



Safety

Our primary focus is safe operations. Over many years the commercial lawn care industry has developed a robust set of safety standards for outdoor power equipment. Nomad is fully compliant with all of the relevant components of these safety standards.

Concept & Design

Nomad is a commercial mower designed to be fully autonomous; it does not require a bounding wire. Its autonomy allows it to work either as part of a crew or independently. The highly redundant sensor suite includes inertial guidance technology, LiDAR, stereo cameras, ultrasonic sensors and the latest GPS (GNSS) technology. These combined sensors ensure the mower delivers the highest productivity as it stays true to its planned path at all times - even under trees.

Nomad is gas-powered and the primary traction is provided through hydraulic ground drive motors within rims fitted with conventional turf tires. For the best traction and path planning flexibility, Nomad has four-wheel drive and four-wheel steer.

The steering is provided independently at each wheel that can rotate through 360° allowing a very tight turn radius. The mowing deck is a conventional three-spindle deck containing three 20.25" blades. The height of the deck is controlled by a linear actuator enabling accurate mowing height between 1.5" to 5.5"

Steering

Nomad is omnidirectional controlled, which enables optimal mower productivity in covering the ground (cutting grass) as efficiently as possible, with fast direction changes and precise control of overlap. To do this, Nomad can engage in whatever form of steering is needed for the job site. This steering may be Ackerman, Reverse Ackerman, Tangential/Parallel, or "crab."

This flexible steering capability is unique in the industry and will provide the onboard brain with an additional layer of options for maximizing productivity.



Image: Nomads 60" mowing width

SPECIFICATIONS

ENGINE

Engine :

38HP Kohler 999cc Command PRO® EFI engine

Emissions Compliance:

Not Certified in CA

EU Stage V

EPA Phase III

China Phase II

Fuel Capacity:

Gasoline 6 gallons

HYDRAULICS

Pump :

Axial piston demand pump 32GPM

Reservoir :

7 gallons

Heat Exchange:

40720 BTU's per hour

Control:

4 custom cartridge proportioned valve manifolds

Wheel Motors:

100ccm Geroler with brake

Hydraulic Fluid:

Premium Biodegradable, safe for turf use.

ADDITIONAL SENSORS

Fuel level

Hydraulic oil level

Oil temp into the exchanger

Oil temp out of the exchanger

Hydraulic pressure high side

Hydraulic pressure tank

Battery voltage

Alternator charge

10 synchronized SAE Class 2 amber LED safety lights

DECK

Plate Thickness:

Galvanized powder coat, 80-Grade 7-Gauge

No Deck Discharge:

High lift mulching blades

Anti-Scalp Wheels:

Qty 6 in deck heavy-duty caster rollers

Blade Tip Speed:

18,300+ ft/min (5,577.8 m/min)

Blade Type:

3 x 20.5 in x 0.25 in thick heat-treated steel

Height of Cut:

1.5" - 5.5" in 0.25" increments

Spindle Bearings:

Maintenance-free

MOWER FRAME

Carrier Frame:

2" x 1" x 11 gauge

Tires:

C/S 18 x 8.5

Ground Speed:

Transit 9 mph (15km/h) in any direction

OPERATIONAL LIMITS

Max speed:

9 mph (15km/h)

Nominal Cutting Speed:

4.5 mph (7.25km/h)

Max Slope:

15° operational, slow transit 25° (in Fat mode)

Max Accel:

0 - 9mph 15s (0-15km/h 15s) up 15° slope

Cutting Width:

60" (1.5m)

*These specifications may be subject to change without notice

OUR STORY

Founded in 2020, our engineers have combined their knowledge from mechanical, navigation, localization, perception, and electrical engineering fields to build our first fully autonomous product, a fully autonomous commercial mower, Nomad. Nomad is a four-wheel drive and four-wheel steer mower with a redundant sensor suite to navigate challenging spaces. As a robotic lawnmower, Nomad provides safety, reliability, and high productivity for field operators and controllers.