SCARA Robot YK1200XG • Controller RCX341　Ordering method

YK1200XG - 400 - [ ] - [ ] - [ ]

Model	Z axis stroke	Tool flange	User Wiring	Cable
		No entry: None	No entry: None	No entry: None
		F: With tool fl ange	UW: User Wiring ※9	3L: 3.5m
				5L: 5m
				10L: 10m

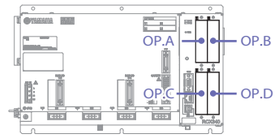
RCX341-4 [ ] - R - [ ] [ ] [ ] [ ] [ ] [ ]

Controller / No. of controllable axes	Safety standards	regenerative unit	Controller option A (OP.A)	Controller option B (OP.B)	Controller option C (OP.C)	Controller option D (OP.D)	Controller option E (OP.E)	Absolute battery ※8
	N : Normal		No entry: Non-selection	No entry: Non-selection	No entry: Non-selection	No entry: Non-selection	No entry: Non-selection	4 : 4 pcs.
	E : CE		NS : STD.DIO(NPN) ※1 ※4	--- ※3	--- ※3	--- ※3	WY: with RCXiVY2+, without lighting	
	K : KCs		NE : EXP.DIO(NPN) ※2 ※4	NE : EXP.DIO(NPN) ※2 ※4	NE : EXP.DIO(NPN) ※2 ※4	NE : EXP.DIO(NPN) ※2 ※4	WL: with RCXiVY2+, with lighting	
	S :SMU compatible		PS : STD.DIO(PNP) ※1 ※4	--- ※3	--- ※3	--- ※3		
			PE : EXP.DIO(PNP) ※2 ※4	PE : EXP.DIO(PNP) ※2 ※4	PE : EXP.DIO(PNP) ※2 ※4	PE : EXP.DIO(PNP) ※2 ※4		
			GR : Gripper	GR : Gripper	GR : Gripper	GR : Gripper		
			TR : Tracking ※5	TR : Tracking ※5	TR : Tracking ※5	TR : Tracking ※5		
			YM1 : YC-Link/E master ※6	YM1 : YC-Link/E master ※6	YM1 : YC-Link/E master ※6	YM1 : YC-Link/E master ※6		
			YS2 to 4: YC-Link/E slave ※6	YS2 to 4: YC-Link/E slave ※6	YS2 to 4: YC-Link/E slave ※6	YS2 to 4: YC-Link/E slave ※6		
			EP : Ethernet/IP™ ※7	EP : Ethernet/IP™ ※7	EP : Ethernet/IP™ ※7	EP : Ethernet/IP™ ※7		
			PB : PROFIBUS ※7	PB : PROFIBUS ※7	PB : PROFIBUS ※7	PB : PROFIBUS ※7		
			CC : CC-Link ※7	CC : CC-Link ※7	CC : CC-Link ※7	CC : CC-Link ※7		
			DN : DeviceNet™ ※7	DN : DeviceNet™ ※7	DN : DeviceNet™ ※7	DN : DeviceNet™ ※7		
			PT : PROFINET ※7	PT : PROFINET ※7	PT : PROFINET ※7	PT : PROFINET ※7		
			ES : EtherCAT ※7	ES : EtherCAT ※7	ES : EtherCAT ※7	ES : EtherCAT ※7		

Please select desired selection items from the upper portion of the controller option A in order.

※1. [STD.DIO] Parallel I/O board standard specifications
Dedicated input 8 points, dedicated output 9 points, generalpurpose input 16 points, general-purpose output 8 points
Do not mix with field bus (CC/DN/PB/EP/PT/ES).
※2. Parallel I/O board expansion specifications.
※3. Only one DIO STD specification board can be selected.
Therefore, this board cannot be selected in OP.B to OP.D.
※4. Be careful not to mix NPN and PNP on the parallel I/O board.
※5. Only one tracking board can be selected from (OP.A)-(OP.D).
※6. Select only one master(YM1) or slave(YS2/YS3/YS4) board for YC-Link/E. Additionally, when ordering YC-Link/E, please specify what robot is connected to what number controller.
※7. Select only one fieldbus in a controller (CC/DN/PB/EP/PT/ES).
※8. When using the incremental specification, the absolute battery is not required. When using the absolute specification, it is necessary to specify the absolute batteries for the number of axes.
※9. User wiring stays (optional) are parts required for additional installation of user wiring. Installation on the robot must be performed by the customer.

●Controller option board position



Standard accessories

Name	Model	Quantity
Power connector＋Connection lever	KAS-M5382-00	1
SAFETY PWR connector	KCX-M5370-00	1
PB terminator	KFR-M5163-00	1
RCX341 Regenerative unit	Set with cable　KCX-M4107-00	1

Name	Model	Quantity
RCX341 Regenerative unit connection cable(0.5m)	For ordering a single product　KEK-M5363-00	1
Cover for COM connector	KR7-M5395-10	1
Cover for Ethernet connector	KCX-M658K-10	1
Cover for USB connector	KCX-M658K-00	1

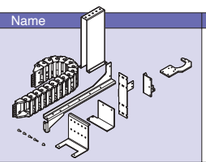
Optional parts

Name	Model	
Absolute battery	KCA-M53G0-03	
NPN / PNP connector	Connector plug model	KBH-M4424-00
	Connector shell model	KBH-M4425-00
External 24 V power connector for brake + connection lever	KCX-M6500-10	

Name		Model
Data cables	USB type (5m)	KBG-M538F-00
	D-Sub type 9Pin-9Pin (5m)	KAS-M538F-10

※ This USB cable supports Windows 2000/XP or later.
※ Data cable jointly used for POPCOM+, VIP+, RCX-Studio Pro.
※ USB driver for communication cable can also be downloaded from our website.
※ Ethernet cable is also supported. (Category 5 or higher)

Name	Model
Replacement fan filter (5 pcs.)	KDK-M427G-00

Name		Model
User Wiring		KNJ-M6203-01

Name	Type	Language	Cable length	Model
Programming box 	PBX	Japanese	5m	KCX-M5110-1J
			12m	KCX-M5110-3J
		English	5m	KCX-M5110-1E
			12m	KCX-M5110-3E
		Chinese	5m	KCX-M5110-1C
			12m	KCX-M5110-3C
	PBX-E (with enable switch)	Japanese	5m	KCX-M5110-0J
			12m	KCX-M5110-2J
		English	5m	KCX-M5110-0E
			12m	KCX-M5110-2E
		Chinese	5m	KCX-M5110-0C
			12m	KCX-M5110-2C

Name	Accessory	Model
Programming box accessory	Display language switching USB for PBX	KCX-M6498-00
	USB cable	KCX-M657E-00

Safety Precautions

Read the instruction manual thoroughly to operate the robot in a correct manner.

YAMAHA MOTOR CO., LTD.

Robotics Operations
Sales & Marketing Section
FA Sales & Marketing Division
127 Toyooka, Chuo-Ku, Hamamatsu, Shizuoka 433-8103, Japan
Tel. +81-53-525-8350　Fax. +81-53-525-8378

URL　https://global.yamaha-motor.com/business/robot/

●Specifications and appearance are subject to change without prior notice.

202610-DE

YAMAHA
Revs Your Heart

New Product Information

Large type SCARA robots

YK1200XG



High payload × High speed achieved

Maximum payload
50 kg

Standard cycle time
(5 kg workpiece payload)
0.61 sec

Applicable controllers　**RCX341**

Output of the multi-axis controller “RCX340” is increased!
High power is achieved even with compact size.



High payload × High speed achieved

YAMAHA large SCARA robot “YK1200X,” which has been on the market for more than 20 years and has shipped more than 3,500 units since its launch in 2001, has been completely renewed!
The YK1200XG is part of the rigid and easy-to-maintain YK-XG series lineup, achieving high payload and industry-leading operating speed.

Maximum payload

50kg

Standard cycle time※

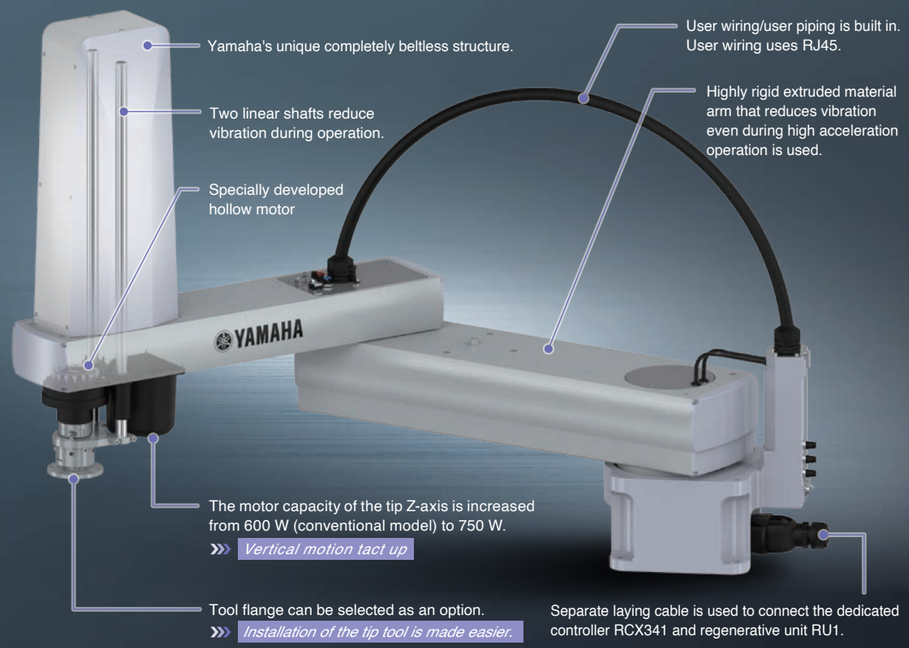
5 kg workpiece payload

0.61 sec

40 kg workpiece payload

0.92 sec

※When moving forth 300mm horizontally and 25mm vertically (rough positioning arch motion).



Special beltless structure

The YAMAHA SCARA robot “YK-XG series” has high accuracy and high rigidity as its strengths, and has a wide lineup with arm lengths ranging from 120 mm to 1,200 mm. The ZR-axis direct coupling structure realizes a unique completely beltless structure.

Long-term maintenance-free is achieved.

Belt-less structure significantly reduces lost motion. High accuracy can be maintained for a long period of time. In addition, this robot can be used maintenance-free for a long period of time without worrying about belt breakage, elongation, or secular deterioration.

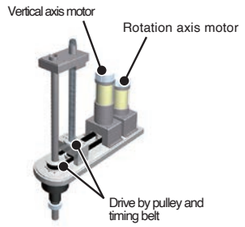
The main body weight is reduced approx. 25% (compared to the conventional product).

While the base is made of iron to maintain rigidity, the body is made of aluminum, taking advantage of the aluminum extrusion technology Yamaha has accumulated over many years, and making it approximately 30 kg lighter than our long-selling model “YK1200X”.

Payload : Weight

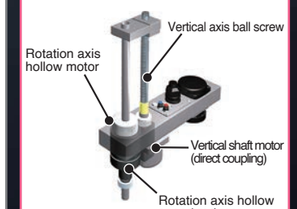
1:1.92

Conventional model



- Rigidity and accuracy are determined by belt.
- Secular change, such as belt elongation occurs.

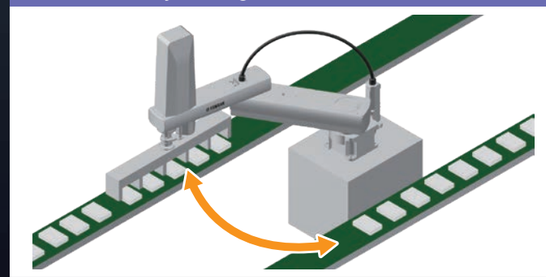
YK-XG series



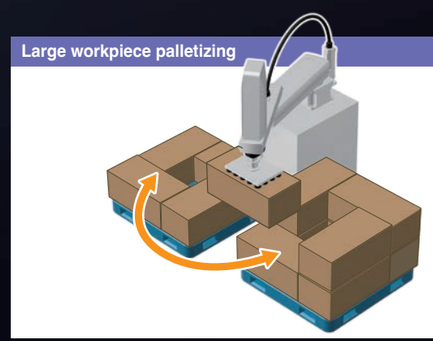
- High rigidity and high accuracy
- No worry about belt elongation and breakage
- Long-time maintenance free

Application examples

In-vehicle battery handing



Large workpiece palletizing



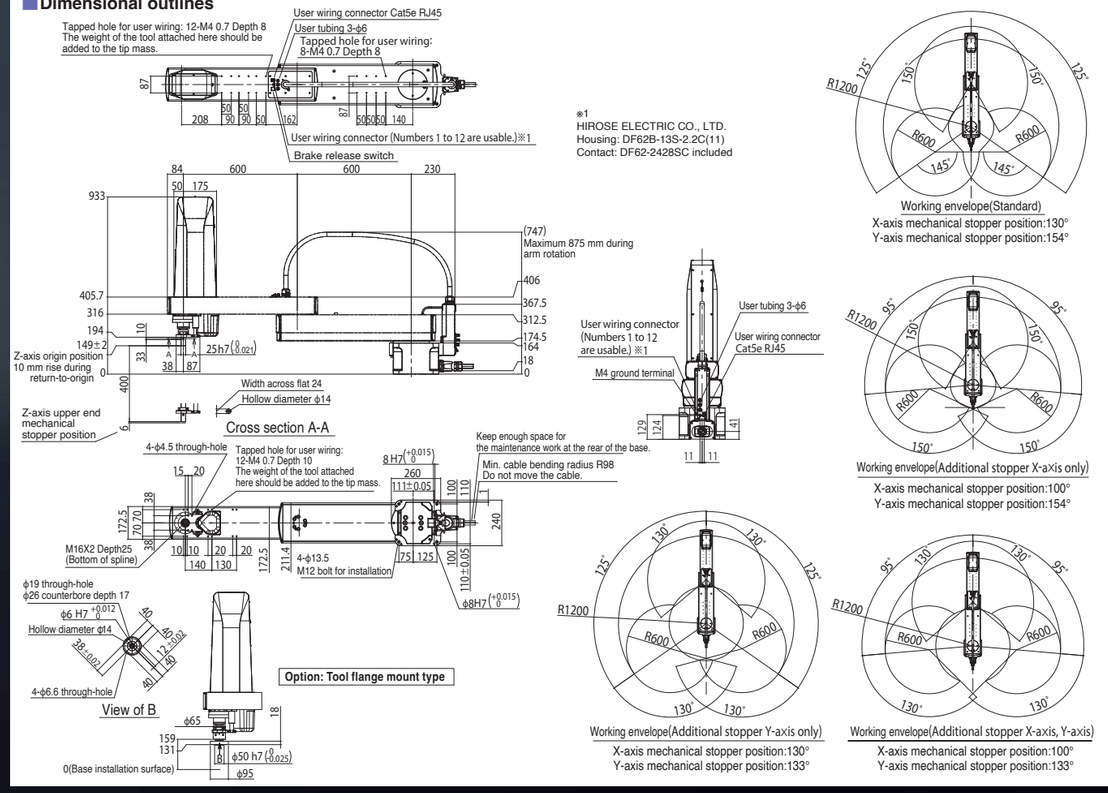
Specifications

YK1200XG			
Axis specifi cations	X-axis	Arm length	600 mm
		Rotation angle	±125°
	Y-axis	Arm length	600 mm
		Rotation angle	±150°
	Z-axis	Stroke	400 mm
	R-axis	Rotation angle	±360°
AC servo motor output		X-axis	950 W
		Y-axis	400 W
		Z-axis	750 W
		R-axis	400 W
Maximum speed		X, Y-axis synthesis	7.7 m/s
		Z-axis	1.6 m/s
		R-axis	660°/s
Repeatability （※1）		X, Y-axis	±0.05 mm
		Z-axis	±0.02 mm
		R-axis	±0.005°

YK1200XG		
Maximum payload		Standard specifi cation 50 kg Tool fl ange mount type 48 kg
Standard cycle time	with 2 kg payload	0.55 sec
	with 5 kg payload	0.61 sec
	with 40 kg payload	0.92 sec
R-axis tolerable moment of inertia （※2）		2.45kgm² (24.5 kgfcms²)
User wiring		0.2 sq × 12 wires +RJ45 Cat5e PoE compatible
User tubing		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		96 kg

※ 1: This is the value at a constant ambient temperature.
※ 2: There are restrictions on the acceleration coefficient setting.

Dimensional outlines



Applicable Controllers

RCX341

Based on the multi-axis controller "RCX340", which features advanced functionality that enables high-level equipment construction, an external regenerative unit "RU1" is installed to dissipate heat inside the controller. The maximum output current has been increased while maintaining the same compact design as the RCX340.



Basic Specifications

RCX341	
Power capacity	2500 VA
External dimensions	W355 × H195 × D130 mm (Main body only)
Weight	5.8 kg
Power supply voltage	Single-phase 200 to 230 V AC +10% or less, 50/60 Hz
Type of grounding system	TN

Dimensional outlines

