50th ANNIVERSARY
Kawasaki Robotics

Kawasaki Robot
Lineup

Kawasaki Heavy Industries, Ltd.

ROBOT DIVISION

Tokyo Head Office/Robot Division
1-14-5, Kaigan, Minato-ku, Tokyo 105-8315, Japan
Phone: +81-3-3435-2501 Fax: +81-3-3437-9880

Akashi Works/Robot Division
1-1, Kawasaki-cho, Akashi, Hyogo 673-8666, Japan
Phone: +81-78-921-2946 Fax: +81-78-923-6548

Global Network

Kawasaki Robotics (USA), Inc.
28140 Lakeview Drive, Wixom, MI 48393, U.S.A.
Phone: +1-248-446-4100 Fax: +1-248-446-4200

Kawasaki Robotics (UK) Ltd.
Unit 4 Easter Court, Europa Boulevard, Westbrook Warrington
Cheshire, WA5 7ZB, United Kingdom
Phone: +44-1925-71-3000 Fax: +44-1925-71-3001

Kawasaki Robotics GmbH
29 Sperberweg, 41468 Neuss, Germany
Phone: +49-2131-34260 Fax: +49-2131-3426-22

Kawasaki Robotics Korea, Ltd.
43, Namdong-daero 215beon-gil, Namdong-gu, Incheon, 21633, Korea
Phone: +82-32-821-6941 Fax: +82-32-821-6947

Kawasaki Robotics (Tianjin) Co., Ltd.
Bldg 3, No.16, Xiang'an Road, TEDA, Tianjin 300457 China
Phone: +86-22-5983-1888 Fax: +86-22-5983-1889

Kawasaki Motors Enterprise (Thailand) Co., Ltd.
(Rayong Robot Center)
119/10 Moo 4 T.Pluak Daeng, A.Pluak Daeng, Rayong 21140 Thailand
Phone: +66-38-955-040-58 Fax: +66-38-955-145

https://robotics.kawasaki.com/

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.

QUALITY SYSTEM CERTIFICATION ISO 9001 DNV MGMT. SYS. RvA C 024
ENVIRONMENTAL SYSTEM CERTIFICATION ISO 14001 DNV MGMT. SYS. RvA C 024

ISO certified in Akashi Works.

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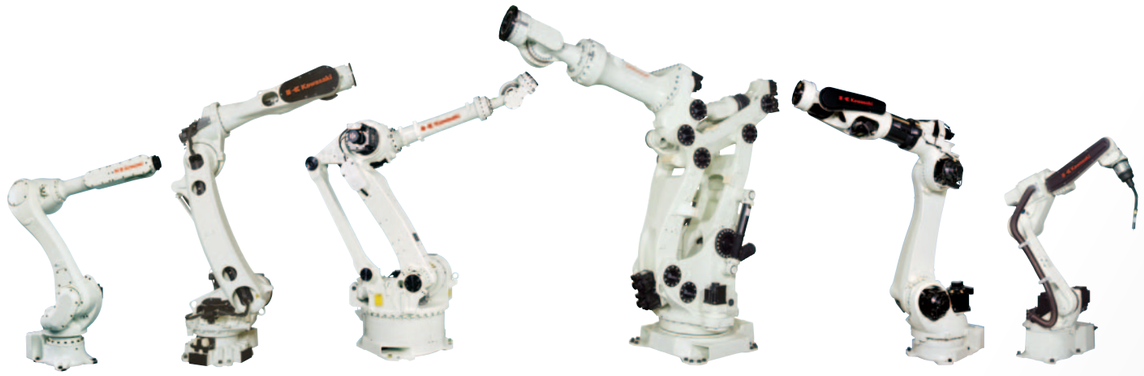
Our Product Philosophy is “Simple and friendly”

With more than 45 years’ 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 1969. 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. Our high-performance lineup is supported by our continuous development of control technology to improve functionality and operation for optimum control of the manipulator.

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**

Small-to-medium payload robots
up to 80 kg

R series

Setting the benchmark in its class - higher speed and longer reach in a compact design.

RS020N

		RS003N	RS005N/005L	RS006L/010N	RS015X	RS010L/020N	RS030N/050N/080N
Application		● ● ● ● ● ●	● ● ● ● ● ● ● (●) *2		● ● ● ● ● ●	● ● ● ● ● ● ● (●) *2	● ● ● ● ● ●
Degree of freedom (axes)		6					
Max. payload (kg)		3	5	6/10	15	10/20	30/50/80
Max. reach (mm)		620	705/903	1,650/1,450	3,150	1,925/1,725	2,100
Repeatability *1 (mm)		±0.05	±0.02/±0.03	±0.05/±0.04	±0.15	±0.06/±0.05	±0.07
Motion range (°)	Arm rotation (JT1)	±160	±180	±180	±180	±180	±180
	Arm out-in (JT2)	+150 - -60	+135 - -80	+145 - -105	+140 - -105	+155 - -105	+140 - -105
	Arm up-down (JT3)	+120 - -150	+118 - -172	+150 - -163	+135 - -155	+150 - -163	+135 - -155
	Wrist swivel (JT4)	±360	±360	±270	±360	±270	±360
	Wrist bend (JT5)	±135	±145	±145	±145	±145	±145
	Wrist twist (JT6)	±360	±360	±360	±360	±360	±360
Max. speed (°/s)	Arm rotation (JT1)	360	360/300	250	180	190	180
	Arm out-in (JT2)	250	360/300	250	180	205	180
	Arm up-down (JT3)	225	410/300	215	200	210	185/185/160
	Wrist swivel (JT4)	540	460	365	410	400	260/260/185
	Wrist bend (JT5)	225	460	380	360	360	260/260/165
	Wrist twist (JT6)	540	740	700	610	610	360/360/280
Mass (kg)		20	34/37	150	545	230	555
Installation		Floor, Ceiling					
Controller	America	E76	E77	E01	E02	E01	E02
	Europe	E70	E71				
	Japan & Asia	E73	E74				

*1: conforms to ISO9283 *2: Model code has changed. The configuration is also slightly different from that shown in the photo.
Application: ● Assembly ● Dispensing ● Machine tending ● Material handling ● Material removal ● Palletizing ● Arc welding

Large payload robots
up to 210 kg

CX series

Kawasaki's latest advances in technology deliver increased robot motion speed and installation flexibility.

CX210L

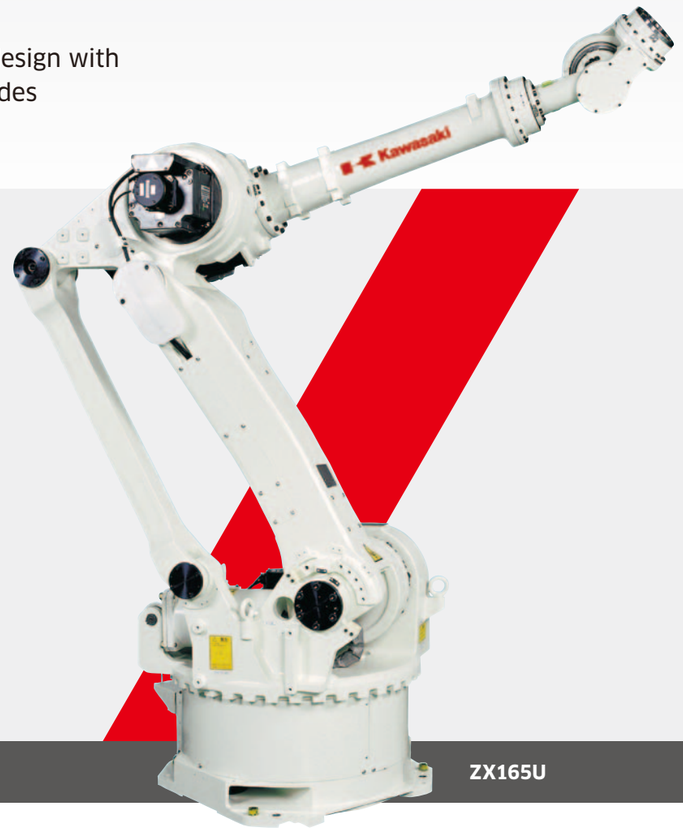
		CX110L	CX165L	CX210L
Application		● ● ● ●		
Degree of freedom (axes)		6		
Max. payload (kg)		110	165	210
Max. reach (mm)		2,699	2,699	2,699
Repeatability *1 (mm)		±0.2	±0.2	±0.2
Motion range (°)	Arm rotation (JT1)	±160	±160	±160
	Arm out-in (JT2)	+80 - -60	+80 - -60	+80 - -60
	Arm up-down (JT3)	+95 - -75	+95 - -75	+95 - -75
	Wrist swivel (JT4)	±210	±210	±210
	Wrist bend (JT5)	±120	±120	±120
	Wrist twist (JT6)	±360	±360	±360
Max. speed (°/s)	Arm rotation (JT1)	140	130	125
	Arm out-in (JT2)	135	125	115
	Arm up-down (JT3)	135	125	115
	Wrist swivel (JT4)	200	180	155
	Wrist bend (JT5)	200	180	160
	Wrist twist (JT6)	300	280	220
Mass (kg)		870	870	870
Installation		Floor		
Controller	America	E02		
	Europe			
	Japan & Asia			

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

Large payload robots
up to 300 kg

Z series

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



ZX165U

		ZX130S/130L/165U/200S/300S	ZH100U	ZT130S/165U/200S	ZT130Y/165X/165Y
Application		● ● ● ●	● ● ●	● ● ● ●	
Degree of freedom (axes)		6			
Max. payload (kg)		130/130/165/200/300	100	130/165/200	130/165/165
Max. reach (mm)		2,651/2,951/2,651/2,651/2,501	1,634	3,230/3,230/3,230	3,130/2,830/3,130
Repeatability *1 (mm)		±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)	130/110/110/105/100	140	130/105/100	120/120/105
	Arm out-in (JT2)	130/110/110/110/85	100	130/105/100	110/110/105
	Arm up-down (JT3)	130/110/115/105/85	100	130/105/90	115/115/100
	Wrist swivel (JT4)	180/140/140/120/90	150	180/135/120	160/140/140
	Wrist bend (JT5)	180/135/155/120/90	150	180/135/115	180/155/155
	Wrist twist (JT6)	280/230/260/200/150	250	280/210/180	280/260/260
Mass (kg)		1,350/1,400/1,350/1,400/1,400	750	1,550/1,550/1,600	1,665/1,650/1,665
Installation		Floor		Shelf	
Controller	America	E02			
	Europe				
	Japan & Asia				

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

Extra large payload robots
up to 1,500 kg

M series

Achieves high wrist torque and a compact body without any counterweight; the maximum payload is 1,500 kg.

MG15HL

		MX350L	MX420L	MX500N	MX700N	MT400N	MG10HL	MG15HL
Application					● ●			
Degree 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 *1 (mm)		±0.5	±0.5	±0.5	±0.5	±0.5	±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

		BX100S	BX100N	BX100L/165L/200L	BX130X	BX165N	BX250L/300L	BT165L/BT200L
Application					●			
Degree of freedom (axes)					6			
Max. payload (kg)		100	100	100/165/200	130	165	250/300	165/200
Max. reach (mm)		1,634	2,200	2,597	2,991	2,325	2,812	3,151
Repeatability *1 (mm)		±0.2	±0.2	±0.2	±0.2	±0.2	±0.2	±0.2
Motion range (°)	Arm rotation (JT1)	±160	±160	±160	±160	±160	±180	±160
	Arm out-in (JT2)	+120 - -65	+120 - -65	+76 - -60	+76 - -60	+76 - -60	+76 - -60	+80 - -130
	Arm up-down (JT3)	+90 - -81	+90 - -77	+90 - -75	+90 - -75	+90 - -75	+90 - -120	+90 - -75
	Wrist swivel (JT4)	±210	±210	±210	±210	±210	±210	±210
	Wrist bend (JT5)	±125	±125	±125	±125	±125	±125	±125
	Wrist twist (JT6)	±210	±210	±210	±210	±210	±210	±210
Max. speed (°/s)	Arm rotation (JT1)	135	135	105/120/105	105	105	125	120/105
	Arm out-in (JT2)	125	110	130/110/90	90	130	120/102	110/85
	Arm up-down (JT3)	155	140	130/130/100	130	130	100/85	130/100
	Wrist swivel (JT4)	200	200	200/170/120	200	120	140/105	170/120
	Wrist bend (JT5)	160	200	160/170/120	160	160	140/110	170/120
	Wrist twist (JT6)	300	300	300/280/200	300	300	200/180	280/200
Mass (kg)		720	740	930	970	903	1,460	1,100
Installation		Floor						Shelf
Controller	America	E02						
	Europe							
	Japan & Asia							

*1: conforms to ISO9283
Application: ● Spot welding

Arc welding robots

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

BA006N

		BA006N	BA006L	RA005L	RA006L	RA010N	RA010L	RA020N
Application					●			
Degree of freedom (axes)					6			
Max. payload (kg)		6	6	5	6	10	10	20
Max. reach (mm)		1,445	2,036	903	1,650	1,450	1,925	1,725
Repeatability *1 (mm)		±0.06	±0.08	±0.03	±0.06	±0.06	±0.06	±0.06
Motion range (°)	Arm rotation (JT1)	±165	±165	±180	±180	±180	±180	±180
	Arm out-in (JT2)	+150 - -90	+150 - -90	+135 - -80	+145 - -105	+145 - -105	+155 - -105	+155 - -105
	Arm up-down (JT3)	+90 - -175	+90 - -175	+118 - -172	+150 - -163	+150 - -163	+150 - -163	+150 - -163
	Wrist swivel (JT4)	±180	±180	±360	±270	±270	±270	±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	300	250	250	190	190
	Arm out-in (JT2)	240	210	300	250	250	205	205
	Arm up-down (JT3)	220	220	300	215	215	210	210
	Wrist swivel (JT4)	430	430	460	365	365	400	400
	Wrist bend (JT5)	430	430	460	380	380	360	360
	Wrist twist (JT6)	650	650	740	700	700	610	610
Mass (kg)		150	160	37	150	150	230	230
Installation		Floor, Ceiling						
Controller	America	E01		E77	E01			
	Europe			E71				
	Japan & Asia			E74				

*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

		KF121	KF192/193/194	KF262/263/264	KG264	KJ264(Floor/Shelf/Wall)/314
Application		●				
Degree of freedom (axes)		6				6/6/6/7
Max. payload (kg)		5	Wrist : 12 Arm : 20	Wrist : 12 Arm : 20	Wrist : 20 Arm : 30	Wrist : 15 Arm : 25
Max. reach (mm)		1,240	1,973/1,973/1,978	2,665/2,665/2,668	2,665	2,640/2,640/2,640/3,100
Repeatability *1 (mm)		±0.2	±0.5	±0.5	±0.5	±0.5
Motion range (°)	Arm rotation (JT1)	±160	±150	±150	±120	±120/±120/+30 - −120/±120
	Arm out-in (JT2)	±90	+110 - −60	+110 - −60	+120 - −60	+130 - −80
	Arm up-down (JT3)	±150	+90 - −80	+90 - −80	+90 - −65	+90 - −65
	Wrist swivel (JT4)	±270	±360/±720/±720	±360/±720/±720	±720	±720
	Wrist bend (JT5)	±145	±360/±720/±720	±360/±720/±720	±720	±720
	Wrist twist (JT6)	±360	±360/±410/±410	±360/±410/±410	±410	±410
	Arm swing (JT7)	–	–	–	–	–/–/–/±90
Wrist type		RBR	BBR/3Rø40/3Rø70	BBR/3Rø40/3Rø70	3Rø70	3Rø70
Mass (kg)		140	690/720/750	720/740/770	795	540/530/530/720
Explosion protection		Combination of pressurized type and intrinsically safety type (Expib II BT4/Exib II BT4)				Combination of pressurized type and intrinsically safety type (f2G4/Exib II BT4)
Installation		Floor, Wall				Floor/Shelf/Wall/Wall
Controller	America	E37	–		E35	
	Europe	E47	E45			
	Japan & Asia	E27	E25			

*1: conforms to ISO9283
Application: ● Painting

Palletizing robots

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

CP700L

		RD080N	ZD130S	ZD250S	CP180L	CP300L	CP500L	CP700L
Application		●						
Degree of freedom (axes)		5	4					
Max. payload (kg)		80	130	250	180	300	500	700
Motion range (°)	Arm rotation (JT1)	±180	±180	±180	±160	±160	±160	±160
	Arm out-in (JT2)	+140 - −105	+90 - −50	+90 - −50	+95 - −46	+95 - −46	+95 - −46	+95 - −46
	Arm up-down (JT3)	+40 - −205	+15 - −120	+15 - −120	+15 - −110	+15 - −110	+15 - −110	+15 - −110
	Wrist swivel (JT4)	±360	±360	±360	±360	±360	±360	±360
	Wrist compensation (JT5)	±10 *3	N/A	N/A	N/A	N/A	N/A	N/A
Max. speed (°/s)	Arm rotation (JT1)	180	135	95	140 *4	115 *5	85	75
	Arm out-in (JT2)	180	110	90	125 *4	100 *5	80	65
	Arm up-down (JT3)	175	130	95	130 *4	100 *5	80	65
	Wrist swivel (JT4)	360	400	190	400 *4	250 *5	180	170
Working area (mm)	Width	1,100	1,800	1,800	1,800	1,800	1,800	1,800
	Depth	1,100	1,600	1,600	1,600	1,600	1,600	1,600
	Height	2,062.3	2,200	2,200	2,200	2,200	2,200	2,200
Palletizing capacity *1(cycle/hour)		900	1,700	1,400	2,050 *4	1,700 *5	1,000	900
Repeatability *2 (mm)		±0.07	±0.5	±0.5	±0.5	±0.5	±0.5	±0.5
Mass (kg)		540	1,350	1,350	1,600	1,600	1,650	1,650
Controller	America	E03	E33		E03			
	Europe		E43					
	Japan & Asia		E23					

*1: Motion pattern (400mm up, 2,000mm horizontal, 400mm 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

While only using space that can fit one person, the duAro can achieve dual-armed collaborative movements, which are impossible when using two SCARA robots.

		duAro 1
Application		● ● ● ●
Degree of freedom (axes)		4 × 2 arms
Max. payload (kg)		2 (1 arm)
Repeatability (mm)		±0.05
		Arm 1 (lower arm) / Arm 2 (upper arm)
Motion range (°)	Arm rotation (°)	−170 - +170 (JT1) / −140 - +500 (JT1)
	Arm rotation (°)	−140 - +140 (JT2) / −140 - +140 (JT2)
	Arm up-down (mm)	0 - +150 (JT3) *1 / 0 - +150 (JT3) *1
	Wrist swivel (°)	−360 - +360 (JT4) *1 / −360 - +360 (JT4) *1
Mass (kg)		about 200
Installation		Floor
Controller	America	D61
	Europe	
	Japan & Asia	

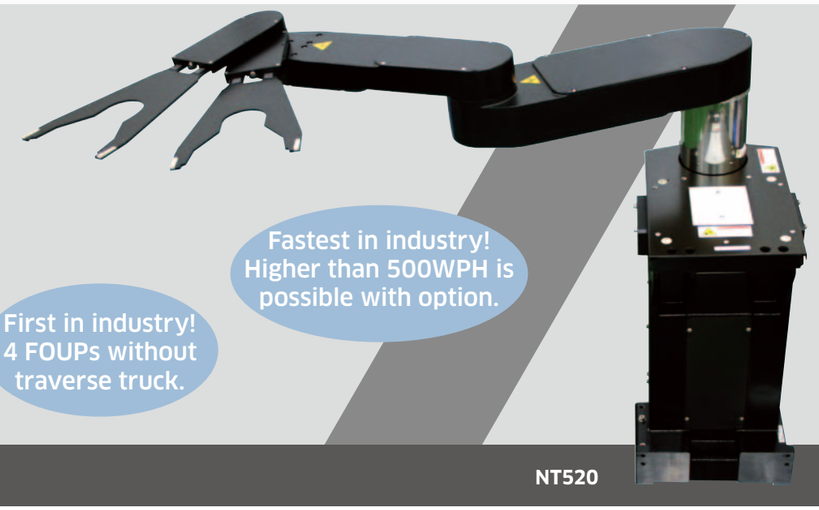
*1: Specification varies in case of other options or conversion
Application: ● Assembly ● Material handling ● Machine tending ● Dispensing

Clean robots

NT series

Horizontal Articulated type

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



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
Degree of freedom (axes)	Standard	4	
	Option	–	5
Motion range (mm)		ø600 × H200	ø1,300 × H500
Cycle time *1 (Payload)		0.3 s (0.5 kg) 0.36 s (2 kg)	0.27 s (1 kg) 0.45 s (3 kg)
Positional repeatability *2 (mm)		± 0.04	± 0.1
Angular repeatability (°)		± 0.1	
Mass (kg)		60	145
Installation		Ceiling	
Environmental condition	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	

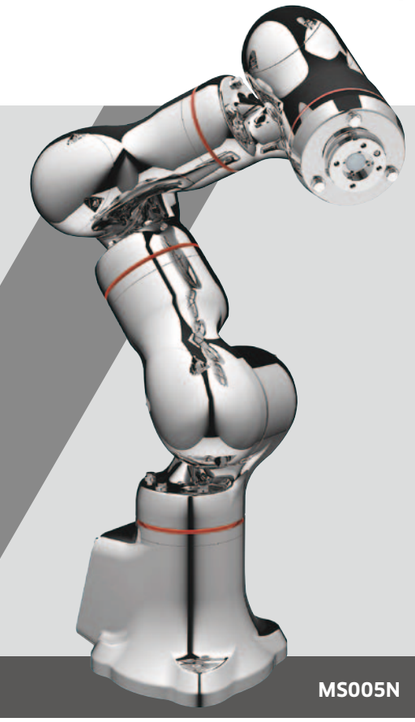
*1: Motion pattern (25mm up, 305mm horizontal, 25mm down in a to-and-fro motion)
*2: conforms to ISO9283
Application: ● Assembly ● Material handling

YF003N

Medical & pharmaceutical robots

MC004N/004V/MS005N

A clean robot for medical and pharmaceutical applications.



		MC004N/004V	MS005N
Degree of freedom (axes)		6	7
Max. payload (kg)		4	5
Max. reach (mm)		505.8	660
Repeatability *1 (mm)		±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
	Arm rotation (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
	Arm rotation (JT7)	–	215
Mass (kg)		25	50
Installation		Floor, ceiling	Floor, ceiling
Controller	America	E76	E76
	Europe	E70	E70
	Japan & Asia	E73	E73

*1: conforms to ISO9283

MS005N

Controller

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.

E73

E94

E01/02/03/04

E40

E35

E28

D60

America	E76/77	E97	E01/02/03/04		E30/32/33/34	E35/37	E28	D60/61
Europe	E70/71	E91			E40/42/43/44	E45/47		
Japan & Asia	E73/74	E94			E10/12/13/14/20/22/23/24	E25/27		
Features	The E7X controllers are extremely compact, and specially designed for small robot arms (RS03N, 05N, 05L, 06L and 10N). Though compact in design, these controllers offer high performance and expandability.	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 support 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)	8	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.
I/O signals: Input (Channels)	32 (max. 96)	32 (max. 96)	32 (max. 96)		32 (max. 128)	32 (max. 128)	32 (max. 128)	16/16 (max. 32)
I/O signals: Output (Channels)	32 (max. 96)	32 (max. 96)	32 (max. 96)		32 (max. 128)	32 (max. 128)	32 (max. 128)	8/8 (max. 16)
Structure	Enclosed structure with indirect cooling system	Open structure with direct cooling system *1 (Option: Enclosed structure)	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	30	40	40/40/45/40		145/180/195/180 *2	170	280	14/20
Mass (kg): Europe					145/180/195/180 *2	170		
Mass (kg): 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: for 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 type 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.