

ModuMan 100

Operating Modes:

- Joint mode
- Tool mode
- World mode
- Taught paths (Option)
- Collision Avoidance (Option)



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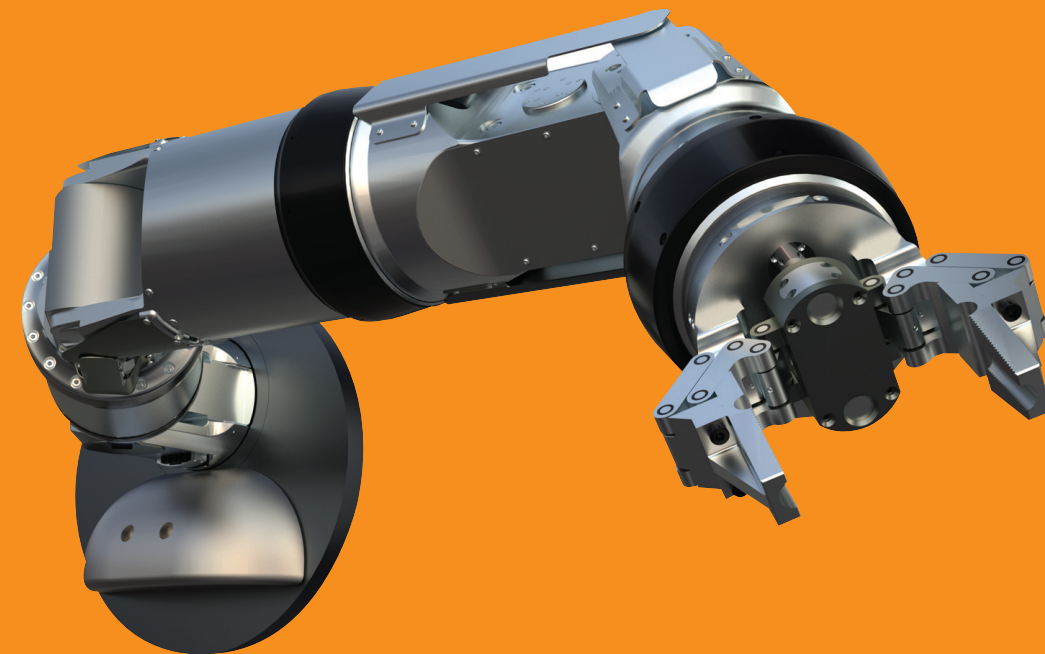


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ModuMan 100



Responsive nuclear engineering and support services



Easy to maintain

Ease of maintenance is a specific design requirement for ModuMan 100. Vital components are located outside the operating cell, and modular quick-swap assemblies used to effectively reduce down-time. The arm can be easily removed from cell - even when inoperative – and can be serviced and rebuilt within an active area if required.

Diagnostic functions in the control system include virtual modelling of the arm's operability and automatic fault history recovery.



ModuMan 100

ModuMan 100 is designed to be the powerful manipulator workhorse of the nuclear decommissioning industry. It delivers an optimum 100KG lifting capability throughout its supremely practical 2.3-metre reach, offering outstanding dexterity with full joint control, and the rugged reliability that is essential when operating in hazardous environments.

Simple reliable hydraulic operation

The design of the modular manipulator draws on James Fisher's experience gained over more than 25 years engineering dependable remote handling solutions for the nuclear sector.

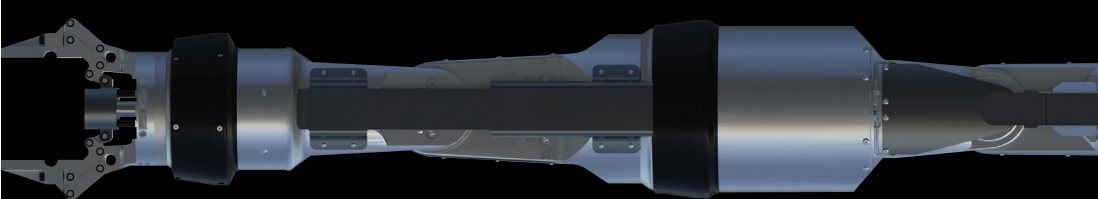
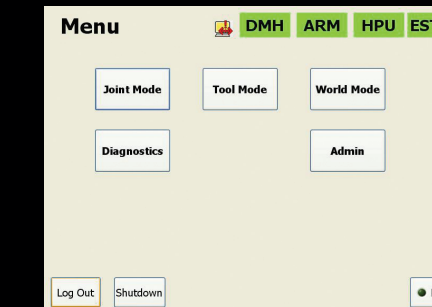
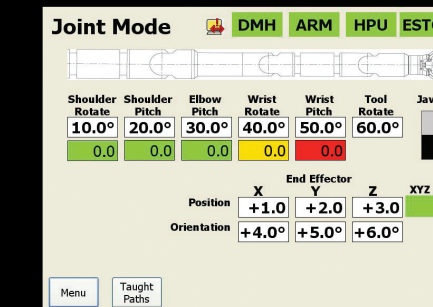
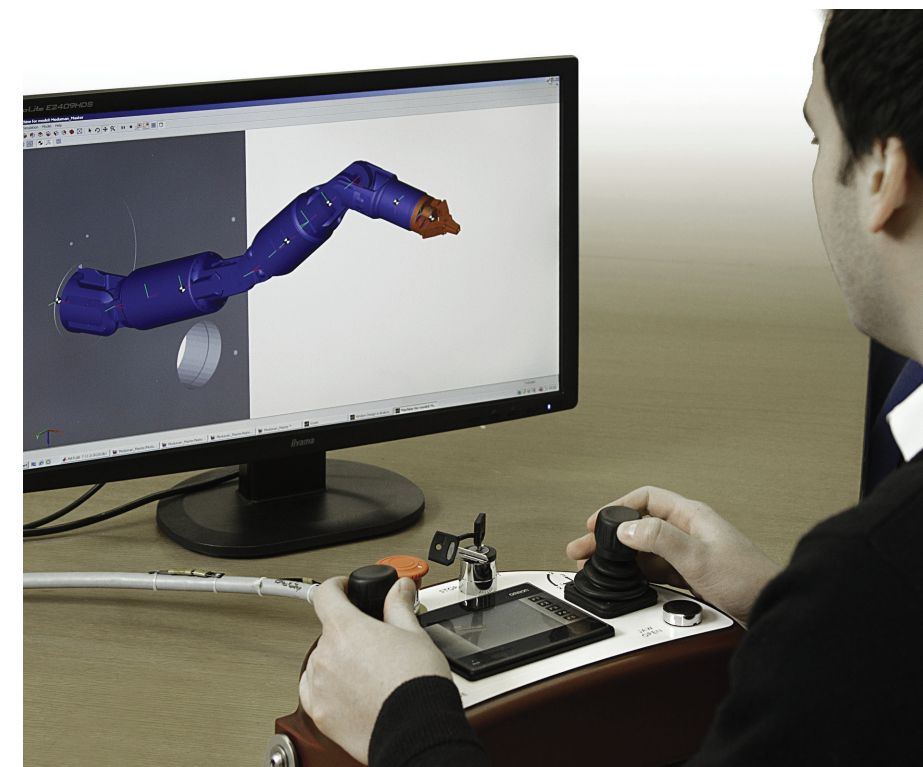
ModuMan 100 incorporates a simple hydraulic system that ensures high performance and optimum availability. It employs proven industrial elements including resolvers, actuators, valves and sensors that are integrated and driven by sophisticated software control to produce a power manipulator that is durable, cost effective and extremely flexible.

Intuitive controls

The intuitive control system uses a Windows-based touch screen and twin joysticks desk-mounted or incorporated into a portable rig linked to the arm by an umbilical connector.

The manipulator can be operated in full joint control, world or tool modes with a resolved tip motion fitted as standard. Teach and repeat functions are accessed via the touch screen along with options that enable real-time monitoring of the arm's status, and features including collision avoidance.

A training module enables customers to test **ModuMan 100's** capabilities in a virtual environment that can be modelled on their own application, and also assists operators in building their experience of its remote handling operability.



Engineered to individual customer specifications

Every **ModuMan 100** is engineered to meet the individual customer's specifications, and the modular system offers the ability to create different configurations of the arm in comparatively short timescales. Customers benefit from full access to James Fisher's core remote handling capability to secure the most appropriate solution to meet user requirements.

ModuMan 100 is installed via a standard 270mm cell penetration. It can also be mounted on a tracked ROV for other tasks such as plant maintenance or inspection duties, and equipped with cameras and LED lighting.

The high performance structural integrity of the arm is enhanced by the use of radiation hardened materials presenting a smooth profile that aids decontamination. The unit is CE marked and sealed to an IP68 rating. An ATEX compliant **ModuMan 100** is also available.

Key Features

- Heavy duty construction
- Modular design
- Six degrees of freedom
- Radiation hardened materials
- External, remote valve pack
- Simple hydraulic system
- Various control system options
- Numerous mounting arrangements
- Will fit through a 270mm penetration
- Hydraulic fluid options
- Smooth profile to aid decontamination
- Sealed IP68 rated
- 100kg Payload throughout whole range of movement
- Remotely removable/replaceable jaws

Standard System Configuration

Shoulder Rotate	+/-130°	Electrical/Hydraulic Motor options
Shoulder Pitch	+/-90°	Linear Hydraulic Actuators
Elbow Pitch	+/-130°	Linear Hydraulic Actuators
Tool Rotate	continuous	Rotary Hydraulic Actuator
Wrist Rotate	+/-130°	Rotary Hydraulic Actuator
Wrist Pitch	+/-130°	Linear Hydraulic Actuators
Jaws	150mm	Linear Hydraulic Actuator
Reach	2359mm	
Payload	100Kg	Throughout whole range of motion
Jaw Grip Force	2500N	
Tool Rotate Torque	250Nm	
Operating Fluid	Renolin PG32	
Operating Pressure	210 Bar	

