

## Technical Specifications

# OTTO 1500

OTTO 1500 is a heavy-duty autonomous mobile robot (AMR), designed to move materials up to 1,900 kg in the most demanding environments. Maximize your fleet productivity by moving the heaviest payloads faster than any AMR on the market, without compromising on safety.



### MAXIMIZED ROI

OTTO 1500 achieves unmatched throughput by moving your materials in fewer and faster trips.

### AGILE & STRONG

Move your heaviest payloads at top speeds while safely navigating around people, equipment and tight turns.

### VERSATILE

Extend the capability of your OTTO 1500 with a wide range of attachments that are compatible with your existing equipment.

## PERFORMANCE

|   |  |                            |                       |
|---|--|----------------------------|-----------------------|
| Max. Capacity                                   | 1,900 kg (4190 lbs)<br>Includes payload and attachment, if any | Max. Turning Speed         | 1.5 rad/sec (90°/sec) |
| Max. Speed                                      | 2.0 m/sec (4.5 mph)  | Max. Docking Speed         | 0.3 m/sec (0.7 mph)   |
| Docking Accuracy Standard                       | ± 10 mm (x,y), ± 1°φ (yaw)<br>Repeatable to 3σ                 | Min. Aisle Width (One Way) | 1915 mm (78 in)       |
| Docking Accuracy Precision Upgrade <sup>1</sup> | ± 5 mm (x,y), ± 1°φ (yaw)<br>Repeatable to 3σ                  | Min. Aisle Width (Two Way) | 3570 mm (146 in)      |

<sup>1</sup>Requires OTTO High Accuracy Docking System (HADS) upgrade, sold separately

## CHASSIS

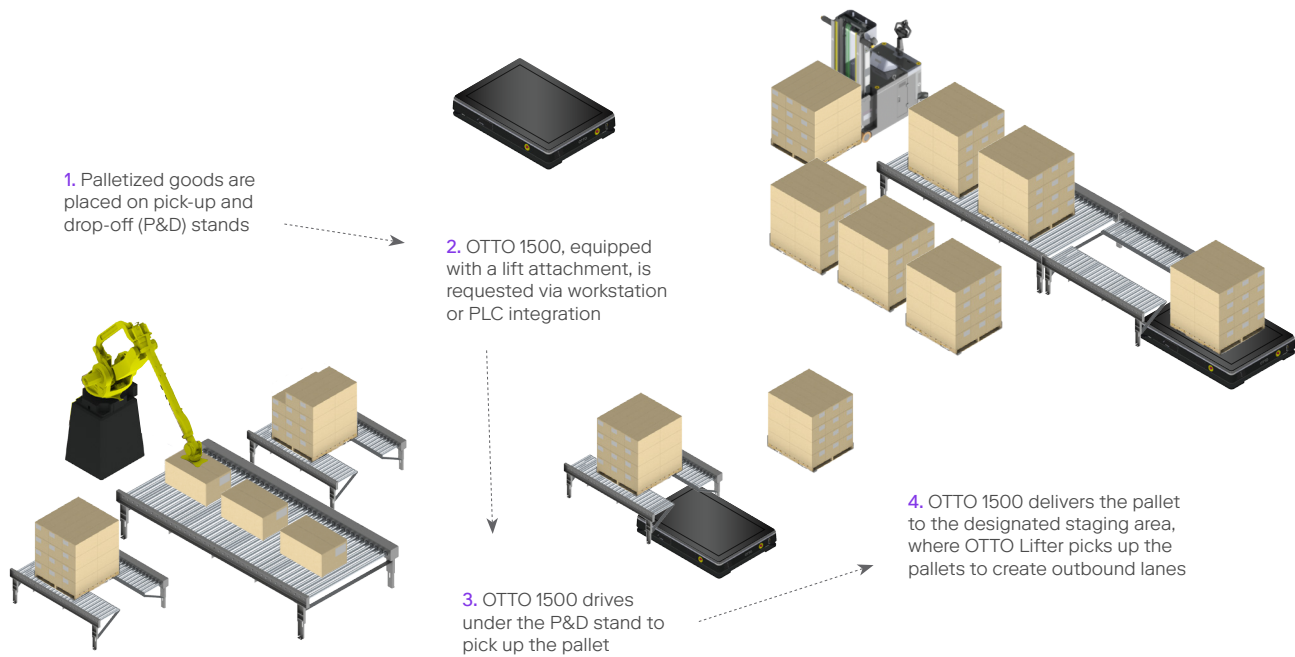
|                |   |                  |                 |
|----------------|---|------------------|-----------------|
| Dimensions     | 1837 x 1283 x 351 mm (72.3 x 50.5 x 13.85 in) | Suspension       | Passive, Rocker |
| Mass           | 627 kg (1382 lbs)                             | Ground Clearance | 16 mm (5/8 in)  |
| Turning Radius | Turn in place                                 | Traversable Gap  | 16 mm (5/8 in)  |

## ENERGY SYSTEM

|                          |        |                          |  |
|--------------------------|--------|--------------------------|--|
| Battery Capacity         | 80 Ah  | Battery Voltage          | 52.8 V   |
| Runtime (90% to 10%)     | 10 hr  | Max Charge Rate          | 80 A   |
| Charge Time (10% to 90%) | 60 min | Battery Life             | 3,000 full charge cycles                                     |
|                          |        | Battery Charging Options | Autonomous Opportunity Charging (Default)<br>Manual Charging |

## SAMPLE WORKFLOW

### Palletized Finished Goods to Outbound



## SAFETY SYSTEM

|                     |   |                      |  |
|---------------------|---|----------------------|--|
| Intelligent Braking | Redundant monitoring with safety-system interlock           | Standards Compliance | CE marked, ANSI/ITSDF B56.5, RIA R15.08-1, ISO 12100/13849-1/3691-4, FCC Part 15 Subpart B / ICES-003, ICES-002, EN 1175-1/60204-1 |
| Adaptive Fieldsets  | Intelligent PL-d rated switching fieldsets (patent-pending) | Manual Control       | Pendant-based manual control. Guided autonomous control available via OTTO software interface.                                     |
| E-Stop              | 4 E-Stops (1 per side)<br>+ user E-Stop circuit interface   |                      |  |

## AUTOMATION INTERFACE

|                  |  |                  |  |
|------------------|--|------------------|--|
| Power Interface  | 24 VDC, 10 A, regulated, unswitched 52.8 VDC nominal, 50 A, unregulated                            | Safety Interface | Dual-channel E-Stop breakout, 2 safety-rated GPIO, 1 attachment interface fault line |
| Signal Interface | 1x Ethernet, 1x USB 3.1, 1x HDMI<br>1 CAN Bus, 5 GPIO (2 safety rated)<br>1 interface control line |                  |  |

## CONTROL SYSTEM

|         |  |               |  |
|---------|--|---------------|--|
| Sensors | 4x Intel RealSense Cameras<br>2x SICK Microscan3 (360° FOV)<br>Embedded 6-axis IMU | Computer      | Solid-state Military Spec Computer with dedicated GPU                          |
|         |  | Communication | WiFi 2.4 / 5 GHz (802.11 a/b/g/n/ac)<br>2x Long-range Omnidirectional Antennae |

## ACCESSORIES (SOLD SEPARATELY)

|          |   |
|----------|---|
| Charging | Autonomous Supercharger (80 A)<br>Manual Trickle Charger (25 A) |
|----------|---|

## ENVIRONMENTAL

|                   |      |             |                       |
|-------------------|------|-------------|-----------------------|
| IP Classification | IP20 | Humidity    | 10-95% non-condensing |
|                   |      | Temperature | 0 to 40° C            |

For more information visit [ottomotors.com/1500](http://ottomotors.com/1500)  
OTTO Motors by Rockwell Automation. All rights reserved.