

PACKBOT® 525

**Man-Transportable
Multi-Mission Robot**



**detection
monitoring
identification**

radiation



Modular, adaptable and expandable, the PackBot can perform bomb disposal, surveillance and reconnaissance, CBRN/HazMat detection and mapping. Quickly configured based on mission needs, PackBot climbs and descends stairs and navigates narrow passages with sure footed efficiency. PackBot relays real-time video, audio, and sensor data while the operator remains at a safer stand-off distance. More than 4,000 PackBot robots have been delivered worldwide. The battle-tested PackBot, deployable in less than two minutes, can reach speeds of up to 5.8 mph, overcome obstacles and debris and support numerous disruptors and a broad array of CBRN sensors that deliver real-time intelligence. PackBot climbs slopes and stairs, is submersible in three feet of water and is operational in all-weather environments.

PACKBOT 525

The Next Generation PACKBOT



PACKBOT 510



FEATURES

MOBILE

PackBot easily climbs stairs, rolls over rubble and navigates narrow passages with sure-footed efficiency. The robot traverses rock, mud, snow and other tough terrain at speeds of up to 5.8 miles per hour.

EXPANDABLE

PackBot accommodates a wide variety of interchangeable payloads that enable a wide variety of missions. The robot is quickly configured based on the needs of the mission and the operator's preferences.

PORTABLE

PackBot is deployable by one person in less than two minutes. No expensive, specialized equipment or vehicles are necessary; the robot can be transported in packs, or easily loaded in a car trunk or other vehicles.

EASY TO USE

PackBot relays real-time video, audio and sensor data while the operator stays at a safe standoff distance. Multiple controller options and interfaces, including game-style and tablet based controllers, decrease training time and increases use in the field.

PACKBOT®

SPECIFICATIONS

PACKBOT 525

P ACKBOT 510

CHASSIS

Weight	31.6 lb (14.3 kg) mobility platform (no batteries) 21.1 lb (9.6 kg) manipulator
Height	7" (17.8 cm) with no payload or manipulator
Width	16" (40.6 cm) without fippers 20.5" (52.1 cm) with fippers
Length	27" (68.6 cm), fippers stowed 35" (88.9 cm), fippers extended

MOBILITY

Speed	Up to 5.8 mph (9.3 km/h)
Turn Radius	Zero turn radius
Stairs and Slopes	43° on wood 38° on carpet 40° on metal

CAMERAS AND ILLUMINATION

Resolution	HD 1270 x 720 pixels	SD 808 x 470
Camera Head	• 30x optical zoom • Visible and Infrared illumination • Continuous 360° pan • Integrated laser range finder (1.5 to 1600 m, 905 nm, Class 1M) • On-screen aiming reticle when activated for precision measurement	• 26x optical/12X digital zoom • Visible and Infrared illumination • Continuous 360° pan
Gripper Camera(s)	• 1280 x 720 resolution 60r lower gripper camera • Visible and infrared illumination	• 640 x 480 resolution 60r lower gripper camera • Visible and infrared illumination
Turret Camera	• 1280 x 720 resolution 60r lower gripper camera • Visible and infrared illumination	• 640 x 480 resolution for lower gripper camera • Visible and infrared illumination

CAMERAS AND ILLUMINATION

Operating Temperature	-4°F to 131°F (-20°C to 55°C)
Storage Temperature	-40°F to 158°F (-40°C to 70°C)
Environmental	IP67, MIL-STD-810

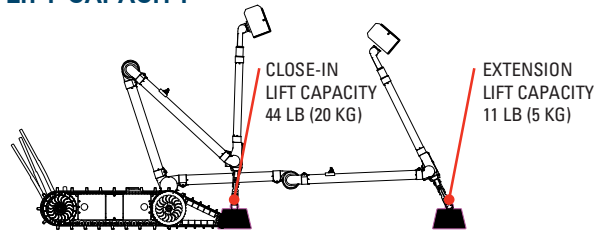
CONSTRUCTION

Size	Meets MIL-STD-1472 man lift limits
Power Source	Lithium-Ion (Li-ion) rechargeable batteries Up to 8 hours operation with 4 BB-2590/U batteries

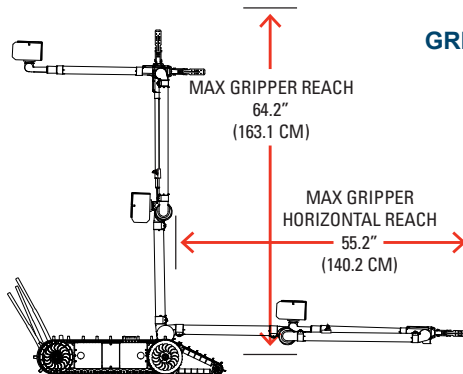
MANIPULATOR

Arm Extension	• 64.2" (163.1 cm), Vertical • 71.2" (181 cm), Vertical when using fippers • 51.5" (131 cm) – Horizontal	• 60.5" (154 cm), Vertical • 67.5" (171.5 cm), Vertical when using fippers • 51.5" (131 cm) – Horizontal
Lifting Capacity	11 lb (5 kg) at full extension 44 lb (20 kg) at close-in position	
Degrees of Freedom (DoF)	• Head Rotation / Pan: 360° Continuous • Head Tilt: 220° • Shoulder Rotation: 360° Continuous • Shoulder Pivot: 220° • Elbows 1 and 2 Pivot: 340° • Gripper Rotation: 360° Continuous • Gripper Open / Close 180°, max gripper span 6" (150 mm)	
Other	• Easy removal and installation • Field-serviceable end-effector enabling future expansion in manipulation capabilities • Complies with ANSI 60529, IP 67	

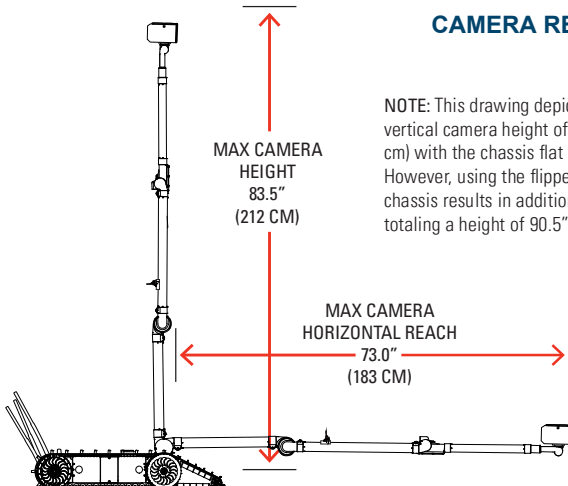
LIFT CAPACITY



GRIPPER REACH



CAMERA REACH



NOTE: This drawing depicts a maximum vertical camera height of 83.5" (212 cm) with the chassis flat on the ground. However, using the flippers to raise the chassis results in additional elevation, totaling a height of 90.5" (230 cm).

PACKBOT 525

Accessories & CBRN Sensors



DISRUPTORS AND THE FIRING CONTROL SYSTEM

PackBot accommodates disruptors from many leading manufacturers including ABP, CTS, Chemring EOD, CDC, CSL, ELP, Ideal Products, Proparms and Royal Arms. For optimal placement of disruptors, mounting locations are available either on the side of the robot's head for smaller disruptors or on the manipulator arm for larger disruptors. PackBot has multi-shot ability when equipped with multiple external firing circuits. Disruptor shots can be initiated with a shock tube initiator or by an electrical initiation via Teledyne FLIR Systems firing circuit.

FLIR LWIR THERMAL CAMERA

- Close-to-medium range detection and identification in fog, smoke, low- and no-light.
- Additional software required.



REAR FLIPPER KIT

Encourages greater stability and mobility when climbing stairs or negotiating terrain



ADAPTIVE SPECIALTY PROBE

- Four specialty tools for cutting, raking, scraping and probing IEDs or other hazards
- Tools do not impede the motion of the gripper.



HAND CONTROLLER

The Commercial-Off-the-Shelf (COTS) or Ruggedized Controller integrate with the uPoint Multi-Robot Controller, for those with a preference for tactile joystick control.



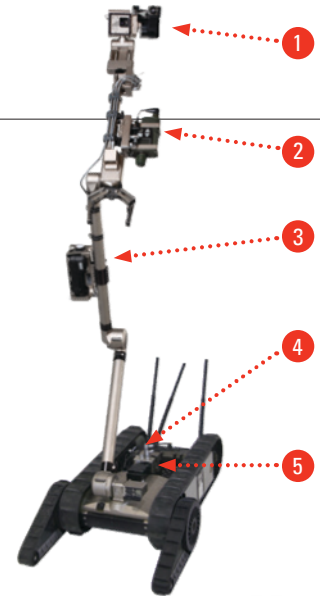
CBRN SENSORS

PackBot accommodates multiple CBRN sensors at a time that enable sensing and visual/audible detection of toxic industrial materials, chemical warfare agents, and radiation.

5 SENSOR MOUNTING LOCATIONS

MAKE THE PLACEMENT OF AREA AND POINT DETECTORS HIGHLY CONFIGURABLE.

No loss of lift capability or loss of dexterity even with sensors on the arm.



FUTURE SENSOR INTEGRATION POSSIBLE



SMITHS DETECTION LCD 3.3 (JCAD)

Chemical Warfare Agent (CWA) identifier and Toxic Industrial Chemical (TIC) detector



RAE SYSTEMS MULTIRAE PRO

Multi-threat monitor for VOC, O₂, LEL, H₂S, NH₃ and CO detection



THERMO SCIENTIFIC RADEYE GN+

Gamma and neutron radiation detector/pager

MIRION RADIAC SENSORS AN/UDR - 13, 14, 15

Gamma and neutron radiation detectors MIRION UltraRadiac-Plus (gamma only) RGU-100 Gamma and neutron radiation detectors



IN-SITU CHARGING (FOR PACKBOT 525)

Allows charging of the BB-2590 Li-ion batteries without removing batteries from the robot.

