑬ ⑧ ⑪ ⑨ ⑪ ⑩ ⑪ ⑫ ⑭⑮
		CRZF	CRZF	
		CRZQ	CRZQ	- <u>N 2 0 1 0 A</u> □ - <u>7 0 0 M</u> - <u>5 0 0 M</u> - <u>2 0 0</u> - R R - □ □ ① ② ③ ⑥⑦ ⑧ ⑪ ⑨ ⑪ ⑩ ⑫ ⑭⑮
	XZW	MWQ	MWQ	- <u>H 2 0 2 A</u> □ - <u>7 0 0 T</u> - <u>2 0 0</u> - R - □ □ ① ② ⑤⑥⑦ ⑧ ⑪ ⑩ ⑫ ⑭⑮
4 Axes	XYZW	CRWQ	CRWQ	- <u>N 2 0 1 0 A</u> □ - <u>7 0 0 M</u> - <u>5 0 0 M</u> - <u>2 0 0</u> - R R - □ □ ① ② ③ ⑥⑦ ⑧ ⑪ ⑨ ⑪ ⑩ ⑫ ⑭⑮

Part Number Description		
#	Content	Description
①	Speed	N : 600mm/s H : 1200mm/s U : 2000mm/s
②	X Axis Frame Size	10 : 100mm Width 20 : 202mm Width
③	Y Axis Frame Size	10 : 100mm Width 20 : 202mm Width
④	Z Axis Frame Size	10 : 100mm Width 20 : 202mm Width
⑤	Motor Power	2 : 200W 4 : 400W 7 : 750W
⑥	Encoder Pulse	A : 2500P/R
⑦	Robot Type	N/A : Standard type P : Parallel type for long stroke V : Vertical type (only for MB-V type)
⑧	X Axis Stroke	Standard length: 300mm · 500mm · 700mm Parallel type length : 1000mm · 1200mm · 1500mm
⑨	Y (V) Axis Stroke	300mm · 500mm · 700mm
⑩	Z Axis Stroke	Frame type: 300mm · 500mm · 700mm Spline type: 200mm
⑪	Origin Direction	M : Motor side T : Tail side *Spline type MB and Z Axis type has origin direction at upper side
⑫	Pairing Orientation	See a list of robot combinations
⑬	Support Axis	No mark : Without support axis S : With support axis
⑭	Option	No mark : No dust protection belt B : with dust protection belt
⑮		No mark : No braked motor PB : Motor with brake

Robot Combinations MB-120/150 Series

<p>MB Type</p>	
<p>CR Type</p>	
<p>CRZC Type</p>	

Robot Combinations MB-100/200 Series

<p>MB Type</p>	
<p>CR Type •CRZC •CRZF •CRZQ •CRWQ</p>	
<p>CRT Type</p>	
<p>MV Type</p>	
<p>MZC MZF Type</p>	
<p>MZQ MWQ Type</p>	

*All illustrated combinations have P (Parallel) type robots, except for MB type which shows both the normal and P types. X axis motor side for standard type is a direction of cable exit. MZQ, MWQ, MZC, and MZF type robots however have cable exit direction on the opposite side of X axis motor side.

Specifications/ Single Axis - MB-120Type

1. Frame size Width: 120mm
2. Maximum speed T: 300mm/s N: 600mm/s H: 1200mm/s U: 1800mm/s
3. Payload Changes depending on robot speed (See below values in table)
4. Stroke 200mm - 1000mm

Frame Size	Robot Type	Payload (kg)				Accel/Decel Speed (G)				Max. Speed*1 (mm/sec)	Stroke *2 (mm)	Repeatability (mm)	Ball-screw Lead (mm)	Motor Output (W)
		horizontal use		vertical use		horizontal use		vertical use						
		Rated accel/decel	Max. accel/decel	Rated accel/decel	Max. accel/decel	Rated	Max.	Rated	Max.					
120	MB-T120	150	80	30	20	0.3	0.5	0.3	0.5	300	200~1000	±0.01	5	200
	MB-N120	100	80	25	20					600			10	
	MB-H120	50	35	10	8					1200			20	
	MB-S120	25	15	6	5					1800			30	

Robot Type	Max. Speed (mm/s)	Stroke (mm)				Allowable Moment (N·m)		
		~700	800	900	1000	MA	MB	MC
MB-T120	Max. Speed (mm/s)	300	225	175	150	81.7	83.6	152.7
MB-N120		600	450	350	300			
MB-H120		1200	900	700	600	40.8	41.8	76.3
MB-S120		1800	1350	1050	900			

*1: Max. Speed varies by Strokes and Accel/Decel Speed.

*2: Strokes other than specified, please ask our sales engineer.

Ordering Part No. **MB-T120** - **500** - **T** - **B**
 Robot Type Stroke Home Position Option

Option	Description
A	Overrun Sensor addition
B	Motor with brake specification
C	Battery-less motor specification

Specifications/ Single Axis - MB-150Type

1. Frame size Width: 150mm
2. Maximum speed N: 600mm/s H: 1200mm/s U: 2400mm/s
3. Payload Changes depending on robot speed (See below values in table)
4. stroke 200mm ~ 1200mm

Frame Size	Robot Type	Payload (kg)				Accel/Decel Speed (G)				Max. Speed*1 (mm/sec)	Stroke *2 (mm)	Repeatability (mm)	Ball-screw Lead (mm)	Motor Output (W)
		horizontal use		vertical use		horizontal use		vertical use						
		Rated accel/decel	Max. accel/decel	Rated accel/decel	Max. accel/decel	Rated	Max.	Rated	Max.					
150	MB-N150	150	120	40	30	0.3	0.5	0.3	0.5	600	200~1200	±0.01	10	400
	MB-H150	100	80	20	15					1200			20	
	MB-U150	25	20	10	8					2400			40	

Robot Type	Max. Speed (mm/s)	Stroke (mm)					Allowable Moment (N·m)		
		~800	900	1000	1100	1200	MA	MB	MC
MB-N150	Max. Speed (mm/s)	600	500	400	350	300	129	131.4	187.9
MB-H150		1200	1000	800	700	600			
MB-U150		2400	2000	1600	1400	1200			

*1: Max. Speed varies by Strokes and Accel/Decel Speed.

*2: Strokes other than specified, please ask our sales engineer.

Ordering Part No. **MB-N150** - **500** - **T** - **B**
 Robot Type Stroke Home Position Option

Option	Description
A	Overrun Sensor addition
B	Motor with brake specification
C	Battery-less motor specification

Specifications/ 2 Axes CR-1212 (fixed frame with slider movement)

Axis	Robot Type	Payload (kg) ※1		Accel/Decel Speed (G) ※2		synthesized speed (mm/sec)	Configuring Robot Unit	Max. Speed (mm/sec) ※3	Stroke (mm) ※4	Repeatability (mm)	Ball-screw Lead (mm)	Motor Output (W)
		Rated accel/decel	Max. accel/decel	Rated accel/decel	Max. accel/decel							
X	CR-N1212	45.6	13.7	0.3	1.0	850	MB-N120	600	200~1000	±0.01	10	200
Y									200~500			
X	CR-H1212	25	10.8			1700	MB-H120	1200	200~1000			
Y									200~500			

Payload according to accel/decel speed (kg)					
CR-N1212		Y Axis Stroke (mm)			
		200	300	400	500
accel/decel speed (G)	0.3	45.6	33.9	25.8	19.5
	0.4	34.2	28.6	19.3	14.6
	0.5	27.4	22.9	15.5	11.7
	0.6	22.8	19.1	12.9	9.7
	0.7	19.5	16.4	11.0	8.4
	0.8	17.1	14.3	9.7	7.3
	0.9	15.2	12.7	8.6	6.5
	1.0	13.7	11.5	7.7	5.8

Payload according to accel/decel speed (kg)					
CR-H1212		Y Axis Stroke (mm)			
		200	300	400	500
accel/decel speed (G)	0.3	25.0	25.0	19.5	14.2
	0.4	19.7	19.7	14.6	10.6
	0.5	21.5	15.8	11.7	8.5
	0.6	18.0	13.2	9.8	7.1
	0.7	15.4	11.3	8.4	6.1
	0.8	13.5	9.9	7.3	5.3
	0.9	12.0	8.8	6.5	4.7
	1.0	10.8	7.9	5.9	4.3

- ※1 Payload differs depending on Y axis stroke & Z axis own weight.
- ※2 Payload differs depending on accel/decel speed and Y axis stroke.
- ※3 Robot may not reach max. speed depending on robot stroke and accel/decel speed.
- ※4 Other than listed strokes, please consult our sales engineers.

Ordering Part No. **CR-N1212** - **700** - **T** - **B** - **700** - **T** - **B** - **RR**

Robot Type X-Axis Stroke X-Axis Home Position X-Axis Option Y-Axis Stroke Y-Axis Home Position Y-Axis Option Pairing Orientation

Option	Description
A	Overrun Sensor addition
B	Motor with brake specification
C	Battery-less motor specification

Specifications/ 2 Axes CR-1512 (fixed frame with slider movement)

Axis	Robot Type	Payload (kg) ※1		Accel/Decel Speed (G) ※2		synthesized speed (mm/sec)	Configuring Robot Unit	Max. Speed (mm/sec) ※3	Stroke (mm) ※4	Repeatability (mm)	Ball-screw Lead (mm)	Motor Output (W)
		Rated accel/decel	Max. accel/decel	Rated accel/decel	Max. accel/decel							
X	CR-N1512	50	22	0.3	1.0	850	MB-N150	600	200~1000	±0.01	10	400
Y							MB-N120		200~700			
X	CR-H1512	25	17.5			1700	MB-H150	1200	200~1200			
Y							MB-H120		200~700			

Payload according to accel/decel speed (kg)							
CR-N1512		Y Axis Stroke (mm)					
		200	300	400	500	600	700
accel/decel speed (G)	0.3	50.0	50.0	43.8	34.8	27.6	21.5
	0.4	41.8	41.8	32.8	26.1	20.7	16.1
	0.5	44.1	33.5	26.3	20.9	16.5	12.9
	0.6	36.7	27.9	21.9	17.4	13.8	10.7
	0.7	31.5	23.9	18.8	14.9	11.8	9.2
	0.8	27.5	20.9	16.4	13.0	10.3	8.1
	0.9	24.5	18.6	14.6	11.6	9.2	7.2
	1.0	22.0	16.7	13.1	10.4	8.3	6.4

Payload according to accel/decel speed (kg)							
CR-H1512		Y Axis Stroke (mm)					
		200	300	400	500	600	700
accel/decel speed (G)	0.3	25.0	25.0	25.0	25.5	20.3	15.0
	0.4	19.8	19.8	19.8	19.8	15.2	11.3
	0.5	20.3	15.8	12.2	9.0		
	0.6	21.9	17.0	13.2	10.1	7.5	
	0.7	24.9	18.8	14.5	11.3	8.7	6.4
	0.8	21.8	16.4	12.7	9.9	7.6	5.6
	0.9	19.4	14.6	11.3	8.8	6.8	5.0
	1.0	17.5	13.1	10.2	7.9	6.1	4.5

- ※1 Payload differs depending on Y axis stroke & Z axis own weight.
- ※2 Payload differs depending on accel/decel speed and Y axis stroke.
- ※3 Robot may not reach max. speed depending on robot stroke and accel/decel speed.
- ※4 Other than listed strokes, please consult our sales engineers.

Ordering Part No. **CR-N1512** - **700** - **T** - **B** - **700** - **T** - **B** - **LL**

Robot Type X-Axis Stroke X-Axis Home Position X-Axis Option Y-Axis Stroke Y-Axis Home Position Y-Axis Option Pairing Orientation

Option	Description
A	Overrun Sensor addition
B	Motor with brake specification
C	Battery-less motor specification

Specifications/ 3 Axes CRZC-1512 (fixed frame with slider movement)

Axis	Robot Type	Payload (kg) ※1	Accel/Decel Speed (G) ※2	synthesized speed (mm/s)	Configuring Robot Unit	Max. Speed (mm/sec) ※3	Stroke (mm) ※4	Repeatability (mm)	Ball-screw Lead (mm)	Motor Output (W)
X	CRZC-N1512	25	0.3	1200	MB-N150	600	200~1200	±0.01	10	400
Y					MB-N120		200~500			200
Z							200~500			
X	CRZC-H1512	10		2400	MB-H150	1200	200~1200		20	400
Y					MB-H120		200~500			200
Z							200~500			

Payload according to accel/decel speed (kg)					
CRZC-N1512		Y Axis Stroke (mm)			
		200	300	400	500
Z Axis Stroke (mm)	200	25.0	25.0	25.0	25.0
	300				23.5
	400				20.4
	500				

Payload according to accel/decel speed (kg)					
CRZC-H1512		Y Axis Stroke (mm)			
		200	300	400	500
Z Axis Stroke (mm)	200	10.0	10.0	10.0	10.0
	300				
	400				
	500				

Option	Description
A	Overrun Sensor addition
B	Motor with brake specification
C	Battery-less motor specification

※1 Payload differs depending on Y axis stroke & Z axis own weight.

※2 Payload differs depending on accel/decel speed and Y axis stroke.

※3 Robot may not reach max. speed depending on robot stroke and accel/decel speed.

※4 Other than listed strokes, please consult our sales engineers.

Ordering Part No.	CRZC-N1512	-	700	-	T	-	B	-	700	-	T	-	B	-	700	-	T	-	B	-	RR
	Robot Type		X-Axis Stroke		X-Axis Home Position		X-Axis Option		Y-Axis Stroke		Y-Axis Home Position		Y-Axis Option		Z-Axis Stroke		Z-Axis Home Position		Z-Axis Option		Pairing Orientation

Specifications/ Horizontal Single Axis - MB-100/200

MB-100/200Type

1. Frame size Width: 100mm / 202mm
2. Maximum speed N: 600mm/s H: 1200mm/s U: 2000mm/s
3. Payload Changes depending on robot speed (See below values in table)
4. Stroke Standard spec: 300mm / 500mm / 700mm
Long stroke (P type): 1000mm / 1200mm / 1500mm

Frame Size	Robot Type	Rated Thrust Force (kg)	Max. Payload (kg)	Max. Accel Speed (mm/s)	Max. Speed (mm/sec)	Stroke (mm)	Repeatability (mm)	Ball-screw Lead (mm)	Motor Output (W)		
100	MB-N102A	36.3	100	0.2	600	300, 500, 700	±0.015	10	200		
	MB-N102AP					1000, 1200, 1500		20			
	MB-H102A	17.8	25		1200	300, 500, 700		20			
	MB-H102AP					1000, 1200, 1500		40			
	MB-U104A				2000	300, 500, 700		40		400	
202	MB-N202A	35.7	100		600	300, 500, 700		±0.015	10	200	
	MB-N202AP					1000, 1200, 1500			20		
	MB-N204A	72.4	200		1200	300, 500, 700			10	400	
	MB-N204AP					1000, 1200, 1500			20		
	MB-H202A				17.3	25			1200	300, 500, 700	20
	MB-H202AP	1000, 1200, 1500	40								
	MB-H204A	35.7	50	2000			300, 500, 700			20	400
	MB-H204AP						1000, 1200, 1500			40	
	MB-U207A	33.3	40			300, 500, 700			40	750	

Ordering Part No. **MB-N102A** - **300** **M** - **R**

Robot Type Stroke Home Position Pairing Orientation Option 1 Option 2

Option

Option1	Dust protection belt
N/A	No belt
B	Belt addition

Option2	Motor with brake specification
N/A	No brake
PB	With brake

Specifications/ Single Axis - MB-V series

MB-V is a single stroke MB robot (Vertical orientation) with braked motor.

1. Frame size Width: 100mm / 202mm
2. Maximum speed N: 600mm/s
3. Payload 20kg / 40kg
4. stroke Standard spec : 300mm / 500mm / 700mm

Frame Size	Robot Type	Rated Push (Press) Force (kg)	Payload (kg)	Max. Accel Time (mm/s)	Max. Speed (mm/s)	Stroke (mm)	Repeatability (mm)	Ball-screw Lead (mm)	Motor Output (w)
100	MB-N102AV	33.8 (38.8)	20	0.2	600	300, 500, 700	±0.015	10	200
202	MB-N202AV	32.2 (39.2)							
	MB-N204AV	68.9 (75.9)	40						400

Ordering Part No. **MB-N102AV** - **500** **M** - **L**

Robot Type Stroke A-CAL Orientation Pairing Orientation Option 1 Option 2

Option

Option1	Dust protection belt
N/A	No belt
B	Belt addition

Option2	Motor with brake specification
N/A	No brake
PB	With brake

Specifications/ 2 Axes - CRT series (fixed frame with slider movement)

Axis	Robot Type	Payload (kg)	Max. Accel Speed (mm/s)	synthesized speed (mm/s)	Single Unit Type	Max. Speed (mm/s)	Stroke (mm) (payload, kg) ※1	Repeatability (mm)	Ball-screw Lead (mm)	Motor Output (w)					
X	CR-N2010A	25	0.2	850	MB-N202A	600	300, 500, 700	±0.02	10	200					
Y					MB-N102A		300, 500, 700								
X	CR-N2010AP				MB-N202AP		1000, 1200, 1500								
Y					MB-N102A		300, 500, 700								
X	CR-H2010A	20		1700	MB-H204A	1200	300, 500, 700		±0.02	20	400				
Y					MB-H102A		300, 500, 700				200				
X	CR-H2010AP				MB-H204AP		1000, 1200, 1500			40	400				
Y					MB-H102A		300, 500, 700				20	200			
X	CR-U2010A	12			2830	MB-U207A	2000			300, 500, 700	±0.02	40	750		
Y						MB-U104A				300, 500, 700			400		
X	CR-N2020A	(60)				850	MB-N202A			600		300, 500, 700	±0.02	10	200
Y							MB-N202A					300, 500, 700 (60), (40), (20)			
X	CR-N2020AP		MB-N202AP	1000, 1200, 1500	20		200								
Y			MB-N202A	300, 500, 700 (60), (40), (20)				10							
X	CR-H2020A	(20)	1700	MB-H204A	1200		300, 500, 700	±0.02	20	400					
Y				MB-H202A			300, 500, 700 (20), (15), (10)			40	400				
X	CR-H2020AP			MB-H204AP			1000, 1200, 1500		20			200			
Y				MB-H202A			300, 500, 700 (20), (15), (10)			20	200				

※1 Max. payload changes depending on Y axis stroke. See payload with () in case of specified strokes.

Ordering Part No.	CR-N2010A	-	700	M	-	500	M	-	RR	-		PB
	Robot Type		X-Axis Stroke	X-Axis Home Position		Y-Axis Stroke	Y-Axis Home Position		Pairing Orientation		Option1	Option2

Option

Option1	Dust protection belt
N/A	No belt
B	Belt addition

Option2	Motor with brake specification
N/A	No brake
PB	With brake

Specifications/ 2 Axes - CRT series (sliding Y frame)

Axis	Robot Type	Payload (kg)	Max. Accel Speed (mm/s)	synthesized speed (mm/s)	Single Unit Type	Max. Speed (mm/s)	Stroke (mm) (payload, kg) ※1	Repeatability (mm)	Ball-screw Lead (mm)	Motor Output (w)		
X	CRT-N2010A	(47)	0.2	850	MB-N202A	600	300, 500, 700	±0.02	10	200		
Y					MB-N202A		300, 500, 700 (47, 27, 16)					
X	CRT-N2010AP				MB-N202AP		1000, 1200, 1500				10	200
Y					MB-N202A		300, 500, 700 (47, 27, 16)					
X	CRT-H2010A	(20)		1700	MB-H204A	1200	300, 500, 700		±0.02	20	400	
Y					MB-H204A		300, 500, 700 (20, 15, 10)					
X	CRT-H2010AP				MB-H204AP		1000, 1200, 1500			40		400
Y					MB-H204A		300, 500, 700 (20, 15, 10)					

※1 Max. payload changes depending on Y axis stroke. See payload with () in case of specified strokes.

Ordering Part No.	CRT-N2010AP	-	1500	M	-	500	T	-	RL	-	B	PB
	Robot Type		X-Axis Stroke	X-Axis Home Position		Y-Axis Stroke	Y-Axis Home Position		Pairing Orientation		Option1	Option2

Option

Option1	Dust protection belt
N/A	No belt
B	Belt addition

Option2	Motor with brake specification
N/A	No brake
PB	With brake

Specifications/ 2 Axes - MV series

Axis	Robot Type	Payload (kg)	Max. Accel Speed (mm/s)	synthesized speed (mm/s)	Single Unit Type	Max. Speed (mm/s)	Stroke (mm)	Repeatability (mm)	Ball-screw Lead (mm)	Motor Output (w)					
X	MV-N2010A	20	0.2	850	MB-N202A	600	300, 500, 700	±0.02	10	200					
V					MB-N102AV		300, 500, 700								
X	MV-N2010AP				MB-N202AP		1000, 1200, 1500				20				
V					MB-N102AV		300, 500, 700								
X	MV-N2020A	40			MB-N202A		600		300, 500, 700		±0.02	10	200		
V					MB-N204AV								300, 500, 700	400	
X	MV-N2020AP				MB-N202AP								1000, 1200, 1500	20	200
V					MB-N204AV										300, 500, 700

Ordering Part No. **MV-N2020A** - **1500** **M** - **700** **M** - **MR** - **P** **B**

Robot Type X-Axis Stroke X-Axis Home Position V-Axis Stroke V-Axis Home Position Pairing Orientation Option1 Option2

Option1	Dust protection belt
N/A	No belt
B	Belt addition

Option2	Motor with brake specification
N/A	No brake
PB	With brake

Specifications/ 2 Axes – MZC series (fixed frame with slider movement)

Axis	Robot Type	Payload (kg)	Max. Accel Speed (mm/s)	synthesized speed (mm/s)	Single Unit Type	Max. Speed (mm/s)	Stroke (mm)	Repeatability (mm)	Ball-screw Lead (mm)	Motor Output (w)					
X	MZC-N2010A	20	0.2	850	MB-N202A	600	300, 500, 700	±0.02	10	200					
Z					MB-N102AV		300, 500, 700								
X	MZC-N2010AP				MB-N202AP		1000, 1200, 1500				20				
Z					MB-N102AV		300, 500, 700								
X	MZC-N2020A	40			MB-N202A		600		300, 500, 700		±0.02	10	200		
Z					MB-N204AV								300, 500, 700	400	
X	MZC-N2020AP				MB-N202AP								1000, 1200, 1500	20	200
Z					MB-N204AV										300, 500, 700

Ordering Part No. **MZC-N2010A** - **500** **T** - **500** **T** - **L** - **PB**

Robot Type X-Axis Stroke X-Axis Home Position Z-Axis Stroke Z-Axis Home Position Pairing Orientation Option1 Option2

Option1	Dust protection belt
N/A	No belt
B	Belt addition

Option2	Motor with brake specification
N/A	No brake
PB	With brake

Specifications/ 2 Axes - MZF series (sliding Z frame)

Axis	Robot Type	Payload (kg)	Max. Accel Speed (mm/s)	synthesized speed (mm/s)	Single Unit Type	Max. Speed (mm/s)	Stroke (mm) (payload, kg) ※1	Repeatability (mm)	Ball-screw Lead (mm)	Motor Output (w)			
X	MZF-N2010A	(10)	0.2	850	MB-N202A	600	300, 500, 700	±0.02	10	200			
Z					MB-N102AV		300, 500, 700 (10), (7.5), (5)			200			
X	MZF-N2010AP				MB-N202AP		1000, 1200, 1500			20	200		
Z					MB-N102AV		300, 500, 700 (10), (7.5), (5)			10	200		
X	MZF-N2020A	(23)			MB-N202A		600		300, 500, 700	±0.02	10	200	
Z					MB-N204AV				300, 500, 700 (23), (18.5), (14)			400	
X	MZF-N2020AP				MB-N202AP				1000, 1200, 1500			20	200
Z					MB-N204AV				300, 500, 700 (23), (18.5), (14)			10	400

※1 Max. payload changes depending on Z axis stroke. See payload with () in case of specified strokes.

Ordering Part No.	MZF-N2010A	-	500	T	-	500	T	-	R	-	B	PB
	Robot Type		X-Axis Stroke	X-Axis Home Position		Z-Axis Stroke	Z-Axis Home Position		Pairing Orientation		Option1	Option2

Option

Option1	Dust protection belt
N/A	No belt
B	Belt addition

Option2	Motor with brake specification
N/A	No brake
PB	With brake

Specifications/ 2 Axes - MZQ series

Axis	Robot Type	Payload (kg)	Max. Accel Speed (mm/s)	Single Unit Type	Max. Speed (mm/s)	Stroke (mm)	Repeatability (mm)	Ball-screw Lead (mm)	Motor Output (w)
X	MZQ-H102A	5	0.2	MB-H102A	1200	300, 500, 700	±0.015	20	200
Z				HMZ Unit	1000	200	±0.01	100	
X	MZQ-H102AP			MB-H102AP	1200	1000, 1200, 1500	±0.015	40	200
Z				HMZ Unit	1000	200	±0.01	100	
X	MZQ-U104A			MB-U104A	2000	300, 500, 700	±0.015	40	400
Z				HMZ Unit	1000	200	±0.01	100	
X	MZQ-H202A			MB-H202A	1200	300, 500, 700	±0.015	20	200
Z				HMZ Unit	1000	200	±0.01	100	
X	MZQ-H202AP			MB-H202AP	1200	1000, 1200, 1500	±0.015	40	200
Z				HMZ Unit	1000	200	±0.01	100	
X	MZQ-U207A			MB-U207A	2000	300, 500, 700	±0.015	40	750
Z				HMZ Unit	1000	200	±0.01	100	

Ordering Part No.	MZQ-H102A	-	500	T	-	200	R	-	B	PB
	Robot Type		X-Axis Stroke	X-Axis Home Position		Z-Axis Stroke	Pairing Orientation		Option1	Option2

Option

Option1	Dust protection belt
N/A	No belt
B	Belt addition

Option2	Motor with brake specification
N/A	No brake
PB	With brake

Specifications 3Axis MWQ Type

Axis	Robot Type	Payload (kg)	Max. Accel Speed (mm/s)	Single Unit Type	Max. Speed (mm/s)	Stroke (mm)	Repeatability (mm)	Ball-screw Lead (mm)	Motor Output (w)
X	MWQ-H102A	5	0.2	MB-H102A	1200	300, 500, 700	±0.015	20	200
Z				HMW Unit	1000	200	±0.01		100
W					1200°	540°	±0.03°		30
X	MWQ-H102AP			MB-H102AP	1200	1000, 1200, 1500	±0.015	40	200
Z				HMW Unit	1000	200	±0.01	100	
W					1200°	540°	±0.03°	30	
X	MWQ-U104A			MB-U104A	2000	300, 500, 700	±0.015	40	400
Z				HMW Unit	1000	200	±0.01	100	
W					1200°	540°	±0.03°	30	
X	MWQ-H202A			MB-H202A	1200	300, 500, 700	±0.015	20	200
Z				HMW Unit	1000	200	±0.01	200	
W					1200°	540°	±0.03°	100	
X	MWQ-H202AP	MB-H202AP	1200	1000, 1200, 1500	±0.015	40	200		
Z		HMW Unit	1000	200	±0.01	200			
W			1200°	540°	±0.03°	100			
X	MWQ-U207A	MB-U207A	2000	300, 500, 700	±0.015	40	750		
Z		HMW Unit	1000	200	±0.01	200			
W			1200°	540°	±0.03°	100			

Ordering Part No.

MWQ-U207A - **500** **T** - **350** - **R** - **Option1** **Option2**

Robot Type

X-Axis Stroke

X-Axis Home Position

Z-Axis Stroke

Pairing Orientation

Option1

Option2

Option

Option1	Dust protection belt
N/A	No belt
B	Belt addition

Option2	Motor with brake specification
N/A	No brake
PB	With brake

Specifications/ 3 Axes - CRZC·CRZF series (w/o support Axis)

Axis	Robot Type	Payload (kg)	Max. Accel Speed (mm/s)	synthesized speed (mm/s)	Single Unit Type	Max. Speed (mm/s)	Stroke (mm) (payload, kg) ※1	Repeatability (mm)	Ball-screw Lead (mm)	Motor Output (w)
X	CRZC-N2010A	(20)	0.2	849	MB-N202A	600	300, 500, 700	±0.02	10	200
Y					MB-N202A		300, 500, 700			
Z					MB-N102AV		300, 500, 700			
X	CRZC-N2010AP			849	MB-N202AP		1000, 1200, 1500			
Y					MB-N202A		300, 500, 700			
Z					MB-N102AV		300, 500, 700			
X	CRZC-N2020A	(37)		849	MB-N202A		300, 500, 700			
Y					MB-N202A		300, 500, 700			
Z					MB-N204AV		300, 500, 700			
X	CRZC-N2020AP			849	MB-N202AP		1000, 1200, 1500			
Y					MB-N202A		300, 500, 700			
Z					MB-N204AV		300, 500, 700			
X	CRZF-N2010A	(10)	849	MB-N202A	300, 500, 700					
Y				MB-N202A	300, 500, 700					
Z				MB-N102AV	300, 500, 700					
X	CRZF-N2010AP		849	MB-N202AP	1000, 1200, 1500					
Y				MB-N202A	300, 500, 700					
Z				MB-N102AV	300, 500, 700					
X	CRZF-N2020A	(23)	849	MB-N202A	300, 500, 700					
Y				MB-N202A	300, 500, 700					
Z				MB-N204AV	300, 500, 700					
X	CRZF-N2020AP		849	MB-N202AP	1000, 1200, 1500					
Y				MB-N202A	300, 500, 700					
Z				MB-N204AV	300, 500, 700					

※1 Max. payload changes depending on Y & Z axis stroke. See below table for each payload with different strokes.

Z-Axis Stroke (mm)	300			500			700		
Y-Axis Stroke (mm)	300	500	700	300	500	700	300	500	700
CRZC-N2010A	20	20	6.5	20	20	4	20	20	1
CRZC-N2010AP									
CRZC-N2020A	37	17	/	33	12.5	/	28.5	8.5	/
CRZC-N2020AP									
CRZF-N2010A	10	10	6.3	7.5	7.5	4	5	5	1
CRZF-N2010AP									
CRZF-N2020A	23	17	/	18.5	12.5	/	14	8.5	/
CRZF-N2020AP									

Unit (kg)

Option

Option1	Dust protection belt
N/A	No belt
B	Belt addition

Option2	Motor with brake specification
N/A	No brake
PB	With brake

Ordering Part No.

CRZC-N2010A	-	500	M	-	500	M	-	300	T	-	RR	-		
		X-Axis Stroke	X-Axis Home Position		Y-Axis Stroke	Y-Axis Home Position		Z-Axis Stroke	Z-Axis Home Position		Pairing Orientation		Option1	Option2

Specifications/ 3 Axes - CRZC CRZF (with support axis)

Axis	Robot Type	Payload (kg)*1	Max. Accel Speed (mm/s)	synthesized speed (mm/s)	Single Unit Type	Max. Speed (mm/s)	Stroke (mm)	Repeatability (mm)	Ball-screw Lead (mm)	Motor Output (w)		
X	CRZC-N2010AS	(20)	0.2	849	MB-N202A	600	300, 500, 700	±0.02	10	200		
Y					MB-N202A		300, 500, 700					
Z					MB-N102AV		300, 500, 700					
X	CRZC-N2010APS			849	MB-N202AP		1000, 1200, 1500					
Y					MB-N202A		300, 500, 700					
Z					MB-N102AV		300, 500, 700					
X	CRZC-N2020AS	(39)		0.2	849	MB-N202A	600		300, 500, 700	±0.02	10	200
Y						MB-N202A			300, 500, 700			
Z						MB-N204AV			300, 500, 700			
X	CRZC-N2020APS				849	MB-N202AP			1000, 1200, 1500			
Y						MB-N202A			300, 500, 700			
Z						MB-N204AV			300, 500, 700			
X	CRZF-N2010AS	(10)	0.2		849	MB-N202A	600	300, 500, 700	±0.02		10	200
Y						MB-N202A		300, 500, 700				
Z						MB-N102AV		300, 500, 700				
X	CRZF-N2010APS				849	MB-N202AP		1000, 1200, 1500				
Y						MB-N202A		300, 500, 700				
Z						MB-N102AV		300, 500, 700				
X	CRZF-N2020AS	(23)		0.2	850	MB-N202A	600	300, 500, 700		±0.02	10	200
Y						MB-N202A		300, 500, 700				
Z						MB-N204AV		300, 500, 700				
X	CRZF-N2020APS				850	MB-N202AP		1000, 1200, 1500				
Y						MB-N202A		300, 500, 700				
Z						MB-N204AV		300, 500, 700				

Robot Type for support axis is MB-100S

※1 Max. payload changes depending on Y & Z axis stroke. See below table for each payload with different strokes.

Z axis stroke (mm)	300			500			700			Unit (kg)
	300	500	700	300	500	700	300	500	700	
CRZC-N2010AS	20	20	20	20	20	20	20	20	20	Unit (kg)
CRZC-N2010APS	20	20	20	20	20	20	20	20	20	
CRZC-N2020AS	39	34.5	30	34.5	30	25.5	30	25.5	21	
CRZC-N2020APS	39	34.5	30	34.5	30	25.5	30	25.5	21	
CRZF-N2010AS	10	10	10	7.5	7.5	7.5	5	5	5	
CRZF-N2010APS	10	10	10	7.5	7.5	7.5	5	5	5	
CRZF-N2020AS	23	23	23	18.5	18.5	18.5	14	14	14	
CRZF-N2020APS	23	23	23	18.5	18.5	18.5	14	14	14	

Option

Option1	Dust protection belt
N/A	No belt
B	Belt addition

Option2	Motor with brake specification
N/A	No brake
PB	With brake

Ordering Part No.	CRZF-N2010A	S	-	500	M	-	500	M	-	300	T	-	RR	-		
	Robot Type	Support Axis		X-Axis Stroke	X-Axis Home Position		Y-Axis Stroke	Y-Axis Home Position		Z-Axis Stroke	Z-Axis Home Position		Pairing Orientation		Option1	Option2

Specifications/ 3 Axes - CRZQ Type

Axis	Robot Type	Payload (kg)	Max. Accel Speed (mm/s)	synthesized speed (mm/s)	Single Unit Type	Max. Speed (mm/s)	Stroke (mm)	Repeatability (mm)	Ball-screw Lead (mm)	Motor Output (w)		
X	CRZQ-N2010A	5	0.2	849	MB-N202A	600	300, 500, 700	±0.02	10	200		
Y					MB-N102A		300, 500, 700					
Z					HMZ Unit		200					
X	CRZQ-N2010AP			849	1700	MB-N202AP	600	1000, 1200, 1500	±0.02	20	200	
Y						MB-N102A		300, 500, 700				
Z						HMZ Unit		200				
X	CRZQ-H2010A			1700	1700	MB-H204A	1200	300, 500, 700	±0.02	20	400	
Y						MB-H102A		300, 500, 700				
Z						HMZ Unit		200				
X	CRZQ-H2010AP			1700	1700	MB-H204AP	1200	1000, 1200, 1500	±0.02	40	400	
Y						MB-H102A		300, 500, 700				
Z						HMZ Unit		200				
X	CRZQ-U2010A	2828	2000	MB-U207A	2000	300, 500, 700	±0.02	40	750			
Y				MB-U104A		300, 500, 700						
Z				HMZ Unit		200						
X	CRZQ-N2020A	5	0.2	849	MB-N202A	600	300, 500, 700	±0.02	10	200		
Y					MB-N202A		300, 500, 700					
Z					HMZ Unit		200					
X	CRZQ-N2020AP			849	1700	MB-N202AP	600	1000, 1200, 1500	±0.02		20	400
Y						MB-N202A		300, 500, 700				
Z						HMZ Unit		200				
X	CRZQ-H2020A			1700	1700	MB-H204A	1200	300, 500, 700	±0.02	20	200	
Y						MB-H202A		300, 500, 700				
Z						HMZ Unit		200				
X	CRZQ-H2020AP			1700	1700	MB-H204AP	1200	1000, 1200, 1500	±0.02	40	400	
Y						MB-H202A		300, 500, 700				
Z						HMZ Unit		200				

Ordering Part No.

CRZQ-N2010A

500

M

500

M

300

RR

P

B

Robot Type

X-Axis Stroke

X-Axis Home Position

Y-Axis Stroke

Y-Axis Home Position

Z-Axis Stroke

Pairing Orientation

Option1

Option2

Option

Option1	Dust protection belt
N/A	No belt
B	Belt addition

Option2	Motor with brake specification
N/A	No brake
PB	With brake

Specifications/ 4 Axes - CRWQ series

Axis	Robot Type	Payload (kg)	Max. Accel Speed (mm/s)	synthesized speed (mm/s)	Single Unit Type	Max. Speed (mm/s)	Stroke (mm)	Repeatability (mm)	Ball-screw Lead (mm)	Motor Output (w)						
X	CRWQ-N2010A	5	0.2	849	MB-N202A	600	300, 500, 700	±0.02	10	200						
Y					MB-N102A		300, 500, 700									
Z				HMW Unit	1000	200	±0.01	100								
W					1200°	540°	±0.03°		30							
X	CRWQ-N2010AP			5	0.2	849	MB-N202AP	600	1000, 1200, 1500	±0.02	20	200				
Y							MB-N102A		300, 500, 700		10					
Z						HMW Unit	1000	200	±0.01	100						
W							1200°	540°	±0.03°		30					
X	CRWQ-H2010A					5	0.2	1697	MB-H204A	1200	300, 500, 700	±0.02	20	400		
Y									MB-H102A		300, 500, 700			200		
Z								HMW Unit	1000	200	±0.01	100				
W									1200°	540°	±0.03°		30			
X	CRWQ-H2010AP							5	0.2	1697	MB-H204AP	1200	1000, 1200, 1500	±0.02	40	400
Y											MB-H102A		300, 500, 700		20	200
Z										HMW Unit	1000	200	±0.01	100		
W											1200°	540°	±0.03°		30	
X	CRWQ-U2010A	5	0.2							2830	MB-U207A	2000	300, 500, 700	±0.02	40	750
Y											MB-U104A		300, 500, 700			400
Z										HMW Unit	1000	200	±0.01	100		
W											1200°	540°	±0.03°		30	
X	CRWQ-N2020A			5	0.2					849	MB-N202A	600	300, 500, 700	±0.02	10	200
Y											MB-N202A		300, 500, 700			
Z										HMW Unit	1000	200	±0.01	100		
W											1200°	540°	±0.03°			
X	CRWQ-N2020AP					5	0.2			849	MB-N202AP	600	1000, 1200, 1500	±0.02	20	200
Y											MB-N202A		300, 500, 700		10	
Z										HMW Unit	1000	200	±0.01	100		
W											1200°	540°	±0.03°			
X	CRWQ-H2020A							5	0.2	1697	MB-H204A	1200	300, 500, 700	±0.02	20	400
Y											MB-H202A		300, 500, 700			200
Z										HMW Unit	1000	200	±0.01	100		
W											1200°	540°	±0.03°			
X	CRWQ-H2020AP	5	0.2							1697	MB-H204AP	1200	1000, 1200, 1500	±0.02	40	400
Y											MB-H202A		300, 500, 700		20	200
Z										HMW Unit	1000	200	±0.01	100		
W											1200°	540°	±0.03°			

Ordering Part No.

CRWQ-N2010A - **700** **M** - **500** **M** - **200** - **RR** - **Option1** **Option2**

Robot Type

X-Axis Stroke

X-Axis Home Position

Y-Axis Stroke

Y-Axis Home Position

Z-Axis Stroke

Pairing Orientation

Option1

Option2

Option

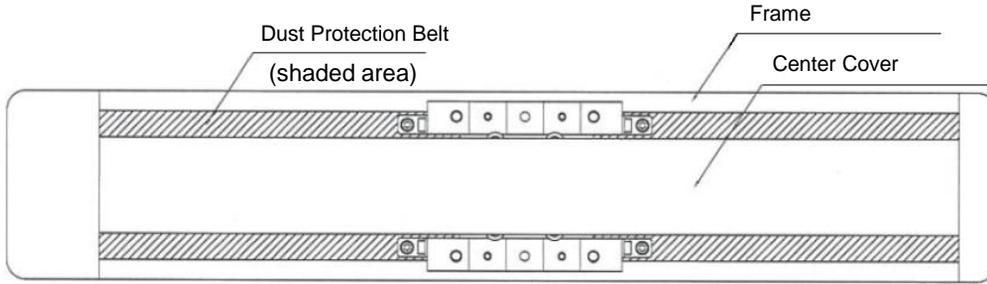
Option1	Dust protection belt
N/A	No belt
B	Belt addition

Option2	Motor with brake specification
N/A	No brake
PB	With brake

Optional Specifications

1. Dust protection belt

Protects foreign material to get into robot body from slot areas between Frame and Center Cover.
Suitable for usage in environment with dust or in case of needing cleanliness specifications.



2. Brake (for Positive actuation)

Mechanical brake to switch ON/OFF from outer Sequencer.
(differ from braked motor for drop protection which is furnished on vertical MB robot Type)
Suitable when reaction force from handling workpiece is big.
Robot dimensions differs by the brake addition.

Special configurations

Please ask for our sales engineers for special configurations other than specified in the previous sheets.

[Samples]

	Request Contents	Special Robot Type
1	Vertical single robot with stroke longer than 1000mm MB-100/200 series	MB - □ □ □ P V
2	High output motor (750W) motor usage MB-100/200 series	MB - □ 2 0 7 □
3	High speed vertical single axis MB-100/200 series	MB - H □ □ □ V
4	Combination of different speed MB axes MB-100/200 series	C R - N H 1 0 1 0
5	MV type combination on single MB axis MB-100/200 series	C R V - □ □ □ □ □
6	MV type combination with Y axis MB-100/200 series	C R Y - □ □ □ □ □

Table of Robot Weight

MB・MB-V Type

X-Axis Stroke (mm)				300	500	700	1000	1200	1500
MB-	N102A	H102A	U104A	12.4	15.0	17.7	23.0	25.6	30.0
	N102AP	H102AP	N102AV						
	N202A	H202A	N202AV	20.6	25.0	29.4	38.0	42.5	50.0
	N202AP	H202AP	N204AV						
N204A	H204A	N204AP							
U207A				22.3	26.7	31.1	-	-	-

Unit (kg)

CR・CRT Type

Stroke (mm)	X axis	300			500			700			1000			1200			1500			
		Y axis	300	500	700	300	500	700	300	500	700	300	500	700	300	500	700	300	500	700
CR-	U2010A	43.5	46.1	48.8	47.9	50.5	53.2	52.3	54.9	57.6	-	-	-	-	-	-	-	-	-	-
	□2010A □2010AP (□はU以外)	41.8	44.4	47.1	46.2	48.8	51.5	50.6	53.2	55.9	59.2	61.8	64.5	63.7	66.3	69.0	71.2	73.8	76.5	
	U2020A	52.9	57.3	61.7	57.3	61.7	66.1	61.7	66.1	70.5	-	-	-	-	-	-	-	-	-	
	□2020A □2020AP (□はU以外)	51.2	55.6	60.0	55.6	60.0	64.4	60.0	64.4	68.8	68.6	73.0	77.4	73.1	77.5	81.9	80.6	85.0	89.4	
CRT-																				

Unit (kg)

MV Type

Stroke (mm)	X axis	300			500			700			1000			1200			1500		
		Z axis	300	500	700	300	500	700	300	500	700	300	500	700	300	500	700	300	500
MV-	N2010A N2010AP	42.3	44.9	47.6	46.7	49.3	52.0	51.1	53.7	56.4	59.7	62.3	65.0	64.2	66.8	69.5	71.7	74.3	77.0
	N2020A N2020AP	51.6	56.0	60.4	56.0	60.4	64.8	60.4	64.8	69.2	69.0	73.4	77.8	73.5	77.9	82.3	81.0	85.4	89.8

Unit (kg)

MZC・MZF Type

Stroke (mm)	X axis	300			500			700			1000			1200			1500		
		Z axis	300	500	700	300	500	700	300	500	700	300	500	700	300	500	700	300	500
MZC- MZF-	N2010A N2010AP	40.5	43.1	45.8	44.9	47.5	50.2	49.3	51.9	54.6	57.9	60.5	63.2	62.4	65	67.7	69.9	72.5	75.2
	N2020A N2020AP	49.9	54.3	58.7	54.3	58.7	63.1	58.7	63.1	67.5	67.3	71.7	76.1	71.8	76.2	80.6	79.3	83.7	88.1

Unit (kg)

Table of Robot Weight

CRZC·CRZF Type (w/o Support Axis)

Stroke (mm)		X-Axis	300			500			700			1000			1200			1500		
		Y-Axis	300	500	700	300	500	700	300	500	700	300	500	700	300	500	700	300	500	700
		Z-Axis																		
CRZC- CRZF-	N2010A N2010AP	300	68.2	72.6	77.0	72.6	77.0	81.4	77.0	81.4	85.8	85.6	90.0	94.4	90.1	94.5	98.9	97.6	102.0	106.4
		500	70.8	75.2	79.6	75.2	79.6	84.0	79.6	84.0	88.4	88.2	92.6	97.0	82.7	97.1	101.5	100.2	104.6	109.0
		700	73.5	77.9	82.3	77.9	82.3	86.7	82.3	86.7	91.1	90.9	95.3	99.7	95.4	99.8	104.2	102.9	107.3	111.7
	N2020A N2020AP	300	78.6	83.0	—	83.0	87.4	—	87.4	91.8	—	96.0	100.4	—	100.5	104.9	—	108.0	112.4	—
		500	83.0	87.4	—	87.4	91.8	—	91.8	96.2	—	100.4	104.8	—	104.9	109.3	—	112.4	116.8	—
		700	87.4	91.8	—	91.8	96.2	—	96.2	100.6	—	104.8	109.2	—	109.3	113.7	—	116.8	121.2	—

Unit (kg)

CRZC·CRZF Type (with Support Axis)

Stroke (mm)		X-Axis	300			500			700			1000			1200			1500		
		Y-Axis	300	500	700	300	500	700	300	500	700	300	500	700	300	500	700	300	500	700
		Z-Axis																		
CRZC- CRZF-	N2010AS N2010APS	300	80.6	85.0	89.4	87.6	92.0	96.4	94.7	99.1	103.5	108.6	113.0	117.4	115.7	120.1	124.5	127.6	132.0	136.4
		500	83.12	87.6	92.0	90.2	94.6	99.0	97.3	101.7	106.1	111.2	115.6	120.0	118.3	122.7	127.1	130.2	134.6	139.0
		700	85.9	90.3	94.7	92.9	97.3	101.7	100.0	104.4	108.8	113.9	118.3	122.7	121.0	125.4	129.8	132.9	137.3	141.7
	N2020AS N2020APS	300	91.0	95.4	—	98.0	102.4	—	105.1	109.5	—	119.0	123.4	—	126.1	130.5	—	138.0	142.4	—
		500	95.4	99.8	—	102.4	106.8	—	109.5	113.9	—	123.4	127.8	—	130.4	134.9	—	142.4	146.8	—
		700	99.8	104.2	—	106.8	111.2	—	113.9	118.3	—	127.8	132.2	—	134.9	139.3	—	146.8	151.2	—

Unit (kg)

Technical Information– 1 Moment Calculation

1. Calculation procedure

- (1) Confirm single axis type referring Specifications sheet of each robot
- (2) Calculate Moment MA, MB, MC for each axis.
- (3) Confirm each Moment is within values described in the below table.

2. Calculation sample

- (1) In case of choosing robot type, CRZC-N2010A-700M-500T-200M, each axis types are X Axis: MB-N202A Y Axis: MB-N202A Z-Axis: MB-N102AV (refer Specifications sheets)
- (2) Calculating formula for each axis Moment:
 X axis $MAX = W \times L1 + MASX$ $MBX=0$ $MCX = W \times L2 + MCSX$
 Y axis $MAY = 0$ $MBY = W \times L3$ $MCY = W \times (L4 + K) + MCS$
 Z axis $MAZ = W \times (L5+K)$ $MBZ = W \times L3$ $MCZ=0$
 MASX : Moment from Z axis own weight (MA direction of X axis) = 2.4 kgf m (see Table 4)
 MCSX : Moment from Y/Z axis own weight (MC direction for X Axis) = 26.9 kgf m (see Table 4)
- (3) Allowable Moment X axis: MA=22.7 kgf m MB=20 kgf m MC=31 kgf m
 (see Table 1) Y axis: MA=22.7 kgf m MB=20 kgf m MC=31 kgf m
 Z axis: MA=0.9 kgf m MB=0.9 kgf m MC=2.7 kgf m

*Check values calculated in (2) is lower than (3) values.

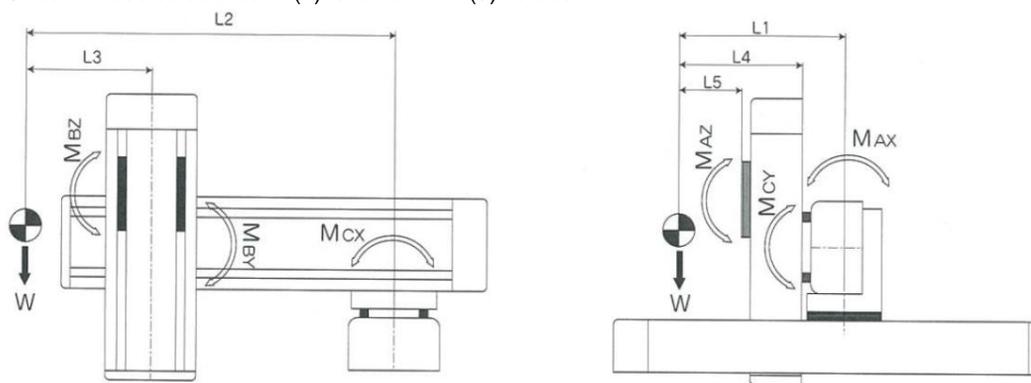


Table1. Allowable Moment

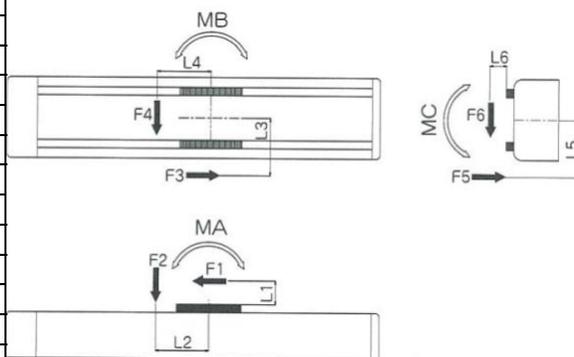
Type	Moment orientation	Static allowable load moment (kgf·m)	Dynamic allow able load moment (kgf·m)	
			Standard life time ※1	Life time at 5000km
MB-N102	MA	7.2	0.9	1.5
	MB	7.2	0.9	1.5
	MC	21.4	2.7	4.6
MB-H102	MA	7.2	0.7	1.5
	MB	7.2	0.7	1.5
	MC	21.4	2.1	4.6
MB-U104	MA	7.2	0.6	1.5
	MB	7.2	0	1.5
	MC	21.4	1.8	4.6
MB-N202 MB-N204	MA	120.0	22.7	39.2
	MB	91.9	20.0	34.5
	MC	170.0	31.0	53.5
MB-H202 MB-H204	MA	120.0	18.0	39.2
	MB	91.9	15.8	34.5
	MC	170.0	24.6	53.5
MB-U207	MA	120.0	15.2	39.2
	MB	91.0	13.4	34.5
	MC	170.0	20.7	53.5

$$MA = F1 \times (L1 + K) + F2 \times L2$$

$$MB = F3 \times L3 + F4 \times L4$$

$$MC = F5 \times L5 + F6 \times (L2 \times K)$$

$$\left(\begin{array}{l} K = 0.077 : MB - 100 \text{ Type} \\ K = 0.050 : MB - 200 \text{ Type} \end{array} \right)$$



※1 Standard life time: NType...25920km HType...51840km UType...86400km

Application

1. Cableveyor MB-120/150, MB-100/200

In case of combinations more than 2 axes, standard robots will have cableveyers with an application cable and air hoses to make the handling edge simple and easy.

Application Cable 0.2sq x 15 Cores Air hoses $\phi 6 \times 2$ ea and $\phi 4 \times 4$ ea

※Cableveyor can be attached to Single Axis MB if required.

2. Connection Cable

(1) MB-100/200

Cable length from Robot to Controller is 4m.

Motor cable - 1ea, Encoder cable - 2ea (1 cable for two axes robot)

(They are only for cables between robot to controller, they cannot be used for other purpose.)

(2) MB-120/150

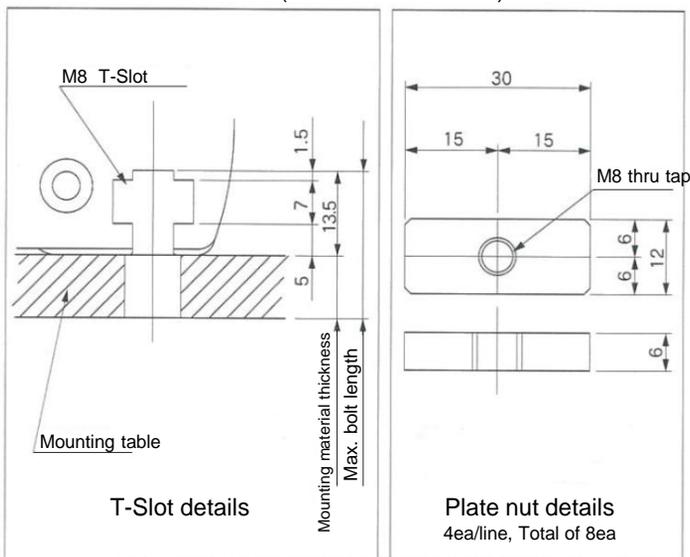
Cables from robot are directly connected to controller without back panel connectors. Cable length is 4m.

3. Mounting Dimensions

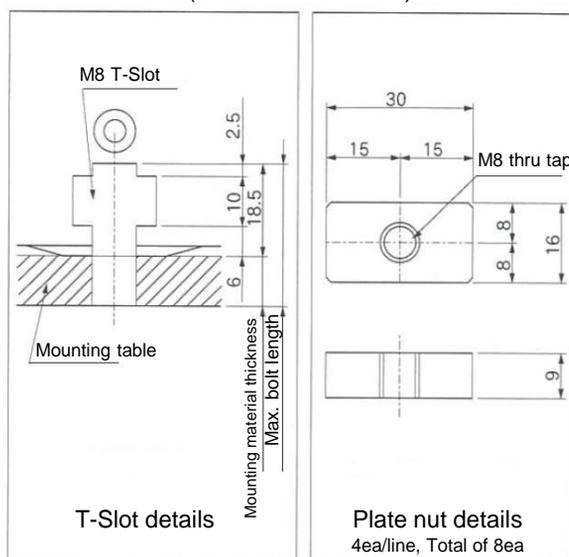
Please use plate nuts attached to shipment to install a robot to a mounting table.

(Plate nut qty··· Standard-type: 4ea for left & right, P-type: 8ea for left & right)

MB-100series (frame width 100mm)

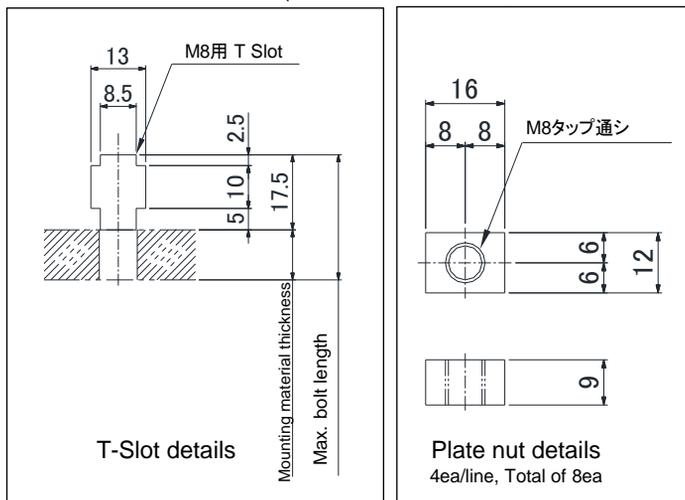


MB-200series (frame width 202mm)



MB-120 series (Frame width 120mm)

MB-150 series (Frame width 150mm)



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※Actual product may look different due to this catalogue
uses designed images only.
※Contents may be changed without prior notice.

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