

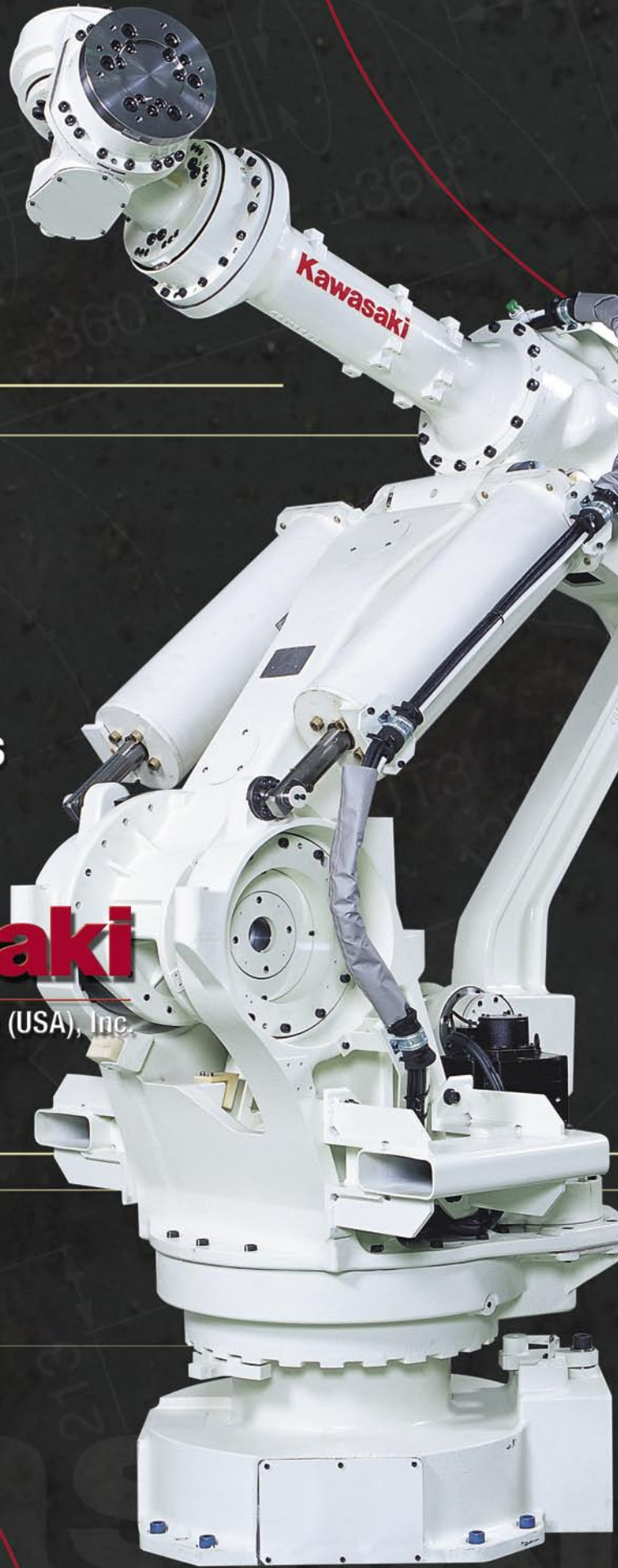


series

**Maximum Payload
High Wrist Torque Robots**



Kawasaki Robotics (USA), Inc.



Simple  and friendly

simply the highest performance robots on the planet



Kawasaki Robotics (USA), Inc.

Maximum payload (500 kg) robot incorporating a compact profile design with long reach and high wrist torque

This powerful line of robots, developed by Kawasaki – a pioneer of industrial robotics – has an impressive payload capacity of 500 kg. The innovative design gives it the power to lift and manipulate extremely heavy loads with great ease and high accuracy. The M-Series profile is compact through the use of an Advanced Link Structure; this design eliminates the need for a large bulky counter-balance. Using advanced engineering techniques in motor technology, the robot is capable of industry-leading wrist torques of 3,920 N-m.

The M-Series robots are ideal for lifting payloads that exceed the limits of most industrial robots. These robots can be utilized in a variety of industries and applications including: handling engines; manipulating car bodies; transferring assemblies; moving large tools; lifting heavy construction equipment; manipulating appliances; fixtureless manufacturing; investment casting; forging applications; etc.

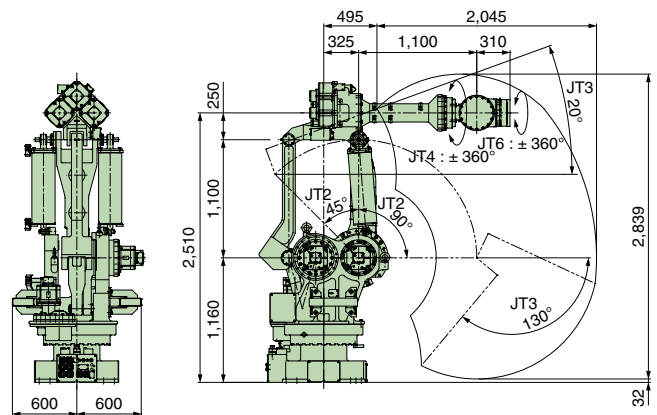


MX500N

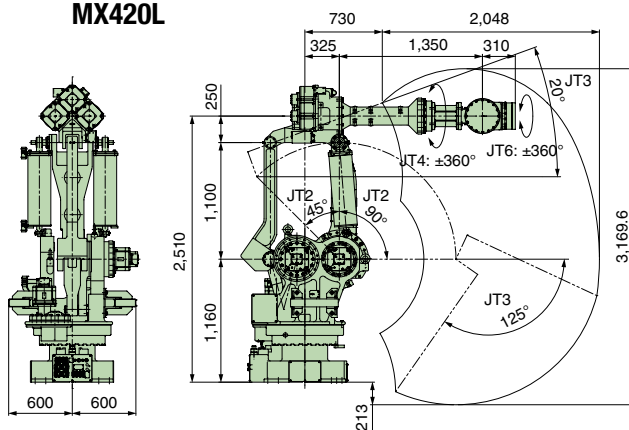
MX420L

MX350L

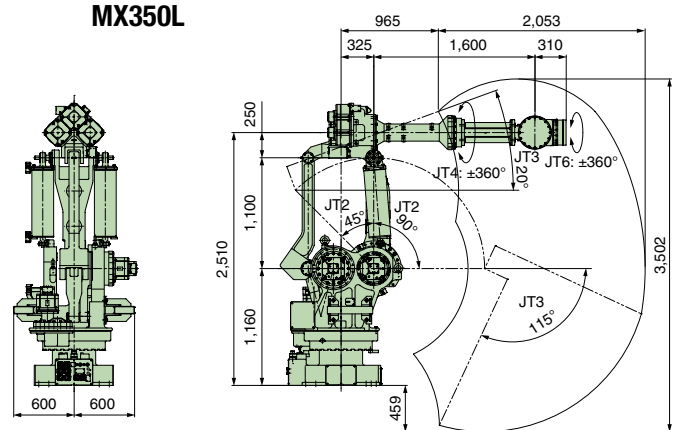
MX500N



MX420L



MX350L





Maximum Payload High Wrist Torque Robots

Simple  friendly

1

Compact profile

Conventional high-payload robots require a large counter-balance weight which can cause interference in the work zone as well as limit the overall working range of the robot. Kawasaki's innovative "Advanced Link Structure" design (patent pending) eliminates the need for this counter-balance which allows the robot to be utilized in a confined work zone while still maintaining the ability to fully articulate throughout the robot work envelope.

2

Ultra high wrist torque

Kawasaki high power servo motors are utilized on all six axes allowing the MX Robots to achieve one of the highest available wrist torques in the industry. This high wrist torque offers many benefits including the ability to significantly offset the payload from the tool mounting flange.

3

Advanced safety features

The MX Robots are capable of manipulating extremely heavy loads smoothly and safely through the use of Kawasaki's vibration suppression control and collision detection software. Mechanical stops and limit switches can also be incorporated to provide a safe working environment even when the robot is operating in a confined work zone.

4

Modular arm design

The MX Robots are available in three different reach configurations to suit most any high payload application. The MX500N, with a payload capacity of 500 kg, has a maximum reach of 2,540mm. The MX420L can carry up to 420 kg and the reach is extended to 2778 mm. The MX350L is the longest reach of the MX Series at 3,018 mm, and is capable of handling payloads of 350 kg. All three units use a common platform with a modular arm extension allowing the robots to be retrofitted in the field to increase reach or payload. A maximum payload, 5-axis, palletizing robot is also available based on the MX Robot platform (refer to Kawasaki's ZSD/MD Robot literature or visit www.kawasakirobotics.com).

Specifications

Model		MX500N		MX420L		MX350L	
Type	Articulated Robot						
Degree of freedom	6						
Motion Range & Max. Speed	Operating Axis	Motion Range	Max. Speed	Motion Range	Max. Speed	Motion Range	Max. Speed
	Arm Rotation (JT1)	± 180°	80°/s	± 180°	80°/s	± 180°	80°/s
	Arm Out-IN (JT2)	+ 90° ~ - 45°	70°/s	+ 90° ~ - 45°	70°/s	+ 90° ~ - 45°	70°/s
	Arm Down-Up (JT3)	+ 20° ~ - 130°	70°/s	+ 20° ~ - 125°	70°/s	+ 20° ~ - 115°	70°/s
	Wrist Swivel (JT4)	± 360°	80°/s	± 360°	80°/s	± 360°	80°/s
	Wrist Bend (JT5)	± 110°	80°/s	± 110°	80°/s	± 110°	80°/s
	Wrist Twist (JT6)	± 360°	120°/s	± 360°	120°/s	± 360°	120°/s
Repeatability	± 0.5mm (at the tool mounting surface)						
Max. Payload	500 kg		420 kg		350 kg		
Max. Reach	2,540 mm		2,778 mm		3,018 mm		
Max. Speed	Max. 2,000 mm/s in Linear Motion						
Moment	Wrist Swivel (JT4)	3,920 N-m		3,290 N-m		2,740 N-m	
	Wrist Bend (JT5)	3,920 N-m		3,290 N-m		2,740 N-m	
	Wrist Twist (JT6)	1,960 N-m		1,960 N-m		1,960 N-m	
Moment of Inertia	Wrist Swivel (JT4)	400 kg-m ²		400 kg-m ²		400 kg-m ²	
	Wrist Bend (JT5)	400 kg-m ²		400 kg-m ²		400 kg-m ²	
	Wrist Twist (JT6)	259 kg-m ²		259 kg-m ²		259 kg-m ²	
Driving Motor	Brushless AC Servo Motor						
Weight (without options)	2,750 kg		2,800 kg		2,800 kg		
Installation	Floor Mounted						
Environmental Conditions	Temperature 0-45°C, Humidity 35-85 % no condensation/frost allowed, IP65						
Built-In utilities	Pneumatic piping (ø12 mm x 2 lines) Valve wiring (DC24V x 7 circuits)						
Options	Adjustable mechanical stopper JT1 / JT2 / JT3 Limit switch JT1 / JT2 / JT3 Internal signal harness Double solenoid valve (1 circuit / 2 circuit) Single solenoid valve (1 circuit / 2 circuit) Double solenoid valve (1 circuit) & single solenoid valve (1 circuit)						
Controller	D34						
Body color	Kawasaki Standard						

1 N-m = 0.102 kgf-m

1 kg-m² = 0.102 kgf-m-s²

1 kgf = 2.2 lbf

1 m = 3.28 ft.



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