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MYUAV TECHNOLOGIES CO.,LTD.

DJI FlyCart 30 150m
High altitude cleaning
Tethered drone system



System Model：Bowin FC30X

Versions：V05
Date：2024-10-10

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1. Brief introduction

- 150m high building cleaning
- Max.250bar high-pressure cleaning power
- Ground tethered system power supply for 8-10 hours continuous working time
- 500~900L/ hour ground water supply
- Battery as backup for safety
- IP55 waterproof dronepower supply
- Max.20 ㎡/min cleaning efficiency

2. System configuration

1. FlyCart 30 DJI drone
2. Electrical Wash/spray payload system
3. FC30X Onboard Power Supply together with Tethered Base Station
4. Ground high-pressure washer by customers
5. Min.200L Water tank and 380V min.20kw power by customers

3. System components

	Name	QTY	Unit
1	FC30X Waterproof IP55 Tethered Power Supply System for DJI	1	set
2	FC30 DJI drone (bought locally by client)	1	set
3	High-pressure cleaning mounted gun (FC30 special quick connect)	1	set
4	High-pressure high-pressure washer and extended high-pressure hose set	1	set

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■ Supporting requirements:

1. Tap water supply and tap water take-over length of about 30m (subject to the actual situation)
200L~500L water tank (customer local procurement), 2 sets (one set to put fresh water, one set to put detergent mixture)
2. 4-core 6-square power supply cable of about 40-50 meters (subject to the actual situation), access to AC380V ~ 20kw power supply / 20kw rated power generator
3. Customized cleaning detergent (consumables) for all kinds of materials, water softener

■ Personnel requirements:

CAAC grade 4 licence pilots (change of pilots every half hour), 2 persons.

4. Detailed parameters

■ DJI Drone

DJI FC30 drone, parameters and configurations are detailed on the DJI website
https://www.dji.com/uk/flycart-30



DJI FlyCart 30 is a civil large payload UAV that combines large payload, long range, strong signals and high intelligence. FlyCart 30 can provide stable and reliable solutions for various application

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scenarios.

It is equipped with front and rear active phased array radar and binocular vision system, which can realise multi-directional, all-weather and all-time intelligent obstacle avoidance during flight.

The UAV comes standard with a built-in parachute to ensure flight safety.

Equipped with a compact folding storage design to meet the needs of ordinary vehicle transit.

■ Highpressure wash gun payload system



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Cleaning mount	**Cleaning method**	■ 0° Direct Spray Powerful Stain Removal (Remove Stubborn) ■ 15° fan glass cleaning (efficient cleaning) ■ 360° rotary cleaning (surface removal)
	Fixing method	3-pivot reinforced fixing method, 1-minute quick-connect
	Total length	1.7m~3.1m adjustable
	Remote control motorised sprinkler	-30°~5° swing angle, PSDK integrated remote control
	Maximum pressure with tube	Air outlet 235bar/23.5MPa
	Cleaning flow rate	Maximum 900L/hour
	Barrier Avoidance	Phased array radar forward obstacle avoidance, ⩾3m

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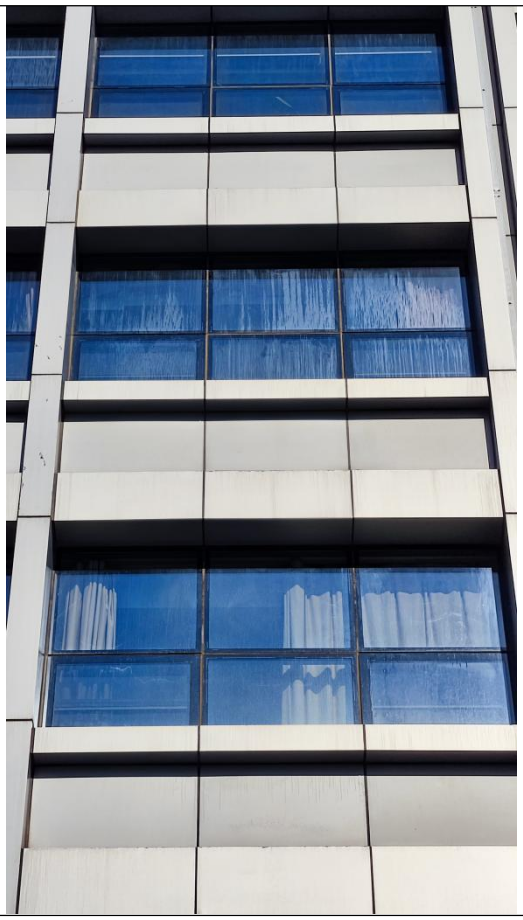
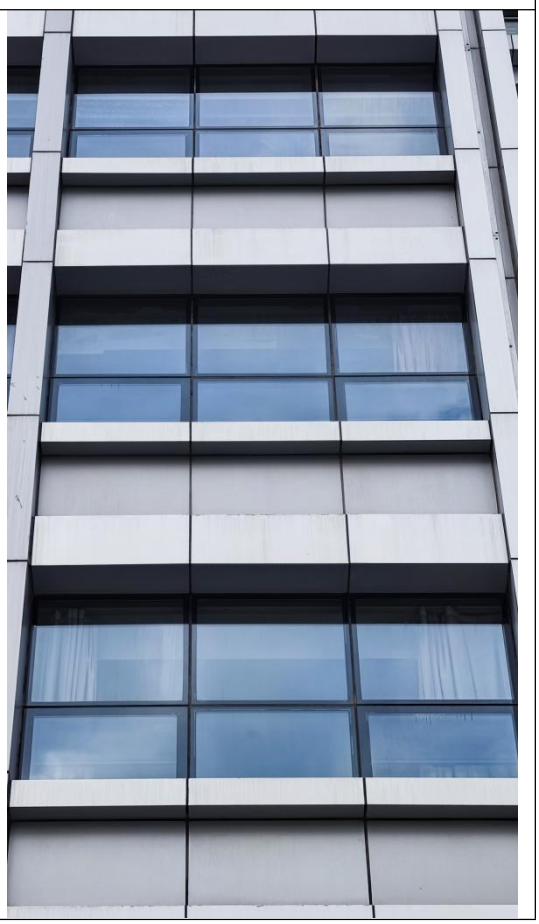
Before	After
	

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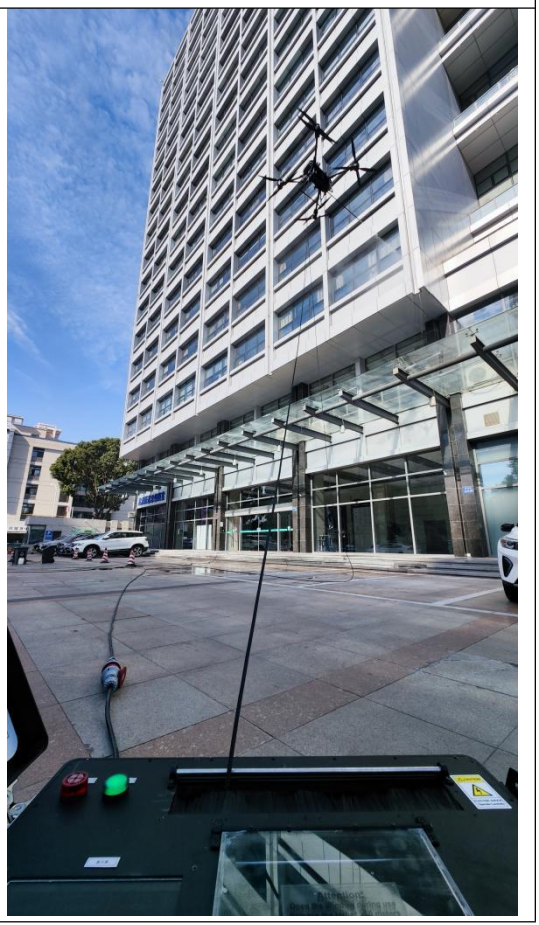
■ Tethered system

Onboard power supply original battery design	Integrated Ground Tethered Base Station
	

Performance indicators

1.1. Technical parameters

Project		Technical Parameters
Tethered station	Input Voltage	AC 380±10%, 3-phase system
	Output Voltages	Rated DC1000V
	Output Power	Rated 20kw, Max.30kW
	Take-up Speed	0 ~ 3m/s adjustable
	Size	L×W×H: External dimensions size 68.6x44.8x49.2cm
	Weight	60kg(including tethered cables)
	Material	Aviation Aluminum Alloy

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Tethered cable	Operating Current	Max.20A
	Tensile Strength	⩾300kg
	Cable Length	100m
Onboard power supply	Input Voltage	DC 1000V
	Output Voltages	DC 14S 58.8V Constant Regulated Output
	Output Power	15kW（Rated Long-Time Power）
	Size	L×W×H：311×140×379mm
	Weight	8.8kg
	Installation	Replacement of one FC30 drone battery, plug and play
	protective function	In tethered power mode, the vehicle can fly and land normally if the power supply is interrupted during flight.
	Battery pack protection	Yes, it can absorb the reverse electromotive force when landing to prevent blowing up the machine, Requires a full battery pack before use
Transportation size		94*63*74cm G.W. 96kgs

■ High-pressure washer (options)

- Karcher HD 9/25G Classic with extension tube



Max pressure (bar)	300
Working pressure (bar)	250
Water flow (L/h)	900
Maximum inlet temperature (Celsius)	60

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Size (mm)	875*538*702
Net weight (kg)	50
Connection load (kW)	8.5
Oil tank (L)	6.5

- Karcher 380VAC, 6500W, 240bar, 15L/minute



- Karcher 380VAC, 9000W， 230bar， 17L/minute



5. Equipment operation process

1. Check if the equipment is complete: check if the drone body, cleaning device, control system and guards are intact.
2. Install the cleaning device: Install the cleaning quick-connect device on the bracket below the drone, and make sure it is firmly connected. Connect the tethered power supply connector and make sure the cable is fixed on the bracket underneath the UAV.
3. Connect the tethered power supply: Switch on the drone, connect the remote control, switch on the tethered power supply and take off the drone.

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4. Control the UAV flight: Turn on the front radar obstacle avoidance and set the locking distance to 3m, turn off the lower obstacle avoidance. Use the remote control to control the drone flight, adjust the flight height, speed and direction as needed.
5. Start cleaning: After determining the cleaning object, use the corresponding cleaning nozzle, turn on the cleaning pump, and use the drone to clean the target.
6. The first time the curtain wall should be sprayed with cleaner to ensure even coverage. After a certain interval of time, flush the curtain wall with water to form a hanging film on the surface of the glass curtain wall with the best effect.

6. Precautions for equipment operation

Daily operation:
Before operation, be sure to understand the functions and operation methods of the equipment.
During operation, the stability and safety of the drone should be maintained.
During the cleaning process, the cleaning system should be selected according to the surface material and the degree of dirt.
At the end of the operation, the power should be turned off in time and the equipment should be well maintained.
Special operation:
When encountering special circumstances, emergency braking or manual control of the UAV to return to the flight can be taken.
When encountering equipment failure, you should stop the machine in time to check and contact professional personnel for maintenance.

7. Equipment maintenance

Daily maintenance: after each use, the main body of the drone and the cleaning device should be cleaned to keep the equipment clean and tidy. At the same time, check whether there is any damage or looseness of the parts and deal with them in time.
Regular Maintenance: It is recommended to carry out a

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comprehensive equipment inspection and maintenance once a month, including replacing worn parts and cleaning the internal circuit boards.

8. Principles of use

1. When in use, the power supply should be well ventilated and heat dissipated; the air passage of the module unit should not be obstructed;
2. The power supply should be used under the environmental conditions specified in the specification;
3. The potentiometers in the power supply shall not be adjusted arbitrarily;
4. It shall not be operated under volatile gas or flammable environment;
5. Do not remove the cover or touch the internal parts under any circumstances;
6. For safety reasons, do not carry out internal warranty and parts replacement alone;
7. The power supply must be safely insulated when in use, either side of which must have a safety distance of more than 8mm from the outside metal shell; if it is less than 8mm, need to be padded with more than 1mm thickness of PVC sheet to strengthen the insulation;
8. In the process of switching on or using, smoke or unpleasant odour is found, the power supply should be switched off immediately.

9. Warranty period

The warranty period of this product is 1 year. During the warranty period, any natural damage under normal use will be repaired by the Company free of charge;

However, if any of the following circumstances, it is not included in the warranty:

① Unauthorised repair and damage without the permission of the Company;

② Arbitrary addition or modification;

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③Improper operation or use;
④ Damage caused by abnormal environmental conditions exceeding specifications;
⑤ Deliberate human damage;
⑥ Damage caused by irresistible natural disasters.

10. Scope of maintenance

If this equipment fails to operate normally during the warranty period due to errors in materials and manufacturing techniques, our company will provide free maintenance or replacement. The maintenance service will cover all kinds of labor services as well as any necessary adjustments or replacement of parts.

11. Restrictive covenants

1. If you send back the product, can not be consistent with the factory product packaging and damaged in transit, the same will not be warranted.
2. We are not responsible for any of the following:
① Damage caused by fire, earthquake, riot, war, terrorist attack, acts of third parties and other matters;
② Damage caused by the customer's intention or negligence, misuse, or use under other abnormal conditions;
③ For incidental damages arising from the action or use of this product [interruption of business, loss of business benefits (including loss of use of instruments, costs incurred for replacement of any equipment, device or service, or claims by your customer)];
④ For damages arising from the application of a method of use other than the contents of these instructions;
⑤ Under any circumstances, such as operation, cleaning or warranty, please make sure to observe the safety code stipulated in item 7; if any violation of the code results in safety concerns beyond those of the original design and manufacture, we will not be responsible.