FJDynamics

FJD Rough Ranger

Versatile Robotic Mower



Built for turf. Ready for more.

One Platform.
More Turf Care Applications.

FJD Rough Ranger is an autonomous turf-care platform built for smoother operation, higher machine utilization, and more flexible turf maintenance. It delivers stable mowing on uneven ground, while interchangeable kits expand one machine across golf courses, sports fields, driving ranges, and sod farms — with dedicated attachments for synthetic turf care.













Smarter Control for Complex Mowing



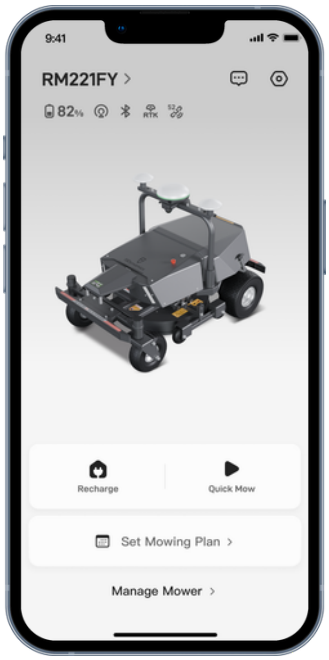
No signal worries

Uses RTK fused with LiDAR to build a 3D terrain map, enabling smooth mowing in challenging areas such as under trees or around obstacles.

Multi-zone management

Plan, manage, and monitor multiple zones in the app, and complete mowing across different areas in a single task to save time and simplify turf management.





Smart path planning

Automatically plans efficient mowing routes with built-in precision algorithms, reducing manual effort for routine mowing tasks.



Multi-layer safety protection

Combines real-time 360° LiDAR obstacle detection with front and rear physical bumpers, ensuring safer autonomous operation.



Built for Uneven Turf

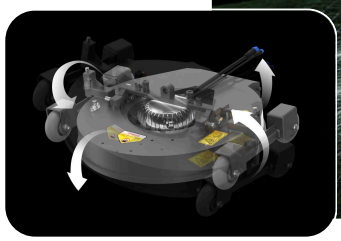
Front suspension chassis for stable operation

Ensures stable operation on uneven terrain, providing a smooth mowing experience.



Floating cutting deck for consistent cutting

Automatically follows ground contours on uneven surfaces for a cleaner, more consistent cut with less turf scalping.



Application Scenarios









Specifications

Complete Unit	
Weight (without battery)	157 kg (346.1 lb)
Dimensions	1345 × 855 × 970 mm (53 × 34 × 38 in.)
IP rating	IPX4
Operating temperature	0–45°C
Cutting System	
Max. mowing area in 72 h (220 V AC)[2]	108,000㎡ (26.7 acres)
Max. mowing area in 72 h (110 V AC)[2]	93,600㎡ (23.1 acres)
Max mowing area per charge[2]	12,000㎡ (3 acres)
Cutting height	20–120 mm (0.8–4.72 in.)
Cutting width	635 mm (25 in.)
Max working slope[3]	20°
Recommended working slope	15°
Travel speed	0–6 km/h (0–3.7 mph)
Battery & Charging	
Battery capacity	4 kWh
Fast battery swap	○
Mowing time per charge	5 h
Charging time (220 V AC)	3 h
Charging time (110 V AC)	5 h

[1] Suitability for municipal green spaces depends on site conditions. A site assessment is recommended before deployment.

[2] Mowing area figures are based on standard test conditions. Actual performance may vary depending on terrain, grass conditions, and operating conditions.

[3] Working slope capability depends on site conditions. On slopes, routes should be planned primarily uphill/downhill. Cross-slope mowing should be avoided or approached with caution.

Rough Ranger + BP02 Ball Picker Kit

The BP02 Ball Picker Kit turns Rough Ranger into an autonomous ball-picking solution for golf driving ranges, while preserving mowing capability on the same platform.

Keep Range Balls Moving Automatically

Collect across the range

Collects up to 3,000 balls per hour and up to 63,000 balls per day for high-volume driving range operations.



Return when full

Rough Ranger automatically returns to the unloading area when the basket is full, reducing manual handling.

Unload automatically at the station

Collected balls are unloaded at the station, keeping the workflow moving with less operator intervention.



Specifications

BP02	
Weight	107 kg (235.9 lb)
Dimensions	1860 × 1275 × 610 mm (73.2 × 50.2 × 24 in.)
Picking Width	900 mm (35.4 in.)
Max Picking Capacity per Hour	3,000 balls
Max Daily Picking Capacity	Up to 63,000 balls (based on 21 operating hours)
Max Picking Time per Charge	12 h
Max Picking Capacity per Charge	36,000 balls
Basket Count	1
Capacity per Basket	1,000 golf balls

Rough Ranger + LM03 Line Marker Kit

Paired with the LM03, the Rough Ranger delivers exceptional line-marking precision and efficiency while reducing labor and paint usage, and also supports custom field logos.

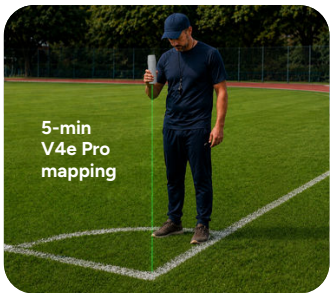
Less input, greater output

Reduce paint usage by
50%+

Cut labor costs by up to
90%

Mark up to
20 full-size fields per charge

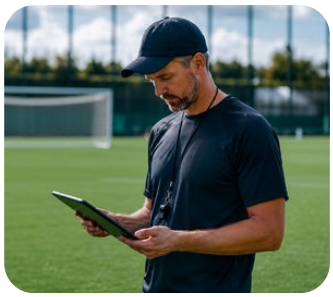
Easy to Use



Step 1: Map



Step 2: Refill

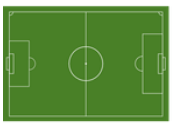


Step 3: Start



Step 4: Mark

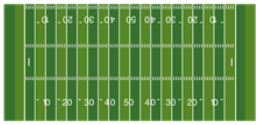
Application Scenarios



Soccer



Rugby



American football



Baseball



Custom logo



Others

Specifications

LM03	
Weight	32 kg (70.5 lb)
Dimensions	700 × 600 × 650 mm (27.6 × 23.6 × 25.6 in.)
IP rating	IPX4
Max marking speed	3 km/h (1.9 mph)
Paint tank capacity	25L (5.5 gal)
Line width range	50–170 mm (2–6.7 in.)
Nozzle height	30–120 mm (1.2–4.7 in.)
Operating temperature	5–35°C
Max marking time per charge	20h

Rough Ranger + GC01 Grass Collector Kit

Attach the GC01 to configure Rough Ranger for automated turf cleanup. It mows, collects clippings, leaves, and light debris, then unloads the material in one smoother workflow.

Autonomous Turf Cleaning

Automated grass collection & disposal

Collect grass clippings and leaves as it cuts, or run a smart sweep right after mowing—bringing mowing and cleanup in one smooth process.





Artificial turf cleaning

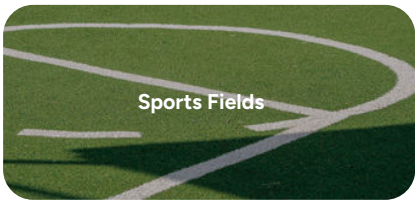
Clear debris from both natural and artificial turf automatically, so you won't have to clean it by hand.



Professional lawn striping

Create clean light–dark patterns via precise striping control, elevating visual appeal.

Application Scenarios







Specifications

GC01	
Weight	100 kg (220 lb)
Dimensions	1164 × 993 × 749 mm (45.8 × 39.1 × 29.5 in.)
Grass collection height	20–50 mm (0.8–2.0 in.)
Collection width	841 mm (33.1 in.)
Max travel speed	3 km/h (1.9 mph)
Max collection volume	150L (33 gal)
Max climbing ability	8°
IP rating	IPX4
Operating temperature	0–45°C

Rough Ranger + DB01 Dew Brush Kit

Combined with the DB01, the Rough Ranger streamlines morning turf care: it lifts and folds the brush automatically, clears dew evenly, and keeps the turf clean and play-ready.



Smart lifting & folding

Lift up the brush and fold it automatically during departures, turns, and operations. This avoids hitting obstacles and ensures smooth operation.



Adjustable brushing direction

Adjust the brush direction for even dew clearing, giving the turf a cleaner, more polished look.



Professional greens, ultimate golf feel

Maintain a smooth surface to ensure a fast, consistent ball roll, delivering the best possible golf experience.

Application Scenarios



Specifications

DB01		
Weight	28 kg (61.7 lb)	
Length	Single section: 1000 mm (39.4 in.)	Three sections: 2930 mm (115.4 in.)
Brush lift	Supported	
Brush folding	Supported	

Synthetic Turf Care Platform

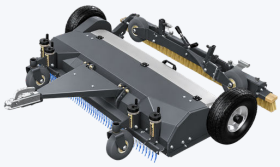
Compatible with third-party attachments and existing equipment, Rough Ranger helps teams automate more turf-care tasks and reduce manual work.

One Platform. Multiple Attachments.

1

Turf Care Device

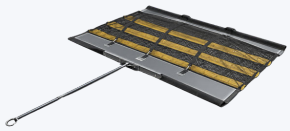
Cleans, brushes, and maintains infilled and unfilled artificial turf.



2

Leaf Sweep

Collects leaves and surface debris to keep the turf clean.



3

Magnet Bar

Removes hazardous metal debris with minimal effort.



4

Triangle Brush

Lifts turf fibers and keeps the playing surface evenly groomed.

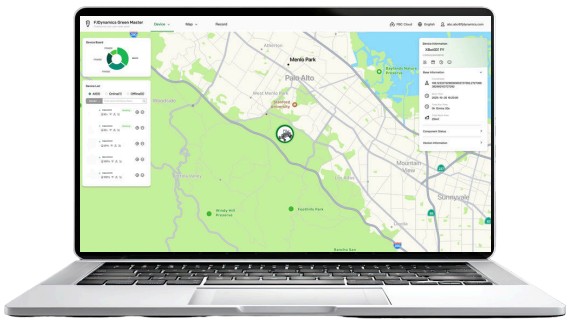


Synthetic Turf Care Workflow

Step 1: Map



Step 2: Data Management



Step 3: Work



* Routine maintenance settings should follow the turf manufacturer's recommendations. Periodic deep cleaning, infill replenishment, repairs, and field testing may still be required.

Specifications

Complete Unit	
Max drawbar pull – grass	100 kg (220 lb)
Max tongue weight	15 kg (33 lb)
Max towing slope[1]	8°
Max towing speed[1]	6 km/h (3.7 mph)
Max implement width	3,000 mm (118.1 in.)
Max. implement length	1,800 mm (71 in.)
Max implement height[2]	800 mm (31.5 in.)
Max hitch height[3]	300 mm (11.8 in.)
Power output voltage	51.2 V DC
Working voltage range	40-58.4 V DC
Max output current	40 A
Implement communication interface	CAN

[1] Actual towing performance may vary depending on attachment weight and operating conditions.
[2] Rear obstacle avoidance may not be supported for attachments higher than 0.8 m.
[3] Hitch height can be customized based on attachment requirements.

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FJDynamics.com

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