

RAPTOR® Heavy-Duty Robotic Manipulator

INTRODUCTION

NuVision Engineering's RAPTOR® hydraulic manipulator systems have been specially designed for hazardous duty operations. The RAPTOR® is designed for deployment on all-terrain, unmanned ground vehicles (UGVs), robotic combat support systems (RCSS), and all purpose robotic transport systems (ARTS) as well as other heavy-duty equipment such as excavators or in fixed mount applications. The RAPTOR® is rugged, reliable and robust, enabling operation in extremely hazardous environments from a safe distance and thereby minimizing risk to the operator.

BENEFITS

- Explosives and Ordnance Handling
- Handling and Positioning Tooling
- Supporting and Firing Weapons
- Remote Hazardous Decontamination
- Soldier and Patient Recovery
- HazMat Response
- Remote Fire Fighting
- Video Surveillance



RAPTOR® 300 on Bobcat® vehicle



RAPTOR® 150 on Remotec Wolverine

KEY FEATURES

- Open system and modular design
- Heavy-duty lifting and dragging power
- Use of common components ensures cost-effective and easy maintenance
- Minimal life cycle costs
- Adaptable to customer needs
- Variable reach

STANDARD SYSTEM CONFIGURATIONS

- RAPTOR® 150 - 150 lb. payload at 7' (full extension)
- RAPTOR® 300 - 300 lb. payload at 9.5' (full extension)

PHYSICAL/UTILITY SPECIFICATIONS

- Operating temperature: 32°F to 140° F
- Relative humidity: 5% to 95%
- Rain: Able to withstand a rain force of 10 cm/hr and winds up to 18 m/sec
- Electrical requirements
 - 24V DC
 - +/- 10V signal for valve control
- Hydraulics
 - 0.4 GPM at 3625 psi (RAPTOR® 150)
 - 3.0 GPM at 3625 psi (RAPTOR® 300)



RAPTOR® 150 in service in Israel



RAPTOR® 300 on a Northrop Grumman TAGS vehicle

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PHYSICAL/UTILITY SPECIFICATIONS

- Reach from shoulder
 - Raptor® 150: 7 feet
 - Raptor® 300: 9.5 feet
- Shoulder pivot: 210°
- Shoulder swing: +/- 120 degrees
- Elbow pivot: 220°
- Wrist pivot: 180 °
- Gripper
 - Two-finger single plane
 - 12-inch opening
 - Closure force: 100 - 200 lbs.
 - Rotation: continuous
 - Torque range: 50 - 150 ft-lbs.
- Construction materials
 - Aluminum
 - Stainless steel