

High Payload Dual Arm Robot with Detachable Forearm Module for Performing Multipurpose Duties

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- ⇒ Payload (approx. 30 kg/arm) robot technology with the best specifications in Korea
- ⇒ Robot with a simply detachable forearm for various use such as dangerous object handling and injured rescue



Client / Market

- Robot manufacturer

Necessity of this Technology

- Existing dual arm robots had fixed forearm that they could be used for one purpose only.

Technical Differentiation

- Dual arm robot with high payload
- Can be installed in a small space
- Dangerous article handling safety secured with back-driving prevention design
- Module type driving part design
- 7-axis/arm redundant operation
- Jigless handling/combination of heavy weight load
- The forearm includes the spring mechanism that when it collides with a person while rescuing an injured, it moves in the axial direction or pulled inside to prevent injury.
- Very economical as one robot can be used for two different use

Excellence of Technology

- One robot can be used for very different purposes simply by replacing the forearm module.

DESIRED PARTNERSHIP

Technology Transfer

Licensing

Joint Research

Other



TECHNOLOGY READINESS LEVEL [TRL]



Forearm module for object handling

+

Forearm module for human rescue

+

Robot torso with upper arm

Injured human rescue		Dangerous object handling
High payload required	Payload	High payload required
-	Precision	High precision required
-	Stiffness	High stiffness required
Securing of safety of human	Safety	-
grabbing and lifting human (3 to 4 DOFs)	DOF	additional DOF for smooth object handling (over 7 DOFs)
stable holding of the injured	Shape	-

Current Intellectual Property Right Status

PATENT

- High Payload Dual Arm Manipulator with Anti-backdrivability (KR1740979)
- Module Type Dual Arm Robot (KR2017-0062682)

KNOW-HOW

- Highy payload dual arm manipulator design technology
- Safe dual arm manipulator design using worm gear
- Same robot for multiple purposes using manipulator forearm replacement