

BURRO GRANDE



RevA

Overview

BURRO Grande is a heavy duty people-scale robot, designed to help laborers work more productively by moving exceptionally heavy loads from one location to the next autonomously. They will be used to assist workers primarily in nursery and greenhouse operations, but will be looking to explore other industries as well starting this year in construction and mining applications.



*BURRO Grande is set to be released for production in late Q1 of 2024

Dimensions & Weight	
Length	58.75 in (149.2 cm)
Width	46 in (117 cm)
Height	60 in (152.4 cm)
Weight	1081 lbs (490 kg)
Payload Area	50 in (127.1 cm) x 45.34 in (115.2 cm) Solid Steel Tray, Reversible

Carrying & Towing Capacity	
Max Carrying Payload¹	1500 lbs (680 kg)
Max Towing Payload¹	5000 lbs (2268 kg)

¹Rated for flat concrete/asphalt

Power & Range	
Motors	4 x Dual Stage Helical Wheel Drive
Peak Power	11.4 hp (8.5 kW)
Max Speed	3.6 mph (1.6 m/s)
Power Source	System: 48VDC, 2 x 48V 100Ah Lithium Iron Phosphate (LFP) battery
Battery Range*	≈ 15 mi (24 km)
Operating Temperature	-4°F to 113°F (-20°C to 45°C)
Charge Time	12 hours
Charging Output	Onboard: 48VDC, 20A
Charging Temperature	32°F to 122°F (0°C to 50°C)

*Additional batteries can be added for extended range. Will vary based on average speed, carrying & towing payload, and terrain (type & grade)

Wheels & Tires	
Tire³	R1, 18 x 8.5-10 (tubeless)

³This is the standard/default tire for BURRO Grande

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	16 GB
Storage	256 GB SSD
Cooling	Zero-ingress Forced-Air Cooling System

Interface & Safety Features	
Screen	IP65 7" LCD Touch Monitor
Resolution	1024 x 600
Brightness	1000 nits
Remote View	Online Dashboard View: See robot on map, what it's doing, and what it's seeing

Bumper Bar/Safety Edge	Front & Rear
Visual	Front & Rear LEDs provide cues & safety/area lighting <u>Additional Lighting</u> : Safety beacon located on LiDAR mount
Audio	Cues inform users of Burro's autonomy & when it's in motion <u>Adaptive Horn</u> : Volume adjusted based on ambient noise when in motion

Autonomy	
Person Following	Vision Based
Teach & Repeat	Vision + GPS + LiDAR
ATLAS	GPS + LiDAR
Docking	Vision + GPS + LiDAR
Row Navigation + Row to Row	Vision Based
Obstacle Handling - Stopping & Avoidance/Path Planning	Vision + LiDAR
Crop Scouting	Vision Based
Data Collection	Up to 1 TB/hour