

M220™

HYBRID

DIESEL/ELECTRIC FIELD MOWER

Purpose-built from the engine to the decks for the fastest precision cut on the market.



High performance Finishing quality

The M220's front-mounted electric decks are meticulously engineered to achieve finishing quality mowing, at speeds up to 10 mph (16 kmh).

Optimized for cut quality and grass health, the self-propelled mower produces a 20'11" (6.4 m) precision cut before anything runs over your grass. And with its high flotation radial tires and balanced design, you don't have to worry about ruts in your fields.

FIREFLY™
AUTOMATIX



Deck heights adjust dynamically with the terrain

Easily change height on-the-fly while maintaining accurate deck levels with the FireFly's patented Digital Height Control system. Heights adjust by 1/16" (2 mm) within a 3"+ range of mow heights (5/8" to 4" or 16 mm to 101 mm). The precise aerodynamics of the electric decks and blades also result in a precision cut and excellent clipping distribution.

Built to last

- Deck motors are isolated from spindles to reduce wear
- Continuous duty strength steel
- Longer lasting blades of high performance steel
- Rollers are securely locked onto bearings for longer life



Mow comfortably, all day long

- Heat and A/C in pressurized cab to keep dust out
- Comfortable suspension seat with headrest
- Clear edge-to-edge views in front and out both sides
- Dual rear-view cameras
- State-of-the-art electronic controls
- Bluetooth stereo system

Top-tier components

Complementing FireFly technology, the M220 is equipped with market-leading OEM components, including:

- JCB 125 hp turbo-charged Tier 4 Final engine
- Bosch Rexroth drive train
- Premium quality bearings and hydraulic systems





Easy to maneuver, convenient to tow

- Joystick steering and infinitely variable hydrostatic drive
- Tight 20-foot (6 m) turning radius
- Folds to just over 8 feet (246 cm) width, so you can move it around with a 1-ton pickup
- Easily fold the decks and drive field-to-field at speeds up to 14 mph (22 kmh)

Every minute matters

At FireFly, we understand that small tasks add up to impact your productivity. The M220 has countless features to save time, including:

- Automatic one-touch deck latches
- Large capacity fuel tank
- Height adjusts on-the-fly
- No gears or PTO's to maintain
- All bearings (except rollers) and spindles are sealed for less greasing
- Quick change belts



Specifications

	Decks Up	Decks Down
Cutting width	20'11" / 638 cm	
Turning radius	20' / 610 cm	
Engine	125 hp JCB Turbo-charged 4-cylinder, Tier 4 Final	
Fuel tank capacity	60 gallons / 227 liters	
Cutting capacity		
4 mph / 6 kmh	10 acres/hr	
6 mph / 9.7 kmh	15.1 acres/hr	
8 mph / 12.9 kmh	20.1 acres/hr	
10 mph / 16.1 kmh	25.1 acres/hr	
Mower width	21'9" / 663 cm	8'1" / 246 cm
Mower length	21'4" / 650 cm	20'4" / 620 cm
Mower height	8'9" / 267 cm	9'5" / 287 cm
Weight	Tire Carried 10,900 lbs / 4,944 kg	Total 16,600 lbs / 7,257 kg
Wheel base		130.5" / 331 cm
Front track width		90" / 229 cm
Rear track width		88" / 224 cm

*Specifications subject to change without notice.

More information and support

The FireFly Support Portal connects you with our Help Desk and a growing knowledge library.



SUPPORT PORTAL

M220-AV Autonomous Mower

The autonomous field mower is finally here and available for a limited number of farms in our pilot program.



Sales (801) 842-1327
sales@fireflyautomatix.com



M220™

UPDATED

Since its launch in 2018, the M220 has been given big updates based on customer feedback and continual testing. Upgrades improve the safety and comfort of your mower, making it more reliable, durable, and servicable.



Updated engine and electric power system

- Updated high voltage system improves serviceability, reliability, and safety
- Improved wire routing
- Fuses and breakers are more easily accessible for maintenance/servicing

FIREFLY™
AUTOMATIX



Safer, more comfortable cab

- Now pressurized to keep dust out of the cab
- Quieter in the cab, with noise at levels comfortable for phone conversations
- A more comfortable seat with a headrest
- Dual rear-view cameras to allow visibility behind the machine
- Autonomy light bar and dual cameras to replace side mirrors (M220-AV only)



Refined manufacturing

Improved chassis/frame to cut down fabrication time and improve efficiencies in assembly to get machines out more quickly



More durable decks

- Stainless steel to eliminate rust
- More reliable V-belt system
- Moisture protection for longer-lasting blade spindle bearings
- Improved adjustable deck deflector design to minimize vibration and extend life

More protected deck wiring

High-quality conduit and external enclosures to protect against water and other damage

More gentle on turf

Prevent damage to turf during turns while maintaining desired cut height with automatic deck lifting

Quicker maintenance

- In-cab notifications of tripped deck motor breaker
- Post-weld machining on spindle housings and decks
- Change out spindles without having to re-level anything
- No shims to keep track of



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AUTONOMOUS FIELD MOWER

The future is here. Leave the repetitive task of mowing to the “teach & repeat” autonomous M220-AV so you can spend that time elsewhere.



“Teach & Repeat” autonomous mowing

- Drive a path once in “teach” mode
- Bring the M220-AV to the same starting position, get out of the cab, and tell it to “repeat” what it was taught, without a driver
- The mower can then mow your fields autonomously, repeating exactly as you did, day after day
- Multiple paths can be taught and selected for the M220-AV to “repeat”



Easy-to-use tablet

- Access the FireLink platform from the included tablet
- Initiate “teach and repeat” sessions
- View the field from the perspective of the M220-AV



Robots work. Humans rule.

While autonomy can be a huge help with labor challenges, many of our customers actually report that our technology also allows them to grow and expand their businesses when their people are freed up to focus on more complex tasks.





Accurate maps and guidance

- (2x) High resolution LiDAR sensors
- Improved light/autonomy bar
- (3x) Stereo/observation cameras
- (2x) Rear-view cameras replace side mirrors
- Dual antenna GPS
- Powerful controller

Safety first

- Signage provided to keep fields clear
- Deck bumpers with integrated safety sensing edges that detect any unlikely collision and immediately shut down the machine
- When an obstacle is detected in the mower's path, it will automatically slow and stop
- If the mower loses connection with FireLink (and the user controls), it will stop
- Alerts on the tablet notify of the need to clear the obstacle and resume the mowing session



More information at your fingertips

- Support Portal connects you with Help Desk and a growing knowledge library
- FireLink gives you mowing session data and machine status information, anytime and anywhere



SUPPORT PORTAL



AUTONOMY PILOT PROGRAM

Thank you for your interest in autonomous mowing and FireFly's M220-AV pilot program. Here's some information to help you know what to expect.



Step 1: Determine eligibility

Once your farm is identified as a potential candidate for the autonomy pilot program, we'll need to determine eligibility.

- You'll be asked to provide some details about your fields, such as field type/layout, irrigation configuration, and cell coverage.
- Our team will make a preliminary determination if your farm meets the requirements for the current autonomy capabilities.
- If you're considered an appropriate candidate, we will complete a site survey to verify eligibility and infrastructure needs.



What makes a farm eligible?

Some of the criteria include:

- Relatively flat fields, at least 16-acres
- Good cell service
- No solid set irrigation or hand lines
- 2-ft buffer around pivots, risers, and field edge with tall grass or trees



How soon can I get my autonomous mower?

Once you're approved for the program and your order is confirmed, we'll get to work building your M220-AV and getting you all set up for success. We expect the wait time to be around 90 days for the pilot machines.



Step 2: Pre-deployment

While you're waiting for your mower, we'll be busy:

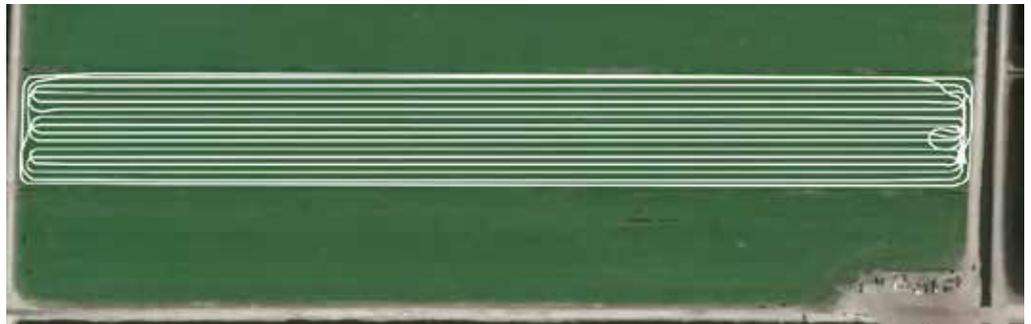
- Building your M220-AV with autonomy hardware
- Choosing and building corrections solution (NTRIP over cell or RTK base station, which may require a fixed pole or portable tripod mast) to improve location accuracy
- Setting up your organization, user accounts, and field maps in FireLink
- Setting up machine data in database



Step 3: Deployment

When your M220-AV arrives, our team will:

- Install base station using the existing mast and test functionality
- Recalibrate LiDAR sensors
- Train your team to use the REMI tablet and run the mower autonomously
- Teach paths to the mower
- Provide maintenance schedules
- Provide on-site support for two weeks



Step 4: Ongoing support

- Autonomy subscriptions will include software updates, support, and cell service.
- Support Portal connects you with Help Desk and a growing knowledge library.
- Pilot program participants will also have additional Engineering monitoring for customer support.



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