

# Kawasaki Robot Lineup

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\* Materials and specifications are subject to change without notice.

## 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 safety documents.
- 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.

Cat. No. LU2106 ©



# Our Product Philosophy is “Simple and friendly”

With 50 years of experience in industrial robotics, we have consolidated our state-of-art technologies into productivity enhancing flexible automation solutions that are simple and friendly. Our product lineup offers comprehensive functionality with operational ease of use.

Kawasaki began the manufacture and sales of industrial robots in 1968. Since that time, we have consistently produced high quality, cost effective industrial robots featuring state-of-the-art technology for both the domestic and overseas markets.

Our broad product portfolio services a wide range of applications across diverse industries; from the assembly of miniature components weighing only a few grams, to the material handling of castings weighing 1,500 kg. For optimum control of the manipulator, our high-performance lineup is supported by our continuous development of control technology to improve function and operation.

Our human and environmentally friendly robot systems provide a high level of skill and intelligence. We hope that you will benefit from our technology and experience in your future automation projects to increase production, lower costs and improve quality.



-   
**■ Small-to-medium payload robots**  
 R series
-   
**■ Large payload robots**  
 CX series
-   
**■ Large payload robots**  
 Z series
-   
**■ Extra large payload robots**  
 M series
-   
**■ Spot welding robots**  
 B series
-   
**■ Arc welding robots**
-   
**■ Painting robots**  
 Explosion-proof  
 K series
-   
**■ Palletizing robots**
-   
**■ Dual-arm SCARA robot**  
 duAro
-   
**■ Pick & place robots**  
 Y series
-   
**■ Clean robots**
-   
**■ Medical & pharmaceutical robots**



# Large payload robots up to 300 kg

## Z series

Robust low-maintenance design with wide work envelope provides application flexibility.



ZX165U

# Extra large payload robots up to 1,500 kg

## M series

Achieves high wrist torque and payload capacity without any counterweights for a wide motion range and compact footprint.



MG15HL

		ZX130U/130L/165U/200S/300S	ZH100U	ZT130U/165U/200S	ZT165X
Application		●●●●	●●●	●●●●	●●●●
Degrees of freedom (axes)		6			
Max. payload (kg)		130/130/165/200/300	100	130/165/200	165
Max. reach (mm)		2,651/2,951/2,651/2,501	1,634	3,230/3,230/3,230	2,830
Repeatability (mm) *1		±0.3	±0.3	±0.3	±0.3
Motion range (°)	Arm rotation (JT1)	±180	±160	±180	±180
	Arm out-in (JT2)	+75 - -60	+120 - -60	+60 - -75	+50 - -120
	Arm up-down (JT3)	+250 - -120	+75 - -90	+165 - -95	+150 - -65
	Wrist swivel (JT4)	±360	±360	±360	±360
	Wrist bend (JT5)	±130/±130/±130/±120/±120	±130	±130/±130/±120	±130
	Wrist twist (JT6)	±360	±360	±360	±360
Max. speed (°/s)	Arm rotation (JT1)	110/110/110/105/100	140	105/105/100	120
	Arm out-in (JT2)	110/110/110/110/85	100	105/105/100	110
	Arm up-down (JT3)	110/110/115/105/85	100	105/105/90	115
	Wrist swivel (JT4)	140/140/140/120/90	150	140/135/120	140
	Wrist bend (JT5)	135/135/155/120/90	150	135/135/115	155
	Wrist twist (JT6)	230/230/260/200/150	250	230/210/180	260
Mass (kg)		1,350/1,400/1,350/1,400/1,400	750	1,550/1,550/1,600	1,650
Installation		Floor		Shelf	
Controller	America	E02			
	Europe				
	Japan & Asia				

\*1: Conforms to ISO9283  
Application: ● Assembly ● Material handling ● Palletizing ● Spot welding

		MX350L	MX420L	MX500N	MX700N	MT400N	MG10HL	MG15HL
Application		●●						
Degrees of freedom (axes)		6						
Max. payload (kg)		350	420	500	700	400	1,000	1,500
Max. reach (mm)		3,018	2,778	2,540	2,540	3,503	4,005	4,005
Repeatability (mm) *1		±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1
Motion range (°)	Arm rotation (JT1)	±180	±180	±180	±180	±180	±150	±150
	Arm out-in (JT2)	+90 - -45	+90 - -45	+90 - -45	+90 - -45	+15 - -135	+90 - -40	+90 - -40
	Arm up-down (JT3)	+20 - -115	+20 - -125	+20 - -130	+20 - -130	+106 - -30	+30 - -110	+25 - -110
	Wrist swivel (JT4)	±360	±360	±360	±360	±360	±360	±360
	Wrist bend (JT5)	±110	±110	±110	±110	±120	±120	±120
	Wrist twist (JT6)	±360	±360	±360	±360	±360	±360	±360
Max. speed (°/s)	Arm rotation (JT1)	80	80	80	65	80	65	65
	Arm out-in (JT2)	70	70	70	50	70	33.5	33.5
	Arm up-down (JT3)	70	70	70	45	70	37.5	37.5
	Wrist swivel (JT4)	80	80	80	50	70	65	36
	Wrist bend (JT5)	80	80	80	50	70	65	36
	Wrist twist (JT6)	120	120	120	95	130	80	80
Mass (kg)		2,800	2,800	2,750	2,860	2,600	6,500	6,550
Installation		Floor				Shelf	Floor	
Controller	America	E04				E02	E28	
	Europe							
	Japan & Asia							

\*1: Conforms to ISO9283  
Application: ● Machine tending ● Material handling

# Spot welding robots

## B series

High speed spot welding with greater spot control. Space saving design supports “high density” applications.



BX200L

	BU015N/X	BX100S	BX100N	BX100L/165L/200L	BX130X/200X	BX165N	BX250L/300L	BT200L	
Application	● ●				●				
Degrees of freedom (axes)	6 / 7	6							
Max. payload (kg)	15	100	100	100/165/200	130/200	165	250/300	200	
Max. reach (mm)	1,550 / 2,888	1,634	2,200	2,597	2,991/3,412	2,325	2,812	3,151	
Repeatability (mm) *1	±0.04 / ±0.06 mm	±0.06	±0.06	±0.06	±0.06/±0.07	±0.06	±0.07	±0.08	
Motion range (°)	Arm rotation (JT1)	±180	±160	±160	±160	±160/±180	±160	±180	±160
	Arm out-in (JT2)	+140 - -105	+120 - -65	+120 - -65	+76 - -60	+76 - -60	+76 - -60	+76 - -60	+80 - -130
	Arm up-down (JT3)	+155 - -120 / +30 - -170	+90 - -81	+90 - -77	+90 - -75	+90 - -75/+90--110	+90 - -75	+90 - -120	+90 - -75
	Wrist swivel (JT4)	±210	±210	±210	±210	±210	±210	±210	±210
	Wrist bend (JT7)	- / +110 - -130							
	Wrist rotation (JT5)	±120	±125	±125	±125	±125	±125	±125	±125
	Wrist twist (JT6)	±360	±210	±210	±210	±210	±210	±210	±210
Max. speed (°/s)	Arm rotation (JT1)	250 / 200	135	135	105/120/105	105/125	105	125	105
	Arm out-in (JT2)	250 / 200	125	110	130/110/90	90/102	130	120/102	85
	Arm up-down (JT3)	215 / 200	155	140	130/130/100	130/85	130	100/85	100
	Wrist swivel (JT4)	280 / 290	200	200	200/170/120	200/105	120	140/105	120
	Wrist bend (JT7)	- / 170							
	Wrist rotation (JT5)	280	160	200	160/170/120	160/120	160	140/110	120
	Wrist twist (JT6)	360	300	300	300/280/200	300/200	300	200/180	200
Mass (kg)	160 / 590	720	740	890	970/1,450	875	1,460	1,100	
Installation		Floor							Shelf
Controller	America	E02							
	Europe								
	Japan & Asia								

\*1: Conforms to ISO9283  
Application: ● Spot welding ● Dispensing

# Arc welding robots

Kawasaki robots use the latest arc welding technology to rival the quality of a skilled human welder.



BA006N

	BA006N	BA006L	RS006L	RS010N	RS010L	RS015X	RS020N	
Application				●				
Degrees of freedom (axes)	6							
Max. payload (kg)	6	6	6	10	10	15	20	
Max. reach (mm)	1,445	2,036	1,650	1,450	1,925	3,150	1,725	
Repeatability (mm) *1	±0.06	±0.08	±0.03	±0.03	±0.05	±0.06	±0.04	
Motion range (°)	Arm rotation (JT1)	±165	±165	±180	±180	±180	±180	
	Arm out-in (JT2)	+150 - -90	+150 - -90	+145 - -105	+145 - -105	+155 - -105	+140 - -105	+155 - -105
	Arm up-down (JT3)	+90 - -175	+90 - -175	+150 - -163	+150 - -163	+150 - -163	+135 - -155	+150 - -163
	Wrist swivel (JT4)	±180	±180	±270	±270	±270	±360	±270
	Wrist bend (JT5)	±135	±135	±145	±145	±145	±145	±145
	Wrist twist (JT6)	±360	±360	±360	±360	±360	±360	±360
	Max. speed (°/s)	Arm rotation (JT1)	240	210	250	250	190	180
Arm out-in (JT2)		240	210	250	250	205	180	205
Arm up-down (JT3)		220	220	215	215	210	200	210
Wrist swivel (JT4)		430	430	365	365	400	410	400
Wrist bend (JT5)		430	430	380	380	360	360	360
Wrist twist (JT6)		650	650	700	700	610	610	610
Mass (kg)	150	160	150	150	230	545	230	
Installation	Floor, Ceiling							
Controller	America	E01, F60				E01	E02	E01
	Europe							
	Japan & Asia							

\*1: Conforms to ISO9283  
Application: ● Arc welding

# Painting robots explosion-proof

## K series

The optimum wrist configuration and model can be selected according to the workpiece. Servo controlled part positioning equipment available.



KJ264

# Palletizing robots

Kawasaki's high-speed palletizing robots meet the demands for flexibility and speed.



CP700L

		KF121	KJ125 / 155	KJ194 Floor/Shelf/Wall	KJ244 Floor/Shelf/Wall	KJ264 Floor/Shelf/Wall	KJ314
Application		●					
Degrees of freedom (axes)		6					7
Max. payload (kg)		5	Wrist: 8 Arm: 5	Wrist: 15 Arm: 25	Wrist: 15 Arm: 25	Wrist: 15 Arm: 25	Wrist: 15 Arm: 25
Max. reach (mm)		1,240	1,299 / 1,545	1,940	2,490	2,640	3,100
Repeatability (mm) *1		±0.2	±0.15 mm	±0.5	±0.5	±0.5	±0.5
Motion range (°)	Arm rotation (JT1)	±160	+160 - -160	±120/±120/+30 - -120	±120/±120/±30 - -120	±120/±120/+30 - -120	±120
	Arm out-in (JT2)	±90	+130 - -80	+130 - -80	+130 - -80	+130 - -80	+130 - -80
	Arm up-down (JT3)	±150	+90 - -75	+90 - -65	+90 - -65	+90 - -65	+90 - -65
	Wrist swivel (JT4)	±270	+720 - -720	±720	±720	±720	±720
	Wrist bend (JT5)	±145	+720 - -720	±720	±720	±720	±720
	Wrist twist (JT6)	±360	+410 - -410	±410	±410	±410	±410
	Arm swing (JT7)		-				±90
Wrist type		RBR	3Rø70	3Rø70	3Rø70	3Rø70	3Rø70
Mass (kg)		140	190 / 195	530/520/520	540/530/530	540/530/530	720
Explosion protection		Combination of pressurized type and intrinsically safety type (CL I ZN1 AExpxib IIB T4 / AExib IIB T4)					
Installation		Floor, Wall		Floor/Shelf/Wall			Wall
Controller	America	E37	E25/27	E35			
	Europe	E47		E45			
	Japan & Asia	E27		E25			

\*1: Conforms to ISO9283  
Application: ● Painting

		RD080N	CP180L	CP300L	CP500L	CP700L
Application		●				
Degrees of freedom (axes)		5				
Max. payload (kg)		80	180	300	500	700
Max. reach (mm)		2,100	3,255			
Motion range (°)	Arm rotation (JT1)	±180	±160	±160	±160	±160
	Arm out-in (JT2)	+140 - -105	+95 - -46	+95 - -46	+95 - -46	+95 - -46
	Arm up-down (JT3)	+40 - -205	+15 - -110	+15 - -110	+15 - -110	+15 - -110
	Wrist swivel (JT4)	±360	±360	±360	±360	±360
	Wrist compensation (JT5)	±10 *3	N/A	N/A	N/A	N/A
Max. speed (°/s)	Arm rotation (JT1)	180	140 *4	115 *5	85	75
	Arm out-in (JT2)	180	125 *4	100 *5	80	65
	Arm up-down (JT3)	175	130 *4	100 *5	80	65
	Wrist swivel (JT4)	360	400 *4	250 *5	180	170
Working area (mm)	Width	1,100	1,800	1,800	1,800	1,800
	Depth	1,100	1,600	1,600	1,600	1,600
	Height	2,062.3	2,200	2,200	2,200	2,200
Palletizing capacity (cycle/hour) *1		900	2,050 *4	1,700 *5	1,000	900
Repeatability (mm) *2		±0.07	±0.5	±0.5	±0.5	±0.5
Mass (kg)		540	1,600	1,600	1,650	1,650
Controller	America	E03	E03			
	Europe					
	Japan & Asia					

\*1: Motion pattern (400 mm up, 2,000 mm horizontal, 400 mm down in a to-and-fro motion) \*2: Conforms to ISO9283 \*3: Operating angle of the JT5 is ±10 degrees perpendicular to the ground \*4: In case of 130 kg payload and less \*5: In case of 250 kg payload and less  
Application: ● Palletizing

# Dual-arm SCARA robot

## duAro

Dual-arm collaborative robot that can safely work with humans. The duAro fits into a single-person space and can be easily deployed without modifications to the manufacturing line.



		duAro1		duAro2	
Application		● ● ● ●			
Degrees of freedom (axes)		4 / arm			
Max. payload (kg)		2 / arm (4 kg total)		3 / arm	
Repeatability (mm)		±0.05			
Motion range	Arm rotation (°)	Arm 1 (lower arm)	Arm 2 (upper arm)	Arm 1 (lower arm)	Arm 2 (upper arm)
	Arm rotation (°)	-170 - +170 (JT1)	-140 - +500 (JT1)	-170 - +170 (JT1)	-140 - +500 (JT1)
	Arm up-down (mm)	-140 - +140 (JT2)	-140 - +140 (JT2)	-130 - +140 (JT2)	-140 - +130 (JT2)
	Wrist swivel (°)	0 - +150 (JT3) *1	0 - +150 (JT3) *1	0 - +550 (JT3)	0 - +550 (JT3)
		-360 - +360 (JT4) *1	-360 - +360 (JT4) *1	-360 - +360 (JT4)	-360 - +360 (JT4)
Mass (kg)		~ 200			
Installation		Floor			
Controller	America	F60			
	Europe				
	Japan & Asia				

\*1: Specification can vary with other options or conversion  
Application: ● Assembly ● Material handling ● Machine tending ● Dispensing

WD002N

# Clean robots

NT series

Horizontal articulated type

We offer a wide range of clean robots that can be used in semi-conductor manufacturing lines.



First in industry!  
4 FOUPs without  
traverse truck.

Fastest in industry!  
Higher than 500WPH is  
possible with option.

NT520

# Pick & place robots

Y series

Ultra high-speed picking robot with renowned Kawasaki product quality and reliability.



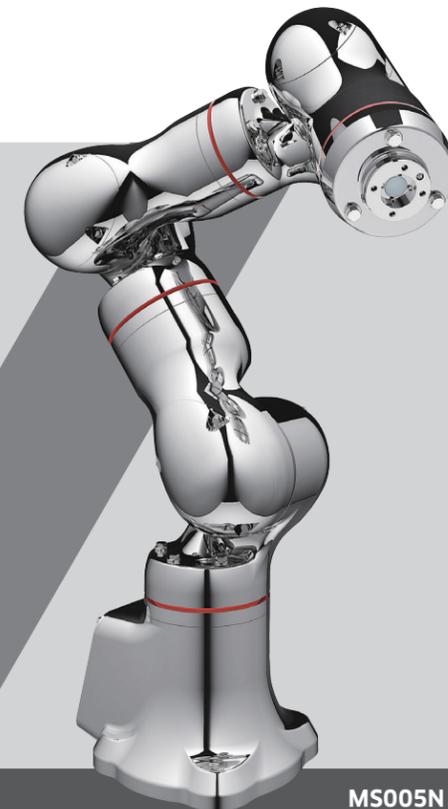
		YF002N		YF003N	
Application		● ●			
Type		Parallel link type			
Max. payload (kg)		2		3	
Degrees of freedom (axes)	Standard	4			
	Option	5			
Motion range (mm)		ø600 × H200		ø1,300 × H500	
Cycle time (payload) *1		0.3 s (0.5 kg)	0.36 s (2 kg)	0.27 s (1 kg)	0.45 s (3 kg)
Positional repeatability (mm) *2		± 0.04		± 0.1	
Angular repeatability (°)		± 0.1			
Mass (kg)		60		145	
Installation		Ceiling			
Environmental conditions	Ambient temperature (°C)	0 - 40		0 - 45	
	Relative humidity (%)	35 - 85 (no dew, nor frost allowed)			
Degree of protection	Standard	IP 65			
	Option	IP 67			
Controller	America	E97			
	Europe	E91			
	Japan & Asia	E94			

\*1: Motion pattern (25 mm up, 305 mm horizontal, 25 mm down in a to-and-fro motion)  
\*2: Conforms to ISO9283  
Application: ● Assembly ● Material handling

YF003N

# Medical & pharmaceutical robots

Clean robots that meet the healthcare industry's specifications for processing equipment.



		MC004N/004V	MS005N
Degrees of freedom (axes)		6	7
Max. payload (kg)		4	5
Max. reach (mm)		505.8	660
Repeatability (mm) *1		±0.05	±0.1
Motion range (°)	Arm rotation (JT1)	±180	±180
	Arm out-in (JT2)	+135 - -95	+135 - -90
	Arm up-down (JT3)	+60 - -155	±120
	Wrist swivel (JT4)	±270	±180
	Wrist bend (JT5)	±120	±115
	Wrist twist (JT6)	±270	±180
	Wrist twist (JT7)	-	±180
Max. speed (°/s)	Arm rotation (JT1)	200	130
	Arm out-in (JT2)	180	130
	Arm up-down (JT3)	225	215
	Wrist swivel (JT4)	700	300
	Wrist bend (JT5)	500	300
	Wrist twist (JT6)	350	480
	Wrist twist (JT7)	-	215
Mass (kg)		25	50
Installation		Floor, Ceiling	Floor, Ceiling
Controller	America	F60	
	Europe		
	Japan & Asia		

\*1: Conforms to ISO9283

MS005N

# Controllers

Combines high performance, unprecedented reliability, a host of integrated features and simple operation all in a compact design. The enhanced CPU capacity allows for more accurate trajectory control and faster application program execution.



America		F60	E97	E01/02/03/04		E30/32/33/34	E35/37	E28	D60/61
Europe			E91			E40/42/43/44	E45/47		
Japan & Asia			E94			E10/12/13/14/20/22/23/24	E25/27		
Features		The F60 is the smallest and lightest controller in its class in the world. It can be carried by one person. The cabinet allows free setup, e.g. horizontal or vertical installation as well as multiple cabinet stacking. While compact in size, the F60 controller offers many options for expansion.	The E9X controllers are extremely compact, and specially designed for medium robot arms (Y-series, RS10L and RS20N). This compact size enables it to be installed vertically or horizontally in practically any location, such as under a conveyor or on an arm mount rack.	The E0X controllers are standard for world-wide use and available for multiple primary power supply voltages with a separate transformer unit. Achieve extremely compact design, compared to E2X/3X/4X controllers. The E03 controller, for use on palletizing robots, has an electricity regeneration function that reduces energy consumption.		These controllers are optimum controllers for each region's primary power supply voltage and have high expandability and maintainability.	These controllers are for explosion-proof painting robots with a new explosion-proof teach pendant featuring a color LCD. Programming and editing work can efficiently be carried out from inside the explosion-proof paint booth.	The E28 controller supports the ultra-heavy-payload models (MG series). Equipped with a transformer that supports a primary power supply voltage of 210/400/460V, this controller is for world-wide use.	The D60 controller is for a semiconductor robot with a single arm, while the D61 controller is for semiconductor robots with up to two arms and for the duAro.
Drive system		Full digital servo system	Full digital servo system	Full digital servo system		Full digital servo system	Full digital servo system	Full digital servo system	Full digital servo system
Teaching method		Easy operation teaching or AS language programming	Easy operation teaching or AS language programming	Easy operation teaching or AS language programming		Easy operation teaching or AS language programming	Easy operation teaching or AS language programming	Easy operation teaching or AS language programming	Manual, semi-automatic, full-automatic teaching
Teach pendant		Color LCD teach pendant	Color LCD teach pendant	Color LCD teach pendant		Color LCD teach pendant	Explosion-proof teach pendant Color LCD teach pendant	Color LCD teach pendant	Small teach pendant
Memory capacity (MB)		16	8	8		8	8	8	4
I/O signals	External operation	Emergency stop, Hold etc.	Emergency stop, Hold, etc.	Emergency stop, Hold, etc.		Emergency stop, Hold, etc.	Emergency stop, Hold, etc.	Emergency stop, Hold, etc.	Emergency stop, Hold, etc.
	Input (channels)	16 (max. 144)	32 (max. 96)	32 (max. 96)		32 (max. 128)	32 (max. 128)	32 (max. 128)	16/16 (max. 32)
	Output (channels)	16 (max. 144)	32 (max. 96)	32 (max. 96)		32 (max. 128)	32 (max. 128)	32 (max. 128)	8/8 (max. 16)
Structure		Open structure with direct cooling system Option: Enclosed structure	Open structure with direct cooling system Option: Enclosed structure *1	Enclosed structure with indirect cooling system		Enclosed structure with indirect cooling system	Enclosed structure with indirect cooling system	Enclosed structure with indirect cooling system	Open structure with direct cooling system
Mass (kg)	America	8.3	40	40/40/45/40		145/180/195/180 *2	170	280	14/20
	Europe				145/180/195/180 *2	170			
	Japan & Asia				120/120/135/120 *2/95/95/110/95 *2	120			

\*1: Enclosed structure with indirect cooling system in the case of E91 \*2: MX series

## Teach pendant

### Color LCD teach pendant for the E series controllers

The teach pendant boasts a significantly lighter body with an optimized weight balance that reduces the burden of teaching work. The operator can now switch on the motors and activate the cycle start all from the teach pendant. In addition, new features such as the easy-to-navigate screen and switch layout allow for a more convenient control system. Two information windows can be displayed simultaneously on the monitor screen, providing access to different types of information (e.g. positional information and signal information).



### Explosion-proof teach pendant

The explosion-proof teach pendant features a color LCD with a large-sized touch screen that allows for teaching, editing, and monitoring of information such as current position and I/O signals in the painting area. It is possible to customize the interface panel according to user preference. The backlight provides a clear view of the screen in dark locations.

