

Hollow Driving Module Technology for Slim Robot Arm

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- ⇒ Modularized robot technology for various specifications and applications that users can easily produce
- ⇒ Hollow Driving module that allows cables (or wires) to pass directly through the axis of rotation axis of robot arm which constructed with multiple modules.



Client / Market

- Robot manufacturer

Necessity of this Technology

- Cables had to be installed externally, which caused issues with appearance/safety.
- Cable/wire limits the range of movement/rotation of the robot.

Technical Differentiation

- Only the module with an issue can be taken out for inspection-easy maintenance/repair.
- As an independent product, a module with motor, reducer, encoder, brake, and driver can be provided.

Excellence of Technology

- Simple design secured with application of the hollow driving module
- Development of dual arm robot hardware platform and controller, robot element technology, and driving component commercialization completed
- Serialization by driving capacity
- Reliability evaluation standard established and life test completed

DESIRED PARTNERSHIP

Technology Transfer

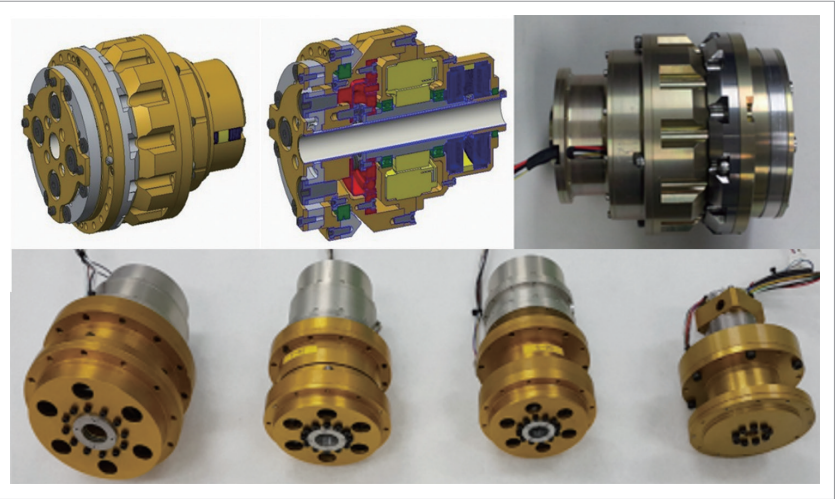
Licensing

Joint Research

Other



TECHNOLOGY READINESS LEVEL [TRL]



Current Intellectual Property Right Status

PATENT

- Hollow driving module (JP5659446)
- Structure of Modular Robot Actuation System (JP5541600, CN102307708)
- Hollow Driving Module (US9293962, JP5659446, CN103358316)

KNOW-HOW

- Joint sagging compensation through composite encoder arrangement
- Lightweight/compact robot joint module design
- Motor, reducer, encoder, brake and controller integration technology