

YK-TW Orbit type

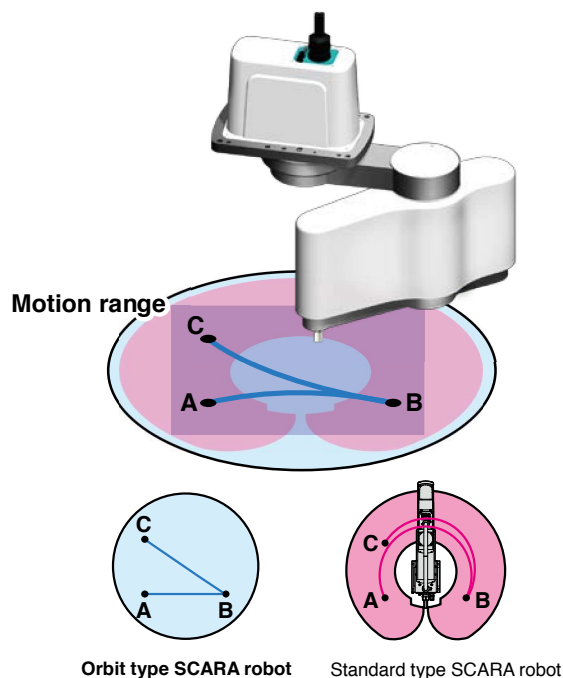
YK-TW POINT 1

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.



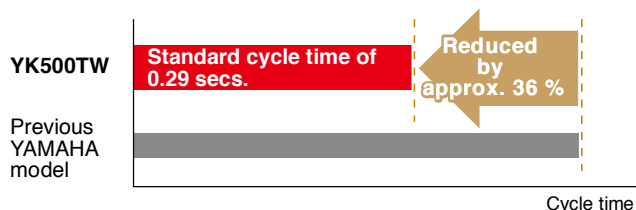
YK-TW POINT 2

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.

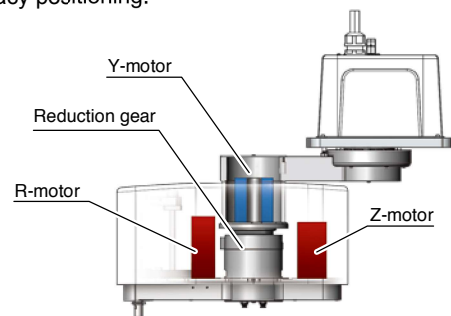
YK-TW POINT 3

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.

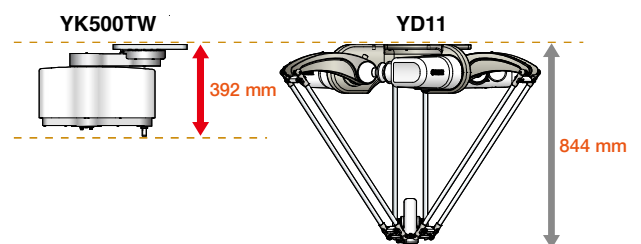
YK-TW POINT 5

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

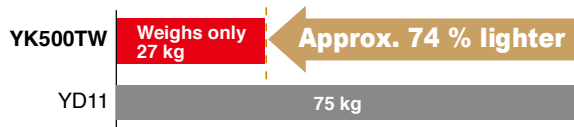
YK-TW POINT 6

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 Note 2.

Lower inertia = Lighter frame

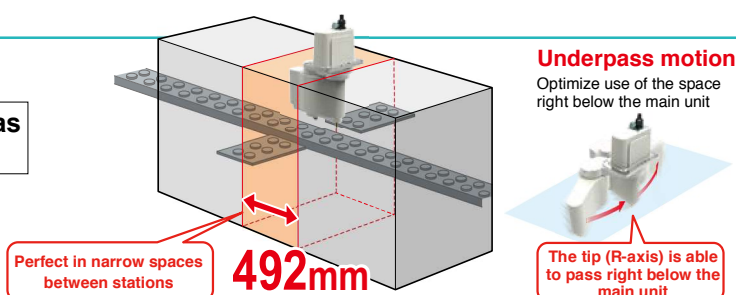


YK-TW POINT 8

Ideal for narrow space applications

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

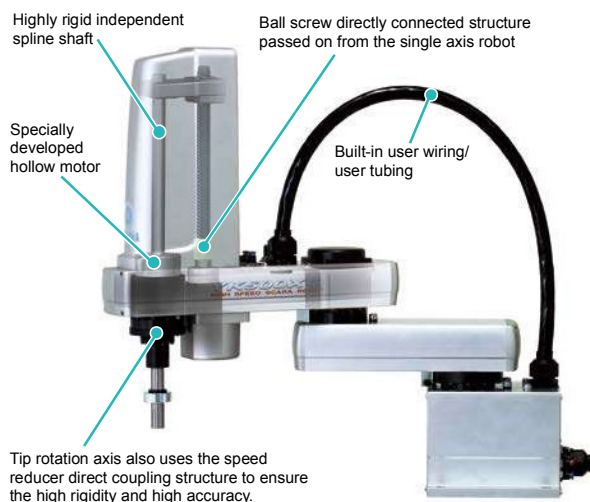
Minimum installation width 492mm Note 1



YK-XG Completely beltless type

Integral structure designed for optimal operation

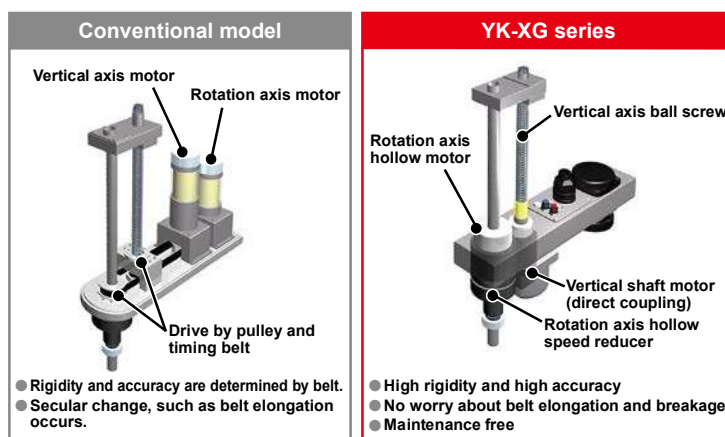
Note. The following shows an example of YK500XG.



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.

