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#### Kawasaki Robotics brand site XYZ

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<https://robotics.kawasaki.com/ja1/robostage/en.html>



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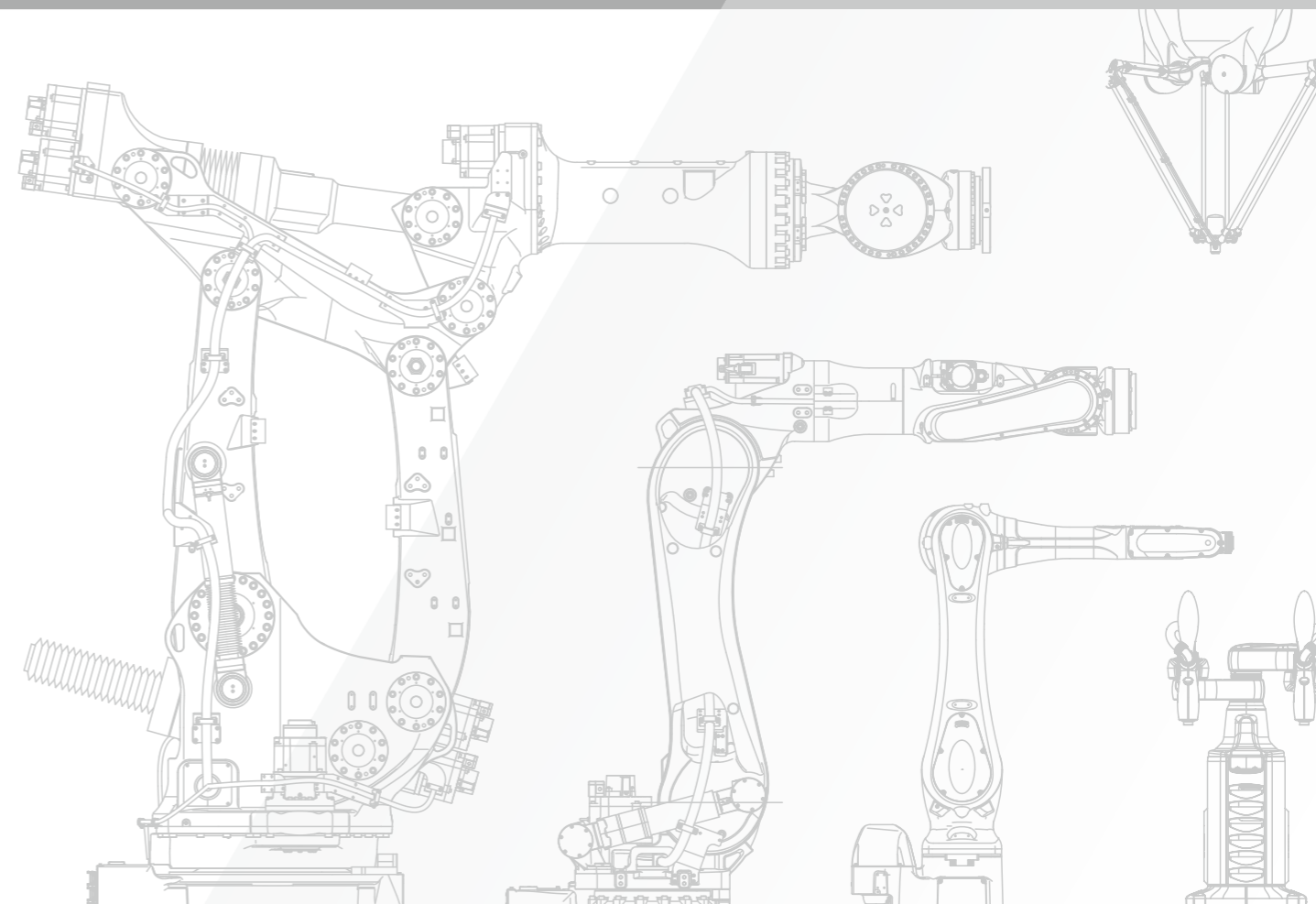


#### CAUTIONS TO BE TAKEN TO ENSURE SAFETY

- 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 Akashi Works and Nishi-Kobe Works.





## Simple and friendly

### User-friendly robots closer to users

Looking into a better society where robots and humans co-exist, we would like to supply robots to those who need them.

As a fully-integrated robot manufacturer, Kawasaki is striving to offer robots to solve today's diverse social problems.

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Small-to-medium robots up to 80kg payload

Large robots up to 300kg payload

**RS** series

**BX/BT** series

**BXP** series

**ZX** series



Arc welding robots

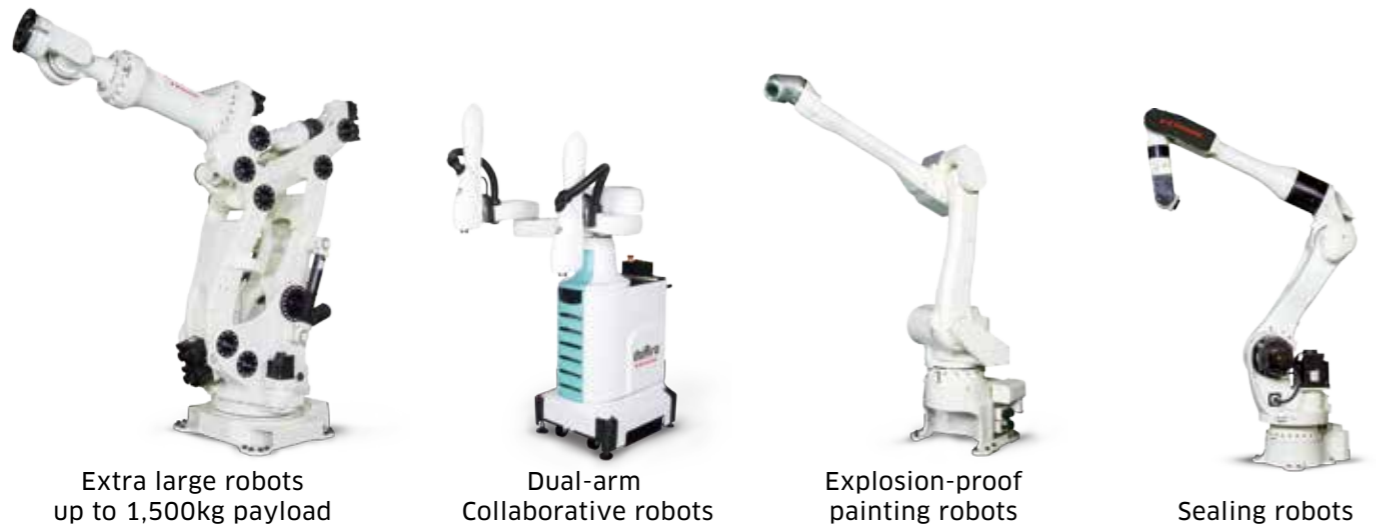
Palletizing robots

**BA** series

**RA** series

**CP** series

**RD** series



Extra large robots up to 1,500kg payload

Dual-arm Collaborative robots

Explosion-proof painting robots

Sealing robots

**M** series

**duAro** series

**K** series

**BU** series



Medical & pharmaceutical robots

Picking robots

Wafer transfer robots

**MS** series

**MC** series

**YF** series

**NTS** series

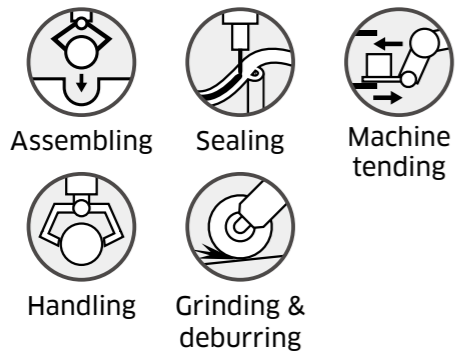
**TTS** series

# RS series

Small-to-medium robots up to 80kg payload

- Wide range of lineup for every application.
- Industry-leading operation speed.
- Compact, yet wide motion range.

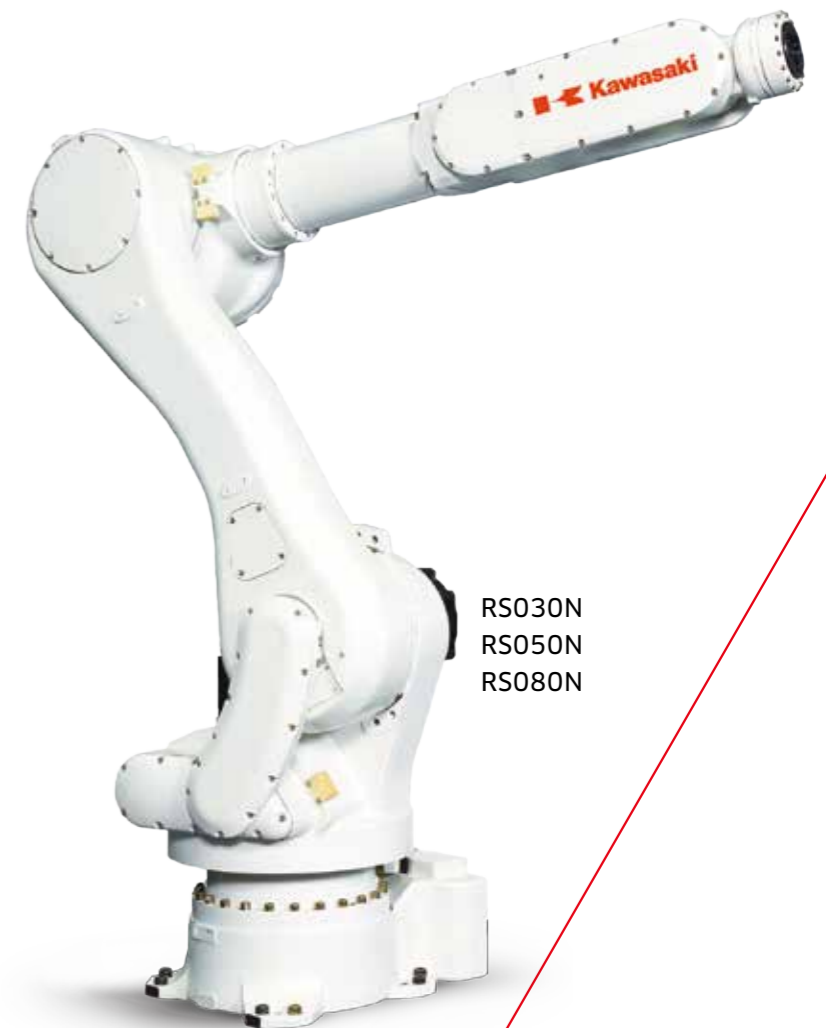
[Applications]



RS007N



RS013N



RS030N  
RS050N  
RS080N

		RS series						RS series							
		RS003N	RS005N	RS005L	RS006L	RS007N	RS007L	RS010L	RS013N	RS015X	RS020N	RS030N	RS050N	RS080N	
Degree of freedom (axes)		6						6							
Payload (kg)		3	5		6	7		10	13	15	20	30	50	80	
Max. reach (mm)		620	705	903	1,650	730	930	1,925	1,460	3,150	1,725		2,100		
Position repeatability*1 (mm)		±0.02		±0.03			±0.02	±0.03	±0.05	±0.03	±0.06	±0.04	±0.06		
Motion range (°)	Arm rotation (JT1)	±160		±180				±180							
	Arm out-in (JT2)	±150 - -60	±135 - -80		+145 - -105		±135	±155 - -105	+138 - -105	+140 - -105	+155 - -105	+140 - -105			
	Arm up-down (JT3)	+120 - -150	+118 - -172		+150 - -163		±155	±157	+150 - -163	+135 - -159	+135 - -155	+150 - -163	+135 - -155		
	Wrist swivel (JT4)	±360			±270		±200	±270	±200	±360	±270	±360			
	Wrist bend (JT5)	±135	±145			±125		±145	±125	±145					
	Wrist twist (JT6)	±360						±360							
Max. speed (°/s)	Arm rotation (JT1)	360		300	250	470	370	190	265	180	190	180			
	Arm out-in (JT2)	250	360	300	250	380	310	205	250	180	205	180			
	Arm up-down (JT3)	225	410	300	215	520	410	210	265	200	210	185	160		
	Wrist swivel (JT4)	540	460		365	550		400	475	410	400	260	185		
	Wrist bend (JT5)	225	460		380	550		360	475	360		260	165		
	Wrist twist (JT6)	540	740		700	1,000		610	730	610		360	280		
Mass (kg)		20	34	37	150	35	36	230	170	545	230	555			
Mounting		Floor, Ceiling						Floor, Ceiling							
Degrees of protection		IP54 or equivalent		Wrist : IP67 or equivalent   Base axes : IP65 or equivalent				Wrist : IP67 or equivalent Base axes : IP65 or equivalent		All axes: IP67		Wrist : IP67 or equivalent   Base axes : IP65 or equivalent			
Controller/Power requirements		F60/2.0kVA			F60/2.0kVA, F01/5.6kVA			F01/5.6kVA	F60/2.0kVA, F01/5.6kVA	F02/7.5kVA	F01/5.6kVA	F02/7.5kVA			

\*1: Conforms to ISO9283

Large robots  
up to 300kg payload

# BX/BT series

Large robots up to 300kg payload

- Built-in cables and hoses.
- Slim design and small footprint for high-density installation.

[Applications]



Assembling



Handling



Spot welding



BX100N



BT165L / BT200L

		BX/BT series				BX/BT series					
		BX100N	BX165N	BX165L		BX200X	BX250L	BX300L	BT165L	BT200L	
Degree of freedom (axes)		6				6					
Payload (kg)		100	165			200	250	300	165	200	
Max. reach (mm)		2,200	2,325	2,597		3,412	2,812		3,151		
Position repeatability*1 (mm)		±0.06				±0.07		±0.08			
Motion range (°)	Arm rotation (JT1)	±160				±180		±160			
	Arm out-in (JT2)	+120 - -65	+76 - -60			+76 - -60		+80 - -130			
	Arm up-down (JT3)	+90 - -77	+90 - -75			+90 - -110	+90 - -120		+90 - -75		
	Wrist swivel (JT4)	±210				±210		±210			
	Wrist bend (JT5)	±125				±125		±125			
	Wrist twist (JT6)	±210				±210		±210			
Max. speed (°/s)	Arm rotation (JT1)	135	105	120		125		120	105		
	Arm out-in (JT2)	110	130	110		102	120	102	110	85	
	Arm up-down (JT3)	140	130			85	100	85	130	100	
	Wrist swivel (JT4)	200	120	170		105	140	105	170	120	
	Wrist bend (JT5)	200	160	170		120	140	110	170	120	
	Wrist twist (JT6)	300		280		200		180	280	200	
Mass (kg)		740	875	890		1,450	1,460		1,100		
Mounting		Floor				Floor				Shelf	
Degrees of protection		Wrist : IP67 or equivalent Base axes : IP54 or equivalent				Wrist : IP67 or equivalent Base axes : IP54 or equivalent					
Controller/Power requirements		F02/7.5kVA				F02/7.5kVA					

\*1: Conforms to ISO9283

Large robots up to 300kg payload

# BXP series

Large robots up to 300kg payload

- Built-in cables and hoses.
- Lighter and more compact.
- Higher speed thanks to new F series controller.

[Applications]



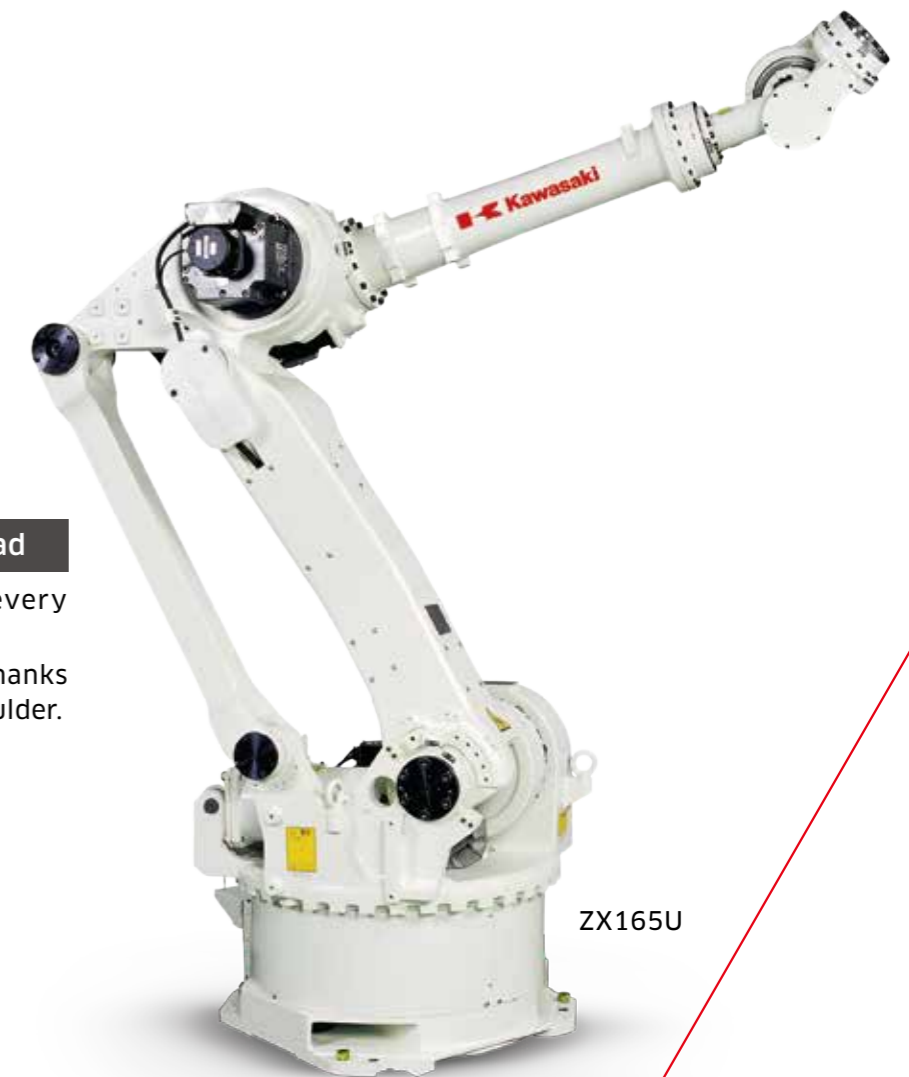
BXP110L

# ZX series

Large robots up to 300kg payload

- Wide range of applications for every industry.
- Suitable for harsh environment thanks to wrist motors located at the shoulder.
- Wide motion range of 360°

[Applications]



ZX165U

		BXP series			
		BXP110S	BXP110L	BXP135X	BXP210L
Degree of freedom (axes)		6			
Payload (kg)		110		135	210
Max. reach (mm)		1,634	2,597	2,991	2,597
Position repeatability*1 (mm)		±0.06			
Motion range (°)	Arm rotation (JT1)	±160			
	Arm out-in (JT2)	+120 - -65	+76 - -60		
	Arm up-down (JT3)	+90 - -81	+90 - -75		
	Wrist swivel (JT4)	±210			
	Wrist bend (JT5)	±125			
	Wrist twist (JT6)	±210			
Max. speed (°/s)	Arm rotation (JT1)	140			
	Arm out-in (JT2)	130		105	
	Arm up-down (JT3)	170	135	140	115
	Wrist swivel (JT4)	220			140
	Wrist bend (JT5)	185	200		135
	Wrist twist (JT6)	300		240	
Mass (kg)		700	870	880	870
Mounting		Floor			
Degrees of protection		Wrist : IP67 or equivalent Base axes : IP54 or equivalent			
Controller/ Power requirements		F02/7.5kVA			

\*1: Conforms to ISO9283

		ZX series				
		ZX130S	ZX130L	ZX165U	ZX200S	ZX300S
Degree of freedom (axes)		6				
Payload (kg)		130		165	200	300
Max. reach (mm)		2,651	2,951	2,651		2,501
Position repeatability*1 (mm)		±0.3				
Motion range (°)	Arm rotation (JT1)	±180				
	Arm out-in (JT2)	+75 - -60				
	Arm up-down (JT3)	+250 - -120				
	Wrist swivel (JT4)	±360				
	Wrist bend (JT5)	±130				
	Wrist twist (JT6)	±360				
Max. speed (°/s)	Arm rotation (JT1)	130	110		105	100
	Arm out-in (JT2)	130	110			85
	Arm up-down (JT3)	130	110	115	105	85
	Wrist swivel (JT4)	180	140		120	90
	Wrist bend (JT5)	180	135	155	120	90
	Wrist twist (JT6)	280	230	260	200	150
Mass (kg)		1,350	1,400	1,350	1,400	
Mounting		Floor				
Controller/ Power requirements		E02/7.5kVA				

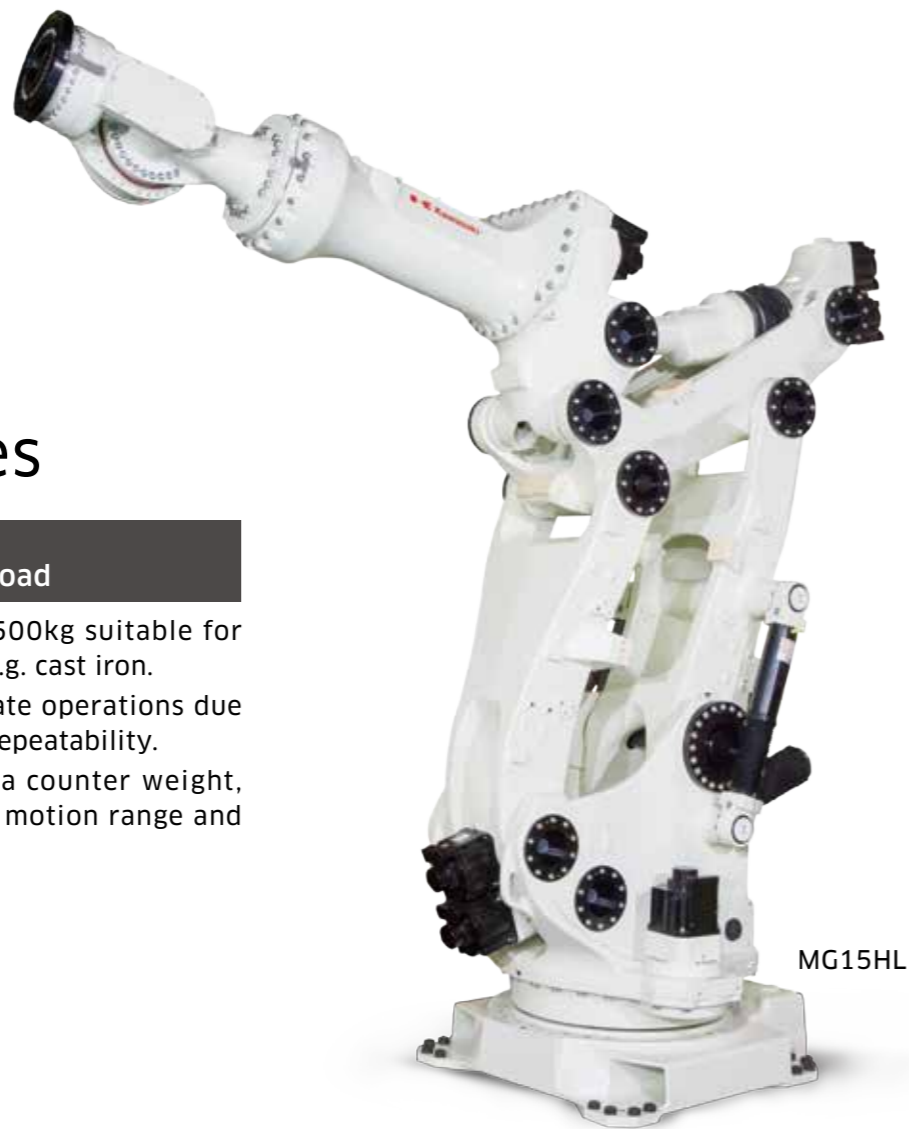
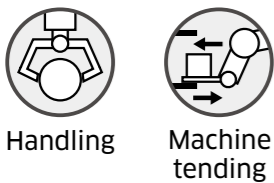
\*1: Conforms to ISO9283

# M series

Extra large robots  
up to 1,500kg payload

- Max. payload of 1,500kg suitable for heavy workpieces, e.g. cast iron.
- Dynamic, yet accurate operations due to high positioning repeatability.
- Slim body without a counter weight, allowing for a wide motion range and high rigidity.

[Applications]



MG15HL

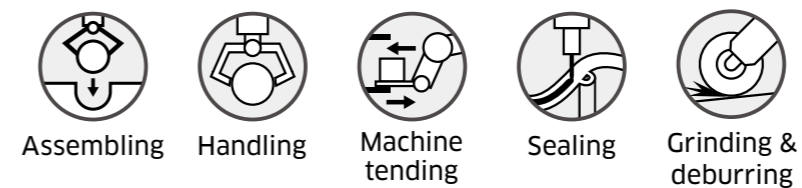
# duAro series

Dual-arm  
Collaborative robots

- Space-saving without safety fences.\*
- With its two arms, duAro can perform as efficient tasks as human workers.
- Easy programming using a tablet and the direct teaching function.

\* : Users are required to carry out a safety risk assessment before use.

[Applications]



duAro1

duAro2

		M series							
		MX350L	MX420L	MX500N	MX700N	MT400N	MG10HL	MG15GL	
Degree of freedom (axes)		6							
Payload (kg)		350	420	500	700	400	1,000	1,500	
Max. reach (mm)		3,018	2,778	2,540		3,503	4,005		
Position repeatability*1 (mm)		±0.1				±0.5	±0.1		
Motion range (°)	Arm rotation (JT1)	±180					±150		
	Arm out-in (JT2)	+90 - -45				+15 - -135	+90 - -40		
	Arm up-down (JT3)	+20 - -115	+20 - -125	+20 - -130		+106 - -30	+30 - -110*2		
	Wrist swivel (JT4)	±360							
	Wrist bend (JT5)	±110				±120			
	Wrist twist (JT6)	±360							
Max. speed (°/s)	Arm rotation (JT1)	80			65	80	65		
	Arm out-in (JT2)	70			50	70	33.5		
	Arm up-down (JT3)	70			45	70	37.5		
	Wrist swivel (JT4)	80			50	70	65	36	
	Wrist bend (JT5)	80			50	70	65	36	
	Wrist twist (JT6)	120			95	130	80		
Mass (kg)		2,800		2,750	2,860	2,600	6,500	6,550	
Mounting		Floor				Shelf	Floor		
Controller/Power requirements		F04/12kVA			F02/7.5kVA	E58/15kVA			

\*1: Conforms to ISO9283  
\*2: Max. working range varies depending on the load mass and load torque

		duAro series			
		duAro1		duAro2	
Degree of freedom (axes)		4 × 2 arms			
Payload (kg)		2 × 2 arms		3 × 2 arms	
Max. reach (mm)		760		785	
Position repeatability (mm)		±0.05			
Motion range	Arm rotation (°)	Arm 1 (lower arm)	±170(JT1)	Arm 2 (upper arm)	-140 - +500(JT1)
				Arm 1 (lower arm)	±170(JT1)
		±140(JT2)		Arm 2 (upper arm)	-140 - +500(JT1)
	Arm up-down*1 (mm)	0 - +150(JT3)		Arm 1 (lower arm)	-130 - +140(JT2)
Wrist swivel*1 (°)			Arm 2 (upper arm)	-140 - +130(JT2)	
Mass (kg)		about 210		about 220	
Mounting		Floor			
Controller/Power requirements		F61/2.0kVA			

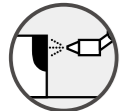
\*1: Specification varies in case of other options or conversion

# K series

## Explosion-proof painting robots

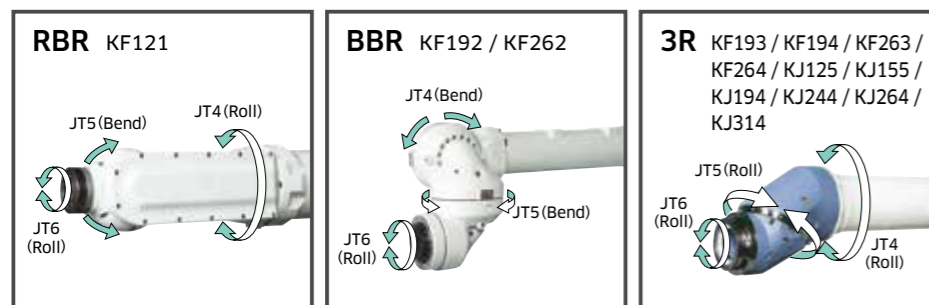
- Wide range of lineup for painting small parts to large automobile bodies.
- Hollow wrist to prevent painting defects due to paint mist.
- Packaged painting systems for an easy and quick installation and start up.

[Applications]

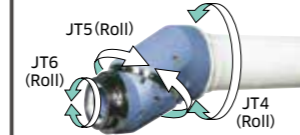


Painting

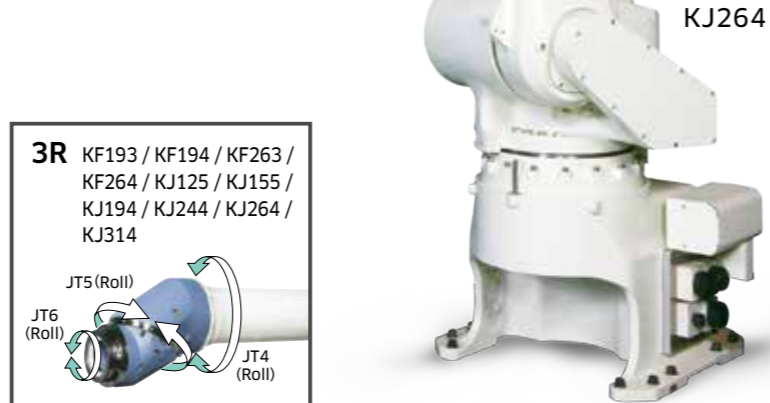
[Variation of Wrists]



**3R** KF193 / KF194 / KF263 / KF264 / KJ125 / KJ155 / KJ194 / KJ244 / KJ264 / KJ314



Labels: JT4 (Roll), JT5 (Roll), JT6 (Roll)



KJ264

# BU series

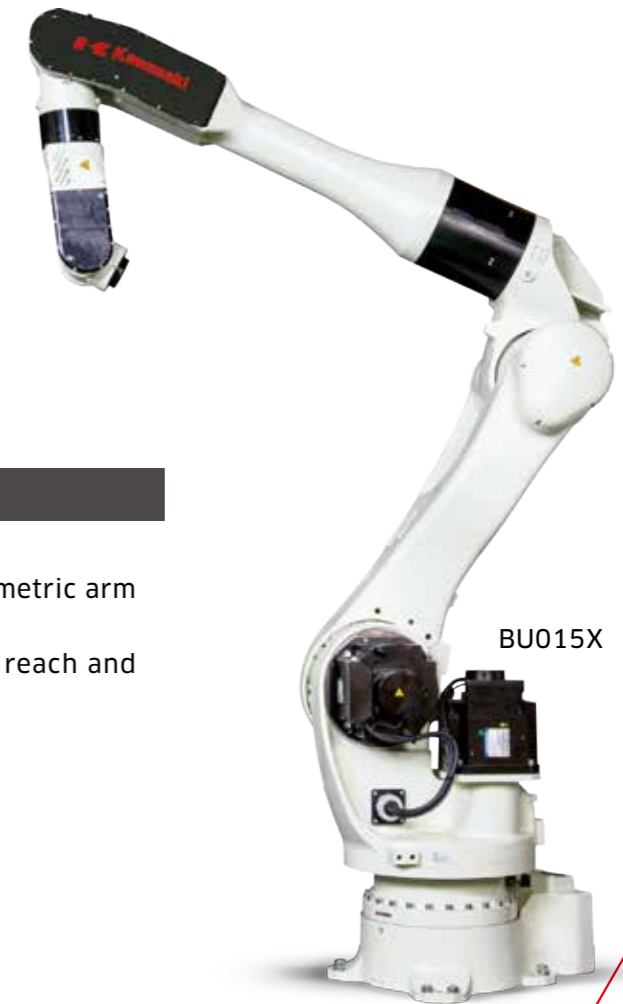
## Sealing robots

- Built-in hoses
- Reduced interferences thanks to the symmetric arm design.
- Painting of wider range because of long reach and the 7-axis construction (UB015X).

[Applications]



Sealing



BU015X

	K series								K series					
	KF121	KF192	KF193	KF194	KF262	KF263	KF264	KJ125	KJ155	KJ194 (Floor/Shelf/Wall)	KJ244 (Floor/Shelf/Wall)	KJ264 (Floor/Shelf/Wall)	KJ314	
Degree of freedom (axes)	6								6					
Payload (kg)	5	Wrist : 12 Arm : 20				Wrist : 8 Arm : 5				Wrist : 15 Arm : 25				
Max. reach (mm)	1,240	1,973	1,978	2,665	2,668	1,299	1,545	1,940	2,490	2,640	3,100			
Position repeatability*1 (mm)	±0.2	±0.5				±0.15				±0.5				
Motion range (°)	Arm rotation (JT1)	±160/±60(Shelf)		±150		±150 (Floor)/±60 (wall)		±160		±120/±120/+30 - -120				
	Arm out-in (JT2)	±90		+110 - -60				+130 - -80		+130 - -80				
	Arm up-down (JT3)	±150		+90 - -80				+90 - -75		+90 - -65				
	Wrist swivel (JT4)	±270	±360	±720	±360	±720		±720		±720				
	Wrist bend (JT5)	±145	±360	±720	±360	±720		±720		±720				
	Wrist twist (JT6)	±360	±360	±410	±360	±410		±410		±410				
	Arm swing (JT7)			-						-				
Painting speed (m/s)	-	1.2				1.5				1.5				
Mass (kg)	140	690	720	750	720	740	770	190	195	530/520/520	540/530/530		720	
Mounting	Floor, Ceiling, Shelf*2		Floor, Shelf								Floor, Shelf, Wall			
Power requirements*3 (kVA)	1.5		5				3		5					
Controller	North America	E37	-				E35		E35					
	Europe	E47	E45				E45							
	Japan & Asia	E27	E25				E25							

\*1: Conforms to ISO9283  
 \*2: Floor and wall mount for North America.  
 \*3: Depends on the payload and motion patterns

	BU series	
	BU015N	BU015X
Degree of freedom (axes)	6	7
Payload (kg)	15	
Max. reach (mm)	1,550	2,887.5
Position repeatability*1 (mm)	±0.04	±0.06
Motion range (°)	Arm rotation (JT1)	±180
	Arm out-in (JT2)	+140 - -105
	Arm up-down (JT3)	+155 - -120 +30 - -170
	Wrist swivel (JT4)	±210
	Wrist bend 1 (JT7)	- +110 - -130
	Wrist bend 2 (JT5)	±120
Max. speed (°/s)	Wrist twist (JT6)	±360
	Arm rotation (JT1)	250
	Arm out-in (JT2)	250
	Arm up-down (JT3)	215
	Wrist swivel (JT4)	280
	Wrist bend 1 (JT7)	- 170
Mass (kg)	Wrist bend 2 (JT5)	280
	Wrist twist (JT6)	360
	Wrist twist (JT6)	360
Mass (kg)	160	590
Mounting	Floor	
Controller/Power requirements	E51/5.6kVA	E52/10kVA

\*1: Conforms to ISO9283

# BA series

## Arc welding robots

- Built-in welding cables
- Easy one-cable connection between the robot and welding equipment.

[Applications]



Arc welding



BA006N



RA010N

# RA series

## Arc welding robots

- Full lineup for a wide range of workpieces with various sizes.
- Easy one-cable connection between the robot and welding equipment.

[Applications]



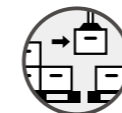
Arc welding

# CP series RD series

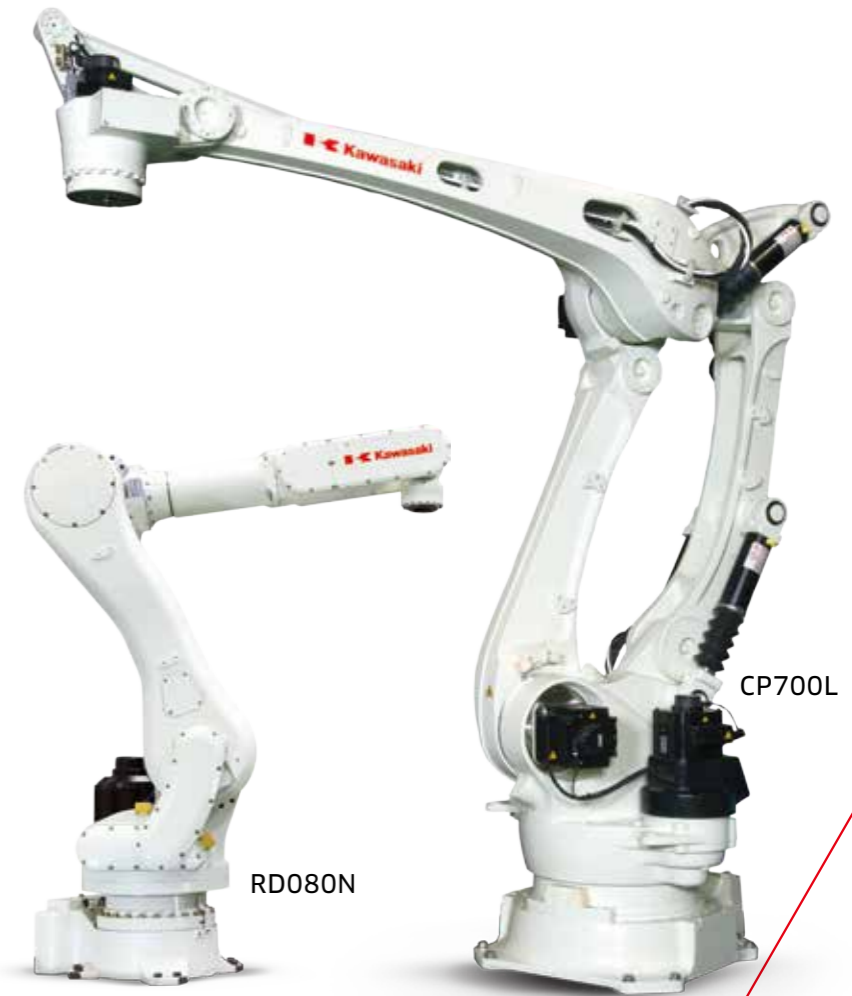
## Palletizing robots

- Lineup to cover a wide range of workpiece weight.
- High throughput and efficient palletizing thanks to speed.
- Monitoring function for safe operations and space-saving operations (optional).

[Applications]



Palletizing



RD080N

CP700L

	BA series		RA series				
	BA006N	BA006L	RA005L	RA006L	RA010N	RA010L	RA020N
Degree of freedom (axes)	6		6				
Payload (kg)	6		5	6	10		20
Max. reach (mm)	1,445	2,036	903	1,650	1,450	1,925	1,725
Position repeatability*1 (mm)	±0.06	±0.08	±0.03			±0.05	±0.04
Motion range (°)	Arm rotation (JT1)	±165		±180			
	Arm out-in (JT2)	+150 - -90		+135 - -80	+145 - -105		+155 - -105
	Arm up-down (JT3)	+90 - -175		+118 - -172	+150 - -163		
	Wrist swivel (JT4)	±180		±360	±270		
	Wrist bend (JT5)	±135		±145			
	Wrist twist (JT6)	±360		±360			
Max. speed (°/s)	Arm rotation (JT1)	240	210	300	250		190
	Arm out-in (JT2)	240	210	300	250		205
	Arm up-down (JT3)	220		300	215		210
	Wrist swivel (JT4)	430		460	365		400
	Wrist bend (JT5)	430		460	380		360
	Wrist twist (JT6)	650		740	700		610
Mass (kg)	150	160	37	150			230
Mounting	Floor, Ceiling		Floor, Ceiling				
Controller/Power requirements	F60/2.0kVA, E01/5.6kVA		F60/2.0kVA	F60/2.0kVA, E01/5.6kVA		E01/5.6kVA	

\*1: Conforms to ISO9283

	CP series				RD series
	CP180L	CP300L	CP500L	CP700L	RD080N
Degree of freedom (axes)	4				5
Payload (kg)	180	300	500	700	80
Max. reach (mm)	3,255				2,100
Position repeatability*1 (mm)	±0.5				±0.07
Motion range (°)	Arm rotation (JT1)	±160			±180
	Arm out-in (JT2)	+95 - -46			+140 - -105
	Arm up-down (JT3)	+15 - -110			+40 - -205
	Wrist swivel (JT4)	±360			±360
	Wrist compensation (JT5)	-			±10*2
Max. speed (°/s)	Arm rotation (JT1)	130	100	85	75
	Arm out-in (JT2)	125	90	80	65
	Arm up-down (JT3)	125	90	80	65
	Wrist swivel (JT4)	330	220	180	170
Mass (kg)	1,600		1,650		540
Mounting	Floor				Floor
Controller/Power requirements	F03/12kVA				F03/12kVA

\*1: Conforms to ISO9283

\*2: Operating angle of the JT5 is ±10 degrees perpendicular to the ground.





MS005N



MC004N



YF003N



NTS20



TTS20

## MS series

### Medical & pharmaceutical robots

- All stainless-made to support VHP sterilization.
- FDA-approved parts.
- Meets ISO class 5 (Fed-class 100) without vacuum piping.
- Operations in confined space thanks to the seven-axis construction.

[Applications]



Medical & pharmaceutical

## MC series

### Medical & pharmaceutical robots

- Built-in cables and hoses.
- Meets ISO class 5 (Fed-class 100) without vacuum piping.
- Special sealing material enables VHP sterilization (MC004V).

[Applications]



Medical & pharmaceutical

## YF series

### Picking robots

- Compact YF002N and wide motion range YF003N to cover wide range of applications and industries.
- Wide range of applications thanks to wash-down with acid or alkaline cleanser (for YF003N). Grease and oil for food processing machinery (both models).

[Applications]



Assembling



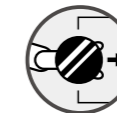
Handling

## NTS series

### Wafer transfer robots

- Accessible to 2 and 3 FOUF FEM.
- Smooth and accurate operations thanks to original driving mechanism.
- Compliant with SEMI-F47 and S2 standards.

[Applications]



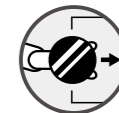
Wafer transfer

## TTS series

### Wafer transfer robots

- Unique telescopic mechanism to cover high and low positions.
- Compliant with SEMI-F47 and S-2 standards.

[Applications]



Wafer transfer

	MS series		MC series	
	MS005N		MC004N/MC004V	
Degree of freedom (axes)	7		6	
Payload (kg)	5		4	
Max. reach (mm)	660		505.8	
Position repeatability*1 (mm)	±0.1		±0.05	
Motion range (°)	Arm rotation (JT1)	±180	±180	
	Arm out-in (JT2)	+135 - -90	+135 - -95	
	Arm up-down (JT3)	±120	+60 - -155	
	Wrist swivel (JT4)	±180	±270	
	Wrist bend (JT5)	±115	±120	
	Wrist twist (JT6)	±180	±270	
	Wrist twist (JT7)	±180	-	
Max. speed (°/s)	Arm rotation (JT1)	130	200	
	Arm out-in (JT2)	130	180	
	Arm up-down (JT3)	215	225	
	Wrist swivel (JT4)	300	700	
	Wrist bend (JT5)	300	500	
	Wrist twist (JT6)	480	350	
	Wrist twist (JT7)	215	-	
Mass (kg)	50		25	
Mounting	Floor, Ceiling		Floor, Ceiling	
Degrees of protection	IP69 or equivalent		Wrist: IP67 or equivalent Base axes: IP65 or equivalent*2	
Controller/Power requirements	F60/2.0kVA		F60/2.0kVA	

\*1: Conforms to ISO9283 \*2: The flange must be closed in case of using the built-in piping.

	YF series	
	YF002N	YF003N
Degree of freedom (axes)	4	
Payload (kg)	2	3
Position repeatability*1 (mm)	±0.04	±0.1
Motion range (mm)	φ600 × H200	φ1,300 × H500
Cycle Time*2 (Payload)	0.3s(0.5kg) 0.36s(2kg)	0.27s(1kg) 0.45s(3kg)
Mass (kg)	60	140
Mounting	Ceiling	
Degrees of protection	IP65 or equivalent	
Controller/Power requirements	F01/5.6kVA	

\*1: Conforms to ISO9283  
\*2: Motion Pattern(25mm up,305mm horizontal,25mm down in a to-and-fro motion)

	NTS series		TTS series	
	NTS10	NTS20	TTS10	TTS20
Degree of freedom (axes)	4	5	4	5
Max. reach (mm)	1,066		1,066	
Position repeatability*1 (mm)	±0.1 (Wafer Center)		±0.1 (Wafer Center)	
Motion range	θ1axis (rotation JT2) (°)	340	340	
	Zaxis (up-down JT3) (mm)	470	470	
	θ2axis (rotation JT4) (°)	340	340	
	H1axis (rotation JT6) (°)	340	340	
	H2axis (rotation JT7) (°)	-	340	-
Mounting	Floor		Floor	
Controller/Power requirements	D60/1.0kVA		D60/1.0kVA	

\*1: Conforms to ISO9283

F controllers

- Universal controller has common specifications to be used worldwide.
- Drastic downsizing has achieved very compact dimensions and light weight (8.3kg). It is easy for a person to carry the controller.

	Dimensions (mm)	Mass (kg)	Degrees of protection
F60	W300×D320×H130	8.3	IP20 or equivalent



F60

- Dimensions and weight have been reduced from its previous E-controller.
- This universal controller has common specifications that can be used globally. (An optional transformer unit is necessary in the region where the power supply and safety standard differ.)

	Dimensions (mm)	Mass (kg)	Degrees of protection
F01	W420×D530×H278	20	IP54 or equivalent
F02	W420×D530×H278	25	IP54 or equivalent
F03	W420×D530×H278	30	IP54 or equivalent
F04	W420×D530×H278	25	IP54 or equivalent



F01/02/03/04

E controllers

- The E0x controllers are extremely compact.
- They are designed for the universal use of different power supply voltages with optional transformer units.

	Dimensions (mm)	Mass (kg)	Degrees of protection
E01	W550×D580×H278	40	IP54 or equivalent
E02	W550×D580×H278	40	IP54 or equivalent
E03	W550×D580×H278	45	IP54 or equivalent
E04	W550×D580×H278	40	IP54 or equivalent



E01/02/03/04

Explosion-proof E controllers

- Explosion-proof type controllers are used with painting robots.
- The explosion-proof teach pendant can also be used inside the painting booth.

	Dimensions (mm)	Mass (kg)
E25 (Japan & Asia)	W500×D550×H1,400	120
E35 (America, Canada)	W500×D550×H1,400	170
E45 (Europe)	W500×D550×H1,400	170



E25

standard

AS language

Robot programming language

Kawasaki's original AS language is a versatile, multi-functional robot programming language that supports monitor instructions, programming commands and functions. It enables programming with high-level operation and sequence controls. The AS language is equipped standard with all the Kawasaki robots

Option



Off-line programming tool

By making use of 3D models of the facilities and workpieces, robot programming and simulations can easily be performed on the PC. Off-line verification in advance reduces the risk of problems at the time of start up of robot systems.



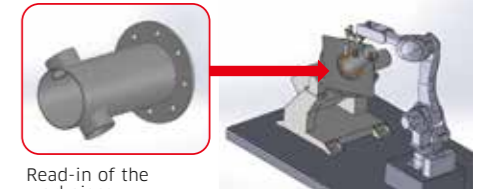
Simultaneous simulation of multiple robots is possible.

Option



Automated robot programming software

Programming cost can be reduced by creating robot programs from 3D CAD data of the workpiece. Small-volume in great-variety production is possible without programming and operation skills



Read-in of the workpiece

Automated creation and verification of the robot operation program.

Option

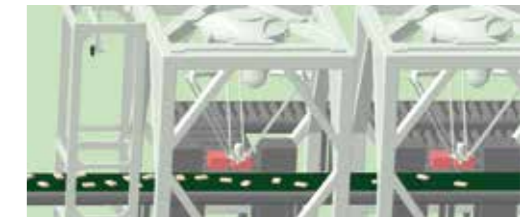


2D Vision system

It is possible to recognize both regular objects (e.g. PCB holes) and irregular objects (e.g. food materials). Without using a complicated indexing device, object's precise position can accurately be identified.



Compensation of the gripping position by fixed or hand cameras.



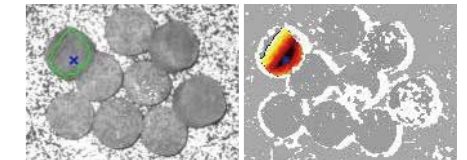
Detection of the present object position in synchronizing with a conveyor.

Option



3D vision system

It can recognize randomly stacked irregular objects. In a palletizing and de-palletizing process, objects can be identified automatically without prior registration of objects' data.



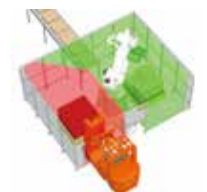
It can discern randomly stacked objects.

Option



Robot monitoring function for safety

Putting a limit on the robot motion range and monitoring the speed, force and collision assures operators' safety. Limits on the motion range provides the robot system with safer operation and space-saving. Compliant with ISO 10218-1, 13849-1 (PLd/Category 3) and IEC61508 (SIL2).



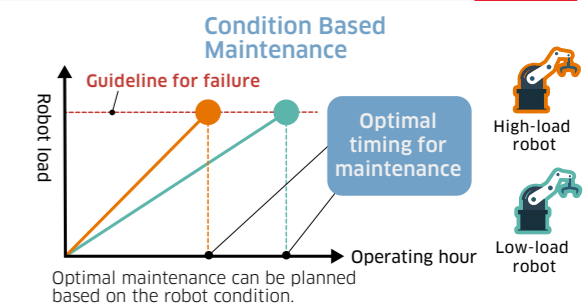
Limiting the motion range according to operator's working area.

Option



Full-service service package with state-of-art technology

Overall support of the robot system over the life cycle time is provided for safety on the production. All-time monitoring and collection of operation data enables preventive maintenance. K-COMMIT for life cycle support is targeted to achieve no down-time.



Optimal maintenance can be planned based on the robot condition.