

MRV-1™



RUGGED AND RELIABLE

HEAVY LIFT CAPACITY

MODULAR DESIGN

4D Robotics' MRV-1 uses a custom-built miniature hydraulic power unit (HPU) to power a 5 Degree-of-Freedom manipulator that is capable of lifting over 90 pounds. The 275-pound UGV can traverse through almost any rough terrain and steeply inclined surfaces, including stairways.

Rugged and Reliable

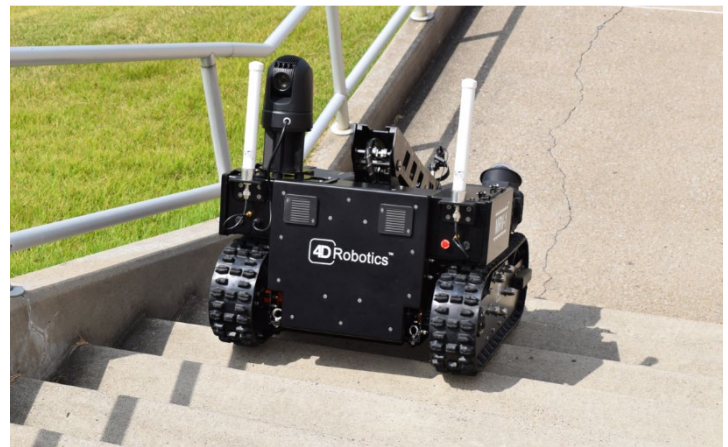
With sensitive components enclosed in washdown-rated enclosures, and a ruggedized track system, the MRV-1 has field-proven all-terrain capabilities. The MRV-1 can wade through 10" of water, climb piles of gravel, trudge through mud, and navigate an urban jungle; MRV-1 goes where others can't. The low center-of-gravity provides superior stability when operating in steep and hilly terrain.

Heavy Lift Capacity

The MRV-1 incorporates a 5 DOF manipulator with industry-leading lifting capabilities without sacrificing dexterity. The manipulator incorporates hydraulic actuators to provide lifting performance superior to electric motor actuation. Powered from the on-board batteries, the miniature hydraulic power unit serves to provide a lift capability of 40 lbs. at 32 inches in front of the chassis, and a 90 lb. lift at 8 inches in front of the vehicle.

Modular Design

The MRV-1 was designed to be modular, so that it can be properly outfitted for the mission at hand. The electronics enclosures, batteries, tracks, and manipulator modules can be quickly removed for custom applications or field repairs. The ethernet-based communication structure between sub systems, and I/O breakouts for CAN, I2C, digital and analog devices allow for quick integration of new hardware. The manipulator end-effector has a collection of easy to swap tools for various applications.



KEY FEATURES

- All-terrain functionality
- 5 degree-of-freedom manipulator
- Washdown capable
- 90-pound lift capacity
- Interchangeable manipulator end-effector
- Modular to enable custom applications

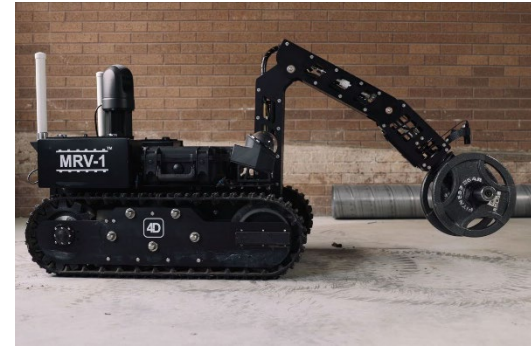
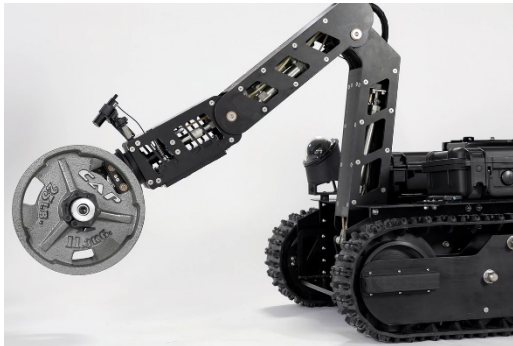
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Specifications

Manipulator Capabilities	<ul style="list-style-type: none"> • Lift Capacity: 40 lbs. at 32" , and 90 lbs. at 8" • High Pressure Water Washdown • Precision Manipulation • Modular Gripper Attachments 	Architecture	<ul style="list-style-type: none"> • Ethernet-based architecture • I/O breakouts for CAN, I2C, digital and analog devices • Up to 8 IP-based cameras or sensors with option to add 8 additional devices
Platform Specifications	<ul style="list-style-type: none"> • Max Speed: 4.5 mph • Size: 36" long x 28" wide x 30" high • Weight: 275 lbs. • Incline Climb Capability: 47 Degree Stairs 	Video	<ul style="list-style-type: none"> • 360-degree PTZ with 30x Optical and 120x digital zoom capability • IP-based low-light PTZ workspace camera • Gripper camera
Power Sources	<ul style="list-style-type: none"> • LiPo batteries to provide mission times of up to 8 hours of run time 	Command and Control	<ul style="list-style-type: none"> • 2,500 yards • Low latency repeater options available to extend range

OUR MISSION

4D Robotics is dedicated to building unmanned ground vehicles that are:

- Easy to Operate
- Rugged and Reliable
- Able to Perform a Wide Variety of Missions

FOR MORE INFORMATION

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4D Robotics is a business division of 4D Tech Solutions, Inc.