



Walkera . Fire fighting equipment UAV

—— Application solution of emergency rescue and
fire fighting UAV ——

Company Profile

Guangzhou Walkera Technology Co., Ltd.

Founded in 2001, it is the world's leading provider of intelligent drone system solutions. The company covers an area of 28,000 square meters and has more than 300 employees. It is one of the "Top Ten UAV Companies" and "China's Top Ten Innovative UAV Brands".

Walkera takes "Intelligent Creation of Infinite Possibilities" as its corporate theme and "integrity and integrity, pursuit of excellence, persistence in innovation and team spirit" as its core values.

Over the years, through continuous pioneering innovations in core technology fields such as the UAV platform, flight control system, aerial imaging system, gimbals stabilization, and intelligent obstacle avoidance, it has taken the lead in the field of small UAV system solutions. The products are mainly divided into industry application drones, consumer drones, and cross-competition drones.

Each year, we insist on investing up to 30% of revenue in R&D and design, forming a large number of core technologies with independent intellectual property rights, including more than 48 authorized invention patents, 14 overseas patents, more than 110 utility model and appearance patents, 17 software copyrights.

With the strong support of governments at all levels, Walkera has been recognized as: "Guangdong Province Innovative Pilot Enterprise", "Guangdong Province Intelligent Aerial UAV Engineering Technology Research Center", "Guangzhou Industrial Design Center", "Guangzhou Municipal Enterprise Technology Center", "Guangzhou R&D Institution", and was included in the list of "Guangdong Province Robot Core (Cultivation) Enterprises" in 2017.

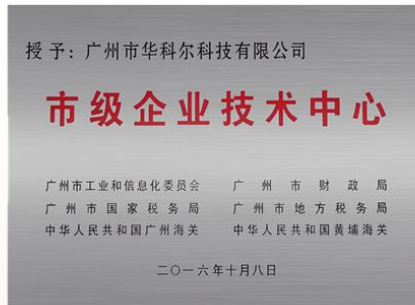
We will continue to take the road of independent innovation and strive to contribute to the realization of "Made in China 2025" with the spirit of

Enterprise goal: Committed to becoming a leader in the global intelligent aircraft industry.

智造无限可能
Intelligence makes it possible



The main idea: intelligent creation of infinite possibilities



- Member of the drane code Association High tech Enterprises
- Innovative pilot enterprises in Guangdong Province
- Guangdong Engineering Technology Research Center
- Business license of civil unmanned aerial vehicle
- Guangdong Province independent innovation demonstration enterprise
- Guangzhou Municipal Enterprise Technology Center
- Guangzhou Municipal Industrial Design Center
- Guangzhou enterprise research and Development Institute
- Top 10 innovative brands of UAV in China
- Top 10 brands of UAV in China
- Unit of abiding by contract and keeping promise

Company qualification

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Intelligence makes it possible



中国民用航空局制



国家企业信用信息公示系统网址：http://www.gsxt.gov.cn

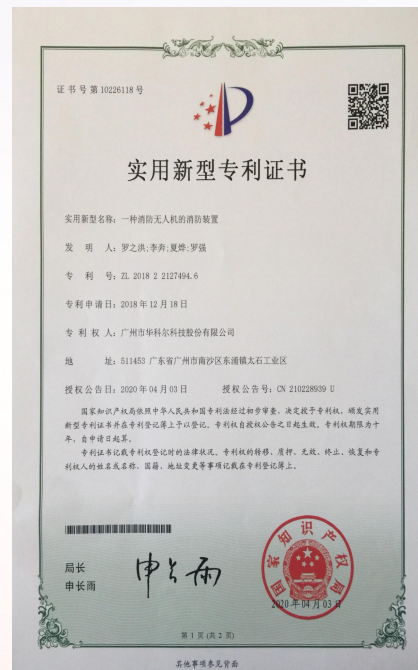
市场主体应当于每年1月1日至6月30日通过
国家企业信用信息公示系统报送公示年度报告

国家市场监督管理总局监制



Product patent

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Walkera fire UAV won the appearance patent and utility model patent certificate





WK-1500(zhun)Fire fighting equipment drone

sepecification

Symm etrical motor wheel base	1500mm	Max ascent speed	5m/s
Dimension s	unfold: 1150×1150×760mm; fold: 650×650×760mm	Max descendin g speed	2m/s
max Flying weigh t	45kg	Max horizontal flight speed	GPS mode: 5m/s (no wind environment) Sports mode: 8m/s (no wind environment) Attitude mode: 15m/s (no wind environment)
paddle	Diameter × pitch: 30×9.9inch; unit weight: 160g	Max pitch angle	25°
camera	4K 30 optional zomm zoom speed about 2.0seconds	Max tolerable wind speed	14m/s
sight	Magnification: 3~9 times, length 33cm, tube diameter 25.4mm Cross dense point differentiation, objective lens focusing method	Max flight altitude	5000m
Lidar ranging	Ranging range: 100m, obstacle sensing range: 3-15m (adjustableFOV: horizontal 20°; vertical 3°; measuring frequency: measuring frequency	Hover accuracy(G PS)	vertical: ±0.5m, 水平: ±1.5m (When GPS positioning works normally)
	Voltage: 45.6V; Capacity: 44000 mAh; Energy: 20064	Max battery life	35mins



WKRC-H15(Z)Control the ground



APP with cross star night vision aiming system

Specifications

screen	7.8 6 inchResolution: 2048 ×1536; brightness: 2000 cd/m ²
RAM	RAM: 4G; ROM: 16G
system	Android 5.1
working frequency	2.4GHz &5.8GHzDual frequency
Signal effective distance	About 6 kilometers (open and unobstructed, no electromagnetic interference)
Video output interface	HDMI
Built-in battery	7.4V 9000mAh LiPo 2S
Memory card type	Supports up to 64GB microSD card



Six axis power system

50 minutes

30kg heavy load

The six axis fire fighting UAV independently developed by Walkera has large load capacity, strong wind resistance and high throwing precision, which can spray fire extinguishing powder in close range. For high-rise building fire fighting UAV. It uses folding fuselage design, super load and anti tremor design, can quickly reach the high-rise fire, using high-power camera to observe the fire. Support overweight dry powder fire-fighting tank, throwing fire-fighting bomb, water spray tank, water hose spray and other fire-fighting application equipment.

Specification parameters

Symmetrical motor wheelbase: 1900mm
Diameter * pitch: 34 × 11.2 inch; single weight: 160g
Max horizontal flight speed: 14m / S
Max rising speed: 5m / S
Max descent speed: 3m / S
Max wind speed: 8m / S
Max flight altitude: 5000m
Range of lidar: 100M
Standard takeoff weight: 34kg;
Max takeoff weight: 54kg
Max flight time: 45 minutes (no load)
Working environment temperature: - 10 °C to + 40 °C

Fire fighting tank installation

Material: HP295
Dry powder net content: 12kg
Total weight: 19.5kg
Filling pressure: 1.2MPa
Installation mode: quick hanging
Opening mode: electronic control quick opening
Powder spray pipe
Material: carbon fiber;
Length: expanded 4.33M (the shortest can be reduced to 1.5m)

Six axis power heavy load fire fighting UAV

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WKRC-H15(Z)控制地面端

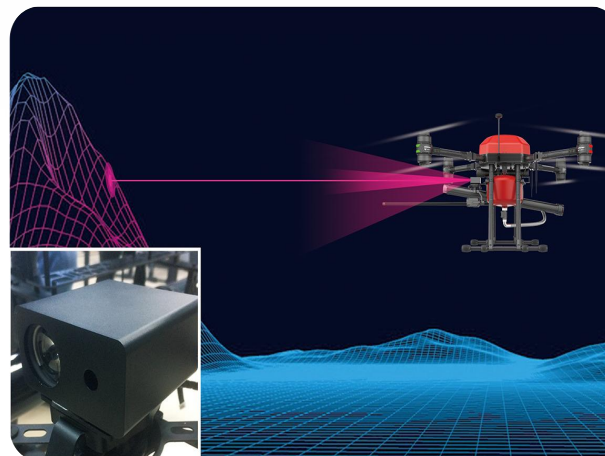
Remote control specifications

屏幕	7.8 6 inch分辨率: 2048 × 1536; 亮度: 2000 cd/m ²
内存	RAM: 4G; ROM: 16G
系统	Android 5.1
工作频率	2.4GHz & 5.8GHz双频

信号有效距离	约6千米 (开阔无遮挡, 无电磁干扰)
视频输出接口	HDMI
内置电池	7.4V 9000mAh LiPo 2S
存储卡类型	最大支持64GB容量的microSD卡

laser ranging

The intelligent obstacle avoidance system based on lidar technology and high-precision sensors can achieve a laser ranging of 100 meters, identify obstacles 8 meters away from the front direction, brake and decelerate, prevent risks caused by misoperation, and ensure your flight safety. Double protection of obstacle avoidance and distance measurement makes your flight safer and increases the probability of rescue.



▲ Aiming system + app

With super load and anti tremor design, combined with high power sight and high frame rate camera with night vision function, it has high launch accuracy, and can accurately launch fire-fighting bombs in the complex fire weather environment. Through graphic transmission, the target point is displayed on the ground control terminal in real time, and there is a cross aiming star on the app client, which greatly improves the shooting accuracy and rescue efficiency.

ZHUN(WK-1500)fire fighting drone

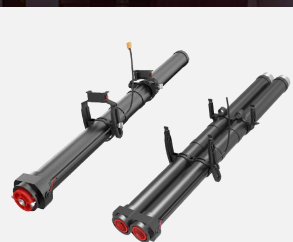
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Observe and **fight** in one, double fire fighting

Zhun dual fire fighting UAV has the advantages of large carrying capacity, strong wind resistance and high throwing precision. It can launch fire-fighting bombs remotely in complex fire weather environment and spray fire-fighting powder in short distance. Zhun dual fire fighting UAV is a special fire fighting UAV for high-rise buildings. It adopts folding fuselage design, super load and anti tremor design, which can quickly reach the high-rise fire site, use high-power camera to observe the fire, and launch fire-fighting bombs. It supports mounting a variety of assemblies, including 30x zoom camera, dry powder fire extinguisher, throwing fire bomb, sprinkler, searchlight, loudspeaker light, etc.



App Cross Star aiming system



Single / double gun
fire extinguisher



3kg / 5kg fire
extinguisher



Vertical throwing dry
powder fire
extinguishing bomb
module



Spray tank
module



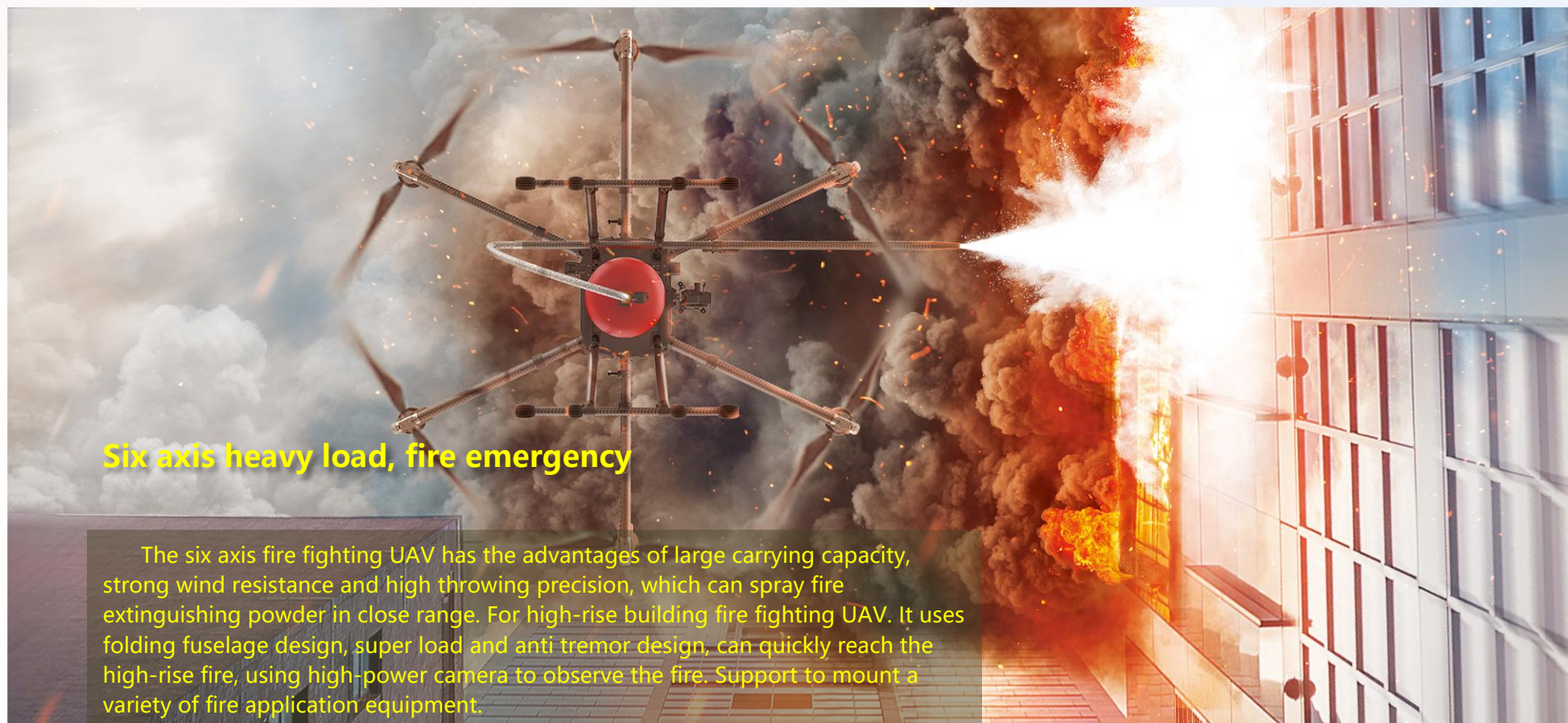
Lighting
module



louder speaker
module

ZHUN(WK-1800) fire fighting drone

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Six axis heavy load, fire emergency

The six axis fire fighting UAV has the advantages of large carrying capacity, strong wind resistance and high throwing precision, which can spray fire extinguishing powder in close range. For high-rise building fire fighting UAV. It uses folding fuselage design, super load and anti tremor design, can quickly reach the high-rise fire, using high-power camera to observe the fire. Support to mount a variety of fire application equipment.



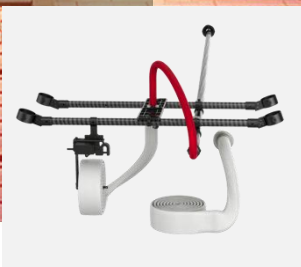
5kg / 12kg dry powder



Vertical throwing dry powder fire extinguishing bomb module



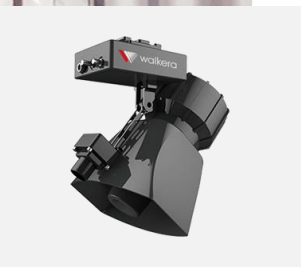
Spray tank module



Hose spray module



Lighting module



Loudspeaker module

According to different needs, the relative application of fire equipment module can be replaced



Zhun fire uav-3kg dry powder fire extinguisher
(observe and fight in one, double fire fighting)



Zhun fire uav-5kg dry powder fire extinguisher
(independent mount)



Zhun fire UAV - Dual gun fire bomb



Zhun fire UAV - vertical drop of dry powder fire extinguishing bomb

UAV for emergency rescue and fire fighting equipment

Zhu fire UAV - water belt version
(independent mount)



Zhu fire UAV - water tank version
(independent mount)



Fire rescue Application module

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Fire extinguishing bomb module of high altitude launcher

Cm60 airborne transmitter

Single fire extinguishing capacity: 9.2 m3 (full submergence)

Maximum range: $\leq 50\text{m}$ type: ABC superfine dry powder;



3kg fire extinguisher module

The dry powder has a net weight of 3kg and a total weight of 6.2kg

Filling pressure 1.2MPa

Electronic control quick opening mode, powder spray tube: carbon fiber material ;

Length: expanded 4.33M (the shortest can be reduced to 1.5m)



5kg fire extinguisher module

The dry powder has a net weight of 5kg and a total weight of 9.5kg

Filling pressure 1.2MPa

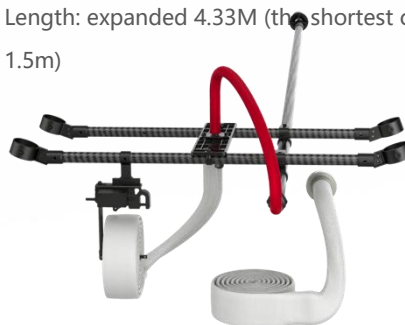
Electronic control quick opening mode, powder spray tube: carbon fiber

Length: expanded 4.33M (the shortest can be reduced to 1.5m)



Spray tank module

High pressure water pump voltage: 48V
high pressure water pump weight: Pressure of 2.5kg high pressure water pump: on: 0.25MPa, off: 1.8MPa Water tank: 10L water spray pipe material: carbon fiber
Expansion length: the expansion length is 3M (the shortest can be reduced to 1.5m)



Hose spray module

Can be connected to fire hydrants, fire engines, high pressure water supply
Spray pipe material: carbon fiber
Expansion length: the expansion length is 3M (the shortest can be reduced to 1.5m)



Vertical throwing dry powder fire extinguishing bomb module

ABC superfine dry powder; 4 dry powder bombs, which can be thrown in turn,
Each fire extinguishing area is up to 6m2, with 1080p H cast in
Aiming lens
Applicable to: large places, factories, forests, traffic fire fighting

Fire rescue Application module

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Lifebuoy throwing module

Built in 1080p HD casting and aiming
Camera assisted search and accurate
casting
Applicable to: marine emergency rescue
throwing



4K 30x optical zoom module

12 million HD 4K image quality, 30x
zoom
Focal length: 6.7-134.5mm
Applicable to: long distance tracking,
monitoring and reconnaissance,
Security patrol



Thermal imaging camera module

Recording resolution: 640x480
Zoom ratio: 8 times electronic zoom
Applicable to: 3D image of fire scene
Surveying and mapping of surface features



Low light level night vision camera module

Sony: 1 / 2.7 inch CMOS;
2 million effective pixels
Lens: FOV 85 °; 4.4mm; f1.2 aperture
Applicable to: night monitoring and reconnaissance, security



Tilt camera module

24 megapixels of APS-C frame (single)
1:500 mapping with 120 million total pixels
It is suitable for collecting three-dimensional
images of cities
Surveying and mapping of surface features



Lighting module

Type: LED rectangular
Lumen: 68800
Power: 500W
Weight: 1.5kg



louder speaker module

The volume is up to 125 dB and the
transmission distance is up to 100 dB
1.2km, 100W power, one click recording
Applicable to: site command, crowd
evacuation
Law enforcement calls



Banner Promotion Module

Remotely expand and release
Banner size: 80x30cm
Applicable to: fire drill, legal system and adv

Emergency rescue fire fighting equipment drone

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ZHUN inspection and fighting in one, double fire extinguishing

30k optical zoom camera

5 minutes battery life

Maximum load 15KG

Flying height up to 1000 meters

Lidar ranging

Night vision sighting system



High-rise fire fighting



Vertical drop fire extinguishing bomb

Overseas application cases of fire fighting drones

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Negotiation scene



Staff installation site

Close range
Spray dry powder to
extinguish



Extinguishing scene

Fire UAV Shenzhen Daya Bay fire demonstration application case

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In October 2018, Shenzhen Daya Bay firefighting equipment exercises a special "firefighter" to extinguish a fire drone.

During the exercise, the "準" drone flew to a height of 7 floors and aimed at the target.

The fire extinguishing shells under the drone are shot out at high speed and accurately thrown into the simulated fire scene. A few seconds later, the fire extinguishing bomb instantly covered the fire room, completing the fire extinguishing task efficiently.

Walkera's "ZHUN" fire-fighting drone was successfully demonstrated in the fire-fighting exercise, and won the applause and applause of the firefighting officers and soldiers on the scene, and was highly recognized by the Shenzhen fire leadership.

At present, the company and its partners have jointly won the first order for centralized procurement of fire-fighting drones in Shenzhen, providing effective reference for subsequent development.



Fire-fighting bombing exercises from high-rise buildings.



Leaders visit the exercise site



Fire UAV demonstration application cases in major cities

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2019 Emergency Management Department Shanghai Institute Exercise



2019 Inner Mongolia fire execution mission exercise



2019 Tianjin High-tech Zone High-level Fire Fighting and Rescue Emergency Joint Exercise



2019 Guangxi Fire Drill



2019 Shanghai Naval Reserve Military Training Competition Participated



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