YAMAHA
Revs Your Heart

New product information

Efficiency In Production

NEW Option specifications have been added.

- Through-shaft/through-cap
- Brake release switch

YAMAHA SCARA ROBOTS LOW COST HIGH PERFORMANCE MODEL

YK-XE series

High performance × Durability × Economy

Maximum payload **10kg**

Heavy workpieces are also supported.

Suitable for transfer or assembly process of automotive parts.

YK400XE-4 YK510XE-10 YK610XE-10 YK710XE-10

Efficiency and reliability in production at affordable price

YK-XE series

Low cost high performance models that achieve both the high operation performance and affordable price

510mm arm length model YK510XE-10 has been newly added. Now, the YK-XE series provide four models with an arm length ranging from 400 mm to 710 mm.
Easy to use arm length and maximum payload contribute to optimization of the customer's production equipment and cost reduction of the equipment investment.

Optimal for transfer and assembly of automotive parts

Maximum payload **10 kg***

* YK510XE-10, YK610XE-10, YK710XE-10

Providing Effi

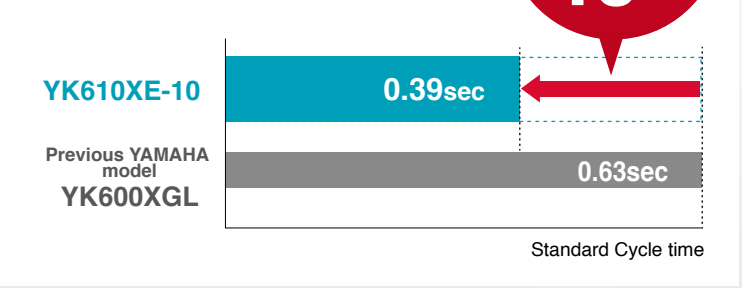
Improvement of productivity by high-speed operation

By reviewing the arm structure, the vibration is reduced and the motion is optimized to shorten the standard cycle time.
High-speed, less-vibration, and agile operation contributes to improvement of the productivity.

Reduced by approx. **40 %**

Standard cycle time **0.39 sec***

* For YK610XE-10



Efficiency In Production

ciency and Quality in production with Affordable price.

Model	Arm length	Maximum payload	Standard cycle time	R-axis tolerable moment of inertia
YK400XE-4	400mm	4kg	0.41sec	0.05kgm^2
YK510XE-10	510mm	10kg	0.38sec	0.3kgm^2
YK610XE-10	610mm	10kg	0.39sec	0.3kgm^2
YK710XE-10	710mm	10kg	0.42sec	0.3kgm^2

For a wide variety of applications Maximum payload 4kg to 10kg

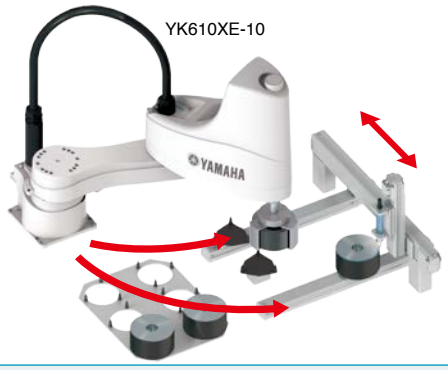
Assembly | Packaging | Palletizing | Sorting | Inspection | Labelling | Soldering

The models support a wide variety of fields such as assembly work that requires a high precision or food sorting work that requires a high-speed operation. As the maximum payload is 10 kg, heavy workpieces such as automotive parts can also be supported.

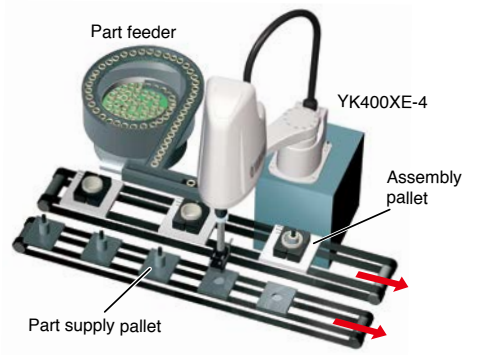
Application Examples

Palletizing

Loading and unloading



Assembly (or Pick & Place)



Inspection

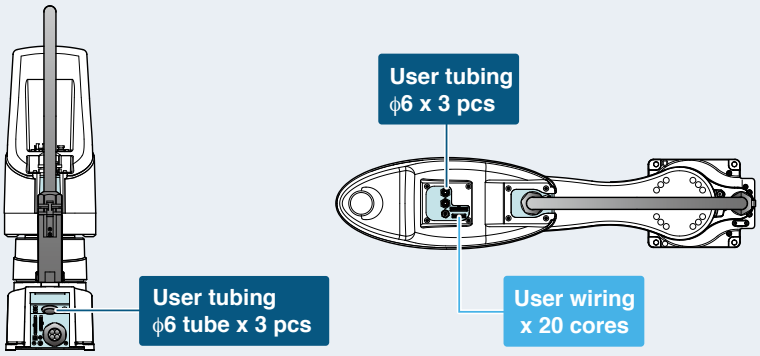
Affordable Price and Improved Performance

Both the high operation performance and affordable price are achieved.
Production equipment with high cost performance can be constructed.

YK400XE-4 | YK510XE-10 | YK610XE-10 | YK710XE-10

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.
(YK610XE-10 and YK710XE-10)



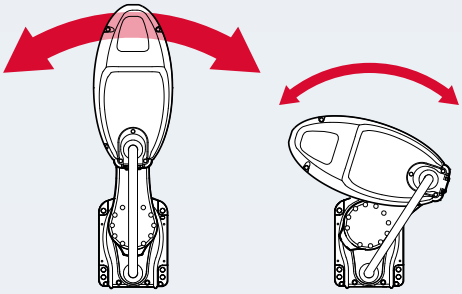
* YK400XE-4 provides the user wiring x 10 cores and the User tubing ϕ4 x 3 pcs.

In Yamaha YK-XE series Acceleration/Deceleration is optimized automatically

The optimal acceleration and deceleration are automatically selected from the arm posture at the time of operation start and the arm posture at the time of operation end.
The motor peak torque or the tolerable peak torque of the speed reducer is not exceeded by inputting only three parameters*.
The full power of the motor is always output to maintain the high acceleration/deceleration.

* Payload, R-axis moment of inertia, and offset amount of R-axis moment of inertia

Inertia of extended arm can be as high as 5 times of that of folded arm



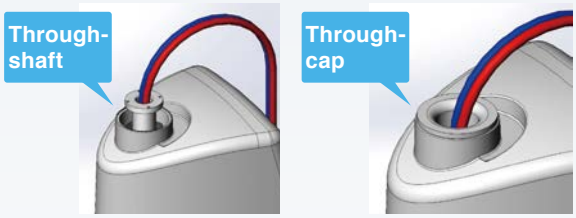
This optimization feature helps:

- **Extends service/maintenance period**
- **Minimizes vibration during operation**
- **Controllability in motion**
- **Keeps peak torque within a tolerance to prevent premature failure**

Through-shaft and through-cap have been added. NEW

Option specifications

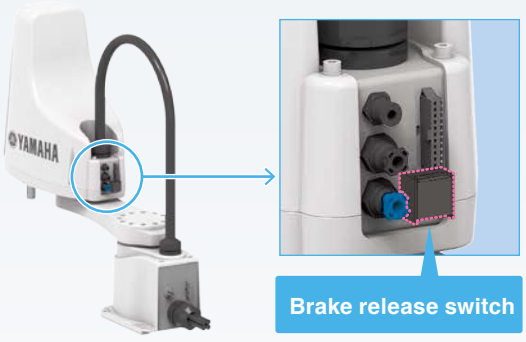
"Through-shaft" or "through-cap" option for wiring and tubing that is convenient to run the air tubing and wiring can be selected. The wiring and tubing routes can be investigated easily without designing and manufacturing a stay for installing the wiring and tubing. In addition, by passing the wiring 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.)



Brake release switch is selectable. NEW

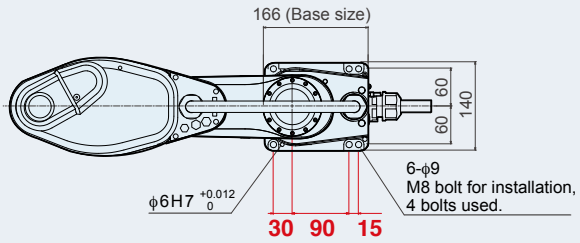
Option specifications

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.

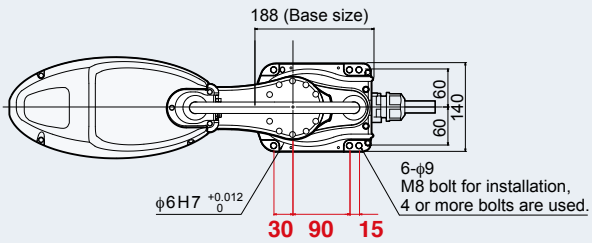


Drop-In upgrade by common platform design

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



Previous YAMAHA model **YK400XR**



YK400XE-4

Easier operation in combination with the RCX340 controller

RCX340 comprehensive controller brings out maximum potential of YK400XE robot system. Optional integrated vision system “RCXiVY2+” provides simplified image processing. Choice of PC Programming Software or Teaching Pendant available.

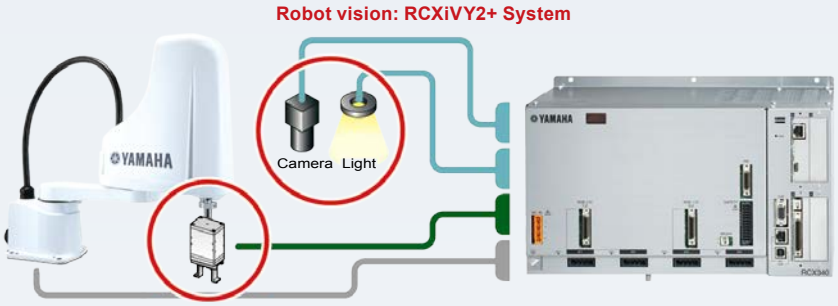
Robot vision
[RCXiVY2+]

Programming box
[PBX]

Support software
[RCX-Studio 2020]

Simple and Easy integration of Vision System

Robot controller with vision and gripper interface



Compatible with various field networks

The robot is compatible with full field networks such as CC-Link, EtherNet/IP™, DeviceNet™, PROFIBUS, PROFINET, and EtherCAT.

CC-Link EtherNet/IP™ DeviceNet™ PROFIBUS® PROFINET® EtherCAT®

Reliability backed by 44-year experience of SCARA robot development

Originally developed in-house to provide durable and accurate motion control in harsh environment of motorcycle manufacturing, Yamaha SCARA robot has been “road tested” and proven over 44 years in various fields.

* The product release was 1984.

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, Kita-ku, Hamamatsu, Shizuoka 433-8103, Japan
Tel. +81-53-525-8350 Fax. +81-53-525-8378

URL https://global.yamaha-motor.com/business/robot/
E-MAIL robotn@yamaha-motor.co.jp

202208-EE