



## HIGH WRIST TORQUE ROBOTS

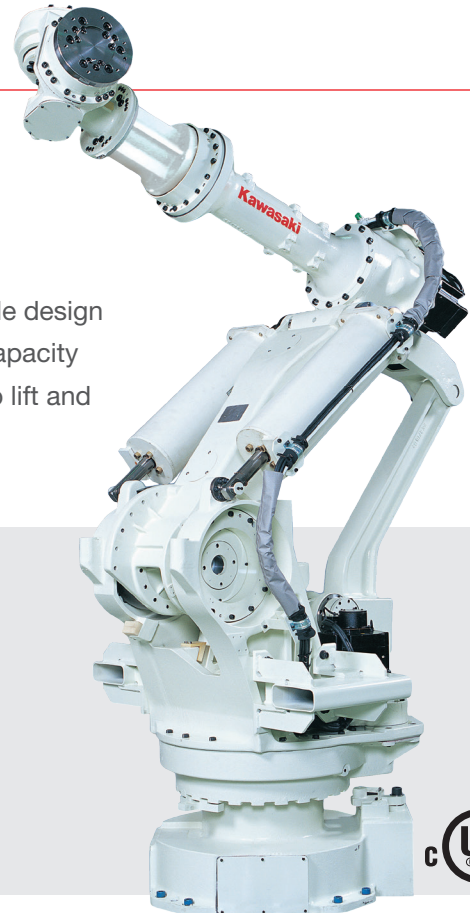
The M-Series maximum payload robots incorporate a compact profile design with long reach and high wrist torque. With an impressive payload capacity of up to 700 kg, the innovative robot line design gives it the power to lift and manipulate heavy loads with great ease and high accuracy.

# MXE420L

<b>Payload</b>	420 kg
<b>Horizontal Reach</b>	2,778 mm
<b>Vertical Reach</b>	3,170 mm
<b>Repeatability</b>	±0.5 mm
<b>Maximum Linear Speed</b>	2,000 mm/s

### Applications

- Machine Tending
- Material Handling



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 and forging.

### 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. This allows the robot to be used in a confined work zone while still maintaining the ability to fully articulate throughout the robot work envelope.

### ULTRA HIGH WRIST TORQUE

Using advanced engineering techniques in motor technology, the robot is capable of industry-leading wrist torques of 5,488 N.m. In order for the MXE Robots to achieve one of the highest available wrist torques in the industry, Kawasaki high power servo motors are used on all six axes. This high wrist torque offers many benefits, including the ability to significantly offset the payload from the tool mounting flange.

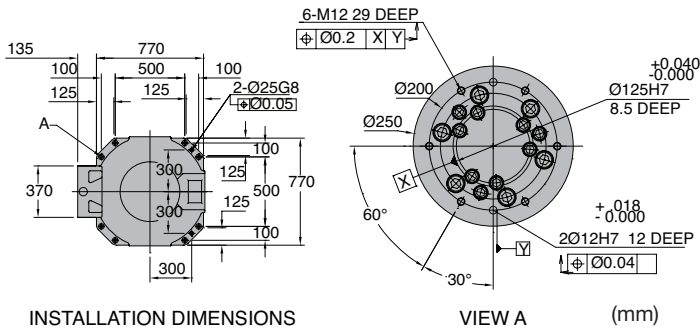
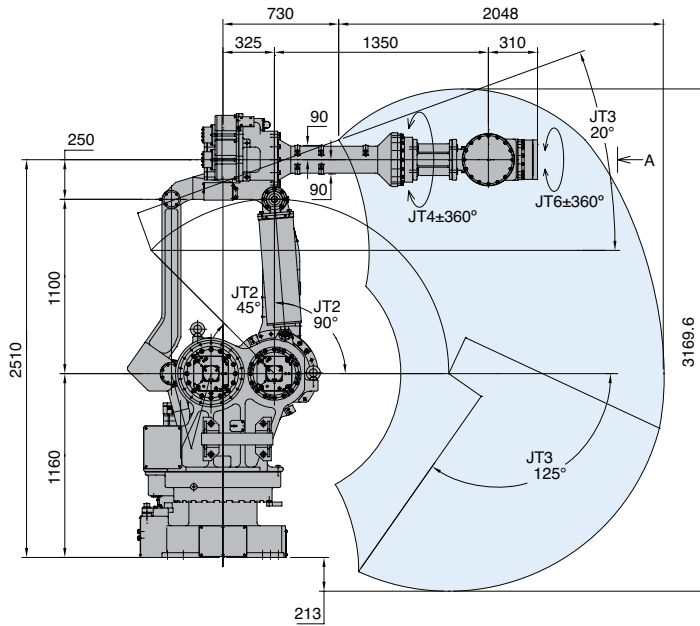
### ADVANCED SAFETY FEATURES

The M-Series Robots are capable of manipulating extremely heavy loads smoothly and safely using Kawasaki's vibration suppression control and collision detection software. Additional mechanical stops and limit switches can be incorporated to further enhance working environment safety, even when the robot is operating in a confined work zone.

### MODULAR ARM DESIGN

The MXE floor mounted robots are available in three different reach configurations (from 2,540 to 3,018 mm) and four payload capacities (from 350 to 700 kg) to suit most any high payload application. All four units use a common platform with a modular arm extension allowing the robots to be retrofitted in the field to either increase reach or payload. A maximum payload palletizing robot is also available based on the M-Series Robot platform - refer to Kawasaki's Palletizing Robots literature for more information on the 5-axis MDE model available in 400 kg and 500 kg payload capacity.

### MOTION RANGE & DIMENSIONS



INSTALLATION DIMENSIONS

VIEW A (mm)

**Note:** Detailed drawings are available upon request.

### MXE420L SPECIFICATIONS

Type	Articulated		
Degrees of Freedom	6 axes		
Payload	420 kg		
Horizontal Reach	2,778 mm		
Vertical Reach	3,170 mm		
Repeatability	±0.5 mm		
Maximum Linear Speed	2,000 mm/s at robot flange		
Work Envelope (degrees) & Maximum Speed (degrees/s)	Axis	Motion Range	Maximum Speed
	JT1	±180°	80°/s
	JT2	+90° ~ -45°	70°/s
	JT3	+20° ~ -125°	70°/s
	JT4	±360°	80°/s
	JT5	±110°	80°/s
Wrist Load Capacity	Axis	Maximum Torque	Moment of Inertia
	JT4	3,290 N·m	400 kg·m <sup>2</sup>
	JT5	3,290 N·m	400 kg·m <sup>2</sup>
JT6	1,960 N·m	259 kg·m <sup>2</sup>	
Motor(s)	Brushless AC Servomotor		
Brakes	All axes		
Hard Stop(s)	Adjustable mechanical stopper JT1		
Limit Switch	End of stroke limit switch JT1		
Mass	2,800 kg (excluding Options)		
Body Color	Kawasaki Standard		
Installation	Floor (includes fork pockets)		
Environmental Conditions	Temperature	0 ~ 45° C	
	Humidity	35 ~ 85 % (no dew, nor frost allowed)	
	Vibration	Less than 0.5 G	
Protection Classification	Wrist: IP65 Base: IP65 * Equivalent		
Built-in Utilities	Pneumatic piping (ø12 x 2 lines)		
Options	Linear track options Base plate Adjustable mechanical stopper JT2/JT3 Limit switch JT2/JT3 Signal harness (up to 24 inputs and 8 outputs) Double/single solenoid valves (2 units max.) Air cleaning equipment (filter, regulator, mist separator) Piping for cooling water		

