

# AMP™ Fact Sheet

## INTRODUCTION

The AMP™ all-electric *Autonomous Mowing Platform*® from FireFly Automatrix™ is a 100-inch-wide professional reel mower, ideal as a workforce multiplier in applications including golf, sports fields, turf farms, and any large green space maintaining cut heights of 0.2 to 2 inches.

## AN OVERVIEW OF AMP FEATURES AND BENEFITS

FireFly's AMP was purpose-built from the ground up to be an *AEV*: an *Autonomous Electric Vehicle*. As a result, the AMP delivers like no other mower on the planet.

Case in point, because the design was not limited by bulky engines, radiators, or hydraulic pumps, AMP's wide stance and ground clearance offer the best of both worlds, with responsive handling and a low ground pressure of 8-10 psi for gentle impact on the grass.

In addition, AMP's patented ground drive and steering systems, with four independent electric drive motors, intelligently provide unprecedented 4WD traction control. And because each rear wheel is independently steered, AMPs virtually eliminate tire-scrubbing to prevent turfgrass damage.

AMP's Lithium Iron Phosphate (LiFePO<sub>4</sub>) 48V battery pack boasts an impressive lifespan of 5,000 charge cycles, the equivalent of mowing over 100,000 acres, and offers a 5-year warranty. And even then, the AMP battery will still hold an 80% charge.

On a day-by-day basis, the AMP battery allows autonomous mowing of up to 20—25 acres/charge. And with FireFly's quick-charge option, AMP's can be fully charged within 2.5 hours and ready to begin mowing again.

Other select AMP technological highlights include:

- Built-in LiDAR-enabled obstacle detection for safety
- Precise navigation via cellular-powered, RTK-corrected GPS services
- Proprietary cloud-based AMP control and monitoring via a handheld tablet to deliver optimized mowing precision, including
  - Optimized, ruler-straight mow pattern options customized for each fairway/field
  - Height-of-cut synchronized with ground speed
- Height-of-cut changes via convenient hand-knob adjustments in increments of 0.01-in and reel-to-bedknife increments of 0.005-in.

## SELECTED SPECIFICATIONS

1. **Continuous Power:** 24.7kW
2. **Autonomous Mowing Speed:** ≤ 6mph (≤ 9.7kph)
3. **Transport Speed:** ≤ 9mph (14.5kph)
4. **Mowing Width:** 100-in (254-cm)
5. **Transport Width:** 86-in (218-cm)
6. **Battery:** 48V 35kWH LiFePO<sub>4</sub>
7. **Battery Capacity:** Up to 25 acres
8. **Recharge Time:** Min. of 2.5 hours
9. **AMP Positioning:** Via RTK-corrected GPS
10. **Cutting Units:** 5-gang 7-inch reels, with options for 7, 8, 11 or 13 blades per reel. Rotary model is under development.

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## FINANCIAL AND ENVIRONMENTAL BENEFITS FROM USING AMP

Based on initial AMP customers, golf courses, farms, and airports alike have found that the all-electric, autonomous mowing capabilities of the AMP enable users to

- Nearly **double worker productivity** as employees can complete other tasks while the AMP is mowing by itself;
- **Slash labor costs** by between 75% to 92% as a result;
- **Eliminate the expensive and environment-damaging hydrocarbon-based fuels and hydraulics** required by traditional mowers powered by gas/diesel engines; and
- **Operate the whisper-quiet AMP robotic mowers at virtually any time** without needing to worry about disturbing the neighbors with noise pollution.

## GETTING STARTED WITH AMP FROM FIREFLY AUTOMATIX

To deploy AMP on a new fairway or field, operators use the folding rear platform to manually mow the perimeter of each area, while QuickPlan™ (FireFly's proprietary, cloud-based software) precisely tracks and stores the boundary margins with RTK-corrected GPS data.

Once mapping is completed, the operator turns to QuickPlan to select the desired mowing patterns for that sector, choosing options:

- Pattern (Back and Forth, Skip Row, or Spiral)
- Angle
- Overlap (3-12 inch)
- Number of clean-up passes.
- Starting position

Once the robot calculates and saves the optimized path, the operator simply selects "Start" and AMP begins its autonomous mowing path.

With the perimeter map of that fairway/field stored in FireFly's data cloud, future mows are as simple as driving AMP to the start point, selecting the desired mowing pattern, and tapping "Start" to begin another AMP mowing session.

## TO LEARN MORE

### **For Prospective Customers/Partners**

Individuals and organizations interested in learning more about the AMP "Autonomous Mowing Platform" from FireFly Automatrix, should visit <https://fireflyautomatrix.com/amp-mowers/>. Or they can request information at <https://fireflyautomatrix.com/contact-me-about-amp/>.

### **For Journalists/Analysts/Influencers**

Please contact us at [PR@fireflyautomatrix.com](mailto:PR@fireflyautomatrix.com) or at +1-385-391-5437.

## LEGAL DISCLOSURE

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