

YK-X Series

Product Lineup

YK-TW	Orbit type
YK-XG/YK-X	Completely beltless model ^{Note}
YK-XE	Low cost high performance model
YK-XGS	Wall mount/inverse model
YK-XGP	Dust-proof & drip-proof model

Note. Except for YK1200X

SCARA ROBOTS

Arm length of 120 mm to 1200 mm, full-selection of lineup is top in the world. Completely beltless structure pursues the features of SCARA robots to their utmost limits.



Low cost high performance model
YK400XE-4

History of 40 years

The first YAMAHA robots were SCARA robots. Since the first SCARA robot called "CAME" was produced in 1979, some 40 years of SCARA robot innovations have continually appeared. These SCARA robots have undergone countless modifications in an ever changing marketplace and amassed a hefty record of successful products making them an essential part of the YAMAHA robot lineup.



Comprehensive line of YAMAHA SCARA robots

Orbit type

P.494

- Arm length 350 mm / 500 mm
- Maximum payload 5 kg



Low cost high performance model

P.507

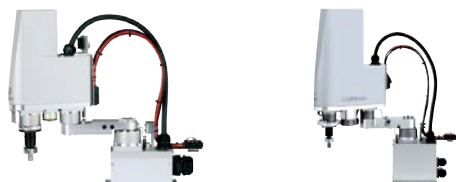
- Arm length 400 mm to 710 mm
- Maximum payload 4 kg to 10 kg



Extra small type

P.498

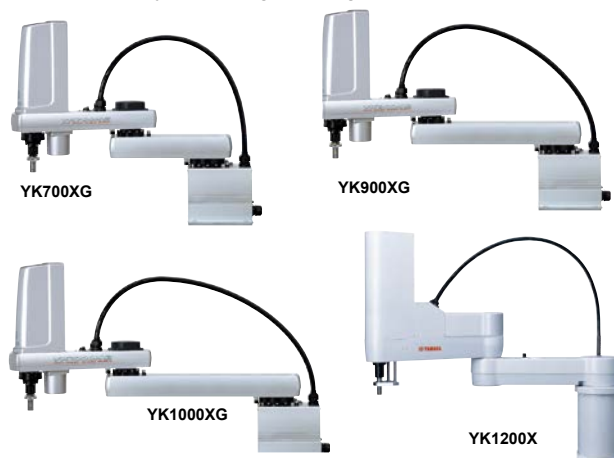
- Arm length 120 mm to 220 mm
- Maximum payload 1 kg



Large type

P.519

- Arm length 700 mm to 1200 mm
- Maximum payload 10 kg to 50 kg



Small type

P.503

- Arm length 250 mm to 400 mm
- Maximum payload 5 kg



Wall mount/inverse model

P.526

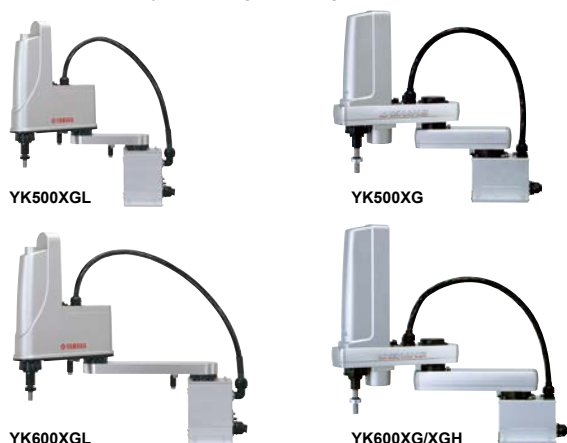
YK300XGS to YK1000XGS



Medium type

P.510

- Arm length 500 mm to 600 mm
- Maximum payload 5 kg to 20 kg



■ Wall mount type

Type where the robot body is installed in the wall.

■ Inverse type

Type where the wall mount type is installed upside down.

Dust-proof & drip-proof model

P.536



Plays active part in the working environment with a large amount of water or dust (protection class equivalent to IP65).

- Please consult YAMAHA for anti-droplet protection for fluids other than water.

YK-TW Orbit type

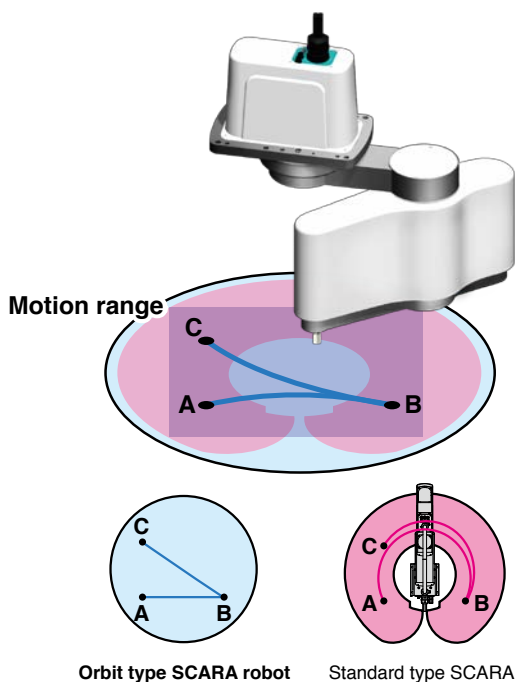
YK-TW POINT 1

Layout design freedom

User: We want a smaller equipment footprint.

YK-TW can move anywhere through the full ϕ 1000 mm ^{Note 2} work envelope.

Featuring a ceiling-mount configuration with a wide arm rotation angle, the YK-TW can access any point within the full ϕ 1000 mm downward range. This eliminates all motion-related restrictions with regard to pallet and conveyor placement operations, while dramatically reducing the equipment footprint.



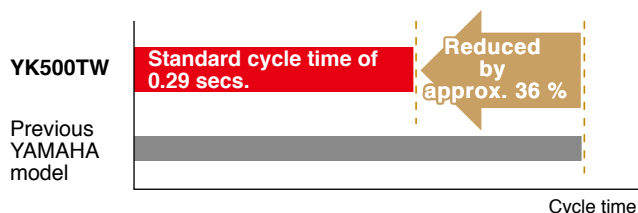
YK-TW POINT 2

Higher productivity

User: We need to reduce cycle time.

Standard cycle time of 0.29 secs. ^{Note 2}

Y-axis (arm 2) passes beneath the X-axis (arm 1) and it has a horizontal articulated structure, allowing it to move along the optimal path between points. Moreover, the optimized weight balance of the internal components reduces the cycle time by 36 % as compared to previous models.



The standard cycle time for moving a 1-kg load horizontally 300 mm and up/down 25 mm is shortened by approximately 36 % compared to existing YAMAHA models.

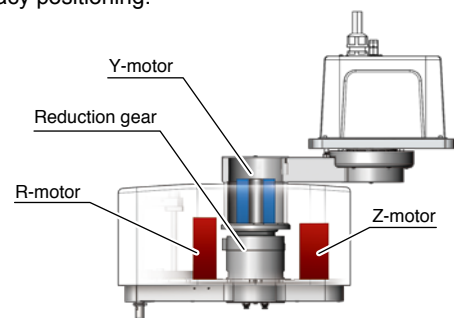
YK-TW POINT 3

High quality

User: We want a high precision assembly system.

YK-TW offers a repeated positioning accuracy of ± 0.01 mm ^{Note 1} (XY axes).

Higher repeated positioning accuracy than that offered by a parallel-link robot. This was accomplished by optimizing the robot's weight balance through an extensive re-design of its internal construction. The lightweight yet highly rigid arm has also been fitted with optimally tuned motors to enable high accuracy positioning.



Hollow construction

Y-motor and reduction gear feature a hollow construction which allows them to be housed inside the harness arm.

360° Rotation.

Optimized rotation center of gravity moment

Weight balance was optimized by placing the R-motor and Z-motor at the left and right sides respectively.

Reduced inertia enables high-speed motion.

YK-TW POINT 4

Suitable for a wide range of applications

User: We need to move heavy workpieces at high speeds.

YK-TW handles payloads up to 5 kg.

Handles loads up to 5 kg. Also accommodates arm-end tools which tend to be heavy, making it highly adaptable to various applications.

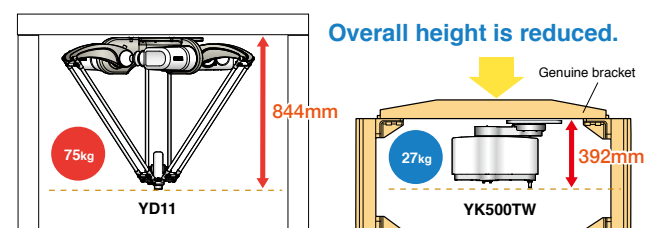
YK-TW POINT 5

Smaller equipment footprint

User: We want to reduce the height of our equipment.

YK-TW offers both a lower height and a smaller footprint.

YK-TW height is only 392 mm. This compact size enables more freedom in the equipment layout design.



Note 1. Applies to the YK350TW Note 2. Applies to the YK500TW

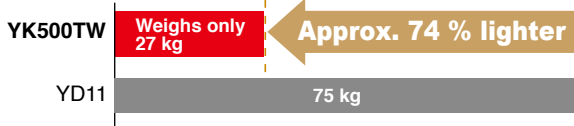
YK-TW POINT 6

Easy installation

User: Parallel-link robots require large frames which complicates installation...

YK-TW has a total height of only 392 mm, and weighs only 27 kg.

Lower inertia = Lighter frame



YK-TW POINT 7

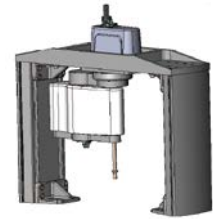
Reduce the number of steps

User: Preparing the frame is extra work.

We can optionally provide a dedicated frame for the YK-TW.

With no need for complex calculations of strength, startup steps can be reduced.

Note. For details on dimensions and price, please contact Yamaha.

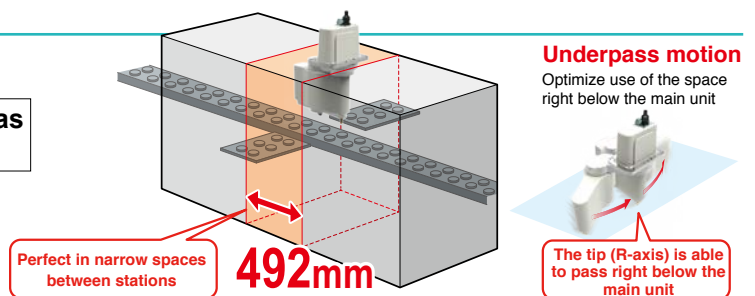


YK-TW POINT 8

Ideal for narrow space applications

User: We need to install in limited space, such as between equipment.

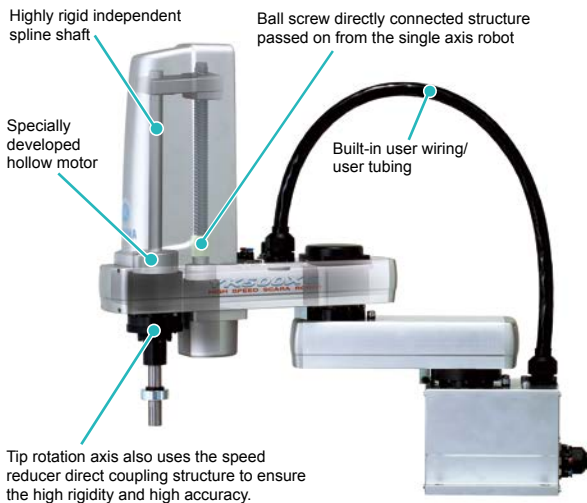
Minimum installation width 492mm ^{Note 1}



YK-XG Completely beltless type

Integral structure designed for optimal operation

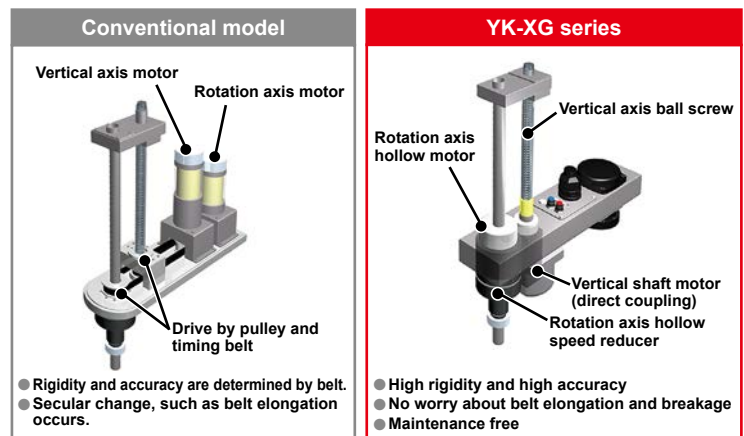
Note. The following shows an example of YK500XG.



YK-XG POINT 1

Completely beltless structure

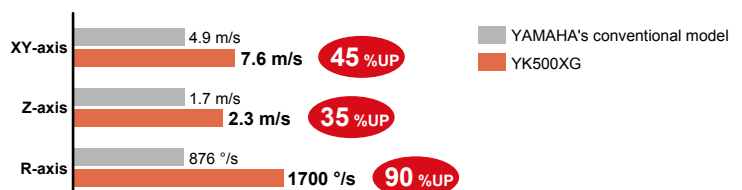
A completely beltless structure was achieved using a ZR-axis direct coupling structure. This completely beltless structure greatly reduces waste motion. This structure also maintains high accuracy for an extended period of time. Additionally, this structure ensures maintenance-free operation for an extended period of time without worrying about belt breakage, elongation, or secular deterioration (except for Orbit type and large type).



YK-XG POINT 2

High speed

The standard cycle time is fast. Additionally, YAMAHA also places special emphasis on the tact time in the practical working area. The speed reduction ratio or maximum motor RPM was reviewed to greatly improve the maximum speed. This contributes to improvement of the tact time.



YK-XG POINT 3

Resolver is used for position detector.

As the resolver uses a simple and rigid structure without using electronic components and optical elements, it features high environment resistance and low failure ratio. Detection problems due to electronic component breakdown, dew condensation on or oil sticking to the disk that may occur in optical encoders do not occur in the resolver due to its structure. Additionally, as **the absolute specifications and incremental specifications use the same mechanical specifications and common controller**, the specifications can be changed only by setting parameters. Furthermore, even when the absolute battery is consumed completely, the robot can still operate as the incremental specifications. So, even if a trouble occurs, the line stop is not needed to ensure the safe production line. The backup circuit has been completely renovated and now has a backup period of one year in the non-energizing state.

Note. The resolver has a simple structure without using electronic components. So, the resolver is highly resistant to low and high temperatures, impacts, electrical noise, dust particles, and oil, etc., and is used in automobiles, trains, and aircrafts that particularly require the reliability.

Optical encoder




- Optical type
- Electronic components are required and structure is complicated.
- Electronic component malfunction, or dew condensation on or oily content sticking to disk may occur easily.

▼

Detection failure

Resolver



- Magnetic type
- Simple structure only with iron core and winding has less potential failure factors.
- Immune to shock and electric noise.

▼

High reliability

YK-XG POINT 4

Excellent maintenance ability

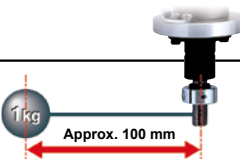
The covers of YAMAHA SCARA robot YK-XG series can be removed forward or upward. The cover is separated from the cable, so the maintenance work is easy. Additionally, the grease replacement of the speed reducer needs many steps to disassemble the gear and may cause positional deviation. However, since the speed reducer of the YAMAHA SCARA robot uses long-life grease, the grease replacement is not needed.

YK-XG POINT 5

Surprising R-axis tolerable moment of inertia

The SCARA robot performance cannot be expressed only by the standard cycle time. In actual operating environments, there are various workpieces, such as heavy workpiece or workpiece with large offset. At this time, since the robot with low R-axis tolerable moment of inertia needs to decrease the speed during operation, the cycle time decreases greatly. All YAMAHA SCARA robot YK-XG types have the tip rotation axis directly coupled to the speed reducer. Since the R-axis tolerable moment of inertia is very high when compared to a general structure in which the moment of inertia is transmitted by a belt after decelerating, the robot can operate at a high speed even with workpieces that have been offset.

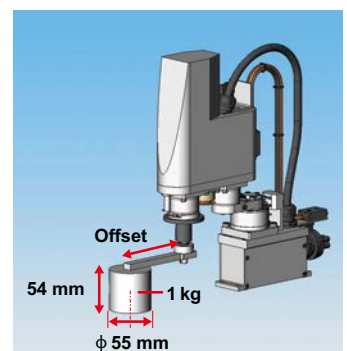
YK120XG
(R-axis tolerable moment of inertia: 0.1 kgfcm²)



When the tip load weight is 1 kg, it is possible to operate at **approx. 100 mm** offset.

R-axis tolerable moment of inertia: Comparison between YK120XG and other company's model

When the offset from the R-axis to the center of gravity of the load is large, the inertia becomes large and the acceleration during operation is restricted. The R-axis tolerable moment of inertia of YAMAHA XG series is exceedingly large when compared to other company's SCARA robots in the similar class, so it can operate at a high speed even in the offset state.



When the load weight is 1 kg (refer to the right in the figure.)

Offset (mm)	Inertia (kgfcm ²)	Operation	
		YK120XG	Company A
0	0.0039	○	○
45	0.025	○	×
97	0.1	○	×

○: Operable ×: Out of catalog value tolerance range

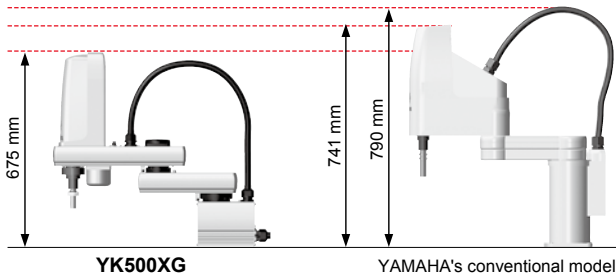
◆ R-axis tolerable moment of inertia: YK120XG..... 0.1 kgfcm²

Company A..... 0.0039 kgfcm²

YK-XG POINT 6

Compact

As the cable layout is changed, the cable height becomes lower than the main body cover. Additionally, use of extruded material base and motor with low overall height achieves the lowest overall height in the same class.



YK-XG POINT 7

Hollow shaft and tool flange options are selectable.

Hollow shaft that allows easy wiring to the tip tool and tool flange for tool mounting are provided as options.



Hollow shaft option convenient for routing of air tubes and harness wires

Note. YK250XG to YK400XG
YK500XGL/YK600XGL



Tool flange option for easy mounting of a tool to the tip

Note. YK250XG to YK1000XG

YK-XG POINT 8

Zone control (= Optimal acceleration/deceleration automatic setting) function

In the SCARA robot, the load applied to the motor and speed reducer in the arm folded state greatly differs from that in the arm extended state. YAMAHA SCARA robot **automatically selects** optimal acceleration and deceleration from the arm postures at operation start and operation end. Therefore, the robot does not exceed the tolerance value of **the motor peak torque** or **speed reducer allowable peak torque** only by entering the initial payload. So, full power can be extracted from the motor whenever needed and high acceleration/deceleration are maintained.

For X-axis of YK500XG

The torque in the arm folded state is 5 or more times different from that in the arm extended state.

This may greatly affect the service life, vibration during operation, and controllability.

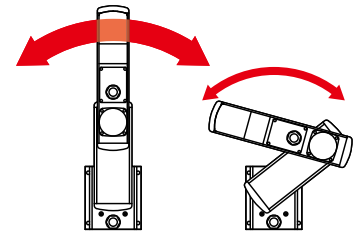
If the motor torque exceeds the peak value

→ **This may adversely affect the controllability and mechanical vibration, etc.**

If the torque exceeds the tolerable peak torque value of the speed reducer

→ **This may cause early breakage or shorten the service life extremely.**

Robot stops at a desired position accurately to ensure long service life.



YK-XE Low cost high performance model

YK-XE POINT 1

Both the high operation performance and low-price are provided.

Both the high operation performance and low-price are provided.
Production equipment with high cost performance can be constructed.



YK400XE-4 Note 1

Note 1. YK400XE-4-S-150-3L-RCX340-4-N-NS-4



YK510XE-10 Note 2

Note 2. YK510XE-10-200-3L-RCX340-4-N-NS-4



YK610XE-10 Note 3

Note 3. YK610XE-10-200-3L-RCX340-4-N-NS-4



YK710XE-10 Note 4

Note 4. YK710XE-10-200-3L-RCX340-4-N-NS-4

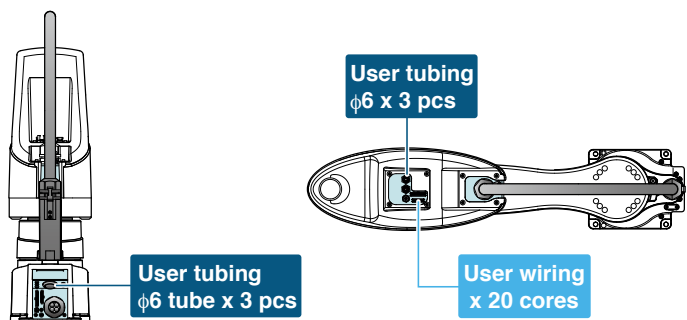
YK-XE POINT 2

Improved User Interface

Enhanced size and numbers of air tubes and user I/O for end effectors.

Tubes and wires are positioned for easy layout and reduced risk of disconnection.

(YK510XE-10, YK610XE-10, YK710XE-10)



Note. YK400XE-4 provides the user wiring x 10 cores and the User tubing $\phi 4$ x 3 pcs.

YK-XE POINT 3

Option specifications

Through-shaft and through-cap have been added.

"Through-shaft" or "through-cap" option for wiring and tubing that is convenient to run the air tubing and wiring can be selected. The wiring and tubing routes can be investigated easily without designing and manufacturing a stay for installing the wiring and tubing. In addition, by passing the wiring and tubing through the inside of the main body, worries about wire breakage or disconnection are reduced during operation. (Only through-shaft is available in YK400XE-4.)

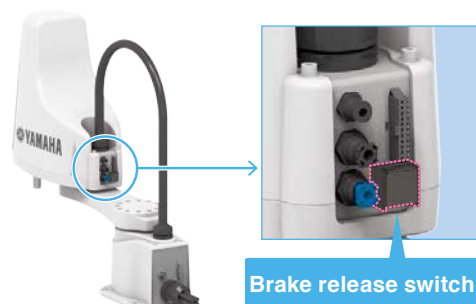


YK-XE POINT 4

Option specifications

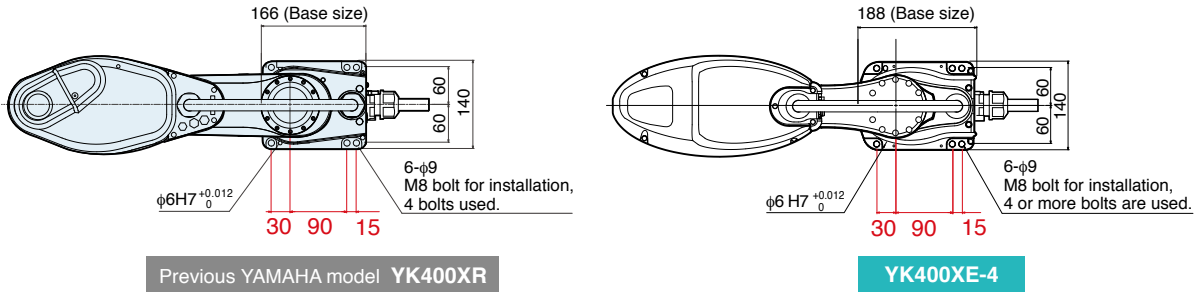
Brake release switch is selectable.

In the emergency stop state, the Z-axis brake is released and the Z-axis can be moved up or down while the brake release switch is held down. Releasing the switch applies the brake to the Z-axis. This improves the convenience during installation adjustment.



Drop-In upgrade by common platform design

The installation position of the YK400XE-4 is fully compatible with that of the conventional model YK400XR. This ensures easy replacement work.



YK-XGS Wall mount/inverse model

Hanging type is renewed. Completely beltless structure and high rigidity

As the conventional hanging type is changed to the wall mount type, the flexibility of the system design is improved. The production equipment can be downsized. Additionally, as an inverse type that allows upward operation is also added to the product lineup, the flexibility of the working direction is widened. Furthermore, use of a completely beltless structure achieves a maximum payload of 20 kg and a R-axis tolerable moment of inertia of 1 kgm²Note that are the top in the class. A large hand can also be installed. So, this robot is suitable for heavy load work.

Note. YK700XGS to YK1000XGS



YK-XGP Dust-proof & drip-proof model

Up/down bellows structure improves the dust-proof and drip-proof performance.

The dust-proof and drip-proof type that can be operated even in a work environment where water or particle dust scatters was renewed to a completely beltless structure. The belt does not deteriorate and poor environment resistance is improved. Additionally, an up/down bellows structure is used to improve the dust-proof and drip-proof performance.

Note. YK250XGP to YK600XGLP



Protection class equivalent to IP65 (IEC60529)

Seals are added to the joints to maintain the dust-proof and drip-proof performance without air purging. The robot conforms to the protection class equivalent to IP65 (IEC60529).

IP 65 — Class of protection against invasion of water: 5
 Water injected from any direction does not affect adversely.
 The standard pressure of the injected water is 30 KPa (30 KN/m², 0.3 kgf/cm).
 The injection speed is 12.5 liters/min. and the injection time is 3 min.
 Note. The water injected under conditions exceeding those shown above may enter the unit.
 — Class of protection against solid objects: 6
 No invasion of particle dust.

Dust-proof and drip-proof connector for user wiring is provided as standard.



YK250XGP to 600XGLP (arm part)



YK250XGP to 600XGLP (base part)

Model/Type	Model	Arm length (mm)	Maximum payload (kg)	Standard cycle time (sec.) ^{Note 1}	Page	
Orbit type	YK350TW	350	5.0	0.32	P.494	
	YK500TW	500	5.0 (4.0) ^{Note 3}	0.29	P.496	
Standard	Extra small type	YK120XG	120	1.0	0.33	P.498
		YK150XG	150	1.0	0.33	P.499
		YK180XG	180	1.0	0.33	P.500
		YK180X	180	1.0	0.39	P.501
		YK220X	220	1.0	0.42	P.502
		Small type	YK250XG	250	5.0 (4.0) ^{Note 3}	0.43
	YK350XG		350	5.0 (4.0) ^{Note 3}	0.44	P.505
	YK400XE-4		400	4.0 (3.0) ^{Note 3}	0.41	P.507
	YK400XG		400	5.0 (4.0) ^{Note 3}	0.45	P.508
	Medium type	YK500XGL	500	5.0 (4.0) ^{Note 3}	0.48	P.510
		YK500XG	500	10.0	0.42	P.512
		YK510XE-10	510	10.0 (9.0) ^{Note 3}	0.38	P.513
		YK600XGL	600	5.0 (4.0) ^{Note 3}	0.54	P.514
		YK600XG	600	10.0	0.43	P.516
		YK610XE-10	610	10.0 (9.0) ^{Note 3}	0.39	P.517
		YK600XGH	600	20.0 (19.0) ^{Note 3}	0.47	P.518
	Large type	YK700XGL	700	10.0 (9.0) ^{Note 3}	0.50	P.519
		YK710XE-10	710	10.0 (9.0) ^{Note 3}	0.42	P.520
		YK700XG	700	20.0 (19.0) ^{Note 3}	0.42	P.521
		YK800XG	800	20.0 (19.0) ^{Note 3}	0.48	P.522
YK900XG		900	20.0 (19.0) ^{Note 3}	0.49	P.523	
YK1000XG		1000	20.0 (19.0) ^{Note 3}	0.49	P.524	
Wall mount/inverse model	YK1200X	1200	50.0	0.91	P.525	
	YK300XGS ^{Note 2}	300	5.0 (4.0) ^{Note 3}	0.49	P.526	
	YK400XGS ^{Note 2}	400	5.0 (4.0) ^{Note 3}	0.49	P.528	
	YK500XGS	500	10.0	0.45	P.530	
	YK600XGS	600	10.0	0.46	P.531	
	YK700XGS	700	20.0	0.42	P.532	
	YK800XGS	800	20.0	0.48	P.533	
	YK900XGS	900	20.0	0.49	P.534	
Dust-proof & drip-proof model	YK1000XGS	1000	20.0	0.49	P.535	
	YK250XGP	250	4.0	0.50	P.536	
	YK350XGP	350	4.0	0.52	P.538	
	YK400XGP	400	4.0	0.50	P.540	
	YK500XGLP	500	4.0	0.66	P.542	
	YK500XGP	500	10.0	0.55	P.544	
	YK600XGLP	600	4.0	0.71	P.545	
	YK600XGP	600	10.0	0.56	P.547	
	YK600XGHP	600	18.0	0.57	P.548	
	YK700XGP	700	20.0	0.52	P.549	
	YK800XGP	800	20.0	0.58	P.550	
	YK900XGP	900	20.0	0.59	P.551	
YK1000XGP	1000	20.0	0.59	P.552		

Note 1. The standard cycle time is measured under the following conditions.

- During back and forth movement 25mm vertically and 100mm horizontally (extra small type)
- During back and forth movement 25mm vertically and 300mm horizontally (small type / medium type / large type)

Note 2 The YK300XGS and YK400XGS are custom-order products. For details about the delivery time, please contact YAMAHA.

Note 3. For the option specifications (tool flange mount type and user wiring/tubing through spline type), the maximum payload becomes the value in ().

SCARA ROBOTS

YK-X

SERIES



- Articulated robots
YA
- Linear conveyor modules
LCM
- Single-axis robots
CX
- Motor-less single axis actuator
Robonity
- Compact single-axis robots
TRANSEVO
- Single-axis robots
FLIP-X
- Linear motor single-axis robots
PHASER
- Cartesian robots
XY-X
- SCARA robots
YK-X
- Pick & place robots
YP-X
- CLEAN
- CONTROLLER
- INFORMATION
- Orbit/Extra small type
- Small / Medium type
- Large type
- Wall mount / Inverse type
- Dust-proof & drip-proof type

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ORBIT TYPE	LARGE TYPE	YK800XGP 550
YK350TW 494	YK700XGL 519	YK900XGP 551
YK500TW 496	YK710XE-10 520	YK1000XGP 552
EXTRA SMALL TYPE	YK700XG 521	
YK120XG 498	YK800XG 522	
YK150XG 499	YK900XG 523	
YK180XG 500	YK1000XG 524	
YK180X 501	YK1200X 525	
YK220X 502	WALL MOUNT / INVERSE TYPE	
SMALL TYPE	YK300XGS 526	
YK250XG 503	YK400XGS 528	
YK350XG 505	YK500XGS 530	
YK400XE-4 507	YK600XGS 531	
YK400XG 508	YK700XGS 532	
MEDIUM TYPE	YK800XGS 533	
YK500XGL 510	YK900XGS 534	
YK500XG 512	YK1000XGS 535	
YK510XE-10 513	DUST-PROOF & DRIP-PROOF TYPE	
YK600XGL 514	YK250XGP 536	
YK600XG 516	YK350XGP 538	
	YK400XGP 540	
	YK500XGLP 542	
	YK500XGP 544	
	YK600XGLP 545	

YK-X SPECIFICATION SHEET

Type	Model	Arm length (mm) and XY axis resultant maximum speed (m/s)														Standard cycle time (sec) <small>Note 1</small>	Maximum payload (kg)	R-axis tolerable moment of inertia (kgm ²)	Completely beltless structure <small>Note 2</small>	Detailed info page		
		120	150	180	220	250	300	350	400	500	600	700	800	900	1000						1200	
Orbit type	YK350TW	5.6														0.32	5.0	0.005 (Rated) 0.05 (Maximum)		P.494		
	YK500TW	6.8														0.29	5.0	0.005 (Rated) 0.05 (Maximum)		P.496		
Extra small type	YK120XG	3.3																0.33	1.0	0.01	●	P.498
	YK150XG	3.4																0.33	1.0	0.01	●	P.499
	YK180XG	3.3																0.33	1.0	0.01	●	P.500
	YK180X	3.3																0.39	1.0	0.01	●	P.501
	YK220X	3.4																0.42	1.0	0.01	●	P.502
	YK250XG	4.5																0.43	5.0	0.05	●	P.503
	YK350XG	5.6																0.44	5.0	0.05	●	P.505
	YK400XE-4	6.0																0.41	4.0	0.05	●	P.507
	YK400XG	6.1																0.45	5.0	0.05	●	P.508
	Small type	YK500XGL	5.1																0.48	5.0	0.05	●
YK500XG		7.6																0.42	10.0	0.30	●	P.512
YK510XE-10		7.8																0.38	10.0	0.30	●	P.513
YK600XGL		4.9																0.54	5.0	0.05	●	P.514
YK600XG		8.4																0.43	10.0	0.30	●	P.516
YK610XE-10		8.6																0.39	10.0	0.30	●	P.517
YK600XGH		7.7																0.47	20.0	1.0	●	P.518
YK700XGL		9.2																0.50	10.0	0.30	●	P.519
YK710XE-10		9.5																0.42	10.0	0.30	●	P.520
YK700XG		8.4																0.42	20.0	1.0	●	P.521
Medium type	YK800XG	9.2																0.48	20.0	1.0	●	P.522
	YK900XG	9.9																0.49	20.0	1.0	●	P.523
	YK1000XG	10.6																0.49	20.0	1.0	●	P.524
	YK1200X	7.4																0.91	50.0	2.45	●	P.525
	YK300XGS	4.4																0.49	5.0	0.05	●	P.526
	YK400XGS	6.1																0.49	5.0	0.05	●	P.528
	YK500XGS	7.6																0.45	10.0	0.3	●	P.530
	YK600XGS	8.4																0.46	10.0	0.3	●	P.531
	YK700XGS	8.4																0.42	20.0	1.0	●	P.532
	YK800XGS	9.2																0.48	20.0	1.0	●	P.533
Large type	YK900XGS	9.9																0.49	20.0	1.0	●	P.534
	YK1000XGS	10.6																0.49	20.0	1.0	●	P.535
	YK250XGP	4.5																0.50	4.0	0.05	●	P.536
	YK350XGP	5.6																0.52	4.0	0.05	●	P.538
	YK400XGP	6.1																0.50	4.0	0.05	●	P.540
	YK500XGLP	5.1																0.66	4.0	0.05	●	P.542
	YK500XGP	7.6																0.55	10.0	0.3	●	P.544
	YK600XGLP	4.9																0.71	4.0	0.05	●	P.545
	YK600XGP	8.4																0.56	10.0	0.3	●	P.547
	YK600XGHP	7.7																0.57	18.0	1.0	●	P.548
Dust-proof & drip-proof type	YK700XGP	8.4																0.52	20.0	1.0	●	P.549
	YK800XGP	9.2																0.58	20.0	1.0	●	P.550
	YK900XGP	9.9																0.59	20.0	1.0	●	P.551
	YK1000XGP	10.6																0.59	20.0	1.0	●	P.552

Note 1. The standard cycle time is measured under the following conditions.

- During back and forth movement 25mm vertically and 100mm horizontally (extra small type)
- During back and forth movement 25mm vertically and 300mm horizontally (small type / medium type / large type)

Note 2. Maintains high accuracy over long periods because the beltless structure drastically cuts down on wasted motion.

Operation is also nearly maintenance-free for long periods with no worries about belt breakage, stretching or deterioration over time.

Robot ordering method description

In the order format for the YAMAHA SCARA robots YK-X series, the notation (letters/numbers) for the mechanical section is shown linked to the controller section notation.

[Example]

- **Mechanical ▶ YK250XG**
 - Z-axis stroke ▶ 150mm
 - Tool flange ▶ With tool flange
 - Hollow shaft ▶ With hollow shaft
 - Cable length ▶ 3.5m
- **Controller ▶ RCX340**

● Ordering method

YK250XG-150-F-S-3L-RCX340

Mechanical section

Controller section

To find detailed controller information see the controller page. **RCX340 ▶ P.678**

① Model	② Z-axis stroke	③ Tool flange	④ Hollow shaft	⑤ Cable	⑥ Controller
YK***	50 50mm 100 100mm 150 150mm 200 200mm 300 300mm 400 400mm	No entry None F With tool flange	No entry None S With hollow shaft	2L 2m 3L 3.5m 5L 5m 10L 10m	RCX340

Note 1. Available only for the master.

Robot ordering method terminology

① Model	Enter the robot unit model.
② Z-axis stroke	Select the Z axis stroke. The stroke varies with the model you select so see that model's page to confirm the specifications.
③ Tool flange	Tool flange option for easy mounting of a tool to the tip. No entry: None F: With tool flange
④ Hollow shaft	Hollow shaft option for easy routing of air tubes and harness wires. No entry: None S: With hollow shaft
⑤ Cable	Select the length of the robot cable connecting the robot and controller. 2L: 2m ^(Note 1) 3L: 3.5m 5L: 5m 10L: 10m <small>Note 1. Only selectable for YK120XG, YK150XG, YK180XG.</small>
⑥ Controller	Select the RCX340.

Articulated robots
YA

Linear conveyor modules
LCM

Single-axis robots
CX

Motor-less single axis actuator
Robotomy

Compact single-axis robots
TRANSERO

Single-axis robots
FLIP-X

Linear motor single-axis robots
PHASER

Cartesian robots
XY-X

SCARA robots
YK-X

Pick & place robots
YP-X

CLEAN

CONTROLLER

INFORMATION

Orbit/Extra small type

Small / Medium type

Large type

Wall mount / Inverse type

Dust-proof & drip-proof type

YK350TW

Orbit type



- Arm length 350mm
- Maximum payload 5kg

Ordering method

YK350TW-130

RCX340-4

Model	Z axis stroke 130: 130mm	Tool flange No entry: None F: With tool flange	Hollow shaft No entry: None S: With hollow shaft	Cable 3L: 3.5m 5L: 5m 10L: 10m	Controller / Number of controllable axes	Safety standard	Option A (OP.A)	Option B (OP.B)	Option C (OP.C)	Option D (OP.D)	Option E (OP.E)	Absolute battery
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Specify various controller setting items. RCX340 ▶ **P.678**

Specifications

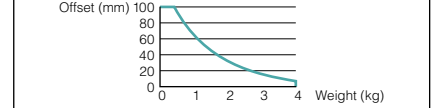
Axis specifications	Arm length	X-axis	Y-axis	Z-axis	R-axis
	175 mm	175 mm	175 mm	130 mm	-
	Rotation angle	+/-225 °	+/-225 °	-	+/-720 °
	AC servo motor output	750 W	400 W	200 W	105 W
Deceleration mechanism	Transmission method	Timing belt	Direct-coupled	Timing belt	Timing belt
	Motor to speed reducer	Timing belt	Direct-coupled	Timing belt	
Repeatability	Speed reducer to output	Direct-coupled			
	Note 1	+/-0.01 mm	+/-0.01 mm	+/-0.01 °	
Maximum speed	Note 2	5.6 m/sec	1.5 m/sec	3000 °/sec	
Maximum payload	Note 2	5 kg			
Standard cycle time: with 1kg payload	Note 3	0.32 sec			
R-axis tolerable moment of inertia	Rated	0.005 kgm ²			
	Maximum	0.05 kgm ²			
User wiring		0.15 sq × 8 wires			
User tubing (Outer diameter)		φ 6 × 2			
Travel limit		1.Soft limit 2.Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 3.5 m Option: 5 m, 10 m			
Weight		26 kg			

Note 1. This is the value at a constant ambient temperature.
 Note 2. Tool flange specifications (option) are 4 kg.
 Note 3. When moving a 1 kg load back and forth 300mm horizontally and 25mm vertically (rough positioning arch motion).
 Note 4. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia settings.

Controller

Controller	Power capacity (VA)	Operation method
RCX340	2500	Programming / I/O point trace / Remote command / Operation using RS-232C communication

R-axis moment of inertia (load inertia)

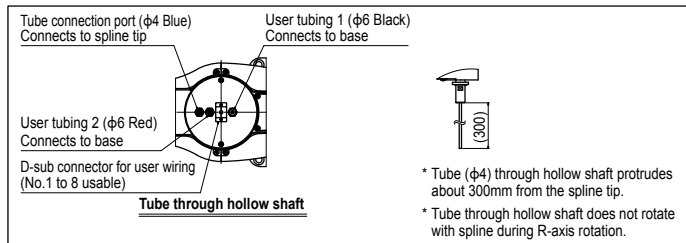
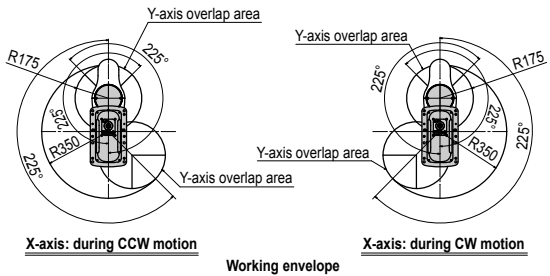
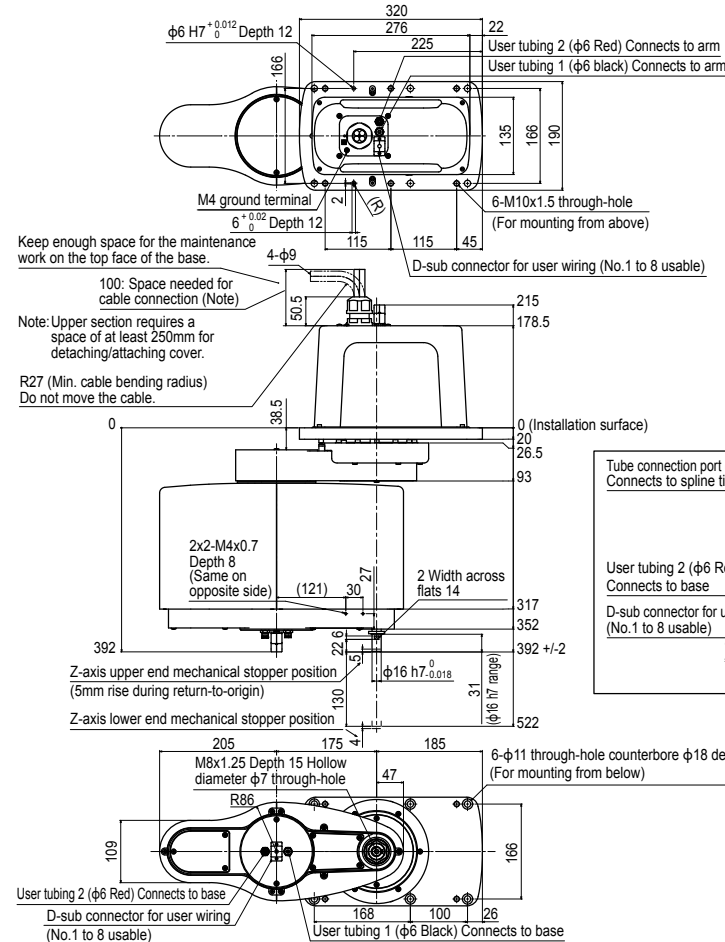


Note. When the payload exceeds 4kg, it is predicted that the R-axis moment of inertia may exceed the rated value. So, make proper parameter setting.

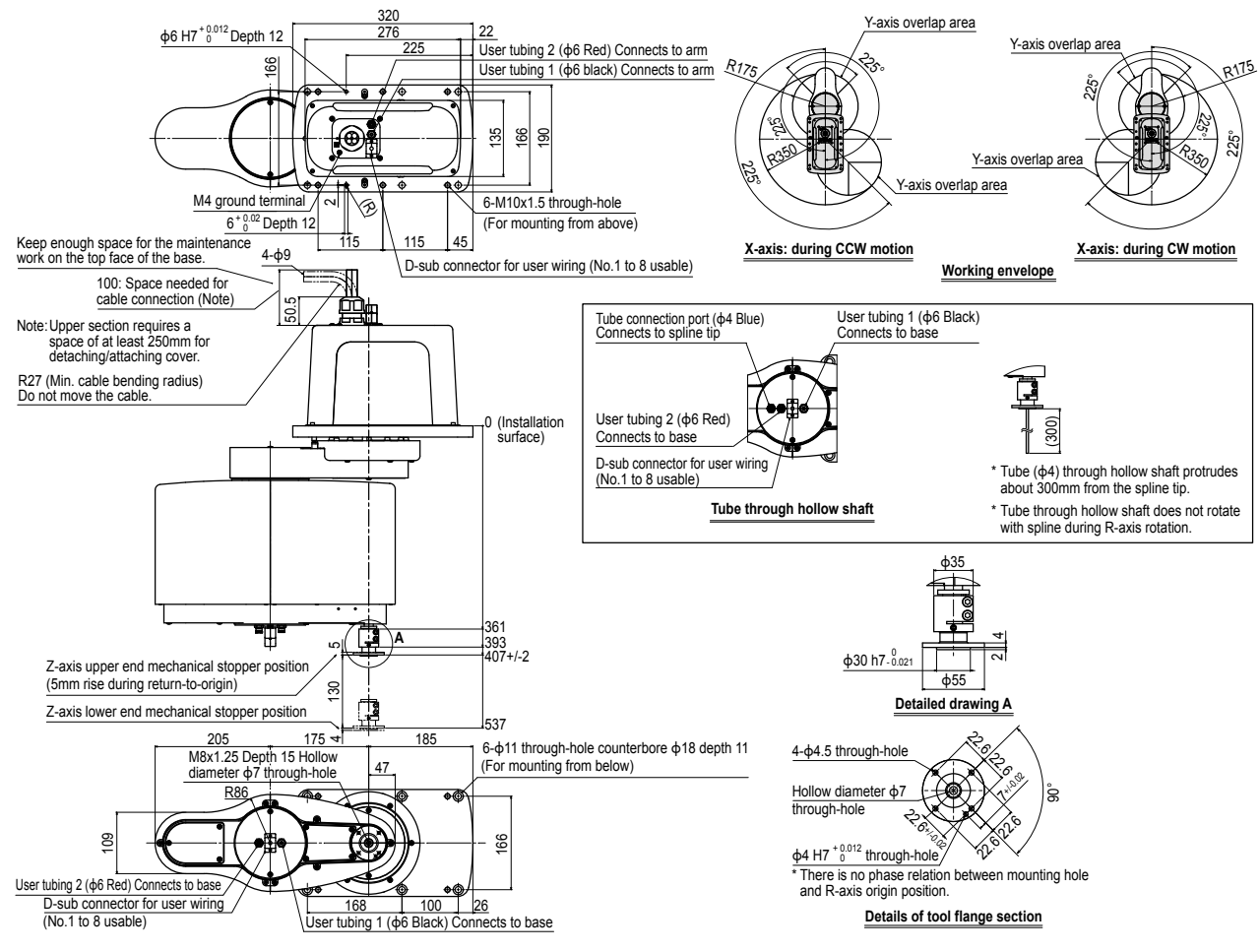
Note. To set the standard coordinates with high accuracy, use a standard coordinate setting jig (option). Refer to the user's manual (installation manual) for more details.

Our robot manuals (installation manuals) can be downloaded from our website at the address below:
<https://global.yamaha-motor.com/business/robot/>

YK350TW



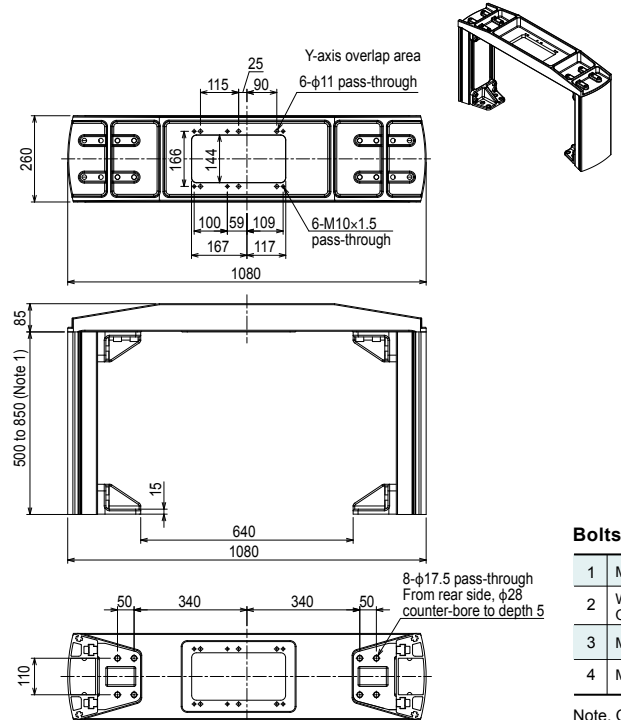
YK350TW Tool flange mount type



Dedicated mounting bracket for the YK-TW <BASE POST ASSY.>

The YK-TW can be easily installed on top of a customer-provided stand.

External diagram for the YK350TW



The mounting bracket is assembled by the customer. Refer to the included assembly diagram for assembly.

Note 1. Identical to the height of the robot mounting surface. The height of the stand can be selected at a 50 mm pitch.

Height (mm)	Model	Unit weight (kg)
500	KDU-M6100-P0	46
550	KDU-M6100-50	48
600	KDU-M6100-R0	50
650	KDU-M6100-60	51
700	KDU-M6100-S0	54
750	KDU-M6100-70	55
800	KDU-M6100-T0	57
850	KDU-M6100-80	59

Note. YK350TW and YK500TW are parts in common. Note. The top plate by itself weighs 19 kg.

Bolts supplied with the controller

No.	Part Name	Quantity
1	M16 x Pitch 2.0 x Length 45 [Hexagonal socket head bolt]	8 pcs. (For securing the installation base)
2	Washer for M16 bolt [Plate thickness 3 mm, Outside diameter φ26, Inside diameter φ16]	8 pcs.
3	M10 x Pitch 1.5 x Length 30	6 pcs. (Bolts used to secure the SCARA main body from the bottom surface.)
4	M10 x Pitch 1.5 x Length 40	6 pcs. (Bolts used to secure the SCARA main body from the top surface.)

Note. Only either 3 or 4 is used.

- Articulated robots YA
- Linear conveyor modules LCM
- Single-axis robots CX
- Motor-less single axis actuator Robomity
- Compact single-axis robots TRANSEVO
- Single-axis robots FLIP-X
- Linear motor single-axis robots PHASER
- Cartesian robots XY-X
- SCARA robots YK-X
- Pick & place robots YP-X
- CLEAN
- CONTROLLER
- INFORMATION
- Orbit type
- Small / Medium type
- Large type
- Wall mount / Inverse type
- Dust-proof & drip-proof type

YK500TW

Orbit type



- Arm length 500mm
- Maximum payload 5kg

Ordering method

YK500TW-130

RCX340-4

Model	Z axis stroke 130: 130mm	Tool flange No entry: None F: With tool flange	Hollow shaft No entry: None S: With hollow shaft	Cable 3L: 3.5m 5L: 5m 10L: 10m	Controller / Number of controllable axes	Safety standard	Option A (OP.A)	Option B (OP.B)	Option C (OP.C)	Option D (OP.D)	Option E (OP.E)	Absolute battery
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Specify various controller setting items. RCX340 ▶ **P.678**

Specifications

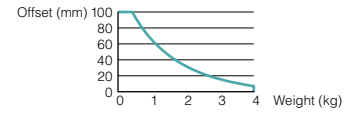
Axis specifications	Arm length	X-axis	Y-axis	Z-axis	R-axis
	250 mm	250 mm	250 mm	130 mm	-
	Rotation angle	+/-225 °	+/-225 °	-	+/-720 °
	AC servo motor output	750 W	400 W	200 W	105 W
Deceleration mechanism	Transmission method	Timing belt	Direct-coupled	Timing belt	Timing belt
	Motor to speed reducer				
	Speed reducer to output	Direct-coupled			
Repeatability	Note 1	+/-0.015 mm		+/-0.01 mm	+/-0.01 °
Maximum speed	Note 2	6.8 m/sec		1.5 m/sec	3000 °/sec
Maximum payload	Note 2	5 kg			
Standard cycle time: with 1kg payload	Note 3	0.29 sec			
R-axis tolerable moment of inertia	Rated	0.005 kgm ²			
	Maximum	0.05 kgm ²			
User wiring		0.15 sq × 8 wires			
User tubing (Outer diameter)		φ 6 × 2			
Travel limit		1.Soft limit 2.Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 3.5 m Option: 5 m, 10 m			
Weight		27 kg			

Note 1. This is the value at a constant ambient temperature.
 Note 2. For the option specifications (tool flange mount type), the maximum payload becomes 4 kg.
 Note 3. When moving a 1 kg load back and forth 300 mm horizontally and 25 mm vertically (rough positioning arch motion).
 Note 4. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia settings.

Controller

Controller	Power capacity (VA)	Operation method
RCX340	2500	Programming / I/O point trace / Remote command / Operation using RS-232C communication

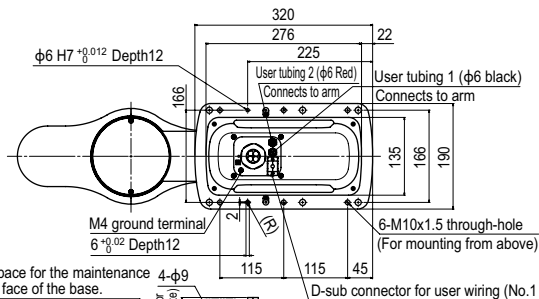
R-axis moment of inertia (load inertia)
 Recommended positional relationship between the load weight and the offset amount from the center of the R-axis (center of gravity position)



Note. To set the standard coordinates with high accuracy, use a standard coordinate setting jig (option). Refer to the user's manual (installation manual) for more details.

Our robot manuals (installation manuals) can be downloaded from our website at the address below:
<https://global.yamaha-motor.com/business/robot/>

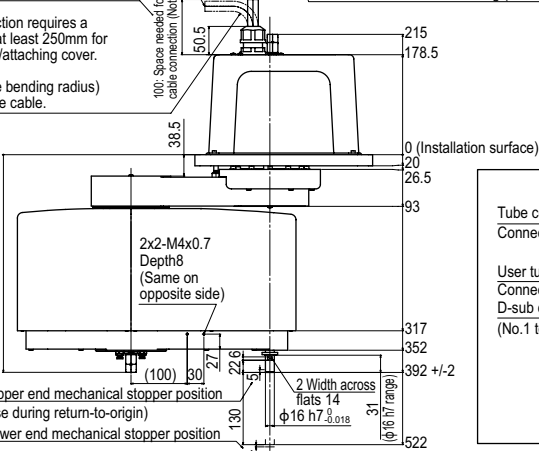
YK500TW



Keep enough space for the maintenance work on the top face of the base.

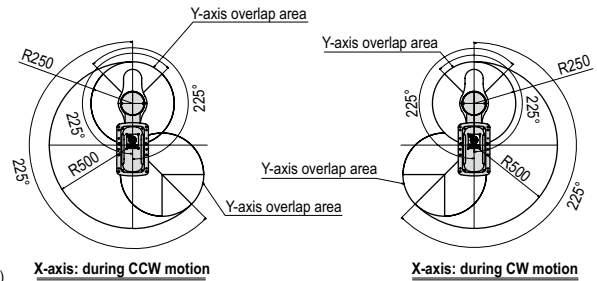
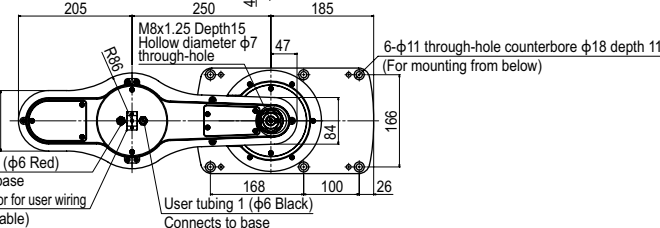
Note: Upper section requires a space of at least 250mm for detaching/attaching cover.

R27 (Min. cable bending radius) Do not move the cable.



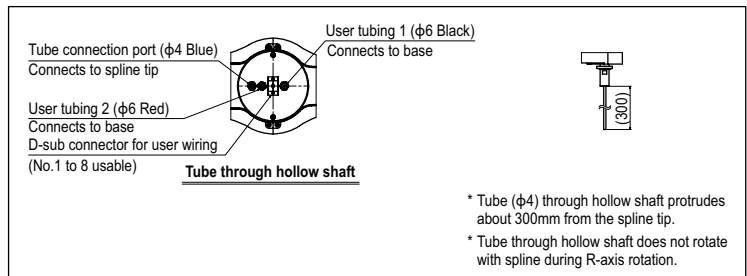
Z-axis upper end mechanical stopper position (5mm rise during return-to-origin)

Z-axis lower end mechanical stopper position



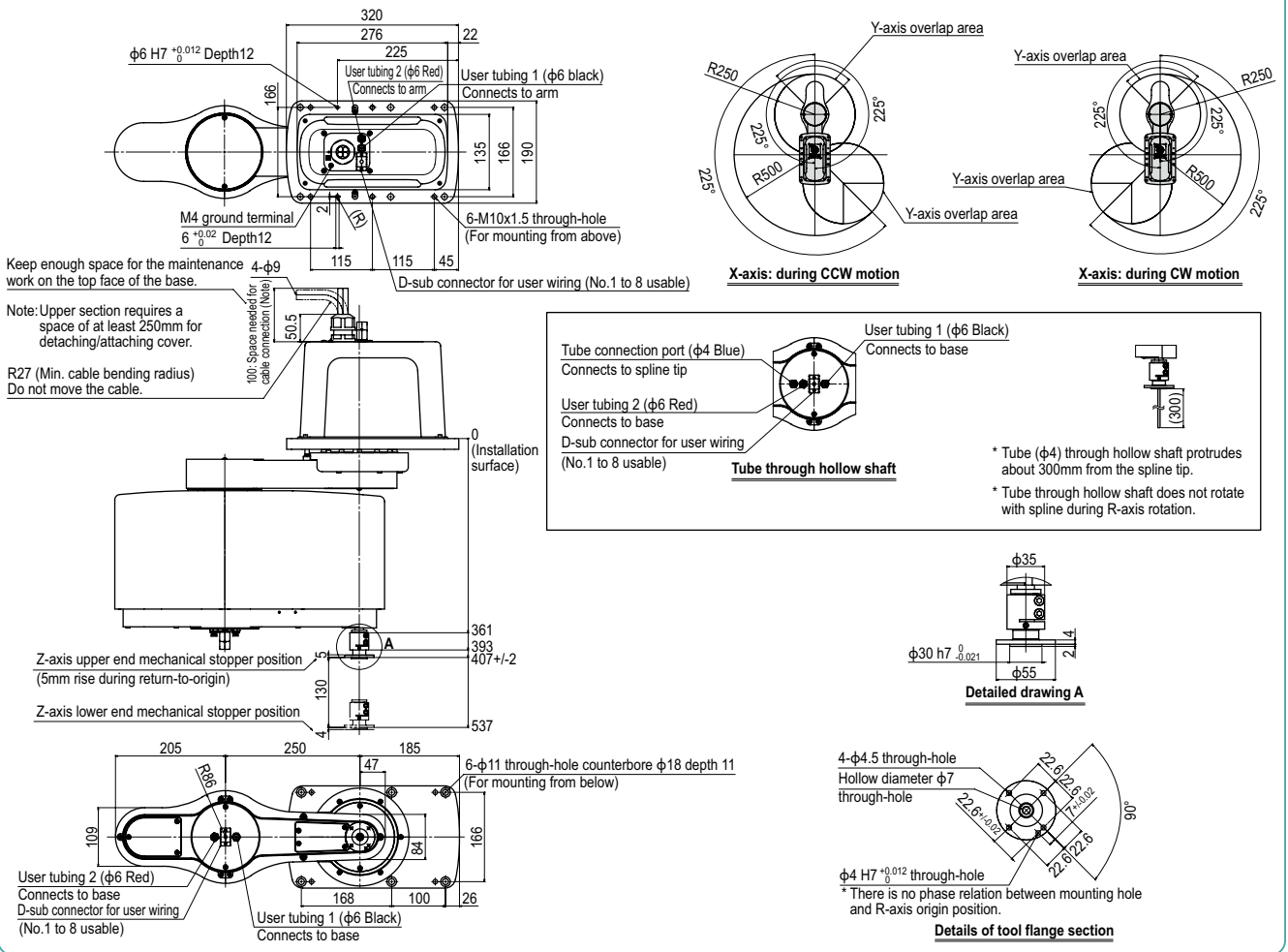
X-axis: during CCW motion

X-axis: during CW motion



* Tube (φ4) through hollow shaft protrudes about 300mm from the spline tip.
 * Tube through hollow shaft does not rotate with spline during R-axis rotation.

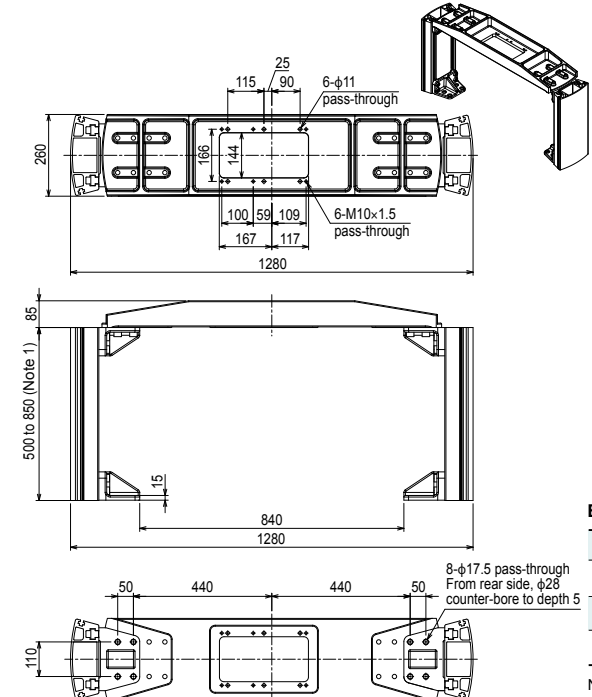
YK500TW Tool flange mount type



Dedicated mounting bracket for the YK-TW <BASE POST ASSY.>

The YK-TW can be easily installed on top of a customer-provided stand.

● External diagram for the YK500TW



The mounting bracket is assembled by the customer. Refer to the included assembly diagram for assembly.

Note 1. Identical to the height of the robot mounting surface. The height of the stand can be selected at a 50 mm pitch.

Height (mm)	Model	Unit weight (kg)
500	KDU-M6100-P0	46
550	KDU-M6100-50	48
600	KDU-M6100-R0	50
650	KDU-M6100-60	51
700	KDU-M6100-S0	54
750	KDU-M6100-70	55
800	KDU-M6100-T0	57
850	KDU-M6100-80	59

Note. YK350TW and YK500TW are parts in common. Note. The top plate by itself weighs 19 kg.

Bolts supplied with the controller

1	M16 x Pitch 2.0 x Length 45 [Hexagonal socket head bolt]	8 pcs. (For securing the installation base)
2	Washer for M16 bolt [Plate thickness 3 mm, Outside diameter φ26, Inside diameter φ16]	8 pcs.
3	M10 x Pitch 1.5 x Length 30	6 pcs. (Bolts used to secure the SCARA main body from the bottom surface.)
4	M10 x Pitch 1.5 x Length 40	6 pcs. (Bolts used to secure the SCARA main body from the top surface.)

Note. Only either 3 or 4 is used.

YK120XG

Standard type: Extra small type

- Arm length 120mm
- Maximum payload 1kg

Ordering method

YK120XG - 50

Model	Z axis stroke	Cable
	50: 50mm	2L: 2m 3L: 3.5m 5L: 5m 10L: 10m

RCX340-4

Controller / Number of controllable axes	Safety standard	Option A (OP.A)	Option B (OP.B)	Option C (OP.C)	Option D (OP.D)	Option E (OP.E)	Absolute battery

Specify various controller setting items. RCX340 ▶ **P.678**

Specifications

		X-axis	Y-axis	Z-axis	R-axis
Axis specifications	Arm length	45 mm	75 mm	50 mm	-
	Rotation angle	+/-125 °	+/-145 °	-	+/-360 °
AC servo motor output		30 W	30 W	30 W	30 W
Deceleration mechanism	Transmission method	Direct-coupled			
	Motor to speed reducer	Direct-coupled			
Speed reducer to output		Direct-coupled			
Repeatability ^{Note 1}		+/-0.01 mm	+/-0.01 mm	+/-0.004 °	
Maximum speed		3.3 m/sec	0.9 m/sec	1700 °/sec	
Maximum payload		1.0 kg			
Standard cycle time: with 0.1kg payload ^{Note 2}		0.33 sec			
R-axis tolerable moment of inertia ^{Note 3}		0.01 kgm ²			
User wiring		0.1 sq × 8 wires			
User tubing (Outer diameter)		φ 4 × 2			
Travel limit		1.Soft limit 2.Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 2 m Option: 3.5 m, 5 m, 10 m			
Weight (Excluding robot cable) ^{Note 4}		3.9 kg			
Robot cable weight		0.9 kg (2 m)	1.5 kg (3.5 m)	2.1 kg (5 m)	4.2 kg (10 m)

Note 1. This is the value at a constant ambient temperature. (X,Y axes)
 Note 2. When moving 25mm in vertical direction and 100mm in horizontal direction reciprocally.
 Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia settings.
 Note 4. The total robot weight is the sum of the robot body weight and the cable weight.

Controller

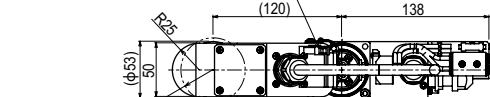
Controller	Power capacity (VA)	Operation method
RCX340	300	Programming / I/O point trace / Remote command / Operation using RS-232C communication

Note. The movement range can be limited by changing the positions of X and Y axis mechanical stoppers. (The movement range is set to the maximum at the time of shipment.)
 See our robot manuals (installation manuals) for detailed information.

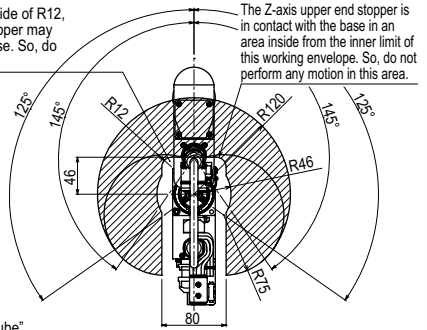
Our robot manuals (installation manuals) can be downloaded from our website at the address below:
<https://global.yamaha-motor.com/business/robot/>

YK120XG

Connector for user wiring (No. 1 to 8 usable, socket contact)
 J.S.T. Mfg Co., Ltd. SM connector SMR-8V-B, pin SYM-001T-P0.6 (supplied)
 Use the YC12 crimping tool.



If the robot enters the inside of R12, the Z-axis upper end stopper may be in contact with the base. So, do not perform such motion.

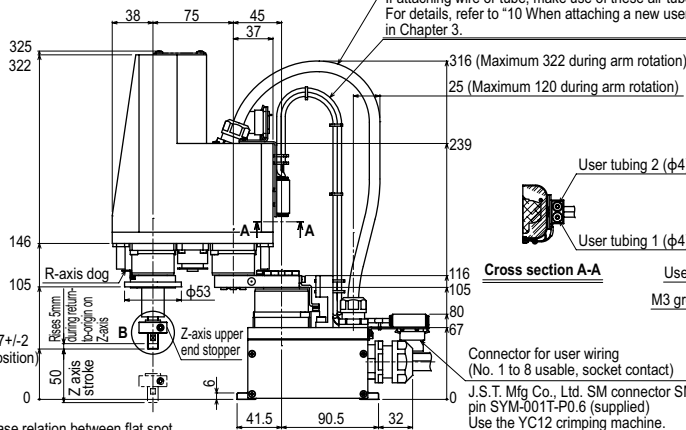


Working envelope

X, Y-axis origin is at +/-5° with respect to front of robot base

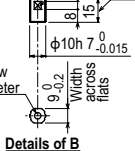
When performing return-to-origin, move the axes counterclockwise in advance from the position shown above.

Do not attach any wire or tube to self-supporting cable. Doing so may degrade positioning accuracy.
 If attaching wire or tube, make use of these air tubes. For details, refer to "10 When attaching a new user wire or tube" in Chapter 3.

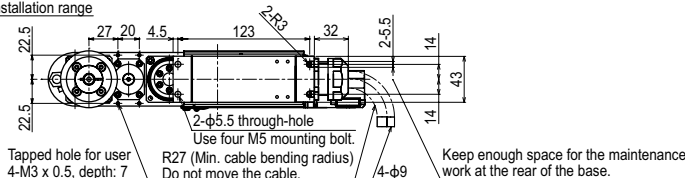


No phase relation between flat spot and R-axis origin

User tool installation range



Details of B



YK150XG

Standard type: Extra small type

- Arm length 150mm
- Maximum payload 1kg

Ordering method

YK150XG - 50

Model	Z-axis stroke	Cable
	50: 50mm	2L: 2m
		3L: 3.5m
		5L: 5m
		10L: 10m

RCX340-4

Controller /
Number of controllable axes

Safety
standard

Option A
(OP.A)

Option B
(OP.B)

Option C
(OP.C)

Option D
(OP.D)

Option E
(OP.E)

Absolute
battery

Specify various controller setting items. RCX340 ▶ **P.678**

Specifications

		X-axis	Y-axis	Z-axis	R-axis
Axis specifications	Arm length	75 mm	75 mm	50 mm	-
	Rotation angle	+/-125 °	+/-145 °	-	+/-360 °
AC servo motor output		30 W	30 W	30 W	30 W
Deceleration mechanism	Transmission method	Direct-coupled			
	Motor to speed reducer Speed reducer to output	Direct-coupled			
Repeatability ^{Note 1}		+/-0.01 mm	+/-0.01 mm	+/-0.004 °	
Maximum speed		3.4 m/sec	0.9 m/sec	1700 °/sec	
Maximum payload		1.0 kg			
Standard cycle time: with 0.1kg payload ^{Note 2}		0.33 sec			
R-axis tolerable moment of inertia ^{Note 3}		0.01 kgm ²			
User wiring		0.1 sq × 8 wires			
User tubing (Outer diameter)		φ 4 × 2			
Travel limit		1.Soft limit 2.Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 2 m Option: 3.5 m, 5 m, 10 m			
Weight (Excluding robot cable) ^{Note 4}		4.0 kg			
Robot cable weight		0.9 kg (2 m)	1.5 kg (3.5 m)	2.1 kg (5 m)	4.2 kg (10 m)

Note 1. This is the value at a constant ambient temperature. (X,Y axes)

Note 2. When moving 25mm in vertical direction and 100mm in horizontal direction reciprocally.

Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia settings.

Note 4. The total robot weight is the sum of the robot body weight and the cable weight.

Controller

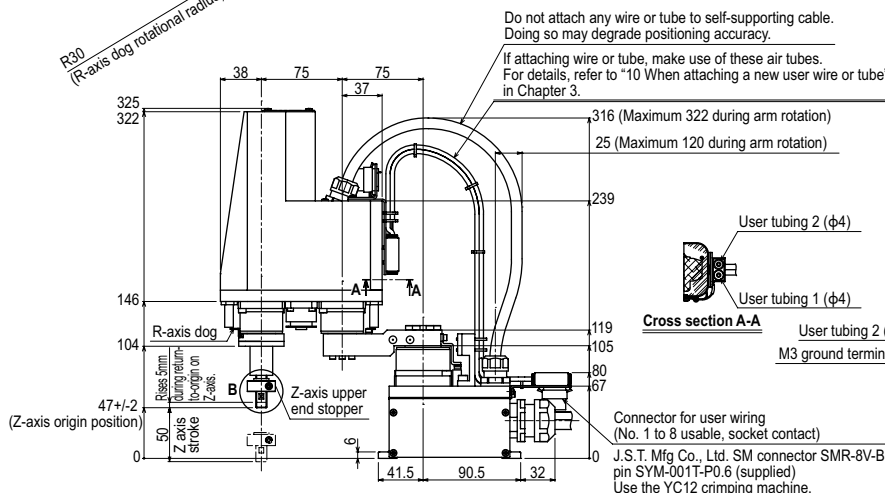
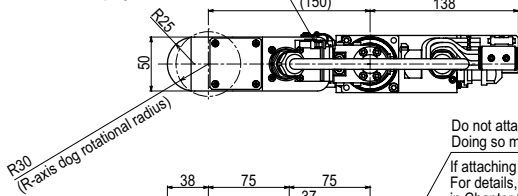
Controller	Power capacity (VA)	Operation method
RCX340	300	Programming / I/O point trace / Remote command / Operation using RS-232C communication

Note. The movement range can be limited by changing the positions of X and Y axis mechanical stoppers. (The movement range is set to the maximum at the time of shipment.) See our robot manuals (installation manuals) for detailed information.

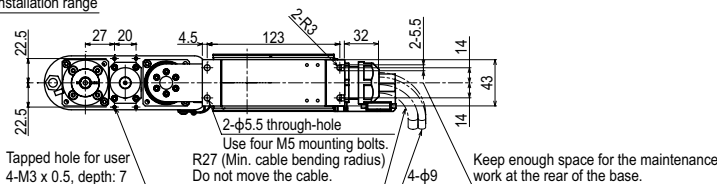
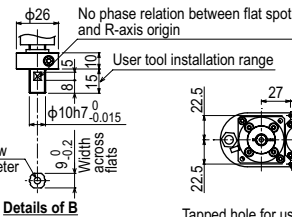
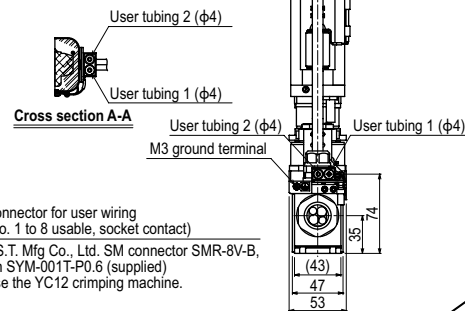
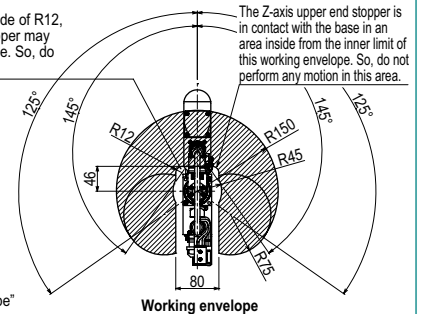
Our robot manuals (installation manuals) can be downloaded from our website at the address below:
<https://global.yamaha-motor.com/business/robot/>

YK150XG

Connector for user wiring
(No. 1 to 8 usable, socket contact)
J.S.T. Mfg Co., Ltd. SM connector
SMR-8V-B, pin SYM-001T-P0.6
(supplied)
Use the YC12 crimping tool.



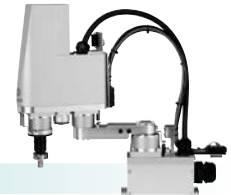
If the robot enters the inside of R12, the Z-axis upper end stopper may be in contact with the base. So, do not perform such motion.



Articulated robots YA
Linear conveyor modules LCM
Single-axis robots CX
Motor-less single-axis actuator Robotomy
single-axis robots TRANSEVO
Compact single-axis robots FLIP-X
Linear motor single-axis robots PHASER
Cartesian robots XY-X
SCARA robots YK-X
Pick & place robots YP-X
CLEAN
CONTROLLER INFORMATION
Extra small type
Small / Medium type
Large type
Wall mount / Inverse type
Dust-proof & drip-proof type

YK180XG

Standard type: Extra small type



- Arm length 180mm
- Maximum payload 1kg

Ordering method

YK180XG - 50

Model	Z axis stroke	Cable
	50: 50mm	2L: 2m 3L: 3.5m 5L: 5m 10L: 10m

RCX340-4

Controller /
Number of controllable axes

Safety
standard

Option A
(OP.A)

Option B
(OP.B)

Option C
(OP.C)

Option D
(OP.D)

Option E
(OP.E)

Absolute
battery

Specify various controller setting items. RCX340 ▶ **P.678**

Specifications

		X-axis	Y-axis	Z-axis	R-axis
Axis specifications	Arm length	105 mm	75 mm	50 mm	-
	Rotation angle	+/-125 °	+/-145 °	-	+/-360 °
AC servo motor output		30 W	30 W	30 W	30 W
Deceleration mechanism	Transmission method	Direct-coupled			
	Motor to speed reducer Speed reducer to output	Direct-coupled			
Repeatability ^{Note 1}		+/-0.01 mm	+/-0.01 mm	+/-0.004 °	
Maximum speed		3.3 m/sec	0.9 m/sec	1700 °/sec	
Maximum payload		1.0 kg			
Standard cycle time: with 0.1kg payload ^{Note 2}		0.33 sec			
R-axis tolerable moment of inertia ^{Note 3}		0.01 kgm ²			
User wiring		0.1 sq × 8 wires			
User tubing (Outer diameter)		φ 4 × 2			
Travel limit		1.Soft limit 2.Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 2 m Option: 3.5 m, 5 m, 10 m			
Weight (Excluding robot cable) ^{Note 4}		4.1 kg			
Robot cable weight		0.9 kg (2 m)	1.5 kg (3.5 m)	2.1 kg (5 m)	4.2 kg (10 m)

Note 1. This is the value at a constant ambient temperature. (X,Y axes)

Note 2. When moving 25mm in vertical direction and 100mm in horizontal direction reciprocally.

Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia settings.

Note 4. The total robot weight is the sum of the robot body weight and the cable weight.

Controller

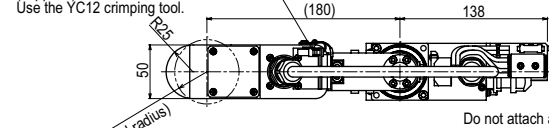
Controller	Power capacity (VA)	Operation method
RCX340	500	Programming / I/O point trace / Remote command / Operation using RS-232C communication

Note. The movement range can be limited by changing the positions of X and Y axis mechanical stoppers. (The movement range is set to the maximum at the time of shipment.)
See our robot manuals (installation manuals) for detailed information.

Our robot manuals (installation manuals) can be downloaded from our website at the address below:
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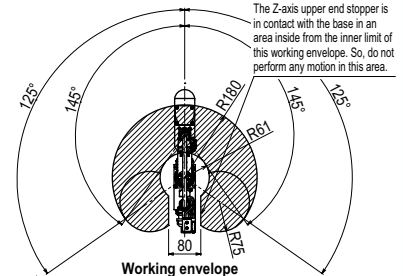
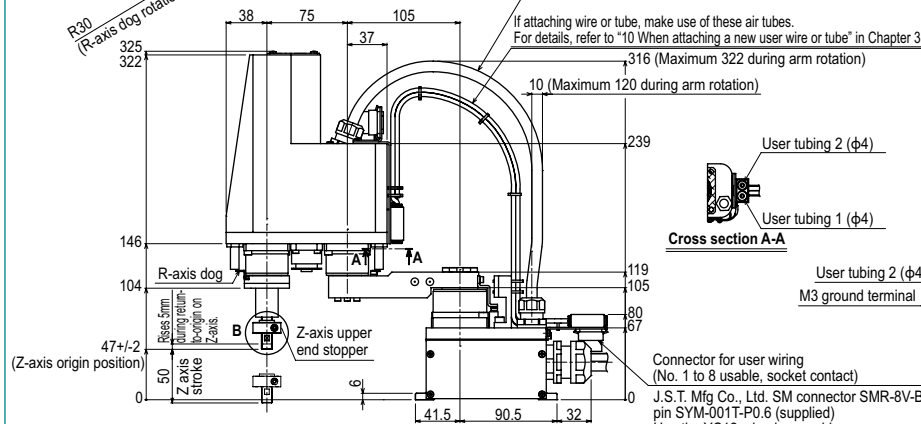
YK180XG

Connector for user wiring
(No. 1 to 8 usable, socket contact)
J.S.T. Mfg Co., Ltd. SM connector
SMR-8V-B, pin SYM-001T-P0.6
(supplied)
Use the YC12 crimping tool.



Do not attach any wire or tube to self-supporting cable.
Doing so may degrade positioning accuracy.

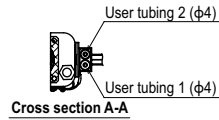
If attaching wire or tube, make use of these air tubes.
For details, refer to "10 When attaching a new user wire or tube" in Chapter 3.



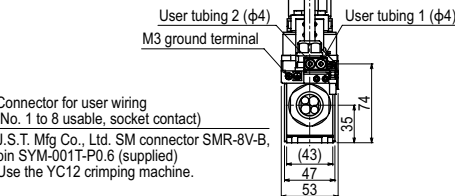
Working envelope

X, Y-axis origin is at +/-5° with respect to front of robot base

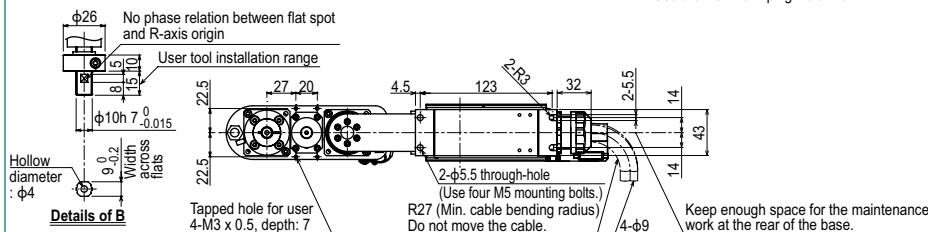
When performing return-to-origin, move the axes counterclockwise in advance from the position shown above.



Cross section A-A



Connector for user wiring
(No. 1 to 8 usable, socket contact)
J.S.T. Mfg Co., Ltd. SM connector SMR-8V-B,
pin SYM-001T-P0.6 (supplied)
Use the YC12 crimping machine.



Details of B

No phase relation between flat spot and R-axis origin

User tool installation range

Hollow diameter : φ4

Width across flats

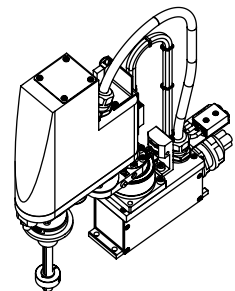
Tapped hole for user 4-M3 x 0.5, depth: 7

2-φ5.5 through-hole (Use four M5 mounting bolts.)

R27 (Min. cable bending radius) Do not move the cable.

4-φ9

Keep enough space for the maintenance work at the rear of the base.



YK180X

Standard type: Extra small type



- Arm length 180mm
- Maximum payload 1kg

Ordering method

YK180X - 100		RCX340-4								
Model	Z axis stroke 100: 100mm	Cable 3L: 3.5m 5L: 5m 10L: 10m	Controller / Number of controllable axes	Safety standard	Option A (OP.A)	Option B (OP.B)	Option C (OP.C)	Option D (OP.D)	Option E (OP.E)	Absolute battery

Specify various controller setting items. RCX340 ▶ **P.678**

Specifications

		X-axis	Y-axis	Z-axis	R-axis
Axis specifications	Arm length	71 mm	109 mm	100 mm	-
	Rotation angle	+/-120 °	+/-140 °	-	+/-360 °
AC servo motor output		50 W	30 W	30 W	30 W
Deceleration mechanism	Transmission method	Direct-coupled			
	Motor to speed reducer Speed reducer to output	Direct-coupled			
Repeatability ^{Note 1}		+/-0.01 mm	+/-0.01 mm	+/-0.004 °	
Maximum speed		3.3 m/sec	0.7 m/sec	1700 °/sec	
Maximum payload		1.0 kg			
Standard cycle time: with 0.1kg payload ^{Note 2}		0.39 sec			
R-axis tolerable moment of inertia ^{Note 3}		0.01 kgm ²			
User wiring		0.1 sq x 6 wires			
User tubing (Outer diameter)		φ 3 x 2			
Travel limit		1.Soft limit 2.Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 3.5 m Option: 5 m, 10 m			
Weight (Excluding robot cable) ^{Note 4}		5.5 kg			
Robot cable weight		1.5 kg (3.5 m)	2.1 kg (5 m)	4.2 kg (10 m)	

Note 1. This is the value at a constant ambient temperature.
 Note 2. When reciprocating 100mm in horizontal and 25mm in vertical directions.
 Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia settings.
 Note 4. The total robot weight is the sum of the robot body weight and the cable weight.

Controller

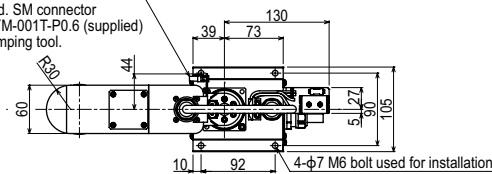
Controller	Power capacity (VA)	Operation method
RCX340	500	Programming / I/O point trace / Remote command / Operation using RS-232C communication

Note. The movement range can be limited by changing the positions of X and Y axis mechanical stoppers. (The movement range is set to the maximum at the time of shipment.)
 See our robot manuals (installation manuals) for detailed information.

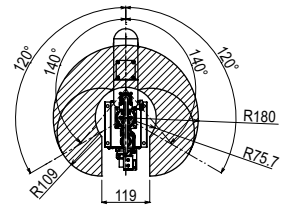
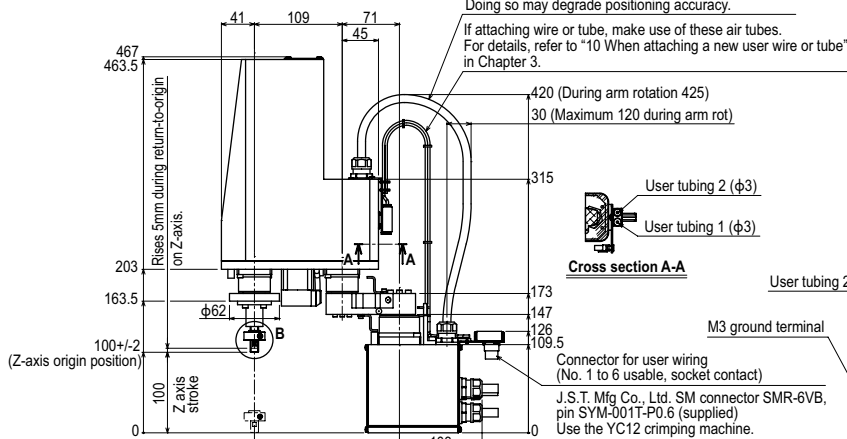
Our robot manuals (installation manuals) can be downloaded from our website at the address below:
<https://global.yamaha-motor.com/business/robot/>

YK180X

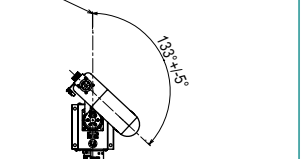
Connector for user wiring
 (No. 1 to 6 usable, socket contact)
 J.S.T. Mfg Co., Ltd. SM connector
 SMR-6VB, pin SYM-001T-P0.6 (supplied)
 Use the YC12 crimping tool.



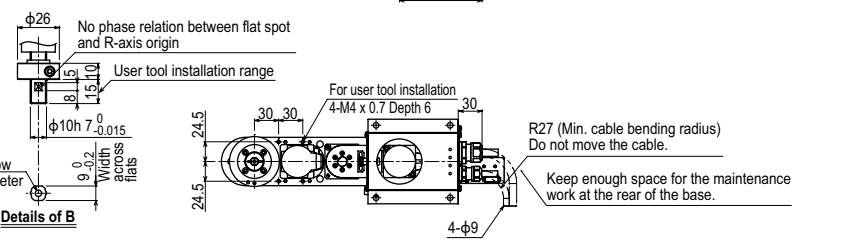
Do not attach any wire or tube to self-supporting cable. Doing so may degrade positioning accuracy.
 If attaching wire or tube, make use of these air tubes. For details, refer to "10 When attaching a new user wire or tube" in Chapter 3.



Working envelope
 X-axis origin is at 0° +/- 5° with respect to front of robot base



X, Y-axis origin position
 When performing return-to-origin, move the axes counterclockwise in advance from the position shown above.



- YA Articulated robots
- LCM Linear conveyor modules
- CX Single-axis robots
- Robonity Motor-less single-axis actuator
- TRANSEVO Compact single-axis robots
- FLIP-X Single-axis robots
- PHASER Linear motor single-axis robots
- XY-X Cartesian robots
- YK-X SCARA robots
- YP-X Pick & place robots
- CLEAN CLEAN
- CONTROLLER CONTROLLER
- INFORMATION INFORMATION
- Extra small type
- Small / Medium type
- Large type
- Wall mount / Inverse type
- Dust-proof & drip-proof type

YK220X

Standard type: Extra small type



- Arm length 220mm
- Maximum payload 1kg

Ordering method

YK220X - 100

Z axis stroke
100: 100mm

Cable
3L: 3.5m
5L: 5m
10L: 10m

Controller / Number of controllable axes
RCX340-4

Safety standard

Option A (OP.A)

Option B (OP.B)

Option C (OP.C)

Option D (OP.D)

Option E (OP.E)

Absolute battery

Specify various controller setting items. RCX340 ▶ **P.678**

Specifications

		X-axis	Y-axis	Z-axis	R-axis
Axis specifications	Arm length	111 mm	109 mm	100 mm	—
	Rotation angle	+/-120 °	+/-140 °	—	+/-360 °
AC servo motor output		50 W	30 W	30 W	30 W
Deceleration mechanism	Transmission method	Direct-coupled			
	Motor to speed reducer	Direct-coupled			
Repeatability	Speed reducer to output	Direct-coupled			
	Note 1	+/-0.01 mm	+/-0.01 mm	+/-0.004 °	
Maximum speed		3.4 m/sec	0.7 m/sec	1700 °/sec	
Maximum payload		1.0 kg			
Standard cycle time: with 0.1kg payload		0.42 sec			
R-axis tolerable moment of inertia		0.01 kgm ²			
User wiring		0.1 sq × 6 wires			
User tubing (Outer diameter)		φ 3 × 2			
Travel limit		1.Soft limit 2.Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 3.5 m Option: 5 m, 10 m			
Weight (Excluding robot cable)		5.5 kg			
Robot cable weight		1.5 kg (3.5 m)	2.1 kg (5 m)	4.2 kg (10 m)	

Note 1. This is the value at a constant ambient temperature.
 Note 2. When reciprocating 100mm in horizontal and 25mm in vertical directions.
 Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia settings.
 Note 4. The total robot weight is the sum of the robot body weight and the cable weight.

Controller

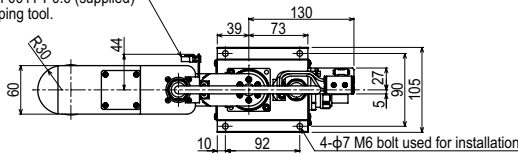
Controller	Power capacity (VA)	Operation method
RCX340	500	Programming / I/O point trace / Remote command / Operation using RS-232C communication

Note. The movement range can be limited by changing the positions of X and Y axis mechanical stoppers. (The movement range is set to the maximum at the time of shipment.) See our robot manuals (installation manuals) for detailed information.

Our robot manuals (installation manuals) can be downloaded from our website at the address below:
<https://global.yamaha-motor.com/business/robot/>

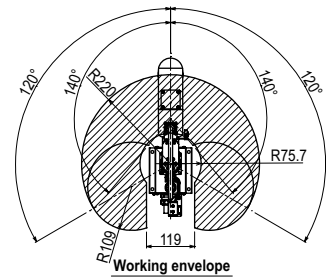
YK220X

Connector for user wiring
 (No. 1 to 6 usable, socket contact)
 J.S.T. Mfg Co., Ltd. SM connector
 SMR-6VB, pin SYM-001T-P0.6 (supplied)
 Use the YC12 crimping tool.



Do not attach any wire or tube to self-supporting cable. Doing so may degrade positioning accuracy.

If attaching wire or tube, make use of these air tubes. For details, refer to "10 When attaching a new user wire or tube" in Chapter 3.



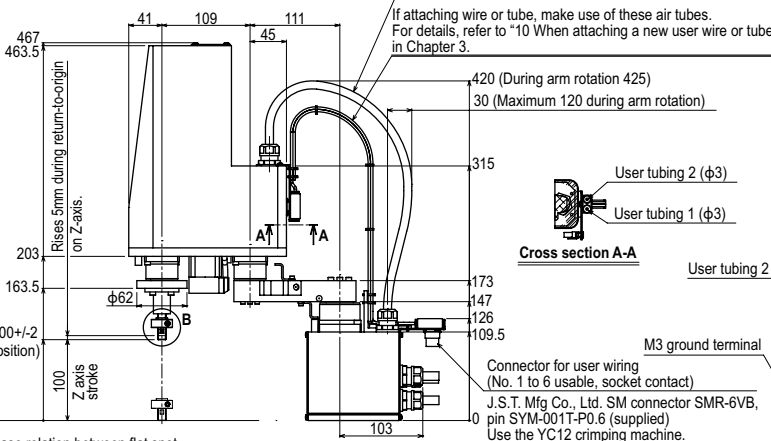
Working envelope

X-axis origin is at 0°/+5° with respect to front of robot base

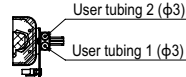


X, Y-axis origin position

When performing return-to-origin, move the axes counterclockwise in advance from the position shown above.



Cross section A-A

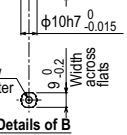


Connector for user wiring
 (No. 1 to 6 usable, socket contact)
 J.S.T. Mfg Co., Ltd. SM connector SMR-6VB,
 pin SYM-001T-P0.6 (supplied)
 Use the YC12 crimping machine.

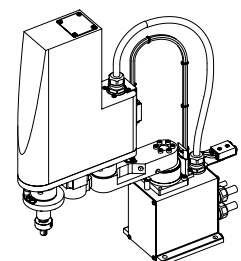
No phase relation between flat spot and R-axis origin
 User tool installation range

For user tool installation
 4-M4 x 0.7 Depth6

R27 (Min. cable bending radius)
 Do not move the cable.
 Keep enough space for the maintenance work at the rear of the base.



Details of B



YK250XG

Standard type: Small type

- Arm length 250mm
- Maximum payload 5kg

Ordering method

YK250XG - 150

Model	Z axis stroke 150: 150mm	Tool flange No entry: None F: With tool flange	Hollow shaft No entry: None S: With hollow shaft	Cable 3L: 3.5m 5L: 5m 10L: 10m
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RCX340-4

Controller / Number of controllable axes	Safety standard	Option A (OP.A)	Option B (OP.B)	Option C (OP.C)	Option D (OP.D)	Option E (OP.E)	Absolute battery
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Specify various controller setting items. RCX340 ▶ **P.678**

Specifications

		X-axis	Y-axis	Z-axis	R-axis
Axis specifications	Arm length	100 mm	150 mm	150 mm	-
	Rotation angle	+/-140 °	+/-144 °	-	+/-360 °
AC servo motor output		200 W	150 W	50 W	100 W
Deceleration mechanism	Transmission method	Direct-coupled			
	Motor to speed reducer Speed reducer to output	Direct-coupled			
Repeatability ^{Note 1}		+/-0.01 mm		+/-0.01 mm	+/-0.004 °
Maximum speed		4.5 m/sec		1.1 m/sec	1020 °/sec
Maximum payload		5 kg (Standard specification), 4 kg (Option specifications ^{Note 4})			
Standard cycle time: with 2kg payload ^{Note 2}		0.43 sec			
R-axis tolerable moment of inertia ^{Note 3}		0.05 kgm ² (0.5 kgfcm ²)			
User wiring		0.2 sq × 10 wires			
User tubing (Outer diameter)		φ 4 × 3			
Travel limit		1.Soft limit 2.Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 3.5 m Option: 5 m, 10 m			
Weight		18.5 kg			

Note 1. This is the value at a constant ambient temperature. (X,Y axes)

Note 2. When reciprocating 300mm in horizontal and 25mm in vertical directions.

Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia settings.

Note 4. Maximum payload of option specifications (with tool flange attached or with user wiring and tubing routed through spline shaft) is 4kg.

Controller

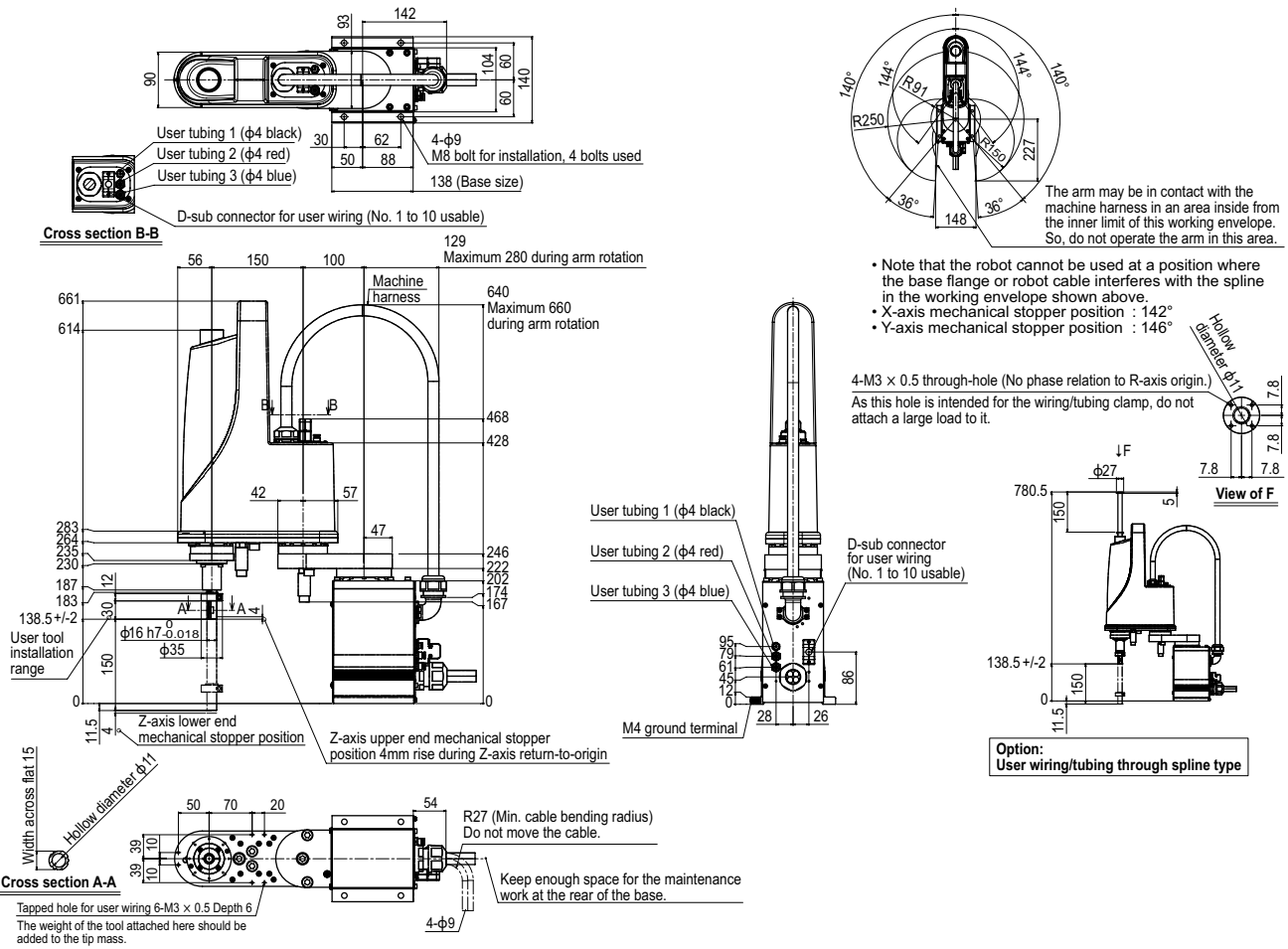
Controller	Power capacity (VA)	Operation method
RCX340	1000	Programming / I/O point trace / Remote command / Operation using RS-232C communication

Note. The movement range can be limited by changing the positions of X and Y axis mechanical stoppers. (The movement range is set to the maximum at the time of shipment.) See our robot manuals (installation manuals) for detailed information.

Note. To set the standard coordinates with high accuracy, use a standard coordinate setting jig (option). Refer to the user's manual (installation manual) for more details.

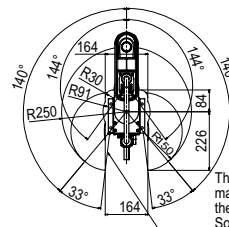
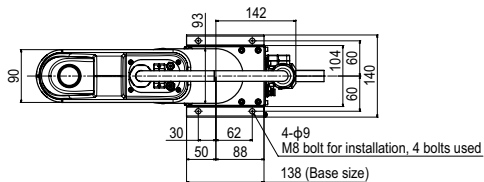
Our robot manuals (installation manuals) can be downloaded from our website at the address below:
<https://global.yamaha-motor.com/business/robot/>

YK250XG



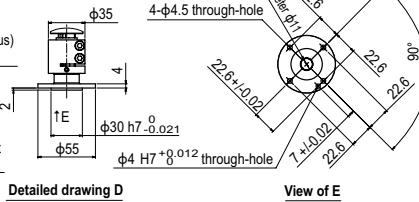
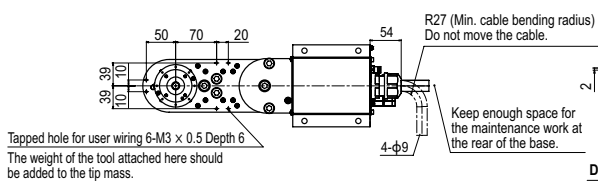
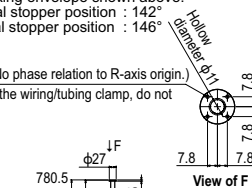
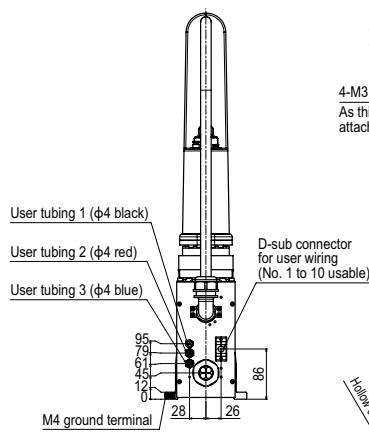
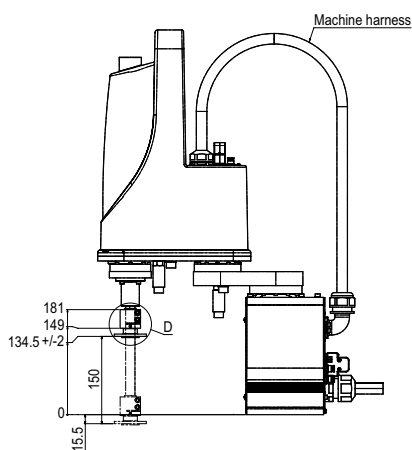
- Articulated robots YA
- Linear conveyor modules LCM
- Single-axis robots CX
- Motor-less single axis actuator Robonity
- Compact single-axis robots TRANSERO
- Single-axis robots FLIP-X
- Linear motor single-axis robots PHASER
- Cartesian robots XY-X
- SCARA robots YK-X
- Pick & place robots YP-X
- CLEAN
- CONTROLLER INFORMATION
- Oh!t/ Extra small type
- Small type
- Large type
- Inverse type
- Dust-proof & drip-proof type

YK250XG Tool flange mount type



- Note that the robot cannot be used at a position where the base flange or robot cable interferes with the tool flange in the working envelope shown above.
- X-axis mechanical stopper position : 142°
- Y-axis mechanical stopper position : 146°

4-M3 x 0.5 through-hole (No phase relation to R-axis origin.)
As this hole is intended for the wiring/tubing clamp, do not attach a large load to it.



YK350XG

Standard type: Small type

- Arm length 350mm
- Maximum payload 5kg

Ordering method

YK350XG - 150

Model	Z axis stroke 150: 150mm	Tool flange No entry: None F: With tool flange	Hollow shaft No entry: None S: With hollow shaft	Cable 3L: 3.5m 5L: 5m 10L: 10m
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RCX340-4

Controller / Number of controllable axes	Safety standard	Option A (OP.A)	Option B (OP.B)	Option C (OP.C)	Option D (OP.D)	Option E (OP.E)	Absolute battery
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Specify various controller setting items. RCX340 ▶ **P.678**

Specifications

		X-axis	Y-axis	Z-axis	R-axis
Axis specifications	Arm length	200 mm	150 mm	150 mm	-
	Rotation angle	+/-140 °	+/-144 °	-	+/-360 °
AC servo motor output		200 W	150 W	50 W	100 W
Deceleration mechanism	Transmission method	Direct-coupled			
	Motor to speed reducer Speed reducer to output	Direct-coupled			
Repeatability ^{Note 1}		+/-0.01 mm	+/-0.01 mm	+/-0.004 °	
Maximum speed		5.6 m/sec	1.1 m/sec	1020 °/sec	
Maximum payload		5 kg (Standard specification), 4 kg (Option specifications ^{Note 4})			
Standard cycle time: with 2kg payload ^{Note 2}		0.44 sec			
R-axis tolerable moment of inertia ^{Note 3}		0.05 kgm ² (0.5 kgfcm ²)			
User wiring		0.2 sq × 10 wires			
User tubing (Outer diameter)		φ 4 × 3			
Travel limit		1.Soft limit 2.Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 3.5 m Option: 5 m, 10 m			
Weight		19 kg			

Note 1. This is the value at a constant ambient temperature. (X,Y axes)

Note 2. When reciprocating 300mm in horizontal and 25mm in vertical directions.

Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia.

Note 4. Maximum payload of option specifications (with tool flange attached or with user wiring and tubing routed through spline shaft) is 4kg.

Controller

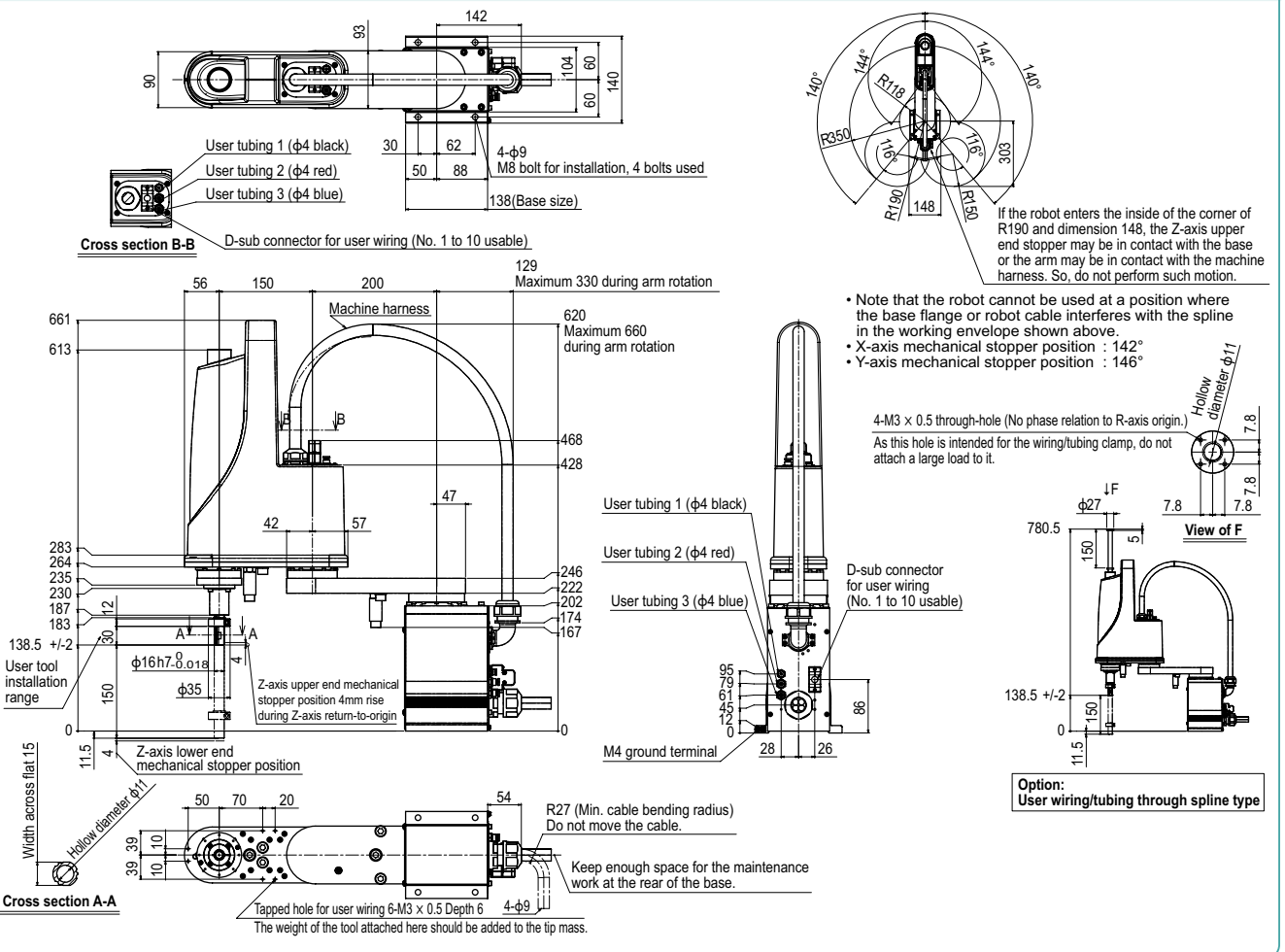
Controller	Power capacity (VA)	Operation method
RCX340	1000	Programming / I/O point trace / Remote command / Operation using RS-232C communication

Note. The movement range can be limited by changing the positions of X and Y axis mechanical stoppers. (The movement range is set to the maximum at the time of shipment.) See our robot manuals (installation manuals) for detailed information.

Note. To set the standard coordinates with high accuracy, use a standard coordinate setting jig (option). Refer to the user's manual (installation manual) for more details.

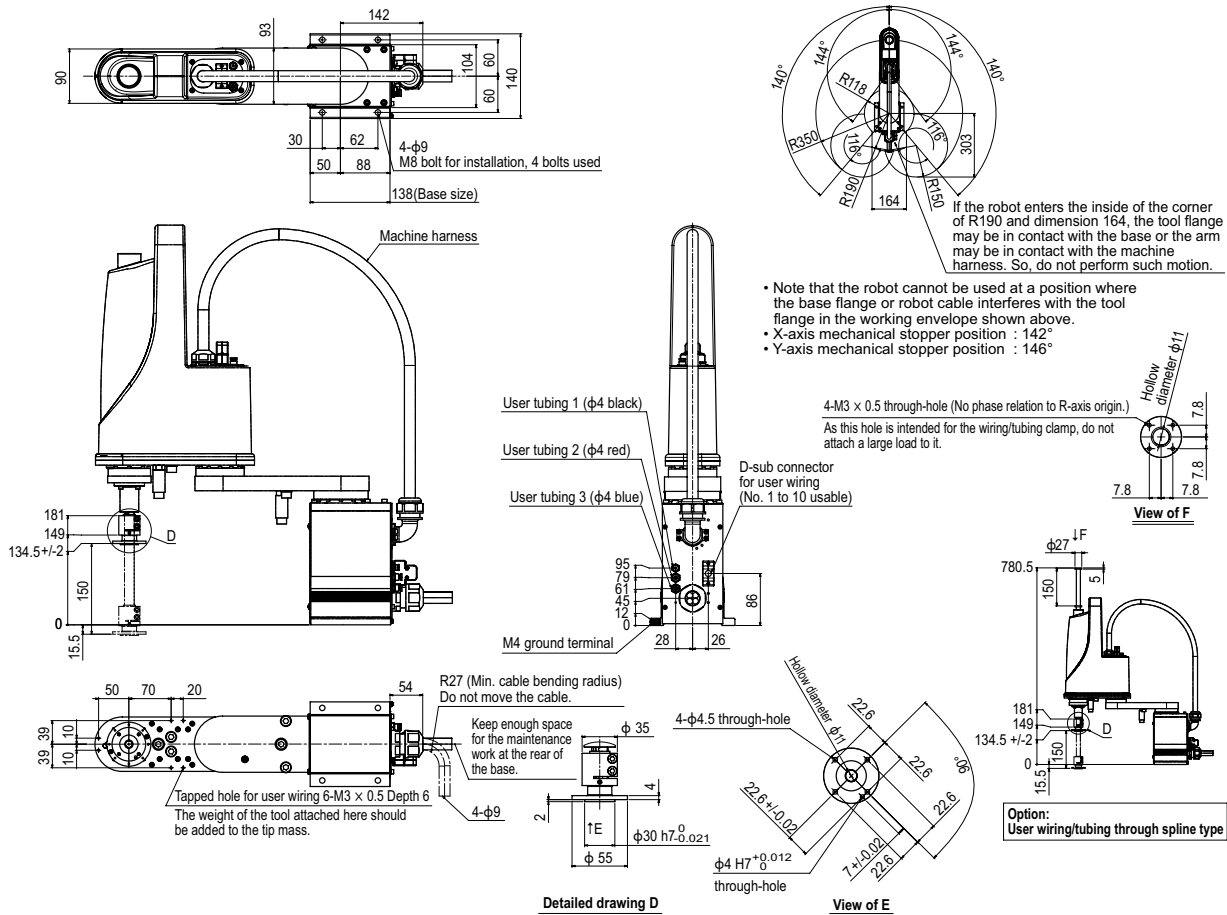
Our robot manuals (installation manuals) can be downloaded from our website at the address below:
<https://global.yamaha-motor.com/business/robot/>

YK350XG



- Articulated robots YA
- Linear conveyor modules LCM
- Single-axis robots CX
- Motor-less single axis actuator Robonty
- Compact single-axis robots TRANSERO
- Single-axis robots FLIP-X
- Linear motor single-axis robots PHASER
- Cartesian robots XY-X
- SCARA robots YK-X
- Pick & place robots YP-X
- CLEAN
- CONTROLLER INFORMATION
- Oh!h/! Extra small type
- Small type
- Large type
- Wall mount / Inverse type
- Dust-proof & drip-proof type

YK350XG Tool flange mount type



YK400XE-4

Standard type: Small type

LOW COST HIGH PERFORMANCE MODEL



- Arm length 400mm
- Maximum payload 4kg

Ordering method

YK400XE-4 - **150** - **RCX340-4**

Model	Maximum payload	Return-to-origin method S: Sensor T: Stroke end	Z axis stroke	Hollow shaft No entry: None S: With hollow shaft	Brake release switch No entry: None BS: With brake release switch	Cable 3L: 3.5m 5L: 5m 10L: 10m	Controller / Number of controllable axes	Safety standard	Option A to E (OP.A to E)	Absolute battery
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Specify various controller setting items.
RCX340 ▶ **P.678**

Specifications

		X-axis	Y-axis	Z-axis	R-axis
Axis specifications	Arm length	225 mm	175 mm	150 mm	-
	Rotation angle	+/-132°	+/-150°	-	+/-360°
AC servo motor output		200 W	100 W	100 W	100 W
Deceleration mechanism	Transmission method	Direct-coupled		Timing belt	
	Motor to speed reducer Speed reducer to output	Direct-coupled		Timing belt	
Repeatability ^{Note 1}		+/-0.01 mm	+/-0.01 mm	+/-0.01°	
Maximum speed		6 m/sec	1.1 m/sec	2600 °/sec	
Maximum payload		4 kg (Standard specification, Option specifications ^{Note 4}), 3 kg (Option specifications ^{Note 5})			
Standard cycle time: with 2kg payload ^{Note 2}		0.41 sec			
R-axis tolerable moment of inertia ^{Note 3}		0.05 kgm ²			
User wiring		0.2 sq × 10 wires			
User tubing (Outer diameter)		φ 4 × 3			
Travel limit		1.Soft limit 2.Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 3.5 m Option: 5 m, 10 m			
Weight		17 kg			

Note 1. This is the value at a constant ambient temperature. (X,Y axes)
 Note 2. When reciprocating 300mm in horizontal and 25mm in vertical directions and performing the coarse positioning arch operation.
 Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and offset amount for R-axis moment of inertia settings.
 Note 4. Maximum payload of the standard or option specifications (brake release switch type) is 4 kg.
 Note 5. Maximum payload of the option specifications (user wiring/tubing through shaft type) is 3 kg.

Controller

Controller	Power capacity (VA)	Operation method
RCX340	1000	Programming / I/O point trace / Remote command / Operation using RS-232C communication

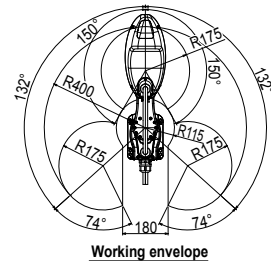
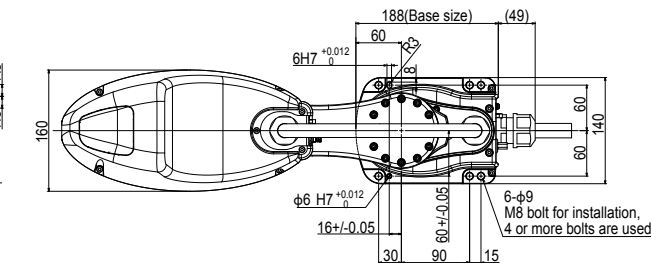
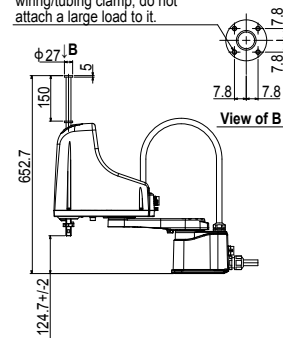
Note. The movement range can be restricted by adding the X- and Y-axis mechanical stoppers. (The maximum movement range was set at shipment.)
 See our robot manuals (installation manuals) for detailed information.

Note. To set the standard coordinates with high accuracy, use a standard coordinate setting jig (option). Refer to the user's manual (installation manual) for more details.

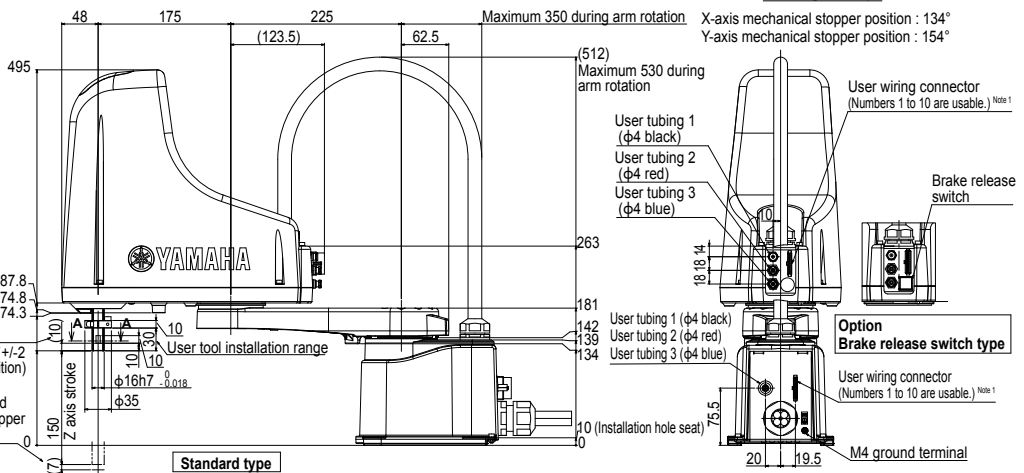
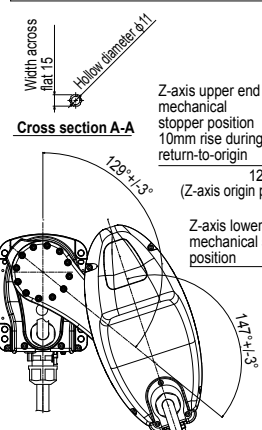
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YK400XE-4

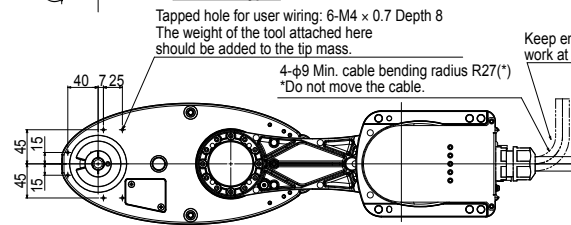
4-M3 × 0.5 through-hole
 (No phase relation to R-axis origin.)
 As this hole is intended for the wiring/tubing clamp, do not attach a large load to it.



Option User wiring/tubing through shaft type



Standard type



XY-axis origin position (Stroke end specification)

When performing return-to-origin, move the X-axis and Y-axis counterclockwise and clockwise, respectively in advance from the position shown above.

Tapped hole for user wiring: 6-M4 × 0.7 Depth 8
 The weight of the tool attached here should be added to the tip mass.
 Keep enough space for the maintenance work at the rear of the base.

4-φ9 Min. cable bending radius R27(*)
 *Do not move the cable.

Note 1: J.S.T. Mfg. Co., Ltd.
 SM connector: SMR-11V-B
 Pin: SYM-001T-P0.6 is attached.
 Use AP-K2N for the crimping machine.

YK400XG

Standard type: Small type

- Arm length 400mm
- Maximum payload 5kg

Ordering method

YK400XG - 150

RCX340-4

Model	Z axis stroke 150: 150mm	Tool flange No entry: None F: With tool flange	Hollow shaft No entry: None S: With hollow shaft	Cable 3L: 3.5m 5L: 5m 10L: 10m	Controller / Number of controllable axes	Safety standard	Option A (OP.A)	Option B (OP.B)	Option C (OP.C)	Option D (OP.D)	Option E (OP.E)	Absolute battery
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Specify various controller setting items. RCX340 ▶ **P.678**

Specifications

Axis specifications	Arm length	X-axis	Y-axis	Z-axis	R-axis
		250 mm	150 mm	150 mm	-
	Rotation angle	+/-140 °	+/-144 °	-	+/-360 °
AC servo motor output		200 W	150 W	50 W	100 W
Deceleration mechanism	Transmission method	Direct-coupled			
	Motor to speed reducer	Direct-coupled			
Speed reducer to output		Direct-coupled			
Repeatability <small>Note 1</small>		+/-0.01 mm		+/-0.01 mm	+/-0.004 °
Maximum speed		6.1 m/sec		1.1 m/sec	1020 °/sec
Maximum payload		5 kg (Standard specification), 4 kg (Option specifications <small>Note 4</small>)			
Standard cycle time: with 2kg payload <small>Note 2</small>		0.45 sec			
R-axis tolerable moment of inertia <small>Note 3</small>		0.05 kgm ² (0.5 kgfcm ²)			
User wiring		0.2 sq × 10 wires			
User tubing (Outer diameter)		φ 4 × 3			
Travel limit		1.Soft limit 2.Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 3.5 m Option: 5 m, 10 m			
Weight		19.5 kg			

Note 1. This is the value at a constant ambient temperature. (X,Y axes)

Note 2. When reciprocating 300mm in horizontal and 25mm in vertical directions.

Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia settings.

Note 4. Maximum payload of option specifications (with tool flange attached or with user wiring and tubing routed through spline shaft) is 4kg.

Controller

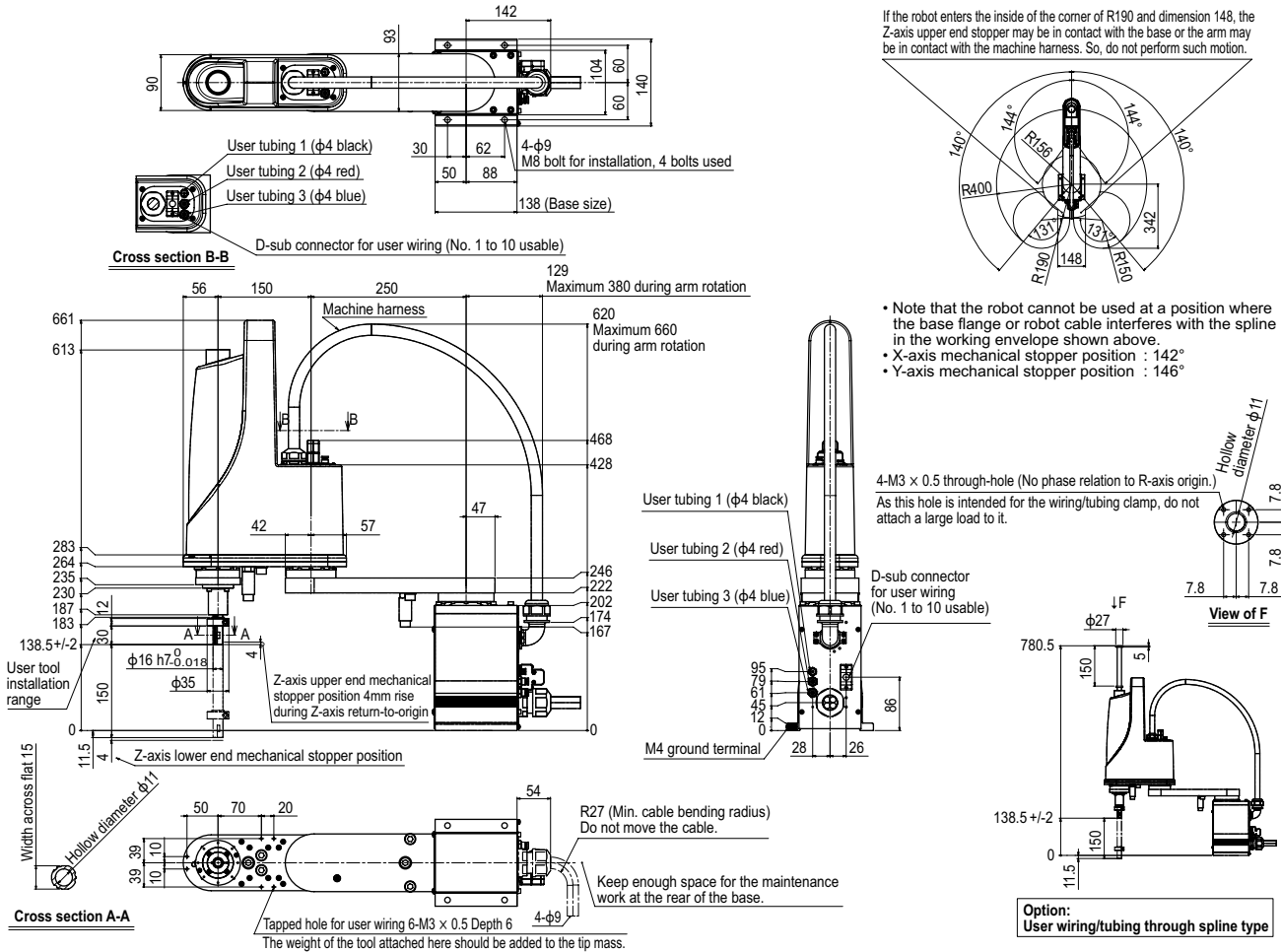
Controller	Power capacity (VA)	Operation method
RCX340	1000	Programming / I/O point trace / Remote command / Operation using RS-232C communication

Note. The movement range can be limited by changing the positions of X and Y axis mechanical stoppers. (The movement range is set to the maximum at the time of shipment.) See our robot manuals (installation manuals) for detailed information.

Note. To set the standard coordinates with high accuracy, use a standard coordinate setting jig (option). Refer to the user's manual (installation manual) for more details.

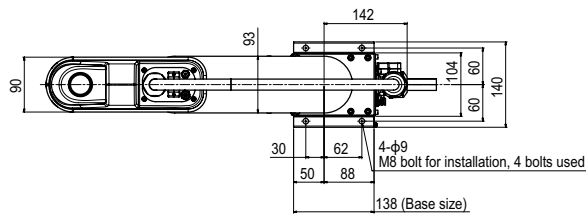
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YK400XG

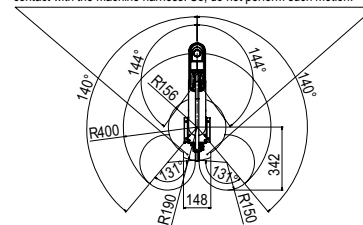


YA	Articulated robots
LCM	Linear conveyor modules
CX	Single-axis robots
Robonity	Motor-less single axis actuator
TRANSERO	Compact single-axis robots
FLIP-X	Single-axis robots
PHASER	Linear motor single-axis robots
XY-X	Cartesian robots
YK-X	SCARA robots
YP-X	Pick & place robots
CLEAN	CLEAN robots
CONTROLLER	CONTROLLER
INFORMATION	INFORMATION
Orbit/Extra small type	Orbit/Extra small type
Small type	Small type
Large type	Large type
Wall mount/Inverse type	Wall mount/Inverse type
Dust-proof & drip-proof type	Dust-proof & drip-proof type

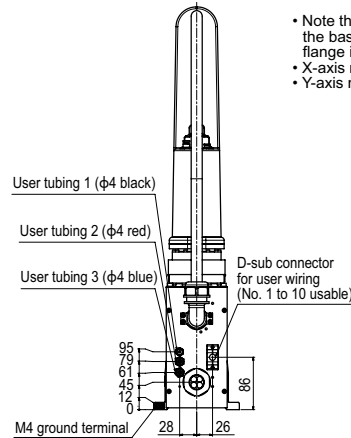
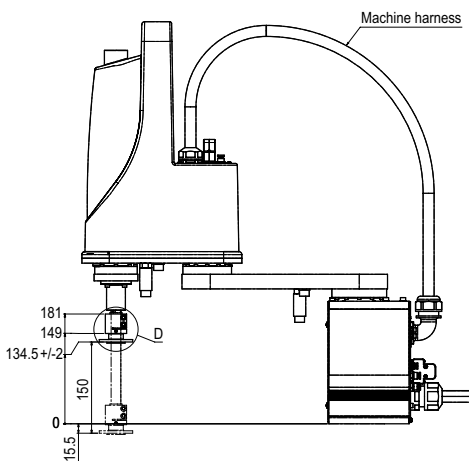
YK400XG Tool flange mount type



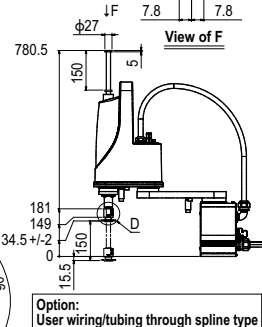
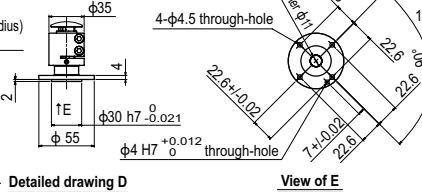
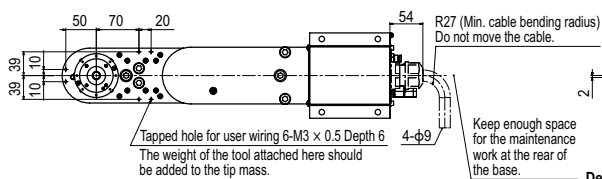
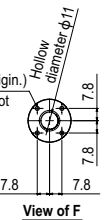
If the robot enters the inside of the corner of R190 and dimension 148, the tool flange may be in contact with the base or the arm may be in contact with the machine harness. So, do not perform such motion.



- Note that the robot cannot be used at a position where the base flange or robot cable interferes with the tool flange in the working envelope shown above.
- X-axis mechanical stopper position : 142°
- Y-axis mechanical stopper position : 146°



4-M3 × 0.5 through-hole (No phase relation to R-axis origin.)
As this hole is intended for the wiring/tubing clamp, do not attach a large load to it.



YK500XGL

Standard type: Medium type



- Arm length 500mm
- Maximum payload 5kg

Ordering method

YK500XGL - 150

RCX340-4

Model	Z axis stroke 150: 150mm	Tool flange No entry: None F: With tool flange	Hollow shaft No entry: None S: With hollow shaft	Cable 3L: 3.5m 5L: 5m 10L: 10m	Controller / Number of controllable axes	Safety standard	Option A (OP.A)	Option B (OP.B)	Option C (OP.C)	Option D (OP.D)	Option E (OP.E)	Absolute battery
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Specify various controller setting items. RCX340 ▶ **P.678**

Specifications

Axis specifications	Arm length	X-axis	Y-axis	Z-axis	R-axis
	Rotation angle	250 mm	250 mm	150 mm	-
		+/-140 °	+/-144 °	-	+/-360 °
AC servo motor output		200 W	150 W	50 W	100 W
Deceleration mechanism	Transmission method	Direct-coupled			
	Motor to speed reducer Speed reducer to output	Direct-coupled			
Repeatability		+/-0.01 mm		+/-0.01 mm	+/-0.004 °
Maximum speed		5.1 m/sec		1.1 m/sec	1020 °/sec
Maximum payload		5 kg (Standard specification), 4 kg (Option specifications ^{Note 4})			
Standard cycle time: with 2kg payload ^{Note 2}		0.48 sec			
R-axis tolerable moment of inertia ^{Note 3}		0.05 kgm ² (0.5 kgfcm ²)			
User wiring		0.2 sq × 10 wires			
User tubing (Outer diameter)		φ 4 × 3			
Travel limit		1.Soft limit 2.Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 3.5 m Option: 5 m, 10 m			
Weight		21 kg			

Note 1. This is the value at a constant ambient temperature. (X,Y axes)
 Note 2. When reciprocating 300mm in horizontal and 25mm in vertical directions.
 Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia settings.
 Note 4. Maximum payload of option specifications (with tool flange attached or with user wiring and tubing routed through spline shaft) is 4kg.

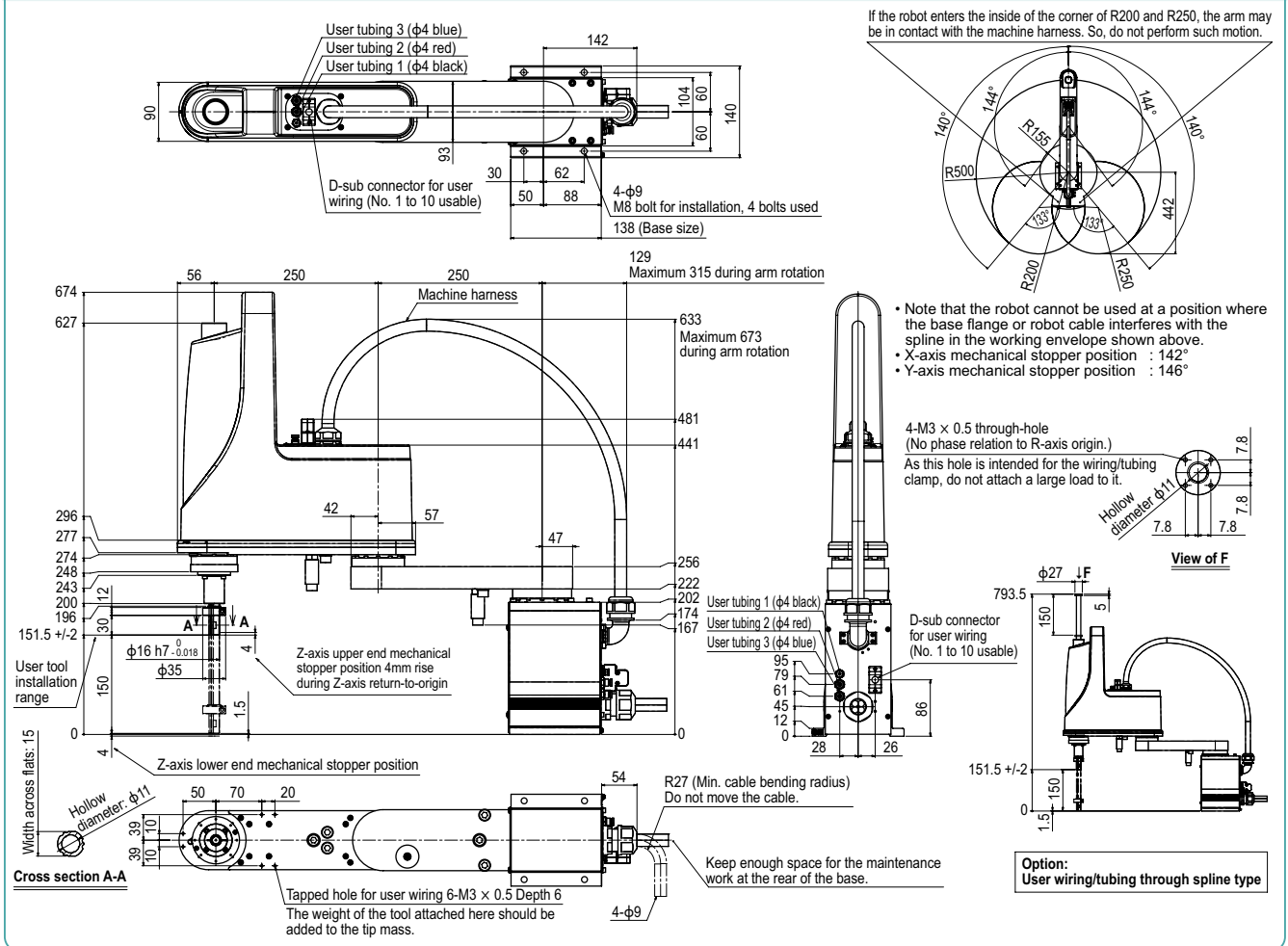
Controller

Controller	Power capacity (VA)	Operation method
RCX340	1000	Programming / I/O point trace / Remote command / Operation using RS-232C communication

Note. The movement range can be limited by changing the positions of X and Y axis mechanical stoppers. (The movement range is set to the maximum at the time of shipment.)
 See our robot manuals (installation manuals) for detailed information.
 Note. To set the standard coordinates with high accuracy, use a standard coordinate setting jig (option). Refer to the user's manual (installation manual) for more details.

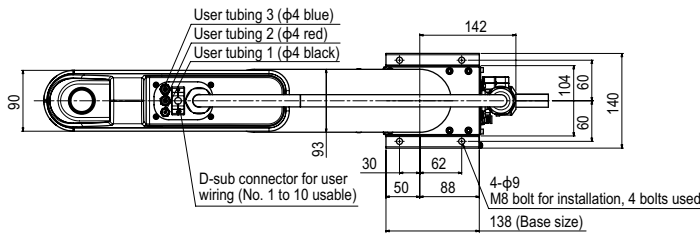
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YK500XGL

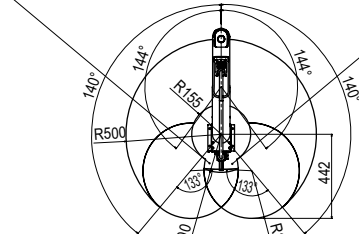


YA	Articulated robots
LCM	Linear conveyor modules
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Robonity	Motor-less single axis actuator
TRANSERO	Compact single-axis robots
FLIP-X	Single-axis robots
PHASER	Linear motor single-axis robots
XY-X	Cartesian robots
YK-X	SCARA robots
YP-X	Pick & place robots
CLEAN	CLEAN
CONTROLLER	CONTROLLER
INFORMATION	INFORMATION
Oh!v/ Extra small type	Oh!v/ Extra small type
Medium type	Medium type
Large type	Large type
Wall mount/ Inverse type	Wall mount/ Inverse type
Dust-proof & drip-proof type	Dust-proof & drip-proof type

YK500XGL Tool flange mount type



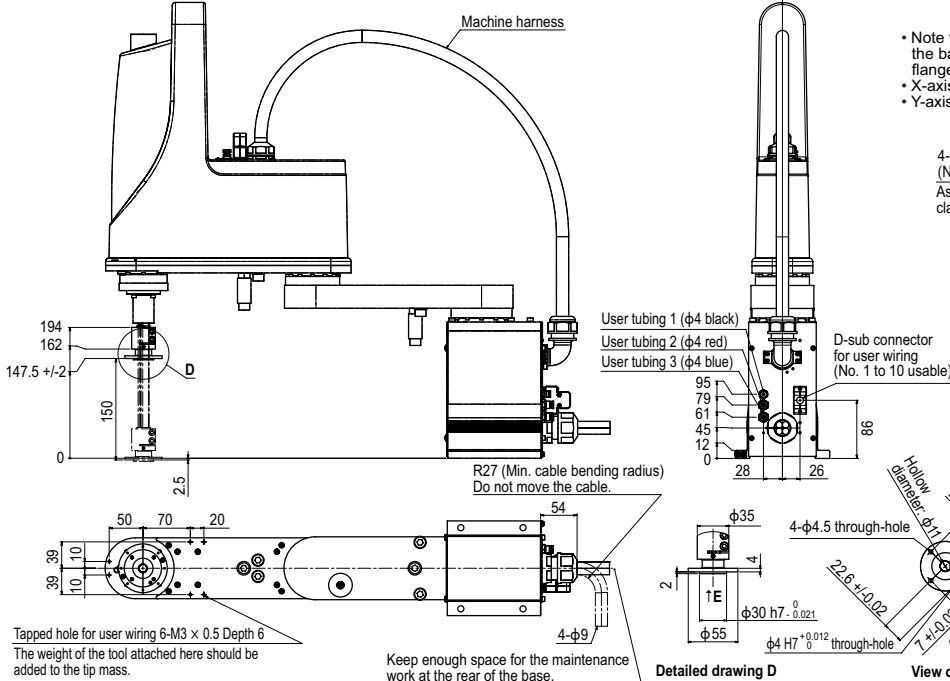
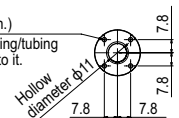
If the robot enters the inside of corners of R200 and R250, the arm may be in contact with the machine harness. So, do not perform such motion.



- Note that the robot cannot be used at a position where the base flange or robot cable interferes with the tool flange in the working envelope shown above.
- X-axis mechanical stopper position : 142°
- Y-axis mechanical stopper position : 146°

4-M3 × 0.5 through-hole (No phase relation to R-axis origin.)

As this hole is intended for the wiring/tubing clamp, do not attach a large load to it.



Tapped hole for user wiring 6-M3 × 0.5 Depth 6
The weight of the tool attached here should be added to the tip mass.

Keep enough space for the maintenance work at the rear of the base.

Detailed drawing D

View of E

YK500XG

Standard type: Medium type



- Arm length 500mm
- Maximum payload 10kg

Ordering method

YK500XG				RCX340-4								
Model	Z axis stroke 200: 200mm 300: 300mm	Tool flange No entry: None F: With tool flange	Cable 3L: 3.5m 5L: 5m 10L: 10m	Controller / Number of controllable axes	Safety standard	Option A (OP.A)	Option B (OP.B)	Option C (OP.C)	Option D (OP.D)	Option E (OP.E)	Absolute battery	

Specify various controller setting items. RCX340 ▶ **P.678**

Specifications

		X-axis	Y-axis	Z-axis	R-axis
Axis specifications	Arm length	200 mm	300 mm	200 mm / 300 mm	-
	Rotation angle	+/-130 °	+/-145 °	-	+/-360 °
AC servo motor output		400 W	200 W	200 W	200 W
Deceleration mechanism	Transmission method	Direct-coupled			
	Motor to speed reducer	Direct-coupled			
Repeatability ^{Note 1}		+/-0.01 mm	+/-0.01 mm	+/-0.004 °	
Maximum speed		7.6 m/sec	2.3 m/sec	1.7 m/sec	1700 °/sec
Maximum payload		10 kg (Standard type), 9 kg (Tool flange mount type)			
Standard cycle time: with 2kg payload ^{Note 2}		0.42 sec			
R-axis tolerable moment of inertia ^{Note 3}		0.30 kgm ²			
User wiring		0.2 sq × 20 wires			
User tubing (Outer diameter)		φ 6 × 3			
Travel limit		1.Soft limit 2.Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 3.5 m Option: 5 m, 10 m			
Weight		30 kg			

Note 1. This is the value at a constant ambient temperature. (X,Y axes)

Note 2. When reciprocating 300mm in horizontal and 25mm in vertical directions.

Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia settings.

Controller

Controller	Power capacity (VA)	Operation method
RCX340	1700	Programming / I/O point trace / Remote command / Operation using RS-232C communication

Note. The movement range can be limited by changing the positions of X and Y axis mechanical stoppers. (The movement range is set to the maximum at the time of shipment.) See our robot manuals (installation manuals) for detailed information.

Note. To set the standard coordinates with high accuracy, use a standard coordinate setting jig (option). Refer to the user's manual (installation manual) for more details.

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YK500XG

Working envelope of left-handed system

Working envelope of right-handed system

Option: Tool flange mount type

Standard type

Cross section A-A

View of B

4-M4 x 0.7 through-hole for tool attachment

4-M4 x 10L binding screws are supplied.

Do not screw the screws in deeper than 10mm from bottom surface of arm.

R27 (Min. cable bending radius)

Do not move the cable.

Keep enough space for the maintenance work at the rear of the base.

Values shown in () For tool flange specifications

Values shown in () For tool flange specifications

X-axis mechanical stopper position: 132°

Y-axis mechanical stopper position: 147°

YK500XG Z200mm Stroke specification

YK500XG Z300mm Stroke specification

YK510XE-10

Standard type: Medium type

● LOW COST HIGH PERFORMANCE MODEL



- Arm length 510mm
- Maximum payload 10kg

Ordering method

YK510XE-10-200

Model	Maximum payload	Z axis stroke	Tool flange	Hollow shaft/cap ^{Note}	Brake release switch	Cable	Controller / Number of controllable axes	Safety standard	Option A to E (OP.A to E)	Absolute battery
			No entry: None F: With tool flange	No entry: None S: With hollow shaft C: With hollow cap	No entry: None BS: With brake release switch	3L: 3.5m 5L: 5m 10L: 10m				

RCX340-4

Specify various controller setting items.
RCX340 ▶ **P.678**

Note. The return-to-origin method is provided only in the sensor specifications, but not in the stroke end specifications.

Specifications

		X-axis	Y-axis	Z-axis	R-axis
Axis specifications	Arm length	235 mm	275 mm	200 mm	-
	Rotation angle	+/-134°	+/-152°	-	+/-360°
AC servo motor output		400 W	200 W	200 W	200 W
Deceleration mechanism	Transmission method	Direct-coupled		Timing belt	
	Motor to speed reducer Speed reducer to output	Direct-coupled		Timing belt	
Repeatability ^{Note 1}		+/-0.01 mm	+/-0.01 mm	+/-0.01°	
Maximum speed		7.8 m/sec	2 m/sec	2600 °/sec	
Maximum payload		10 kg (Standard specification, Option specifications ^{Note 4}), 9 kg (Option specifications ^{Note 5})			
Standard cycle time: with 2kg payload ^{Note 2}		0.38 sec			
R-axis tolerable moment of inertia ^{Note 3}		0.3 kgm ²			
User wiring		0.2 sq × 20 wires			
User tubing (Outer diameter)		φ 6 × 3			
Travel limit		1.Soft limit 2.Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 3.5 m Option: 5 m, 10 m			
Weight		25 kg			

Note 1. This is the value at a constant ambient temperature. (X,Y axes)
 Note 2. When reciprocating 300mm in horizontal and 25mm in vertical directions and performing the coarse positioning arch operation.
 Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and offset amount for R-axis moment of inertia settings.
 Note 4. Maximum payload of the standard or option specifications (brake release switch type, user wiring/tubing through cap type) is 10 kg.
 Note 5. Maximum payload of the option specifications (tool flange mount type, user wiring/tubing through shaft type) is 9 kg.

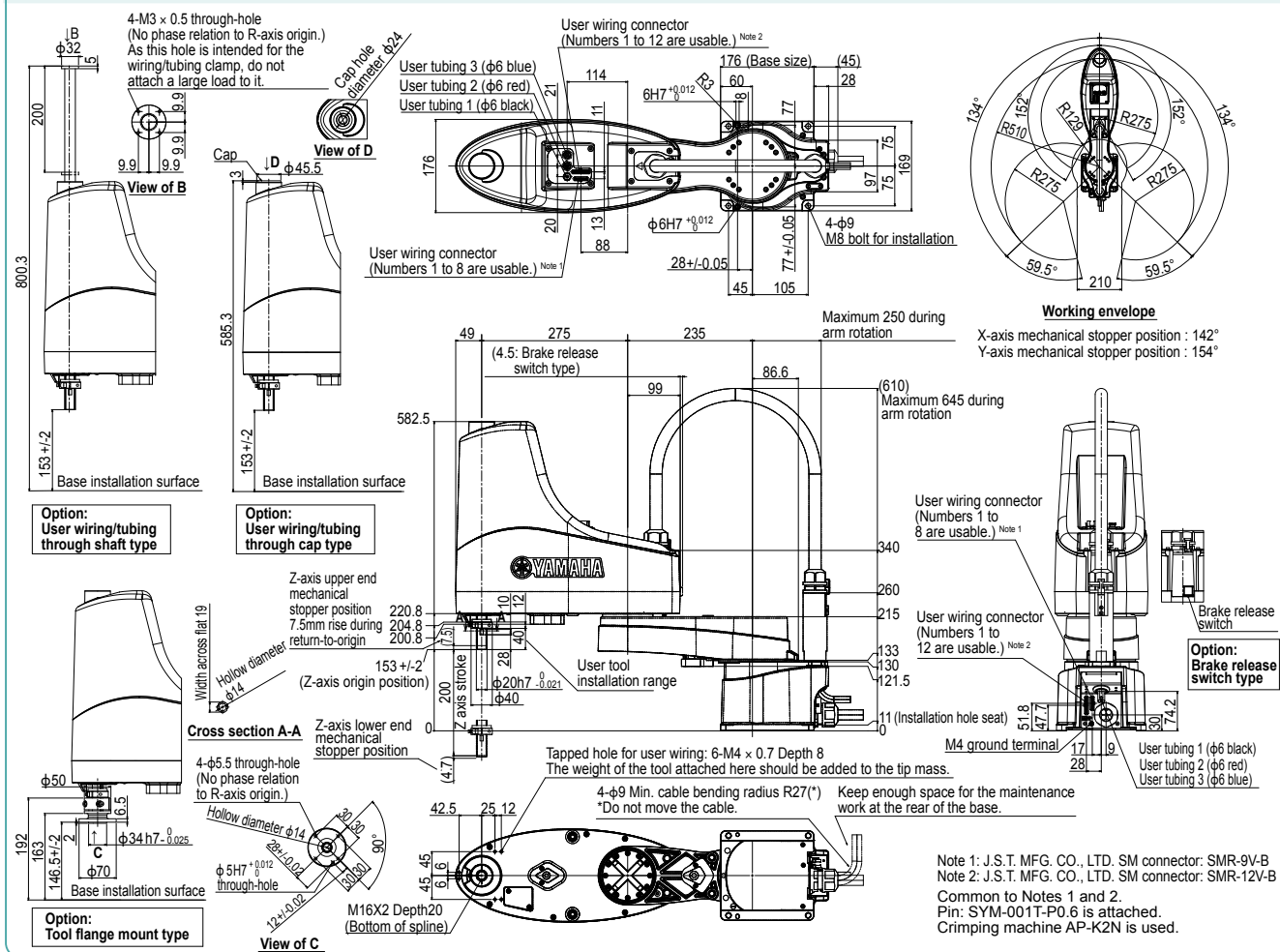
Controller

Controller	Power capacity (VA)	Operation method
RCX340	1700	Programming / I/O point trace / Remote command / Operation using RS-232C communication

Note. The movement range can be restricted by adding the X- and Y-axis mechanical stoppers. (The maximum movement range was set at shipment.)
 See our robot manuals (installation manuals) for detailed information.
 Note. To set the standard coordinates with high accuracy, use a standard coordinate setting jig (option). Refer to the user's manual (installation manual) for more details.

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<https://global.yamaha-motor.com/business/robot/>

YK510XE-10



YK600XGL

Standard type: Medium type



- Arm length 600mm
- Maximum payload 5kg

Ordering method

YK600XGL - 150

RCX340-4

Model	Z axis stroke	Tool flange	Hollow shaft	Cable	Controller / Number of controllable axes	Safety standard	Option A (OP.A)	Option B (OP.B)	Option C (OP.C)	Option D (OP.D)	Option E (OP.E)	Absolute battery
	150: 150mm	No entry: None F: With tool flange	No entry: None S: With hollow shaft	3L: 3.5m 5L: 5m 10L: 10m								

Specify various controller setting items. RCX340 ▶ **P.678**

Specifications

Axis specifications	Arm length	X-axis	Y-axis	Z-axis	R-axis
Rotation angle		350 mm	250 mm	150 mm	-
AC servo motor output		+/-140 °	+/-144 °	-	+/-360 °
Deceleration mechanism	Transmission method	200 W	150 W	50 W	100 W
	Motor to speed reducer	Direct-coupled			
	Speed reducer to output	Direct-coupled			
Repeatability	Note 1	+/-0.01 mm		+/-0.01 mm	+/-0.004 °
Maximum speed		4.9 m/sec		1.1 m/sec	1020 °/sec
Maximum payload		5 kg (Standard specification), 4 kg (Option specifications Note 4)			
Standard cycle time: with 2kg payload	Note 2	0.54 sec			
R-axis tolerable moment of inertia	Note 3	0.05 kgm ² (0.5 kgfcm ²)			
User wiring		0.2 sq × 10 wires			
User tubing (Outer diameter)		φ 4 × 3			
Travel limit		1.Soft limit 2.Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 3.5 m Option: 5 m, 10 m			
Weight		22 kg			

Note 1. This is the value at a constant ambient temperature. (X,Y axes)
 Note 2. When reciprocating 300mm in horizontal and 25mm in vertical directions.
 Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia settings.
 Note 4. Maximum payload of option specifications (with tool flange attached or with user wiring and tubing routed through spline shaft) is 4kg.

Controller

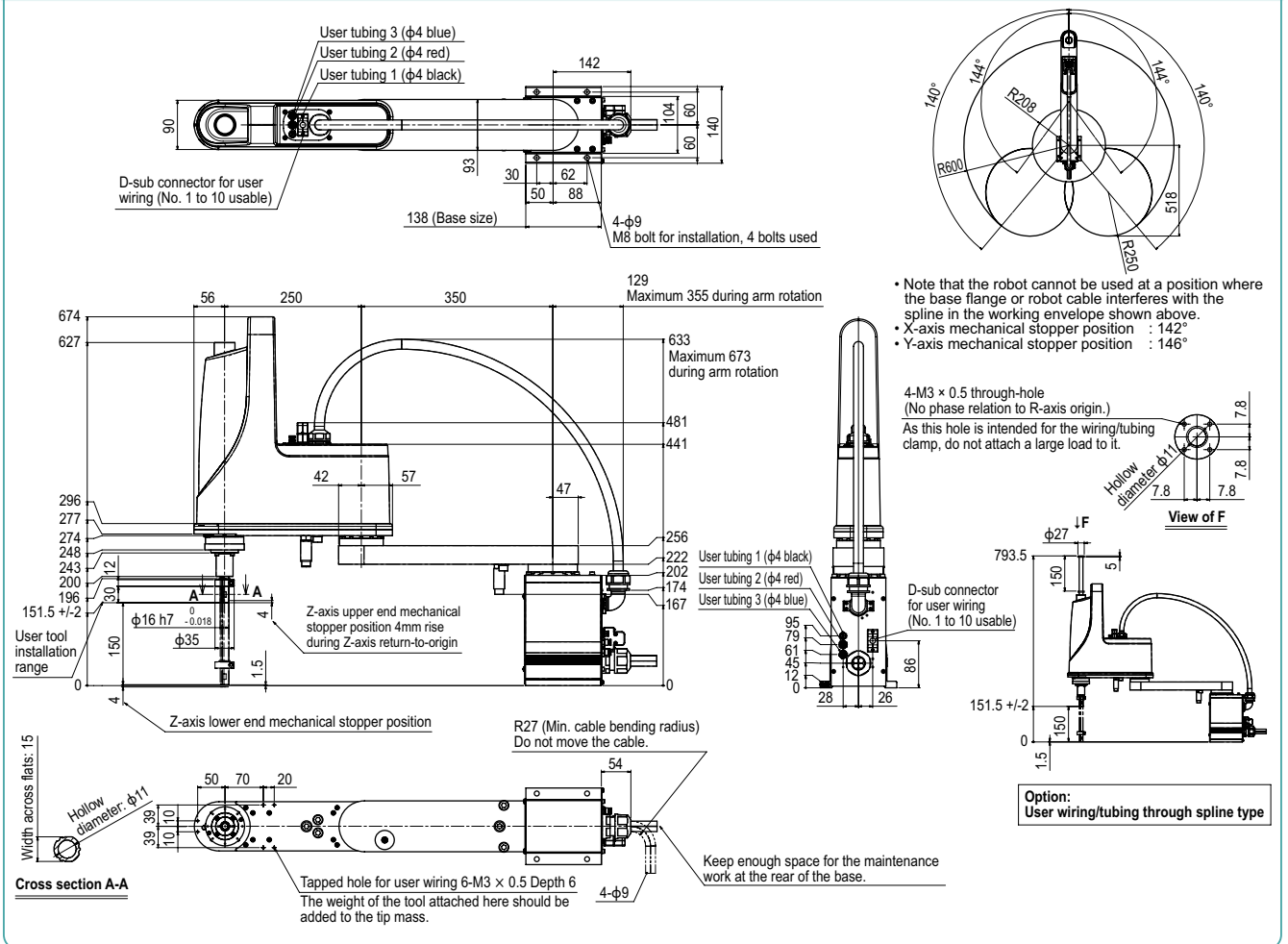
Controller	Power capacity (VA)	Operation method
RCX340	1000	Programming / I/O point trace / Remote command / Operation using RS-232C communication

Note. The movement range can be limited by changing the positions of X and Y axis mechanical stoppers. (The movement range is set to the maximum at the time of shipment.)
 See our robot manuals (installation manuals) for detailed information.

Note. To set the standard coordinates with high accuracy, use a standard coordinate setting jig (option). Refer to the user's manual (installation manual) for more details.

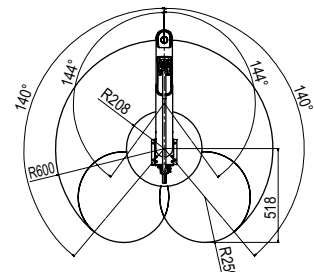
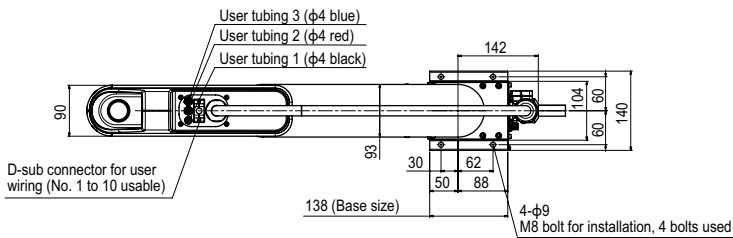
Our robot manuals (installation manuals) can be downloaded from our website at the address below:
<https://global.yamaha-motor.com/business/robot/>

YK600XGL

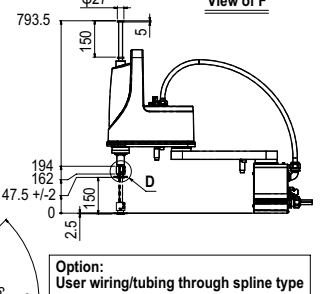
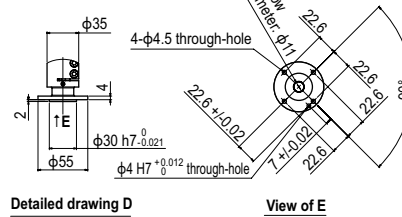
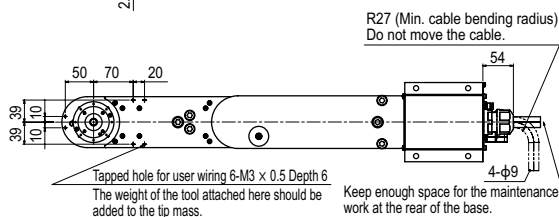
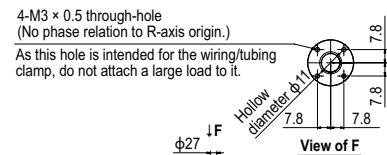
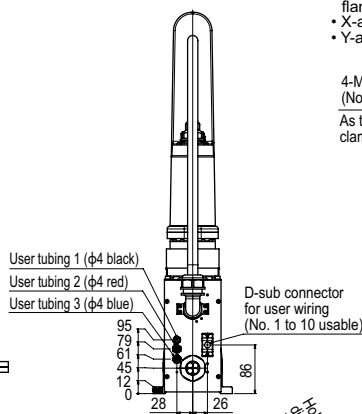
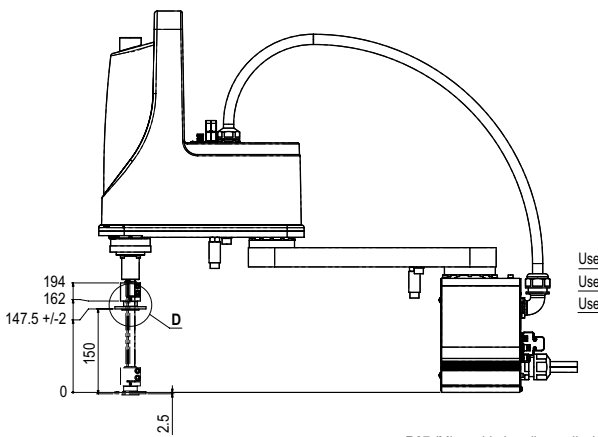


YA	Articulated robots
LCM	Linear conveyor modules
CX	Single-axis robots
Robonity	Motor-less single axis actuator
TRANSERO	Compact single-axis robots
FLIP-X	Single-axis robots
PHASER	Linear motor single-axis robots
XY-X	Cartesian robots
YK-X	SCARA robots
YP-X	Pick & place robots
CLEAN	CLEAN
CONTROLLER	CONTROLLER
INFORMATION	INFORMATION
Orbit/Extra small type	Orbit/Extra small type
Medium type	Medium type
Large type	Large type
Wall mount/Inverse type	Wall mount/Inverse type
Dust-proof & drip-proof type	Dust-proof & drip-proof type

YK600XGL Tool flange mount type



- Note that the robot cannot be used at a position where the base flange or robot cable interferes with the tool flange in the working envelope shown above.
- X-axis mechanical stopper position : 142°
- Y-axis mechanical stopper position : 146°



YK600XG

Standard type: Medium type



- Arm length 600mm
- Maximum payload 10kg

Ordering method

YK600XG				RCX340-4							
Model	Z axis stroke 200: 200mm 300: 300mm	Tool flange No entry: None F: With tool flange	Cable 3L: 3.5m 5L: 5m 10L: 10m	Controller / Number of controllable axes	Safety standard	Option A (OP.A)	Option B (OP.B)	Option C (OP.C)	Option D (OP.D)	Option E (OP.E)	Absolute battery

Specify various controller setting items. RCX340 ▶ **P.678**

Specifications

		X-axis	Y-axis	Z-axis	R-axis
Axis specifications	Arm length	300 mm	300 mm	200 mm	300 mm
	Rotation angle	+/-130 °	+/-145 °	-	+/-360 °
AC servo motor output		400 W	200 W	200 W	200 W
Deceleration mechanism	Transmission method	Direct-coupled			
	Motor to speed reducer Speed reducer to output	Direct-coupled			
Repeatability ^{Note 1}		+/-0.01 mm	+/-0.01 mm	+/-0.004 °	
Maximum speed		8.4 m/sec	2.3 m/sec	1.7 m/sec	1700 °/sec
Maximum payload		10 kg (Standard type), 9 kg (Tool flange mount type)			
Standard cycle time: with 2kg payload ^{Note 2}		0.43 sec			
R-axis tolerable moment of inertia ^{Note 3}		0.30 kgm ²			
User wiring		0.2 sq × 20 wires			
User tubing (Outer diameter)		φ 6 × 3			
Travel limit		1.Soft limit 2.Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 3.5 m Option: 5 m, 10 m			
Weight		31 kg			

Note 1. This is the value at a constant ambient temperature. (X,Y axes)
 Note 2. When reciprocating 300mm in horizontal and 25mm in vertical directions.
 Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia settings.

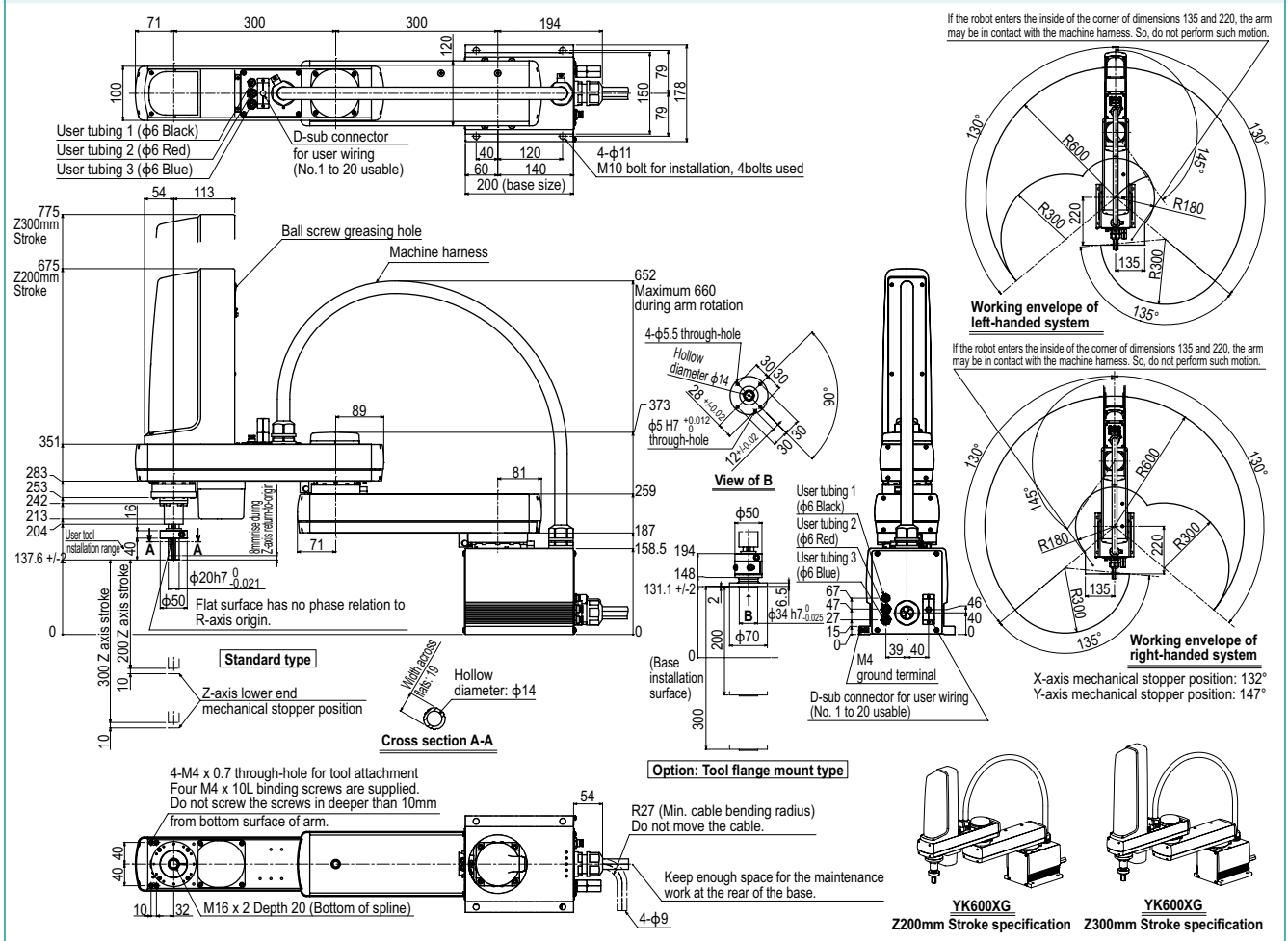
Controller

Controller	Power capacity (VA)	Operation method
RCX340	1700	Programming / I/O point trace / Remote command / Operation using RS-232C communication

Note. The movement range can be limited by changing the positions of X and Y axis mechanical stoppers. (The movement range is set to the maximum at the time of shipment.)
 See our robot manuals (installation manuals) for detailed information.
 Note. To set the standard coordinates with high accuracy, use a standard coordinate setting jig (option). Refer to the user's manual (installation manual) for more details.

Our robot manuals (installation manuals) can be downloaded from our website at the address below:
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YK600XG



YK610XE-10

Standard type: Medium type

● LOW COST HIGH PERFORMANCE MODEL



- Arm length 610mm
- Maximum payload 10kg

Ordering method

YK610XE-10-200

Model	Maximum payload	Z axis stroke	Tool flange	Hollow shaft/cap <small>Note</small>	Brake release switch	Cable	Controller / Number of controllable axes	Safety standard	Option A to E (OP.A to E)	Absolute battery
			No entry: None F: With tool flange	No entry: None S: With hollow shaft C: With hollow cap	No entry: None BS: With brake release switch	3L: 3.5m 5L: 5m 10L: 10m	RCX340-4			

Specify various controller setting items.
RCX340 ▶ **P.678**

Note. The return-to-origin method is provided only in the sensor specifications, but not in the stroke end specifications.

Specifications

		X-axis	Y-axis	Z-axis	R-axis
Axis specifications	Arm length	335 mm	275 mm	200 mm	-
	Rotation angle	+/-134 °	+/-152 °	-	+/-360 °
AC servo motor output		400 W	200 W	200 W	200 W
Deceleration mechanism	Transmission method	Direct-coupled		Timing belt	
	Motor to speed reducer	Direct-coupled		Timing belt	
Speed reducer to output		Direct-coupled		Timing belt	
		Direct-coupled		Timing belt	
Repeatability <small>Note 1</small>		+/-0.01 mm	+/-0.01 mm	+/-0.01 °	
Maximum speed		8.6 m/sec	2 m/sec	2600 °/sec	
Maximum payload		10 kg (Standard specification, Option specifications <small>Note 4</small>), 9 kg (Option specifications <small>Note 5</small>)			
Standard cycle time: with 2kg payload <small>Note 2</small>		0.39 sec			
R-axis tolerable moment of inertia <small>Note 3</small>		0.3 kgm ²			
User wiring		0.2 sq × 20 wires			
User tubing (Outer diameter)		φ 6 × 3			
Travel limit		1.Soft limit 2.Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 3.5 m Option: 5 m, 10 m			
Weight		25 kg			

Note 1. This is the value at a constant ambient temperature. (X,Y axes)
 Note 2. When reciprocating 300mm in horizontal and 25mm in vertical directions and performing the coarse positioning arch operation.
 Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and offset amount for R-axis moment of inertia settings.
 Note 4. Maximum payload of the standard or option specifications (brake release switch type, user wiring/tubing through cap type) is 10 kg.
 Note 5. Maximum payload of the option specifications (tool flange mount type, user wiring/tubing through shaft type) is 9 kg.

Controller

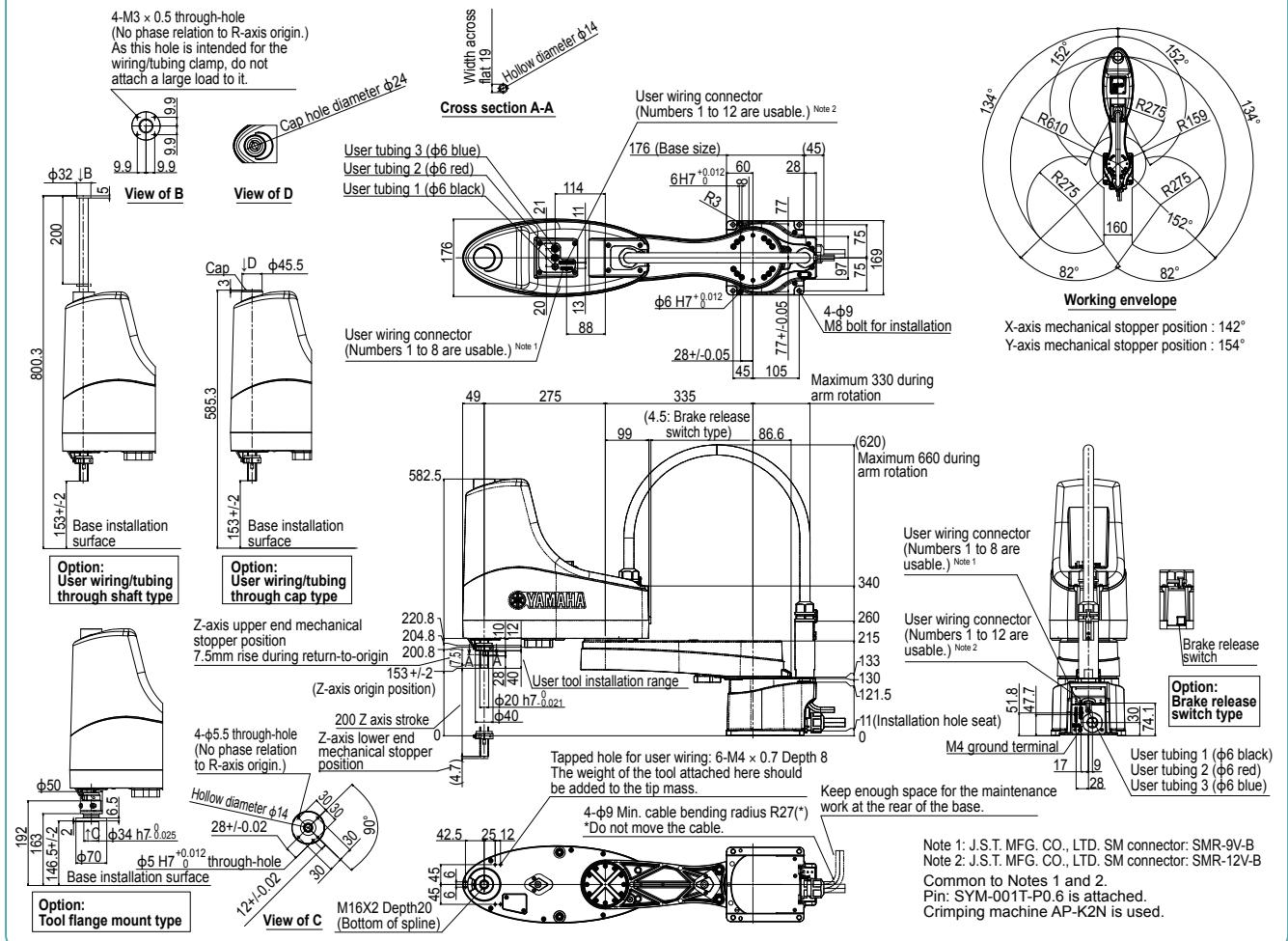
Controller	Power capacity (VA)	Operation method
RCX340	1700	Programming / I/O point trace / Remote command / Operation using RS-232C communication

Note. The movement range can be restricted by adding the X- and Y-axis mechanical stoppers. (The maximum movement range was set at shipment.)
 See our robot manuals (installation manuals) for detailed information.

Note. To set the standard coordinates with high accuracy, use a standard coordinate setting jig (option). Refer to the user's manual (installation manual) for more details.

Our robot manuals (installation manuals) can be downloaded from our website at the address below:
<https://global.yamaha-motor.com/business/robot/>

YK610XE-10



YK600XGH

Standard type: Medium type



- Arm length 600mm
- Maximum payload 20kg

Ordering method

YK600XGH				RCX340-4							
Model	Z axis stroke 200: 200mm 400: 400mm	Tool flange No entry: None F: With tool flange	Cable 3L: 3.5m 5L: 5m 10L: 10m	Controller / Number of controllable axes	Safety standard	Option A (OP.A)	Option B (OP.B)	Option C (OP.C)	Option D (OP.D)	Option E (OP.E)	Absolute battery

Specify various controller setting items. RCX340 ▶ **P.678**

Specifications

		X-axis	Y-axis	Z-axis	R-axis
Axis specifications	Arm length	200 mm	400 mm	200 mm / 400 mm	—
	Rotation angle	+/-130 °	+/-150 °	—	+/-360 °
AC servo motor output		750 W	400 W	400 W	200 W
Deceleration mechanism	Transmission method	Direct-coupled			
	Motor to speed reducer Speed reducer to output	Direct-coupled			
Repeatability <small>Note 1</small>		+/-0.02 mm	+/-0.01 mm	+/-0.004 °	
Maximum speed		7.7 m/sec	2.3 m/sec	1.7 m/sec	920 °/sec
Maximum payload		20 kg (Standard type), 19 kg (Tool flange mount type)			
Standard cycle time: with 2kg payload <small>Note 2</small>		0.47 sec			
R-axis tolerable moment of inertia <small>Note 3</small>		1.0 kgm ²			
User wiring		0.2 sq × 20 wires			
User tubing (Outer diameter)		φ 6 × 3			
Travel limit		1. Soft limit 2. Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 3.5 m Option: 5 m, 10 m			
Weight		Z axis 200 mm: 48 kg Z axis 400 mm: 50 kg			

Note 1. This is the value at a constant ambient temperature. (X,Y axes)
 Note 2. When reciprocating 300mm in horizontal and 25mm in vertical directions.
 Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia settings.
 Note. Please consult YAMAHA when connecting other tubes and cables to the self-supporting machine harness.

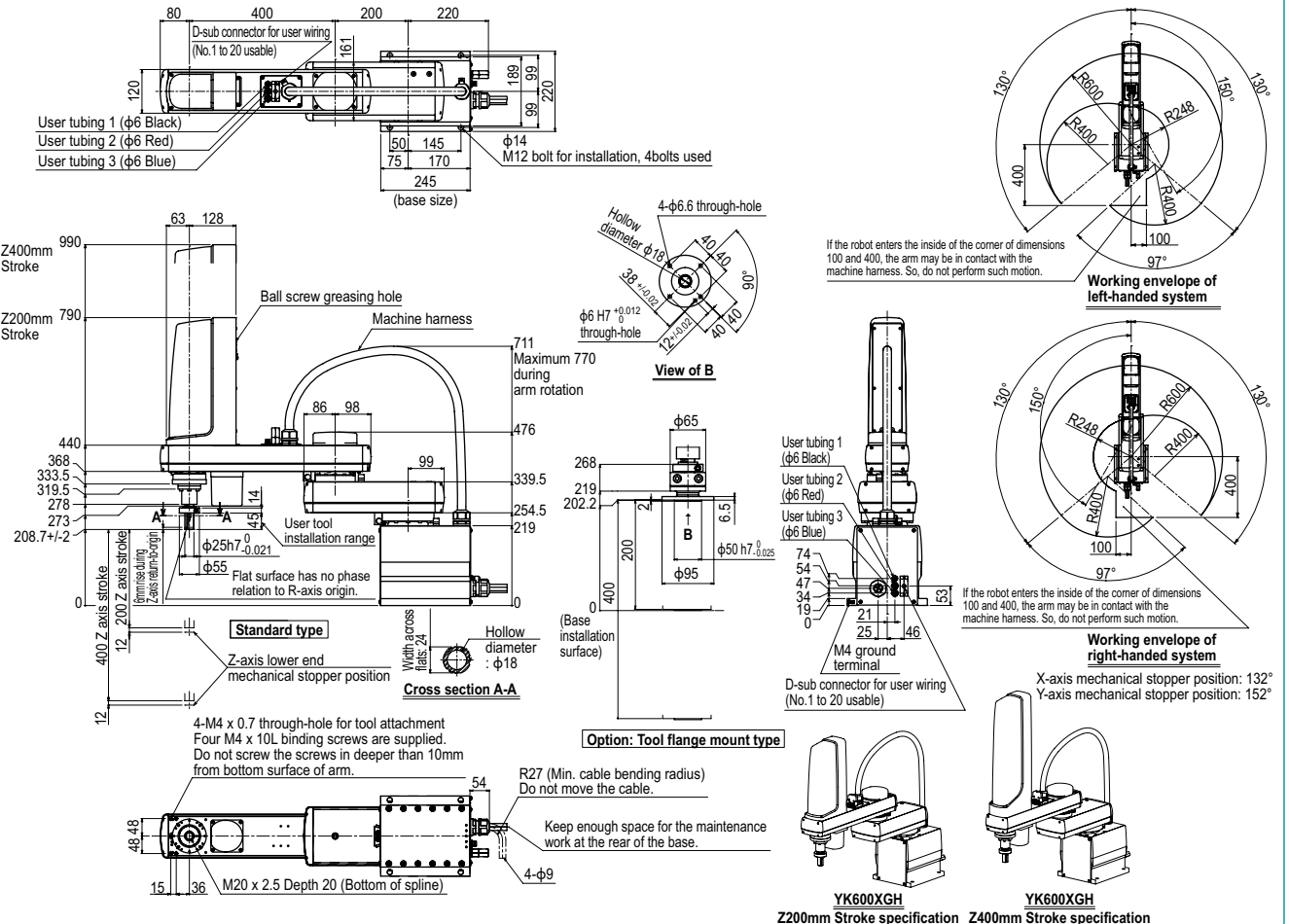
Controller

Controller	Power capacity (VA)	Operation method
RCX340	2500	Programming / I/O point trace / Remote command / Operation using RS-232C communication

Note. The movement range can be limited by changing the positions of X and Y axis mechanical stoppers. (The movement range is set to the maximum at the time of shipment.)
 See our robot manuals (installation manuals) for detailed information.
 Note. To set the standard coordinates with high accuracy, use a standard coordinate setting jig (option). Refer to the user's manual (installation manual) for more details.

Our robot manuals (installation manuals) can be downloaded from our website at the address below:
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YK600XGH



YK700XGL

Standard type: Large type

- Arm length 700mm
- Maximum payload 10kg

Note. This model is a special order product. Please consult us for delivery time.

Ordering method

YK700XGL **RCX340-4**

Model	Z axis stroke	Tool flange	Cable	Controller / Number of controllable axes	Safety standard	Option A (OP.A)	Option B (OP.B)	Option C (OP.C)	Option D (OP.D)	Option E (OP.E)	Absolute battery
	200: 200mm 300: 300mm	No entry: None F: With tool flange	3L: 3.5m 5L: 5m 10L: 10m								

Specify various controller setting items. RCX340 ▶ **P.678**

Specifications

		X-axis	Y-axis	Z-axis	R-axis
Axis specifications	Arm length	400 mm	300 mm	200 mm 300 mm	-
	Rotation angle	+/-130 °	+/-145 °	-	+/-360 °
AC servo motor output		400 W	200 W	200 W	200 W
Deceleration mechanism	Transmission method	Direct-coupled			
	Motor to speed reducer Speed reducer to output	Direct-coupled			
Repeatability ^{Note 1}		+/-0.01 mm		+/-0.01 mm	+/-0.005 °
Maximum speed		9.2 m/sec		2.3 m/sec 1.7 m/sec	1700 °/sec
Maximum payload		10 kg (Standard type), 9 kg (Tool flange mount type)			
Standard cycle time: with 2kg payload ^{Note 2}		0.50 sec			
R-axis tolerable moment of inertia ^{Note 3}		0.30 kgm ²			
User wiring		0.2 sq × 20 wires			
User tubing (Outer diameter)		φ6 × 3			
Travel limit		1.Soft limit 2.Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 3.5 m Option: 5, 10 m			
Weight		32 kg			

Note 1. This is the value at a constant ambient temperature. (X,Y axes)

Note 2. When reciprocating 300mm in horizontal and 25mm in vertical directions.

Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia settings.

Controller

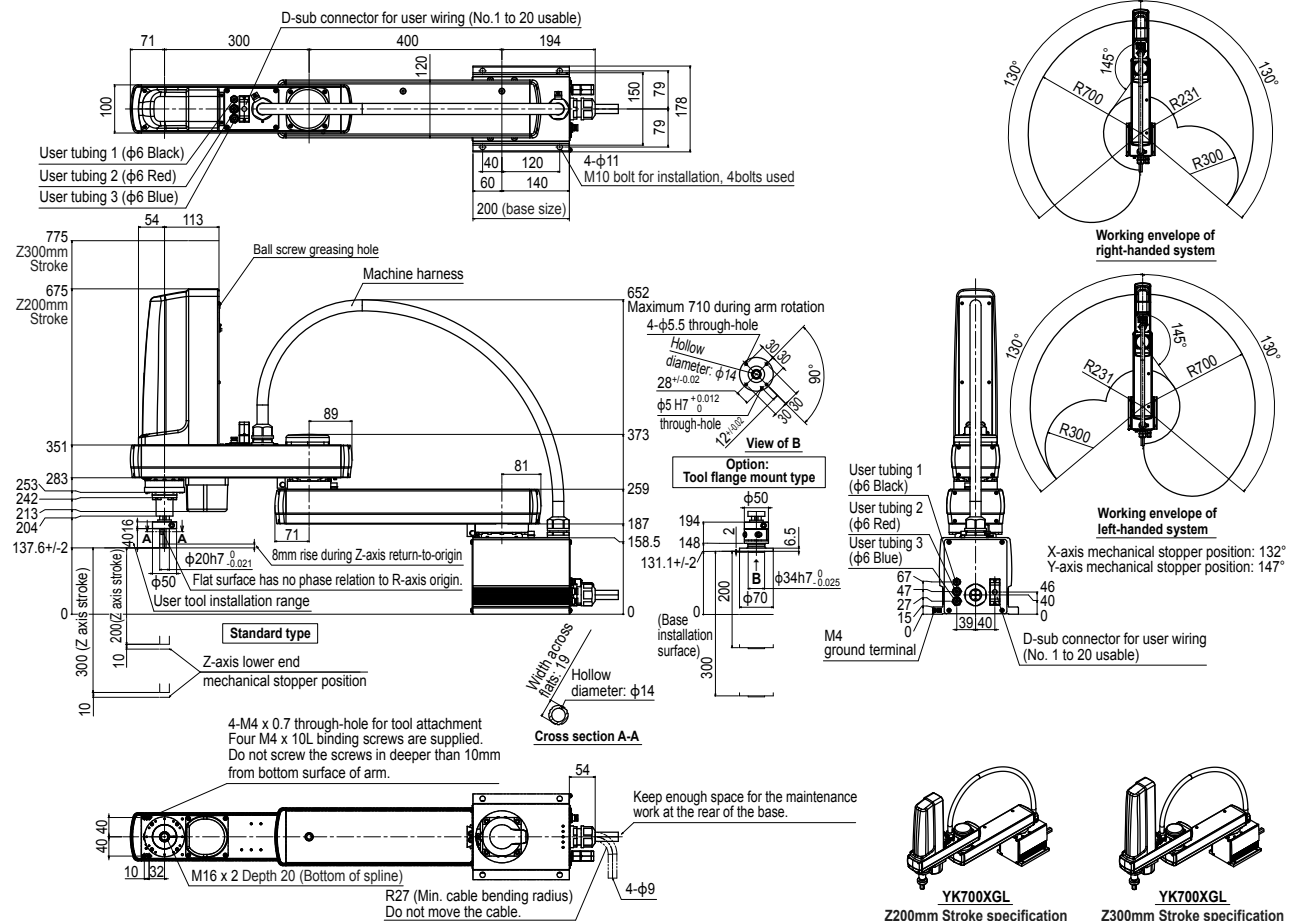
Controller	Power capacity (VA)	Operation method
RCX340	1700	Programming / I/O point trace / Remote command / Operation using RS-232C communication

Note. The movement range can be limited by changing the positions of X and Y axis mechanical stoppers. (The movement range is set to the maximum at the time of shipment.) See our robot manuals (installation manuals) for detailed information.

Note. To set the standard coordinates with high accuracy, use a standard coordinate setting jig (option). Refer to the user's manual (installation manual) for more details.

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YK700XGL



YK710XE-10

Standard type: Large type

● LOW COST HIGH PERFORMANCE MODEL



● Arm length 710mm ● Maximum payload 10kg

Ordering method

YK710XE-10-200

RCX340-4

Model	Maximum payload	Z axis stroke	Tool flange	Hollow shaft/cap ^{Note}	Brake release switch	Cable	Controller / Number of controllable axes	Safety standard	Option A to E (OP.A to E)	Absolute battery
			No entry: None F: With tool flange	No entry: None S: With hollow shaft C: With hollow cap	No entry: None BS: With brake release switch	3L: 3.5m 5L: 5m 10L: 10m				

Specify various controller setting items.
RCX340 ▶ **P.678**

Note. The return-to-origin method is provided only in the sensor specifications, but not in the stroke end specifications.

Specifications

		X-axis	Y-axis	Z-axis	R-axis
Axis specifications	Arm length	435 mm	275 mm	200 mm	-
	Rotation angle	+/-134 °	+/-152 °	-	+/-360 °
AC servo motor output		400 W	200 W	200 W	200 W
Deceleration mechanism	Transmission method	Direct-coupled		Timing belt	
	Motor to speed reducer	Direct-coupled		Timing belt	
	Speed reducer to output	Direct-coupled		Timing belt	
Repeatability ^{Note 1}		+/-0.02 mm		+/-0.01 mm	+/-0.01 °
Maximum speed		9.5 m/sec		2 m/sec	2600 °/sec
Maximum payload		10 kg (Standard specification, Option specifications ^{Note 4}), 9 kg (Option specifications ^{Note 5})			
Standard cycle time: with 2kg payload ^{Note 2}		0.42 sec			
R-axis tolerable moment of inertia ^{Note 3}		0.3 kgm ²			
User wiring		0.2 sq x 20 wires			
User tubing (Outer diameter)		φ 6 x 3			
Travel limit		1.Soft limit 2.Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 3.5 m Option: 5 m, 10 m			
Weight		26 kg			

Note 1. This is the value at a constant ambient temperature. (X,Y axes)
 Note 2. When reciprocating 300mm in horizontal and 25mm in vertical directions and performing the coarse positioning arch operation.
 Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and offset amount for R-axis moment of inertia settings.
 Note 4. Maximum payload of the standard or option specifications (brake release switch type, user wiring/tubing through cap type) is 10 kg.
 Note 5. Maximum payload of the option specifications (tool flange mount type, user wiring/tubing through shaft type) is 9 kg.

Controller

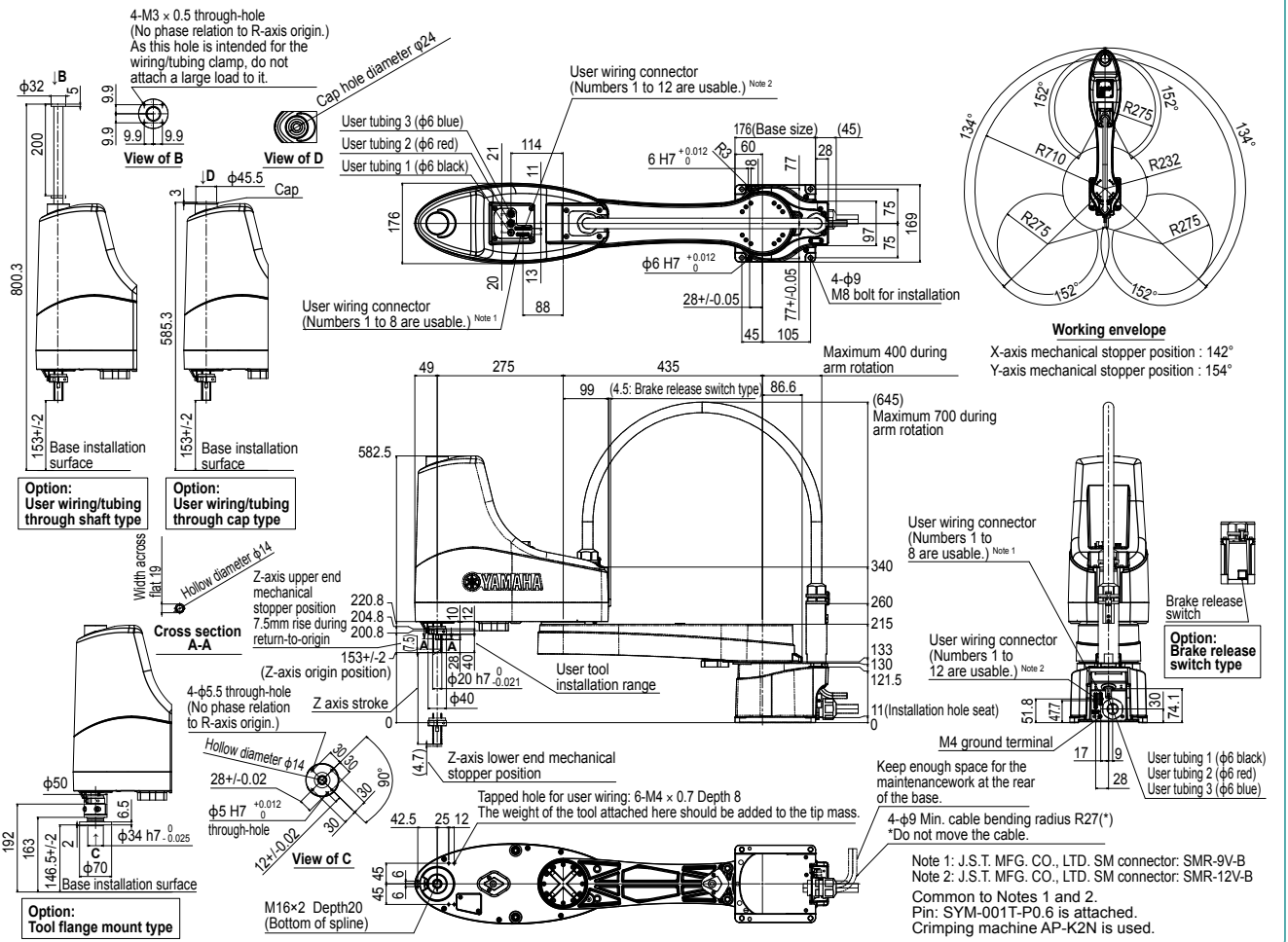
Controller	Power capacity (VA)	Operation method
RCX340	1700	Programming / I/O point trace / Remote command / Operation using RS-232C communication

Note. The movement range can be limited by changing the positions of X and Y axis mechanical stoppers. (The movement range is set to the maximum at the time of shipment.)
 See our robot manuals (installation manuals) for detailed information.

Note. To set the standard coordinates with high accuracy, use a standard coordinate setting jig (option). Refer to the user's manual (installation manual) for more details.

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<https://global.yamaha-motor.com/business/robot/>

YK710XE-10



YK700XG

Standard type: Large type



- Arm length 700mm
- Maximum payload 20kg

Ordering method

YK700XG				RCX340-4								
Model	Z axis stroke 200: 200mm 400: 400mm	Tool flange No entry: None F: With tool flange	Cable 3L: 3.5m 5L: 5m 10L: 10m	Controller / Number of controllable axes	Safety standard	Option A (OP.A)	Option B (OP.B)	Option C (OP.C)	Option D (OP.D)	Option E (OP.E)	Absolute battery	

Specify various controller setting items. RCX340 ▶ **P.678**

Specifications

		X-axis	Y-axis	Z-axis	R-axis
Axis specifications	Arm length	300 mm	400 mm	200 mm	400 mm
	Rotation angle	+/-130 °	+/-150 °	-	+/-360 °
AC servo motor output		750 W	400 W	400 W	200 W
Deceleration mechanism	Transmission method	Direct-coupled			
	Motor to speed reducer Speed reducer to output	Direct-coupled			
Repeatability ^{Note 1}		+/-0.02 mm	+/-0.01 mm	+/-0.004 °	
Maximum speed		8.4 m/sec	2.3 m/sec	1.7 m/sec	920 °/sec
Maximum payload		20 kg (Standard type), 19 kg (Tool flange mount type)			
Standard cycle time: with 2kg payload ^{Note 2}		0.42 sec			
R-axis tolerable moment of inertia ^{Note 3}		1.0 kgm ²			
User wiring		0.2 sq x 20 wires			
User tubing (Outer diameter)		φ 6 x 3			
Travel limit		1.Soft limit 2.Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 3.5 m Option: 5 m, 10 m			
Weight		Z axis 200 mm: 50 kg Z axis 400 mm: 52 kg			

Note 1. This is the value at a constant ambient temperature. (X,Y axes)
 Note 2. When reciprocating 300mm in horizontal and 25mm in vertical directions.
 Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia settings.
 Note. Please consult YAMAHA when connecting other tubes and cables to the self-supporting machine harness.

Controller

Controller	Power capacity (VA)	Operation method
RCX340	2500	Programming / I/O point trace / Remote command / Operation using RS-232C communication

Note. The movement range can be limited by changing the positions of X and Y axis mechanical stoppers. (The movement range is set to the maximum at the time of shipment.) See our robot manuals (installation manuals) for detailed information.

Note. To set the standard coordinates with high accuracy, use a standard coordinate setting jig (option). Refer to the user's manual (installation manual) for more details.

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YK700XG

Working envelope of left-handed system

Working envelope of right-handed system

Option: Tool flange mount type

YK700XG Z200mm Stroke specification

YK700XG Z400mm Stroke specification

YK800XG

Standard type: Large type



- Arm length 800mm
- Maximum payload 20kg

Ordering method

YK800XG				RCX340-4								
Model	Z axis stroke 200: 200mm 400: 400mm	Tool flange No entry: None F: With tool flange	Cable 3L: 3.5m 5L: 5m 10L: 10m	Controller / Number of controllable axes	Safety standard	Option A (O.P.A)	Option B (O.P.B)	Option C (O.P.C)	Option D (O.P.D)	Option E (O.P.E)	Absolute battery	

Specify various controller setting items. RCX340 ▶ **P.678**

Specifications

		X-axis	Y-axis	Z-axis	R-axis
Axis specifications	Arm length	400 mm	400 mm	200 mm 400 mm	-
	Rotation angle	+/-130 °	+/-150 °	-	+/-360 °
AC servo motor output		750 W	400 W	400 W	200 W
Deceleration mechanism	Transmission method	Direct-coupled			
	Motor to speed reducer Speed reducer to output	Direct-coupled			
Repeatability ^{Note 1}		+/-0.02 mm	+/-0.01 mm	+/-0.004 °	
Maximum speed		9.2 m/sec	2.3 m/sec	1.7 m/sec	920 °/sec
Maximum payload		20 kg (Standard type), 19 kg (Tool flange mount type)			
Standard cycle time: with 2kg payload ^{Note 2}		0.48 sec			
R-axis tolerable moment of inertia ^{Note 3}		1.0 kgm ²			
User wiring		0.2 sq x 20 wires			
User tubing (Outer diameter)		φ 6 x 3			
Travel limit		1.Soft limit 2.Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 3.5 m Option: 5 m, 10 m			
Weight		Z axis 200 mm: 52 kg Z axis 400 mm: 54 kg			

Note 1. This is the value at a constant ambient temperature. (X,Y axes)
 Note 2. When reciprocating 300mm in horizontal and 25mm in vertical directions.
 Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia settings.
 Note. Please consult YAMAHA when connecting other tubes and cables to the self-supporting machine harness.

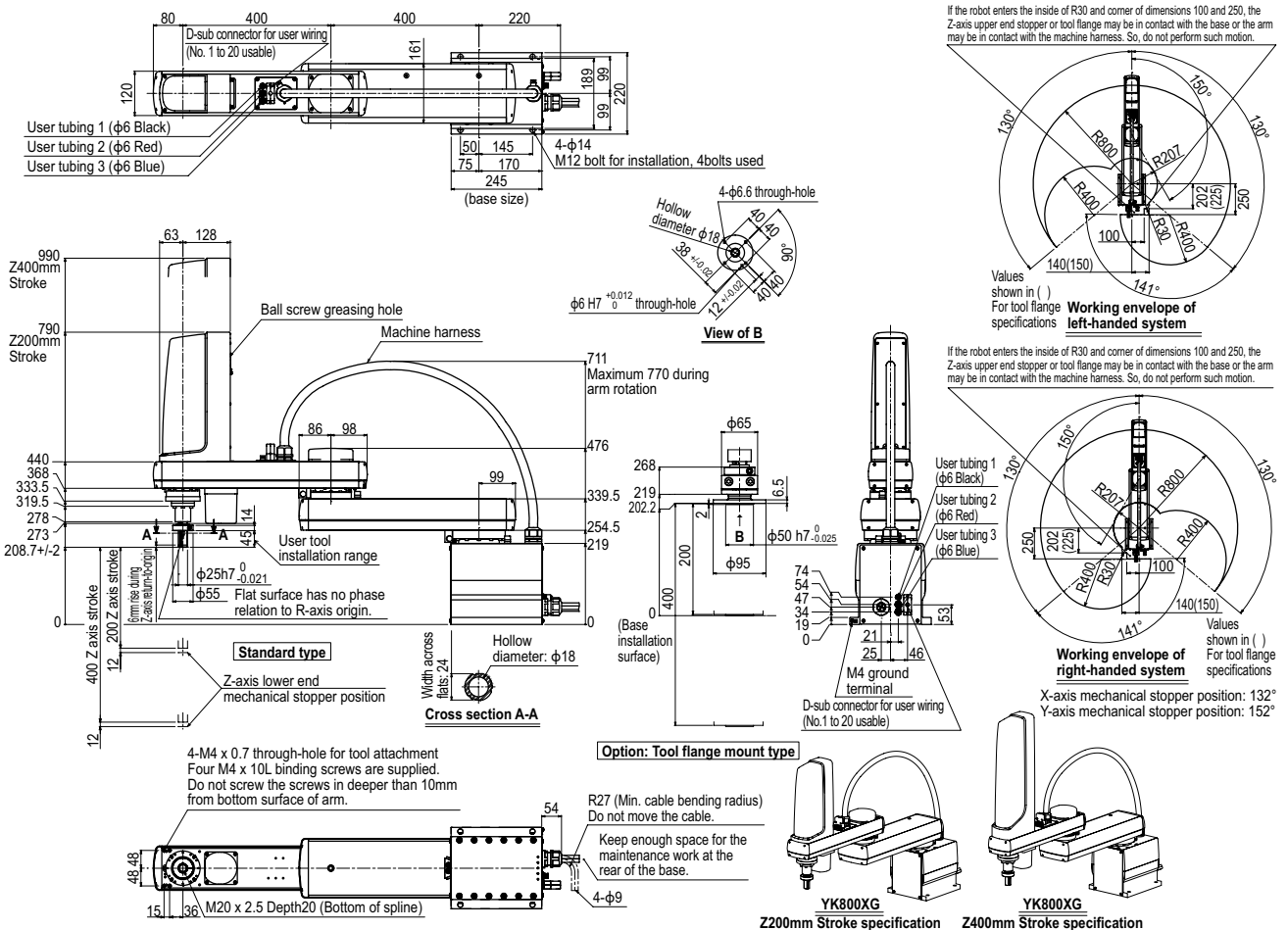
Controller

Controller	Power capacity (VA)	Operation method
RCX340	2500	Programming / I/O point trace / Remote command / Operation using RS-232C communication

Note. The movement range can be limited by changing the positions of X and Y axis mechanical stoppers. (The movement range is set to the maximum at the time of shipment.)
 See our robot manuals (installation manuals) for detailed information.
 Note. To set the standard coordinates with high accuracy, use a standard coordinate setting jig (option). Refer to the user's manual (installation manual) for more details.

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YK800XG



YK900XG

Standard type: Large type

- Arm length 900mm
- Maximum payload 20kg



Ordering method

YK900XG				RCX340-4								
Model	Z axis stroke 200: 200mm 400: 400mm	Tool flange No entry: None F: With tool flange	Cable 3L: 3.5m 5L: 5m 10L: 10m	Controller / Number of controllable axes	Safety standard	Option A (OP.A)	Option B (OP.B)	Option C (OP.C)	Option D (OP.D)	Option E (OP.E)	Absolute battery	

Specify various controller setting items. RCX340 ▶ **P.678**

Specifications

		X-axis	Y-axis	Z-axis	R-axis
Axis specifications	Arm length	500 mm	400 mm	200 mm	400 mm
	Rotation angle	+/-130 °	+/-150 °	—	+/-360 °
AC servo motor output		750 W	400 W	400 W	200 W
Deceleration mechanism	Transmission method	Direct-coupled			
	Motor to speed reducer Speed reducer to output	Direct-coupled			
Repeatability ^{Note 1}		+/-0.02 mm	+/-0.01 mm	+/-0.004 °	
Maximum speed		9.9 m/sec	2.3 m/sec	1.7 m/sec	920 °/sec
Maximum payload		20 kg (Standard type), 19 kg (Tool flange mount type)			
Standard cycle time: with 2kg payload ^{Note 2}		0.49 sec			
R-axis tolerable moment of inertia ^{Note 3}		1.0 kgm ²			
User wiring		0.2 sq x 20 wires			
User tubing (Outer diameter)		φ 6 x 3			
Travel limit		1.Soft limit 2.Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 3.5 m Option: 5 m, 10 m			
Weight		Z axis 200 mm: 54 kg Z axis 400 mm: 56 kg			

Note 1. This is the value at a constant ambient temperature. (X,Y axes)
 Note 2. When reciprocating 300mm in horizontal and 25mm in vertical directions.
 Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia settings.
 Note. Please consult YAMAHA when connecting other tubes and cables to the self-supporting machine harness.

Controller

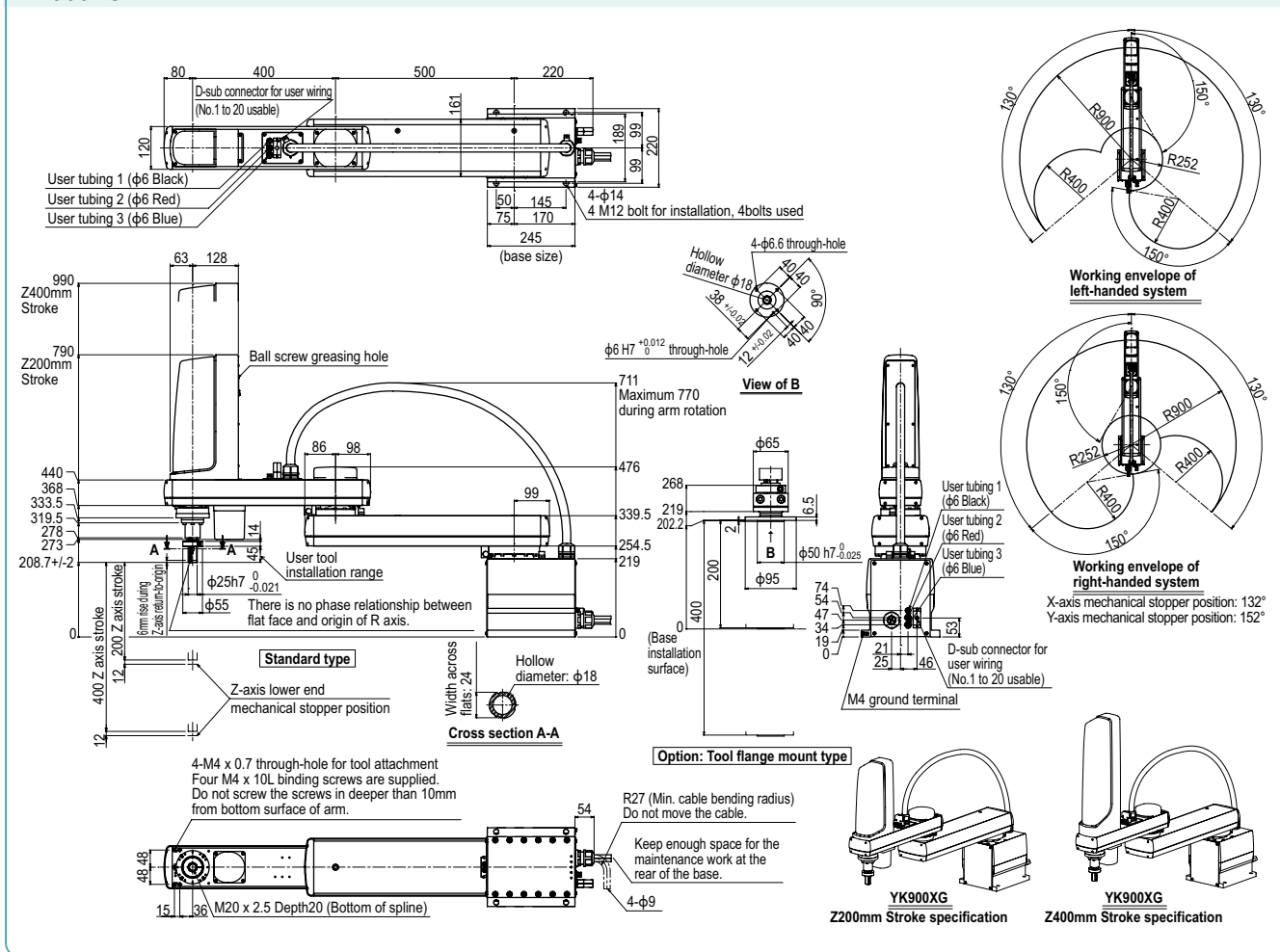
Controller	Power capacity (VA)	Operation method
RCX340	2500	Programming / I/O point trace / Remote command / Operation using RS-232C communication

Note. The movement range can be limited by changing the positions of X and Y axis mechanical stoppers. (The movement range is set to the maximum at the time of shipment.) See our robot manuals (installation manuals) for detailed information.

Note. To set the standard coordinates with high accuracy, use a standard coordinate setting jig (option). Refer to the user's manual (installation manual) for more details.

Our robot manuals (installation manuals) can be downloaded from our website at the address below:
<https://global.yamaha-motor.com/business/robot/>

YK900XG



YK1000XG

Standard type: Large type



- Arm length 1000mm
- Maximum payload 20kg

Ordering method

YK1000XG				RCX340-4								
Model	Z axis stroke 200: 200mm 400: 400mm	Tool flange No entry: None F: With tool flange	Cable 3L: 3.5m 5L: 5m 10L: 10m	Controller / Number of controllable axes	Safety standard	Option A (O.P.A)	Option B (O.P.B)	Option C (O.P.C)	Option D (O.P.D)	Option E (O.P.E)	Absolute battery	

Specify various axes controller setting items. RCX340 ▶ **P.678**

Specifications

		X-axis	Y-axis	Z-axis	R-axis
Axis specifications	Arm length	600 mm	400 mm	200 mm	400 mm
	Rotation angle	+/-130 °	+/-150 °	-	+/-360 °
AC servo motor output		750 W	400 W	400 W	200 W
Deceleration mechanism	Transmission method	Direct-coupled			
	Motor to speed reducer	Direct-coupled			
Speed reducer to output		Direct-coupled			
Repeatability <small>Note 1</small>		+/-0.02 mm	+/-0.01 mm	+/-0.004 °	
Maximum speed		10.6 m/sec	2.3 m/sec	1.7 m/sec	920 °/sec
Maximum payload		20 kg (Standard type), 19 kg (Tool flange mount type)			
Standard cycle time: with 2kg payload <small>Note 2</small>		0.49 sec			
R-axis tolerable moment of inertia <small>Note 3</small>		1.0 kgm ²			
User wiring		0.2 sq × 20 wires			
User tubing (Outer diameter)		φ 6 × 3			
Travel limit		1.Soft limit 2.Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 3.5 m Option: 5 m, 10 m			
Weight		Z axis 200 mm: 56 kg Z axis 400 mm: 58 kg			

Note 1. This is the value at a constant ambient temperature. (X,Y axes)
 Note 2. When reciprocating 300mm in horizontal and 25mm in vertical directions.
 Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia settings.
 Note. Please consult YAMAHA when connecting other tubes and cables to the self-supporting machine harness.

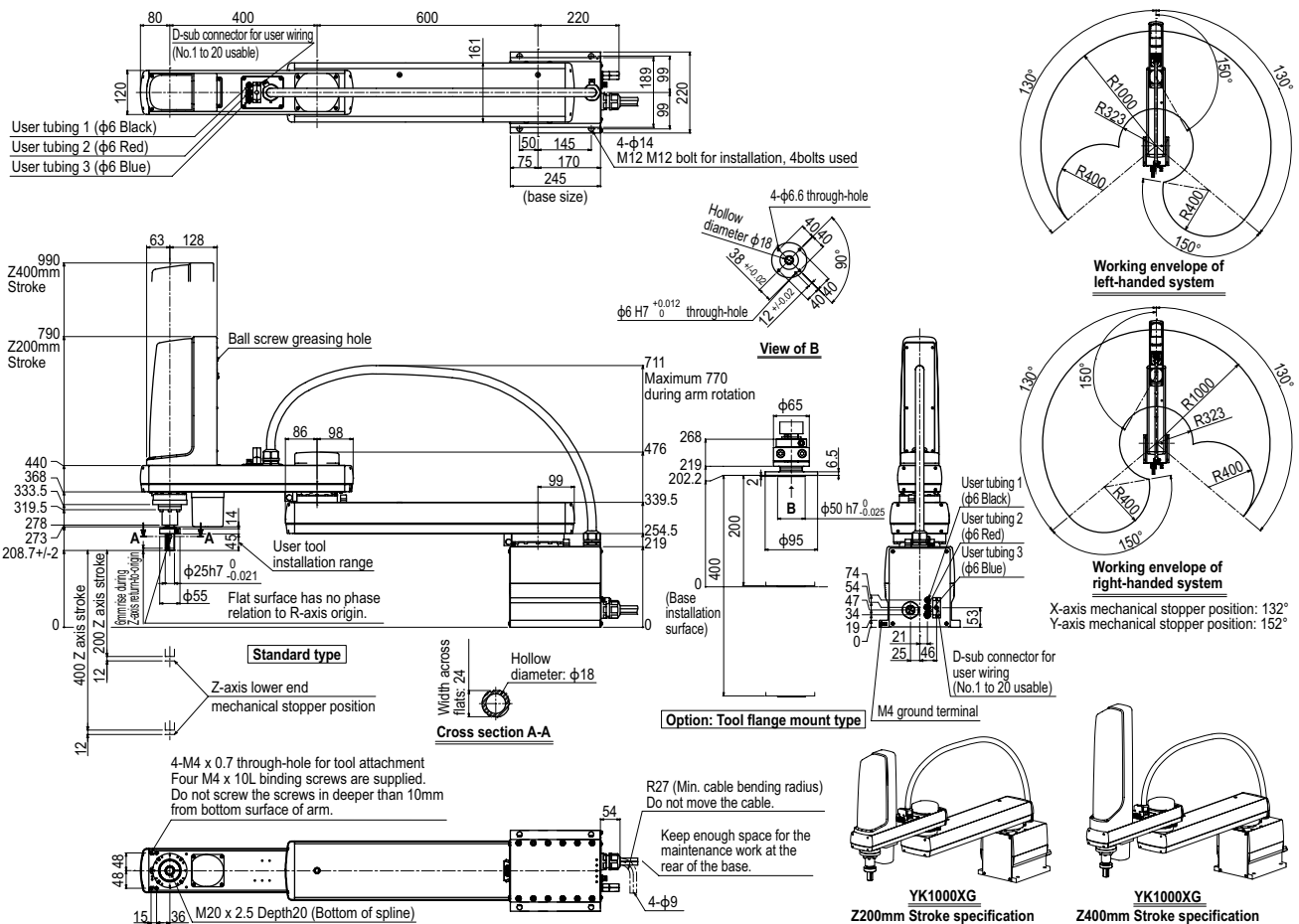
Controller

Controller	Power capacity (VA)	Operation method
RCX340	2500	Programming / I/O point trace / Remote command / Operation using RS-232C communication

Note. The movement range can be limited by changing the positions of X and Y axis mechanical stoppers. (The movement range is set to the maximum at the time of shipment.)
 See our robot manuals (installation manuals) for detailed information.
 Note. To set the standard coordinates with high accuracy, use a standard coordinate setting jig (option). Refer to the user's manual (installation manual) for more details.

Our robot manuals (installation manuals) can be downloaded from our website at the address below:
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YK1000XG



YK1200X

Standard type: Large type

- Arm length 1200mm
- Maximum payload 50kg



Ordering method

YK1200X - 400

RCX340-4

Model	Z axis stroke	Cable	Controller / Number of controllable axes	Safety standard	Option A (O.P.A)	Option B (O.P.B)	Option C (O.P.C)	Option D (O.P.D)	Option E (O.P.E)	Absolute battery
		3L: 3.5m 5L: 5m 10L: 10m								

Specify various controller setting items. RCX340 ▶ **P.678**

Specifications

		X-axis	Y-axis	Z-axis	R-axis
Axis specifications	Arm length	600 mm	600 mm	400 mm	-
	Rotation angle	+/-125 °	+/-150 °	-	+/-180 °
AC servo motor output		900 W	800 W	600 W	400 W
Deceleration mechanism	Transmission method	Direct-coupled		Timing belt transmission	Timing belt transmission
	Motor to speed reducer Speed reducer to output	Direct-coupled		Direct-coupled	Direct-coupled
Repeatability ^{Note 1}		+/-0.05 mm		+/-0.02 mm	+/-0.005 °
Maximum speed		7.4 m/sec		0.75 m/sec	600 °/sec
Maximum payload		50 kg			
Standard cycle time: with 2kg payload ^{Note 2}		0.91 sec			
R-axis tolerable moment of inertia ^{Note 3}		2.45 kgm ²			
User wiring		0.2 sq x 20 wires			
User tubing (Outer diameter)		φ 6 x 3			
Travel limit		1.Soft limit 2.Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 3.5 m Option: 5 m, 10 m			
Weight		124 kg			

Note 1. This is the value at a constant ambient temperature. (X,Y axes)

Note 2. When reciprocating 300mm in horizontal and 25mm in vertical directions.

Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia settings.

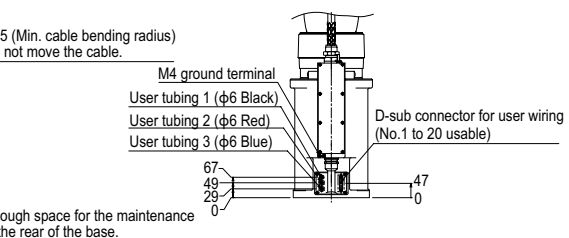
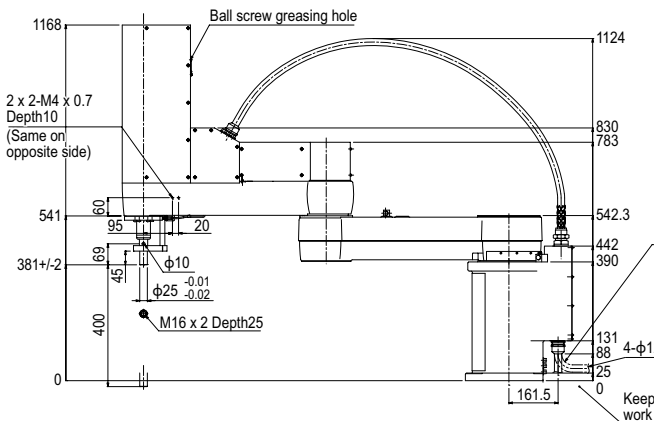
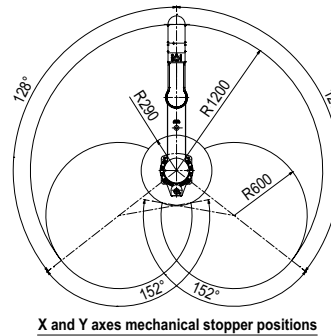
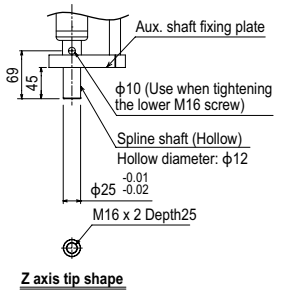
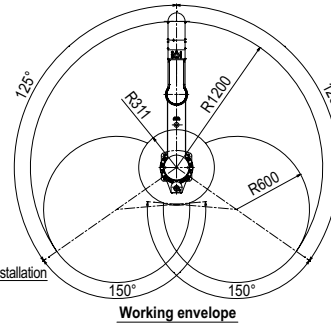
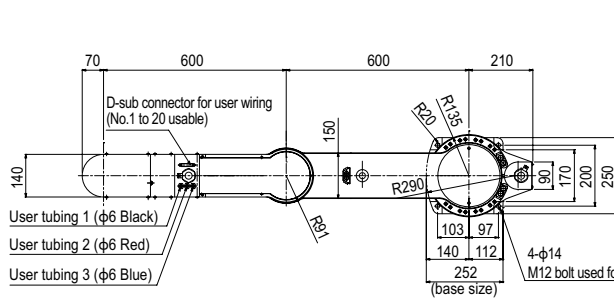
Controller

Controller	Power capacity (VA)	Operation method
RCX340	2500	Programming / I/O point trace / Remote command / Operation using RS-232C communication

Note. The movement range can be limited by changing the positions of X and Y axis mechanical stoppers. (The movement range is set to the maximum at the time of shipment.)
See our robot manuals (installation manuals) for detailed information.

Our robot manuals (installation manuals) can be downloaded from our website at the address below:
<https://global.yamaha-motor.com/business/robot/>

YK1200X



- Articulated robots YA
- Linear conveyor modules LCM
- Single-axis robots CX
- Motor-less single-axis actuator Robomity
- Compact single-axis robots TRANSEVO
- Single-axis robots FLIP-X
- Linear motor single-axis robots PHASER
- Cartesian robots XY-X
- SCARA robots YK-X
- Pick & place robots YP-X
- CLEAN CONTROLLER INFORMATION
- Ortho/Extra small type
- Small / Medium type
- Large type
- Wall mount / Inverse type
- Dust-proof & drip-proof type

YK300XGS

Wall mount / inverse type

● Arm length 300mm ● Maximum payload 5kg

Note. Built-to-order product. Contact us for the delivery period.

Ordering method

YK300XGS **150** **RCX340-4**

Model	Installation method ^{Note 1}	Z axis stroke	Tool flange	Hollow shaft	Cable	Controller / Number of controllable axes	Safety standard	Option A (OP.A)	Option B (OP.B)	Option C (OP.C)	Option D (OP.D)	Option E (OP.E)	Absolute battery
	W: Wall mount (same as per external view) U: Inverse wall mount (upside down)	150: 150mm	No entry: None F: With tool flange	No entry: None S: With hollow shaft	3L: 3.5m 5L: 5m 10L: 10m								

Specify various controller setting items. RCX340 ▶ P.678

Note 1. When installing the robot, always follow the specifications.
Do not install the ceiling-mount robot upside down or do not install the inverse type robot to a ceiling.
Incorrect installation can cause trouble or malfunction.

Specifications

Axis specifications	Arm length	X-axis	Y-axis	Z-axis	R-axis
	Rotation angle	150 mm	150 mm	150 mm	-
	AC servo motor output	+/-120 °	+/-130 °	-	+/-360 °
	Deceleration mechanism	200 W	150 W	50 W	100 W
	Transmission method	Direct-coupled			
	Motor to speed reducer	Direct-coupled			
	Speed reducer to output	Direct-coupled			
	Repeatability ^{Note 1}	+/-0.01 mm	+/-0.01 mm	+/-0.004 °	
	Maximum speed	4.4 m/sec	1.0 m/sec	1020 °/sec (wall mount) 720 °/sec (inverse wall mount)	
	Maximum payload	5 kg (Standard specification), 4 kg (Option specifications ^{Note 4})			
	Standard cycle time: with 2kg payload ^{Note 2}	0.49 sec			
	R-axis tolerable moment of inertia ^{Note 3}	0.05 kgm ²			
	User wiring	0.2 sq x 10 wires			
	User tubing (Outer diameter)	φ 4 x 3			
	Travel limit	1. Soft limit 2. Mechanical stopper (X,Y,Z axis)			
	Robot cable length	Standard: 3.5 m Option: 5 m, 10 m			
	Weight	19.5 kg			

Note 1. This is the value at a constant ambient temperature.
Note 2. When reciprocating 25mm horizontally and 300mm horizontally (with a 2kg payload in rough-positioning arch motion).
Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia settings.
Note 4. Maximum payload of option specifications (with tool flange attached or with user wiring and tubing routed through spline shaft) is 4kg.

Controller

Controller	Power capacity (VA)	Operation method
RCX340	1000	Programming / I/O point trace / Remote command / Operation using RS-232C communication

Note. The movement range can be limited by changing the position of Y axis mechanical stopper. (The movement range is set to the maximum at the time of shipment.)
See our robot manuals (installation manuals) for detailed information.

Our robot manuals (installation manuals) can be downloaded from our website at the address below:
<https://global.yamaha-motor.com/business/robot/>

YK300XGS

D-sub connector for user wiring (No. 1 to 10 usable)

User tubing 2 (φ4 red)
User tubing 1 (φ4 black)
User tubing 3 (φ4 blue)

M4 ground terminal

Cross section B-B

Working envelope
X-axis mechanical stopper position: 122°
Y-axis mechanical stopper position: 132°

(Option)

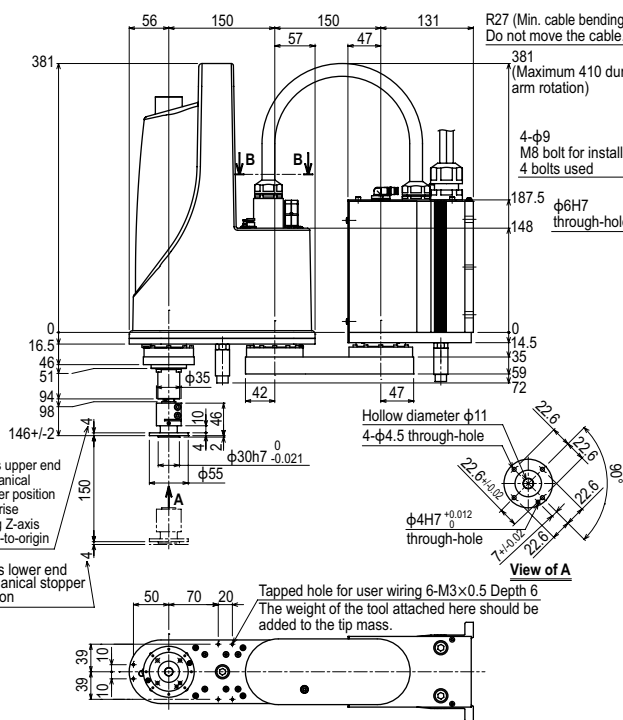
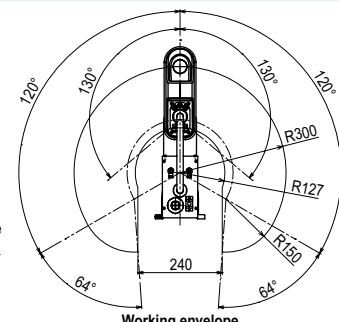
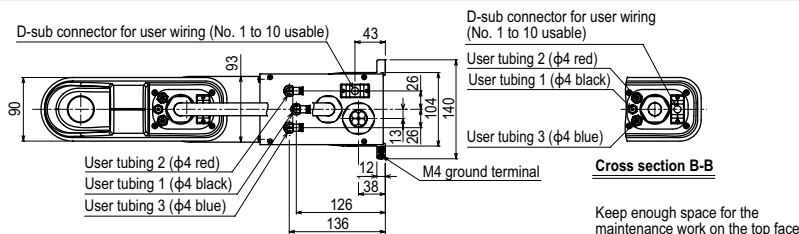
- Additional Z-axis upper limit stopper: Allows changing the Z-axis origin position to a point 12mm, 15mm or 18mm (in 3mm steps) lower than the standard position.
- Additional Z-axis lower limit stopper: Allows changing the Z-axis stopper position to a point 17mm or more higher than the standard position. (Lower limit of working envelope: 4mm from additional stopper) (Cannot be used when user wiring and tubing are set through spline shaft.)

View of C

Option: User wiring/tubing through spline type
Note. Inverse type is installed upside down.

YA	Articulated robots
LCM	Linear conveyor modules
CX	Single-axis robots
Robomity	Motor-less single-axis actuator
TRANSERO	Compact single-axis robots
FLIP-X	Single-axis robots
PHASER	Linear motor single-axis robots
XY-X	Cartesian robots
YK-X	SCARA robots
YP-X	Pick & place robots
CLEAN	CLEAN
CONTROLLER	CONTROLLER
INFORMATION	INFORMATION
Oh/I/	Extra small type
Small /	Medium type
Large type	Large type
Wall mount /	Inverse type
Dust-proof & drip-proof	Dust-proof & drip-proof type

YK300XGS Tool flange mount type

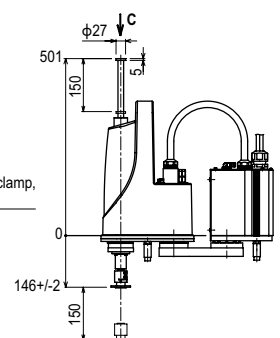


Keep enough space for the maintenance work on the top face of the base.

(Option)

- Additional Z-axis upper limit stopper: Allows changing the Z-axis origin position to a point 12mm, 15mm or 18mm (in 3mm steps) lower than the standard position.
- Additional Z-axis lower limit stopper: Allows changing the Z-axis stopper position to a point 17mm or more higher than the standard position. (Lower limit of working envelope: 4mm from additional stopper) (Cannot be used when user wiring and tubing are set through spline shaft.)

4-M3×0.5 through-hole (No phase relation to R-axis origin.) As this hole is intended for the wiring/tubing clamp, do not attach a large load to it.



YK400XGS

Wall mount / inverse type

● Arm length 400mm ● Maximum payload 5kg

Note. Built-to-order product. Contact us for the delivery period.

Ordering method

YK400XGS		150				RCX340-4								
Model	Installation method ^{Note 1}	Z axis stroke	Tool flange	Hollow shaft	Cable	Controller / Number of controllable axes	Safety standard	Option A (OP.A)	Option B (OP.B)	Option C (OP.C)	Option D (OP.D)	Option E (OP.E)	Absolute battery	
	W: Wall mount (same as per external view) U: Inverse wall mount (upside down)	150: 150mm	No entry: None F: With tool flange	No entry: None S: With hollow shaft	3L: 3.5m 5L: 5m 10L: 10m									

Specify various controller setting items. RCX340 ▶ **P.678**

Note 1. When installing the robot, always follow the specifications.
Do not install the ceiling-mount robot upside down or do not install the inverse type robot to a ceiling.
Incorrect installation can cause trouble or malfunction.

Specifications

Axis specifications	Arm length	X-axis	Y-axis	Z-axis	R-axis
	Rotation angle	250 mm	150 mm	150 mm	-
	AC servo motor output	+/-125 °	+/-144 °	-	+/-360 °
	Deceleration mechanism	200 W	150 W	50 W	100 W
	Transmission method	Direct-coupled			
	Motor to speed reducer	Direct-coupled			
	Speed reducer to output	Direct-coupled			
	Repeatability ^{Note 1}	+/-0.01 mm	+/-0.01 mm	+/-0.004 °	
	Maximum speed	6.1 m/sec	1.1 m/sec	1020 °/sec (wall mount) 720 °/sec (inverse wall mount)	
	Maximum payload	5 kg (Standard specification), 4 kg (Option specifications ^{Note 4})			
	Standard cycle time: with 2kg payload ^{Note 2}	0.49 sec			
	R-axis tolerable moment of inertia ^{Note 3}	0.05 kgm ²			
	User wiring	0.2 sq x 10 wires			
	User tubing (Outer diameter)	φ 4 x 3			
	Travel limit	1. Soft limit 2. Mechanical stopper (X,Y,Z axis)			
	Robot cable length	Standard: 3.5 m Option: 5 m, 10 m			
	Weight	20 kg			

Note 1. This is the value at a constant ambient temperature.
Note 2. When reciprocating 25mm horizontally and 300mm horizontally (with a 2kg payload in rough-positioning arch motion).
Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia settings.
Note 4. Maximum payload of option specifications (with tool flange attached or with user wiring and tubing routed through spline shaft) is 4kg.

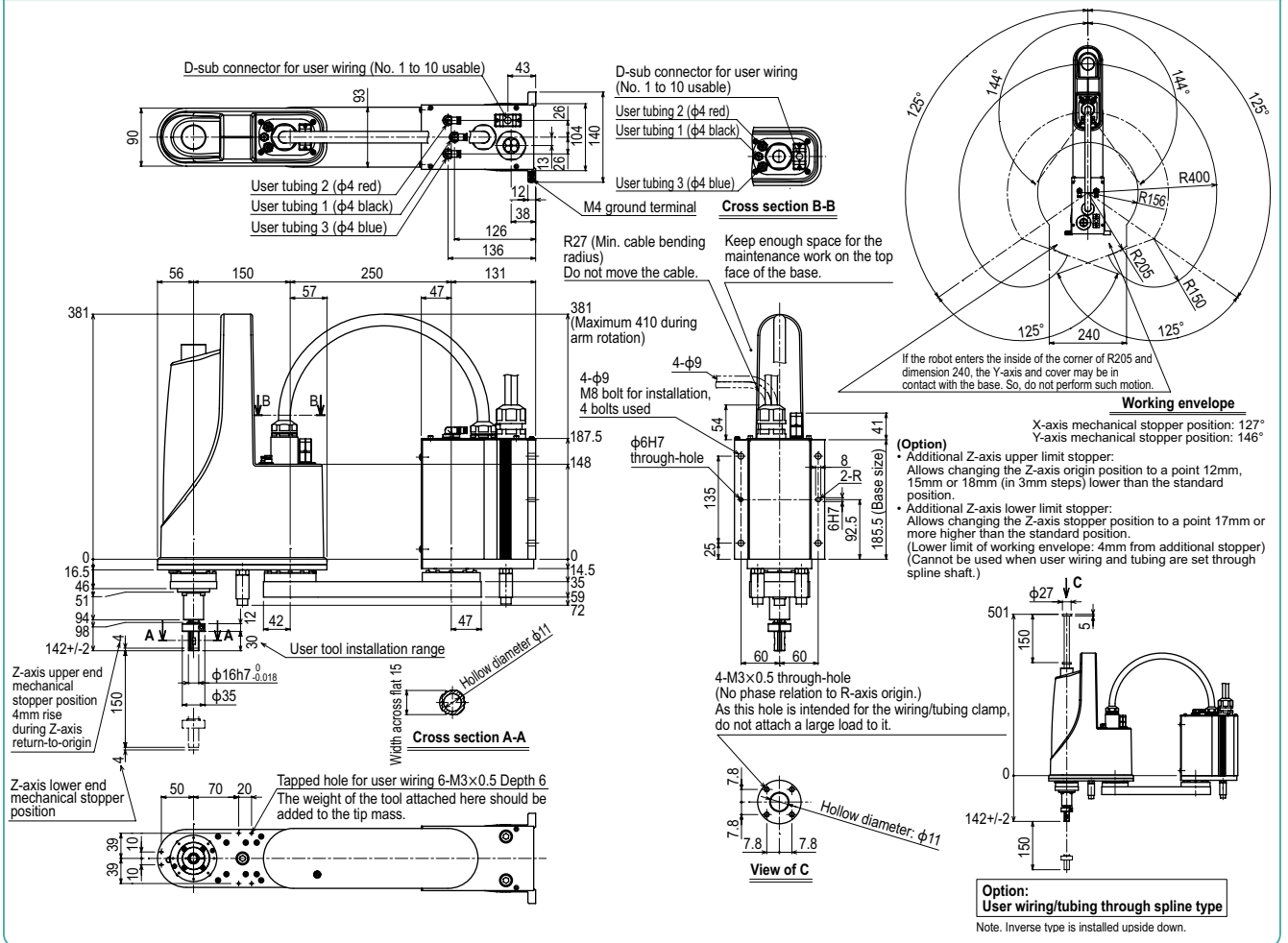
Controller

Controller	Power capacity (VA)	Operation method
RCX340	1000	Programming / I/O point trace / Remote command / Operation using RS-232C communication

Note. The movement range can be limited by changing the position of Y axis mechanical stopper. (The movement range is set to the maximum at the time of shipment.)
See our robot manuals (installation manuals) for detailed information.

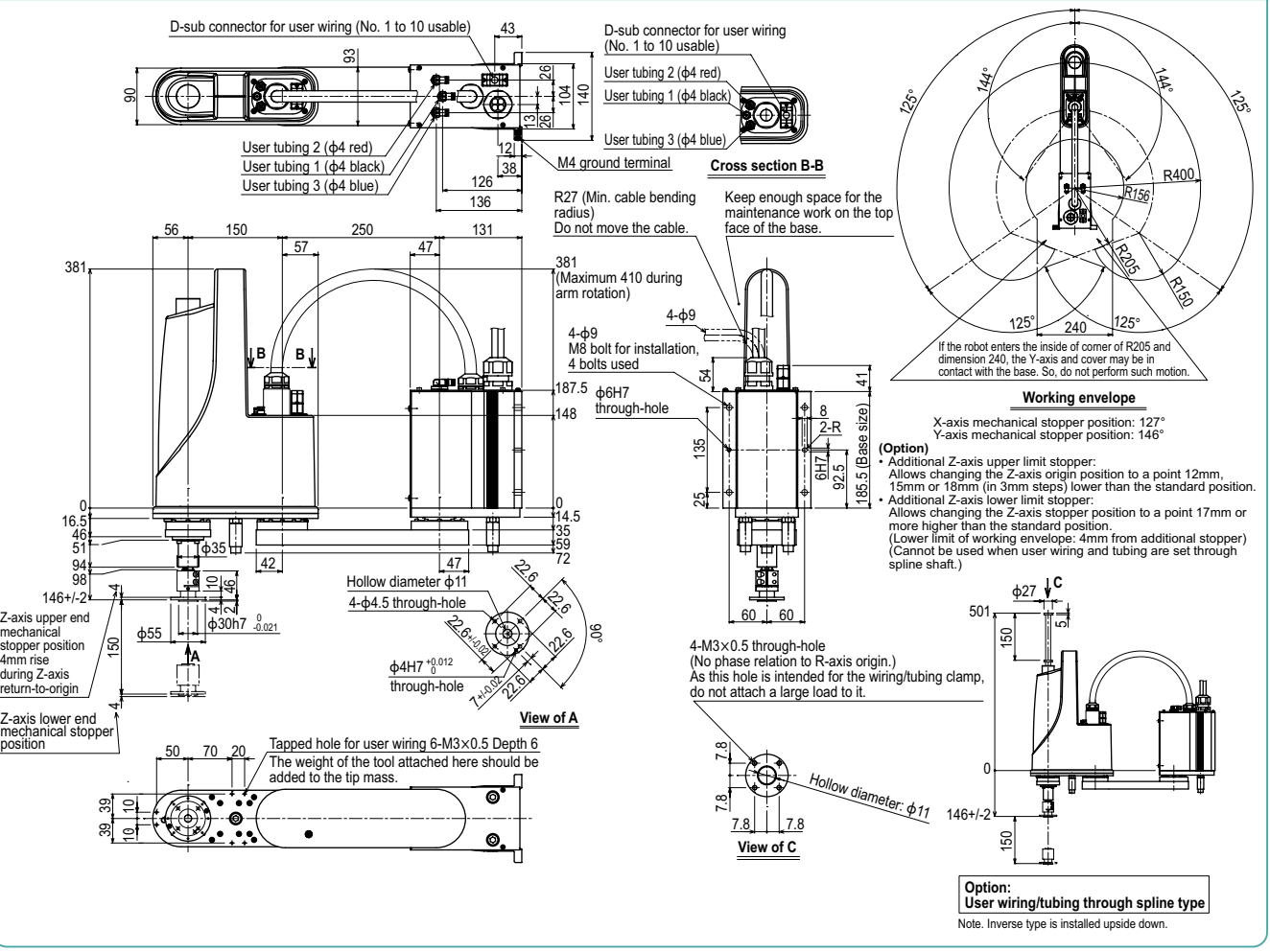
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YK400XGS



YA	Articulated robots
LCM	Linear conveyor modules
CX	Single-axis robots
Robonity	Motor-less single axis actuator
TRANSERO	Compact single-axis robots
FLIP-X	Single-axis robots
PHASER	Linear motor single-axis robots
XY-X	Cartesian robots
YK-X	SCARA robots
YP-X	Pick & place robots
CLEAN	CLEAN
CONTROLLER	CONTROLLER
INFORMATION	INFORMATION
Oh/I/	Extra small type
Small /	Medium type
Large type	Large type
Wall mount /	Inverse type
Dust-proof & drip-proof type	Dust-proof & drip-proof type

YK400XGS Tool flange mount type



YK500XGS

Wall mount / inverse type

- Arm length 500mm
- Maximum payload 10kg

Ordering method

YK500XGS					RCX340-4										
Model	Installation method <small>Note 1</small>	Z axis stroke	Tool flange	Cable	Controller / Number of controllable axes	Safety standard	Option A (OP.A)	Option B (OP.B)	Option C (OP.C)	Option D (OP.D)	Option E (OP.E)	Absolute battery			
	W: Wall mount (same as per external view) U: Inverse wall mount (upside down)	200: 200mm 300: 300mm	No entry: None F: With tool flange	3L: 3.5m 5L: 5m 10L: 10m									Specify various controller setting items. RCX340 ▶ P.678		

Note 1. When installing the robot, always follow the specifications.
Do not install the ceiling-mount robot upside down or do not install the inverse type robot to a ceiling.
Incorrect installation can cause trouble or malfunction.

Specifications

Axis specifications	Arm length	X-axis	Y-axis	Z-axis	R-axis
	Rotation angle	200 mm	300 mm	200 mm/300 mm	-
	AC servo motor output	+/-105 °	+/-125 °	-	+/-360 °
Deceleration mechanism	Transmission method	400 W	200 W	200 W	200 W
	Motor to speed reducer	Direct-coupled			
	Speed reducer to output	Direct-coupled			
Repeatability <small>Note 1</small>		+/-0.01 mm		+/-0.01 mm	+/-0.004 °
Maximum speed		7.6 m/sec		2.3 m/sec 1.7 m/sec	1700 °/sec (wall mount) 800 °/sec (inverse wall mount)
Maximum payload		10 kg (Standard type), 9 kg (Tool flange mount type)			
Standard cycle time: with 2kg payload <small>Note 2</small>		0.45 sec			
R-axis tolerable moment of inertia <small>Note 3</small>		0.30 kgm ²			
User wiring		0.2 sq × 20 wires			
User tubing (Outer diameter)		φ 6 × 3			
Travel limit		1. Soft limit 2. Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 3.5 m Option: 5 m, 10 m			
Weight		30 kg			

Note 1. This is the value at a constant ambient temperature. (X,Y axes)
Note 2. When reciprocating 300mm in horizontal and 25mm in vertical directions.
Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia settings.
Note. Please consult YAMAHA when connecting other tubes and cables to the self-supporting machine harness.

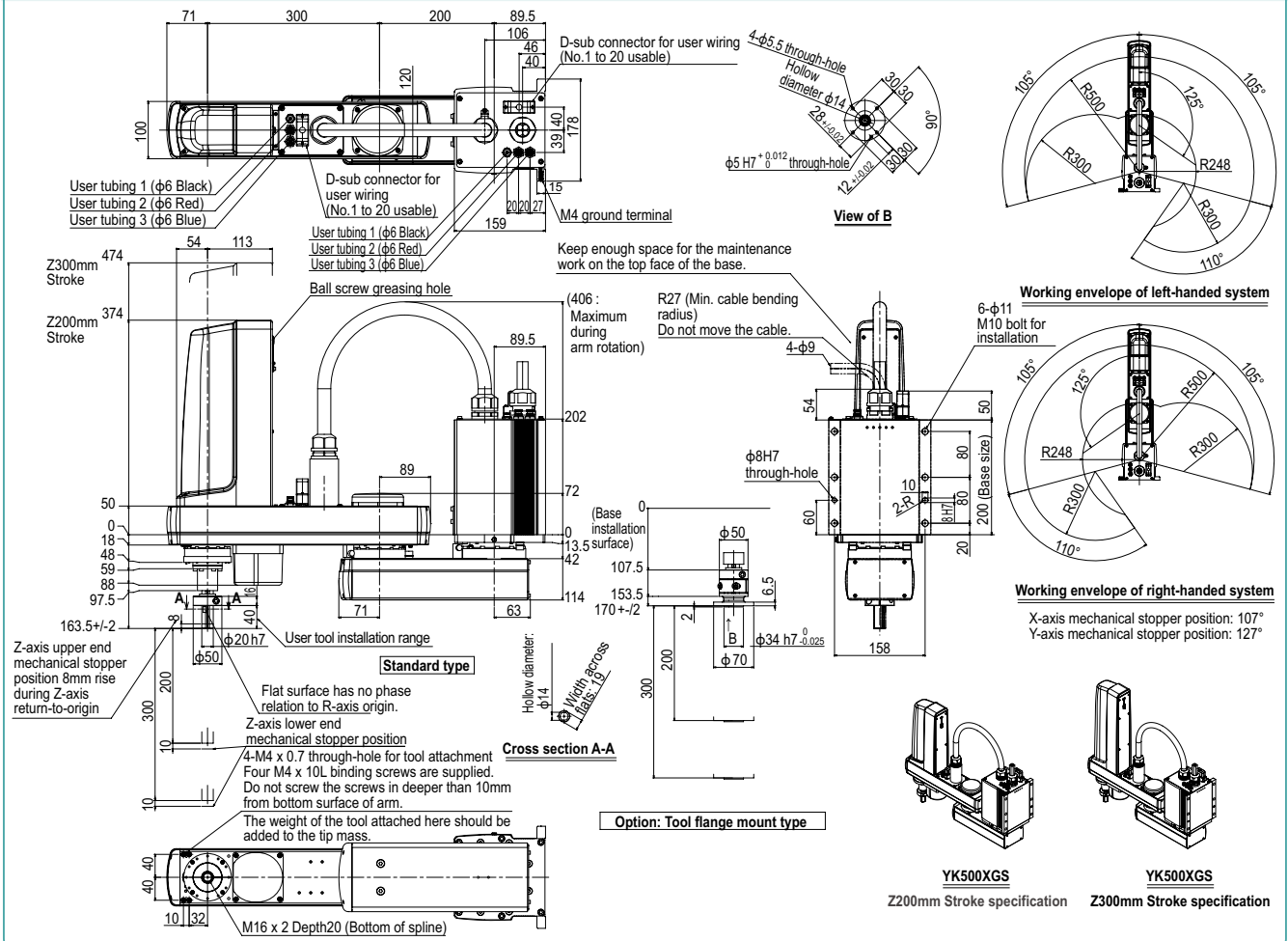
Controller

Controller	Power capacity (VA)	Operation method
RCX340	1700	Programming / I/O point trace / Remote command / Operation using RS-232C communication

Note. The movement range can be limited by changing the positions of X and Y axis mechanical stoppers. (The movement range is set to the maximum at the time of shipment.)
See our robot manuals (installation manuals) for detailed information.

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YK500XGS



YK900XGS

Wall mount / inverse type

- Arm length 900mm
- Maximum payload 20kg

Ordering method

YK900XGS					RCX340-4										
Model	Installation method <small>Note 1</small>	Z axis stroke	Tool flange	Cable	Controller / Number of controllable axes	Safety standard	Option A (OP.A)	Option B (OP.B)	Option C (OP.C)	Option D (OP.D)	Option E (OP.E)	Absolute battery			
	W: Wall mount (same as per external view) U: Inverse wall mount (upside down)	200: 200mm 400: 400mm	No entry: None F: With tool flange	3L: 3.5m 5L: 5m 10L: 10m											

Specify various controller setting items. RCX340 ▶ **P.678**

Note 1. When installing the robot, always follow the specifications.
Do not install the ceiling-mount robot upside down or do not install the inverse type robot to a ceiling.
Incorrect installation can cause trouble or malfunction.

Specifications

Axis specifications	Arm length	X-axis	Y-axis	Z-axis	R-axis
Rotation angle		500 mm	400 mm	200 mm/400 mm	-
AC servo motor output		+/-130 °	+/-150 °	-	+/-360 °
Deceleration mechanism	Transmission method	750 W	400 W	400 W	200 W
	Motor to speed reducer	Direct-coupled			
	Speed reducer to output	Direct-coupled			
Repeatability <small>Note 1</small>		+/-0.02 mm	+/-0.01 mm	+/-0.004 °	
Maximum speed		9.9 m/sec	2.3 m/sec	1.7 m/sec	920 °/sec (wall mount) 480 °/sec (inverse wall mount)
Maximum payload		20 kg (Standard type), 19 kg (Tool flange mount type)			
Standard cycle time: with 2kg payload <small>Note 2</small>		0.49 sec			
R-axis tolerable moment of inertia <small>Note 3</small>		1.0 kgm ²			
User wiring		0.2 sq × 20 wires			
User tubing (Outer diameter)		φ 6 × 3			
Travel limit		1. Soft limit 2. Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 3.5 m Option: 5 m, 10 m			
Weight		Z axis 200 mm: 54 kg Z axis 400 mm: 56 kg			

Note 1. This is the value at a constant ambient temperature. (X,Y axes)
Note 2. When reciprocating 300mm in horizontal and 25mm in vertical directions.
Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia settings.
Note. Please consult YAMAHA when connecting other tubes and cables to the self-supporting machine harness.

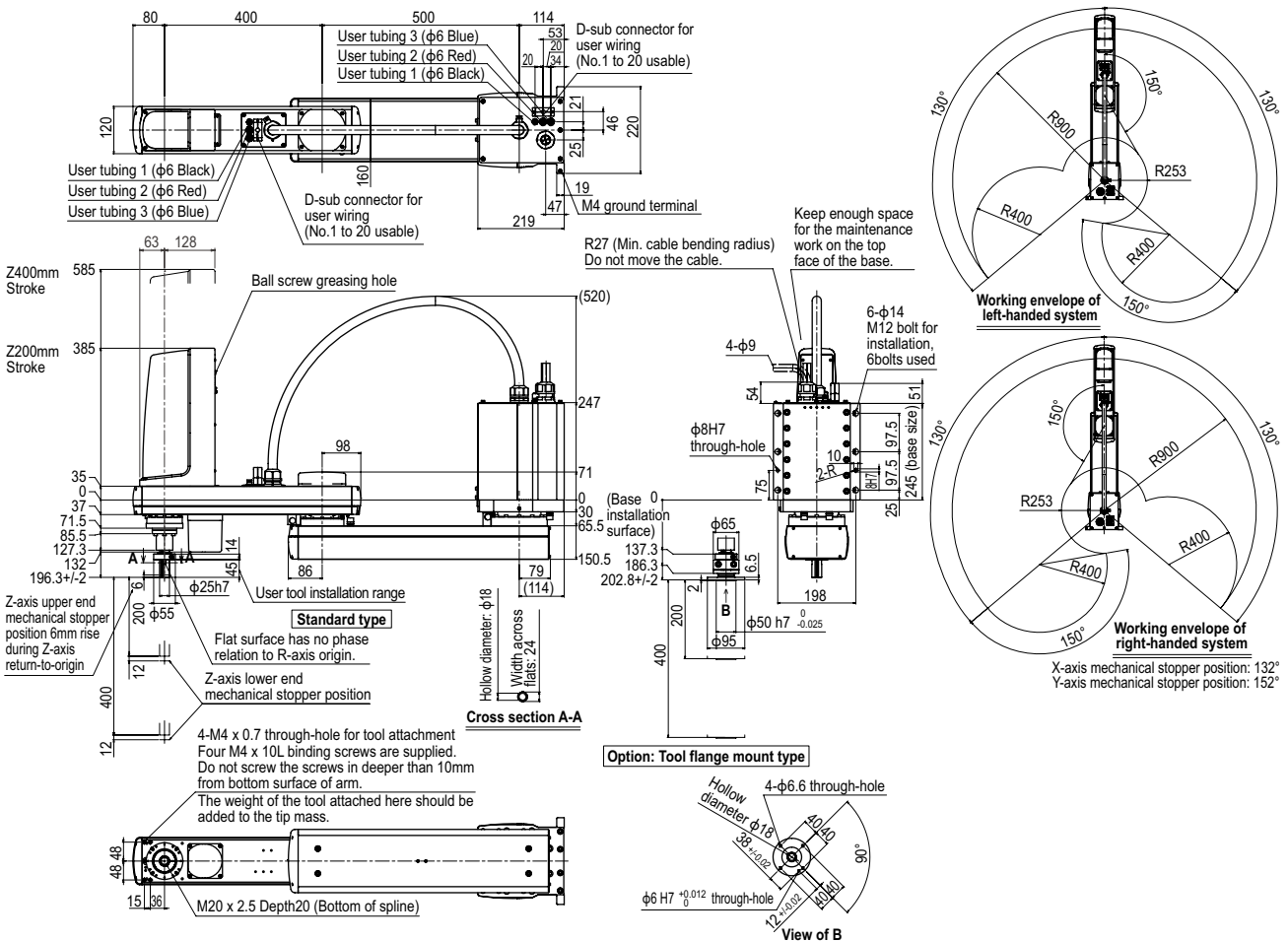
Controller

Controller	Power capacity (VA)	Operation method
RCX340	2500	Programming / I/O point trace / Remote command / Operation using RS-232C communication

Note. The movement range can be limited by changing the positions of X and Y axis mechanical stoppers. (The movement range is set to the maximum at the time of shipment.)
See our robot manuals (installation manuals) for detailed information.

Our robot manuals (installation manuals) can be downloaded from our website at the address below:
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YK900XGS



YK250XGP

Dust-proof & drip-proof type



- Arm length 250mm
- Maximum payload 4kg

Ordering method

YK250XGP - 150 **S** **RCX340-4**

Model	Z axis stroke	Tool flange	Hollow shaft	Cable	Controller / Number of controllable axes	Safety standard	Option A (OP.A)	Option B (OP.B)	Option C (OP.C)	Option D (OP.D)	Option E (OP.E)	Absolute battery
	150: 150mm	No entry: None F: With tool flange	S: With hollow shaft	3L: 3.5m 5L: 5m 10L: 10m								

Specify various controller setting items. RCX340 ▶ **P.678**

Specifications

		X-axis	Y-axis	Z-axis	R-axis
Axis specifications	Arm length	100 mm	150 mm	150 mm	-
	Rotation angle	+/-129 °	+/-134 °	-	+/-360 °
AC servo motor output		200 W	150 W	50 W	100 W
Deceleration mechanism	Transmission method	Direct-coupled			
	Motor to speed reducer Speed reducer to output	Direct-coupled			
Repeatability ^{Note 1}		+/-0.01 mm	+/-0.01 mm	+/-0.004 °	
Maximum speed		4.5 m/sec	1.1 m/sec	1020 °/sec	
Maximum payload		4 kg			
Standard cycle time: with 2kg payload ^{Note 2}		0.50 sec			
R-axis tolerable moment of inertia ^{Note 3}		0.05 kgm ²			
Protection class ^{Note 4}		Equivalent to IP65 (IEC 60529)			
User wiring		0.2 sq x 10 wires			
User tubing (Outer diameter)		φ 4 x 4			
Travel limit		1.Soft limit 2.Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 3.5 m Option: 5 m, 10 m			
Weight		21.5 kg			

- Note 1. This is the value at a constant ambient temperature. (X,Y axes)
 Note 2. When reciprocating 25mm in vertical direction and 300mm in horizontal direction (rough-positioning arch motion).
 Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia settings.
 Note 4. Do not use robots where the bellows section is directly exposed to water jet. Contact our distributor for information on drip-proof structure preventing liquid other than water.

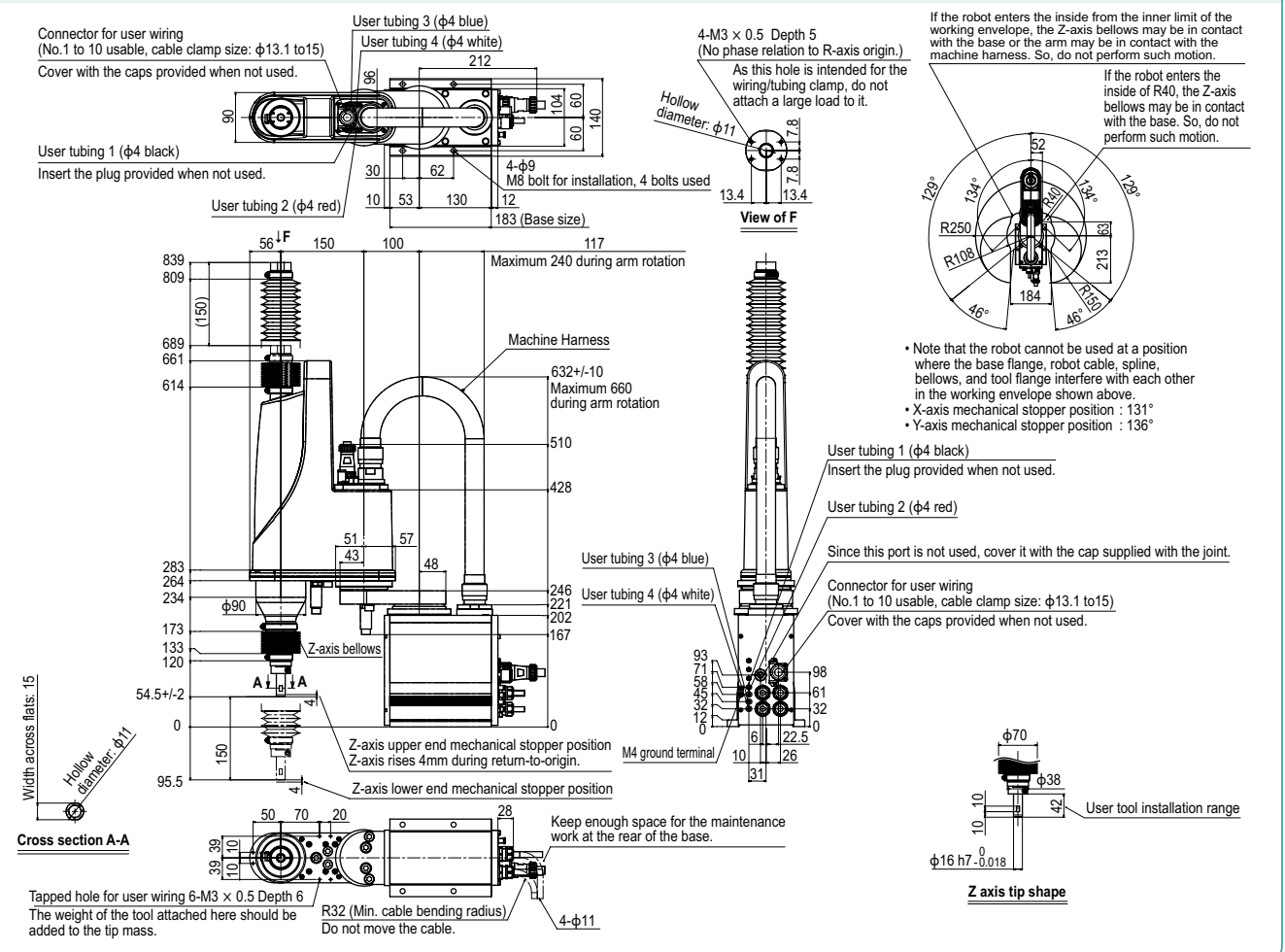
Controller

Controller	Power capacity (VA)	Operation method
RCX340	1000	Programming / I/O point trace / Remote command / Operation using RS-232C communication

- Note. The movement range can be limited by changing the positions of X and Y axis mechanical stoppers. (The movement range is set to the maximum at the time of shipment.)
 See our robot manuals (installation manuals) for detailed information.
 Note. To set the standard coordinates with high accuracy, use a standard coordinate setting jig (option). Refer to the user's manual (installation manual) for more details.

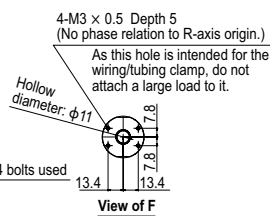
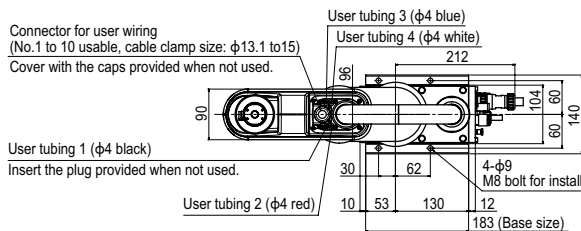
Our robot manuals (installation manuals) can be downloaded from our website at the address below:
<https://global.yamaha-motor.com/business/robot/>

YK250XGP



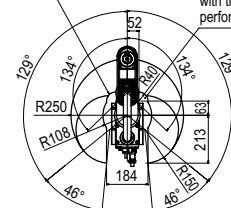
YA	Articulated robots
LCM	Linear conveyor modules
CX	Single-axis robots
Robomity	Motor-less single axis actuator
TRANSERO	Compact single-axis robots
FLIP-X	Single-axis robots
PHASER	Linear motor single-axis robots
XY-X	Cartesian robots
YK-X	SCARA robots
YP-X	Pick & place robots
CLEAN	CLEAN
CONTROLLER	CONTROLLER
INFORMATION	INFORMATION
Orbit/Extra small type	Orbit/Extra small type
Small / Medium type	Small / Medium type
Large type	Large type
Wall mount / Inverse type	Wall mount / Inverse type
Dust-proof & drip-proof type	Dust-proof & drip-proof type

YK250XGP Tool flange mount type

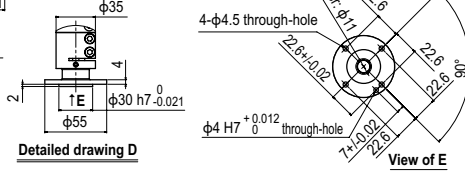
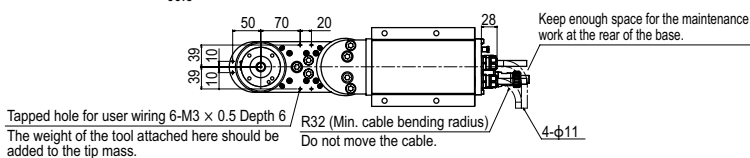
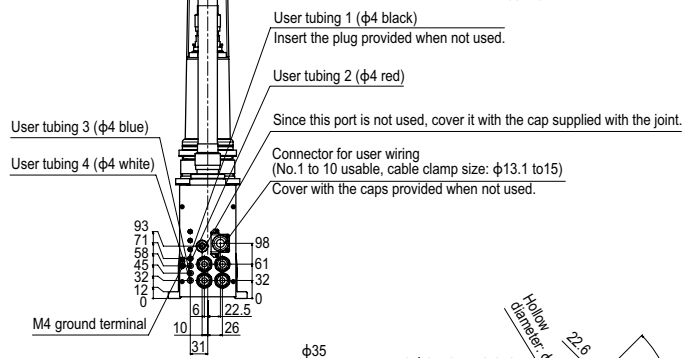
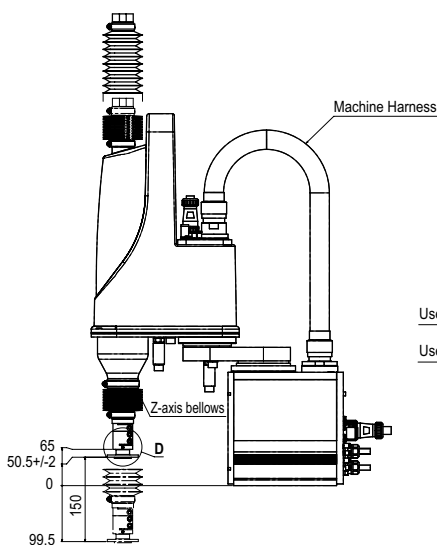


If the robot enters the inside from the inner limit of the working envelope, the Z-axis bellows may be in contact with the base or the arm may be in contact with the machine harness. So, do not perform such motion.

If the robot enters the inside of R40, the Z-axis bellows may be in contact with the base. So, do not perform such motion.



- Note that the robot cannot be used at a position where the base flange, robot cable, spline, bellows, and tool flange interfere with each other in the working envelope shown above.
- X-axis mechanical stopper position : 131°
- Y-axis mechanical stopper position : 136°



YK350XGP

Dust-proof & drip-proof type

- Arm length 350mm
- Maximum payload 4kg

Ordering method

YK350XGP - 150 **S** **RCX340-4**

Model	Z axis stroke	Tool flange	Hollow shaft	Cable	Controller / Number of controllable axes	Safety standard	Option A (OP.A)	Option B (OP.B)	Option C (OP.C)	Option D (OP.D)	Option E (OP.E)	Absolute battery
	150: 150mm	No entry: None F: With tool flange	S: With hollow shaft	3L: 3.5m 5L: 5m 10L: 10m								

Specify various controller setting items. RCX340 ▶ **P.678**

Specifications

		X-axis	Y-axis	Z-axis	R-axis
Axis specifications	Arm length	200 mm	150 mm	150 mm	-
	Rotation angle	+/-129 °	+/-134 °	-	+/-360 °
AC servo motor output		200 W	150 W	50 W	100 W
Deceleration mechanism	Transmission method	Direct-coupled			
	Motor to speed reducer	Direct-coupled			
Repeatability	Speed reducer to output	Direct-coupled			
	Note 1	+/-0.01 mm	+/-0.01 mm	+/-0.004 °	
Maximum speed		5.6 m/sec	1.1 m/sec	1020 °/sec	
Maximum payload		4 kg			
Standard cycle time: with 2kg payload	Note 2	0.52 sec			
R-axis tolerable moment of inertia	Note 3	0.05 kgm ²			
Protection class	Note 4	Equivalent to IP65 (IEC 60529)			
User wiring		0.2 sq × 10 wires			
User tubing (Outer diameter)		φ 4 × 4			
Travel limit		1.Soft limit 2.Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 3.5 m Option: 5 m, 10 m			
Weight		22 kg			

- Note 1. This is the value at a constant ambient temperature. (X,Y axes)
 Note 2. When reciprocating 25mm in vertical direction and 300mm in horizontal direction (rough-positioning arch motion).
 Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia settings.
 Note 4. Do not use robots where the bellows section is directly exposed to water jet. Contact our distributor for information on drip-proof structure preventing liquid other than water.

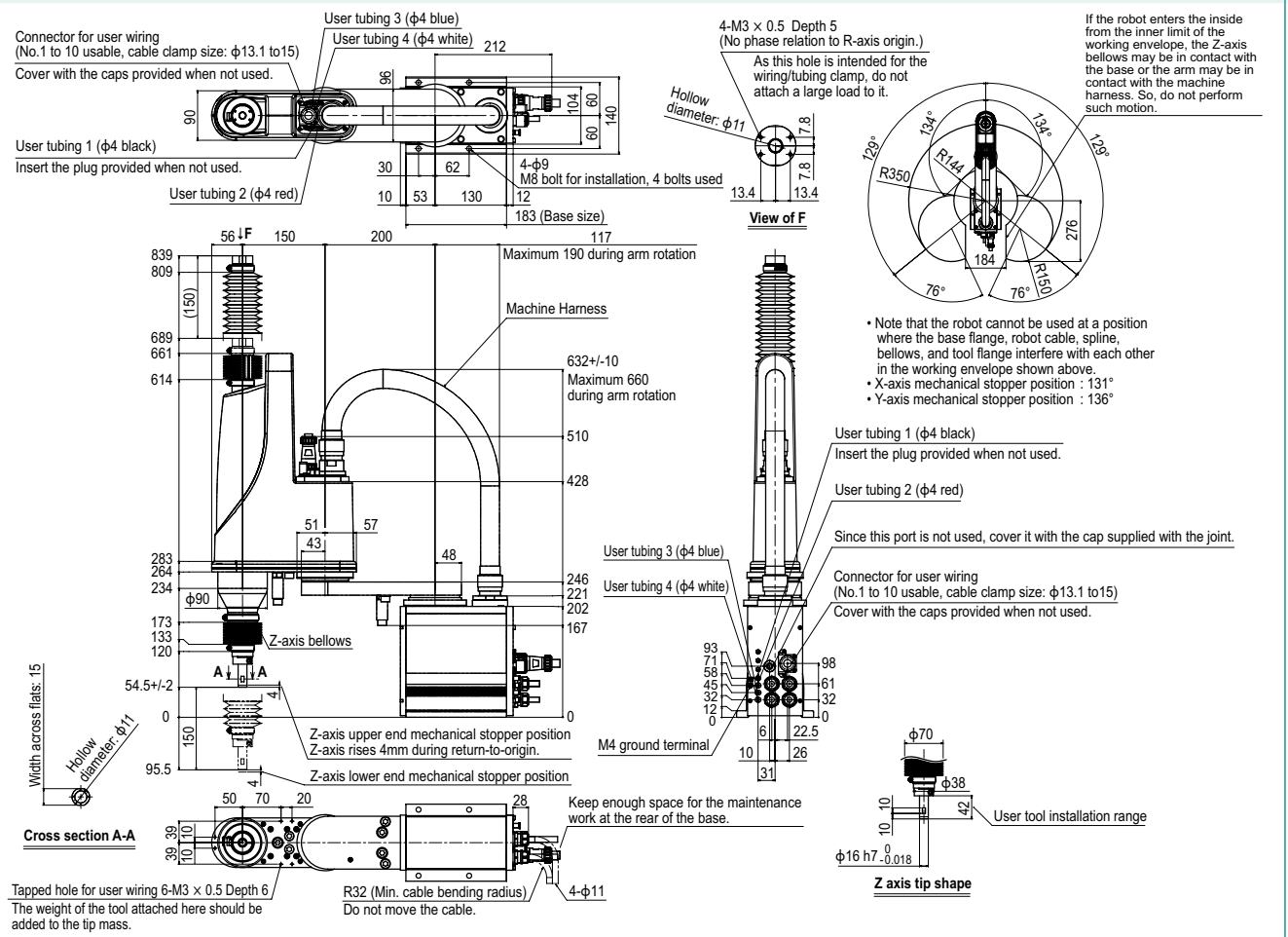
Controller

Controller	Power capacity (VA)	Operation method
RCX340	1000	Programming / I/O point trace / Remote command / Operation using RS-232C communication

- Note. The movement range can be limited by changing the positions of X and Y axis mechanical stoppers. (The movement range is set to the maximum at the time of shipment.) See our robot manuals (installation manuals) for detailed information.
 Note. To set the standard coordinates with high accuracy, use a standard coordinate setting jig (option). Refer to the user's manual (installation manual) for more details.

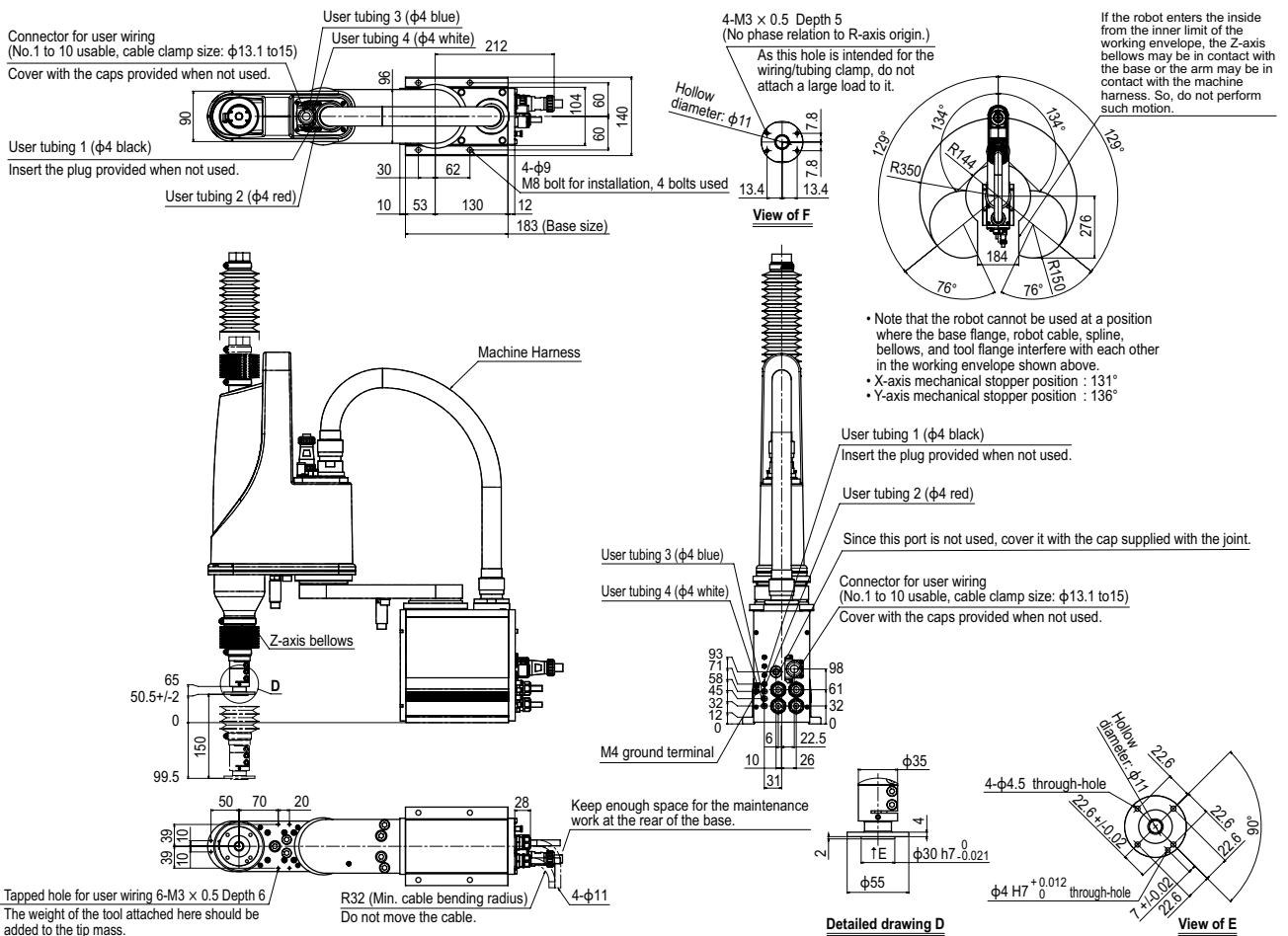
Our robot manuals (installation manuals) can be downloaded from our website at the address below:
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YK350XGP



YA	Articulated robots
LCM	Linear conveyor modules
CX	Single-axis robots
Robonity	Motor-less single axis actuator
TRANSERO	Compact single-axis robots
FLIP-X	Single-axis robots
PHASER	Linear motor single-axis robots
XY-X	Cartesian robots
YK-X	SCARA robots
YF-X	Pick & place robots
CLEAN	CLEAN
CONTROLLER	CONTROLLER
INFORMATION	INFORMATION
Orbit/Extra small type	Orbit/Extra small type
Small / Medium type	Small / Medium type
Large type	Large type
Wall mount / Inverse type	Wall mount / Inverse type
Dust-proof & drip-proof type	Dust-proof & drip-proof type

YK350XGP Tool flange mount type



YK400XGP

Dust-proof & drip-proof type



- Arm length 400mm
- Maximum payload 4kg

Ordering method

YK400XGP-150 **S** **RCX340-4**

Model	Z axis stroke	Tool flange	Hollow shaft	Cable	Controller / Number of controllable axes	Safety standard	Option A (OP.A)	Option B (OP.B)	Option C (OP.C)	Option D (OP.D)	Option E (OP.E)	Absolute battery
	150: 150mm	No entry: None F: With tool flange	S: With hollow shaft	3L: 3.5m 6L: 5m 10L: 10m								

Specify various controller setting items. RCX340 ▶ **P.678**

Specifications

		X-axis	Y-axis	Z-axis	R-axis
Axis specifications	Arm length	250 mm	150 mm	150 mm	-
	Rotation angle	+/-129 °	+/-144 °	-	+/-360 °
AC servo motor output		200 W	150 W	50 W	100 W
Deceleration mechanism	Transmission method	Direct-coupled			
	Motor to speed reducer Speed reducer to output	Direct-coupled			
Repeatability ^{Note 1}		+/-0.01 mm	+/-0.01 mm	+/-0.004 °	
Maximum speed		6.1 m/sec	1.1 m/sec	1020 °/sec	
Maximum payload		4 kg			
Standard cycle time: with 2kg payload ^{Note 2}		0.50 sec			
R-axis tolerable moment of inertia ^{Note 3}		0.05 kgm ²			
Protection class ^{Note 4}		Equivalent to IP65 (IEC 60529)			
User wiring		0.2 sq x 10 wires			
User tubing (Outer diameter)		φ 4 x 4			
Travel limit		1.Soft limit 2.Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 3.5 m Option: 5 m, 10 m			
Weight		22.5 kg			

Controller

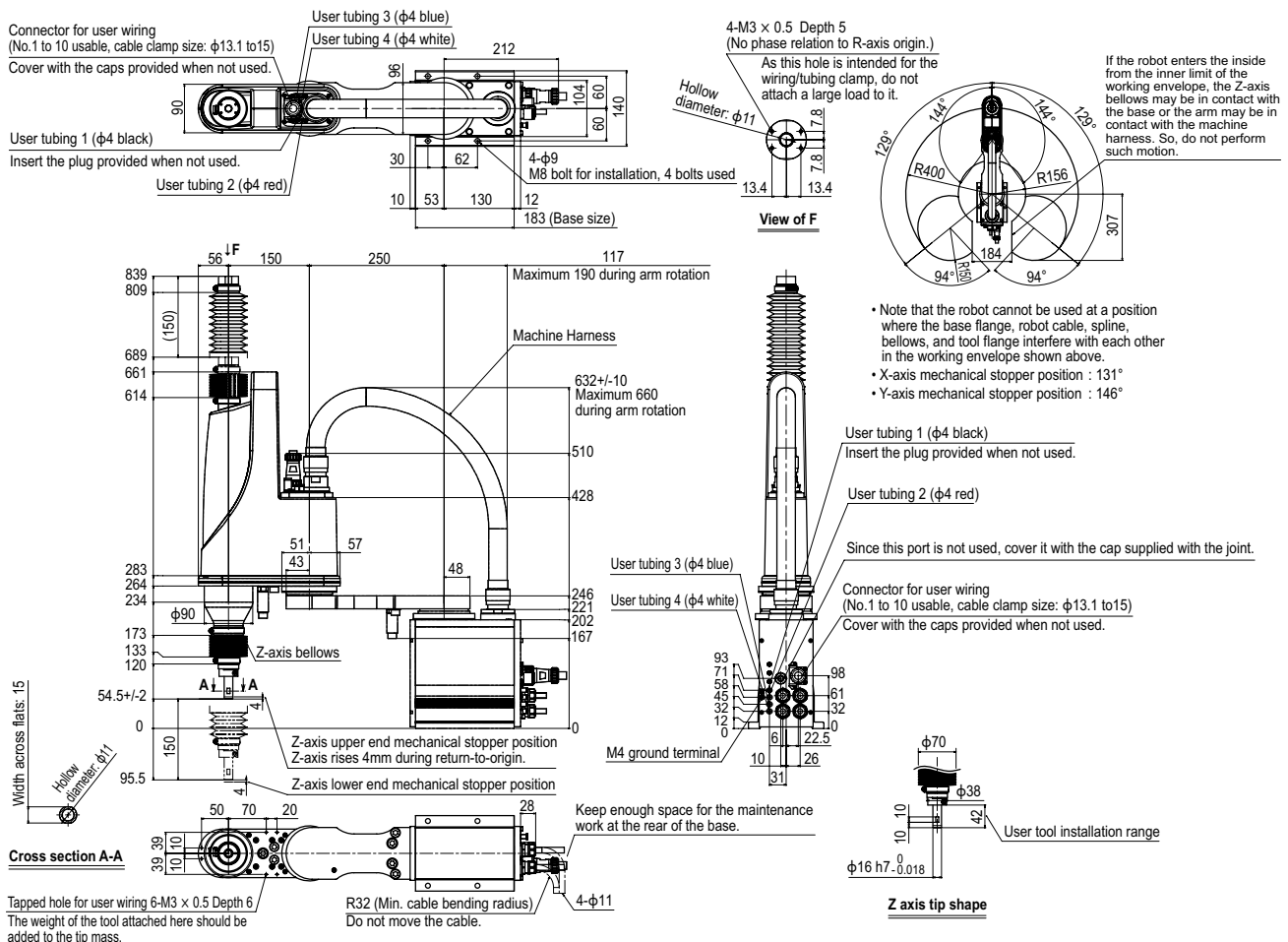
Controller	Power capacity (VA)	Operation method
RCX340	1000	Programming / I/O point trace / Remote command / Operation using RS-232C communication

Note. The movement range can be limited by changing the positions of X and Y axis mechanical stoppers. (The movement range is set to the maximum at the time of shipment.)
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Note. To set the standard coordinates with high accuracy, use a standard coordinate setting jig (option). Refer to the user's manual (installation manual) for more details.

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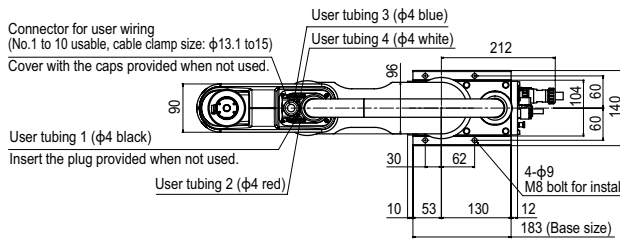
Note 1. This is the value at a constant ambient temperature. (X,Y axes)
Note 2. When reciprocating 25mm in vertical direction and 300mm in horizontal direction (rough-positioning arch motion).
Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia settings.
Note 4. Do not use robots where the bellows section is directly exposed to water jet. Contact our distributor for information on drip-proof structure preventing liquid other than water.

YK400XGP



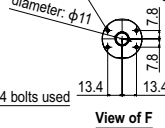
YA	Articulated robots
LCM	Linear conveyor modules
CX	Single-axis robots
Robonity	Motor-less single axis actuator
TRANSERO	Compact single-axis robots
FLIP-X	Single-axis robots
PHASER	Linear motor single-axis robots
XY-X	Cartesian robots
YK-X	SCARA robots
YP-X	Pick & place robots
CLEAN	CLEAN
CONTROLLER	CONTROLLER
INFORMATION	INFORMATION
Orbit/Extra small type	Orbit/Extra small type
Small / Medium type	Small / Medium type
Large type	Large type
Wall mount / Inverse type	Wall mount / Inverse type
Dust-proof & drip-proof type	Dust-proof & drip-proof type

YK400XGP Tool flange mount type

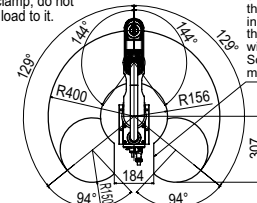


4-M3 \times 0.5 Depth 5
(No phase relation to R-axis origin.)

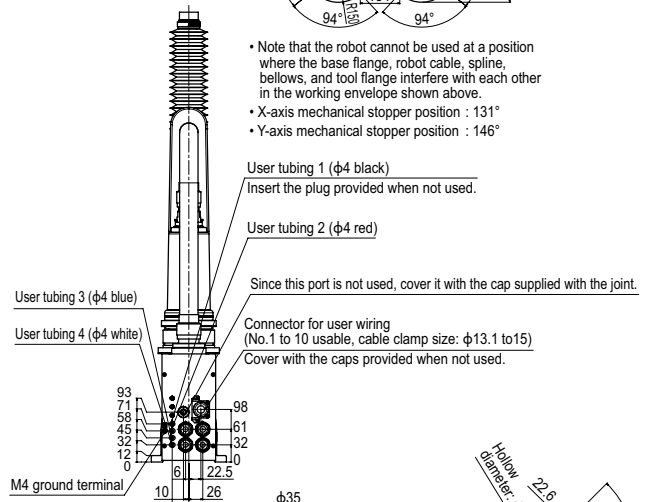
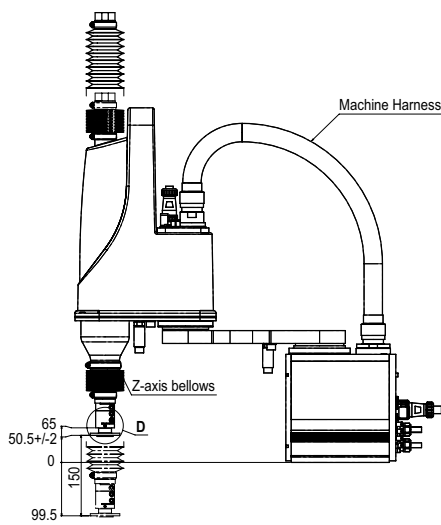
As this hole is intended for the wiring/tubing clamp, do not attach a large load to it.



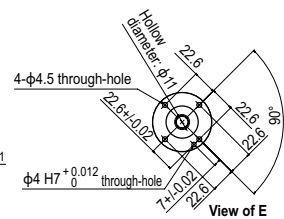
If the robot enters the inside from the inner limit of the working envelope, the Z-axis bellows may be in contact with the base or the arm may be in contact with the machine harness. So, do not perform such motion.



- Note that the robot cannot be used at a position where the base flange, robot cable, spline, bellows, and tool flange interfere with each other in the working envelope shown above.
- X-axis mechanical stopper position : 131°
- Y-axis mechanical stopper position : 146°



Detailed drawing D



Tapped hole for user wiring 6-M3 \times 0.5 Depth 6
The weight of the tool attached here should be added to the tip mass.

R32 (Min. cable bending radius)
Do not move the cable.

4- $\phi 11$

YK500XGLP

Dust-proof & drip-proof type

- Arm length 500mm
- Maximum payload 4kg

Ordering method

YK500XGLP - 150 **S** **RCX340-4**

Model	Z axis stroke	Tool flange	Hollow shaft	Cable	Controller / Number of controllable axes	Safety standard	Option A (OP.A)	Option B (OP.B)	Option C (OP.C)	Option D (OP.D)	Option E (OP.E)	Absolute battery
	150: 150mm	No entry: None F: With tool flange	S: With hollow shaft	3L: 3.5m 5L: 5m 10L: 10m								

Specify various controller setting items. RCX340 ▶ **P.678**

Specifications

		X-axis	Y-axis	Z-axis	R-axis
Axis specifications	Arm length	250 mm	250 mm	150 mm	-
	Rotation angle	+/-129 °	+/-144 °	-	+/-360 °
AC servo motor output		200 W	150 W	50 W	100 W
Deceleration mechanism	Transmission method	Direct-coupled			
	Motor to speed reducer Speed reducer to output	Direct-coupled			
Repeatability ^{Note 1}		+/-0.01 mm	+/-0.01 mm	+/-0.004 °	
Maximum speed		5.1 m/sec	1.1 m/sec	1020 °/sec	
Maximum payload		4 kg			
Standard cycle time: with 2kg payload ^{Note 2}		0.66 sec			
R-axis tolerable moment of inertia ^{Note 3}		0.05 kgm ²			
Protection class ^{Note 4}		Equivalent to IP65 (IEC 60529)			
User wiring		0.2 sq x 10 wires			
User tubing (Outer diameter)		φ 4 x 4			
Travel limit		1.Soft limit 2.Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 3.5 m Option: 5 m, 10 m			
Weight		25 kg			

Note 1. This is the value at a constant ambient temperature. (X,Y axes)
 Note 2. When reciprocating 25mm in vertical direction and 300mm in horizontal direction (rough-positioning arch motion).
 Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia settings.
 Note 4. Do not use robots where the bellows section is directly exposed to water jet. Contact our distributor for information on drip-proof structure preventing liquid other than water.

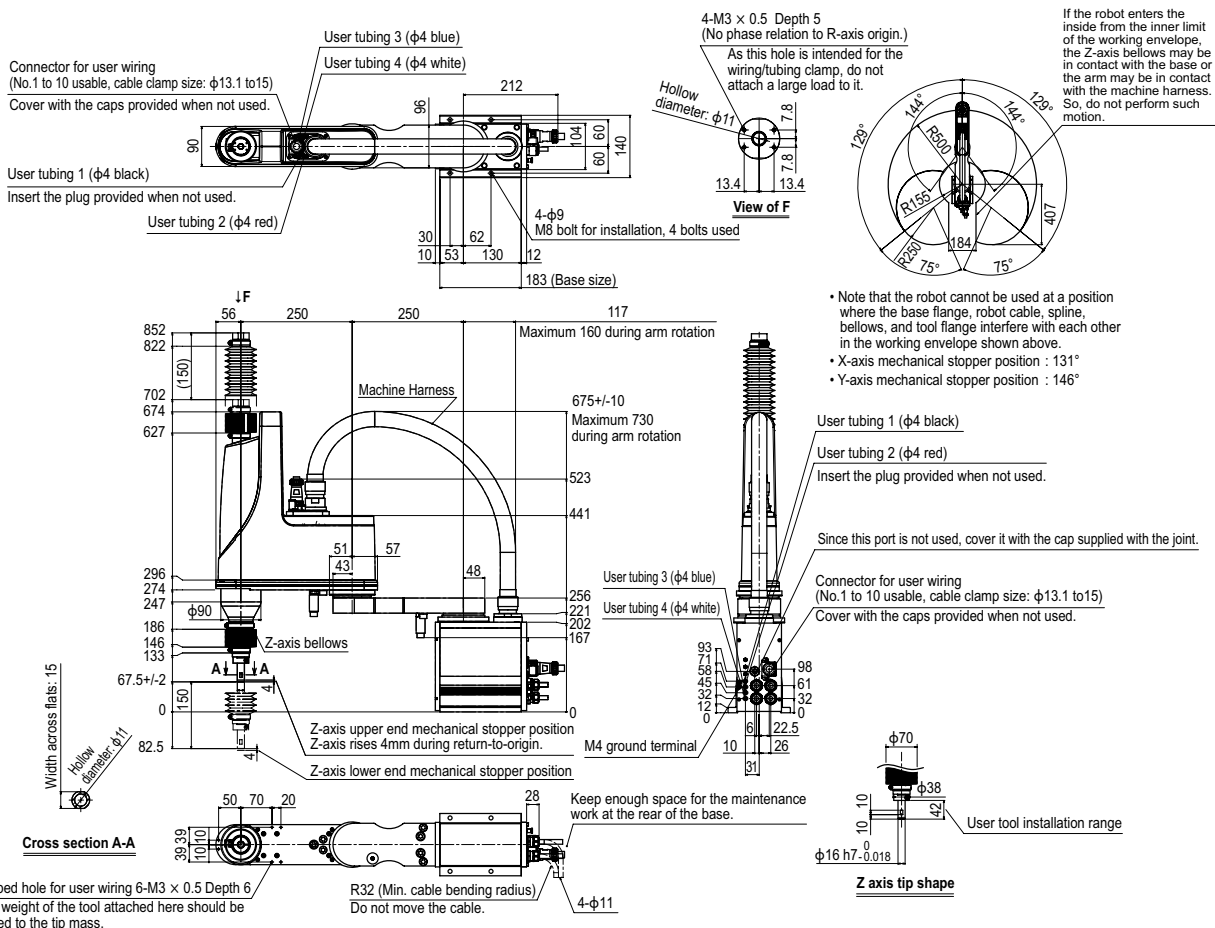
Controller

Controller	Power capacity (VA)	Operation method
RCX340	1000	Programming / I/O point trace / Remote command / Operation using RS-232C communication

Note. The movement range can be limited by changing the positions of X and Y axis mechanical stoppers. (The movement range is set to the maximum at the time of shipment.)
 See our robot manuals (installation manuals) for detailed information.
 Note. To set the standard coordinates with high accuracy, use a standard coordinate setting jig (option). Refer to the user's manual (installation manual) for more details.

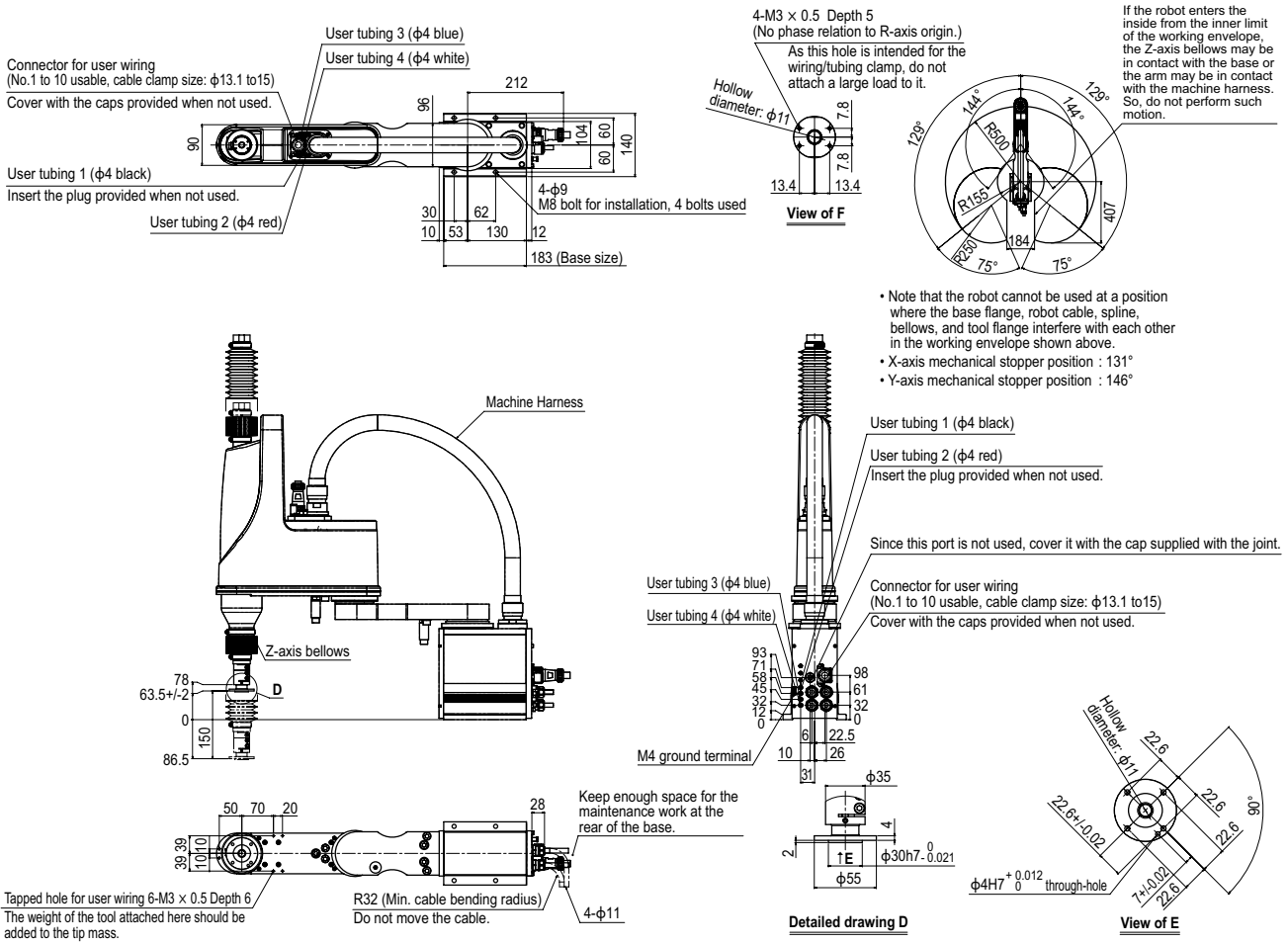
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YK500XGLP



YA	Articulated robots
LCM	Linear conveyor modules
CX	Single-axis robots
Robonity	Motor-less single axis actuator
TRANSEVO	Compact single-axis robots
FLIP-X	Single-axis robots
PHASER	Linear motor single-axis robots
XY-X	Cartesian robots
YK-X	SCARA robots
YP-X	Pick & place robots
CLEAN	CLEAN
CONTROLLER	CONTROLLER
INFORMATION	INFORMATION
Orbit/Extra small type	Orbit/Extra small type
Small / Medium type	Small / Medium type
Large type	Large type
Wall mount / Inverse type	Wall mount / Inverse type
Dust-proof & drip-proof type	Dust-proof & drip-proof type

YK500XGLP Tool flange mount type



YK500XGP

Dust-proof & drip-proof type

- Arm length 500mm
- Maximum payload 10kg

Ordering method

YK500XGP		F		RCX340-4								
Model	Z axis stroke	Tool flange	Cable	Controller / Number of controllable axes	Safety standard	Option A (OP.A)	Option B (OP.B)	Option C (OP.C)	Option D (OP.D)	Option E (OP.E)	Absolute battery	
	200: 200mm 300: 300mm	F: With tool flange	3L: 3.5m 5L: 5m 10L: 10m									

Specify various controller setting items. RCX340 ▶ **P.678**

Specifications

		X-axis	Y-axis	Z-axis	R-axis
Axis specifications	Arm length	200 mm	300 mm	200 mm / 300 mm	—
	Rotation angle	+/-130 °	+/-145 °	—	+/-360 °
AC servo motor output		400 W	200 W	200 W	200 W
Deceleration mechanism	Transmission method	Direct-coupled			
	Motor to speed reducer	Direct-coupled			
Repeatability <small>Note 1</small>	Speed reducer to output	Direct-coupled			
		+/-0.01 mm	+/-0.01 mm	+/-0.004 °	
Maximum speed		7.6 m/sec	2.3 m/sec	1.7 m/sec	1700 °/sec
Maximum payload		10 kg			
Standard cycle time: with 2kg payload <small>Note 2</small>		0.55 sec			
R-axis tolerable moment of inertia <small>Note 3</small>		0.3 kgm ²			
Protection class <small>Note 4</small>		Equivalent to IP65 (IEC 60529)			
User wiring		0.2 sq × 20 wires			
User tubing (Outer diameter)		φ 6 × 3			
Travel limit		1. Soft limit 2. Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 3.5 m Option: 5 m, 10 m			
Weight		Z axis 200 mm: 32 kg Z axis 300 mm: 33 kg			

Note 1. This is the value at a constant ambient temperature. (X,Y axes)

Note 2. When reciprocating 25mm in vertical direction and 300mm in horizontal direction (rough-positioning arch motion).

Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia settings.

Note 4. Do not use robots where the bellows section is directly exposed to water jet. Contact our distributor for information on drip-proof structure preventing liquid other than water.

Controller

Controller	Power capacity (VA)	Operation method
RCX340	1700	Programming / I/O point trace / Remote command / Operation using RS-232C communication

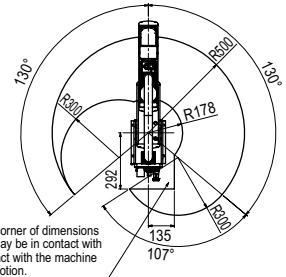
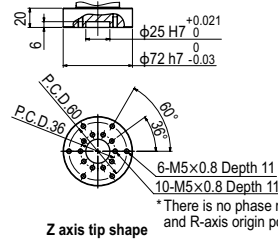
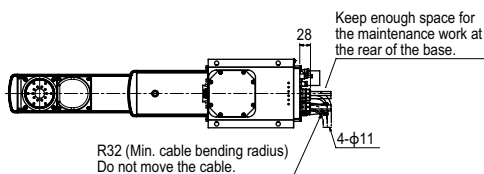
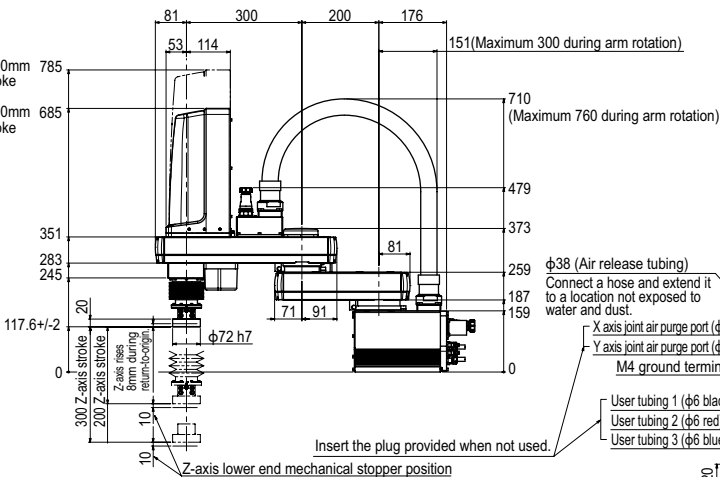
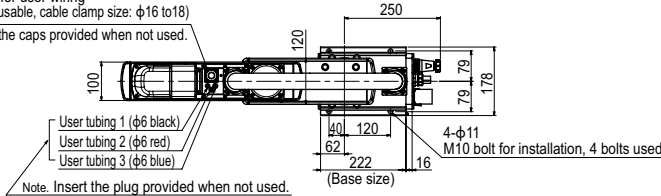
Note. The movement range can be limited by changing the positions of X and Y axis mechanical stoppers. (The movement range is set to the standard at the time of shipment.) See our robot manuals (installation manuals) for detailed information.

Note. To set the standard coordinates with high accuracy, use a standard coordinate setting jig (option). Refer to the user's manual (installation manual) for more details.

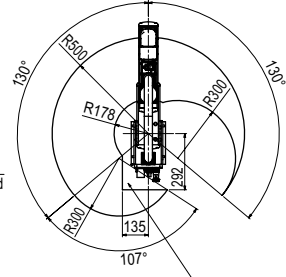
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YK500XGP

Connector for user wiring (No.1 to 20 usable, cable clamp size: φ16 to 18)
Cover with the caps provided when not used.



Working envelope of left-handed system



Working envelope of right-handed system

- Note that the robot cannot be used at a position where the base flange, robot cable, spline, and bellows interfere with each other in the working envelope shown above.
- X-axis mechanical stopper position : 132°
- Y-axis mechanical stopper position : 147°

YK600XGLP

Dust-proof & drip-proof type

- Arm length 600mm
- Maximum payload 4kg

Ordering method

YK600XGLP-150 **S** **RCX340-4**

Model	Z axis stroke	Tool flange	Hollow shaft	Cable	Controller / Number of controllable axes	Safety standard	Option A (OP.A)	Option B (OP.B)	Option C (OP.C)	Option D (OP.D)	Option E (OP.E)	Absolute battery
	150: 150mm	No entry: None F: With tool flange	S: With hollow shaft	3L: 3.5m 6L: 5m 10L: 10m								

Specify various axes controller setting items. RCX340 ▶ **P.678**

Specifications

		X-axis	Y-axis	Z-axis	R-axis
Axis specifications	Arm length	350 mm	250 mm	150 mm	-
	Rotation angle	+/-129 °	+/-144 °	-	+/-360 °
AC servo motor output		200 W	150 W	50 W	100 W
Deceleration mechanism	Transmission method	Direct-coupled			
	Motor to speed reducer Speed reducer to output	Direct-coupled			
Repeatability ^{Note 1}		+/-0.01 mm	+/-0.01 mm	+/-0.004 °	
Maximum speed		4.9 m/sec	1.1 m/sec	1020 °/sec	
Maximum payload		4 kg			
Standard cycle time: with 2kg payload ^{Note 2}		0.71 sec			
R-axis tolerable moment of inertia ^{Note 3}		0.05 kgm ²			
Protection class ^{Note 4}		Equivalent to IP65 (IEC 60529)			
User wiring (sq × wires)		0.2 × 10			
User tubing (Outer diameter)		φ 4 × 4			
Travel limit		1.Soft limit 2.Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 3.5 m Option: 5 m, 10 m			
Weight		26 kg			

Note 1. This is the value at a constant ambient temperature. (X,Y axes)
 Note 2. When reciprocating 25mm in vertical direction and 300mm in horizontal direction (rough-positioning arch motion).
 Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia settings.
 Note 4. Do not use robots where the bellows section is directly exposed to water jet. Contact our distributor for information on drip-proof structure preventing liquid other than water.

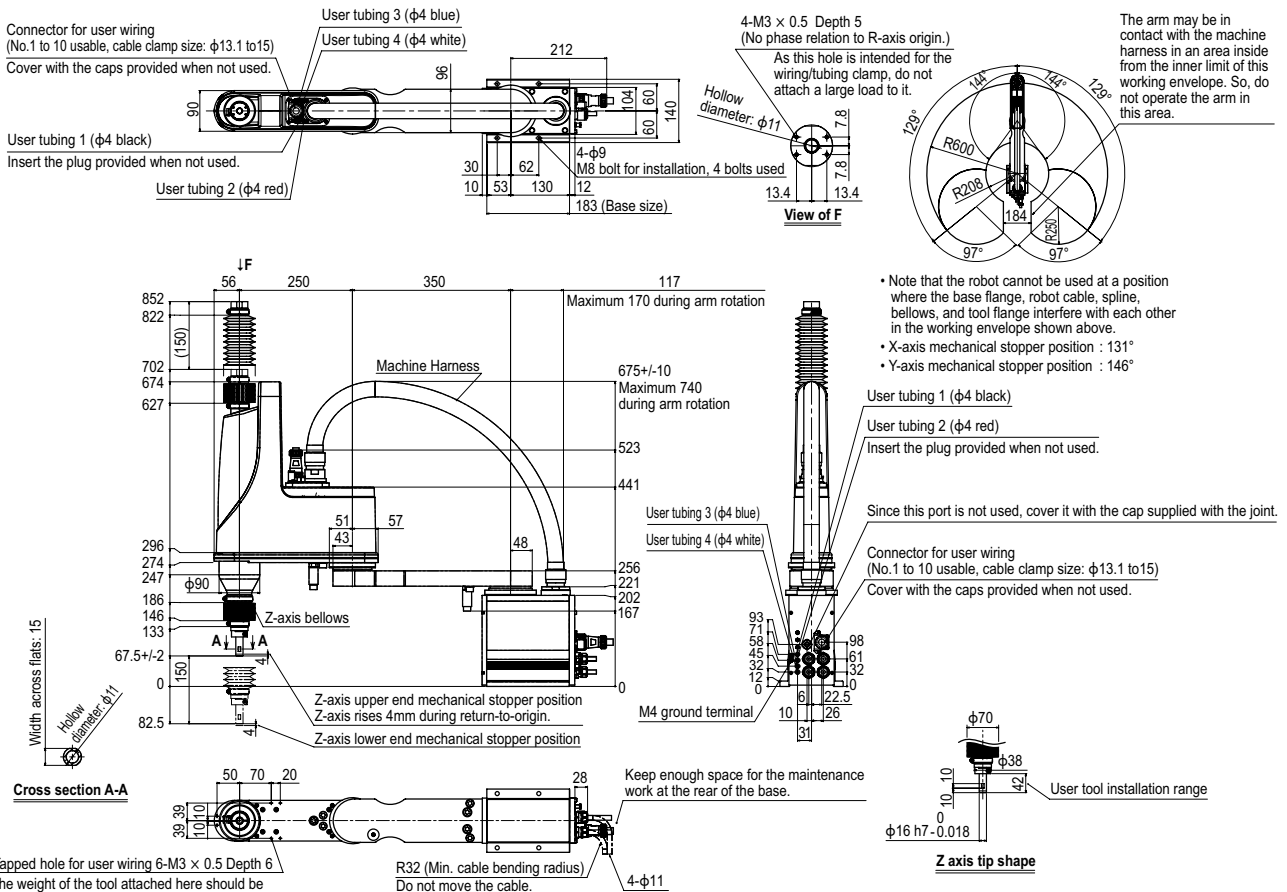
Controller

Controller	Power capacity (VA)	Operation method
RCX340	1000	Programming / I/O point trace / Remote command / Operation using RS-232C communication

Note. The movement range can be limited by changing the positions of X and Y axis mechanical stoppers. (The movement range is set to the maximum at the time of shipment.)
 See our robot manuals (installation manuals) for detailed information.
 Note. To set the standard coordinates with high accuracy, use a standard coordinate setting jig (option). Refer to the user's manual (installation manual) for more details.

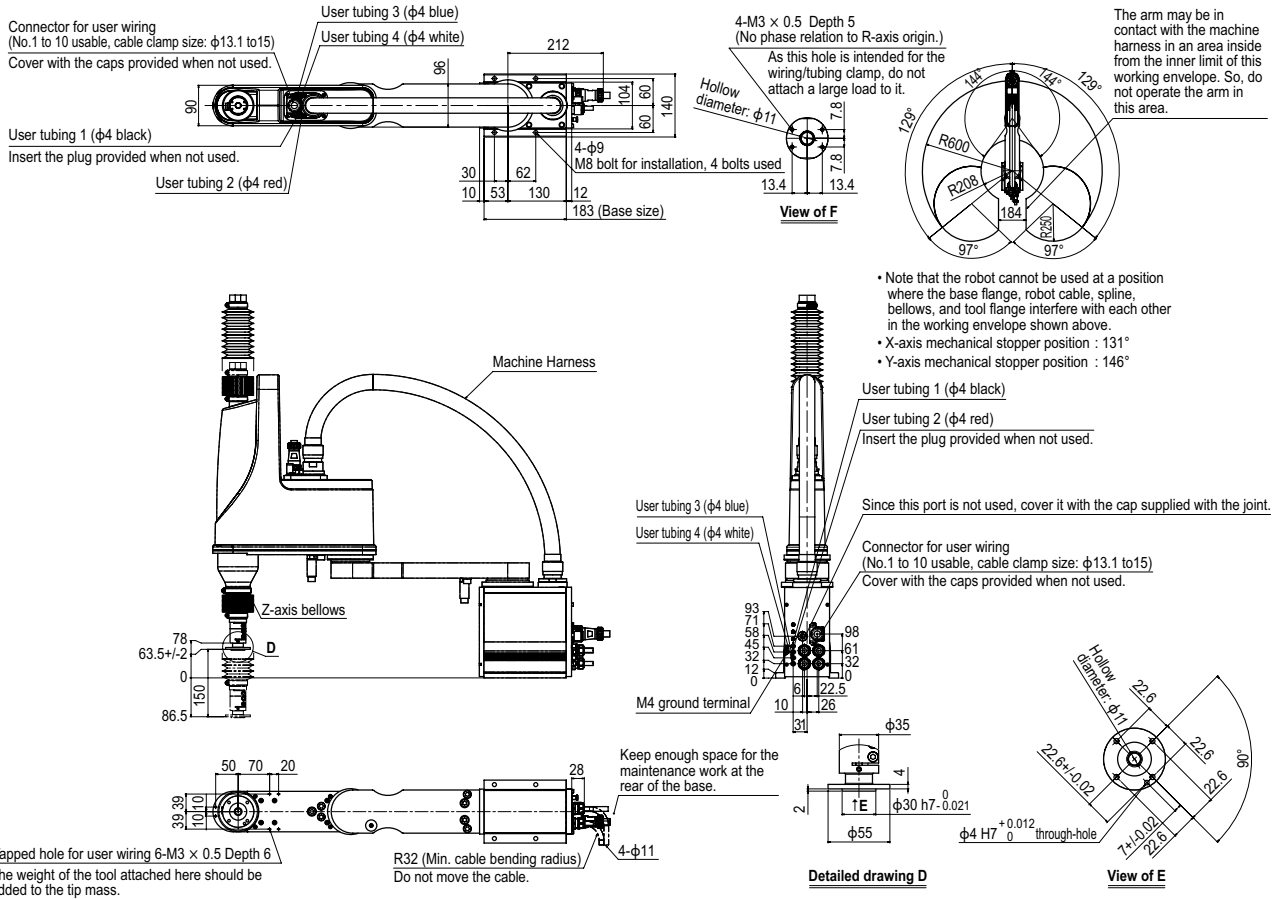
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YK600XGLP



- Articulated robots YA
- Linear conveyor modules LCM
- Single-axis robots CX
- Motorless single axis actuator Robonty
- Compact single-axis robots TRANSERO
- Single-axis robots FLIP-X
- Linear motor single-axis robots PHASER
- Cartesian robots XY-X
- SCARA robots YK-X
- Pick & place robots YP-X
- CLEAN
- CONTROLLER INFORMATION
- Ohbi/Extra small type
- Small / Medium type
- Large type
- Wall mount / Inverse type
- Dust-proof & drip-proof type

YK600XGLP Tool flange mount type



YK600XGP

Dust-proof & drip-proof type

- Arm length 600mm
- Maximum payload 10kg

Ordering method

YK600XGP		F		RCX340-4							
Model	Z axis stroke	Tool flange	Cable	Controller / Number of controllable axes	Safety standard	Option A (OP.A)	Option B (OP.B)	Option C (OP.C)	Option D (OP.D)	Option E (OP.E)	Absolute battery
	200: 200mm 300: 300mm	F: With tool flange	3L: 3.5m 5L: 5m 10L: 10m								

Specify various controller setting items. RCX340 ▶ **P.678**

Specifications

		X-axis	Y-axis	Z-axis	R-axis
Axis specifications	Arm length	300 mm	300 mm	200 mm 300 mm	—
	Rotation angle	+/-130 °	+/-145 °	—	+/-360 °
AC servo motor output		400 W	200 W	200 W	200 W
Deceleration mechanism	Transmission method	Direct-coupled			
	Motor to speed reducer Speed reducer to output	Direct-coupled			
Repeatability ^{Note 1}		+/-0.01 mm	+/-0.01 mm	+/-0.004 °	
Maximum speed		8.4 m/sec	2.3 m/sec 1.7 m/sec	1700 °/sec	
Maximum payload		10 kg			
Standard cycle time: with 2kg payload ^{Note 2}		0.56 sec			
R-axis tolerable moment of inertia ^{Note 3}		0.3 kgm ²			
Protection class ^{Note 4}		Equivalent to IP65 (IEC 60529)			
User wiring (sq × wires)		0.2 × 20			
User tubing (Outer diameter)		φ 6 × 3			
Travel limit		1.Soft limit 2.Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 3.5 m Option: 5 m, 10 m			
Weight		Z axis 200 mm: 33 kg Z axis 300 mm: 34 kg			

Note 1. This is the value at a constant ambient temperature. (X,Y axes)
 Note 2. When reciprocating 25mm in vertical direction and 300mm in horizontal direction (rough-positioning arch motion).
 Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia settings.
 Note 4. Do not use robots where the bellows section is directly exposed to water jet. Contact our distributor for information on drip-proof structure preventing liquid other than water.

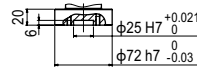
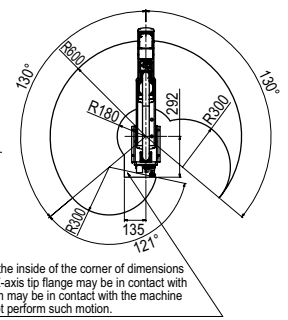
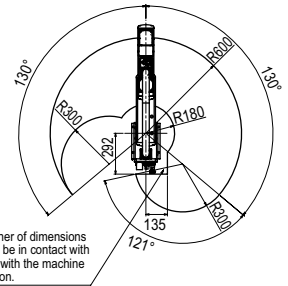
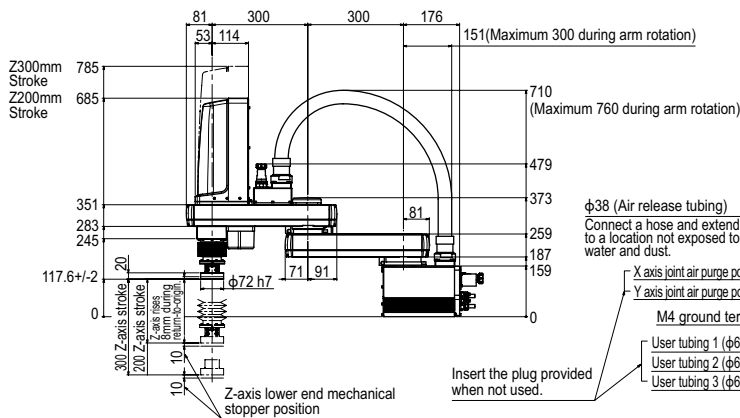
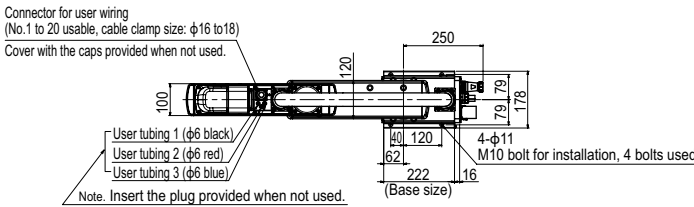
Controller

Controller	Power capacity (VA)	Operation method
RCX340	1700	Programming / I/O point trace / Remote command / Operation using RS-232C communication

Note. The movement range can be limited by changing the positions of X and Y axis mechanical stoppers. (The movement range is set to the maximum at the time of shipment.)
 See our robot manuals (installation manuals) for detailed information.
 Note. To set the standard coordinates with high accuracy, use a standard coordinate setting jig (option). Refer to the user's manual (installation manual) for more details.

Our robot manuals (installation manuals) can be downloaded from our website at the address below:
<https://global.yamaha-motor.com/business/robot/>

YK600XGP



Z axis tip shape

- Note that the robot cannot be used at a position where the base flange, robot cable, spline, and bellows interfere with each other in the working envelope shown above.
- X-axis mechanical stopper position : 132°
- Y-axis mechanical stopper position : 147°

* There is no phase relation between each position of M5 tapped holes and R-axis origin position.

Articulated robots YA
 Linear conveyor modules LCM
 Single-axis robots CX
 Motor-less single-axis actuator Robotomy
 Compact single-axis robots TRANSEVO
 Single-axis robots FLIP-X
 Linear motor single-axis robots PHASER
 Cartesian robots XY-X
 SCARA robots YK-X
 Pick & place robots YP-X
 CLEAN
 CONTROLLER INFORMATION
 Oht/Extra small type
 Small / Medium type
 Large type
 Wall mount / Inverse type
 Dust-proof & drip-proof type

YK600XGHP

Dust-proof & drip-proof type

- Arm length 600mm
- Maximum payload 18kg

Ordering method

YK600XGHP		F		RCX340-4								
Model	Z axis stroke	Tool flange	Cable	Controller / Number of controllable axes	Safety standard	Option A (OP.A)	Option B (OP.B)	Option C (OP.C)	Option D (OP.D)	Option E (OP.E)	Absolute battery	
	200: 200mm 400: 400mm	F: With tool flange	3L: 3.5m 5L: 5m 10L: 10m									

Specify various controller setting items. RCX340 ▶ **P.678**

Specifications

		X-axis	Y-axis	Z-axis	R-axis
Axis specifications	Arm length	200 mm	400 mm	200 mm	400 mm
	Rotation angle	+/-130 °	+/-150 °	-	+/-360 °
AC servo motor output		750 W	400 W	400 W	200 W
Deceleration mechanism	Transmission method	Direct-coupled			
	Motor to speed reducer	Direct-coupled			
Repeatability <small>Note 1</small>	Speed reducer to output	Direct-coupled			
		+/-0.02 mm	+/-0.01 mm	+/-0.004 °	
Maximum speed		7.7 m/sec	2.3 m/sec	1.7 m/sec	920 °/sec
Maximum payload		18 kg			
Standard cycle time: with 2kg payload <small>Note 2</small>		0.57 sec			
R-axis tolerable moment of inertia <small>Note 3</small>		1.0 kgm ²			
Protection class <small>Note 4</small>		Equivalent to IP65 (IEC 60529)			
User wiring (sq × wires)		0.2 × 20			
User tubing (Outer diameter)		φ 6 × 3			
Travel limit		1. Soft limit 2. Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 3.5 m Option: 5 m, 10 m			
Weight		Z axis 200 mm: 52 kg Z axis 400 mm: 54 kg			

Note 1. This is the value at a constant ambient temperature. (X,Y axes)
 Note 2. When reciprocating 25mm in vertical direction and 300mm in horizontal direction (rough-positioning arch motion).
 Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia settings.
 Note 4. Do not use robots where the bellows section is directly exposed to water jet. Contact our distributor for information on drip-proof structure preventing liquid other than water.

Controller

Controller	Power capacity (VA)	Operation method
RCX340	2500	Programming / I/O point trace / Remote command / Operation using RS-232C communication

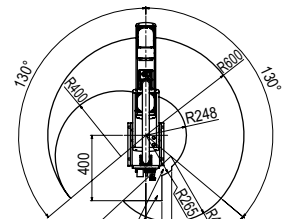
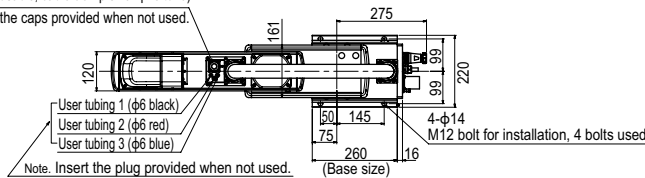
Note. The movement range can be limited by changing the positions of X and Y axis mechanical stoppers. (The movement range is set to the maximum at the time of shipment.)
 See our robot manuals (installation manuals) for detailed information.

Note. To set the standard coordinates with high accuracy, use a standard coordinate setting jig (option). Refer to the user's manual (installation manual) for more details.

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<https://global.yamaha-motor.com/business/robot/>

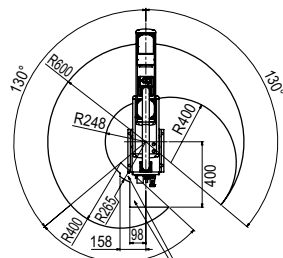
YK600XGHP

Connector for user wiring (No.1 to 20 usable, cable clamp size: φ16 to 18)
 Cover with the caps provided when not used.



If the robot enters the inside of R265 and corner of dimensions 98 and 400, the Z-axis tip flange may be in contact with the base or the arm may be in contact with the machine harness. So, do not perform such motion.

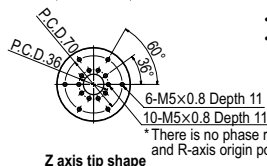
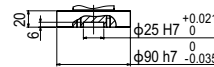
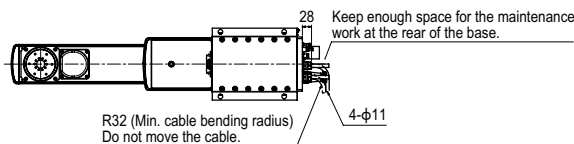
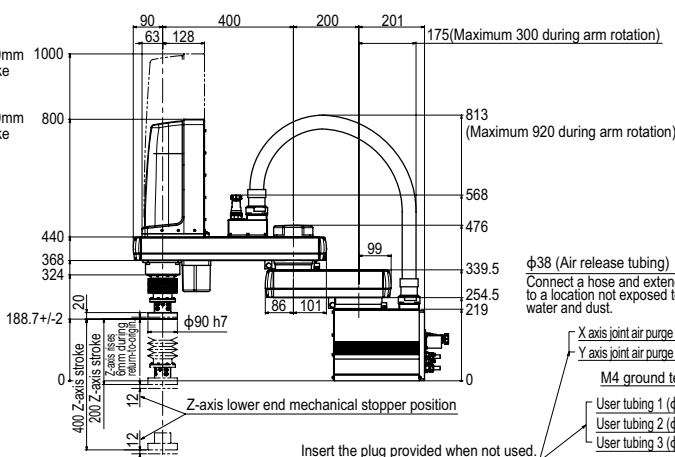
Working envelope of left-handed system



If the robot enters the inside of R265 and corner of dimensions 98 and 400, the Z-axis tip flange may be in contact with the base or the arm may be in contact with the machine harness. So, do not perform such motion.

Working envelope of right-handed system

- Note that the robot cannot be used at a position where the base flange, robot cable, spline, and bellows interfere with each other in the working envelope shown above.
- X-axis mechanical stopper position : 132°
- Y-axis mechanical stopper position : 152°



Z axis tip shape

YK700XGP

Dust-proof & drip-proof type



- Arm length 700mm
- Maximum payload 20kg

Ordering method

YK700XGP	F	RCX340-4									
Model	Z axis stroke	Tool flange	Cable	Controller / Number of controllable axes	Safety standard	Option A (OP.A)	Option B (OP.B)	Option C (OP.C)	Option D (OP.D)	Option E (OP.E)	Absolute battery
	200: 200mm 400: 400mm	F: With tool flange	3L: 3.5m 5L: 5m 10L: 10m								

Specify various controller setting items. RCX340 ▶ **P.678**

Specifications

		X-axis	Y-axis	Z-axis	R-axis
Axis specifications	Arm length	300 mm	400 mm	200 mm	400 mm
	Rotation angle	+/-130 °	+/-150 °	-	+/-360 °
AC servo motor output		750 W	400 W	400 W	200 W
Deceleration mechanism	Transmission method	Direct-coupled			
	Motor to speed reducer Speed reducer to output	Direct-coupled			
Repeatability ^{Note 1}		+/-0.02 mm	+/-0.01 mm	+/-0.004 °	
Maximum speed		8.4 m/sec	2.3 m/sec	1.7 m/sec	920 °/sec
Maximum payload		20 kg			
Standard cycle time: with 2kg payload ^{Note 2}		0.52 sec			
R-axis tolerable moment of inertia ^{Note 3}		1.0 kgm ²			
Protection class ^{Note 4}		Equivalent to IP65 (IEC 60529)			
User wiring		0.2 sq × 20 wires			
User tubing (Outer diameter)		φ 6 × 3			
Travel limit		1.Soft limit 2.Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 3.5 m Option: 5 m, 10 m			
Weight		Z axis 200 mm: 54 kg Z axis 400 mm: 56 kg			

Note 1. This is the value at a constant ambient temperature. (X,Y axes)
 Note 2. When reciprocating 25mm in vertical direction and 300mm in horizontal direction (rough-positioning arch motion).
 Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia settings.
 Note 4. Do not use robots where the bellows section is directly exposed to water jet. Contact our distributor for information on drip-proof structure preventing liquid other than water.

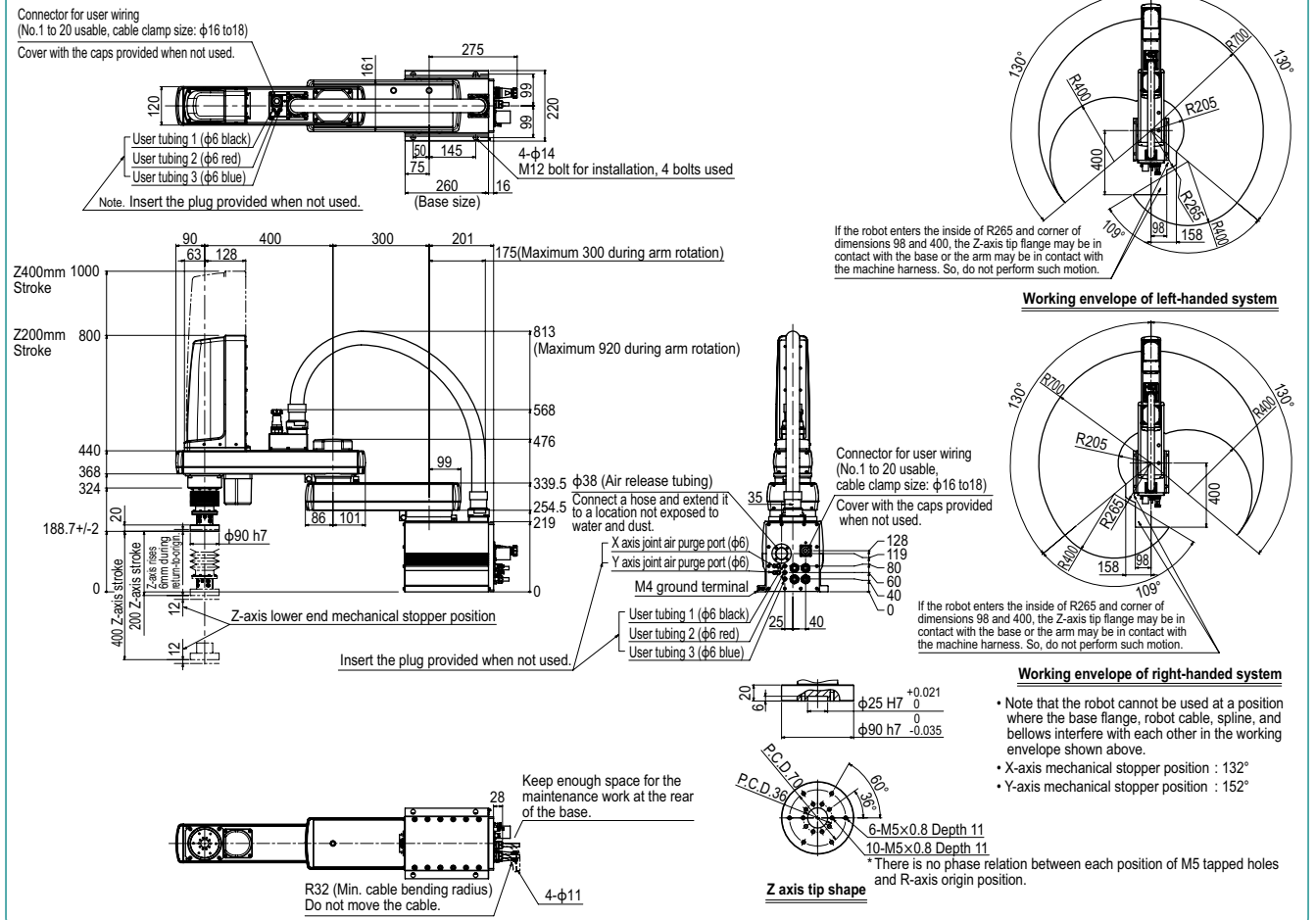
Controller

Controller	Power capacity (VA)	Operation method
RCX340	2500	Programming / I/O point trace / Remote command / Operation using RS-232C communication

Note. The movement range can be limited by changing the positions of X and Y axis mechanical stoppers. (The movement range is set to the maximum at the time of shipment.) See our robot manuals (installation manuals) for detailed information.
 Note. To set the standard coordinates with high accuracy, use a standard coordinate setting jig (option). Refer to the user's manual (installation manual) for more details.

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YK700XGP



YK800XGP

Dust-proof & drip-proof type

- Arm length 800mm
- Maximum payload 20kg

Ordering method

YK800XGP		F		RCX340-4								
Model	Z axis stroke	Tool flange	Cable	Controller / Number of controllable axes	Safety standard	Option A (OP.A)	Option B (OP.B)	Option C (OP.C)	Option D (OP.D)	Option E (OP.E)	Absolute battery	
	200: 200mm 400: 400mm	F: With tool flange	3L: 3.5m 5L: 5m 10L: 10m									

Specify various controller setting items. RCX340 ▶ **P.678**

Specifications

		X-axis	Y-axis	Z-axis	R-axis
Axis specifications	Arm length	400 mm	400 mm	200 mm / 400 mm	—
	Rotation angle	+/-130 °	+/-150 °	—	+/-360 °
AC servo motor output		750 W	400 W	400 W	200 W
Deceleration mechanism	Transmission method	Direct-coupled			
	Motor to speed reducer	Direct-coupled			
Repeatability ^{Note 1}		+/-0.02 mm	+/-0.01 mm	+/-0.004 °	
	Maximum speed	9.2 m/sec	2.3 m/sec	1.7 m/sec	920 °/sec
Maximum payload		20 kg			
Standard cycle time: with 2kg payload ^{Note 2}		0.58 sec			
R-axis tolerable moment of inertia ^{Note 3}		1.0 kgm ²			
Protection class ^{Note 4}		Equivalent to IP65 (IEC 60529)			
User wiring		0.2 sq x 20 wires			
User tubing (Outer diameter)		φ 6 x 3			
Travel limit		1. Soft limit 2. Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 3.5 m Option: 5 m, 10 m			
Weight		Z axis 200 mm: 56 kg Z axis 400 mm: 58 kg			

Note 1. This is the value at a constant ambient temperature. (X,Y axes)

Note 2. When reciprocating 25mm in vertical direction and 300mm in horizontal direction (rough-positioning arch motion).

Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia settings.

Note 4. Do not use robots where the bellows section is directly exposed to water jet. Contact our distributor for information on drip-proof structure preventing liquid other than water.

Controller

Controller	Power capacity (VA)	Operation method
RCX340	2500	Programming / I/O point trace / Remote command / Operation using RS-232C communication

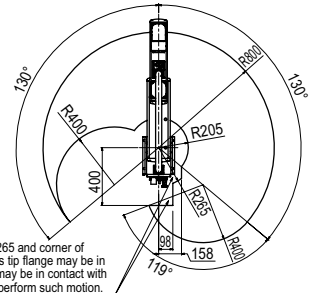
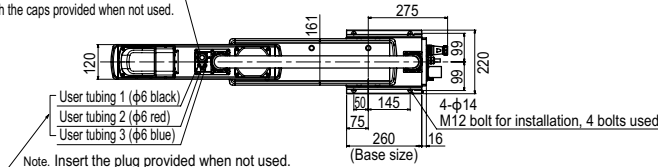
Note. The movement range can be limited by changing the positions of X and Y axis mechanical stoppers. (The movement range is set to the maximum at the time of shipment.) See our robot manuals (installation manuals) for detailed information.

Note. To set the standard coordinates with high accuracy, use a standard coordinate setting jig (option). Refer to the user's manual (installation manual) for more details.

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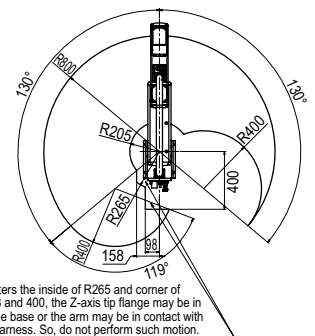
YK800XGP

Connector for user wiring (No.1 to 20 usable, cable clamp size: φ16 to 18)
Cover with the caps provided when not used.



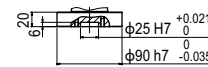
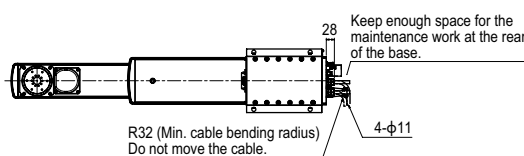
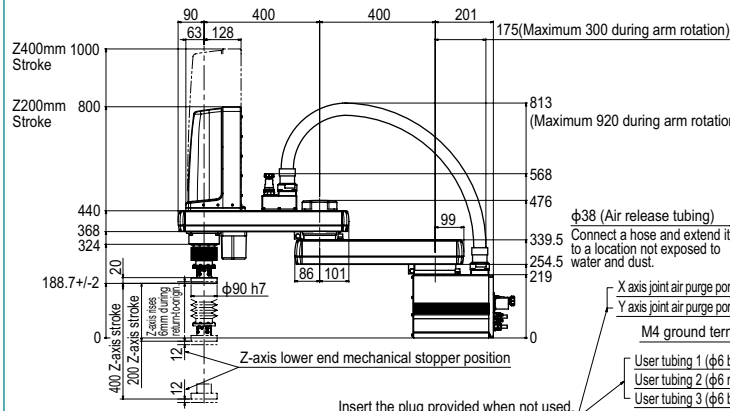
Working envelope of left-handed system

If the robot enters the inside of R265 and corner of dimensions 98 and 400, the Z-axis tip flange may be in contact with the base or the arm may be in contact with the machine harness. So, do not perform such motion.



Working envelope of right-handed system

If the robot enters the inside of R265 and corner of dimensions 98 and 400, the Z-axis tip flange may be in contact with the base or the arm may be in contact with the machine harness. So, do not perform such motion.



Z axis tip shape

- Note that the robot cannot be used at a position where the base flange, robot cable, spline, and bellows interfere with each other in the working envelope shown above.
- X-axis mechanical stopper position : 132°
- Y-axis mechanical stopper position : 152°

* There is no phase relation between each position of M5 tapped holes and R-axis origin position.

YK900XGP

Dust-proof & drip-proof type

- Arm length 900mm
- Maximum payload 20kg

Ordering method

YK900XGP	F	RCX340-4									
Model	Z axis stroke	Tool flange	Cable	Controller / Number of controllable axes	Safety standard	Option A (OP.A)	Option B (OP.B)	Option C (OP.C)	Option D (OP.D)	Option E (OP.E)	Absolute battery
	200: 200mm 400: 400mm	F: With tool flange	3L: 3.5m 5L: 5m 10L: 10m								

Specify various controller setting items. RCX340 ▶ **P.678**

Specifications

		X-axis	Y-axis	Z-axis	R-axis
Axis specifications	Arm length	500 mm	400 mm	200 mm	400 mm
	Rotation angle	+/-130 °	+/-150 °	-	+/-360 °
AC servo motor output		750 W	400 W	400 W	200 W
Deceleration mechanism	Transmission method	Direct-coupled			
	Motor to speed reducer Speed reducer to output	Direct-coupled			
Repeatability ^{Note 1}		+/-0.02 mm	+/-0.01 mm	+/-0.004 °	
Maximum speed		9.9 m/sec	2.3 m/sec	1.7 m/sec	920 °/sec
Maximum payload		20 kg			
Standard cycle time: with 2kg payload ^{Note 2}		0.59 sec			
R-axis tolerable moment of inertia ^{Note 3}		1.0 kgm ²			
Protection class ^{Note 4}		Equivalent to IP65 (IEC 60529)			
User wiring (sq × wires)		0.2 × 20			
User tubing (Outer diameter)		φ 6 × 3			
Travel limit		1.Soft limit 2.Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 3.5 m Option: 5 m, 10 m			
Weight		Z axis 200 mm: 58 kg Z axis 400 mm: 60 kg			

Note 1. This is the value at a constant ambient temperature. (X,Y axes)

Note 2. When reciprocating 25mm in vertical direction and 300mm in horizontal direction (rough-positioning arch motion).

Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia settings.

Note 4. Do not use robots where the bellows section is directly exposed to water jet. Contact our distributor for information on drip-proof structure preventing liquid other than water.

Controller

Controller	Power capacity (VA)	Operation method
RCX340	2500	Programming / I/O point trace / Remote command / Operation using RS-232C communication

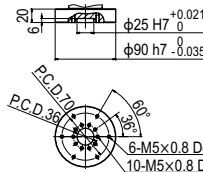
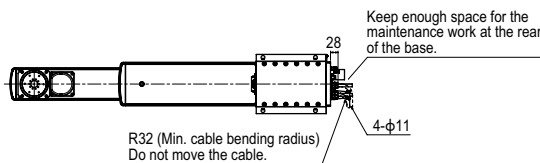
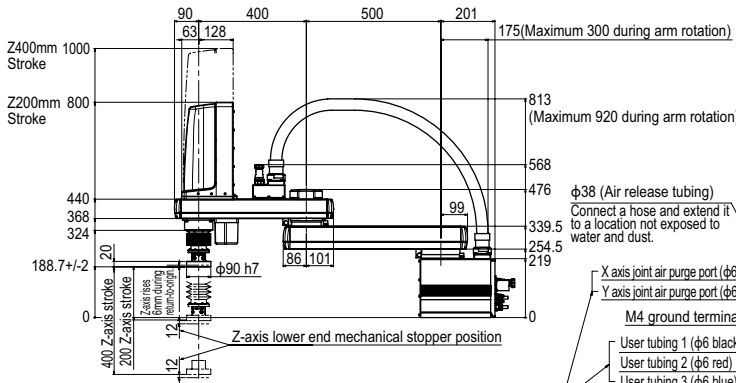
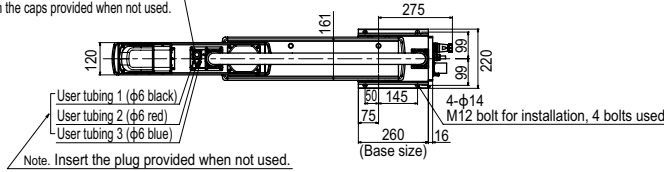
Note. The movement range can be limited by changing the positions of X and Y axis mechanical stoppers. (The movement range is set to the maximum at the time of shipment.)
See our robot manuals (installation manuals) for detailed information.

Note. To set the standard coordinates with high accuracy, use a standard coordinate setting jig (option). Refer to the user's manual (installation manual) for more details.

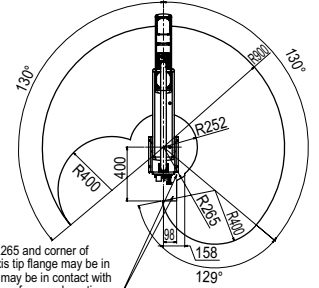
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YK900XGP

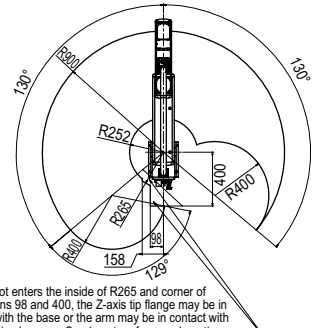
Connector for user wiring
(No.1 to 20 usable, cable clamp size: φ16 to 18)
Cover with the caps provided when not used.



Z axis tip shape



Working envelope of left-handed system



Working envelope of right-handed system

- Note that the robot cannot be used at a position where the base flange, robot cable, spline, and bellows interfere with each other in the working envelope shown above.
- X-axis mechanical stopper position : 132°
- Y-axis mechanical stopper position : 152°

* There is no phase relation between each position of M5 tapped holes and R-axis origin position.

YK1000XGP

Dust-proof & drip-proof type

- Arm length 1000mm
- Maximum payload 20kg

Ordering method

YK1000XGP		F		RCX340-4								
Model	Z axis stroke	Tool flange	Cable	Controller / Number of controllable axes	Safety standard	Option A (OP.A)	Option B (OP.B)	Option C (OP.C)	Option D (OP.D)	Option E (OP.E)	Absolute battery	
	200: 200mm 400: 400mm	F: With tool flange	3L: 3.5m 5L: 5m 10L: 10m									

Specify various controller setting items. RCX340 ▶ **P.678**

Specifications

		X-axis	Y-axis	Z-axis	R-axis
Axis specifications	Arm length	600 mm	400 mm	200 mm / 400 mm	—
	Rotation angle	+/-130 °	+/-150 °	—	+/-360 °
AC servo motor output		750 W	400 W	400 W	200 W
Deceleration mechanism	Transmission method	Direct-coupled			
	Motor to speed reducer	Direct-coupled			
Repeatability <small>Note 1</small>		+/-0.02 mm		+/-0.01 mm	+/-0.004 °
	Maximum speed	10.6 m/sec		2.3 m/sec / 1.7 m/sec	920 °/sec
Maximum payload		20 kg			
Standard cycle time: with 2kg payload <small>Note 2</small>		0.59 sec			
R-axis tolerable moment of inertia <small>Note 3</small>		1.0 kgm ²			
Protection class <small>Note 4</small>		Equivalent to IP65 (IEC 60529)			
User wiring (sq × wires)		0.2 × 20			
User tubing (Outer diameter)		φ 6 × 3			
Travel limit		1. Soft limit 2. Mechanical stopper (X,Y,Z axis)			
Robot cable length		Standard: 3.5 m Option: 5 m, 10 m			
Weight		Z axis 200 mm: 60 kg Z axis 400 mm: 62 kg			

Note 1. This is the value at a constant ambient temperature. (X,Y axes)
 Note 2. When reciprocating 25mm in vertical direction and 300mm in horizontal direction (rough-positioning arch motion).
 Note 3. The acceleration coefficient is set automatically in accordance with the tip weight and R-axis moment of inertia settings.
 Note 4. Do not use robots where the bellows section is directly exposed to water jet. Contact our distributor for information on drip-proof structure preventing liquid other than water.

Controller

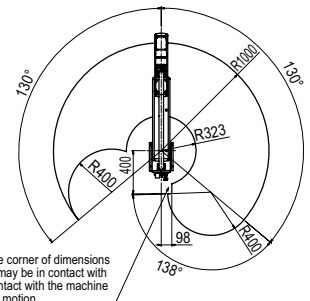
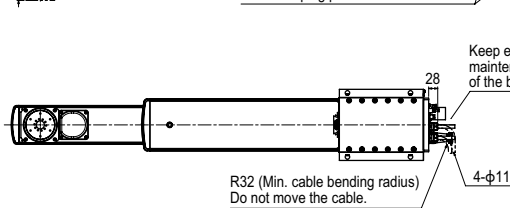
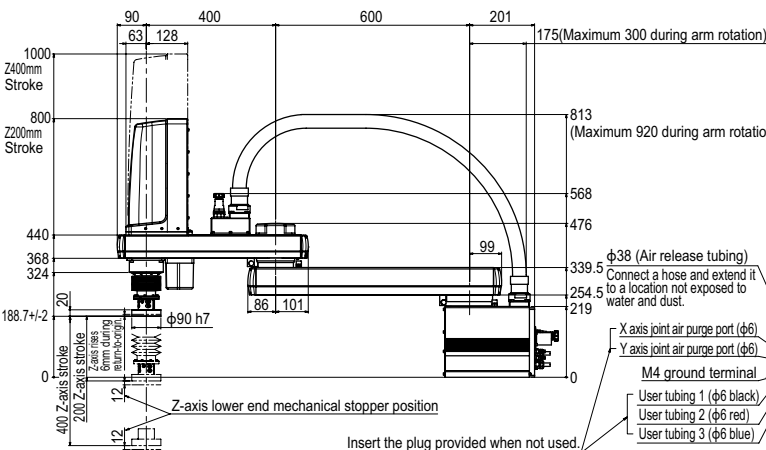
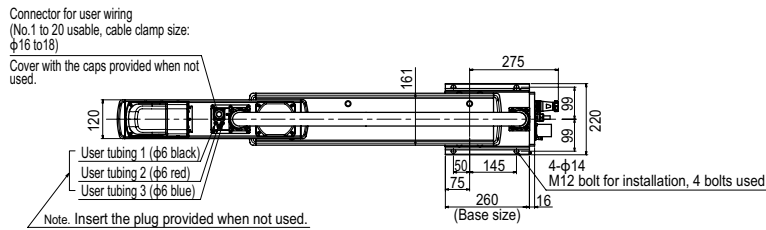
Controller	Power capacity (VA)	Operation method
RCX340	2500	Programming / I/O point trace / Remote command / Operation using RS-232C communication

Note. The movement range can be limited by changing the positions of X and Y axis mechanical stoppers. (The movement range is set to the maximum at the time of shipment.)
 See our robot manuals (installation manuals) for detailed information.

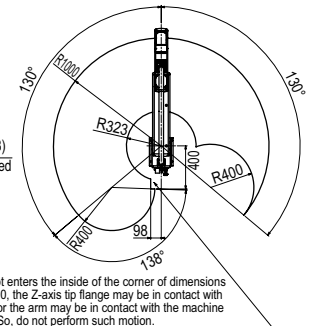
Note. To set the standard coordinates with high accuracy, use a standard coordinate setting jig (option). Refer to the user's manual (installation manual) for more details.

Our robot manuals (installation manuals) can be downloaded from our website at the address below:
<https://global.yamaha-motor.com/business/robot/>

YK1000XGP



Working envelope of left-handed system



Working envelope of right-handed system

- Note that the robot cannot be used at a position where the base flange, robot cable, spline, and bellows interfere with each other in the working envelope shown above.
- X-axis mechanical stopper position : 132°
- Y-axis mechanical stopper position : 152°