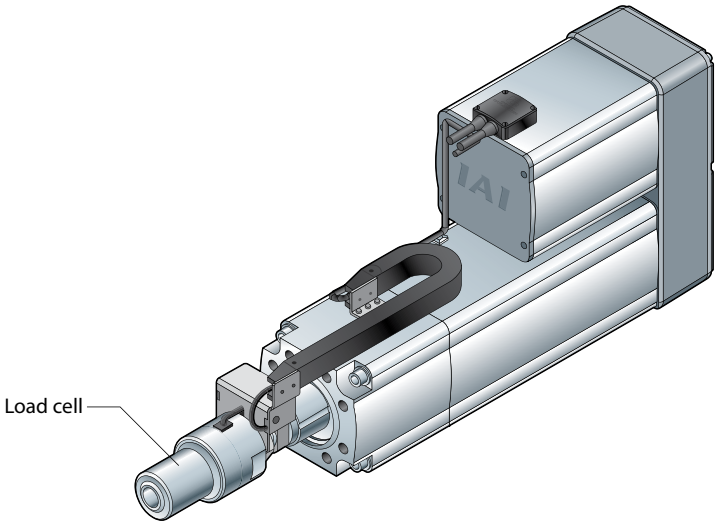
# Force Control Function

Force control is a function that allows for more accurate push control than the traditional push-motion operation, by feeding back the push force via the dedicated load cell (actuator option) fitted on the actuator. When this function is enabled on an actuator of the ultra-high thrust type where the dedicated load cell can be mounted, the actuator can be used as a simple servo press of up to 2 tons (19,600 N) in capacity.




## ■Load Cell Specifications

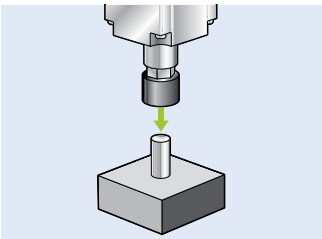
| Item | Specification |
|---|---|
| Load cell method | Strain gauge, hollow cylinder type |
| Rated capacity | 20,000N |
| Allowable overload | 200%R.C* |
| Accuracy | ±1%R.C* |
| Specified temperature range | 0~40°C |
| Dielectric voltage | DC50V |

*RC: Rated capacity

**Note**

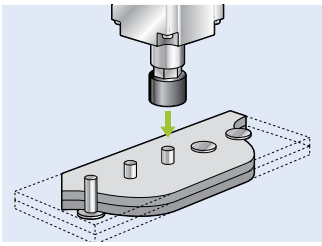
- The optional load cell is used only for push-motion operation. Force control cannot be implemented in the tensile direction.
- The load cell has a life of 2 million pushes.
- The load cell specifications apply to the load cell alone and not to the actuator as a whole.
- The force control function cannot be used if the actuator operates in the pulse-train mode.

## ■Purpose of Use



**Press-fitting pins**

The push force can be controlled accurately.
Also, defects can be recognized by setting an appropriate threshold even when the pins to be press-fitted are thin and loose.



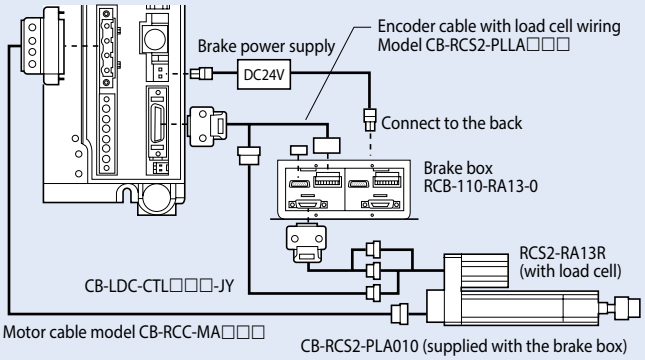
**Clinching**

A different push force can be set precisely for each product, and whether the clinching completion position has been reached can be checked, as well.

## ■How to Use

An ultra-high thrust actuator (RCS2-RA13R) with load cell is required to implement force control. Push-motion operation is performed in the same manner as before, so all you need is to set a desired push force in the position data table in percent (%).

**With brake**




**Without brake**