

Kawasaki Heavy Industries, Ltd

Robot Business 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

Nishi-Kobe Works/Robot Division

234, Matsumoto, Hasetani-cho, Nishi-ku, Kobe, Hyogo 651-2239, Japan
Phone: +81-78-915-8136 Fax: +81-78-915-8274

Kawasaki Robotics website

<https://kawasakirobotics.com/>



Kawasaki Robostage (showroom)

<https://kawasakirobotics.com/jp-sp/robostage/en/>



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

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

Im Taubental 32, 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.

1-2/F, Building 6, No.19 Xinhuan Road, TEDA, China
Phone: +86-22-5983-1888 Fax: +86-22-5983-1889

Taiwan Kawasaki Robot Center

3F, No.31, Ln.216, Gongyuan Rd., Hsinchu City
30069, Taiwan(R.O.C)
Phone: +886-3-562-0518

Kawasaki Motors Enterprise (Thailand) Co., Ltd. (Rayong Robot Center)

119/10 Moo 4 T.Pluaek Daeng, A.Pluaek Daeng, Rayong 21140
Thailand
Phone: +66-38-955-040-58 Fax: +66-38-955-145

Singapore Kawasaki Robot Center

100G Pasir Panjang Road #06-10
Singapore 118523
Phone: +65-6513-3145

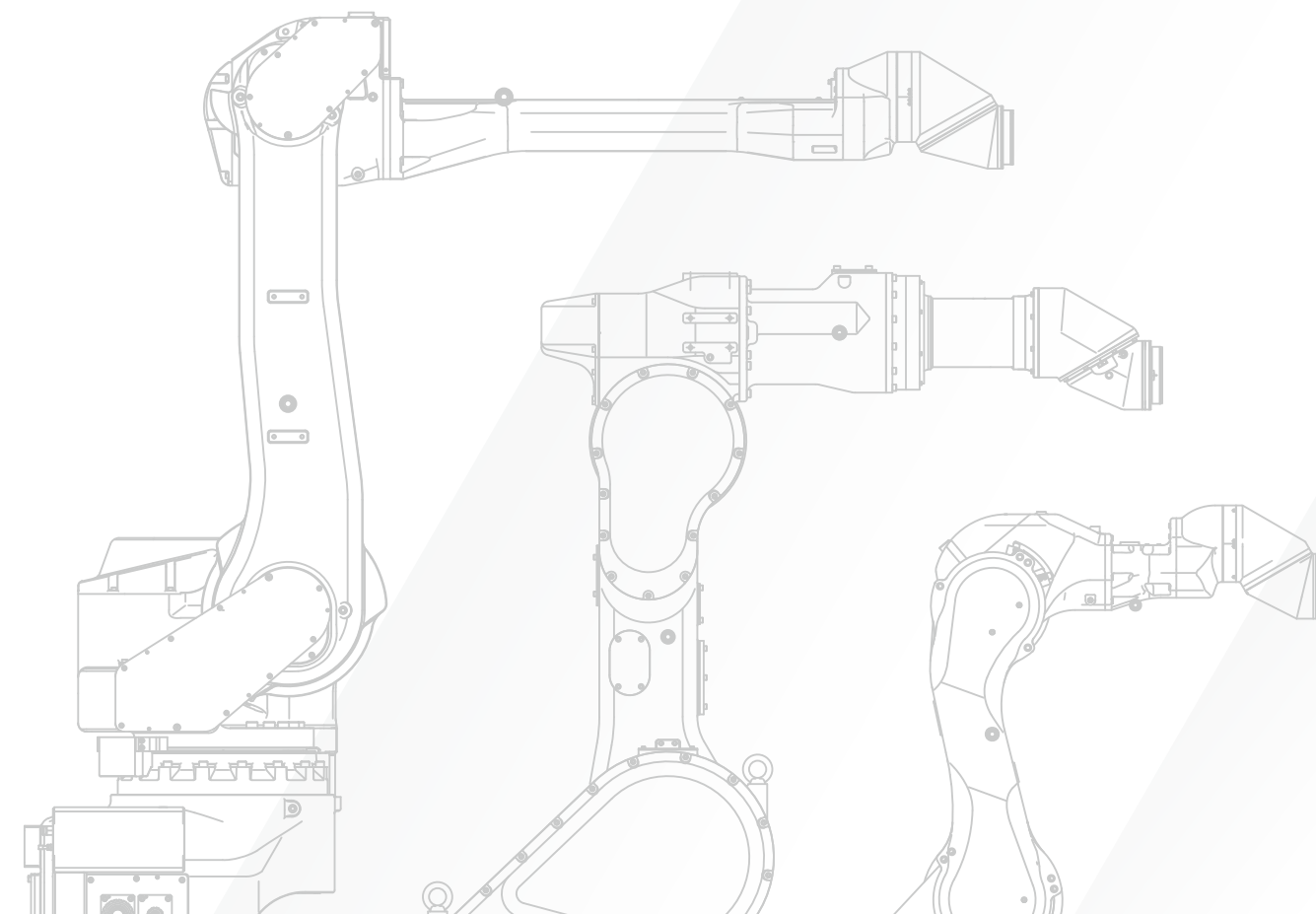
Kawasaki Robotics India Pvt. Ltd.

Plot No. 136, Sector-37, Pace City 1,
Gurgaon, 122101 Haryana, India
Phone: +91-124-437-1845



CAUTIONS TO BE TAKEN TO ENSURE SAFETY

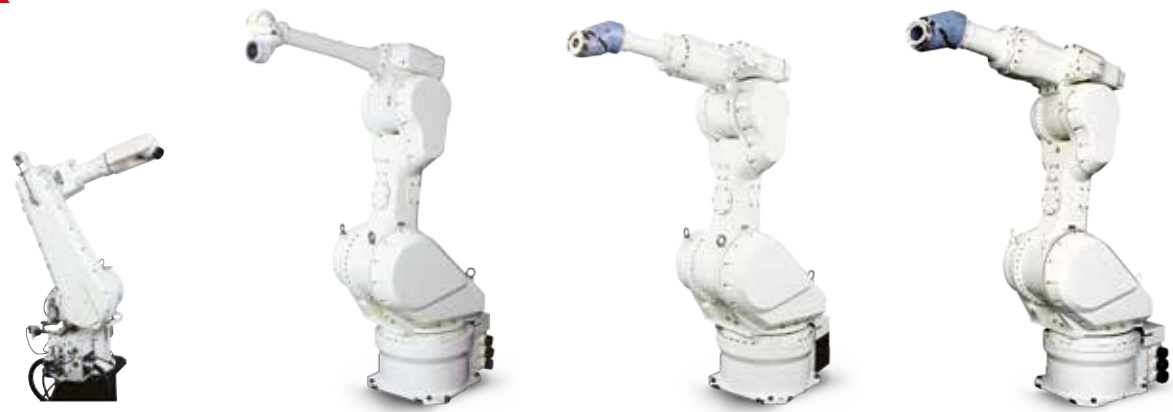
- For those persons involved with the operation / service of your system, including Kawasaki Robot, they must strictly observe all safety regulations at all times. They should carefully read the Manuals and other related safety documents.
- Products described in this catalogue are general industrial 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.



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

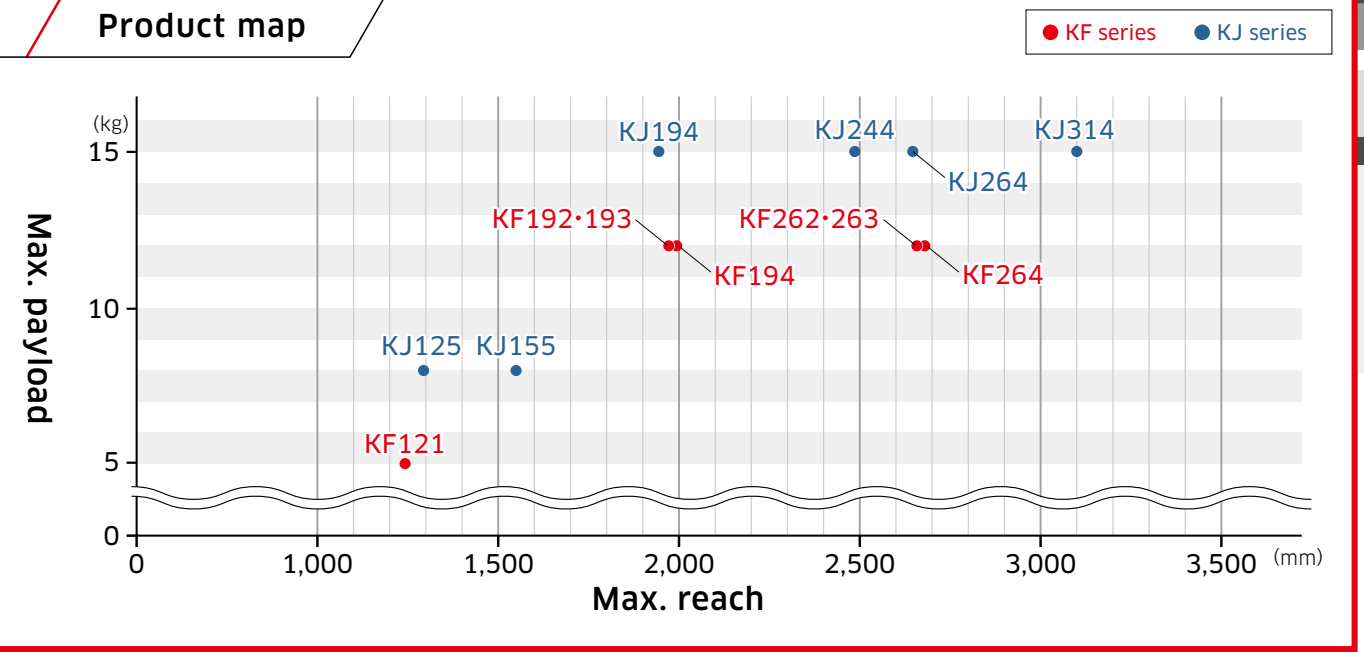


KJ155



KJ194

Product map



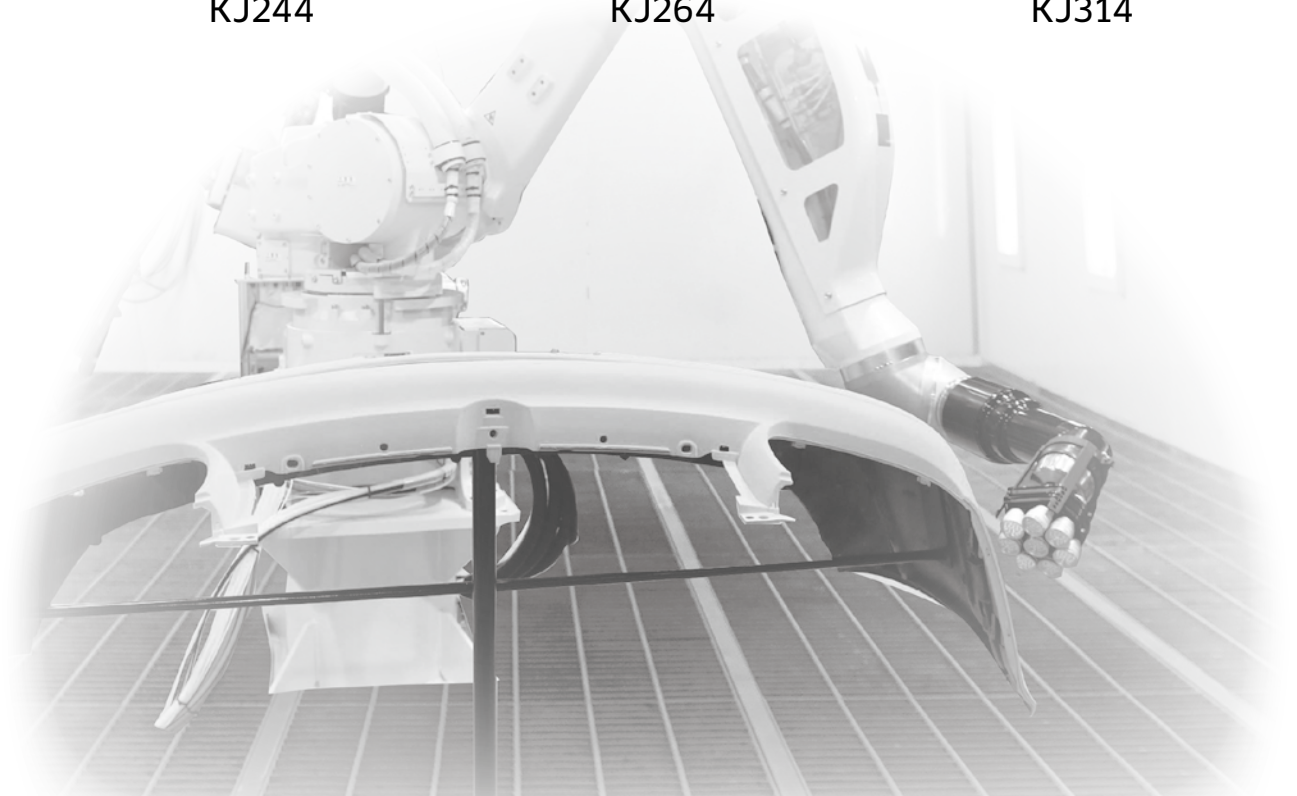
KJ244

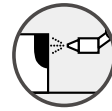


KJ264



KJ314



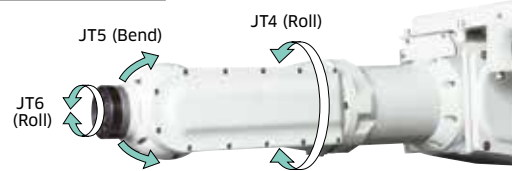


Features

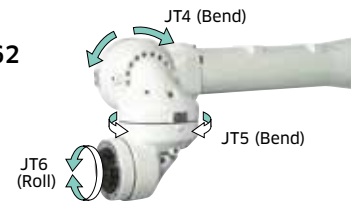
- Full lineup of painting robots cover diverse workpieces from small to large.
- The 3R type hollow wrist can install hoses inside to prevent dusts on the painted parts.
- Painting package cells support users to introduce robot painting lines with ease (optional).

Variations of wrists

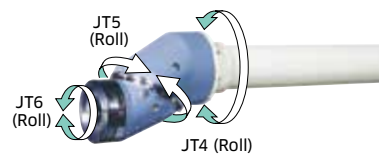
RBR KF121



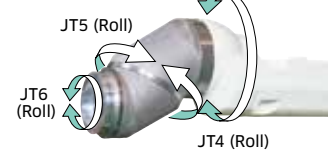
BBR KF192 / KF262



3R (Ø40mm) KF193 / KF263

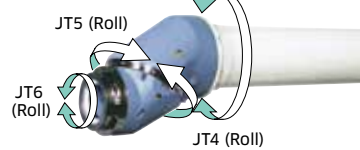


3R (Ø50mm*) KJ125 / KJ155



*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

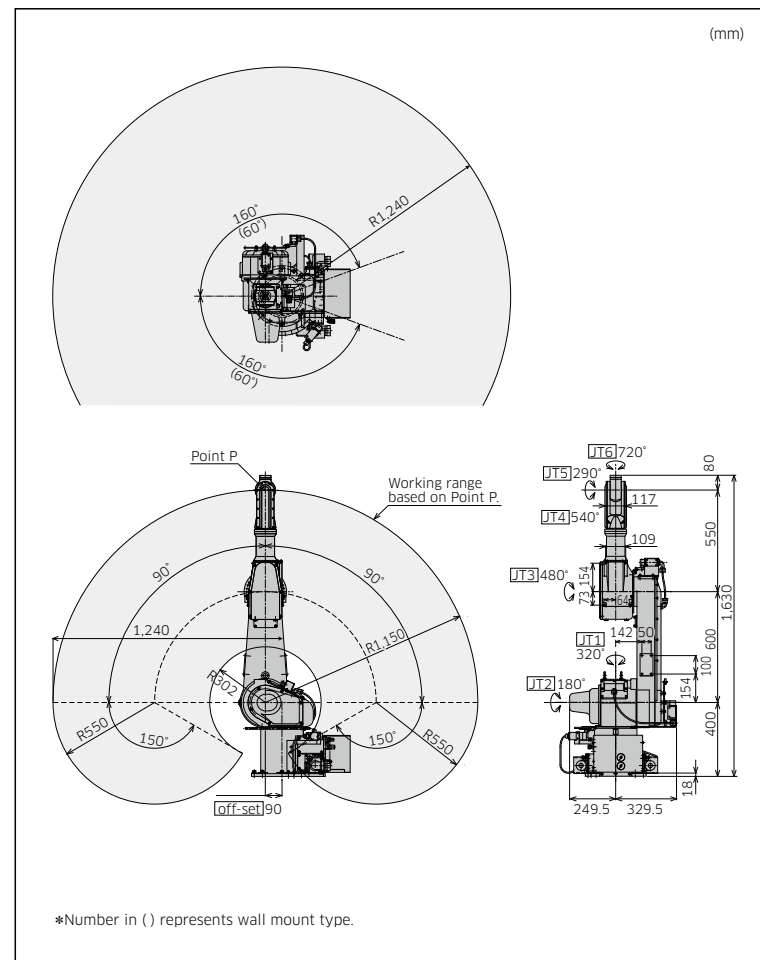


KF121

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.

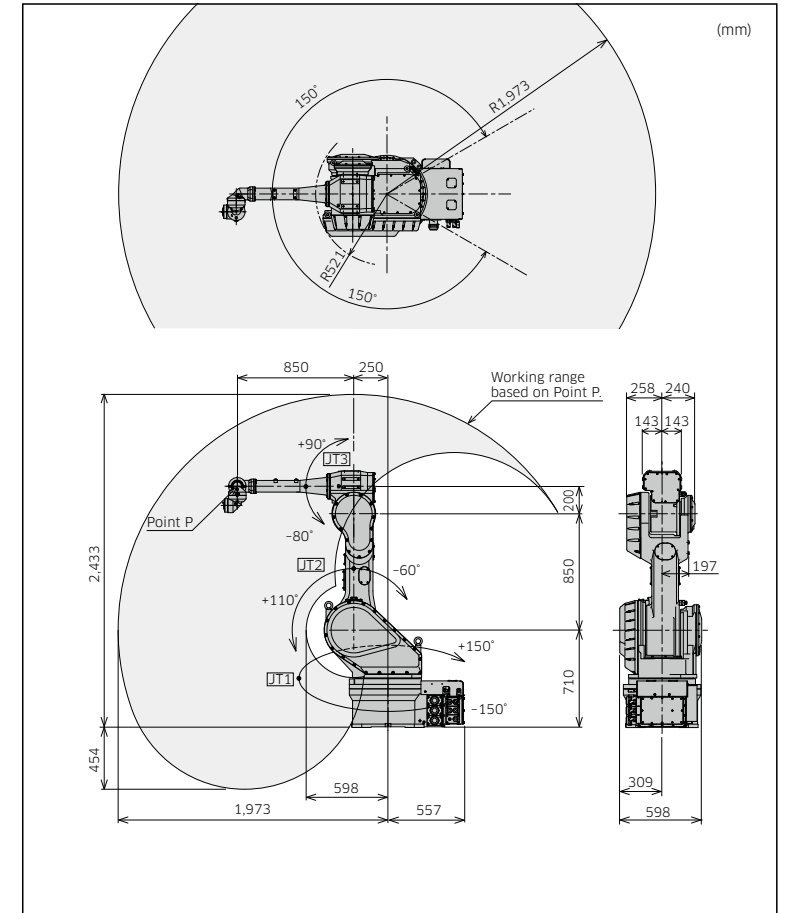


KF192

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.

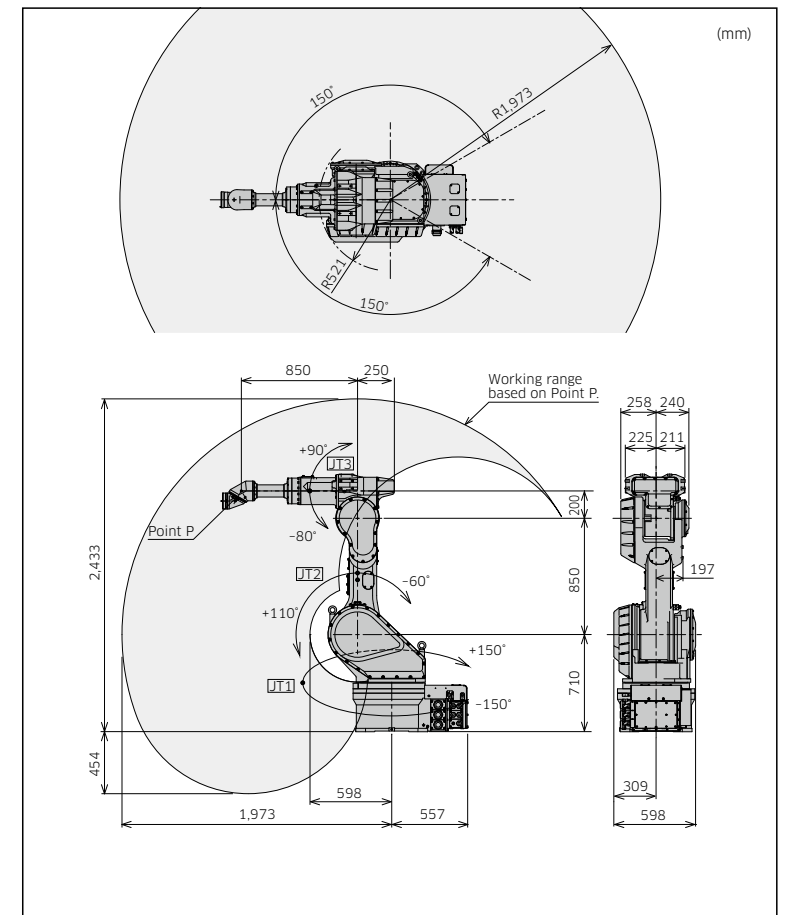


KF193

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.

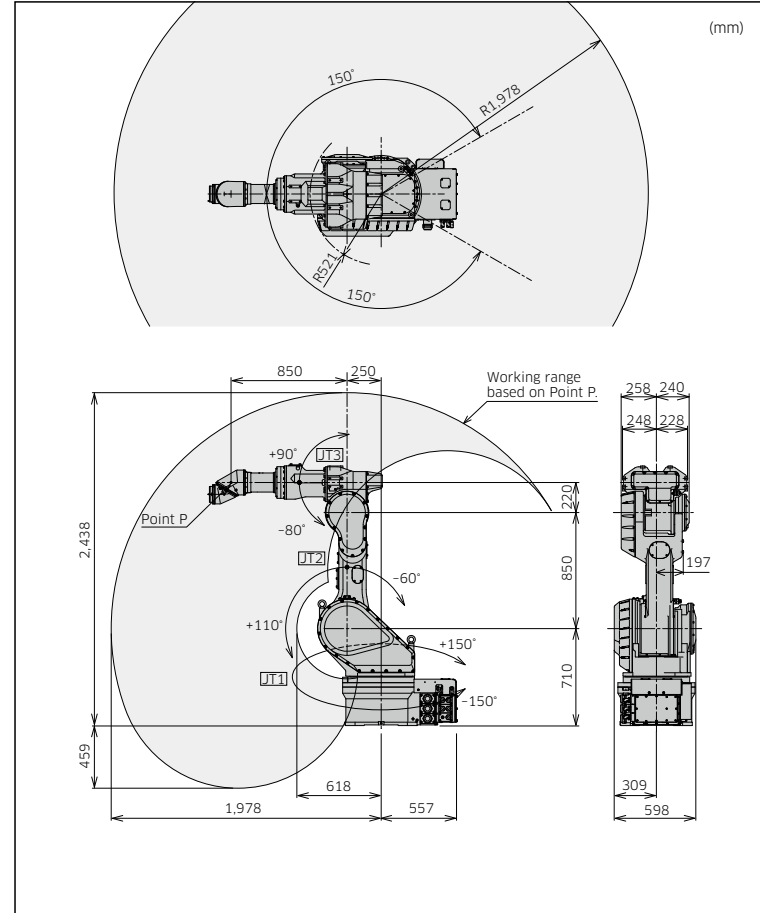


KF194

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.

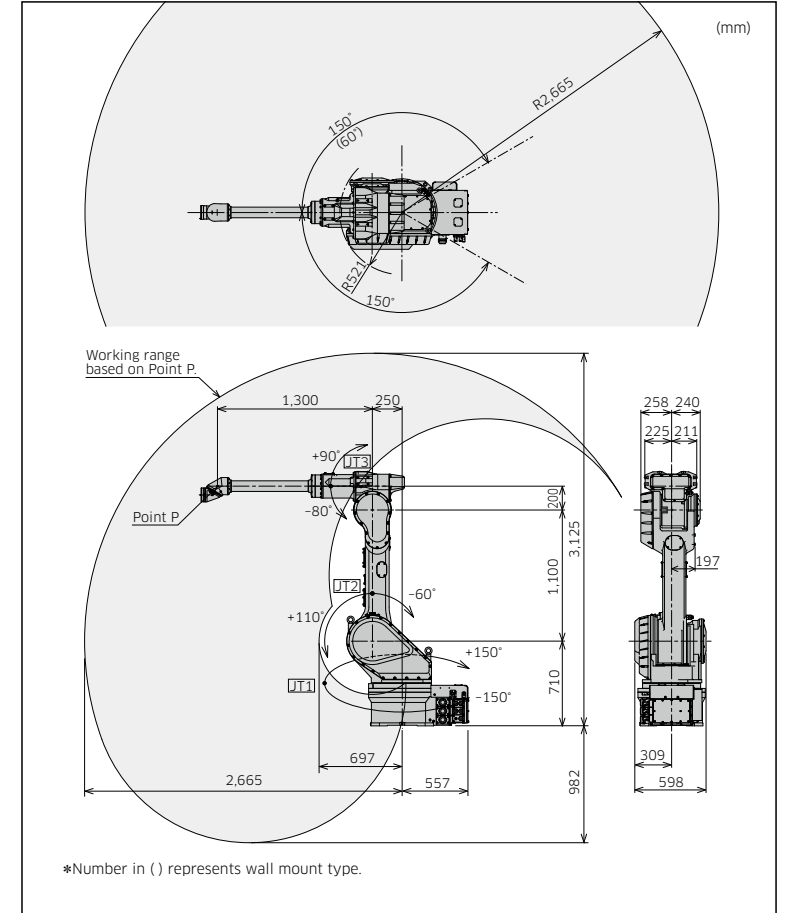


KF263

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.



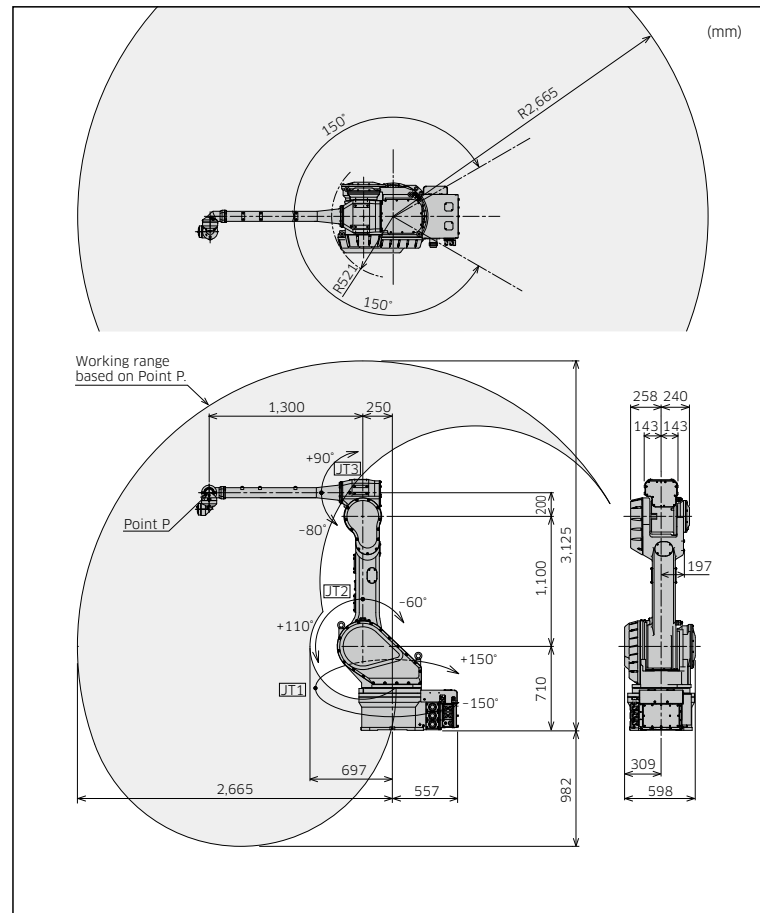
*Number in () represents wall mount type.

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.

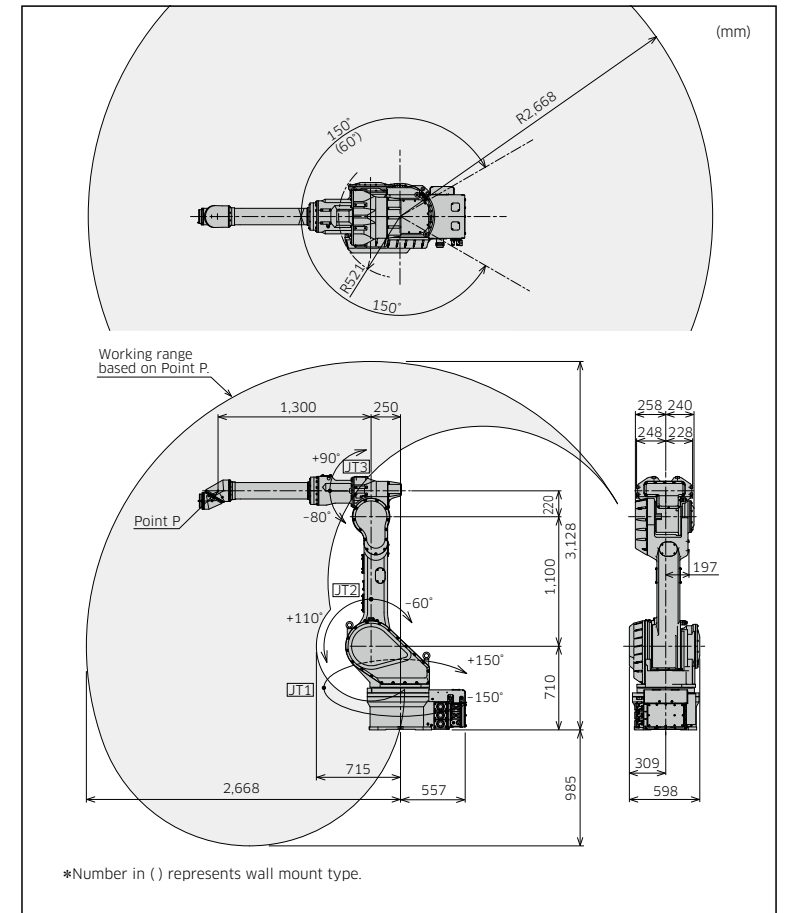


KF264

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.

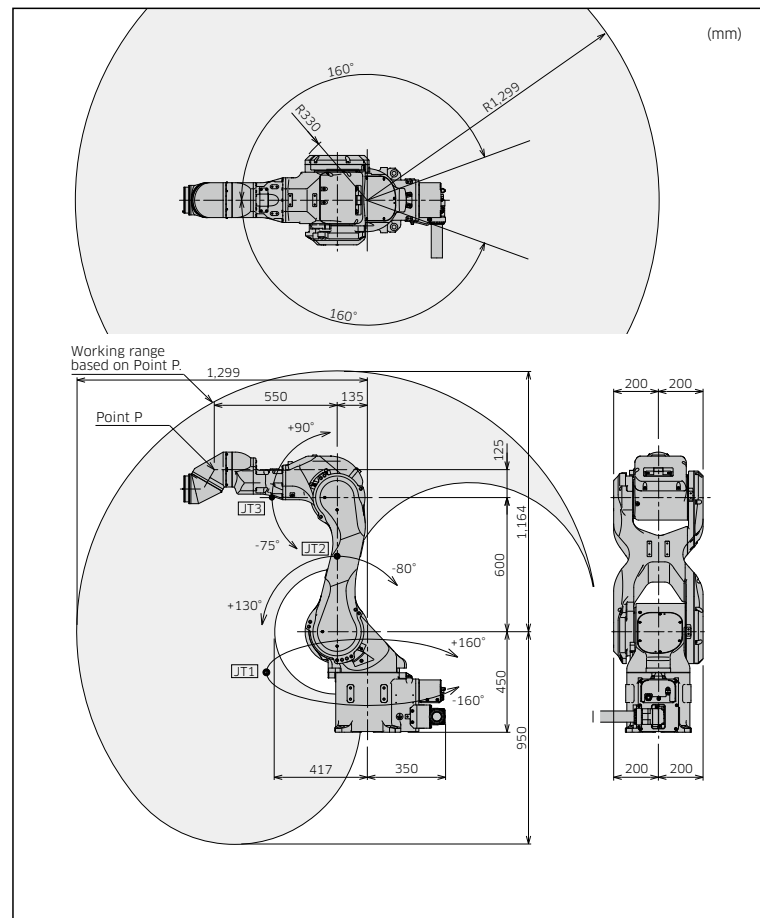


*Number in () represents wall mount type.

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 |

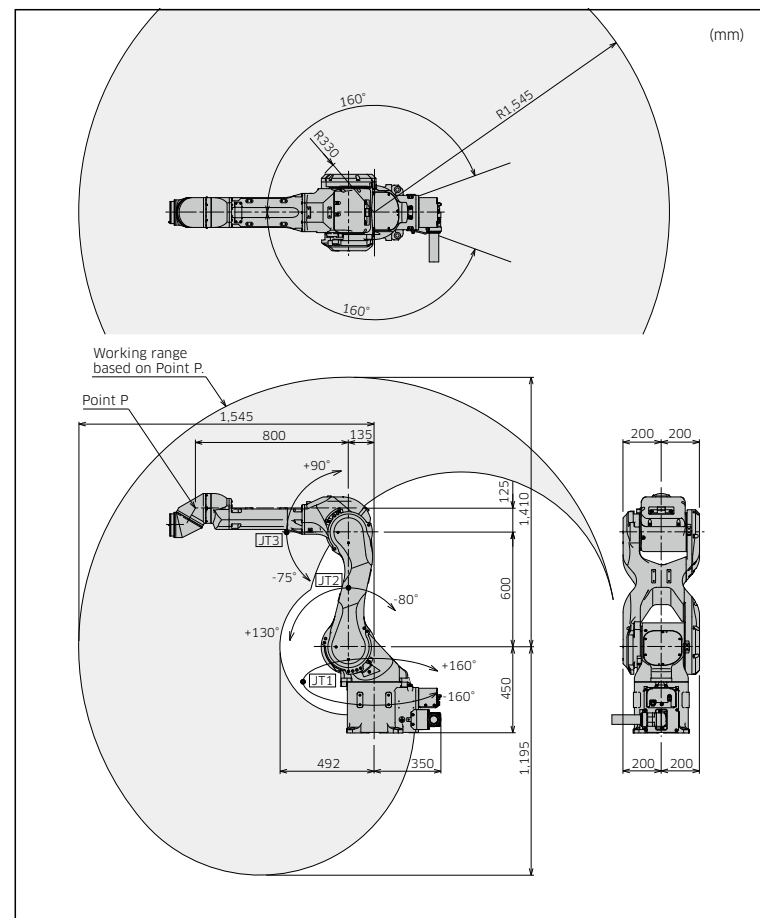


*1: Distance between centers of JT1 and JT5.
*2: Conforms to ISO9283.
*3: Depends on payload and motion patterns.

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 |

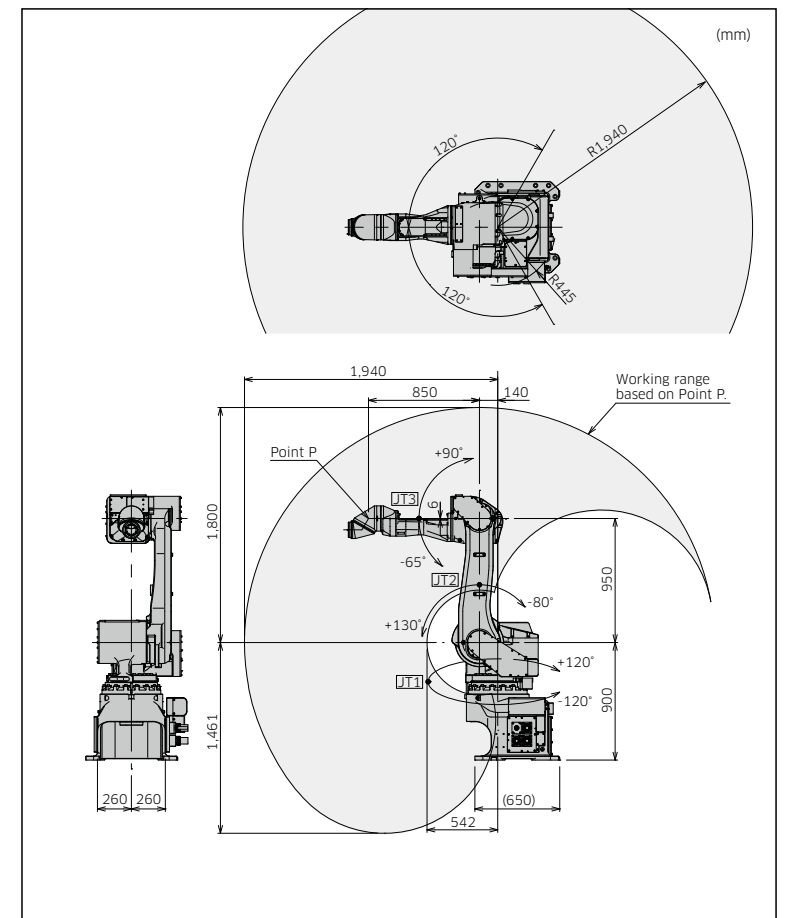


*1: Distance between centers of JT1 and JT5.
*2: Conforms to ISO9283.
*3: Depends on payload and motion patterns.

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 |

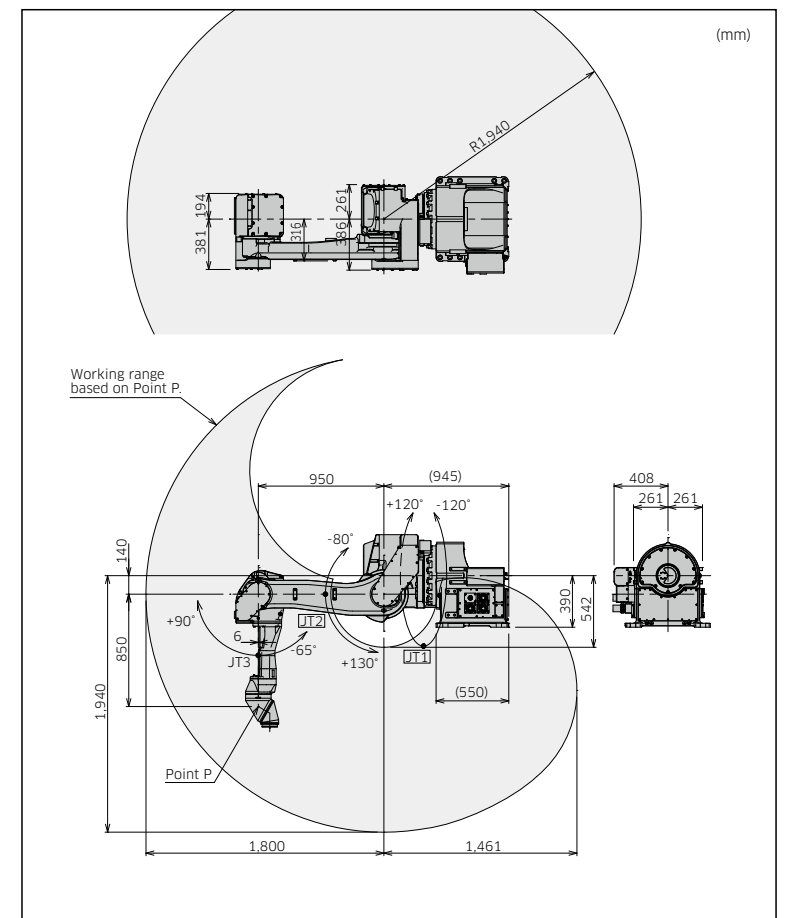


*1: Distance between centers of JT1 and JT5.
*2: Conforms to ISO9283.
*3: Depends on payload and motion patterns.

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 |

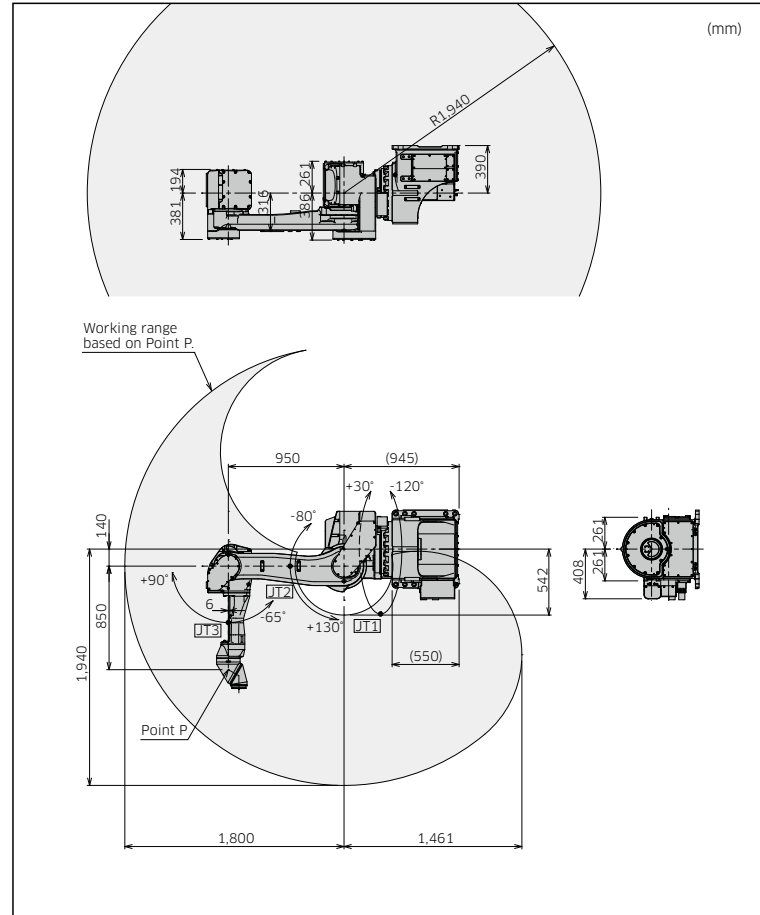


*1: Distance between centers of JT1 and JT5.
*2: Conforms to ISO9283.
*3: Depends on payload and motion patterns.

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 |

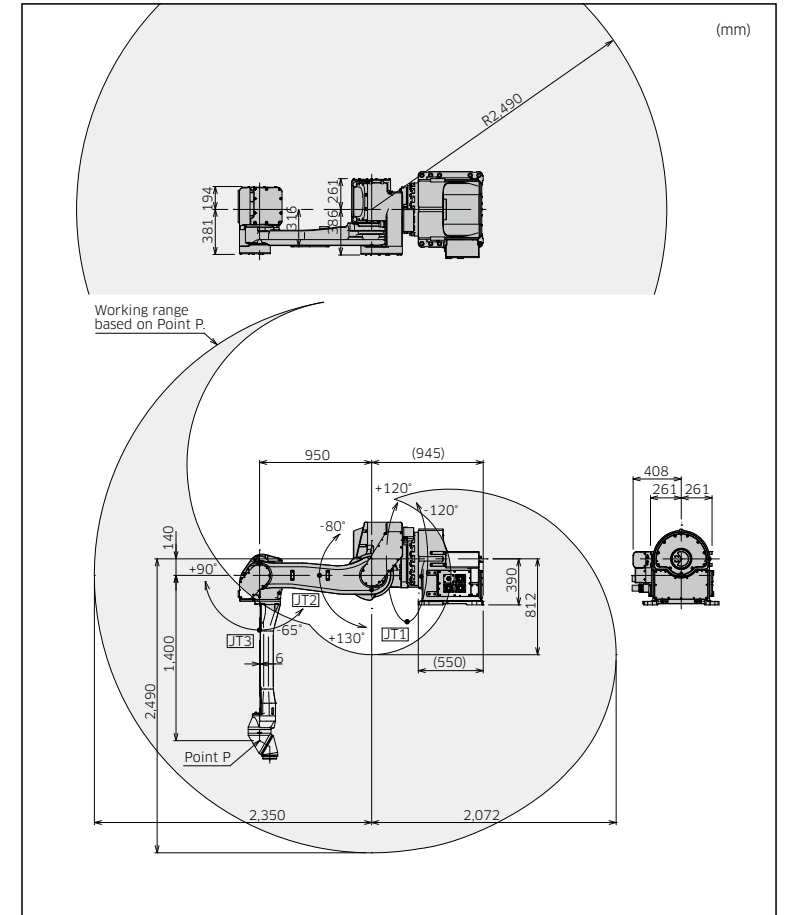


*1: Distance between centers of JT1 and JT5.
 *2: Conforms to ISO9283.
 *3: Motion range of JT1 varies depending on the direction of the mounting surface. Viewing from the robot backside, when the mounting surface is located on the left, it is [+120 to -30]. When the surface is on the right side, it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

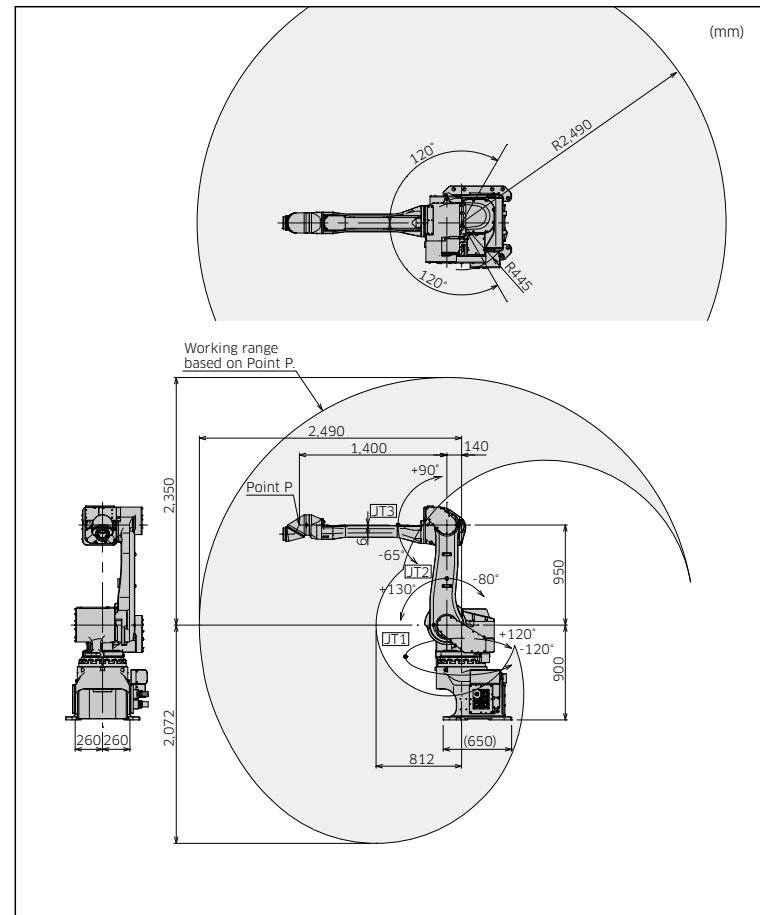


*1: Distance between centers of JT1 and JT5.
 *2: Conforms to ISO9283.
 *3: Depends on payload and motion patterns.

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 |

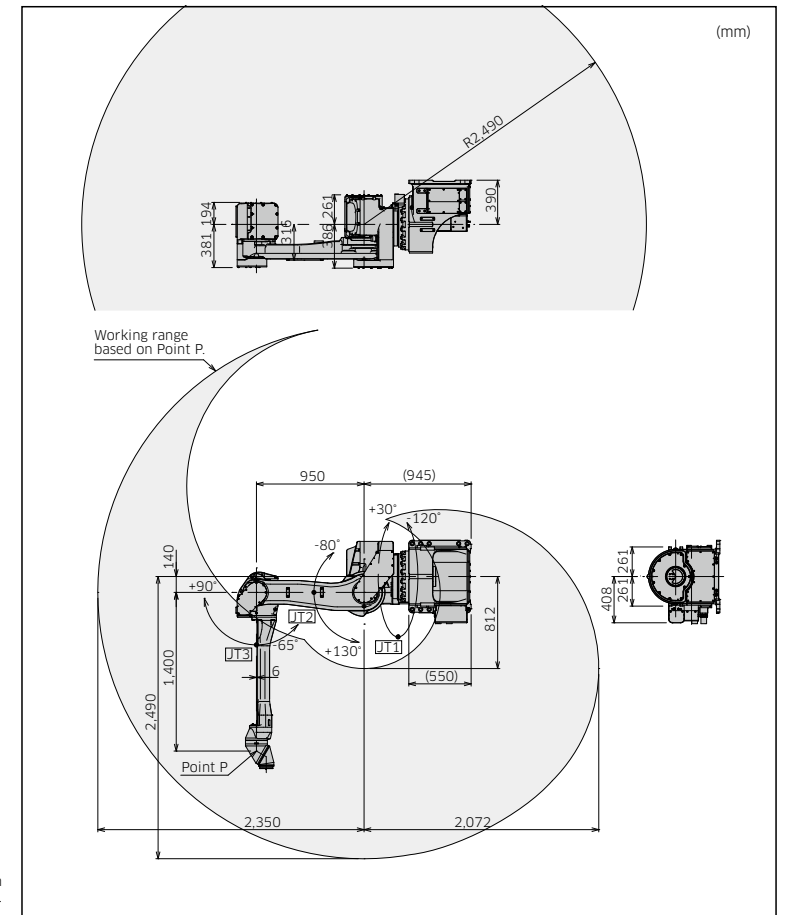


*1: Distance between centers of JT1 and JT5.
 *2: Conforms to ISO9283.
 *3: Depends on payload and motion patterns.

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 |



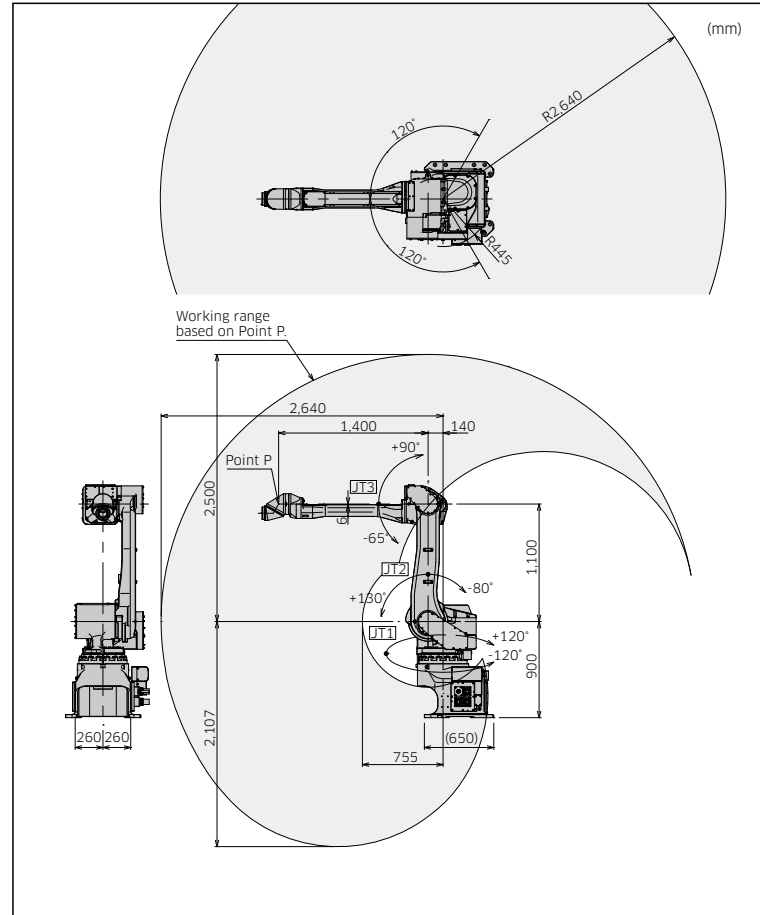
*1: Distance between centers of JT1 and JT5.
 *2: Conforms to ISO9283.
 *3: Motion range of JT1 varies depending on the direction of the mounting surface. Viewing from the robot backside, when the mounting surface is located on the left, it is [+120 to -30]. When the surface is on the right side, it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

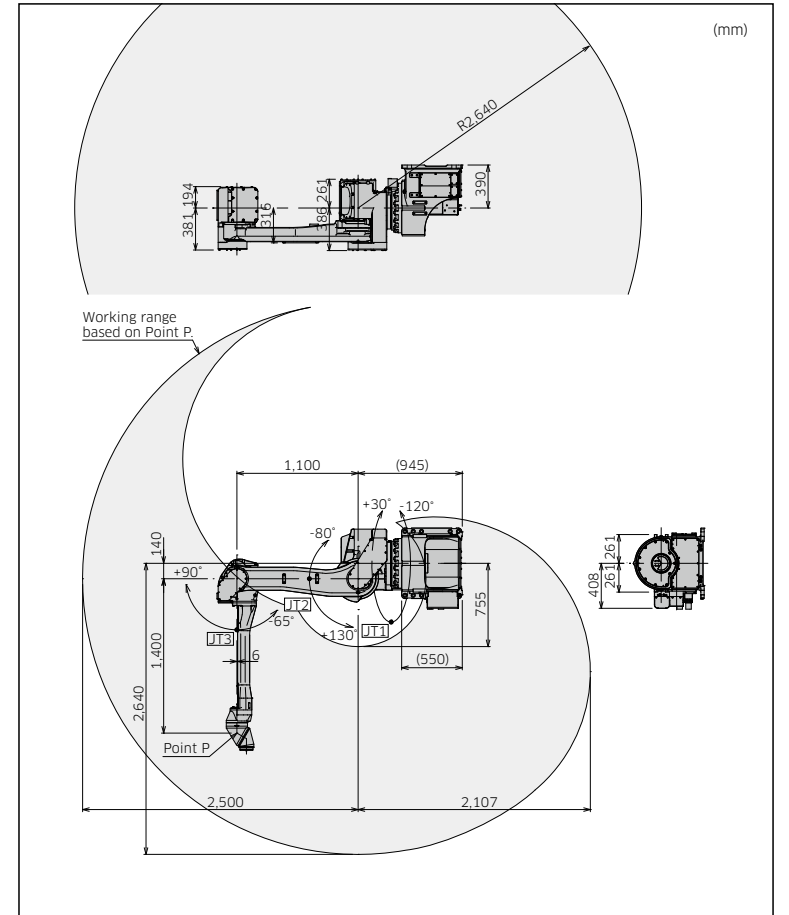


KJ264 (Wall)

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.

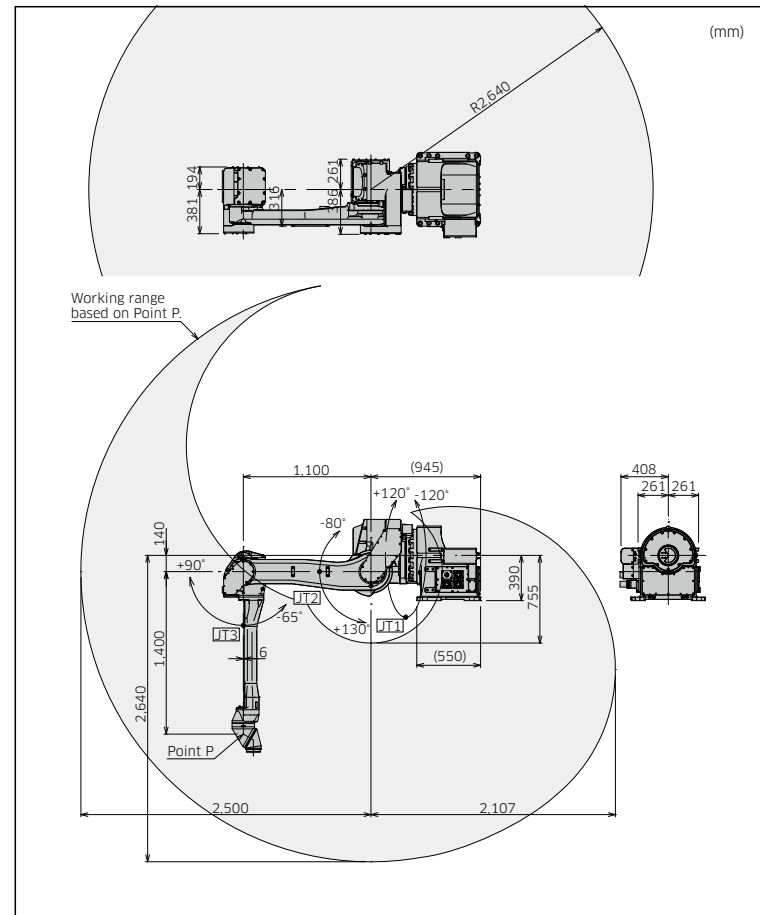


KJ264 (Shelf)

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.

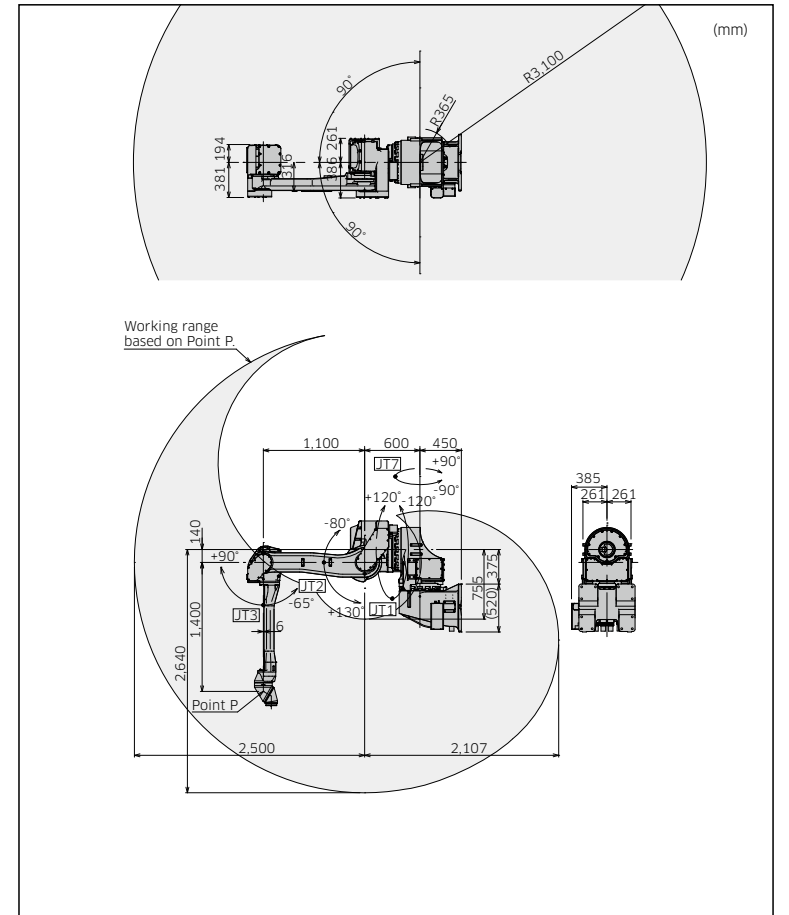


KJ314 (Wall)

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

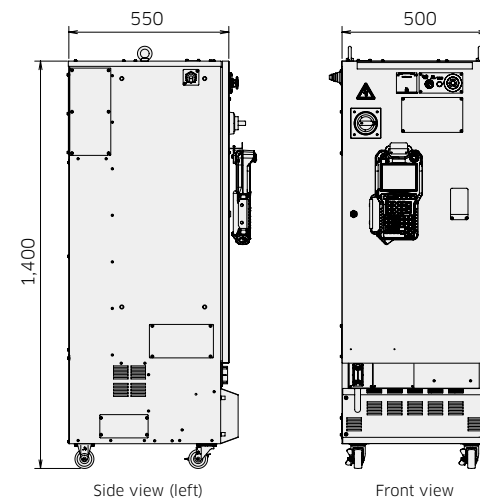
| | | |
|--------------------------|--|---|
| America | E35 | E37 |
| Europe | E45 | E47 |
| Japan & Asia | E25 | E27 |
| Dimensions (mm) | W500xD550xH1,400 | |
| Construction | Enclosed structure/Indirect cooling system | |
| Controlled (axes) | 6 | |
| Memory capacity (MB) | 8 | |
| I/O signals | External 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.

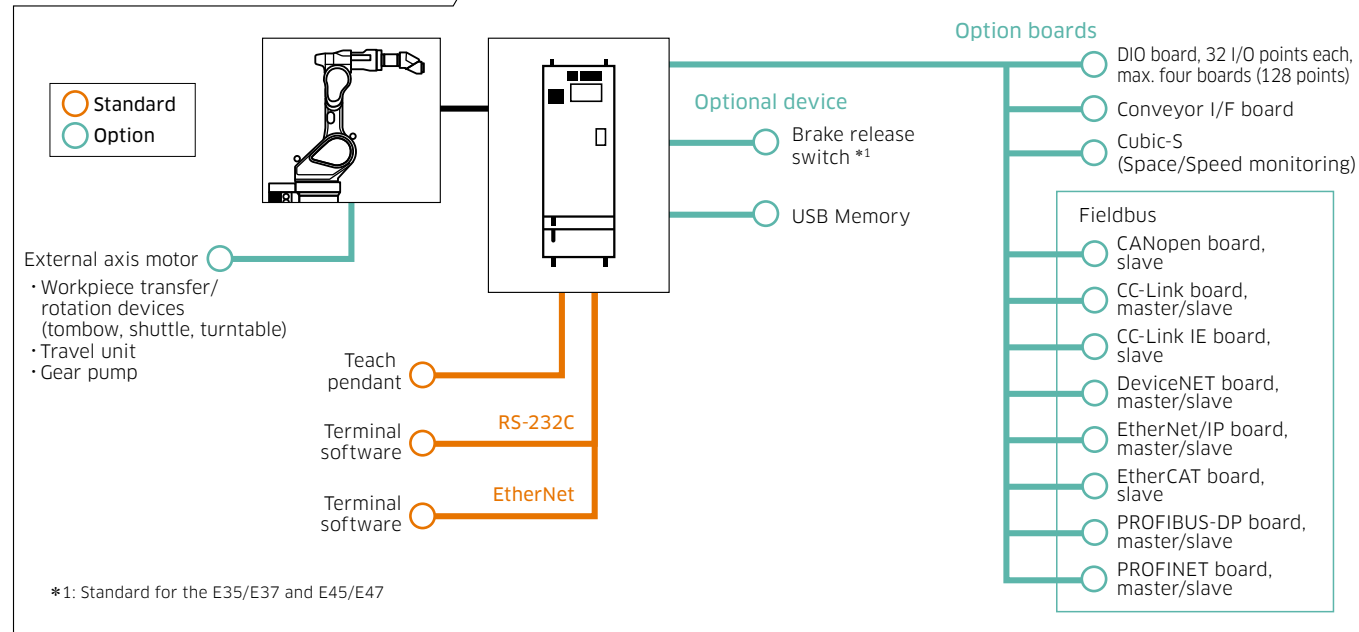


External view and dimensions

E25, E35, E45 / E27, E37, E47



System configuration diagram



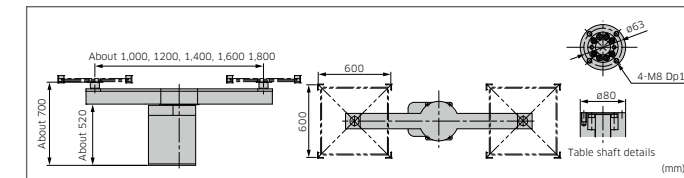
*1: Standard for the E35/E37 and E45/E47

Small sized painting applications Servo Tombow

Space saving and easy-to-install

- Smooth movement**
Servo motion control provides smooth movement to eliminate work slippage.
- 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.
- 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.
- 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

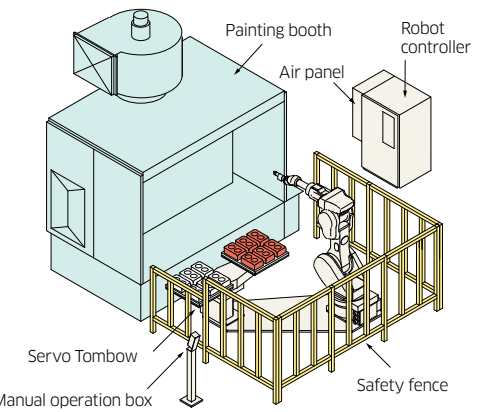
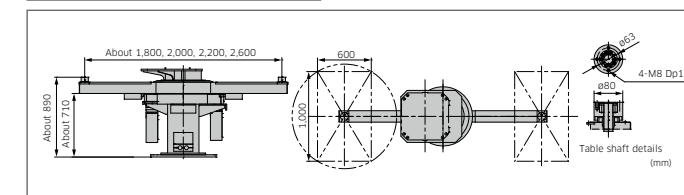


Small sized painting applications Servo Tombow-R

Enhanced space efficiency

- Space efficient**
The paint robot is installed at the center of the Servo Tombow painting system, thereby achieving a greater space efficiency.
- 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.
- 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.
- 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.

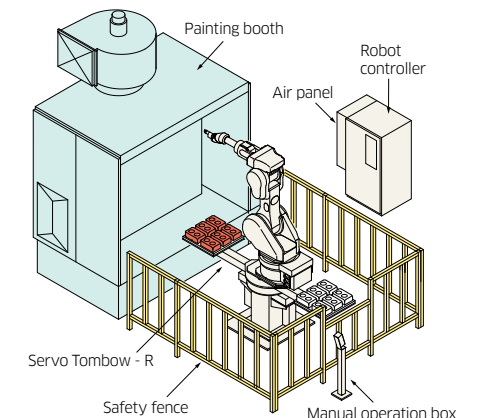
External view and dimensions



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

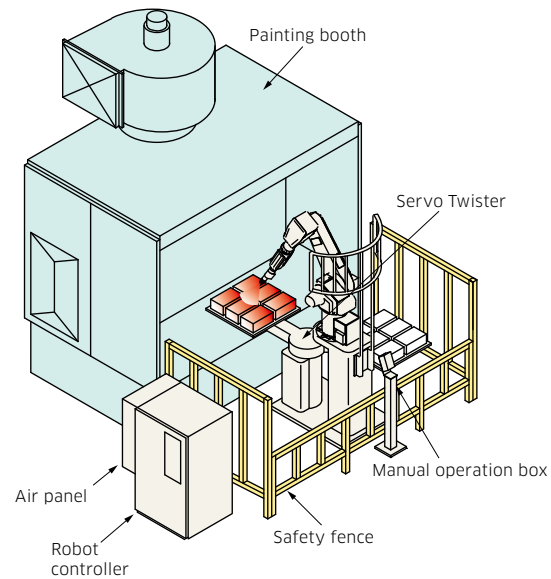
The Servo Twister installation uses a 6-axis, articulated robot.

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

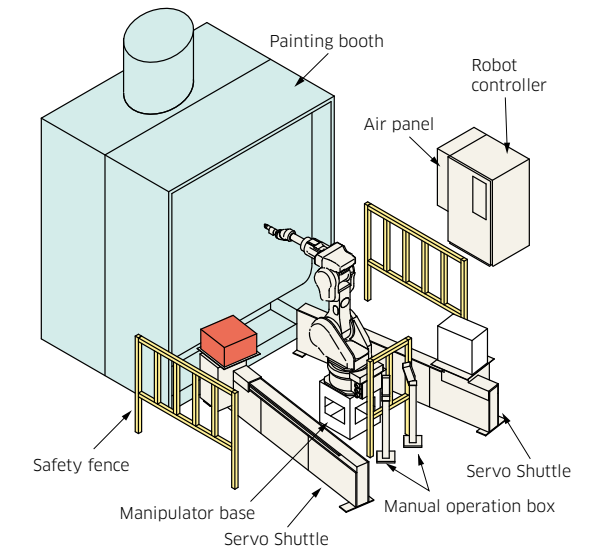
The simple teaching function provided by the KF series painting robot eliminates time-consuming program teaching.

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.

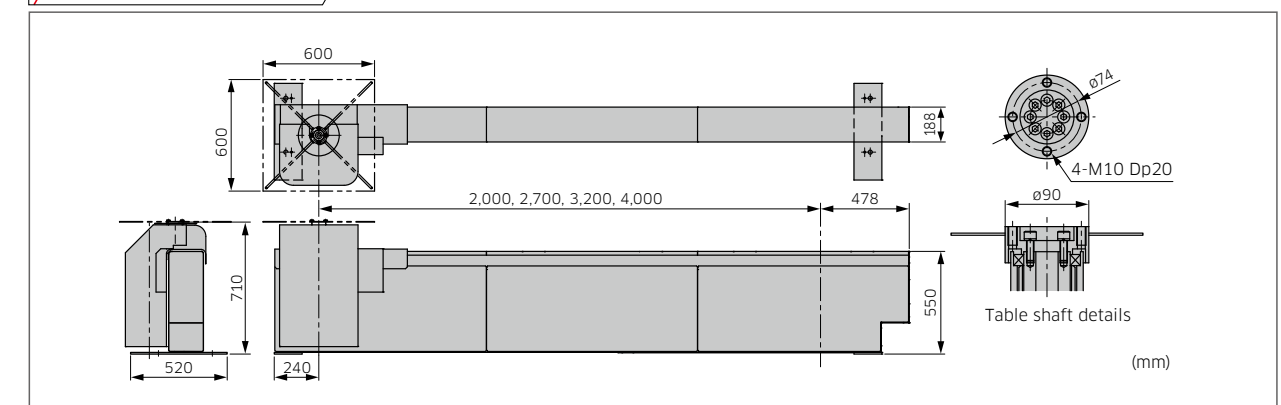


Standard Specifications

| | | 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

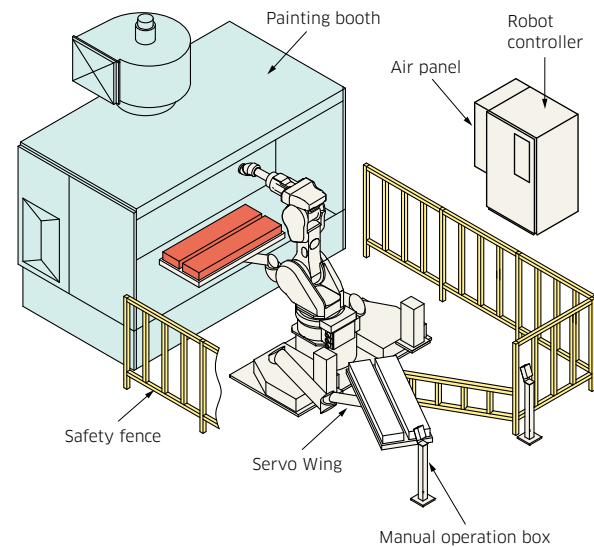
Because the left and right arms can be set for the same painting positions (one position), a single program can be used, thus making the teaching time shorter.

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.

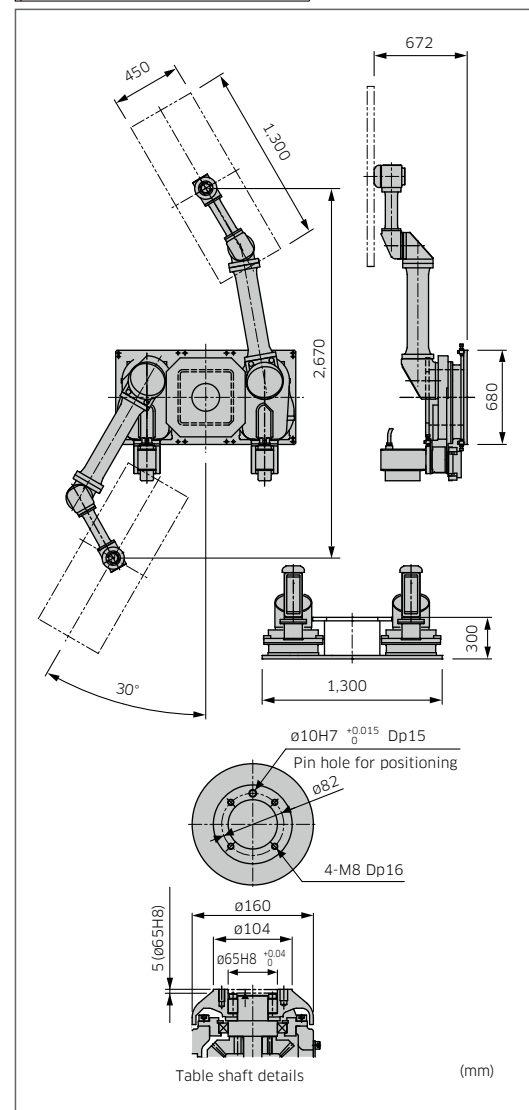


Standard Specifications

| | | |
|----------------------------|--|----------------------------|
| 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

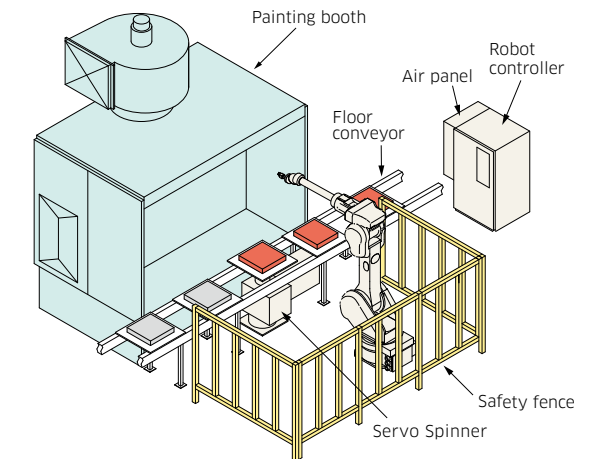
A new dimension in "line coating"

1. Flexible component placement

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

2. Uninterrupted painting

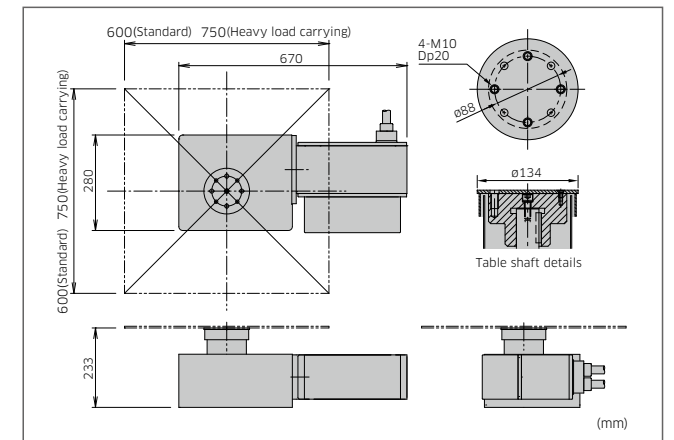
Painting can be performed with the table rotating, thus minimizing the robot's wait time.



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

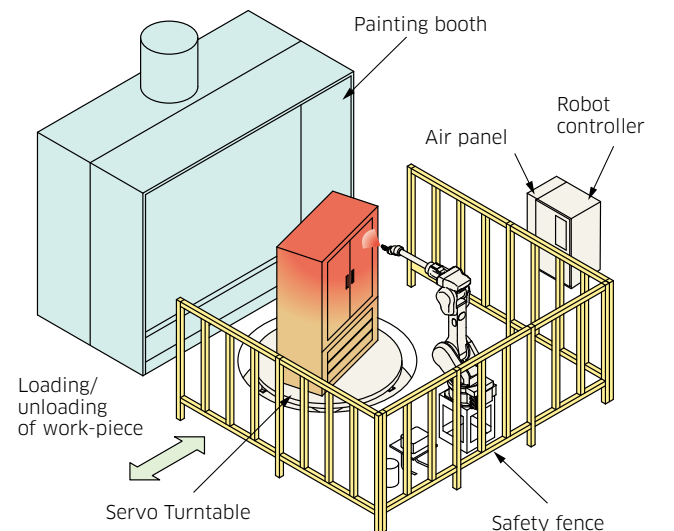
Complete surface painting is possible with uninterrupted turntable rotation

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

