

# DJI Agras T50

[Description]

## Aircraft

Weight	39.9 kg (excl. battery) 52 kg (incl. battery)
Max Takeoff Weight [1]	Max takeoff weight for spraying: 92 kg (at sea level) Max takeoff weight for spreading: 103 kg (at sea level)
Max Diagonal Wheelbase	2200 mm
Dimensions	2800×3085×820 mm (arms and propellers unfolded) 1590×1900×820 mm (arms unfolded and propellers folded) 1115×750×900 mm (arms and propellers folded)
Hovering Accuracy Range (with strong GNSS signal)	RTK enabled: Horizontal: ±10 cm, Vertical: ±10 cm RTK disabled: Horizontal: ±60 cm, Vertical: ±30 cm (radar module enabled: ±10 cm)
RTK/GNSS Operating Frequency	RTK: GPS L1/L2, GLONASS F1/F2, BeiDou B1I/B2I/B3I, Galileo E1/E5b, QZSS L1/L2 GNSS: GPS L1, GLONASS F1, BeiDou B1I, Galileo E1, QZSS L1

Max Configurable Flight Radius	2000 m
Max Wind Resistance	6 m/s

## Propulsion System - Motors

Stator Size	100×33 mm
KV	48 rpm/V
Power	4000 W/rotor

## Propulsion System - Propellers

Material	Nylon carbon fiber filament
Dimension	54 in (1371.6 mm)
Propeller Rotation Diameter	1375 mm
Quantity	8

## Dual Atomizing Spraying System - Spray Tank

Material	Plastic (HDPE)
Volume	40 L
Operating Payload [1]	40 kg[1]
Quantity	1

## Dual Atomizing Spraying System - Sprinklers

Model	LX8060SZ
Quantity	2
Nozzle Distance	1570 mm (Rear Nozzles)
Droplet Size	50-500 $\mu\text{m}$
Effective Spray Width [2]	4-11 m (at a height of 3 m above the crops)

## Dual Atomizing Spraying System - Delivery Pumps

Type	Impeller pump (magnetic drive)
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Quantity	2
Single Pump Flow Rate	0-12 L/min
Max Flow Rate	16 L/min (2 sprinklers); 24 L/min (4 sprinklers)

## T50 Spreading System

Compatible Material Diameter	0.5-5 mm dry granules
Spread Tank Volume	75 L
Spread Tank Internal Load [10]	50 kg
Spread Width	8 m

## Phased Array Radar System

Model	RD241608RF (forward phased array radar); RD241608RB (rear phased array radar)
Terrain Follow	Max slope in mapping-free operation: 50° Altitude detection range: 1-50 m Stabilization working range: 1.5-30 m
Obstacle Avoidance [4]	Obstacle sensing range (multidirectional): 1-50 m FOV:

	<p>Forward phased array radar: horizontal 360°, vertical <math>\pm 45^\circ</math>, upward <math>\pm 45^\circ</math> (cone)</p> <p>Rear phased array radar: vertical 360°, horizontal <math>\pm 45^\circ</math></p> <p>Working conditions: flying higher than 1.5 m over the obstacle at a horizontal speed no more than 10 m/s and vertical speed no more than 3 m/s.</p> <p>Safety limit distance: 2.5 m (distance between the front of propellers and the obstacle after braking)</p> <p>Sensing direction: 360° multidirectional sensing</p>
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## Binocular Vision System

Measurement range	0.5-29 m
Effective Sensing Speed	$\leq 10$ m/s
FOV	Horizontal: 90°, Vertical: 106°
Operating Environment	Adequate light and discernible surroundings

## Remote Controller

Model	RM700B
Operating Frequency [5]	2.4000-2.4835 GHz, 5.725-5.850 GHz
Max Transmission Distance	7 km (FCC), 5 km (SRRC), 4 km (MIC/CE); (unobstructed, free of interference, and at an altitude of 2.5 m)

Wi-Fi Protocol	Wi-Fi 6
Wi-Fi Operating Frequency [5]	2.4000-2.4835 GHz, 5.150-5.250 GHz, 5.725-5.850 GHz
Bluetooth Protocol	Bluetooth 5.1
Bluetooth Operating Frequency	2.4000-2.4835 GHz
GNSS	GPS+Galileo+BeiDou
Screen	7.02-in LCD touchscreen, with a resolution of 1920×1200 pixels, and high brightness of 1200 cd/m <sup>2</sup>
Operating Temperature	-20° to 50° C (-4° to 122° F)
Storage Temperature Range	Less than one month: -30° to 45° C (-22° to 113° F) One to three months: -30° to 35° C (-22° to 95° F) Six months to one year: -30° to 30° C (-22° to 86° F)
Charging Temperature	5° to 40° C (41° to 104° F)
Internal Battery Runtime	3 hours 18 minutes
External Battery Runtime	2 hours 42 minutes
Charging Type	It is recommended to use a locally certified USB-C charger at a maximum rated power of 65 W and maximum voltage of 20 V such as the DJI 65W Portable Charger.
Charging Time	2 hours for internal battery or internal and external battery (when remote controller is powered off and using a standard DJI charger)

## DB1560 Intelligent Flight Battery

Model	DB1560 Intelligent Flight Battery (BAX702-30000mAh-52.22V)
Weight	Approx. 12.1 kg
Capacity	30000 mAh
Nominal Voltage	52.22 V

## D12000iE Multifunctional Inverter Generator

Output Channel	1.DC charging output 42-59.92V/9000W 2.Power supply for Air-Cooled Heat Sink 12 V/6 A 3.AC output 230V/1500W or 120V/750W [8]
Battery Charging Time [11]	To fully charge one battery (DB1560 battery) takes 9-12 mins
Fuel Tank Capacity	30 L
Starting Method	Starting the Generator via the One-Button Start Switch
Max Power of Engine	12000 W
Fuel Type	Unleaded gasoline with RON $\geq 91$ (AKI $\geq 87$ ) and alcohol content less than 10% (*Brazil: unleaded gasoline with RON $\geq 91$ and alcohol content of 27%)
Reference Fuel Consumption [9]	500 ml/kWh

Engine Oil Model	SJ 10W-40
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## C10000 Intelligent Power Supply

Model Number	CSX702-9500
Dimensions	400 × 266 × 120 mm
Weight	Approx. 11.4 kg
Input/Output	Input (Main): 220-240 VAC, 50/60 Hz, 24 A MAX Input (Auxiliary): 220-240 VAC, 50/60 Hz, 24 A MAX Output: 59.92 VDC MAX, 175 A MAX, 9000 W MAX Input (Main): 100-120 VAC, 50/60 Hz, 16 A MAX Input (Auxiliary): 100-120 VAC, 50/60 Hz, 16 A MAX Output: 59.92 VDC MAX, 60 A MAX, 3000 W MAX
Charging Time [11]	Fully charges a battery in 9 to 12 minutes (DB1560 Intelligent Flight Battery)
Protection Functions	Over-voltage, over-charge, under-voltage and over-temperature protection.
Charging Safety	AC wire protection, power wire protection, and charge connector protection

## Relay

Model	RL01-65
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Dimensions	120×110×100 mm
Weight	≤575 g
Input Voltage [6]	9 V3 A / 12 V2.5 A / 15 V2 A
Power Consumption	9 W (SRRC), 12 W (FCC)
Capacity	6500 mAh
Operating Time	4 hours
Operating Frequency [5]	2.4000-2.4835 GHz, 5.725-5.850 GHz
Max Transmission Distance	5 km (SRRC), 4 km (MIC/KCC/CE), 7 km (FCC) (unobstructed, free of interference, and at a flight altitude of 2.5 m)
Charging Time	2 hours and 20 minutes (when using a standard DJI charger)
IP Rating [6]	IP55

## Definition

	<p>[1] Data was measured at sea level. The payload weight is greatly affected by the ambient temperature and altitude. The payload weight needs to be reduced by 10 kg for every 1,000m increase in altitude. The DJI Agras app will recommend the payload weight according to the current status and surroundings of the aircraft. When adding materials, the maximum weight should not exceed the recommended value, otherwise flight safety may be compromised.</p> <p>[2] The spray width of the spraying system depends on the operating scenario and</p>
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demand for coverage evenness.

[3] The spread width of the spreading system depends on the operating scenario and demand for coverage evenness.

[4] The effective sensing range and its ability to avoid and bypass obstacles will vary depending on the ambient light, rain, fog, and the material, position, shape, and other properties of the obstacles. Downward sensing mainly assists in Terrain Follow and Altitude Hold. The sensing in other directions is used for Obstacle Avoidance.

[5] 5.8 GHz frequency is unavailable in some countries. Check local regulations for more information.

[6] Use chargers or external power supplies that meet the specifications. Otherwise, the device may not work normally.

[7] The protection rating may be reduced due to improper use and damage caused by external forces or environmental factors.

[8] The actual power and voltage may vary according to local regulations.

[9] Measured using RON 92 gasoline at near sea level with an ambient temperature of 25° C, while charging at 9 kW.

[10] The DJI Agras app will intelligently recommend the payload weight limit for the spread tank according to the current status and surroundings of the aircraft. DO NOT exceed the recommended payload weight limit when adding material to the spread tank. Otherwise, the flight safety may be affected.

[11] Factors impacting charging time: Altitude of the charging station; Charging cable meets requirements for fast charging; Battery cell's temperature is in the range of 15° to 70° C (59° to 158° F)