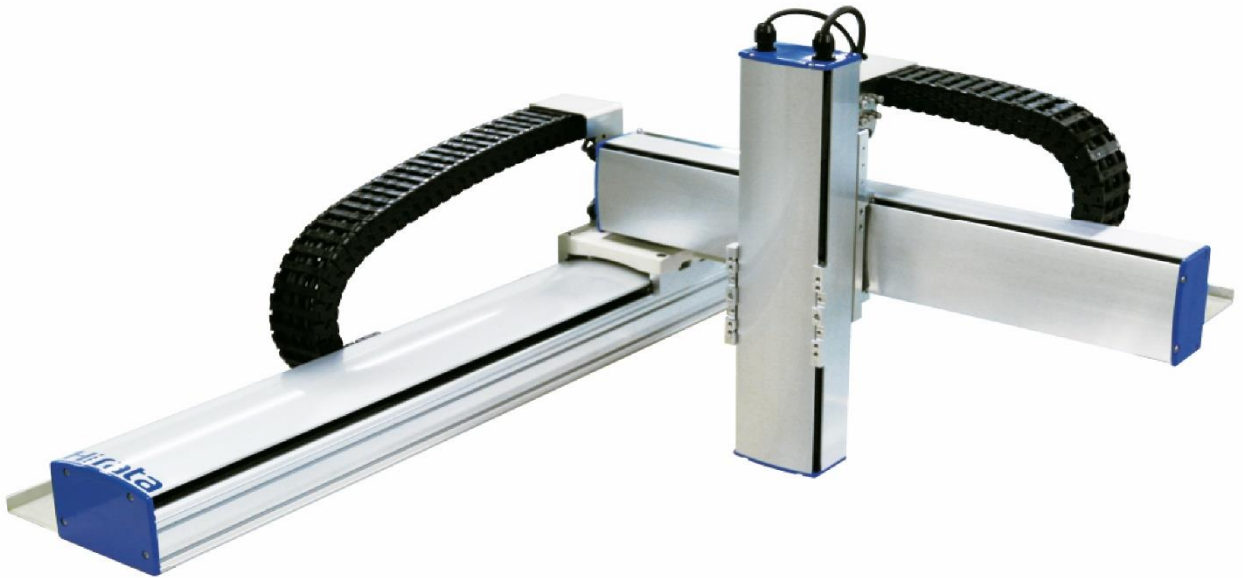


# MB series

## Hirata



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

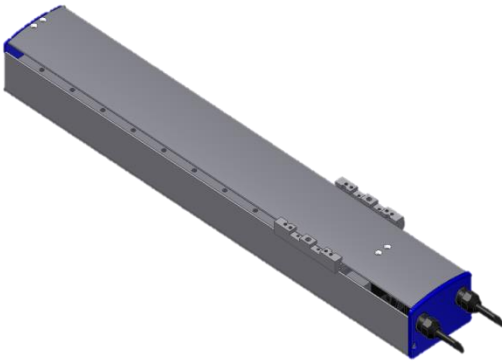
### MB series

- 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



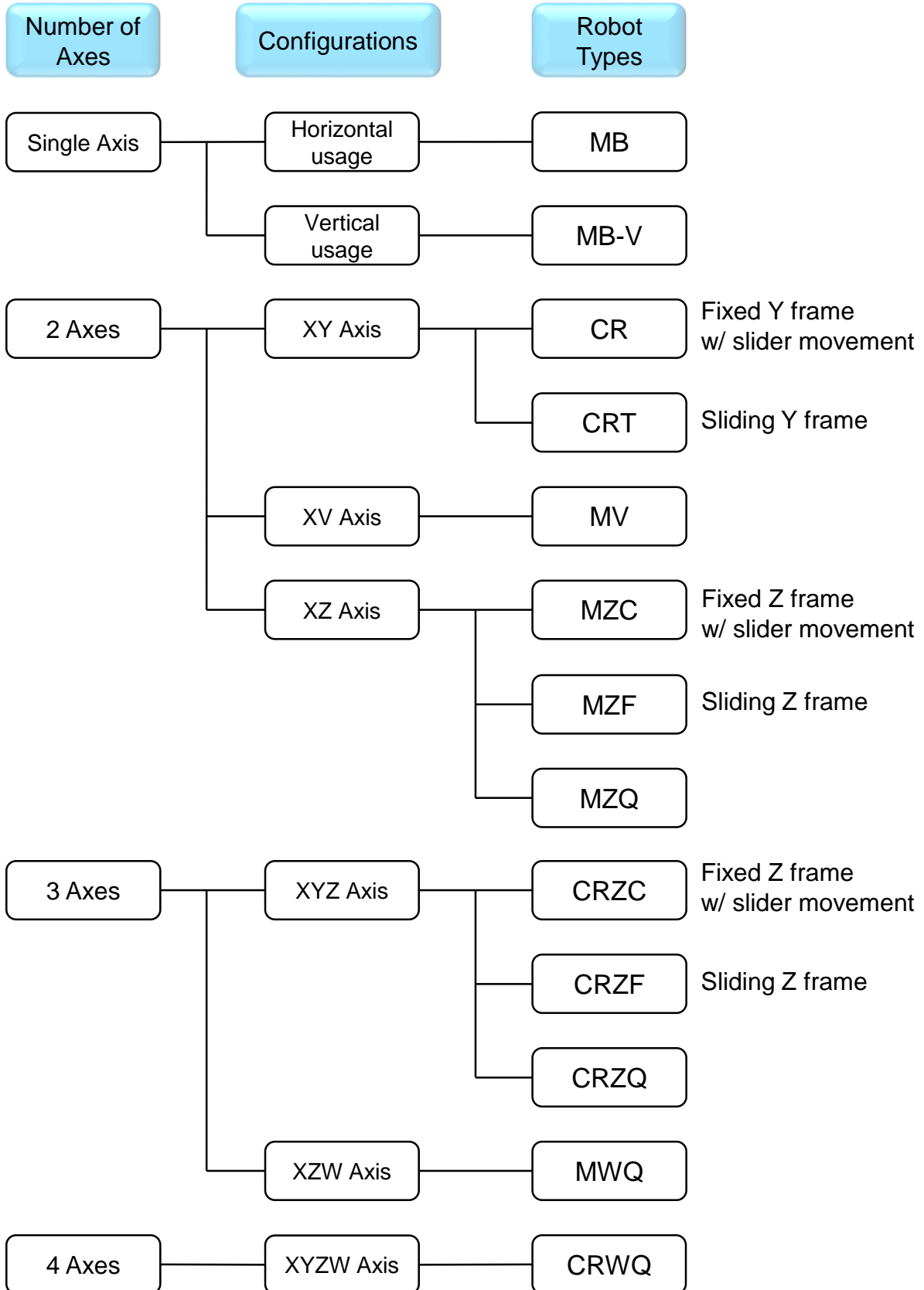
## • MB-100 series



## • MB-200 series



# ROBOT LINEUP



# ROBOT LINEUP MB-120/150 series

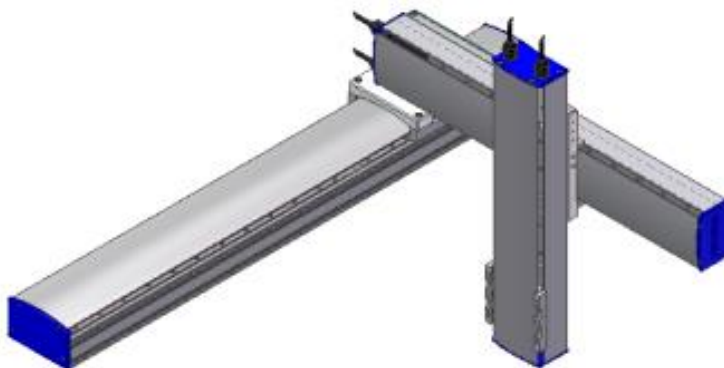
Single Axis  
(Horizontal)  
MB





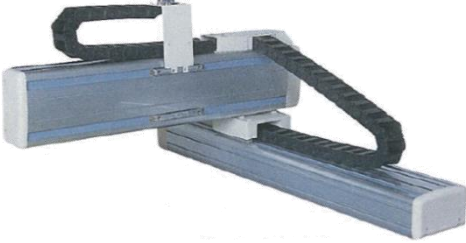
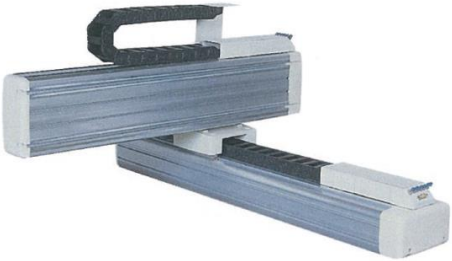


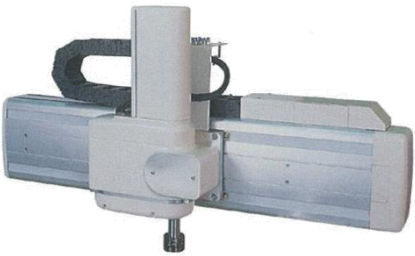

2 Axes  
(XY Axis)  
CR







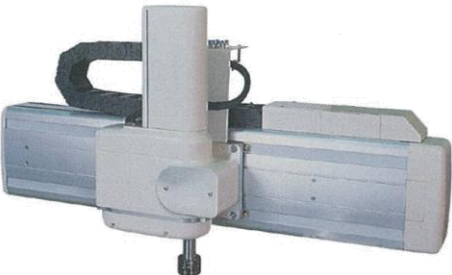


3 Axis  
(XYZ Axis)  
CRZC



# ROBOT LINEUP MB-100/200 series

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

# ROBOT LINEUP MB-100/200 series

|  |   |  |   |
|--|---|--|---|
| <p>3 Axes<br/>(XYZ)<br/>CRZC</p>                       |  <p>Fixed Z frame with slider movement</p> | <p>3 Axes<br/>(XYZ)<br/>CRZF</p>                         |  <p>Sliding Z frame</p> |
| <p>3 Axes<br/>(XYZ)<br/>CRZC<br/>(w/ support axis)</p> |  <p>Fixed Z frame with slider movement</p> | <p>3 Axes<br/>(XYZ)<br/>CRZF<br/>(with support axis)</p> |  <p>Sliding Z frame</p> |
| <p>3 Axes<br/>(XZW)<br/>MWQ</p>                        |    | <p>3 Axes<br/>(XYZ)<br/>CRZQ</p>                         |                       |
| <p>4 Axes<br/>(XYZW)<br/>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> - □ - □<br>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><br>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><br>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<br>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<br><i>*Other strokes are available, check function &amp; specification sheet.</i> |
| ⑤                       | Y Axis Stroke                        | Standard Stroke : 300mm • 500mm • 700mm<br><i>*Other strokes are available, check function &amp; specification sheet.</i> |
| ⑥                       | Z Axis Stroke                        | Standard Stroke : 300mm • 500mm • 700mm<br><i>*Other strokes are available, check function &amp; 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<br>C : Motor without battery  |
| ⑨                       | Pairing orientation                  | See a list of robot combinations  |




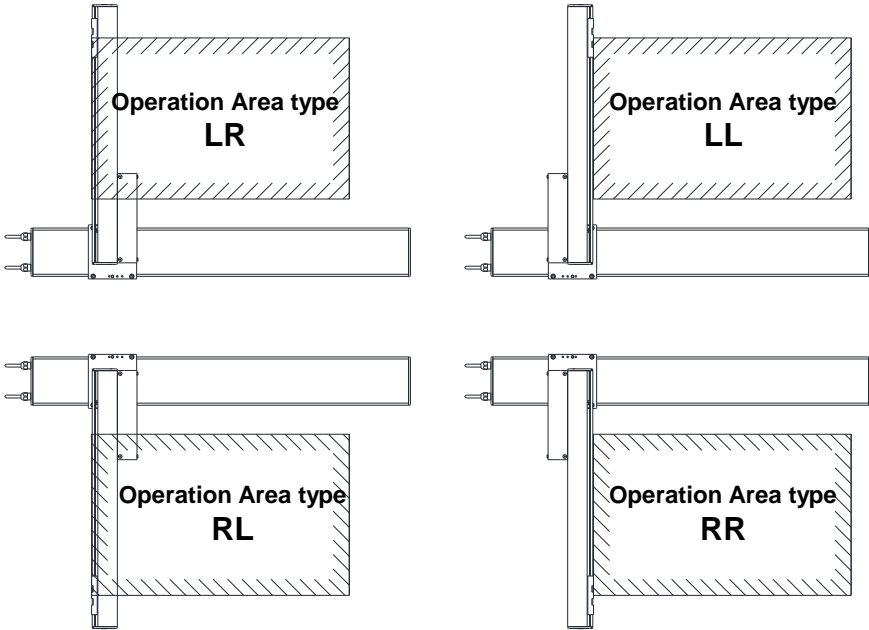
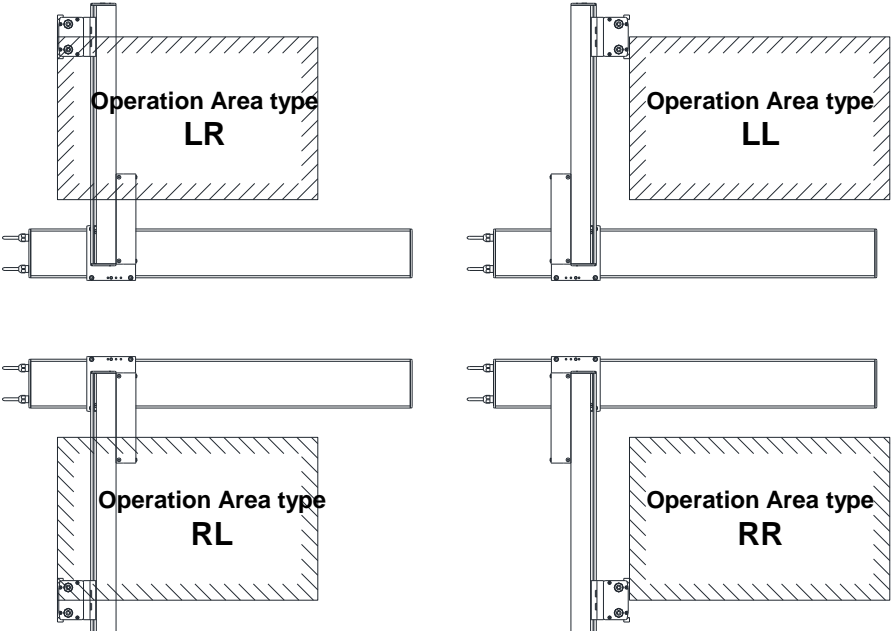
# Part Number Description MB-100/200 Series

| 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 - □ □<br>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 - □ □<br>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 - □ □<br>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 - □ □<br>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 - □ □<br>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 - □ □<br>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 - □ □<br>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 - □ □<br>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 - □ □<br>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<br>V : Vertical type (only for MB-V type)    |
| ⑧                       | X Axis Stroke       | Standard length: 300mm · 500mm · 700mm<br>Parallel type length : 1000mm · 1200mm · 1500mm          |
| ⑨                       | Y (V) Axis Stroke   | 300mm · 500mm · 700mm  |
| ⑩                       | Z Axis Stroke       | Frame type: 300mm · 500mm · 700mm<br>Spline type: 200mm  |
| ⑪                       | Origin Direction    | M : Motor side T : Tail side<br>*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<br/>Type</p>   |     |
| <p>CR<br/>Type</p>   |   |
| <p>CRZC<br/>Type</p> |  |

# Robot Combinations MB-100/200 Series

|   |  |
|---|--|
| <p><b>MB Type</b></p>   |  |
| <p><b>CR Type</b><br/>         •CRZC<br/>         •CRZF<br/>         •CRZQ<br/>         •CRWQ</p> |  |
| <p><b>CRT Type</b></p>  |  |
| <p><b>MV Type</b></p>   |  |
| <p><b>MZC<br/>MZF Type</b></p>  |  |
| <p><b>MZQ<br/>MWQ Type</b></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    |                   | 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    | 50                | 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    |                   | 600         | 500  | 400  | 350  | 300  | 129                    | 131.4 | 187.9 |
| MB-H150    |                   | 1200        | 1000 | 800  | 700  | 600  |                        |       |       |
| MB-U150    |                   | 2400        | 2000 | 1600 | 1400 | 1200 | 64.5                   | 65.7  | 93.9  |

\*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** **Option 1** **Option 2**

Robot Type Stroke Home Position Pairing Orientation

### 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** **Option 1** **Option 2**

Robot Type Stroke A-CAL Orientation Pairing Orientation

### 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               | 200   |                                |       |    |     |
| X    | CR-H2020AP |              |                         | MB-H204AP                      |                  |                   | 1000, 1200, 1500               |                    | 40                   |                  | 400   |                                |       |    |     |
| 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. | <b>CR-N2010A</b> | - | <b>700</b>    | <b>M</b>             | - | <b>500</b>    | <b>M</b>             | - | <b>RR</b>           | - |         | <b>PB</b> | Option                         |
|                   | Robot Type       |   | X-Axis Stroke | X-Axis Home Position |   | Y-Axis Stroke | Y-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 - 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             |                    |                      |                  | 20  | 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               |     | 200 |
| 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. | <b>CRT-N2010AP</b> | - | <b>1500</b>   | <b>M</b>             | - | <b>500</b>    | <b>T</b>             | - | <b>RL</b>           | - | <b>B</b> | <b>PB</b> | Option                         |
|                   | Robot Type         |   | X-Axis Stroke | X-Axis Home Position |   | Y-Axis Stroke | Y-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 - 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 |                    |                      |                  |               |       |     |     |
| V    |            |              |                         |                          | MB-N102AV        |                   | 300, 500, 700    |                    |                      |                  |               |       |     |     |
| X    | MV-N2020A  | 40           |                         |                          | MB-N202A         |                   | 300, 500, 700    |                    | 600                  |                  | 300, 500, 700 | ±0.02 | 10  | 200 |
| V    |            |              |                         |                          | MB-N204AV        |                   | 300, 500, 700    |                    |                      |                  | 400           |       |     |     |
| X    | MV-N2020AP |              |                         |                          | MB-N202AP        |                   | 1000, 1200, 1500 |                    |                      |                  | 200           |       |     |     |
| V    |            |              |                         |                          | MB-N204AV        |                   | 300, 500, 700    |                    |                      |                  |               |       | 400 |     |

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 |                    |                      |                  |               |       |     |     |
| Z    |             |              |                         |                          | MB-N102AV        |                   | 300, 500, 700    |                    |                      |                  |               |       |     |     |
| X    | MZC-N2020A  | 40           |                         |                          | MB-N202A         |                   | 300, 500, 700    |                    | 600                  |                  | 300, 500, 700 | ±0.02 | 10  | 200 |
| Z    |             |              |                         |                          | MB-N204AV        |                   | 300, 500, 700    |                    |                      |                  | 400           |       |     |     |
| X    | MZC-N2020AP |              |                         |                          | MB-N202AP        |                   | 1000, 1200, 1500 |                    |                      |                  | 200           |       |     |     |
| Z    |             |              |                         |                          | MB-N204AV        |                   | 300, 500, 700    |                    |                      |                  |               |       | 400 |     |

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. | <b>MZF-N2010A</b> | - | <b>500</b>    | <b>T</b>             | - | <b>500</b>    | <b>T</b>             | - | <b>R</b>            | - | <b>B</b> | <b>PB</b> |
|                   | 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. | <b>MZQ-H102A</b> | - | <b>500</b>    | <b>T</b>             | - | <b>200</b>    | <b>R</b>            | - | <b>B</b> | <b>PB</b> |
|                   | 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  |     |     | Unit (kg) |
|--------------------|-----|-----|-----|------|------|-----|------|-----|-----|-----------|
| 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       |     |     |     |      |      |     |      |     |     |           |

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. | <b>CRZC-N2010A</b> | - | <b>500</b>    | <b>M</b>             | - | <b>500</b>    | <b>M</b>             | - | <b>300</b>    | <b>T</b>             | - | <b>RR</b>           | - |         |         |
|                   | Robot Type         |   | 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        |                  |     | 200 |
| Z    |               |                |                         |                          |                  | MB-N204AV         |                  |                    | 300, 500, 700        |                  |     | 400 |
| X    | CRZC-N2020APS |                |                         |                          | 849              | MB-N202AP         |                  |                    | 1000, 1200, 1500     |                  |     |     |
| Y    |               |                |                         |                          |                  | MB-N202A          |                  |                    | 300, 500, 700        |                  | 200 |     |
| Z    |               |                |                         |                          |                  | MB-N204AV         |                  |                    | 300, 500, 700        |                  | 400 |     |
| 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      |                      |                  |     | 200 |
| Z    |               |                |                         |                          |                  | MB-N204AV         |                  | 300, 500, 700      |                      |                  |     | 400 |
| X    | CRZF-N2020APS |                |                         |                          | 850              | MB-N202AP         |                  | 1000, 1200, 1500   |                      |                  |     |     |
| Y    |               |                |                         |                          |                  | MB-N202A          |                  | 300, 500, 700      |                      |                  | 200 |     |
| Z    |               |                |                         |                          |                  | MB-N204AV         |                  | 300, 500, 700      |                      |                  | 400 |     |

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  | 400 |
| 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**

Robot Type

**500**

X-Axis Stroke

**M**

X-Axis Home Position

**500**

Y-Axis Stroke

**M**

Y-Axis Home Position

**300**

Z-Axis Stroke

**RR**

Pairing Orientation

**P**

Option1

**B**

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        |

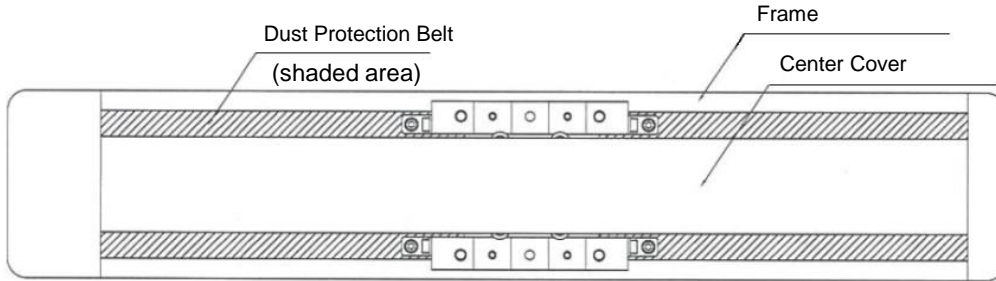
| Option2 | Motor with brake specification |
|---------|--------------------------------|
| N/A     | No brake                       |
| PB      | With brake                     |



# 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<br>□2010AP<br>(□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<br>□2020AP<br>(□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  | 700  |
| MV-         | N2010A<br>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<br>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  | 700  |
| MZC-<br>MZF- | N2010A<br>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<br>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<br>(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-<br>CRZF- | N2010A<br>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<br>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<br>(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-<br>CRZF- | N2010AS<br>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<br>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

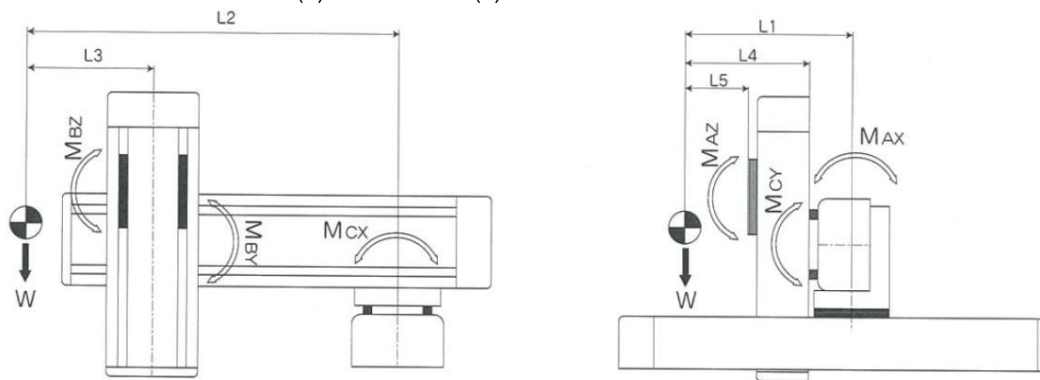
## 1. Calculation procedure

- (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**

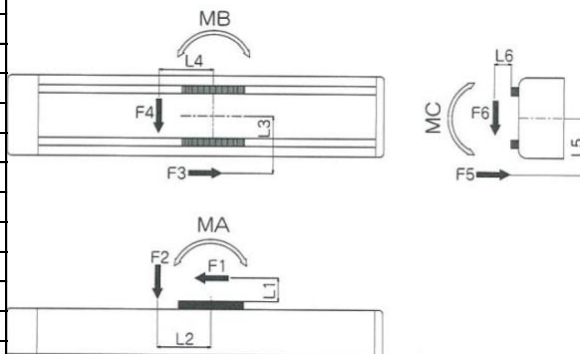
| Type               | Moment orientation | Static allowable load moment (kgf·m) | Dynamic allowable load moment (kgf·m) |                     |
|--------------------|--------------------|--------------------------------------|---------------------------------------|---------------------|
|                    |                    |                                      | 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<br>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<br>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  $\phi 6 \times 2ea$  and  $\phi 4 \times 4ea$

※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

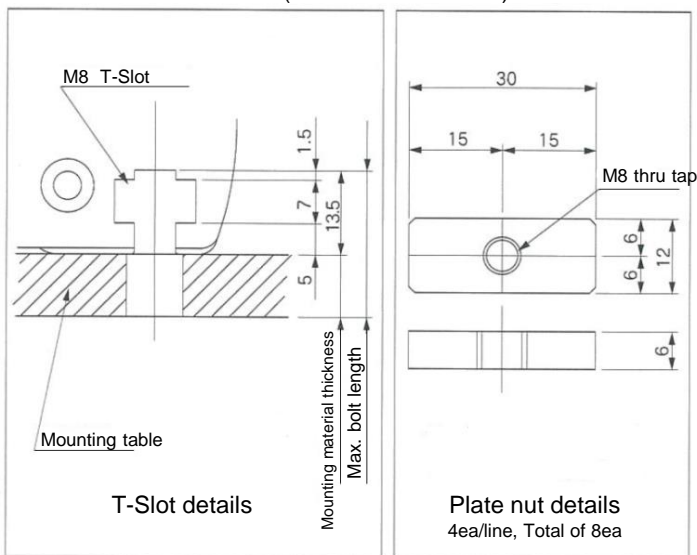
Cables from robot are directly connected to controller without back panel connectors. Cable length is 4m.

## 3. Mounting Dimensions

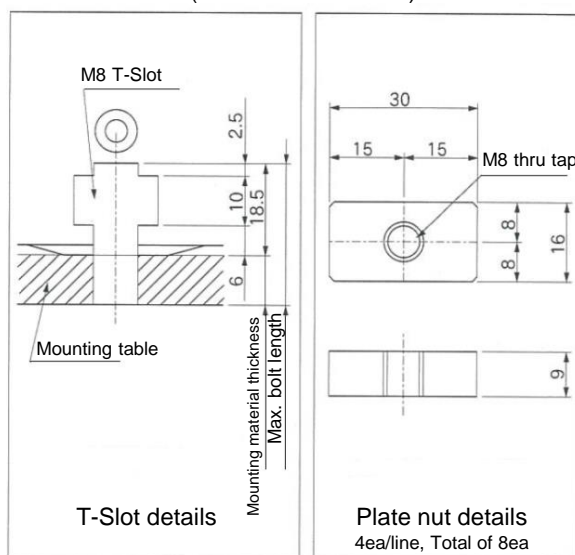
Please use plate nuts attached to shipment to install a robot to a mounting table.

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

MB-100series (frame width 100mm)

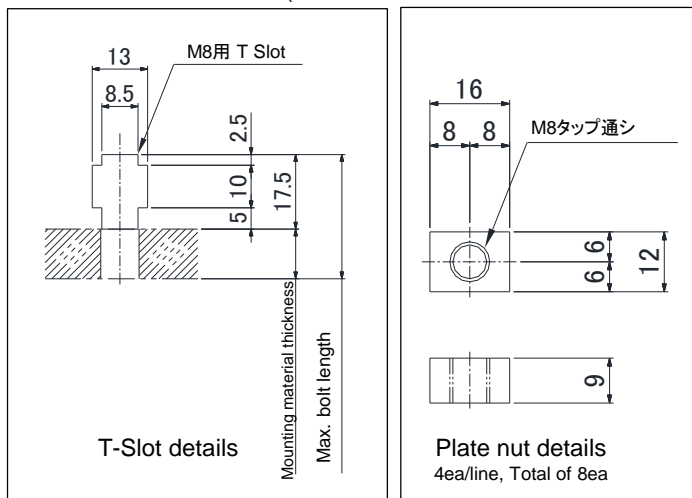


MB-200series (frame width 202mm)



MB-120 series (Frame width 120mm)

MB-150 series (Frame width 150mm)



# Hirata

The Global Production Engineering Company

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uses designed images only.  
※Contents may be changed without prior notice.

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