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<https://robotics.kawasaki.com/>



Kawasaki Robotics brand site XYZ

<https://robotics.kawasaki.com/ja1/xyz/en/>



Kawasaki Robostage (showroom)

<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.

Kawasaki Robot

Explosion-proof Painting Robots

Small-to-medium robots
up to 80kg payload

Large robots
up to 300kg payload

Extra large robots
up to 1,500kg payload

Dual-arm Collaborative robots

Explosion-proof painting robots

Sealing robots

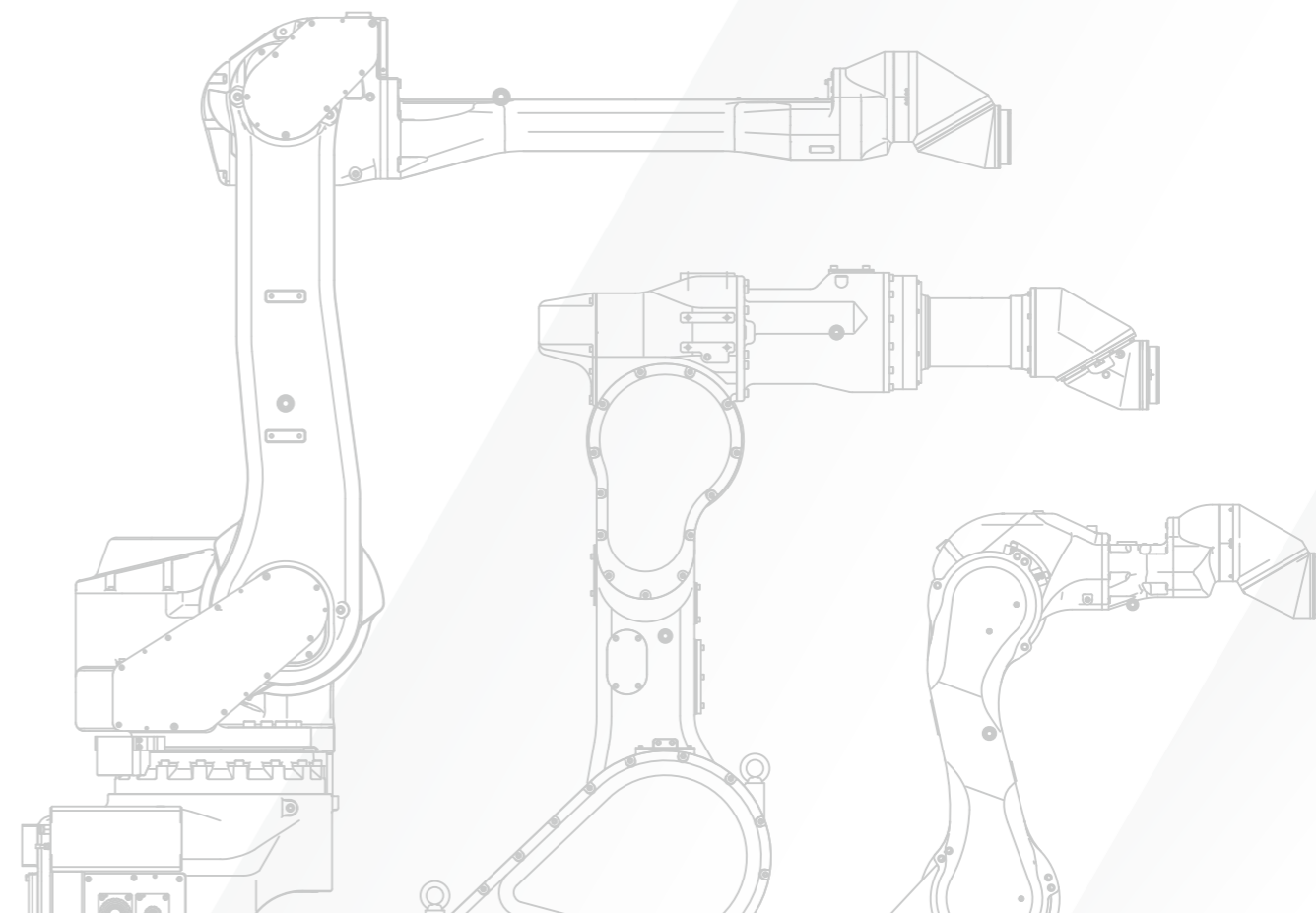
Arc welding robots

Palletizing robots

Medical & pharmaceutical robots

Picking robots

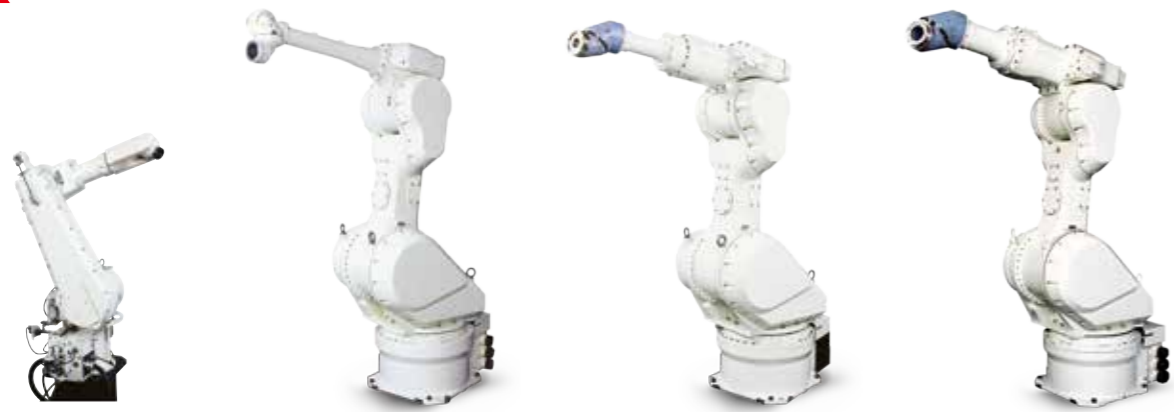
Wafer transfer robots



Explosion-proof Painting Robots

Kawasaki is the leading painting robot manufacturer in Japan and world. The K series robots are explosion-proof painting robots developed on Kawasaki's "Simple and Friendly" concept. The wide range of robots covers all painting applications from small to large workpieces in every industry.

K series



KF121 KF192 KF193 KF194

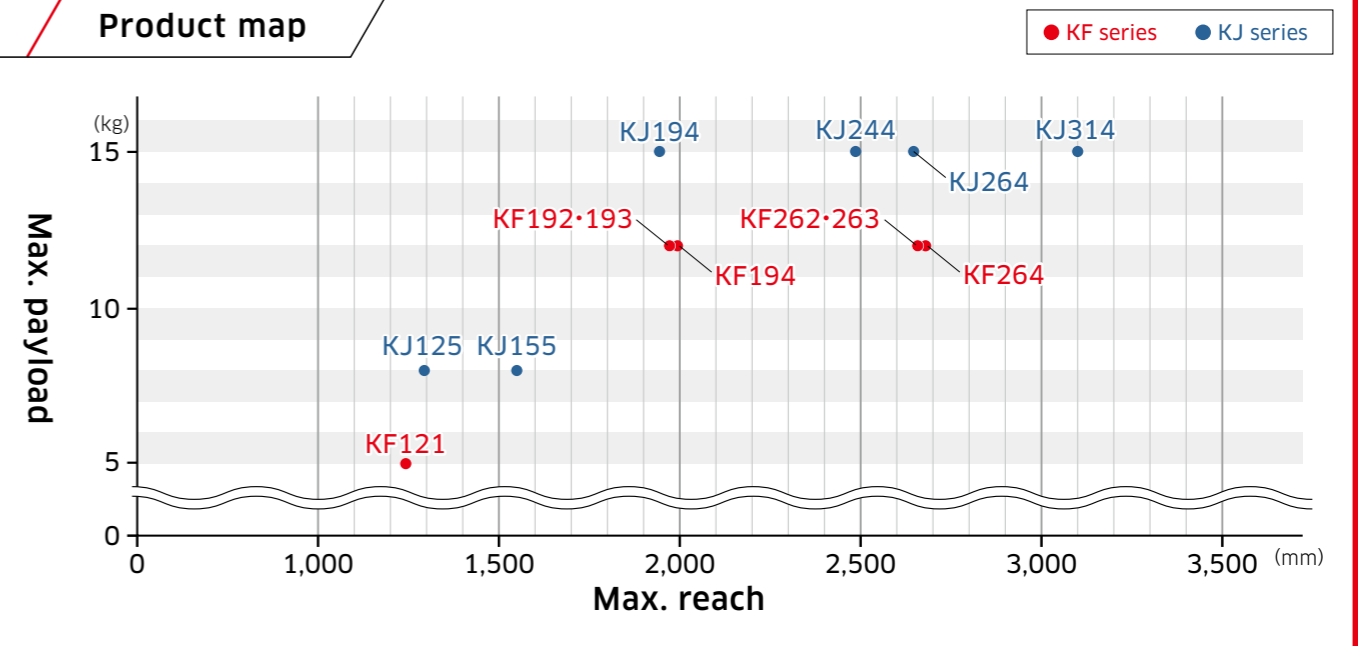


KF262 KF263 KF264

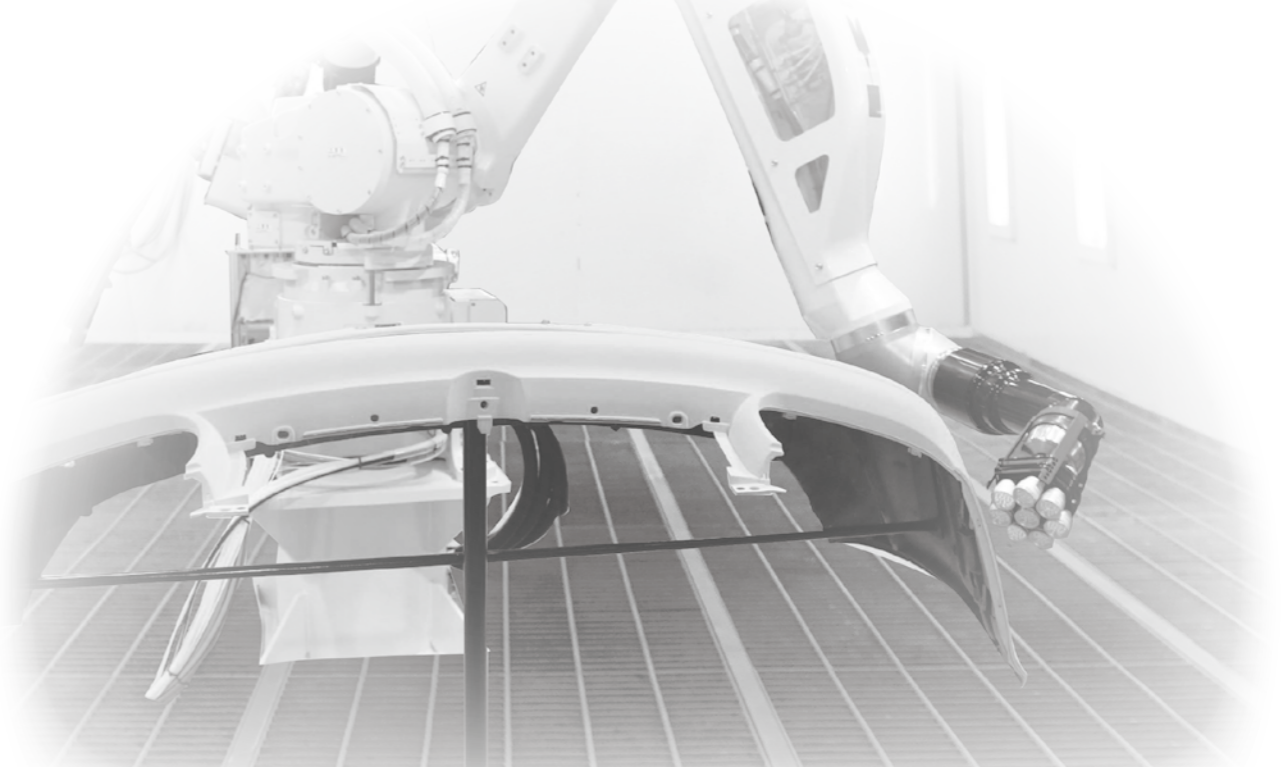


KJ125 KJ155 KJ194

Product map



KJ244 KJ264 KJ314



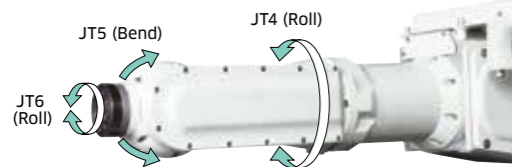


Features

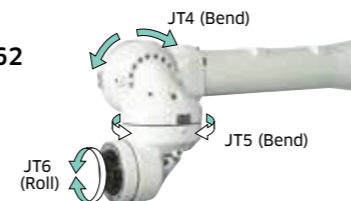
- Full lineup of painting robots cover diverse workpieces from small to large.
- The 3R type hollow wrist can install hoses inside to prevent dusts on the painted parts.
- Painting package cells support users to introduce robot painting lines with ease (optional).

Variations of wrists

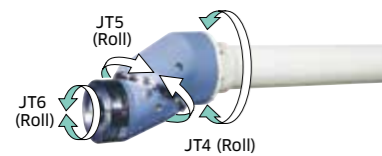
RBR KF121



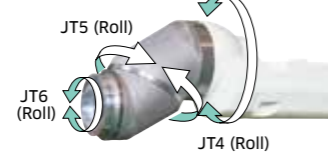
BBR KF192 / KF262



3R (Ø40mm) KF193 / KF263

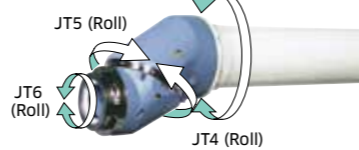


3R (Ø50mm*) KJ125 / KJ155



*The shape of the tool mounting part of the wrist (flange surface) is same as that of the 3R (Ø70mm)

3R (Ø70mm) KF194 / KF264 / KJ194 KJ244 / KJ264 / KJ314

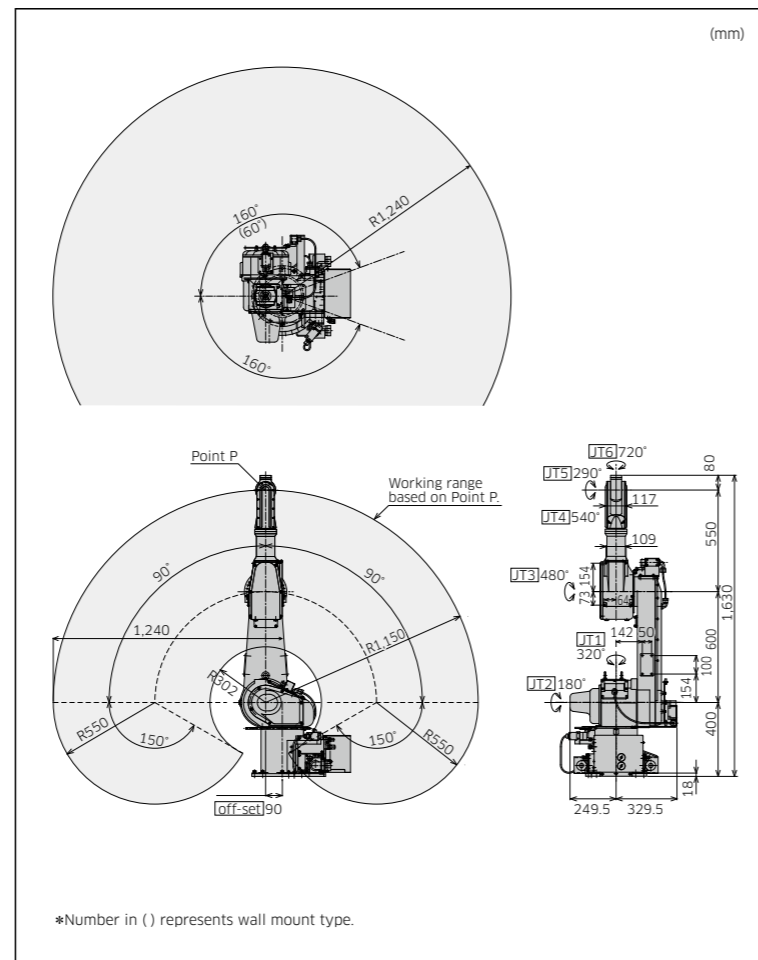


KF121

Standard Specifications

Type	Articulated robot	
Degree of freedom (axes)	6	
Payload (kg)	5	
Max. reach*1 (mm)	1,240	
Position repeatability*2 (mm)	±0.2	
Motion range (°)	Arm rotation (JT1)	±160/±60 (Wall)
	Arm out-in (JT2)	±90
	Arm up-down (JT3)	±150
	Wrist swivel (JT4)	±270
	Wrist bend (JT5)	±145
	Wrist twist (JT6)	±360
Mass (kg)	140	
Mounting	Floor, wall, ceiling*4	
Power requirements*3 (kVA)	1.5	
Explosion-proof construction	America	Combination of pressurized and intrinsically safe (CL I ZN 1 AEx ib pxb IIB T4 / AEx ib IIB T4 Gb)
	Canada	Combination of pressurized and intrinsically safe (Ex ib pxb IIB T4 Gb / Ex ib IIB T4 Gb)
	Europe	Combination of pressurized and intrinsically safe (II2 G Ex pxb ib IIB T4 / Ex ib IIB T4 Gb)
	Korea	Combination of pressurized and intrinsically safe (Ex ib pxb IIB T4 Gb / Ex ib IIB T4)
	China	Combination of pressurized and intrinsically safe (Ex ib px IIB T4 Gb / Ex ib IIB T4 Gb)
Japan & Asia (except China & Korea)	Combination of pressurized and intrinsically safe (Expixib IIB T4 / Ex ib IIB T4 Gb)	
Controller	America, Canada	E37
	Europe	E47
	Japan & Asia	E27

*1: Distance between centers of JT1 and JT5.
*2: Conforms to ISO9283.
*3: Depends on payload and motion patterns.
*4: For America and Canada, only floor and wall mount types are available.

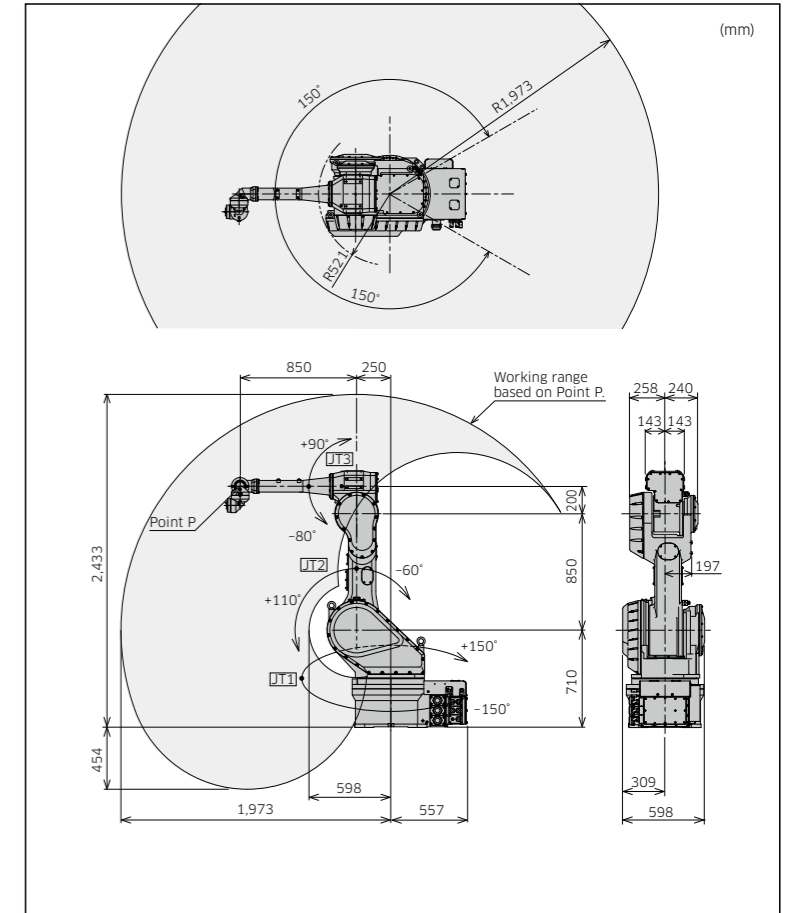


KF192

Standard Specifications

Type	Articulated robot	
Degree of freedom (axes)	6	
Payload (kg)	Wrist : 12 Arm : 20	
Max. reach*1 (mm)	1,973	
Position repeatability*2 (mm)	±0.5	
Motion range (°)	Arm rotation (JT1)	±150
	Arm out-in (JT2)	+110 - -60
	Arm up-down (JT3)	+90 - -80
	Wrist swivel (JT4)	±360
	Wrist bend (JT5)	±360
	Wrist twist (JT6)	±360
Painting speed (m/s)	1.2	
Mass (kg)	690	
Mounting	Floor, wall	
Power requirements*3 (kVA)	5	
Explosion-proof construction	Europe	Combination of pressurized and intrinsically safe (II2 G Ex pxb ib IIB T4 / Ex ib IIB T4 Gb)
	Korea	Combination of pressurized and intrinsically safe (Ex ib pxb IIB T4 Gb / Ex ib IIB T4)
	China	Combination of pressurized and intrinsically safe (Ex ib px IIB T4 Gb / Ex ib IIB T4 Gb)
	Japan & Asia (except China & Korea)	Combination of pressurized and intrinsically safe (Expixib IIB T4 / Ex ib IIB T4 Gb)
Controller	Europe	E45
	Japan & Asia	E25

*1: Distance between centers of JT1 and JT4.
*2: Conforms to ISO9283.
*3: Depends on payload and motion patterns.

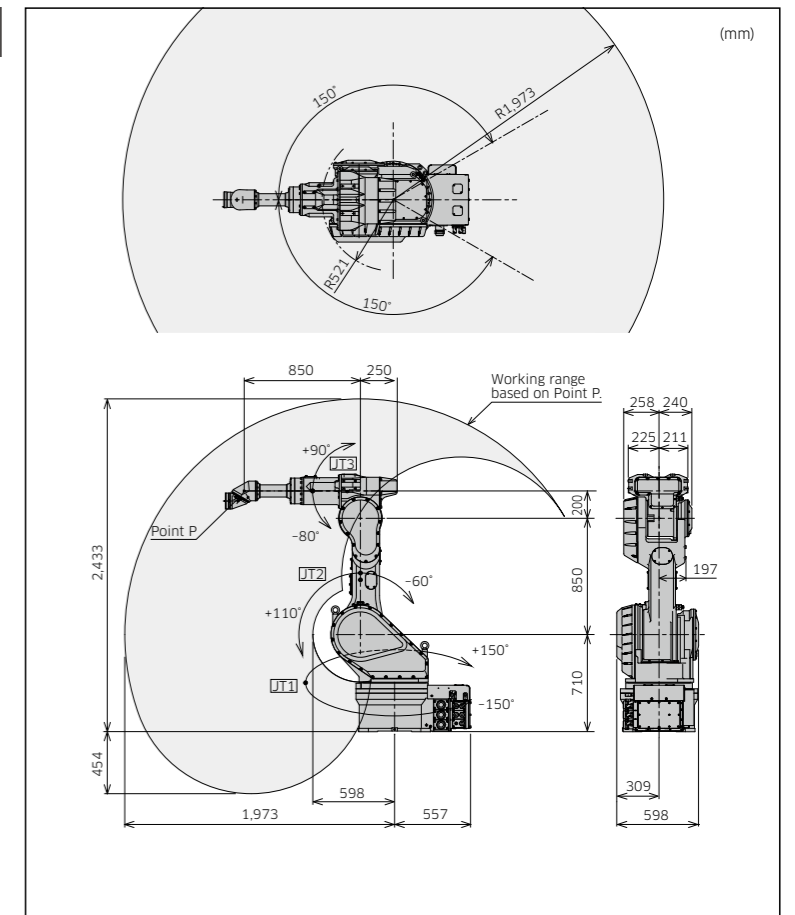


KF193

Standard Specifications

Type	Articulated robot	
Degree of freedom (axes)	6	
Payload (kg)	Wrist : 12 Arm : 20	
Max. reach*1 (mm)	1,973	
Position repeatability*2 (mm)	±0.5	
Motion range (°)	Arm rotation (JT1)	±150
	Arm out-in (JT2)	+110 - -60
	Arm up-down (JT3)	+90 - -80
	Wrist swivel (JT4)	±720
	Wrist bend (JT5)	±720
	Wrist twist (JT6)	±410
Painting speed (m/s)	1.2	
Mass (kg)	720	
Mounting	Floor, wall	
Power requirements*3 (kVA)	5	
Explosion-proof construction	Europe	Combination of pressurized and intrinsically safe (II2 G Ex pxb ib IIB T4 / Ex ib IIB T4 Gb)
	Korea	Combination of pressurized and intrinsically safe (Ex ib pxb IIB T4 Gb / Ex ib IIB T4)
	China	Combination of pressurized and intrinsically safe (Ex ib px IIB T4 Gb / Ex ib IIB T4 Gb)
	Japan & Asia (except China & Korea)	Combination of pressurized and intrinsically safe (Expixib IIB T4 / Ex ib IIB T4 Gb)
Controller	Europe	E45
	Japan & Asia	E25

*1: Distance between centers of JT1 and JT5.
*2: Conforms to ISO9283.
*3: Depends on payload and motion patterns.

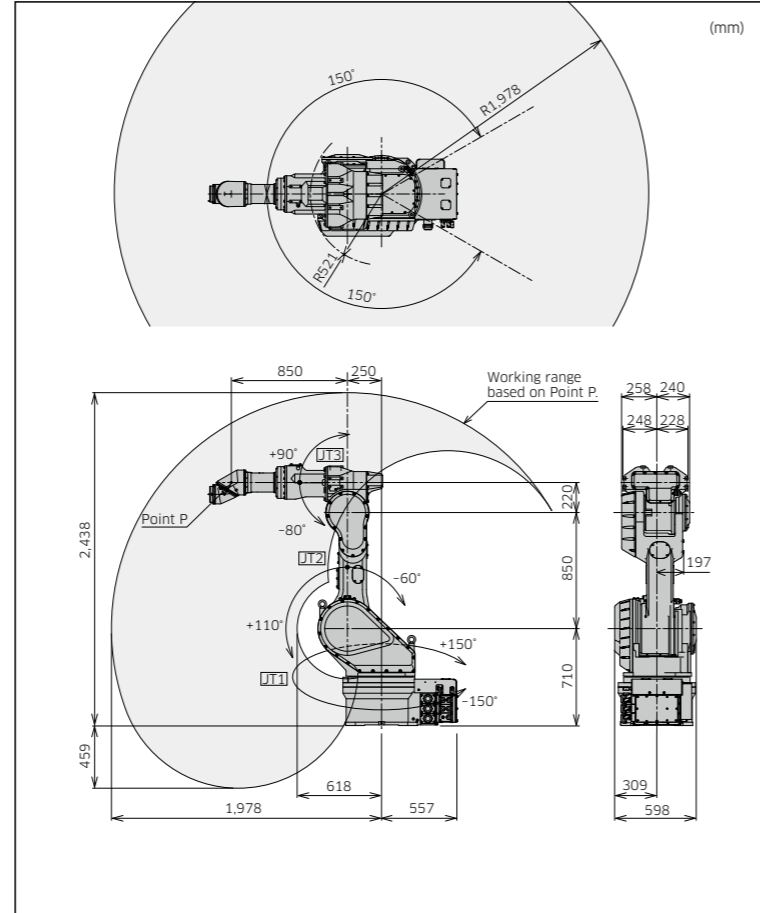


KF194

Standard Specifications

Type	Articulated robot	
Degree of freedom (axes)	6	
Payload (kg)	Wrist : 12 Arm : 20	
Max. reach*1 (mm)	1,978	
Position repeatability*2 (mm)	±0.5	
Motion range (°)	Arm rotation (JT1)	±150
	Arm out-in (JT2)	+110 - -60
	Arm up-down (JT3)	+90 - -80
	Wrist swivel (JT4)	±720
	Wrist bend (JT5)	±720
	Wrist twist (JT6)	±410
Painting speed (m/s)	1.2	
Mass (kg)	750	
Mounting	Floor, wall	
Power requirements*3 (kVA)	5	
Explosion-proof construction	Europe	Combination of pressurized and intrinsically safe (II2 G Ex pxb ib IIB T4 / Ex ib IIB T4 Gb)
	Korea	Combination of pressurized and intrinsically safe (Ex ib pxb IIB T4 Gb / Ex ib IIB T4)
	China	Combination of pressurized and intrinsically safe (Ex ib px IIB T4 Gb / Ex ib IIB T4 Gb)
	Japan & Asia (except China & Korea)	Combination of pressurized and intrinsically safe (Expxib IIB T4 / Ex ib IIB T4 Gb)
Controller	Europe	E45
	Japan & Asia	E25

*1: Distance between centers of JT1 and JT5.
*2: Conforms to ISO9283.
*3: Depends on payload and motion patterns.

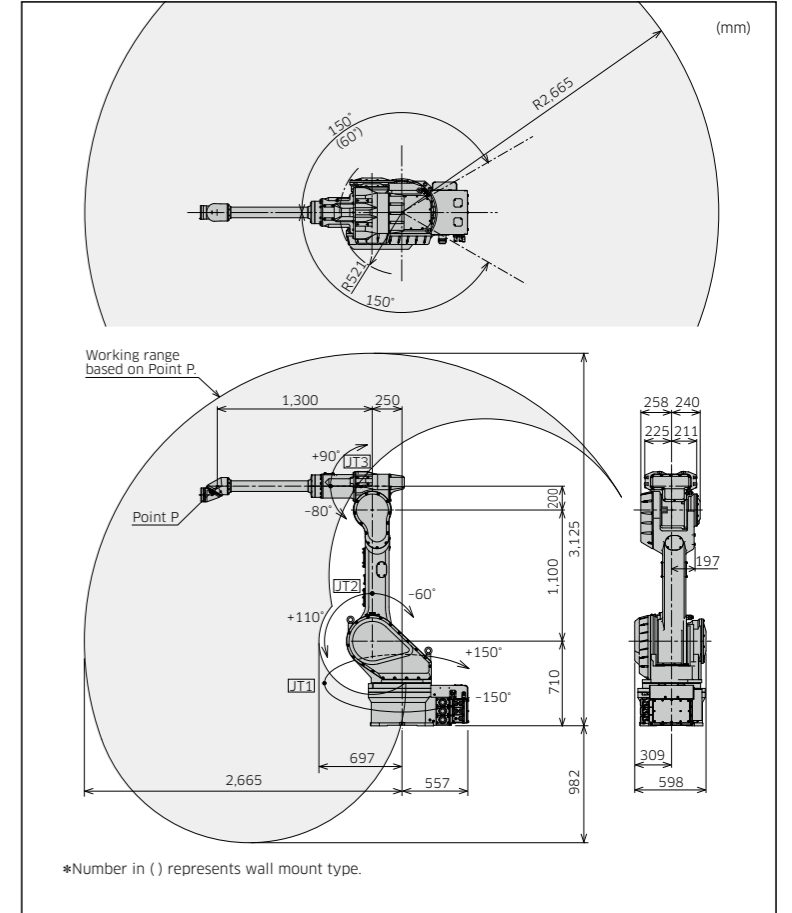


KF263

Standard Specifications

Type	Articulated robot	
Degree of freedom (axes)	6	
Payload (kg)	Wrist : 12 Arm : 20	
Max. reach*1 (mm)	2,665	
Position repeatability*2 (mm)	±0.5	
Motion range (°)	Arm rotation (JT1)	±150 (Floor) / ±60 (wall)
	Arm out-in (JT2)	+110 - -60
	Arm up-down (JT3)	+90 - -80
	Wrist swivel (JT4)	±720
	Wrist bend (JT5)	±720
	Wrist twist (JT6)	±410
Painting speed (m/s)	1.2	
Mass (kg)	740	
Mounting	Floor, wall	
Power requirements*3 (kVA)	5	
Explosion-proof construction	Europe	Combination of pressurized and intrinsically safe (II2 G Ex pxb ib IIB T4 / Ex ib IIB T4 Gb)
	Korea	Combination of pressurized and intrinsically safe (Ex ib pxb IIB T4 Gb / Ex ib IIB T4)
	China	Combination of pressurized and intrinsically safe (Ex ib px IIB T4 Gb / Ex ib IIB T4 Gb)
	Japan & Asia (except China & Korea)	Combination of pressurized and intrinsically safe (Expxib IIB T4 / Ex ib IIB T4 Gb)
Controller	Europe	E45
	Japan & Asia	E25

*1: Distance between centers of JT1 and JT5.
*2: Conforms to ISO9283.
*3: Depends on payload and motion patterns.



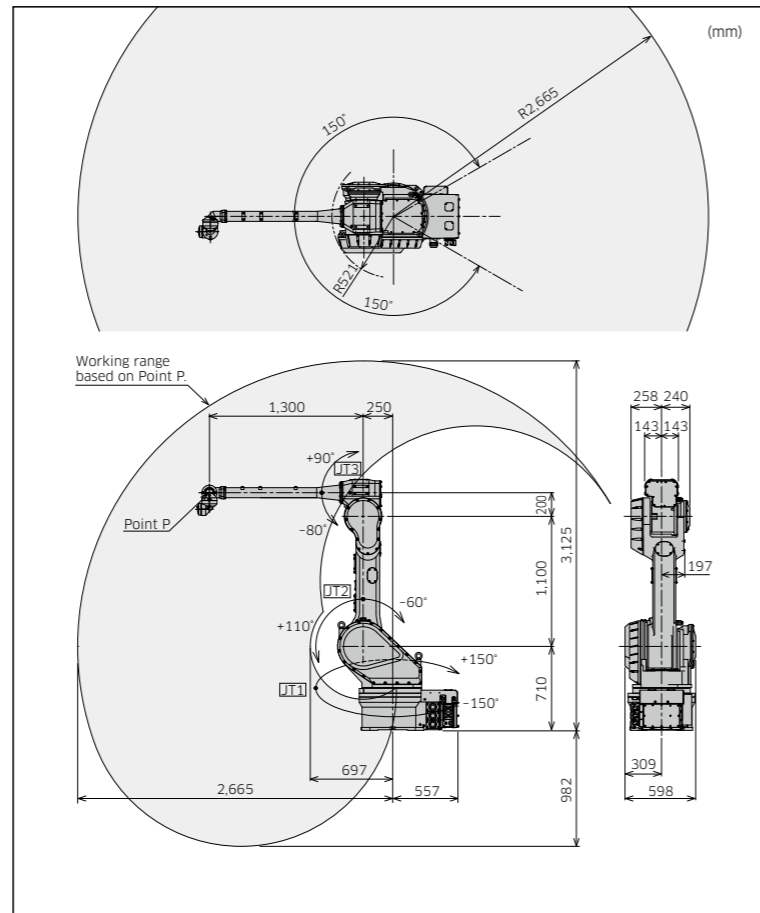
*Number in () represents wall mount type.

KF262

Standard Specifications

Type	Articulated robot	
Degree of freedom (axes)	6	
Payload (kg)	Wrist : 12 Arm : 20	
Max. reach*1 (mm)	2,665	
Position repeatability*2 (mm)	±0.5	
Motion range (°)	Arm rotation (JT1)	±150
	Arm out-in (JT2)	+110 - -60
	Arm up-down (JT3)	+90 - -80
	Wrist swivel (JT4)	±360
	Wrist bend (JT5)	±360
	Wrist twist (JT6)	±360
Painting speed (m/s)	1.2	
Mass (kg)	720	
Mounting	Floor, wall	
Power requirements*3 (kVA)	5	
Explosion-proof construction	Europe	Combination of pressurized and intrinsically safe (II2 G Ex pxb ib IIB T4 / Ex ib IIB T4 Gb)
	Korea	Combination of pressurized and intrinsically safe (Ex ib pxb IIB T4 Gb / Ex ib IIB T4)
	China	Combination of pressurized and intrinsically safe (Ex ib px IIB T4 Gb / Ex ib IIB T4 Gb)
	Japan&Asia (except China & Korea)	Combination of pressurized and intrinsically safe (Expxib IIB T4 / Ex ib IIB T4 Gb)
Controller	Europe	E45
	Japan & Asia	E25

*1: Distance between centers of JT1 and JT4.
*2: Conforms to ISO9283.
*3: Depends on payload and motion patterns.

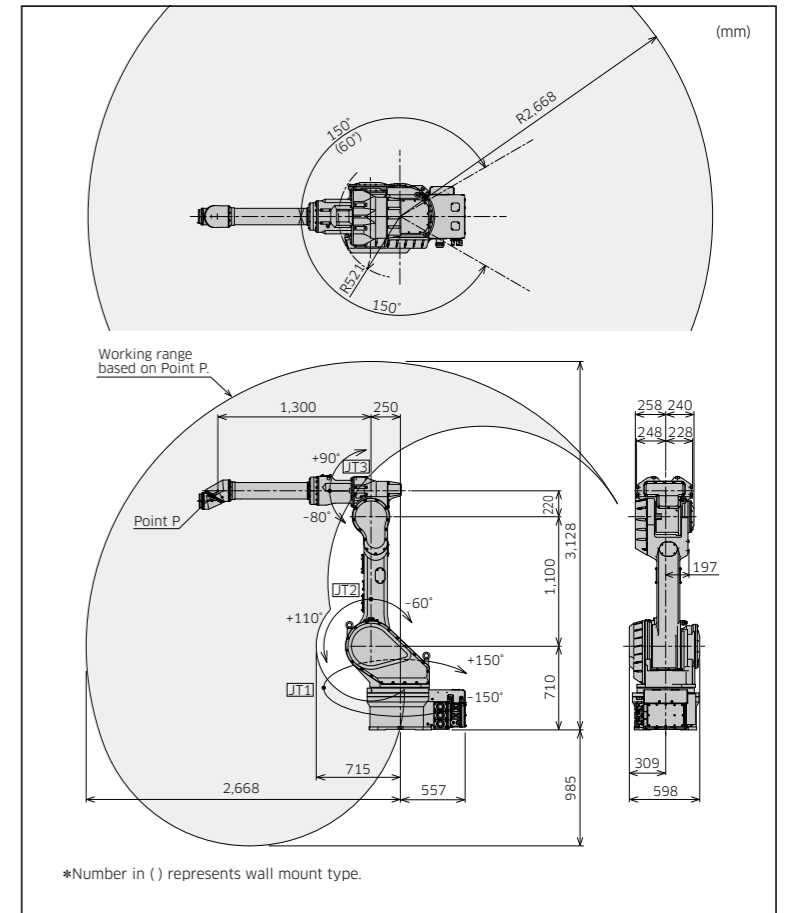


KF264

Standard Specifications

Type	Articulated robot	
Degree of freedom (axes)	6	
Payload (kg)	Wrist : 12 Arm : 20	
Max. reach*1 (mm)	2,668	
Position repeatability*2 (mm)	±0.5	
Motion range (°)	Arm rotation (JT1)	±150 (Floor) / ±60 (wall)
	Arm out-in (JT2)	+110 - -60
	Arm up-down (JT3)	+90 - -80
	Wrist swivel (JT4)	±720
	Wrist bend (JT5)	±720
	Wrist twist (JT6)	±410
Painting speed (m/s)	1.2	
Mass (kg)	770	
Mounting	Floor, wall	
Power requirements*3 (kVA)	5	
Explosion-proof construction	Europe	Combination of pressurized and intrinsically safe (II2 G Ex pxb ib IIB T4 / Ex ib IIB T4 Gb)
	Korea	Combination of pressurized and intrinsically safe (Ex ib pxb IIB T4 Gb / Ex ib IIB T4)
	China	Combination of pressurized and intrinsically safe (Ex ib px IIB T4 Gb / Ex ib IIB T4 Gb)
	Japan&Asia (except China & Korea)	Combination of pressurized and intrinsically safe (Expxib IIB T4 / Ex ib IIB T4 Gb)
Controller	Europe	E45
	Japan & Asia	E25

*1: Distance between centers of JT1 and JT5.
*2: Conforms to ISO9283.
*3: Depends on payload and motion patterns.

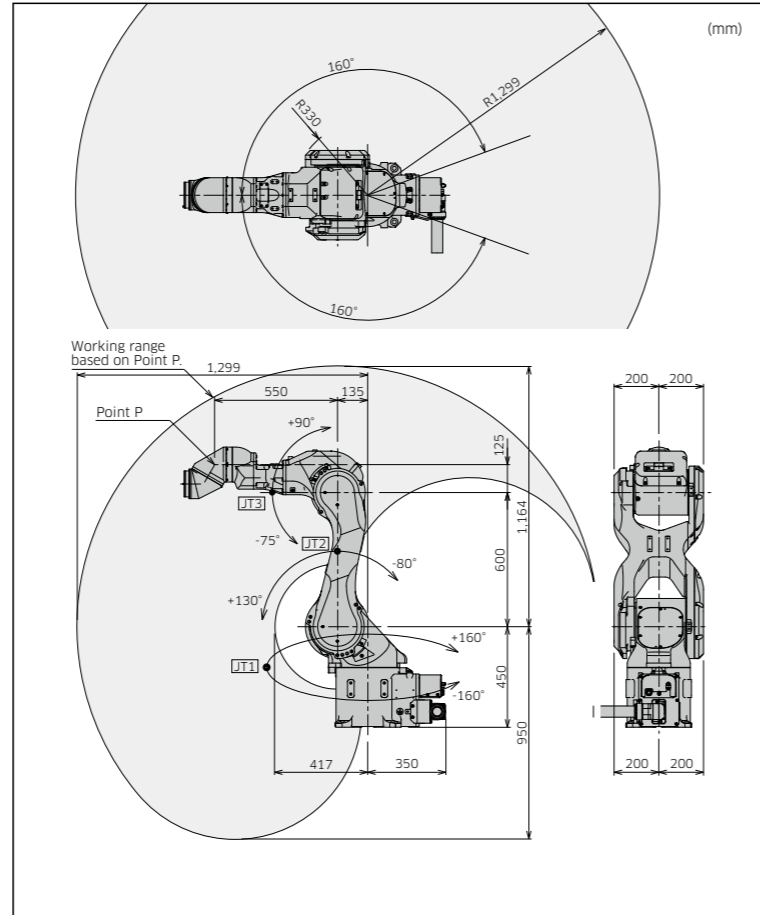


*Number in () represents wall mount type.

KJ125

Standard Specifications

Type	Articulated robot	
Degree of freedom (axes)	6	
Payload (kg)	Wrist : 8 Arm : 5	
Max. reach*1 (mm)	1,299	
Position repeatability*2 (mm)	±0.15	
Motion range (°)	Arm rotation (JT1)	±160
	Arm out-in (JT2)	+130 - -80
	Arm up-down (JT3)	+90 - -75
	Wrist swivel (JT4)	±720
	Wrist bend (JT5)	±720
	Wrist twist (JT6)	±410
Painting speed (m/s)	1.5	
Mass (kg)	190	
Mounting	Floor, Wall	
Power requirements*3 (kVA)	3	
Explosion-proof construction	America	Combination of pressurized and intrinsically safe (CL I ZN 1 AEx ib pxb IIB T4 / AEx ib IIB T4 Gb)
	Canada	Combination of pressurized and intrinsically safe (Ex ib pxb IIB T4 Gb / Ex ib IIB T4 Gb)
	Europe	Combination of pressurized and intrinsically safe (II2 G Ex pxb ib IIB T4 / Ex ib IIB T4 Gb)
	Korea	Combination of pressurized and intrinsically safe (Ex ib pxb IIB T4 Gb / Ex ib IIB T4)
	China	Combination of pressurized and intrinsically safe (Ex ib px IIB T4 Gb / Ex ib IIB T4 Gb)
	Japan & Asia (except China & Korea)	Combination of pressurized and intrinsically safe (FG4 / Ex ib IIB T4 Gb)
Controller	America, Canada	E35
	Europe	E45
	Japan & Asia	E25

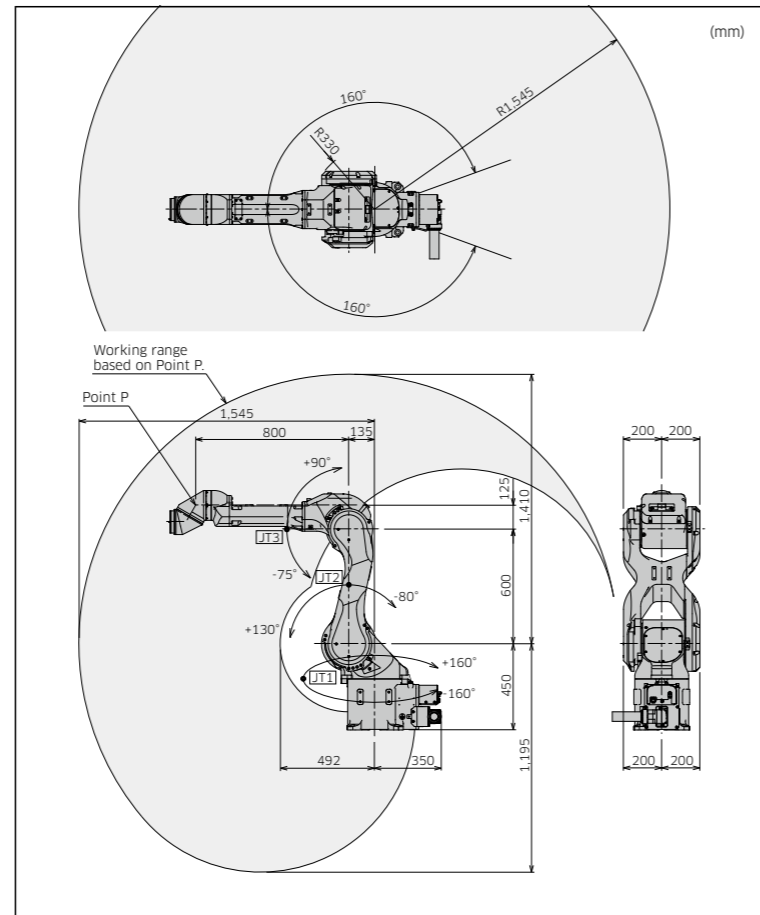


*1: Distance between centers of JT1 and JT5.
*2: Conforms to ISO9283.
*3: Depends on payload and motion patterns.

KJ155

Standard Specifications

Type	Articulated robot	
Degree of freedom (axes)	6	
Payload (kg)	Wrist : 8 Arm : 5	
Max. reach*1 (mm)	1,545	
Position repeatability*2 (mm)	±0.15	
Motion range (°)	Arm rotation (JT1)	±160
	Arm out-in (JT2)	+130 - -80
	Arm up-down (JT3)	+90 - -75
	Wrist swivel (JT4)	±720
	Wrist bend (JT5)	±720
	Wrist twist (JT6)	±410
Painting speed (m/s)	1.5	
Mass (kg)	195	
Mounting	Floor, Wall	
Power requirements*3 (kVA)	3	
Explosion-proof construction	America	Combination of pressurized and intrinsically safe (CL I ZN 1 AEx ib pxb IIB T4 / AEx ib IIB T4 Gb)
	Canada	Combination of pressurized and intrinsically safe (Ex ib pxb IIB T4 Gb / Ex ib IIB T4 Gb)
	Europe	Combination of pressurized and intrinsically safe (II2 G Ex pxb ib IIB T4 / Ex ib IIB T4 Gb)
	Korea	Combination of pressurized and intrinsically safe (Ex ib pxb IIB T4 Gb / Ex ib IIB T4)
	China	Combination of pressurized and intrinsically safe (Ex ib px IIB T4 Gb / Ex ib IIB T4 Gb)
	Japan & Asia (except China & Korea)	Combination of pressurized and intrinsically safe (FG4 / Ex ib IIB T4 Gb)
Controller	America, Canada	E35
	Europe	E45
	Japan & Asia	E25

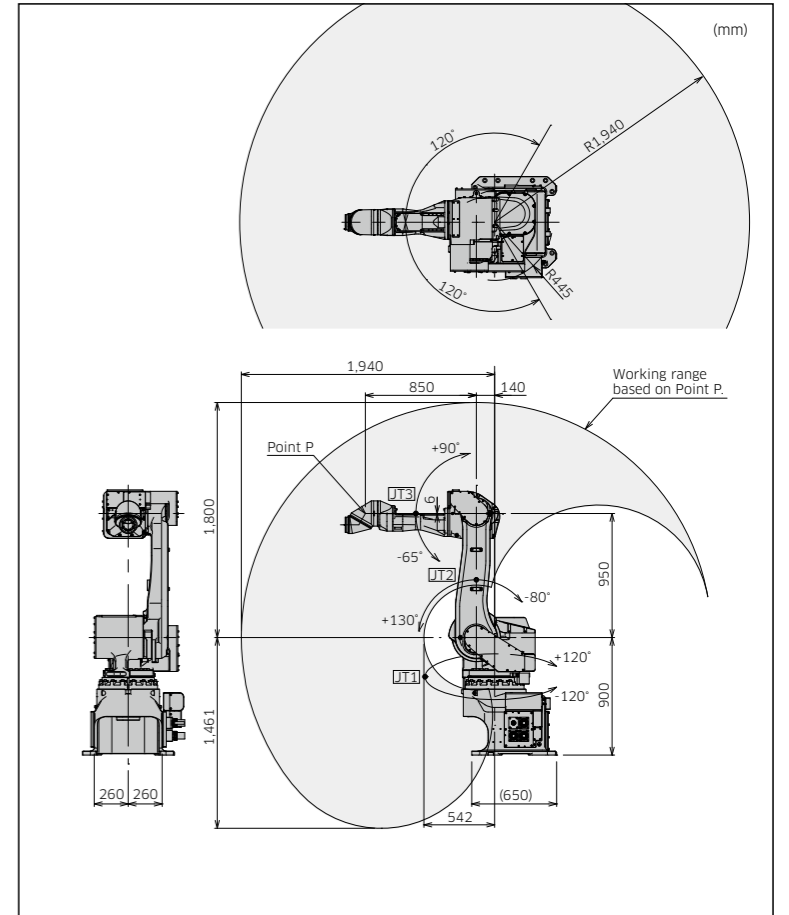


*1: Distance between centers of JT1 and JT5.
*2: Conforms to ISO9283.
*3: Depends on payload and motion patterns.

KJ194 (Floor)

Standard Specifications

Type	Articulated robot	
Degree of freedom (axes)	6	
Payload (kg)	Wrist : 15 Arm : 25	
Max. reach*1 (mm)	1,940	
Position repeatability*2 (mm)	±0.5	
Motion range (°)	Arm rotation (JT1)	±120
	Arm out-in (JT2)	+130 - -80
	Arm up-down (JT3)	+90 - -65
	Wrist swivel (JT4)	±720
	Wrist bend (JT5)	±720
	Wrist twist (JT6)	±410
Painting speed (m/s)	1.5	
Mass (kg)	530	
Mounting	Floor	
Power requirements*3 (kVA)	5	
Explosion-proof construction	America	Combination of pressurized and intrinsically safe (CL I ZN 1 AEx ib pxb IIB T4 / AEx ib IIB T4 Gb)
	Canada	Combination of pressurized and intrinsically safe (Ex ib pxb IIB T4 Gb / Ex ib IIB T4 Gb)
	Europe	Combination of pressurized and intrinsically safe (II2 G Ex pxb ib IIB T4 / Ex ib IIB T4 Gb)
	Korea	Combination of pressurized and intrinsically safe (Ex ib pxb IIB T4 Gb / Ex ib IIB T4)
	China	Combination of pressurized and intrinsically safe (Ex ib px IIB T4 Gb / Ex ib IIB T4 Gb)
	Japan & Asia (except China & Korea)	Combination of pressurized and intrinsically safe (FG4 / Ex ib IIB T4 Gb)
Controller	America, Canada	E35
	Europe	E45
	Japan & Asia	E25

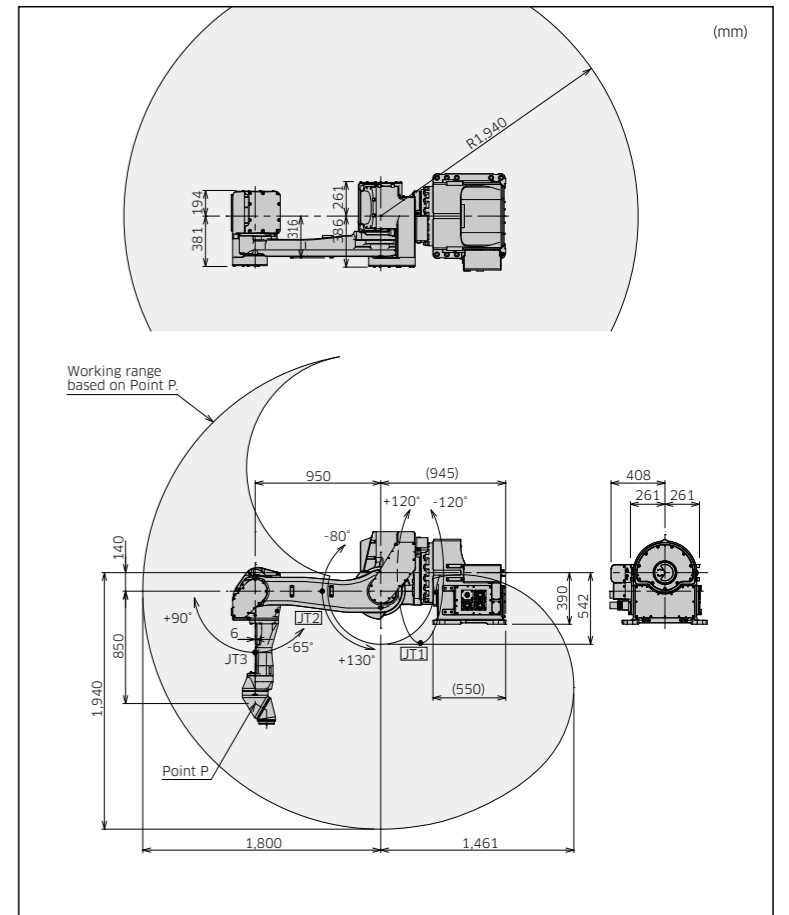


*1: Distance between centers of JT1 and JT5.
*2: Conforms to ISO9283.
*3: Depends on payload and motion patterns.

KJ194 (Shelf)

Standard Specifications

Type	Articulated robot	
Degree of freedom (axes)	6	
Payload (kg)	Wrist : 15 Arm : 25	
Max. reach*1 (mm)	1,940	
Position repeatability*2 (mm)	±0.5	
Motion range (°)	Arm rotation (JT1)	±120
	Arm out-in (JT2)	+130 - -80
	Arm up-down (JT3)	+90 - -65
	Wrist swivel (JT4)	±720
	Wrist bend (JT5)	±720
	Wrist twist (JT6)	±410
Painting speed (m/s)	1.5	
Mass (kg)	520	
Mounting	Shelf	
Power requirements*3 (kVA)	5	
Explosion-proof construction	America	Combination of pressurized and intrinsically safe (CL I ZN 1 AEx ib pxb IIB T4 / AEx ib IIB T4 Gb)
	Canada	Combination of pressurized and intrinsically safe (Ex ib pxb IIB T4 Gb / Ex ib IIB T4 Gb)
	Europe	Combination of pressurized and intrinsically safe (II2 G Ex pxb ib IIB T4 / Ex ib IIB T4 Gb)
	Korea	Combination of pressurized and intrinsically safe (Ex ib pxb IIB T4 Gb / Ex ib IIB T4)
	China	Combination of pressurized and intrinsically safe (Ex ib px IIB T4 Gb / Ex ib IIB T4 Gb)
	Japan & Asia (except China & Korea)	Combination of pressurized and intrinsically safe (FG4 / Ex ib IIB T4 Gb)
Controller	America, Canada	E35
	Europe	E45
	Japan & Asia	E25

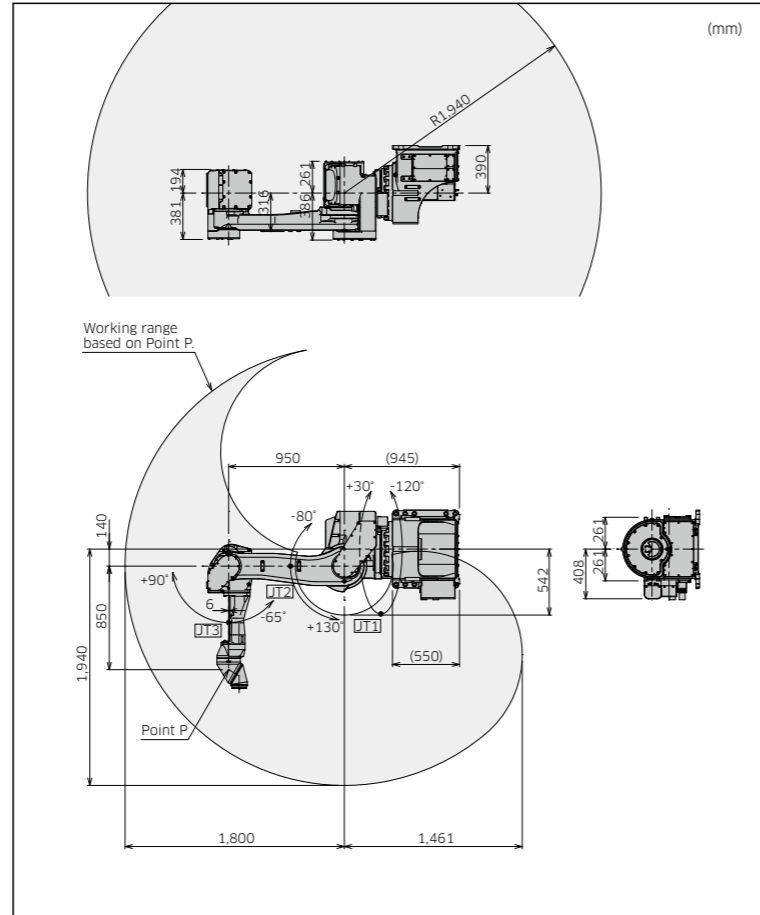


*1: Distance between centers of JT1 and JT5.
*2: Conforms to ISO9283.
*3: Depends on payload and motion patterns.

KJ194 (Wall)

Standard Specifications

Type		Articulated robot
Degree of freedom (axes)		6
Payload (kg)		Wrist : 15 Arm : 25
Max. reach*1 (mm)		1,940
Position repeatability*2 (mm)		±0.5
Motion range (°)	Arm rotation (JT1)	+30 - -120*3
	Arm out-in (JT2)	+130 - -80
	Arm up-down (JT3)	+90 - -65
	Wrist swivel (JT4)	±720
	Wrist bend (JT5)	±720
	Wrist twist (JT6)	±410
Painting speed (m/s)		1.5
Mass (kg)		520
Mounting		Wall
Power requirements*4 (kVA)		5
Explosion-proof construction	America	Combination of pressurized and intrinsically safe (CL I ZN 1 AEx ib pxb IIB T4 / AEx ib IIB T4 Gb)
	Canada	Combination of pressurized and intrinsically safe (Ex ib pxb IIB T4 Gb / Ex ib IIB T4 Gb)
	Europe	Combination of pressurized and intrinsically safe (II2 G Ex pxb ib IIB T4 / Ex ib IIB T4 Gb)
	Korea	Combination of pressurized and intrinsically safe (Ex ib pxb IIB T4 Gb / Ex ib IIB T4)
	China	Combination of pressurized and intrinsically safe (Ex ib px IIB T4 Gb / Ex ib IIB T4 Gb)
	Japan & Asia (except China & Korea)	Combination of pressurized and intrinsically safe (fG4 / Ex ib IIB T4 Gb)
Controller	America, Canada	E35
	Europe	E45
	Japan & Asia	E25

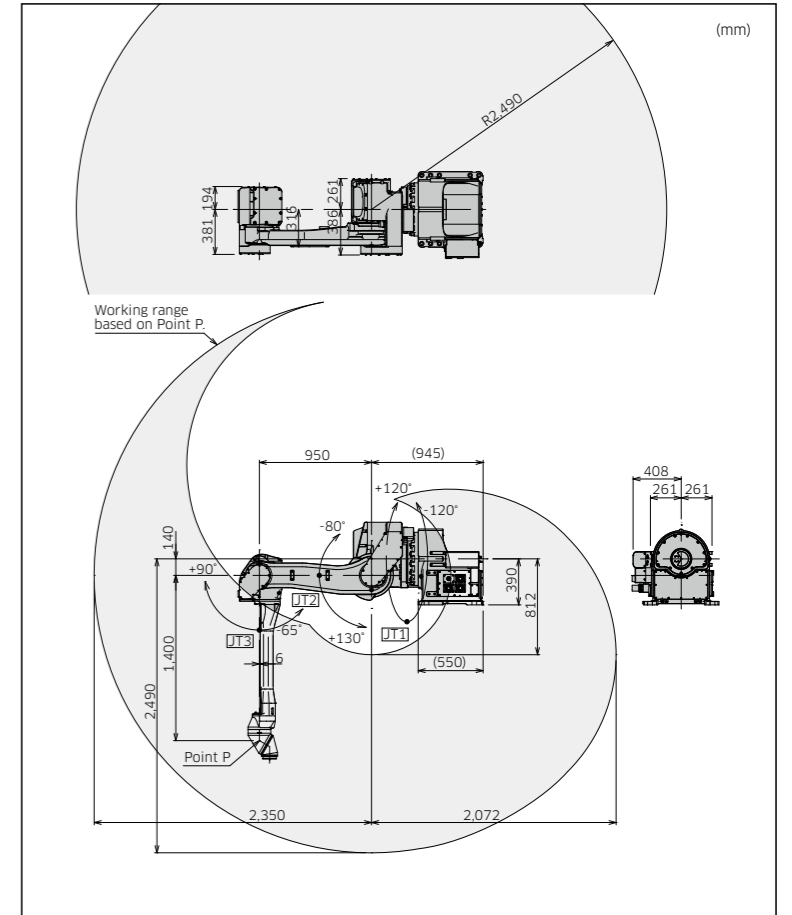


*1: Distance between centers of JT1 and JT5.
 *2: Conforms to ISO9283.
 *3: Motion range of JT1 varies depending on the direction of the mounting surface. Viewing from the robot backside, when the mounting surface is located on the left, it is [+120 to -30]. When the surface is on the right side, it is [+30 to -120].
 *4: Depends on payload and motion patterns.

KJ244 (Shelf)

Standard Specifications

Type		Articulated robot
Degree of freedom (axes)		6
Payload (kg)		Wrist : 15 Arm : 25
Max. reach*1 (mm)		2,490
Position repeatability*2 (mm)		±0.5
Motion range (°)	Arm rotation (JT1)	±120
	Arm out-in (JT2)	+130 - -80
	Arm up-down (JT3)	+90 - -65
	Wrist swivel (JT4)	±720
	Wrist bend (JT5)	±720
	Wrist twist (JT6)	±410
Painting speed (m/s)		1.5
Mass (kg)		530
Mounting		Shelf
Power requirements*3 (kVA)		5
Explosion-proof construction	America	Combination of pressurized and intrinsically safe (CL I ZN 1 AEx ib pxb IIB T4 / AEx ib IIB T4 Gb)
	Canada	Combination of pressurized and intrinsically safe (Ex ib pxb IIB T4 Gb / Ex ib IIB T4 Gb)
	Europe	Combination of pressurized and intrinsically safe (II2 G Ex pxb ib IIB T4 / Ex ib IIB T4 Gb)
	Korea	Combination of pressurized and intrinsically safe (Ex ib pxb IIB T4 Gb / Ex ib IIB T4)
	China	Combination of pressurized and intrinsically safe (Ex ib px IIB T4 Gb / Ex ib IIB T4 Gb)
	Japan & Asia (except China & Korea)	Combination of pressurized and intrinsically safe (fG4 / Ex ib IIB T4 Gb)
Controller	America, Canada	E35
	Europe	E45
	Japan & Asia	E25

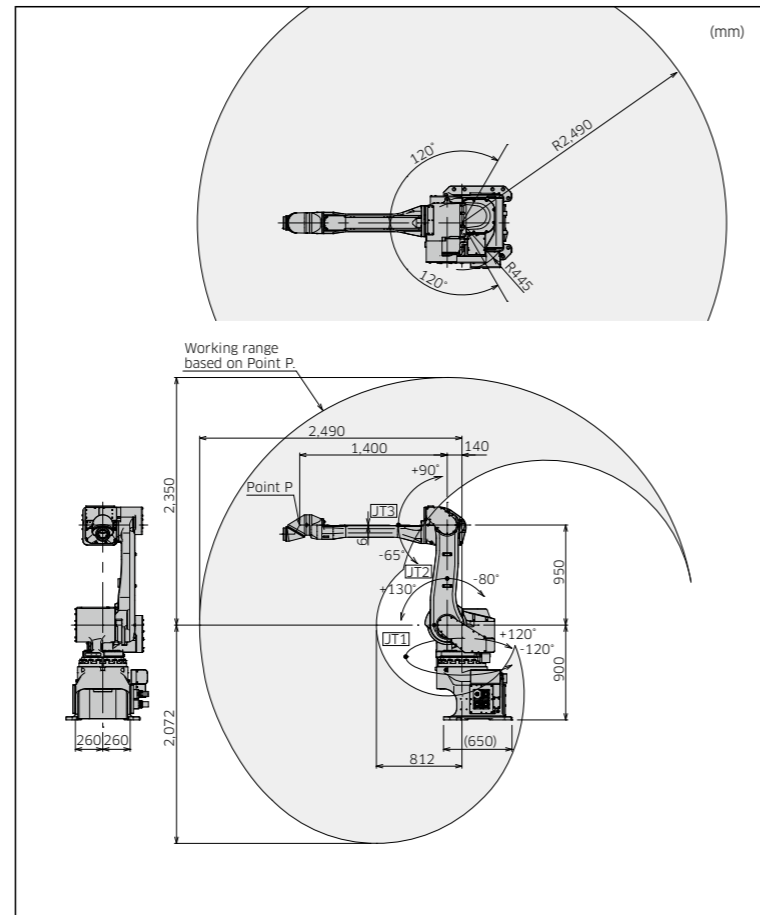


*1: Distance between centers of JT1 and JT5.
 *2: Conforms to ISO9283.
 *3: Depends on payload and motion patterns.

KJ244 (Floor)

Standard Specifications

Type		Articulated robot
Degree of freedom (axes)		6
Payload (kg)		Wrist : 15 Arm : 25
Max. reach*1 (mm)		2,490
Position repeatability*2 (mm)		±0.5
Motion range (°)	Arm rotation (JT1)	±120
	Arm out-in (JT2)	+130 - -80
	Arm up-down (JT3)	+90 - -65
	Wrist swivel (JT4)	±720
	Wrist bend (JT5)	±720
	Wrist twist (JT6)	±410
Painting speed (m/s)		1.5
Mass (kg)		540
Mounting		Floor
Power requirements*3 (kVA)		5
Explosion-proof construction	America	Combination of pressurized and intrinsically safe (CL I ZN 1 AEx ib pxb IIB T4 / AEx ib IIB T4 Gb)
	Canada	Combination of pressurized and intrinsically safe (Ex ib pxb IIB T4 Gb / Ex ib IIB T4 Gb)
	Europe	Combination of pressurized and intrinsically safe (II2 G Ex pxb ib IIB T4 / Ex ib IIB T4 Gb)
	Korea	Combination of pressurized and intrinsically safe (Ex ib pxb IIB T4 Gb / Ex ib IIB T4)
	China	Combination of pressurized and intrinsically safe (Ex ib px IIB T4 Gb / Ex ib IIB T4 Gb)
	Japan & Asia (except China & Korea)	Combination of pressurized and intrinsically safe (fG4 / Ex ib IIB T4 Gb)
Controller	America, Canada	E35
	Europe	E45
	Japan & Asia	E25

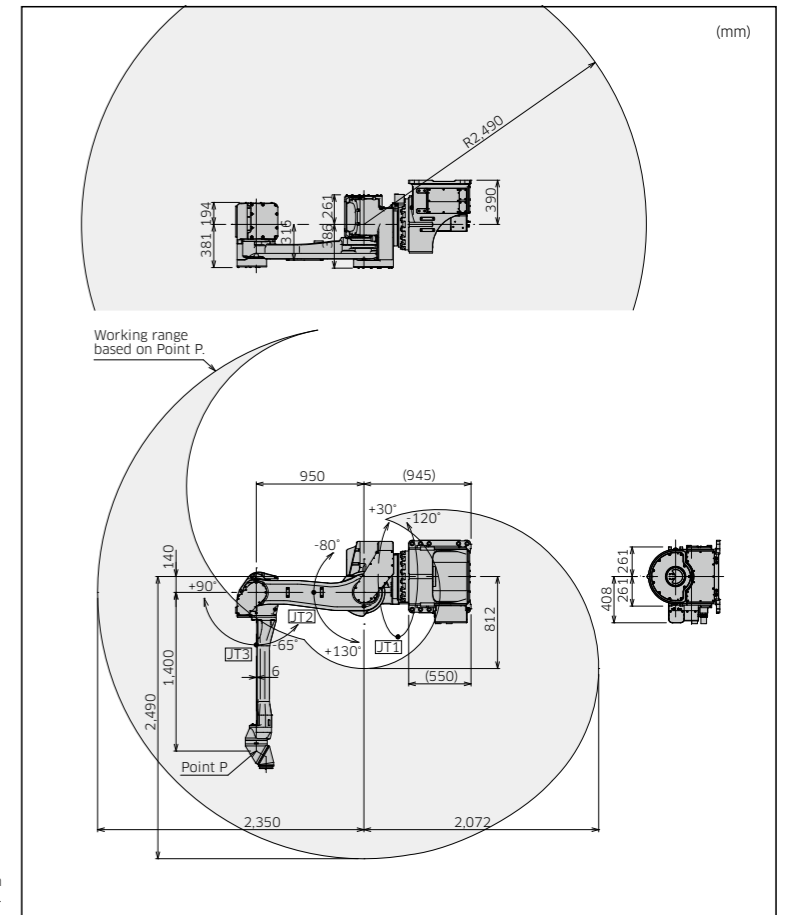


*1: Distance between centers of JT1 and JT5.
 *2: Conforms to ISO9283.
 *3: Depends on payload and motion patterns.

KJ244 (Wall)

Standard Specifications

Type		Articulated robot
Degree of freedom (axes)		6
Payload (kg)		Wrist : 15 Arm : 25
Max. reach*1 (mm)		2,490
Position repeatability*2 (mm)		±0.5
Motion range (°)	Arm rotation (JT1)	+30 - -120*3
	Arm out-in (JT2)	+130 - -80
	Arm up-down (JT3)	+90 - -65
	Wrist swivel (JT4)	±720
	Wrist bend (JT5)	±720
	Wrist twist (JT6)	±410
Painting speed (m/s)		1.5
Mass (kg)		530
Mounting		Wall
Power requirements*4 (kVA)		5
Explosion-proof construction	America	Combination of pressurized and intrinsically safe (CL I ZN 1 AEx ib pxb IIB T4 / AEx ib IIB T4 Gb)
	Canada	Combination of pressurized and intrinsically safe (Ex ib pxb IIB T4 Gb / Ex ib IIB T4 Gb)
	Europe	Combination of pressurized and intrinsically safe (II2 G Ex pxb ib IIB T4 / Ex ib IIB T4 Gb)
	Korea	Combination of pressurized and intrinsically safe (Ex ib pxb IIB T4 Gb / Ex ib IIB T4)
	China	Combination of pressurized and intrinsically safe (Ex ib px IIB T4 Gb / Ex ib IIB T4 Gb)
	Japan & Asia (except China & Korea)	Combination of pressurized and intrinsically safe (fG4 / Ex ib IIB T4 Gb)
Controller	America, Canada	E35
	Europe	E45
	Japan & Asia	E25



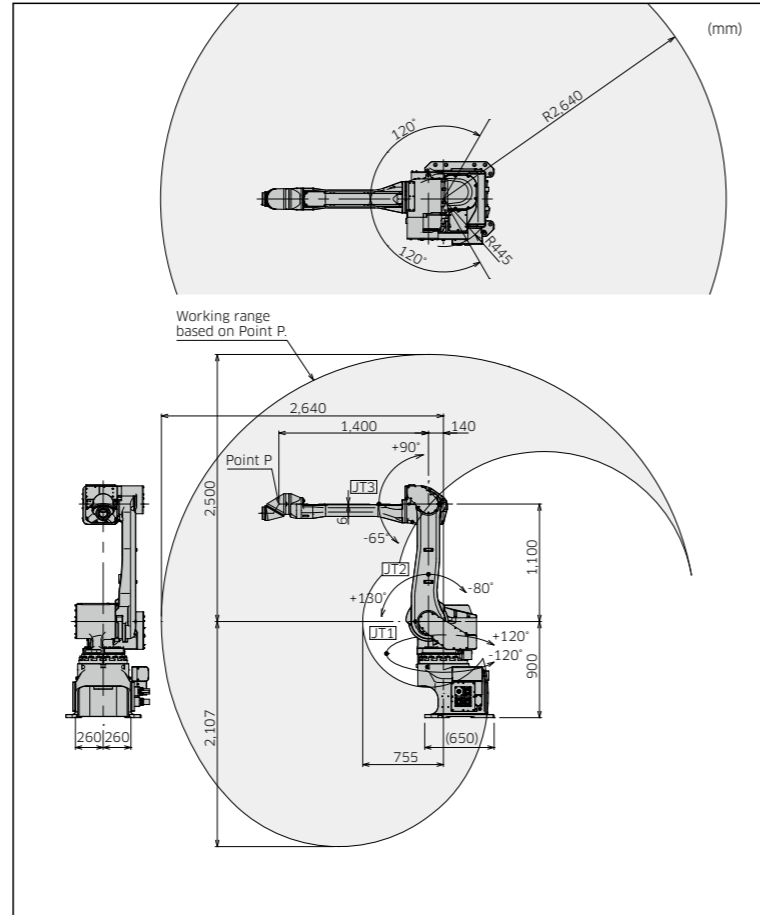
*1: Distance between centers of JT1 and JT5.
 *2: Conforms to ISO9283.
 *3: Motion range of JT1 varies depending on the direction of the mounting surface. Viewing from the robot backside, when the mounting surface is located on the left, it is [+120 to -30]. When the surface is on the right side, it is [+30 to -120].
 *4: Depends on payload and motion patterns.

KJ264 (Floor)

Standard Specifications

Type		Articulated robot
Degree of freedom (axes)		6
Payload (kg)		Wrist : 15 Arm : 25
Max. reach*1 (mm)		2,640
Position repeatability*2 (mm)		±0.5
Motion range (°)	Arm rotation (JT1)	±120
	Arm out-in (JT2)	+130 - -80
	Arm up-down (JT3)	+90 - -65
	Wrist swivel (JT4)	±720
	Wrist bend (JT5)	±720
	Wrist twist (JT6)	±410
Painting speed (m/s)		1.5
Mass (kg)		540
Mounting		Floor
Power requirements*3 (kVA)		5
Explosion-proof construction	America	Combination of pressurized and intrinsically safe (CL I ZN 1 AEx ib pxb IIB T4 / AEx ib IIB T4 Gb)
	Canada	Combination of pressurized and intrinsically safe (Ex ib pxb IIB T4 Gb / Ex ib IIB T4 Gb)
	Europe	Combination of pressurized and intrinsically safe (II2 G Ex pxb ib IIB T4 / Ex ib IIB T4 Gb)
	Korea	Combination of pressurized and intrinsically safe (Ex ib pxb IIB T4 Gb / Ex ib IIB T4)
	China	Combination of pressurized and intrinsically safe (Ex ib px IIB T4 Gb / Ex ib IIB T4 Gb)
	Japan & Asia (except China & Korea)	Combination of pressurized and intrinsically safe (fG4 / Ex ib IIB T4 Gb)
Controller	America, Canada	E35
	Europe	E45
	Japan & Asia	E25

*1: Distance between centers of JT1 and JT5.
 *2: Conforms to ISO9283.
 *3: Depends on payload and motion patterns.

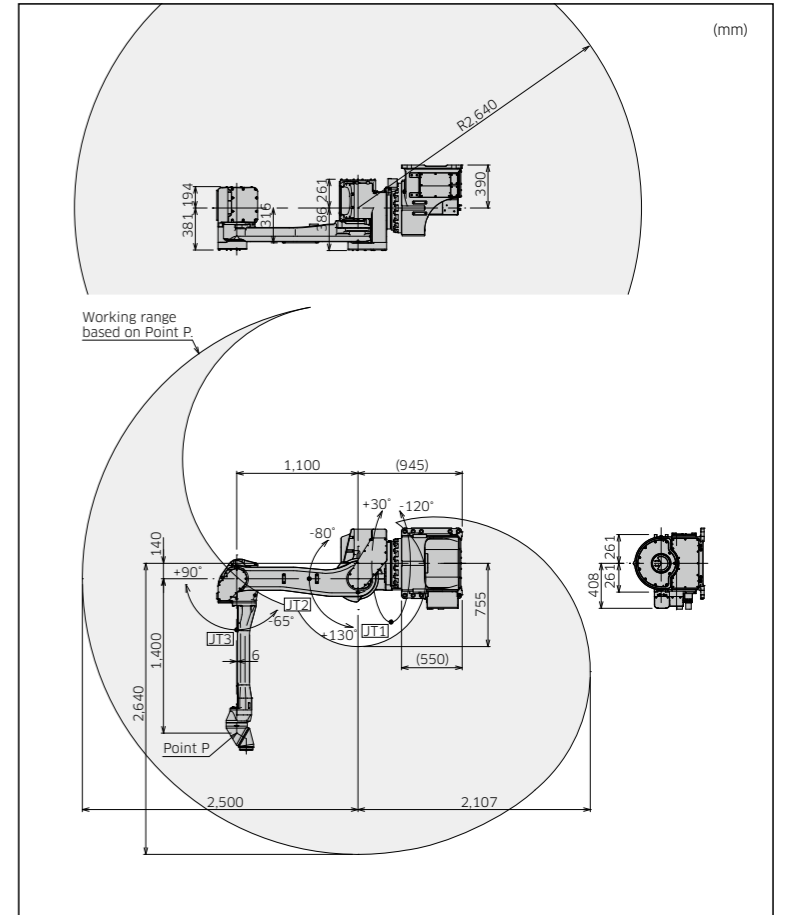


KJ264 (Wall)

Standard Specifications

Type		Articulated robot
Degree of freedom (axes)		6
Payload (kg)		Wrist : 15 Arm : 25
Max. reach*1 (mm)		2,640
Position repeatability*2 (mm)		±0.5
Motion range (°)	Arm rotation (JT1)	+30 - -120*3
	Arm out-in (JT2)	+130 - -80
	Arm up-down (JT3)	+90 - -65
	Wrist swivel (JT4)	±720
	Wrist bend (JT5)	±720
	Wrist twist (JT6)	±410
Painting speed (m/s)		1.5
Mass (kg)		530
Mounting		Wall
Power requirements*4 (kVA)		5
Explosion-proof construction	America	Combination of pressurized and intrinsically safe (CL I ZN 1 AEx ib pxb IIB T4 / AEx ib IIB T4 Gb)
	Canada	Combination of pressurized and intrinsically safe (Ex ib pxb IIB T4 Gb / Ex ib IIB T4 Gb)
	Europe	Combination of pressurized and intrinsically safe (II2 G Ex pxb ib IIB T4 / Ex ib IIB T4 Gb)
	Korea	Combination of pressurized and intrinsically safe (Ex ib pxb IIB T4 Gb / Ex ib IIB T4)
	China	Combination of pressurized and intrinsically safe (Ex ib px IIB T4 Gb / Ex ib IIB T4 Gb)
	Japan & Asia (except China & Korea)	Combination of pressurized and intrinsically safe (fG4 / Ex ib IIB T4 Gb)
Controller	America, Canada	E35
	Europe	E45
	Japan & Asia	E25

*1: Distance between centers of JT1 and JT5.
 *2: Conforms to ISO9283.
 *3: Motion range of JT1 varies depending on the direction of the mounting surface. Viewing from the robot backside, when the mounting surface is located on the left, it is [+120 to -30]. When the surface is on the right side, it is [+30 to -120].
 *4: Depends on payload and motion patterns.

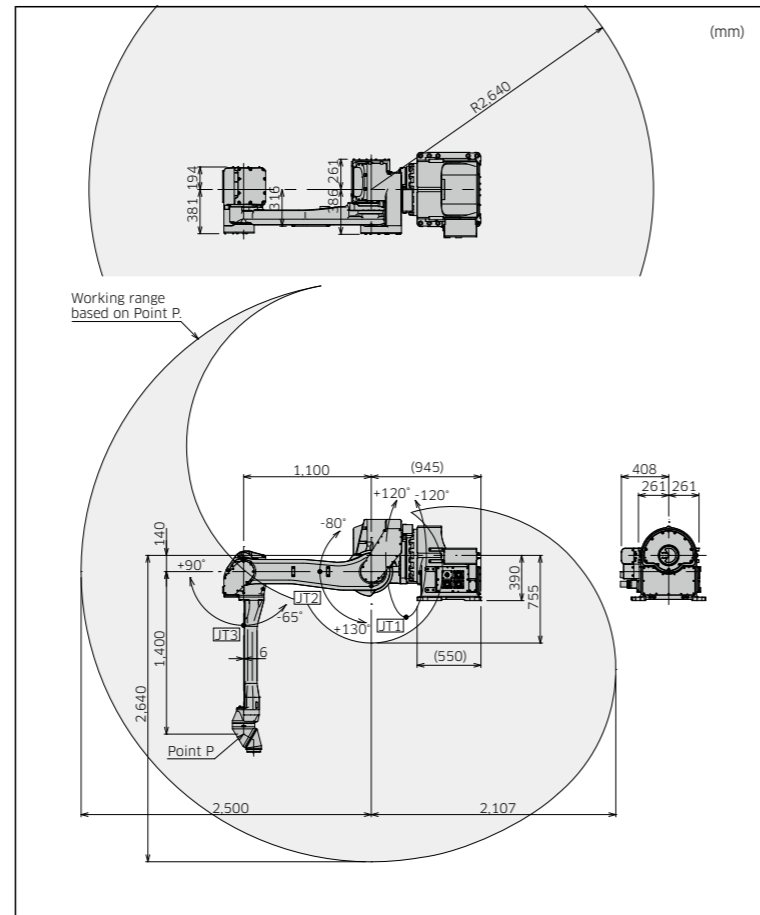


KJ264 (Shelf)

Standard Specifications

Type		Articulated robot
Degree of freedom (axes)		6
Payload (kg)		Wrist : 15 Arm : 25
Max. reach*1 (mm)		2,640
Position repeatability*2 (mm)		±0.5
Motion range (°)	Arm rotation (JT1)	±120
	Arm out-in (JT2)	+130 - -80
	Arm up-down (JT3)	+90 - -65
	Wrist swivel (JT4)	±720
	Wrist bend (JT5)	±720
	Wrist twist (JT6)	±410
Painting speed (m/s)		1.5
Mass (kg)		530
Mounting		Shelf
Power requirements*3 (kVA)		5
Explosion-proof construction	America	Combination of pressurized and intrinsically safe (CL I ZN 1 AEx ib pxb IIB T4 / AEx ib IIB T4 Gb)
	Canada	Combination of pressurized and intrinsically safe (Ex ib pxb IIB T4 Gb / Ex ib IIB T4 Gb)
	Europe	Combination of pressurized and intrinsically safe (II2 G Ex pxb ib IIB T4 / Ex ib IIB T4 Gb)
	Korea	Combination of pressurized and intrinsically safe (Ex ib pxb IIB T4 Gb / Ex ib IIB T4)
	China	Combination of pressurized and intrinsically safe (Ex ib px IIB T4 Gb / Ex ib IIB T4 Gb)
	Japan & Asia (except China & Korea)	Combination of pressurized and intrinsically safe (fG4 / Ex ib IIB T4 Gb)
Controller	America, Canada	E35
	Europe	E45
	Japan & Asia	E25

*1: Distance between centers of JT1 and JT5.
 *2: Conforms to ISO9283.
 *3: Depends on payload and motion patterns.

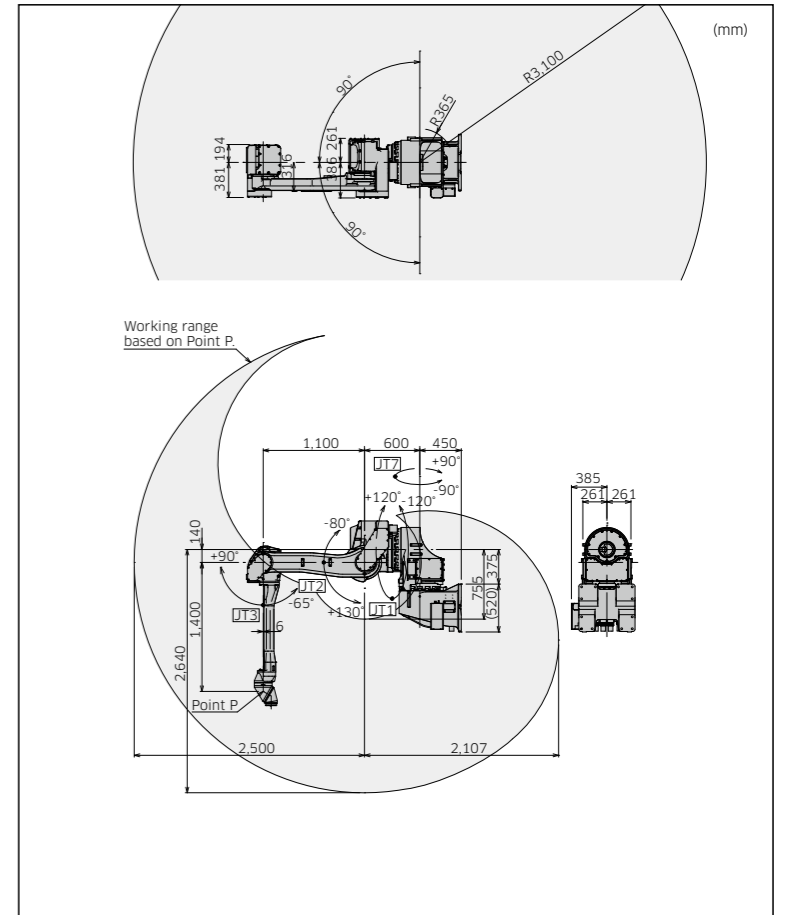


KJ314 (Wall)

Standard Specifications

Type		Articulated robot
Degree of freedom (axes)		7
Payload (kg)		Wrist : 15 Arm : 25
Max. reach*1 (mm)		3,100
Position repeatability*2 (mm)		±0.5
Motion range (°)	Arm rotation (JT1)	±120
	Arm out-in (JT2)	+130 - -80
	Arm up-down (JT3)	+90 - -65
	Wrist swivel (JT4)	±720
	Wrist bend (JT5)	±720
	Wrist twist (JT6)	±410
	Arm swing (JT7)	±90
	Painting speed (m/s)	
Mass (kg)		720
Mounting		Wall
Power requirements*3 (kVA)		5
Explosion-proof construction	America	Combination of pressurized and intrinsically safe (CL I ZN 1 AEx ib pxb IIB T4 / AEx ib IIB T4 Gb)
	Canada	Combination of pressurized and intrinsically safe (Ex ib pxb IIB T4 Gb / Ex ib IIB T4 Gb)
	Europe	Combination of pressurized and intrinsically safe (II2 G Ex pxb ib IIB T4 / Ex ib IIB T4 Gb)
	Korea	Combination of pressurized and intrinsically safe (Ex ib pxb IIB T4 Gb / Ex ib IIB T4)
	China	Combination of pressurized and intrinsically safe (Ex ib px IIB T4 Gb / Ex ib IIB T4 Gb)
	Japan & Asia (except China & Korea)	Combination of pressurized and intrinsically safe (fG4 / Ex ib IIB T4 Gb)
Controller	America, Canada	E35
	Europe	E45
	Japan & Asia	E25

*1: Distance between centers of JT1 and JT5.
 *2: Conforms to ISO9283.
 *3: Depends on payload and motion patterns.



E25, E35, E45/E27, E37, E47

Features

- Space saving thanks to the small footprint.
- By installing additional amplifiers, a conveyor, a gear pump and up to 3 external axes can be used.

Standard Specifications

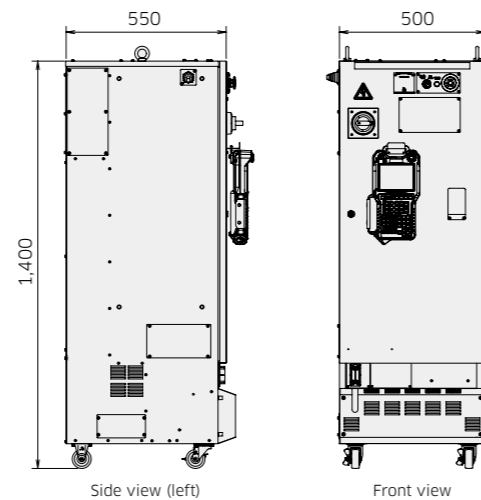
America	E35	E37
Europe	E45	E47
Japan & Asia	E25	E27
Dimensions (mm)	W500xD550xH1,400	
Construction	Enclosed structure/Indirect cooling system	
Controlled (axes)	6	
Memory capacity (MB)	8	
I/O signals	External operation	Motor power Off, Hold
	Input (Channels)	32
	Output (Channels)	32
Cable length	Robot-controller (m)	3
	Teach pendant (m)	10
Mass (kg)	120 (E25/E27), 170 (E35/E37, E45/E47)	
Power requirements	E35/E37	AC440-480V ±10%, 60 Hz, 3φ 7.3kVA (E35)/5.1kVA (E37)*1 Protective ground, leakage current: 10 mA at maximum
	E45/E47	AC380-415V ±10%, 50/60 Hz, 3φ 7.3kVA (E45)/5.1kVA (E47)*1 Protective ground, leakage current: 10 mA at maximum
	E25/E27	AC200-220V ±10%, 50/60Hz, 3φ 10kVA (E25)/5.6kVA (E27)*1 Class-D ground (standard for robots), leakage current: 100 mA at maximum Class-A ground (for intrinsic explosion-proof safety circuits)
Installation environment	Ambient temperature (°C)	0 - 45
	Relative humidity (%)	35 - 85 (No dew, nor frost allowed)
Teach pendant	TFT color LCD display with touch-panel, E-Stop switch, teach lock switch, Enable switch	
Operation panel	E-stop switch, teach/repeat switch*, control power light (Cycle start, motor-on, hold/run, and error rest are activated from the teach pendant.)	

*1: Power requirements ensure maximum operation of a robot, not those required for normal operations.
*2: The E45/E47 comes with three switches to change between teach/teach 100%/repeat, as standard equipment.

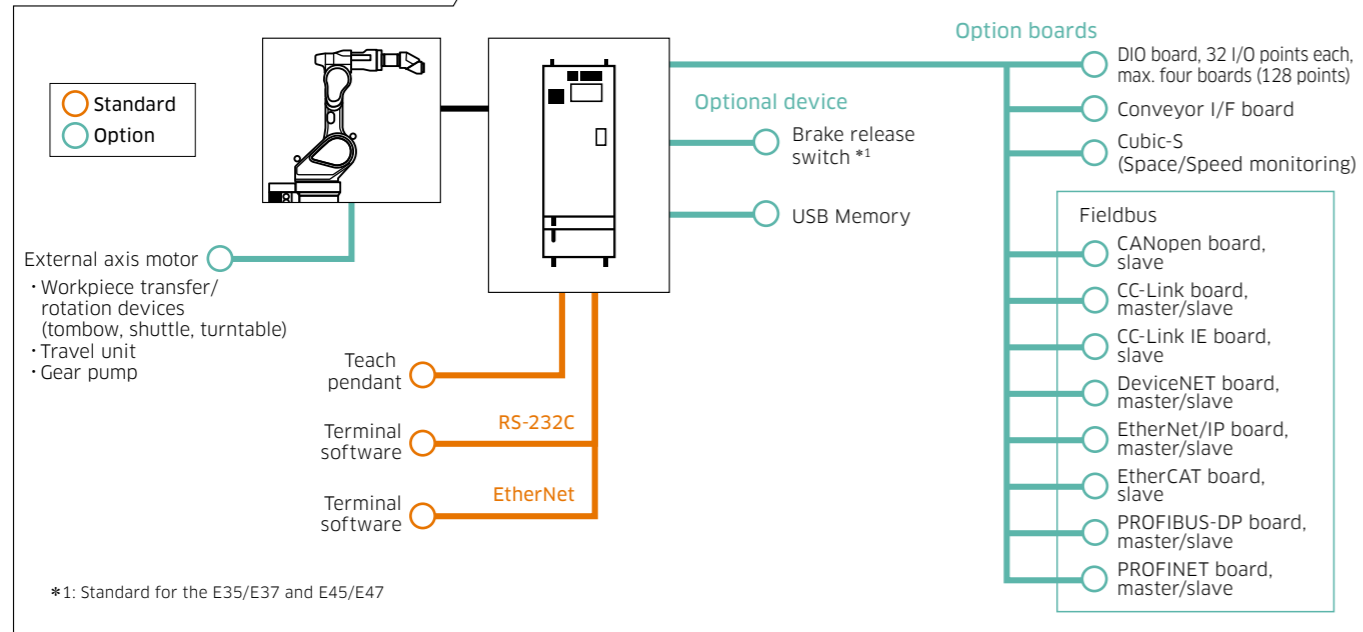


External view and dimensions

E25, E35, E45 / E27, E37, E47



System configuration diagram



*1: Standard for the E35/E37 and E45/E47

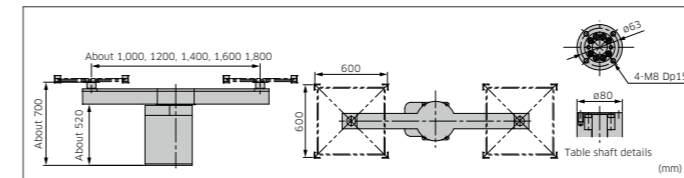
Small sized painting applications

Servo Tombow

Space saving and easy-to-install

- 1. Smooth movement**
Servo motion control provides smooth movement to eliminate work slippage.
- 2. Higher painting quality**
For small cubical boxes (electronic appliances such as TV cabinets.), the spray gun can be oriented to each surface at a right angle. The distance between the gun and the surface can also be adjusted simply by entering a value. These features enable easy operation and enhance the painting quality.
- 3. Synchronous operation with the robot**
The Servo Tombow's table rotation is synchronized with the robot movements, assuring a uniform paint finish for cylindrical shaped components such as hot plates, wooden trays and automobile hubs. The Tombow table offers 360 degrees of rotation.
- 4. Preventing paint mist accumulation**
To reduce the problem of paint mist accumulation, workpieces can be positioned above a water tank when spraying.

External view and dimensions



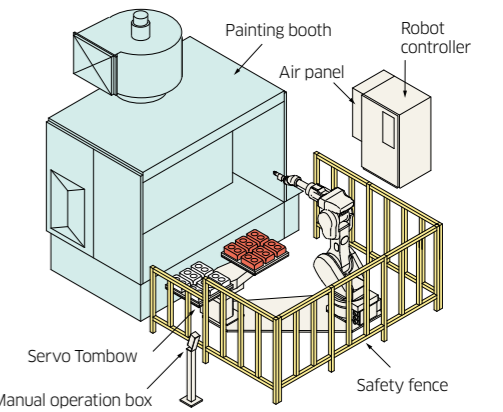
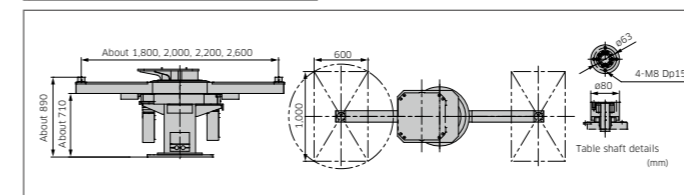
Small sized painting applications

Servo Tombow-R

Enhanced space efficiency

- 1. Space efficient**
The paint robot is installed at the center of the Servo Tombow painting system, thereby achieving a greater space efficiency.
- 2. Adaptability to different painting conditions**
The tables and arm can be positioned and speed-controlled with a high level of precision. The tables can also be continuously rotated and fixed at any desired angle, making it possible to select the best painting method for the workpiece.
- 3. Enhanced paint quality**
There are few obstacles surrounding the tables, allowing the paint robot to freely change its posture. The lack of obstacles also means that the airflow inside the booth does not become too turbulent. These advantages lead to an improved level of paint quality.
- 4. Ideal for automated transportation equipment**
This system attaches and removes workpieces behind the paint robot. As a result, this system can be easily combined with automated transportation equipment that uses conveyors or delivery robots.

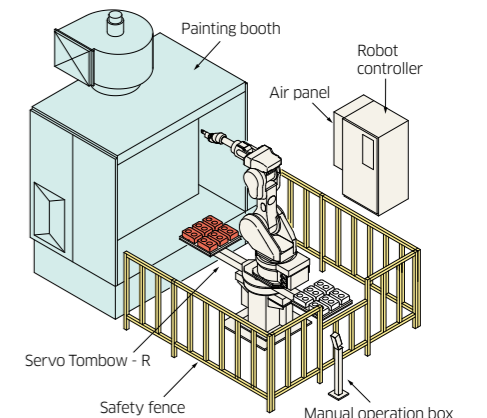
External view and dimensions



Standard Specifications

	Standard	Heavy load type
Table load	20 kg x 2 Table	40 kg x 2 Table
No. of control (axes)	Robot 6+Servo tombow 2	
Control method	Servo control	
Teaching playback method	PTP teaching+CP control	
Position detection method	Absolute encoder	
Arm	Diameter (mm)	1,000, 1,200, 1,400, 1,600, 1,800
	Operation angle (°)	180°
	Indexing time (sec)	2.0/180° / 2.4/180°
Table	Operation angle	Infinite revolution
	Indexing angle (°)	90-deg and arbitrary angle
	Indexing time (sec)	0.8/90° / 1.2/90°
	Uninterrupted rotary speed (rpm)	Max. 90 / Max. 45
Rotary direction	Normal/reverse rotation	
Explosion protection	Air pressurized explosion protection and intrinsically safe, Explosion-proof composite type (Exib II BT4 / Exib II BT4)	
Mass (kg)	Approx. 140 - 160	
Color	Munsell 10GY9/1 equivalent	

Note: The standard arm lengths are 1,000 mm, 1,200 mm, 1,400 mm, 1,600 mm and 1,800 mm. The work loading table and loading fixtures to be prepared by the purchaser.



Standard Specifications

	Standard	Heavy load type
Table load	20 kg x 2 Table	40 kg x 2 Table
No. of control (axes)	Robot 6+Servo tombow 2	
Control method	Servo control	
Teaching playback method	PTP teaching+CP control	
Position detection method	Absolute encoder	
Arm	Diameter (mm)	1,800, 2,000, 2,200, 2,600 / 1,800, 2,000, 2,200
	Operation angle (°)	180
	Indexing time (sec)	4.0/180°
Table	Operation angle	Infinite revolution
	Indexing angle (°)	90-deg and arbitrary angle
	Indexing time (sec)	1.0/90° / 1.7/90°
	Uninterrupted rotary speed (rpm)	Max. 120 / Max. 45
Rotary direction	Normal/reverse rotation	
Explosion protection	Air pressurized explosion protection and intrinsically safe, Explosion-proof composite type (Exib II BT4 / Exib II BT4)	
Mass (kg)	Approx. 550 - 690 (excluding the manipulator base)	
Color	Munsell 10GY9/1 equivalent	

Note: A set of work loading tables and loading fixtures are necessary. Install the Manipulator KF121 onto a tombow-R with an arm length of 1,800 mm or 2,000 mm. Install the Manipulator KF192/193/194 onto a tombow-R with an arm length of 2,200 mm or 2,600 mm.

Small sized painting applications Servo Twister

A compact but sophisticated system

1. Small installation space

The minimum installation space required for this system is 2,200 mm wide x 1,966 mm long for a 600 x 600 mm table. Such compactness allows you to install this system in a narrow hand-blowing booth.

2. Rotary table functions

In spite of its small size the Servo Twister provides rotary coating, indexed coating and rotary synchronization functions.

3. 6-axis robots

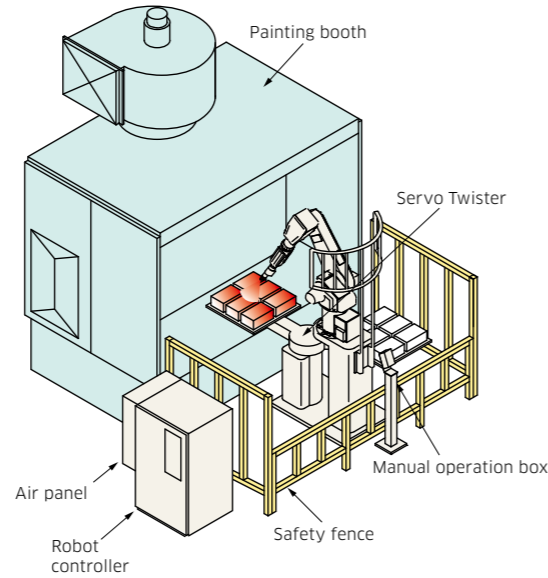
The Servo Twister installation uses a 6-axis, articulated robot.

4. Shared coating program

The integration of the robot and painting table into one unit allows for programs to be shared by more than one robot.

5. Short installation time

The servo twister cell can be built before delivery, so that the time for installation could be done as quick as one day.



Standard Specifications

		Standard
Table load		20 kg x 2 Table
No. of control (axes)		Robot 6+Servo twister 2
Control method		Servo control
Teaching playback method		PTP teaching+CP control
Position detection method		Absolute encoder
Arm	Diameter (mm)	650, 800
	Operation angle (°)	135
	Indexing time (sec)	1.8/135°
Table	Operation angle	Infinite revolution
	Indexing angle (°)	90-deg and arbitrary angle
	Indexing time (sec)	0.8/90°
	Uninterrupted rotary speed (rpm)	Max. 90
Rotary direction		Normal/reverse rotation
Explosion protection		Air pressurized explosion protection and intrinsically safe. Explosion-proof composite type (Expib II BT4 / Exib II BT4)
Mass (kg)		120
Color		Munsell 10GY9/1 equivalent

Note : The work loading table and loading fixtures to be prepared by the purchaser.

Medium sized work-piece painting cell Servo Shuttle

Ultimate "table painting" type

1. Improvement in productivity

Servo motion provides high speed work transfer and table rotation with shock-less smooth start and stop motion, and also enables continuous rotation tracking with robot and any stand-by position of feeder.

2. Higher coating quality

Controlling the position of the table provides the optimum painting position. This combined with the high-speed, high-precision robot with the servo shuttle enables high-quality painting.

3. Simple teaching

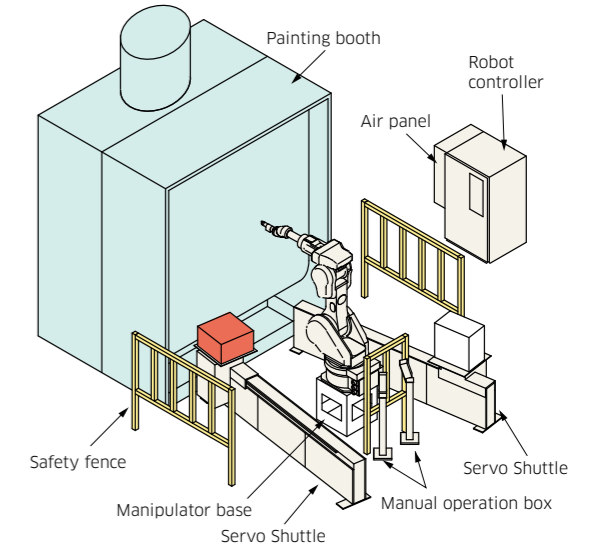
The simple teaching function provided by the KF series painting robot eliminates time-consuming program teaching.

4. Increased table load

The system can be used for painting large TV cabinets, sanitary ware, automobile instrument panels etc.

5. Simple installation

This complete package is simple to install, but will provide for the painting of the most complex of components.

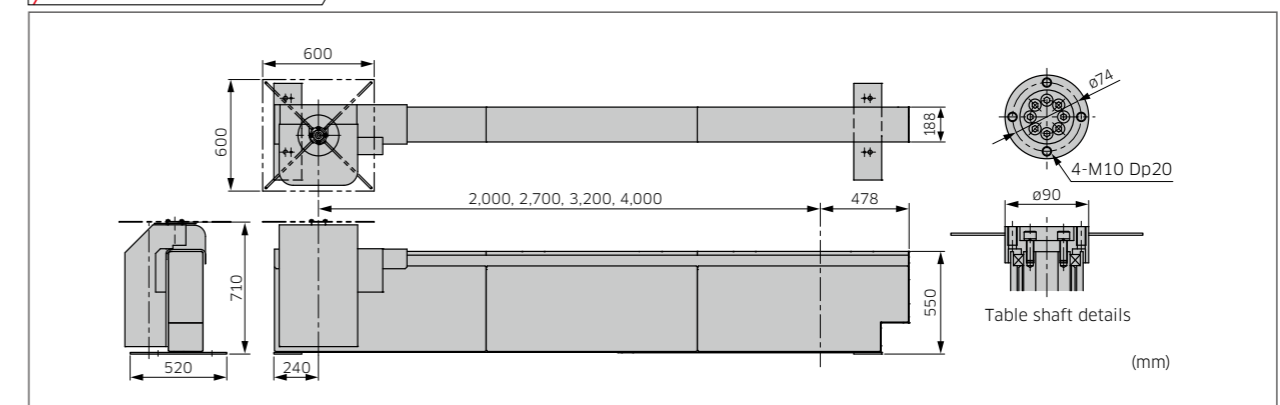


Standard Specifications

		Standard	Heavy load type
Table load		20 kg x 2 Table	60 kg x 2 Table
No. of control (axes)		Robot 6+Servo shuttle 2	
Control method		Servo control	
Teaching playback method		PTP teaching+CP control	
Position detection method		Absolute encoder	
Shuttle	Stroke (mm)	2,000, 2,700, 3,200, 4,000	
	Max. speed (mm/sec)	1,000	
Table	Operation angle	Infinite revolution	
	Indexing angle (°)	90-deg and arbitrary angle	
	Indexing time (sec)	0.8/90°	1.2/90°
	Uninterrupted rotary speed (rpm)	Max. 90	Max. 45
Rotary direction		Normal/reverse rotation	
Intermediate stop function		The intermediate stop function and multiple coating control function are available.	
Explosion protection		Air pressurized explosion protection and intrinsically safe. Explosion-proof composite type (Expib II BT4 / Exib II BT4)	
Mass (kg)		One side: 300 to 500	
Color		Munsell 10GY9/1 equivalent	

Note : The work loading table and loading fixtures to be prepared by the purchaser.

External view and dimensions



Medium sized work-piece painting cell

Servo Wing

The installation space for "Table Painting" was made even smaller.

1. Space saving

While suitable for workpieces of a larger size than in the Servo Shuttle, the installation space is made smaller. Because the left and right workpieces are closer together, loading and unloading work is reduced.

2. Even small-sized robots can handle large workpieces

Because there is one painting position, the distance between the workpiece and the robot becomes closer, making the robot possibly smaller than that in the Servo Shuttle.

3. Less teaching work

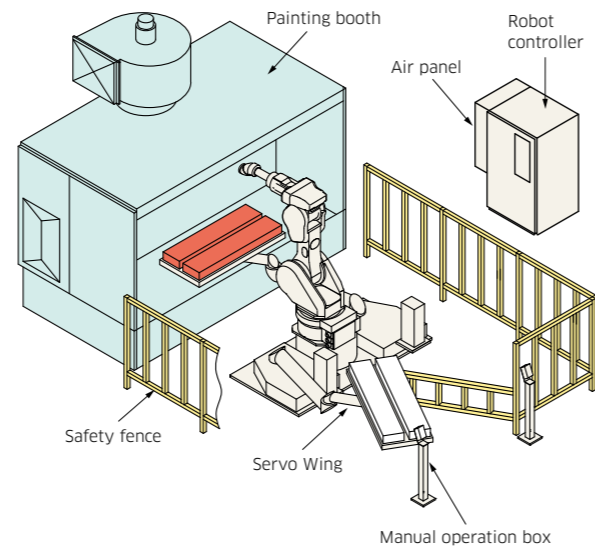
Because the left and right arms can be set for the same painting positions (one position), a single program can be used, thus making the teaching time shorter.

4. Preventing paint mist accumulation

Because the arms are slim with no fixed rails, painting can be conducted above the water, reducing soiling of the booth. In addition, the airflow turbulence inside the paint booth can be minimized.

5. Short Construction Period

This device is delivered pre-assembled. So, it can be installed in as short as one day and you can start production immediately.

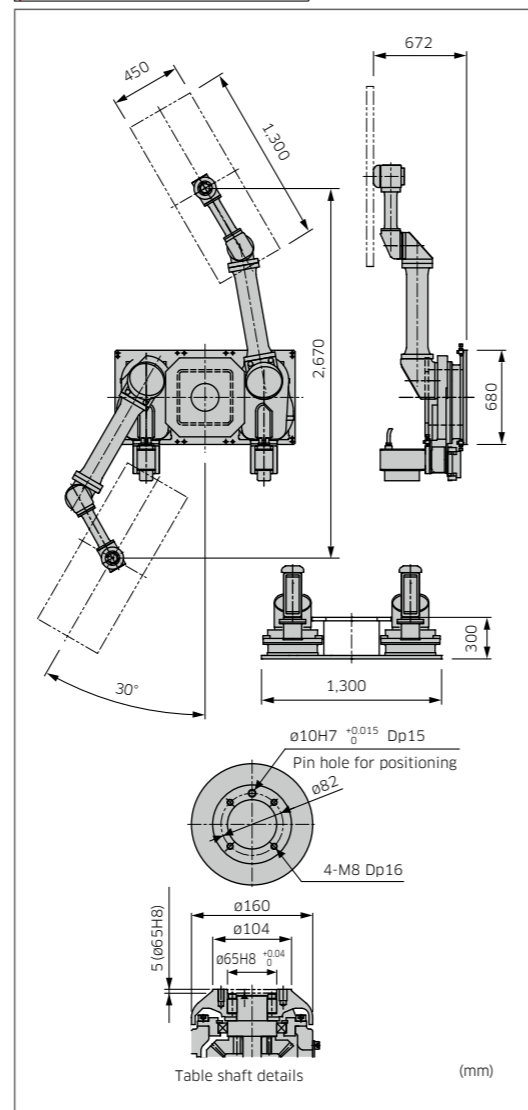


Standard Specifications

Table load	30 kg x 2 Table	
No. of control (axes)	Robot 6+Servo wing 2	
Control method	Servo control	
Teaching playback method	PTP teaching+CP control	
Position detection method	Absolute encoder	
Arm	Stroke (mm)	2,670
	Indexing time (sec)	3.2
Table	Operation angle (°)	Infinite revolution
	Indexing angle (°)	90-deg and arbitrary angle
	Indexing time (sec)	1.2/90°
	Uninterrupted rotary speed (rpm)	Max. 90
	Rotary direction	Normal/reverse rotation
Intermediate stop function	The intermediate stop function and multiple coating control function are available.	
Explosion protection	Air pressurized explosion protection and intrinsically safe. Explosion-proof composite type (Expib II BT4 / Exib II BT4)	
Mass (kg)	970	
Color	Munsell 10GY9/1 equivalent	

Note: The arm index time indicates the time of arm movement from the intermediate stop position to the painting position.
The arm index time varies depending on the intermediate stop position.

External view and dimensions



Medium sized work-piece painting cell

Servo Spinner

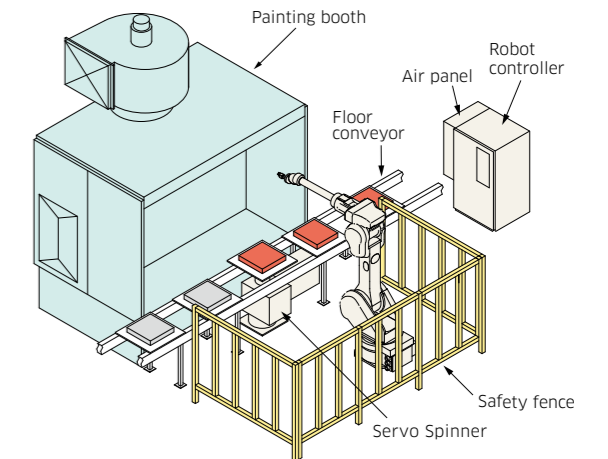
A new dimension in "line coating"

1. Flexible component placement

Choose the optimum painting posture for the workpiece, and reduce contamination of the paint booth.

2. Uninterrupted painting

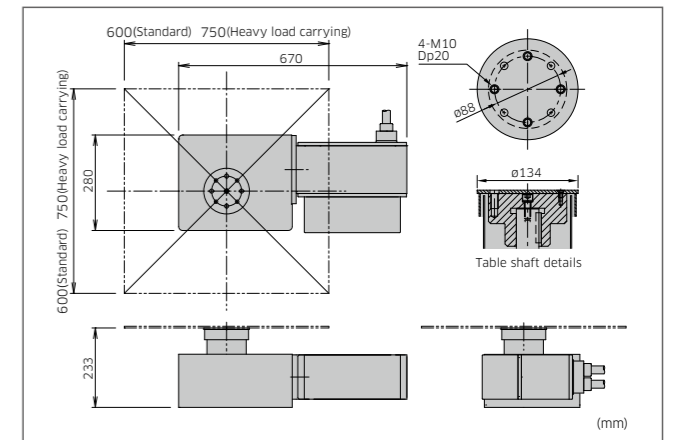
Painting can be performed with the table rotating, thus minimizing the robot's wait time.



Standard Specifications

	Standard	Heavy load type	
Table load (kg)	20	60	
No. of control (axes)	Robot 6+Servo Spinner 1		
Control method	Servo control		
Teaching playback method	PTP teaching+CP control		
Position detection method	Absolute encoder		
Table	Operation angle	Infinite revolution	
	Indexing angle (°)	90-deg and arbitrary angle	
	Indexing time (sec)	0.8/90°	1.1/90°
	Uninterrupted rotary speed (rpm)	Max. 90	Max. 45
	Rotary direction	Normal/reverse rotation	
Explosion protection	Air pressurized explosion protection and intrinsically safe. Explosion-proof composite type (Expib II BT4 / Exib II BT4)		
Mass (kg)	60		
Color	Munsell 10GY9/1 equivalent		

External view and dimensions



Large sized work-piece painting cell

Servo Turntable

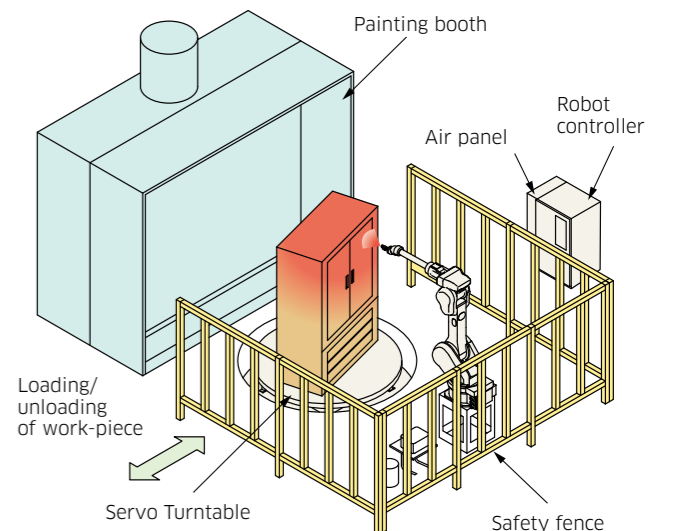
Complete surface painting is possible with uninterrupted turntable rotation

1. The integrated control of the robot and table allows any painting position to be achieved according to the work shape.

2. The system can be applied to various types of painting such as synchronous control, arbitrary-angle indexing and paint spraying with continuous rotation of the table.

Standard Specifications

	Standard	Heavy load type	
Table load (kg)	Max. 500	Max. 1,000	
No. of control (axes)	Robot 6+Servo Turntable 1		
Control method	Servo control		
Teaching playback method	PTP teaching+CP control		
Position detection method	Absolute encoder		
Table	Operation angle	Infinite revolution	
	Indexing angle (°)	90-deg and arbitrary angle	
	Indexing time (sec)	2.5/90°	5/90°
	Uninterrupted rotary speed (rpm)	Max. 10	Max. 5
	Rotary direction	Normal/reverse rotation	
Explosion protection	Air pressurized explosion protection and intrinsically safe. Explosion-proof composite type (Expib II BT4 / Exib II BT4)		
Mass (kg)	180 (without table jig)		
Table diameter (mm)	up to ø2,000		
Color	Munsell 10GY9/1 equivalent		
Foot switch function (Option)	Uninterrupted normal rotation, rotation stop	Uninterrupted rotation, 45-deg., 90-deg., 180-deg., indexing (changeable indexing angle), rotation stop	



External view and dimensions

