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Kawasaki Robot



CAUTIONS TO BE TAKEN TO ENSURE SAFETY

- For those persons involved with the operation / service of your system, including Kawasaki Robot, they must strictly observe all safety regulations at all times. They should carefully read the Manuals and other related
- Products described in this catalogue are general industrial robots. Therefore, if a customer wishes to use the Robot for special purposes, which might endanger operators or if the Robot has any problems, please contact us. We will be pleased to help you.
- Be careful as Photographs illustrated in this catalogue are frequently taken after removing safety fences and other safety devices stipulated in the safety regulations from the Robot operation system.

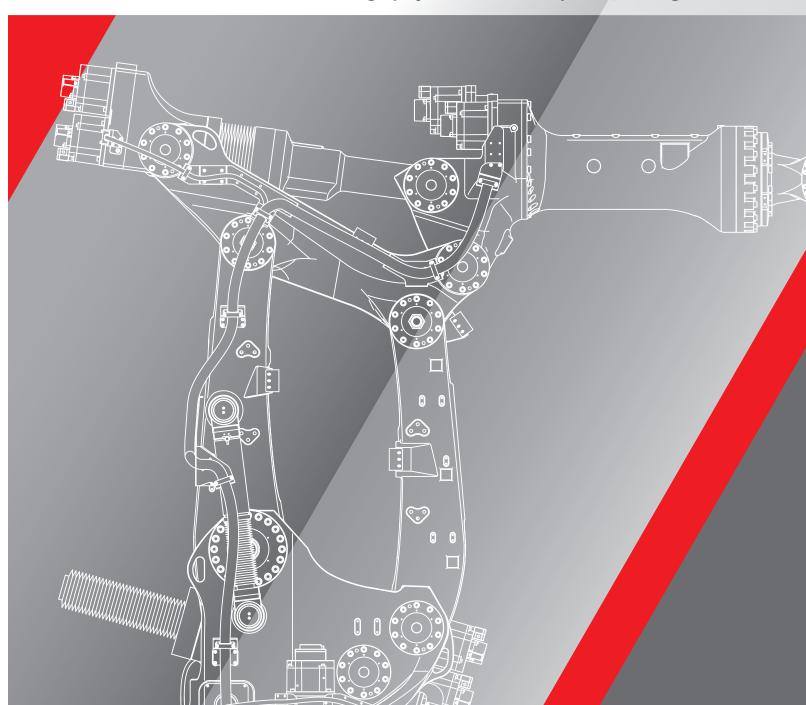




ISO certified in Wixom, Michigan U.S.A.

Kawasaki Robot

M series Extra large payload robots - up to 1,500 kg



With a maximum payload of 1,500 kg, M series robots incorporate a compact profile design with long reach and high wrist torque.

With an impressive payload capacity of up to 1,500 kg, the innovative M series robot line design gives it the power to lift and manipulate heavy loads with great ease and high accuracy. Kawasaki's patented link mechanism enables the powerful M series robots to lift payloads that exceed the limits of most industrial robots.

Features

Compact profile

Along with powerful motors, the MX new link structure for JT3 (arm up-down) and the MG Kawasaki hybrid link mechanism for JT2 (arm out-in) and JT3 make it possible to achieve a maximum payload capacity without the use of bulky and limiting counterweights, maximizing the robot's motion range and allowing for a compact footprint.

High wrist torque

The M series robots achieve one of the highest available wrist torques in the industry. This high wrist torque provides the ability to significantly offset heavy payloads from the tool mounting flange.

High rigidity

The second and third axes that affect the accuracy of hand motions use highly rigid ball screws with minimal backlash. This reduces arm deflection while enabling high positioning accuracy. (MG)

Wide motion range

Kawasaki's original hybrid link mechanism along with the ball screws used in the second and third axes ensure a wide work envelope when the arm moves forward. (MG)

Mounting options

Four MX models (6-axis type, 350 - 700 kg) and two MG models (6-axis type, 1,000 - 1,500 kg) are floor mounting types. The MT400N (6-axis, 400 kg) is a shelf mounting type. These models are for assembly and material handling applications.













1 WA330E WA420E WA300N WA700N WA700N WATONE 1

Standard specifications

		MX350L	MX420L	MX500N	MX700N		
Туре			Articu	ulated			
Degree of freedom (axes)		6					
Max. payload (kg)		350	420	500	700		
Max. reach (mm)		3,018	2,778	2,540	2,540		
Repeatability (mi	m)	±0.1 (at the tool mounting surface)					
Motion	Arm rotation (JT1)	±180	±180	±180	±180		
	Arm out-in (JT2)	+9045	+9045	+9045	+9045		
	Arm up-down (JT3)	+20115	+20125	+20130	+20130		
range (°)	Wrist swivel (JT4)	±360	±360	±360	±360		
	Wrist bend (JT5)	±110	±110	±110	±110		
	Wrist twist (JT6)	±360	±360	±360	±360		
	Arm rotation (JT1)	80	80	80	65		
	Arm out-in (JT2)	70	70	70	50		
Max. speed	Arm up-down (JT3)	70	70	70	45		
(°/s)	Wrist swivel (JT4)	80	80	80	50		
	Wrist bend (JT5)	80	80	80	50		
	Wrist twist (JT6)	120	120	120	95		
	Wrist swivel (JT4)	2,740	3,290	3,920	5,488		
Moment (N·m)	Wrist bend (JT5)	2,740	3,290	3,920	5,488		
((4 (()))	Wrist twist (JT6)	1,960	1,960	1,960	2,744		
Moment	Wrist swivel (JT4)	400	400	400	600		
of inertia	Wrist bend (JT5)	400	400	400	600		
(kg·m²)	Wrist twist (JT6)	250	250	250	388		
Mass (kg)		2,800	2,800	2,750	2,860		
Driving motor		Brushless AC servo motor					
Mounting		Floor					
Environmental conditions	Ambient temperature (°C)	0 - 45					
	Relative humidity (%)	35 - 85 (no dew, nor frost allowed)					
Built-in utilities		Pneumatic pipings (ø12 x 2 lines) Wirings for valves to drive hand (DC24V x 7 circuits)					
Option		Adjustable mechanical stopper JT1/JT2/JT3 Limit switch JT1/JT2/JT3 Internal signal harness Double solenoid valve (3 circuit/2 circuit) F.R.L. combination (Air cleaning equipment)					
	America	EO4					
Controller	Europe						
	Japan & Asia						



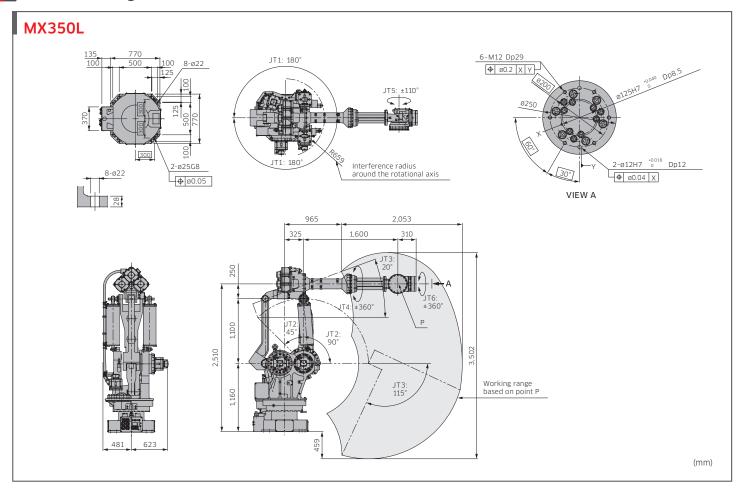
			MT400N	MG10HL	MG15HL	
Туре			Articulated			
Degree of freedom (axes)			6			
Max. payload (kg)			400	1,000	1,500	
Max. reach (mm)			3,503	4,005	4,005	
Repeatability (mm	า)		±0.1 (at the tool mounting surface)			
Motion range	Arm rotation	(JT1)	±180	±150	±150	
	Arm out-in	(JT2)	+15135	+9040	+9040	
	Arm up-down	(JT3)	+10630	+30110	+30110 *	
	Wrist swivel	(JT4)	±360	±360	±360	
. ,	Wrist bend	(JT5)	±120	±120	±120	
	Wrist twist	(JT6)	±360	±360	±360	
	Arm rotation	(JT1)	80	65	65	
	Arm out-in	(JT2)	70	33.5	33.5	
Max. speed	Arm up-down	(JT3)	70	37.5	37.5	
(°/s)	Wrist swivel	(JT4)	70	65	36	
	Wrist bend	(JT5)	70	65	36	
	Wrist twist	(JT6)	130	80	80	
	Wrist swivel	(JT4)	2,150	8,800	15,000	
Moment (N·m)	Wrist bend	(JT5)	2,150	8,800	15,000	
(14 111)	Wrist twist	(JT6)	980	4,410	4,410	
Moment	Wrist swivel	(JT4)	200	1,800	2,250	
of inertia	Wrist bend	(JT5)	200	1,800	2,250	
(kg·m²)	Wrist twist	(JT6)	147	1,200	1,200	
Mass (kg)		2,600	6,500	6,550		
Driving motor			Brushless AC servo motor			
Mounting			Shelf	Floor		
Environmental conditions	Ambient temperature (°C)		0 - 45			
	Relative humidity (%)		35 - 85 (no dew, nor frost allowed)			
Built-in utilities		Pneumatic pipings (ø12 x 2 lines) Wirings for valves to drive hand (DC24V x 7 circuits)	-			
Option		Adjustable mechanical stopper JT1/ JT2/JT3 Limit switch JT1/JT2/JT3	Adjustable mechanical stopper JT1 Limit switch JT1/JT2/JT3 Internal signal harness Double solenoid valve (3 circuit/2 circuit) F.R.L. combination (Air cleaning equipment)			
Controller America Europe Japan & Asia		E02	E28			

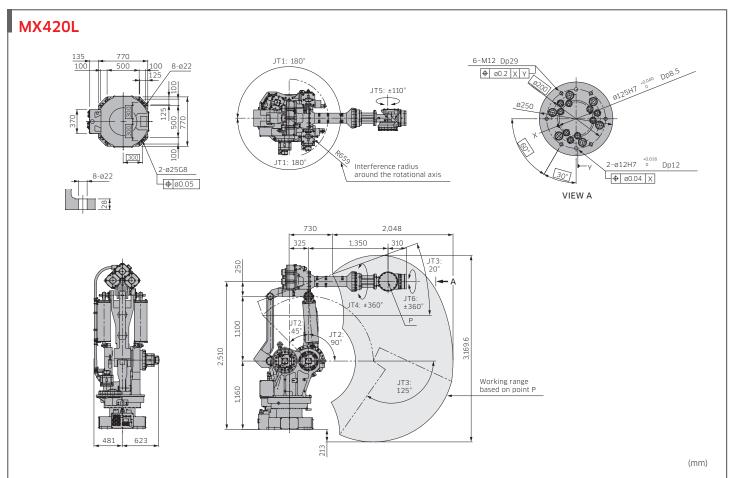
^{*} The maximum ranges of motion depend on the payload and the torque.

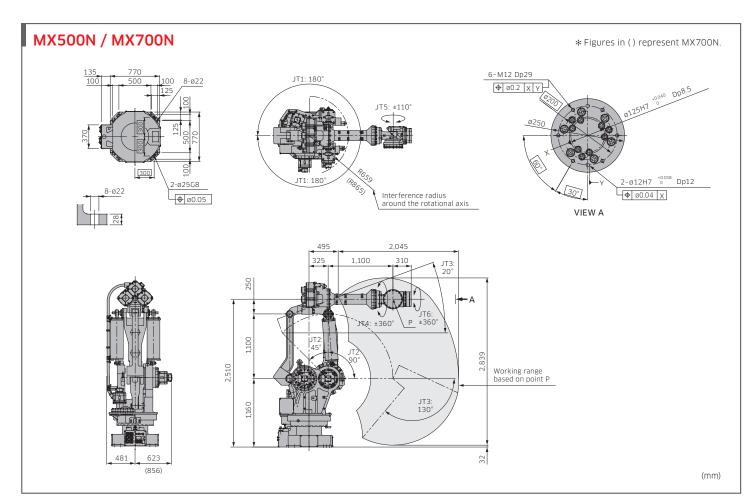


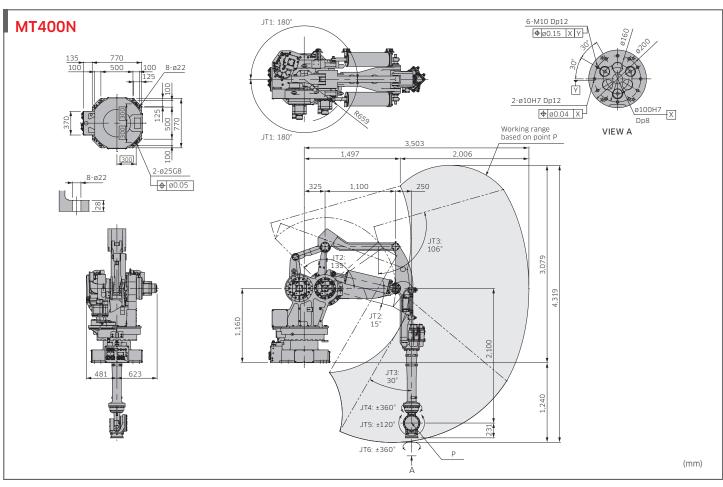


Motion range & dimensions

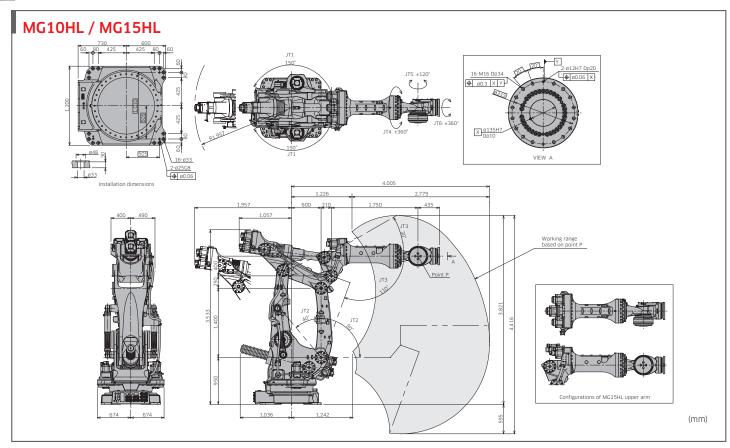








Motion range & dimensions



Controller

E series

The E Controller, delivering unprecedented quality with a compact size, was developed to respond to the requirements of our customers. Kawasaki's past achievements and experience have led to the development of the most technically advanced controller available. This industry-leading design provides improved performance and easy operation that surpasses all expectations.





Features

Compact

The overall volume of the E Controller has been reduced compared with the previous model. The small footprint of this compact controller allows for installation in "high-density" applications. For further space saving options, an upright-position or stacked installation* is possible, without impeding performance.

∗ E0X only

User-friendly operation

The easy-to-use teach pendant now incorporates motor power and cycle start at your fingertips. Multiple information screens can be displayed simultaneously. The intuitive teaching interface is simple to use.

Programming ease & flexibility

A rich set of programming functions come standard with the E Controller to support a wide range of applications. Functions can be combined and easily configured within a system to suit a particular application. Also, the powerful Kawasaki AS Programming Language provides sophisticated robot motion and sequence controls.

Advanced technologies

The enhanced CPU capacity allows for more accurate trajectory control, faster program execution, and quicker loading and saving of files. In addition, memory has been expanded to meet the need for higher program storage capacity. The controller comes equipped with a USB port for external storage devices.

Easy maintenance

Modular components with limited cables translate into easy diagnostics and maintenance. A host of maintenance functions are available, including self-diagnostics on hardware and application errors to minimize troubleshooting and reduce MTTR (Mean Time To Repair). Remote diagnostics via the web server function enables service support from anywhere in the world.

Expandable

Two external axes can be added to the EOX controller for a total of eight controlled axes. Numerous communication fieldbuses are available for controlling peripheral devices. The Kawasaki K-Logic sequencer software can be combined with user customized interface panels on the teach pendant.

Global unified specification

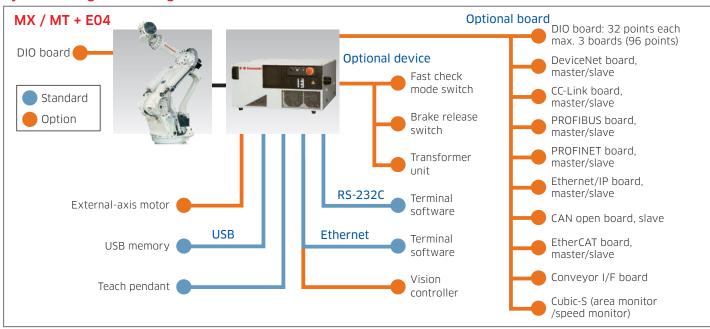
The E04 adopts an optional transformer unit for various primary sources, while the E28 is equipped with a transformer that supports 210 / 400 / 460V primary sources, for worldwide use.

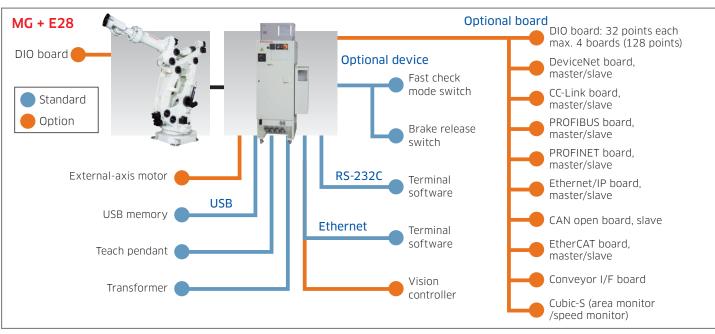
Controller

Teach pendant



System configuration diagram

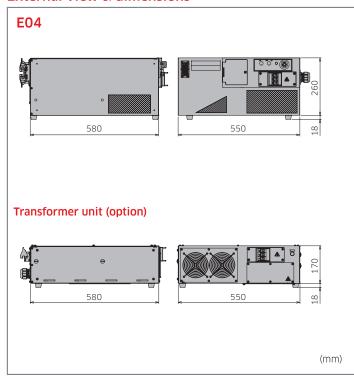


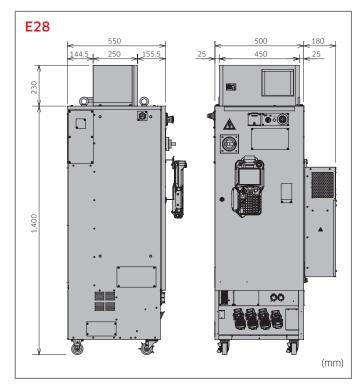


Specifications

		Standard		Oution	
		E04	E28	Option	
Dimensions (mm)		W550 × D580 × H278	W680 × D550 × H1,630	E04 Transformer unit: W580 × D580 × H178	
Structure		Enclosed structure with			
Number of controlled axes		6	9	E04: Max. 16 (adding external amplifier) E28: Max. 17 (adding external amplifier)	
Drive system		Full digital se			
Coordinate systems		Joint, Ba	Fixed tool point		
Types of motion control		Joint / Linear / Circular interpolated motion	Joint / Linear motion	E28: Circular interpolated	
Programming		Point to point teaching or lar			
Memory capac	ity (MB)	8			
General	External operation	Motor powe			
purpose	Input (channels)	32	2	E04: Max. 96 E28: Max. 128	
signals	Output (channels)	32	E04: Max. 96 E28: Max. 128		
Operation panel		E-Stop switch, Teach/repeat switch motor-on, hold/run, and error reset ar	Fast check mode switch		
Cable	Teach pendant (m)	5	10, 15		
length	Robot-controller (m)	5	10, 15		
Mass (kg)		40	280	Transformer unit: 45	
Power requirements		AC200-220V ±10%, 50/60Hz, 3ø	AC200-220V / AC380-415V / AC440-480V ±10%, 50/60Hz, 3ø	E04 Transformer unit: AC380-415V / AC440-480V ±10%, 50/60Hz, 3ø	
		Class-D earth connection (Earth c Leakage current: N			
Environmental conditions	Ambient temperature (°C)	0			
	Relative humidity (%)	35 - 85 (no dew, n			
Body color		Munsell 10GY9			
Teach pendant		TFT color LCD display with t Teach lock switch			
Auxiliary storage unit		_	USB memory		
Interface		USB, Ethernet (100E			

External view & dimensions





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