

New Cartesian Robot MB (Machine Base) Series

MB-120 / MB-150

Industry Leading High Performance

Rich in Variety

Battery-less Motor Solution



Hirata

MB

Machine Base

4 FEATURES

1) High Rigidity

2) Low Cost, Short Lead Time

3) Rich in Variety

- 83 Combinations
- Customization of Stroke & Combination

4) Battery-Less Motor Solution

- High Maintainability

Basic Specification Single Axis Configuration, MB-120

Frame Size	Robot Type	Accel/Decel Speed (G)				Payload (kg)				Max. Speed *1 (mm/sec)	Stroke *2 (mm)	Repeatability (mm)	Ball-screw Lead (mm)	Motor (W)
		horizontal use		vertical use		horizontal use		vertical use						
		Rated	Max.	Rated	Max.	Rated	Max.	Rated	Max.					
120	MB-T120	0.3	0.5	0.3	0.5	150	80	30	25	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	Maximum Speed	Stroke mm				Allowable Moment (N·m)		
		~700	800	900	1000	MA	MB	MC
MB-T120	300	225	175	150	81.7	83.6	152.7	
MB-N120	600	450	350	300	81.7	83.6	152.7	
MB-H120	1200	900	700	600	40.8	41.8	76.3	
MB-S120	1800	1350	1050	900	40.8	41.8	76.3	

* Motion Lifetime:10,000km

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

*2 Strokes:300, 500, 700mm are standard strokes for MB-120.

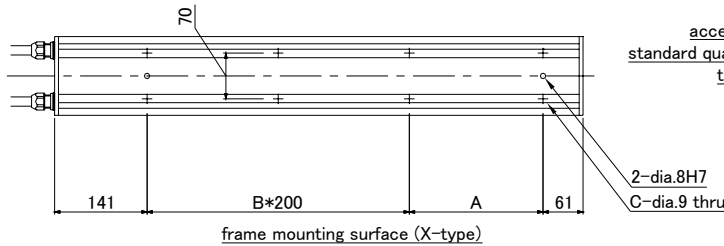
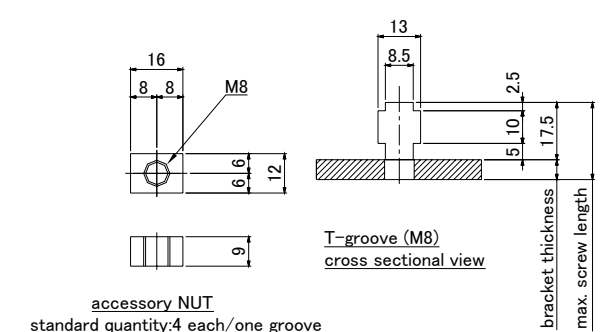
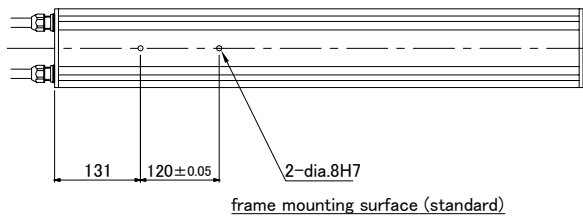
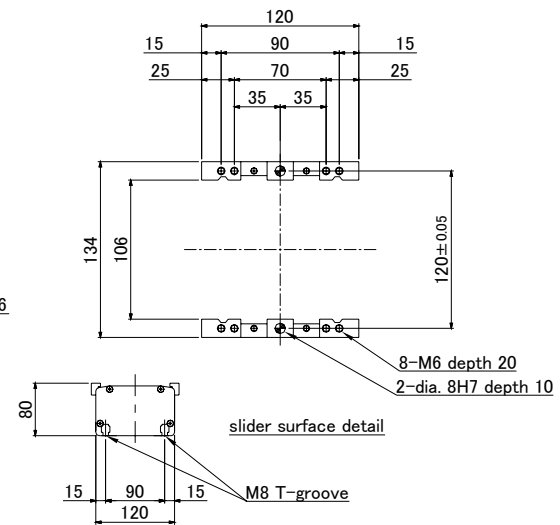
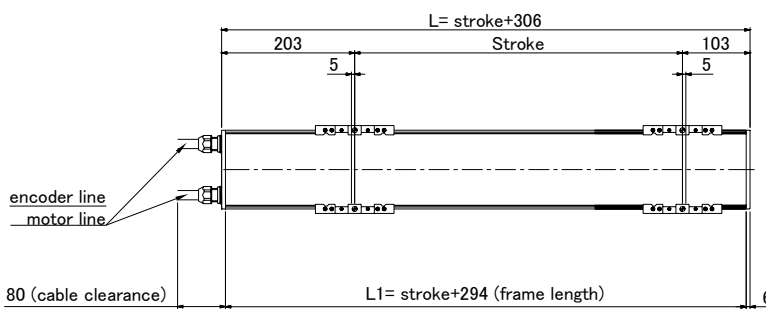
Ordering Part Number:

Robot Type - Stroke (mm) - Home Position - Option

Example) MB-T120 - 500 - N/A : Motor Side - A, B

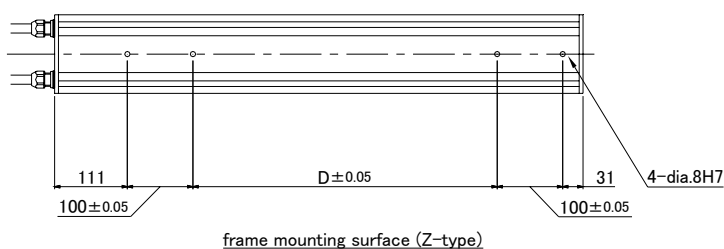
500mm
T : Tail Side

Option	Contents
A	Addition of Overrun Sensor
B	Motor Change to Motor with Brake

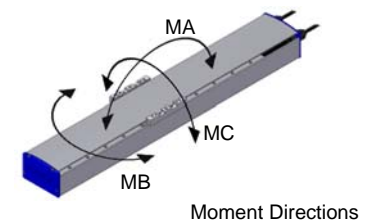


accessory NUT
standard quantity:4 each/one groove
total of 8 each

stroke mm	300	500	700
A mm	204	204	204
B	1	2	3
C	6	8	10
D mm	264	464	664



*Contact us for more stroke variations.



MB

Machine Base

4 FEATURES

1) High Rigidity

2) Low Cost, Short Lead Time

3) Rich in Variety

- 83 Combinations
- Customization of Stroke & Combination

4) Battery-Less Motor Solution

- High Maintainability

Basic Specification Single Axis Configuration, MB-150

Frame Size	Robot Type	Accel/Decel Speed (G)				Payload (kg)				Max. Speed *1 (mm/sec)	Stroke *2 (mm)	Repeatability (mm)	Ball-screw Lead (mm)	Motor (W)
		horizontal use		vertical use		horizontal use		vertical use						
		Rated	Max.	Rated	Max.	Rated	Max.	Rated	Max.					
150	MB-N150	0.3	0.5	0.3	0.5	150	120	40	30	600	200~1200	±0.01	10	400
	MB-H150		1.0		0.8	100	80	20	15	1200			20	
	MB-U150		1.0		1.0	25	20	10	8	2400			40	

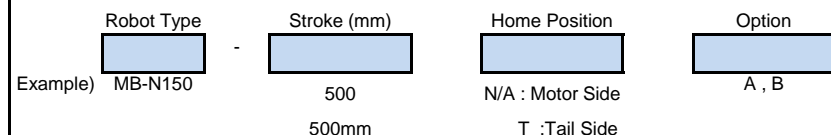
*1 Max. Speed varies by Strokes and Accel/Decel Speed.

*2 Strokes:300, 500, 700mm are standard strokes for MB-150.

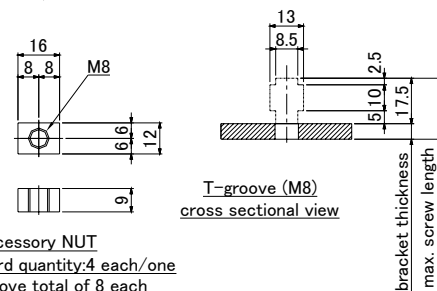
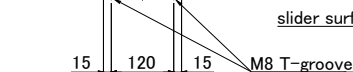
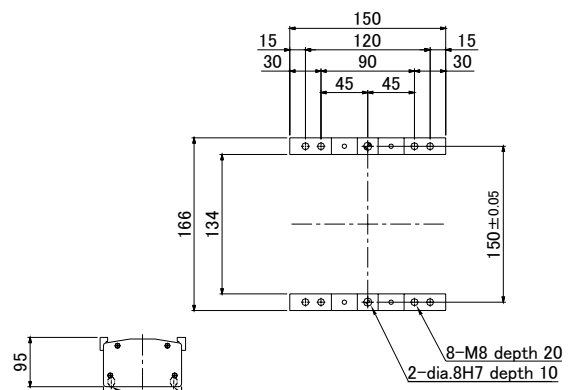
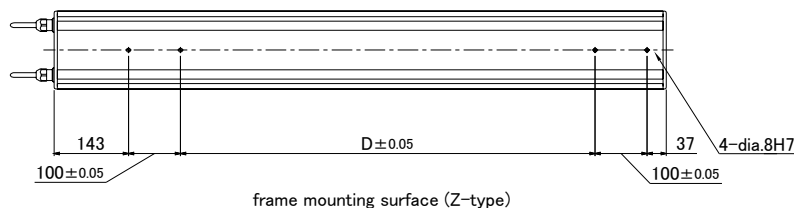
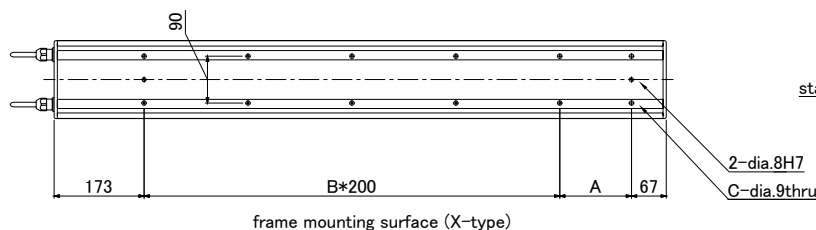
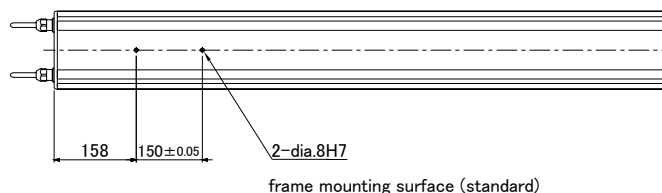
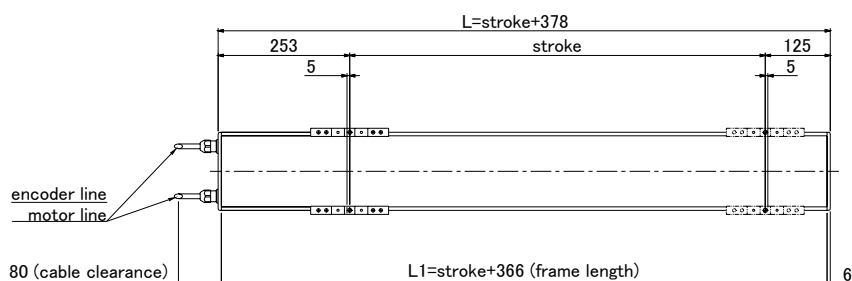
Robot Type	Maximum Speed	Stroke mm					Allowable Moment (N·m)		
		~800	900	1000	1100	1200	MA	MB	MC
MB-N150		600	500	400	350	300	129.0	131.4	187.9
MB-H150		1200	1000	800	700	600	64.5	65.7	93.9
MB-U150		2400	2000	1600	1400	1200	64.5	65.7	93.9

* Motion Lifetime:10.000km

Ordering Part Number:



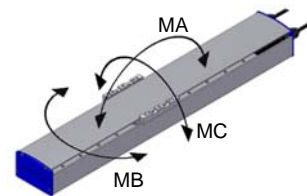
Option	Contents
A	Addition of Overrun Sensor
B	Motor Change to Motor with Brake



accessory NUT
standard quantity:4 each/one groove total of 8 each

stroke mm	300	500	700
A mm	238	238	238
B	1	2	3
C	6	8	10
D mm	298	498	698

*Contact us for more stroke variations.



Moment Directions

1) High Rigidity

2) Low Cost, Short Lead Time

3) Rich in Variety

- 83 Combinations
- Customization of Stroke & Combination

4) Battery-Less Motor Solution

- High Maintainability

Basic Specification XY Axes Configuration, CR-1212

Robot Type CR-1212 is a combination of X/Y Axes. Y Axis has a slider on top.

Axis	Robot Type	Payload (kg) *1		Accel/Decel Speed (G) *2		Combined Speed (mm/sec)	Robot Type of each axis	Max. Speed *3 (mm/sec)	Stroke *4 (mm)	Repeatability (mm)	Ball-screw Lead (mm)	Motor (W)
		Rated	Max.	Rated	Max.							
		during accel/decel		during accel/decel								
X	CR-N1212	45.6	13.7	0.3	1.0	850	MB-N120	600	200~1000	±0.01	10	200
Y												
X	CR-H1212	25	10.8	0.3	1.0	1700	MB-H120	1200	200~1000	±0.01	20	200
Y												

Payload per 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 per 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	25.0	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 varies by each axis stroke.

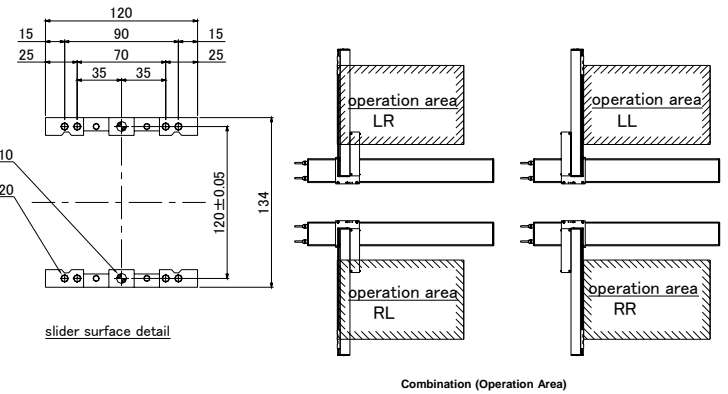
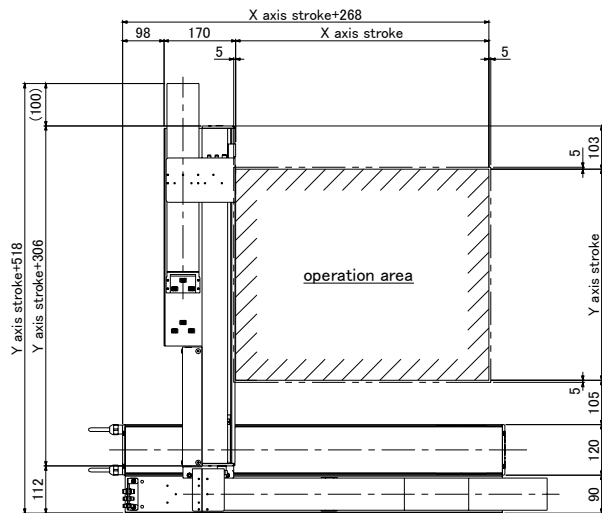
*2 Accel/Decel Speed and Y axis stroke alter Payload.

*3 Max. Speed varies by Strokes and Accel/Decel Speed.

*4 300, 500, 700mm are standard strokes

Ordering Part Number:

Robot Type	Stroke (X Axis)	Home Position (X Axis)	Option (X Axis)	Option	Contents
Example) CR-N1212	500 500mm	N/A : Motor Side T : Tail Side	A, B	A	Addition of Overrun Sensor
	Stroke (Y Axis) 500 500mm	Home Position (Y Axis) N/A : Motor Side T : Tail Side	Option (Y Axis) A, B	B	Motor Change to Motor with Brake
				Combination (Operation Area) R, R	



stroke mm	300	500	700
A mm	204	204	204
B	1	2	3
C	6	8	10

*Contact us for more stroke variations.

1) High Rigidity

2) Low Cost, Short Lead Time

3) Rich in Variety

- 83 Combinations
- Customization of Stroke & Combination

4) Battery-Less Motor Solution

- High Maintainability

Basic Specification XY Axes Configuration, CR-1512

Robot Type CR-1212 is a combination of X/Y Axes. Y Axis has a slider on top.

Axis	Robot Type	Payload (kg) *1		Accel/Decel Speed (G) *2		Combined Speed (mm/sec)	Robot Type of each axis	Max. Speed *3 (mm/sec)	Stroke *4 (mm)	Repeatability (mm)	Ball-screw Lead (mm)	Motor (W)
		Rated	Max.	Rated	Max.							
		during accel/decel		during accel/decel								
X	CR-N1512	50	22	0.3	1.0	850	MB-N150	600	200~1200	±0.01	10	400
Y									MB-N120		200~700	
X	CR-H1512	25	17.5	0.3	1.0	1700	MB-H150	1200	200~1200	±0.01	20	400
Y									MB-H120		200~700	

*1 Payload varies by each axis stroke.

*3 Max. Speed varies by Strokes and Accel/Decel Speed.

*2 Accel/Decel Speed and Y axis stroke alter Payload.

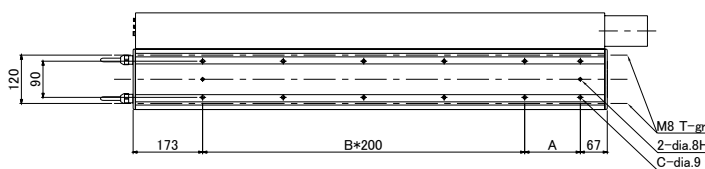
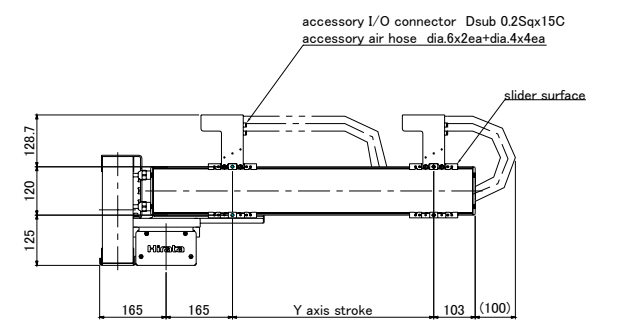
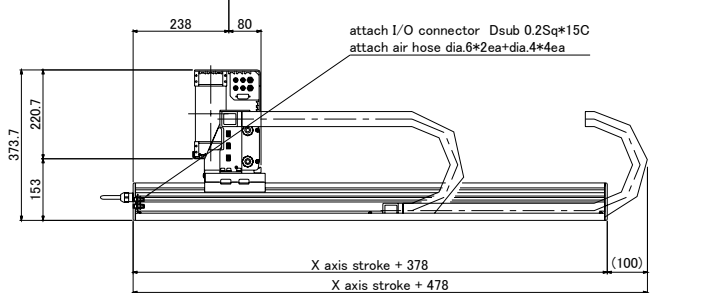
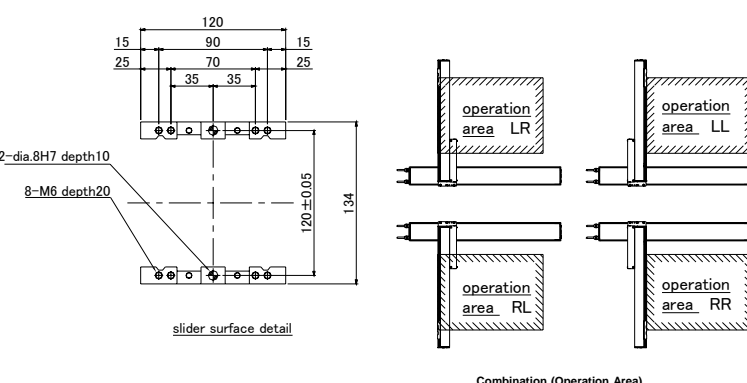
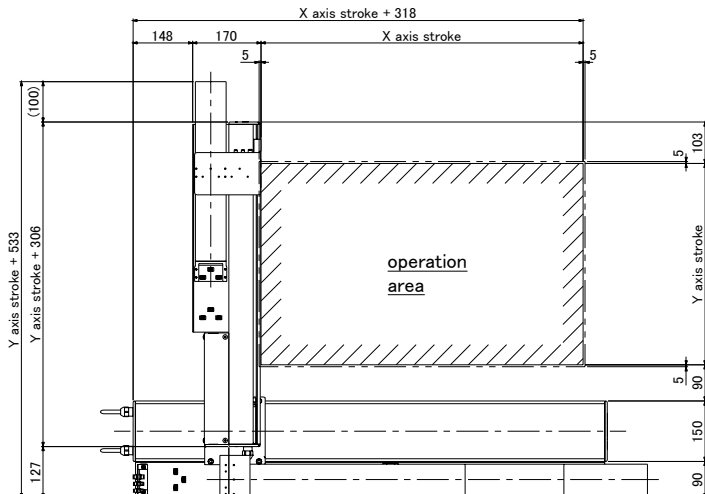
*4 300, 500, 700mm are standard strokes

Payload per 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	50.0	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 per 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	25.0	20.3	15.0
	0.4	25.0	25.0	25.0	19.8	15.2	11.3
	0.5	25.0	25.0	20.3	15.8	12.2	9.0
	0.6	25.0	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

Ordering Part Number:

Robot Type	Stroke (X Axis)	Home Position (X Axis)	Option (X Axis)	Option	Contents
Example) CR-N1512	500 500mm	N/A : Motor Side T : Tail Side	A, B	A	Addition of Overrun Sensor
	Stroke (Y Axis) 500 500mm	Home Position (Y Axis) N/A : Motor Side T : Tail Side	Option (Y Axis) A, B	B	Motor Change to Motor with Brake
				Combination (Operation Area)	R, R



stroke mm	300	500	700
A mm	238	238	238
B	1	2	3
C	6	8	10

*Contact us for more stroke variations.

1) High Rigidity

2) Low Cost, Short Lead Time

3) Rich in Variety

- 83 Combinations
- Customization of Stroke & Combination

4) Battery-Less Motor Solution

- High Maintainability

Basic Specification XYZ Axes Configuration, CRZC-1512

Robot Type CRZC-1512 is a combination of X/Y/Z Axes. Z Axis has a slider.

Axis	Robot Type	Payload (kg) *1	Accel/Decel Speed (G) *2	Combined Speed (mm/sec)	Robot Type of each axis	Max. Speed *3 (mm/sec)	Stroke *4 (mm)	Repeat ability (mm)	Ball-screw Lead (mm)	Motor (W)	
X	CRZC-N1512	25	0.3	1200	MB-N150	600	200~1200	±0.01	10	400	
Y					MB-N120		200~500				200
Z					MB-N120		200~500				200
X	CRZC-H1512	10	0.3	2400	MB-H150	1200	200~1200	±0.01	20	400	
Y					MB-H120		200~500				200
Z					MB-H120		200~500				200

*1 Payload varies by each axis stroke.

*2 "0.3" is rated Accel/Decel Speed. Contact us for further requirements.

*3 Max. Speed varies by Strokes and Accel/Decel Speed.

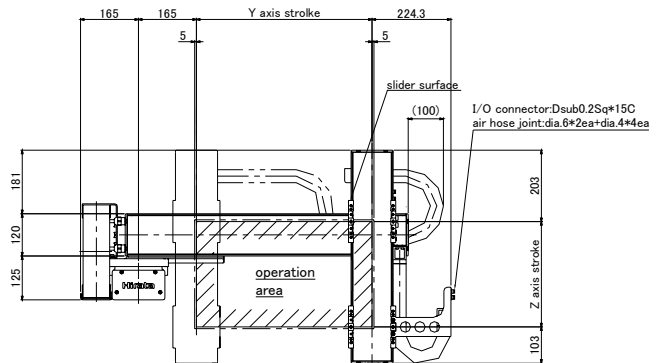
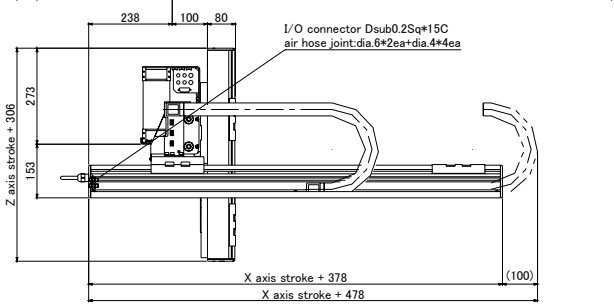
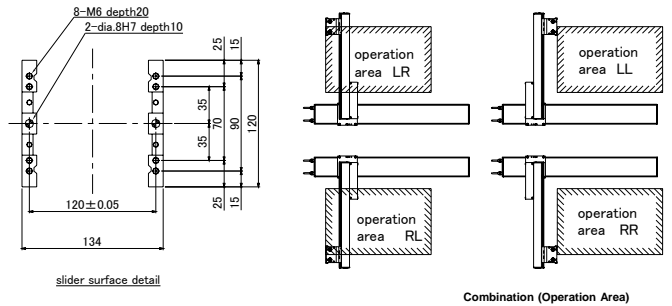
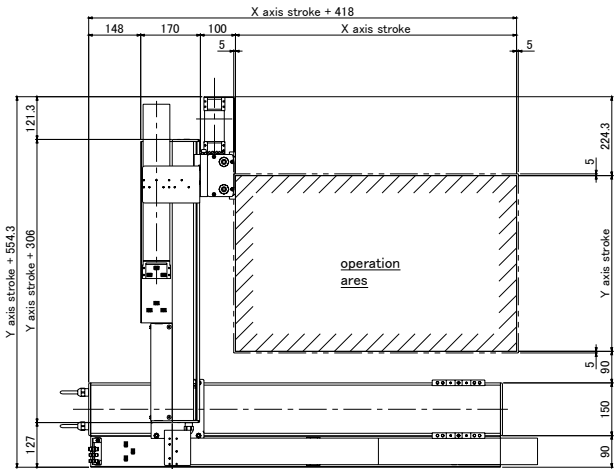
*4 300, 500, 700mm are standard strokes

Payload per Y/Z Axis Strokes (kg)					
CRZC-N1512		Y Axis Stroke (mm)			
		200	300	400	500
Z Axis Stroke	200	25.0	25.0	25.0	25.0
	300	25.0	25.0	25.0	25.0
	400	25.0	25.0	25.0	23.5
	500	25.0	25.0	25.0	20.4

Payload per Y/Z Axis Strokes (kg)					
CRZC-H1512		Y Axis Stroke (mm)			
		200	300	400	500
Z Axis Stroke	200	10.0	10.0	10.0	10.0
	300	10.0	10.0	10.0	10.0
	400	10.0	10.0	10.0	10.0
	500	10.0	10.0	10.0	10.0

Ordering Part Number:

Robot Type	Stroke (X Axis)	Home Position (X Axis)	Option (X Axis)	Option	Contents
Example) CRZC-N1512	500 500mm	N/A : Motor Side T :Tail Side	A , B	A	Addition of Overrun Sensor
	Stroke (Y Axis) 500 500mm	Home Position (Y Axis) N/A : Motor Side T :Tail Side	A , B	B	Motor Change to Motor with Brake
	Stroke (Z Axis) 500 500mm	Home Position (Z Axis) N/A : Motor Side T :Tail Side	Option (Z Axis) A (*Brake is standard spec for Z Axis)	B -	Combination (Operation Area)



stroke mm	300	500	700
A mm	238	238	238
B	1	2	3
C	6	8	10

*Contact us for more stroke variations.

※Contents may be changed without advance notice.