

Overview

BURRO Grande is a heavy-duty, indoor/outdoor collaborative robot, designed to help laborers work more productively. To date, Grande has primarily been deployed in towing applications for nursery and greenhouse customers. However, Grande is well-suited for countless other carrying and towing applications.

No matter how complex Grande may be under the hood, we know that it must be practical, durable, and easy-to-use.



Dimensions & Weight

LENGTH	HEIGHT
58.75 in (149.2 cm)	56 in (142.2 cm) (To Top of Beacon); 23.5 in (59.7 cm) (To Payload Area)
WIDTH	PAYLOAD AREA
48 in (121.9 cm)	50 in (127 cm) x 48 in (121.9 cm) Solid Steel Tray
WEIGHT	
1081 lbs (490 kg)	

Carrying & Towing Capacity

MAX CARRYING PAYLOAD¹	MAX TOWING PAYLOAD²
1000 lbs (454 kg)	5000 lbs (2268 kg)

¹Rated for flat asphalt/concrete. Rated up to 1500 lbs (680 kg) on dirt/gravel

²Will vary based on speed, terrain, and payload

Power & Range

MOTORS

4x Ruggedized heavy-duty dual-stage helical wheel drive with high-capacity output shaft

PEAK POWER

12.6 hp (9.4 kW)

CONTINUOUS TORQUE

221 ft·lb (300 N·m)

PEAK TORQUE

1124 ft·lb (1524 N·m)

MAX SPEED⁴

5.8 mph output shaft

POWER SOURCE

System: 48VDC, 2 x 51.2V 100Ah Lithium Iron Phosphate (LFP) battery

BATTERY RANGE⁵

Min. 15 mi (24 km)

OPERATING TEMPERATURE

-4°F to 113°F (-20°C to 45°C)

CHARGE TIME

11 hours

CHARGING INPUT

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

CHARGING OUTPUT

Onboard: 48VDC, 20A

CHARGING TEMPERATURE

32°F to 122°F (0°C to 50°C)

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

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

Wheels & Tires

WHEELS⁶

10 x 7, 1.5 in offset

TIRES⁶

R4, 18 x 8.5-10 in (tubeless)

⁶Current standard wheel and tire configurations for BURRO Grande. Alternative options may 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

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

DATA COLLECTION

Up to 1 TB/hour

