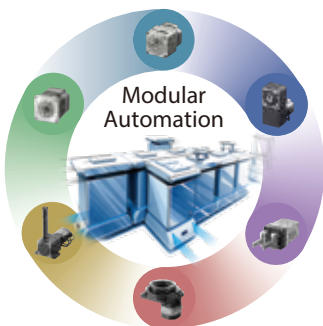




## Flexibility within the Production Line Layout is the key to Modular



Modular automation compatible products offer the features that benefit a flexible assembly line allowing for small lots and a variety of products to be manufactured.

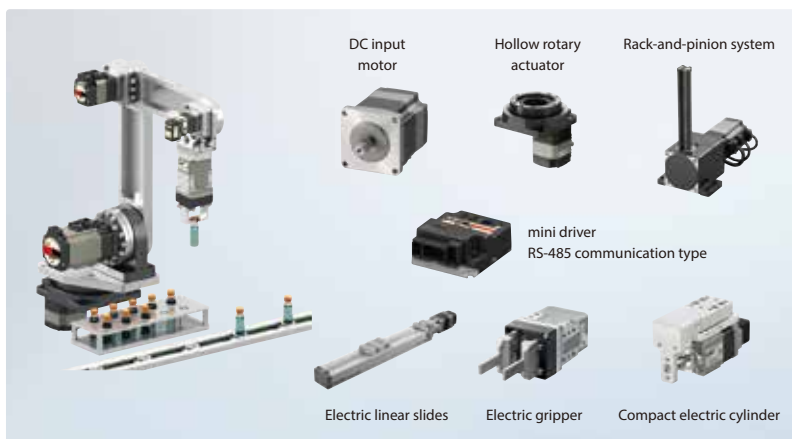
As an increasing number of manufacturing locations are working on automation to replace common tasks, such as transporting materials, assembling products and performing work in difficult-to-access areas. Modular Automation compatible products are a group of products utilizing DC input power or battery operation and are designed to support this direction.



Scan this for details

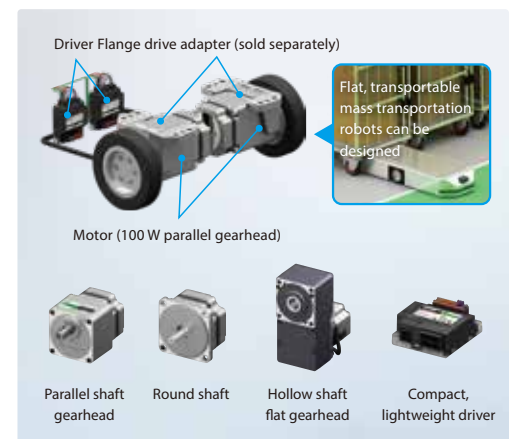
### **αSTEP** AZ Series mini Driver & Motor and Actuator

The absolute system doesn't require a battery, and no home sensor or other sensors are needed. Compact and lightweight design with space saving in mind, operation by either DC input or battery is possible.



### Brushless Motor BLV Series R Type

Low speed operation from 1 r/min is possible, with smooth motion. Both the motor and driver are much smaller and lighter, and can be operated by either DC input or battery.



# Real world example of modular automation that increases productivity utilizing an internally assembled robot.

Oriental Motor, a global manufacture of fractional wattage motors, supports the internal designing of application specific robots with the AZ Series. The AZ Series is a family of motors, network drives and actuators that feature an absolute sensor, closed loop control and easily works with the multi-axis MRC01 controller. This combination of products allows for internally designed and built in-house automation that are designed according to the circumstances and decrease the hurdles in locations where automation wasn't possible. For example, where commercial robots had space restrictions or lack of space inside the equipment, cost limitations, and other barriers. Below is an example of in-house automation built using these the AZ Series of products.

## Automated Sensor Line Assembly Robot

The two actions of transportation between neighboring process equipment and additional positioning have been combined in one horizontal SCARA robot, reducing the processes in order to deal with the issue of restricted equipment width and height as production lines are modularized . This robot is arranged beside the production robot. By having the transportation work performed by the production robot and the parts setting work performed by the internal manufacturing robot carried out at the same time, the overall machine time is reduced .

The robot has a simple and compact design comprised of the following, with one unit costing 1,000,000 JPY (including the electrical components): an AZ series DC input, a DGII series hollow rotary actuator, a DR series compact linear actuator, an EH series electric gripper, and an MRC01 robot controller. Although there were initially some concerns about how to control and set a multi-axis robot, even inexperienced users were able to make the settings smoothly using the MRC Studio programming software .

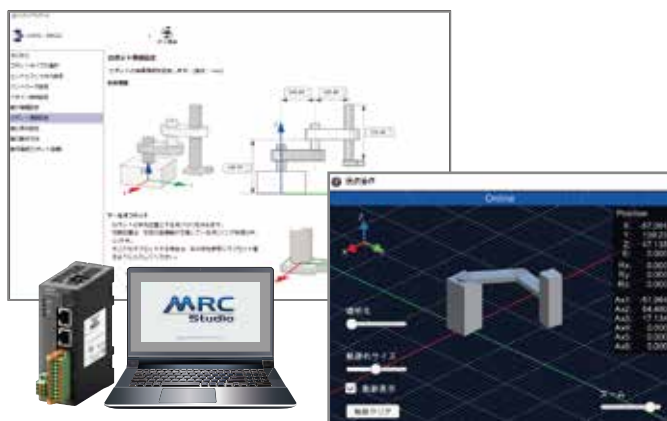
Contact the Oriental Motor Customer Support Center for details and the selections available.



Processing and testing module: Transportation, positioning, processing and testing with a horizontal SCARA and gantry robot



Parts press-fitting module: The limited space under the production robot arm is effectively used by the space-saving horizontal SCARA robot (at the front)



The MRC Studio programming software for robot control allows the user to easily set and check operations by following the software's Wizard