

## Overview

BURRO Verde is our purpose-built solution for autonomous transport to and from greenhouses. Verde seamlessly moves from narrow, congested indoor pathways to outdoor roadways, and back through the course of your workday. It can be deployed as both a towing or carrying vehicle, reducing the need for manual transport using tractors, gators or golf carts.

Verde is a collaborative robot designed to be used by farmworkers. As with all BURRO robots, Verde is built to be practical, durable, and easy-to-use.



## Dimensions & Weight

<b>LENGTH</b> 58.3 in ( 148.1 cm)	<b>HEIGHT</b> 54in (137.2 cm)
<b>WIDTH</b> 27.50 in (69.8 cm)	<b>PAYLOAD AREA</b> 27 ( cm) x 47.825 (121.48 cm) Slatted Steel Tray
<b>WEIGHT</b> 460lb (182 Kg)	

## Carrying & Towing Capacity

<b>MAX CARRYING PAYLOAD<sup>1</sup></b> 500 lbs (226 kg)	<b>MAX TOWING PAYLOAD<sup>2</sup></b> 2000 lb
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<sup>1</sup>Rated for concrete/asphalt. Up to 750 lbs (340 kg) allowable on mud/gravel

<sup>2</sup>Will vary based on speed, terrain, and carrying/towing payload

## Power & Range

**MOTORS**  
4 x Right angle drive brushed motors

**PEAK POWER**  
5.2 hp (3.88 kW)

**CONTINUOUS TORQUE**  
92.7 ft-lb (125.68 Nm)

**PEAK TORQUE**  
323.8 ft-lb (439 Nm)

**MAX SPEED<sup>4</sup>**  
4.8 mph

**BATTERY**  
2.4 kWh / 24V

**BATTERY RANGE<sup>5</sup>**  
10 mi (16km)

**OPERATING TEMPERATURE**  
-4°F to 113°F (-20°C to 45°C)

**CHARGE TIME**  
8 hours

**CHARGING INPUT**  
100-240 VAC, 50-60Hz: 8-10A at 120 VAC, 4-5A at 240 VAC

**CHARGING OUTPUT**  
Onboard: 24VDC, 13A

**CHARGING TEMPERATURE**  
32°F to 122°F (0°C to 50°C)

<sup>4</sup> BURRO Verde can go up to this speed. Autonomy, load, and field conditions can/ will reduce its maximum speed

<sup>5</sup> Additional batteries can be added for extended range. Will vary based on speed, carrying/towing payload, and terrain (type & grade)

## Wheels & Tires

### WHEEL

6" split rim (2-13/16" Bolt pattern)

### TIRE<sup>6</sup>

R1, 14 x 4.5-6 in; Tube - 13 x 5-6

### TIRE PRESSURE

15 psi (xx kPa)

<sup>6</sup>This is the standard/default tire for BURRO Verde. Alternative tire options can be available in the future

## Computing & Sensors

### CAMERA SYSTEM

4 x Stereo Camera (12 Cameras in Total)

### GPS

RTK (NTRIP Compatible)

### LIDAR

3D LiDAR

### MODEM

4G LTE Modem

### CPU & GPU

All Computing Onboard/Local

### RAM

32 GB

### STORAGE

256 GB SSD

### COOLING

Zero-ingress Forced-Air Cooling System

## Interface & Safety Features

### SCREEN

7" LCD Touch Monitor

### BRIGHTNESS

1000 nits

### RESOLUTION

1024 x 600

### BUMPER BAR/SAFETY EDGE

Front & Rear

### REMOTE VIEW

Online dashboard view: See robot on map, what it's doing, and what it's seeing

### VISUAL

Strobe safety running light (LED; hard-wired); Front & Rear LEDs provide cues & safety/area lighting

### AUDIO

Cues inform users of Burro's autonomy & when it's in motion; Adaptive Horn: Volume adjusted based on ambient noise when in motion

## Autonomy

### PERSON FOLLOWING

Vision Based

### AUTONOMOUS ROUTES (TEACH & REPEAT)

Vision + GPS + LiDAR

### DOCKING

Vision + GPS + LiDAR

### ROW NAVIGATION + ROW TO ROW

Vision Based

### ATLAS (ONLINE ROUTE CREATION & MANAGEMENT + DESTINATION BASED NAVIGATION)

GPS + LiDAR

### OBSTACLE HANDLING (STOPPING & AVOIDANCE/PATH PLANNING)

Vision + LiDAR

### CROP SCOUTING

Vision Based

### DATA COLLECTION

Up to 1 TB/hour

