

"Production line needs to be operated stably in severe environments at a room temperature of 4°C."

Before



User:

Workers are difficult to get. Labor-saving needs to be achieved in the production line at a room temperature of 4°C.

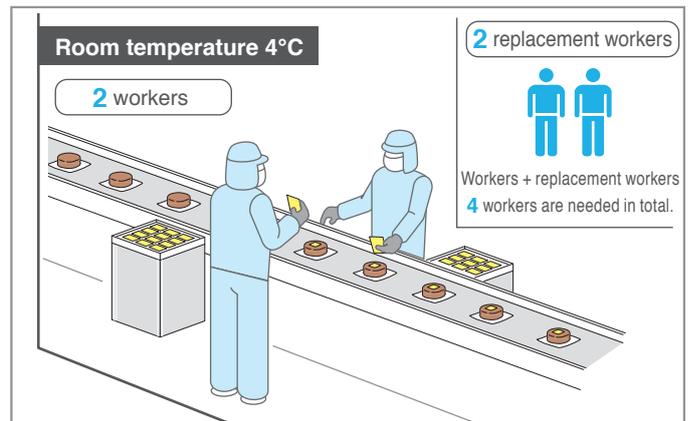
With conventional system...

Workers are difficult to be secured and there are concerns about stable supply.

- Workers are difficult to get and hard to settle because the environment is very severe.
- Number of workers needs to be adjusted depending on their skills.
- Even though the parallel link robot was investigated, its size was an issue.

Background of target

- ▶ Expiration labels are adhered to processed meat products immediately after thawing.
- ▶ Room temperature is 4°C to maintain the quality.
- ▶ Replacement workers are needed because the environment is very severe.
(2 workers + 2 replacement workers = 4 workers in total)



After



Yamaha's answer to the user's needs.

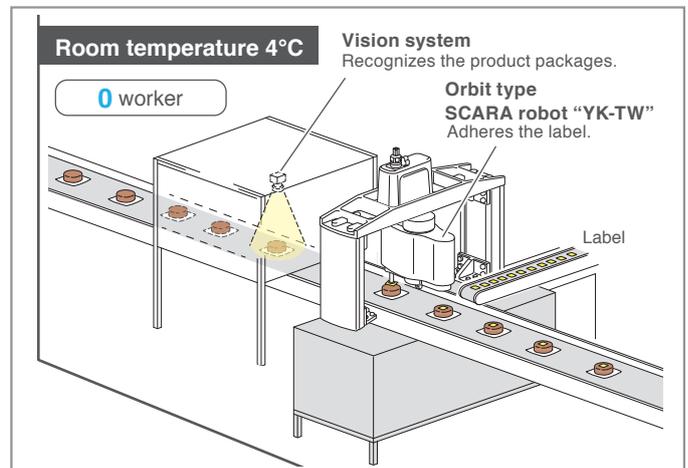
Solved by a combination of an orbit type SCARA robot & a vision system.

- Vision system recognizes the product packages that flow on the conveyor and detects the label adhesion positions.
- Orbit type SCARA robot YK-TW with less dead spaces in the movement range adheres the label to the specified position.



Results:

4 workers that were needed for the label adhesion process are reduced to 0 workers! Equipment can be made in a compact layout and increasing lines and modifying the layout is also easier.



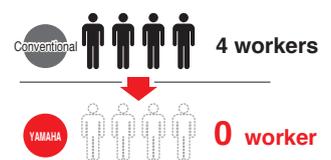
Conventional **2 workers/40 packages/minute × Replacement workers**



YAMAHA 1 system/40 packages/minute

<Improvement effect>

- ▶ Labor-saving is achieved as the robot adheres the expiration labels.
- ▶ Space saving of the production line is achieved by the YK-TW.
- ▶ Conventionally, workers per line needed to be adjusted according to the number of workers and their skills. Now, this problem has also been eliminated due to the labor-savings by the robot.



As labor shortage in severe environments is solved and space saving is achieved, increasing the number of lines is also planned.

User testimonial



Processed meat product manufacturer

People in charge of production engineering

At our company, it is necessary to work in very severe environments at a room temperature of 4°C to maintain the product quality, and the problem was that the workers did not settle because of the harsh conditions. Therefore, it was investigated to introduce equipment using a robot.

However, a parallel link robot we investigated first was large and heavy, and we understood that the equipment needs to be secured by anchors.

Because the equipment is large and needs to be secured by anchors, the factory layout is difficult to change. Therefore, we felt that labor-savings was difficult.

In this situation, we consulted with a trading company and were told that YAMAHA provides ceiling-suspended orbit type SCARA robots "YK-TW".

After some research, we found that "YK-TW" is compact and lightweight and thought that it can be used without anchors. Therefore, we asked the trading company to start investigating it.

We have never used a robot before, but when we consulted with YAMAHA, they were very helpful to get involved in the preliminary evaluation using the actual robot.

We were able to check in advance about the availability of anchors and processing capacity, and found that our problem could be solved.

Thanks to this help, we could significantly lower the hurdle for introducing the robot and the internal approval process was promoted smoothly.

Recently, with the increase in demand for chilled products and frozen foods, it has become necessary to increase the production capacity. However, thanks to the compact equipment and no need for anchors, the layout can be changed easily. So, the plan to increase production lines is also proceeding smoothly.

We are very happy to have introduced YAMAHA's "YK-TW" robot.

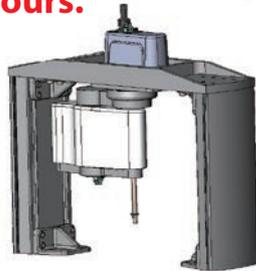
Functional description and merit of YK-TW

YK-TW

YAMAHA genuine installation base reduces the man-hours.

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

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



Overall height is lower than the parallel link robot.

YK-500TW height is only 392 mm. This compact size enables more freedom in the equipment layout design.



Orbit type SCARA robot "YK-TW"
YK500TW



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