



Drone Purchasing Guide

With the continuous development of intelligent technology, drones are becoming more and more widely used, gaining favor in personal entertainment and business, and providing efficient, economical and safe solutions in industry various fields .

There are drones of various designs, types, functions or brands on the market. So how do we choose the right drone? Here are some drone buying guides to help you to better choose the drone that suits you.

When buying a drone, you need to consider a multiple of factors to ensure you get the right product. Here are some detailed suggestions:

When choosing a civilian drone, you can consider the following aspects:

1. Clarify your needs: First, clarify your usage scenarios and needs. Consumer drones are suitable for aerial photography, entertainment, education, etc.

Aerial photography enthusiasts: If you mainly use it to shoot scenery, urban buildings, etc., and pursue high-quality images and stable shooting effects, then consumer-grade aerial photography drones are a good choice, such as DJI Air series, Mini series, etc.

For recreational aerial photography, you need to focus on camera performance, battery life, and functions. It is recommended to choose a drone with a high-definition camera, image transmission system, and long battery life.

For example:

Beginner- DJI Mini 2 SE is lightweight and easy to use, supports 2.7K video recording, has a flight time of up to 31 minutes, and does not require additional registration, making it an ideal choice for entry-level users.

Popular choice - DJI Mini 3 Pro, supports 4K 60fps video recording, has high-quality sensors and excellent obstacle avoidance, and can fly for up to 34 minutes. It is suitable for users who have high requirements for shooting quality.

Professional Use - DJI Mavic 3 Pro, equipped with Hasselblad camera system, has a 50-megapixel secondary camera and a 20-megapixel main camera, supports RAW (DNG) and JPEG format image output, a maximum battery life of 43 minutes, and 1080p real-time image transmission quality, making it the first choice for professional users.

2. Determine your budget: The price of drones ranges from a few hundred yuan to tens of thousands of yuan. Choose a suitable model according to your budget. If your budget is limited, you can choose an entry-level product with a high cost performance.

Entry-level: Entry-level drones with a budget ranging from a few hundred yuan to more than a thousand yuan are suitable for beginners or users who do not have high requirements for image quality.

Mid- to high-end consumer grade: Mid- to high-end consumer grade drones with a budget of around 2,000 to 10,000 yuan are the choice of most aerial photography enthusiasts.

Professional level: The price is usually more than 10,000 yuan, or even hundreds of thousands of yuan, suitable for users in professional film and television production, surveying and mapping, agricultural plant protection and other industries.

3. Pay attention to performance parameters: Pay attention to flight time, flight distance, maximum flight altitude, shooting resolution and other parameters. The longer the flight time, the more time you have for shooting or working; the flight distance determines the range of the drone's activities; the higher the shooting resolution, the better the quality of the videos and photos you take.

Flight time: The flight time directly affects the duration of the shooting or operation. Generally speaking, the flight time of consumer-grade drones is around 20 minutes to 40 minutes, while the flight time of professional-grade drones may be longer.

Flight distance: determines the range of the drone's activities. The control distance of consumer-grade drones usually ranges from a few hundred meters to several kilometers, while the control distance of industrial-grade drones is even farther.

Maximum take-off weight: This is related to the drone's load-bearing capacity and is very important for applications that require carrying additional equipment or supplies.

Wind resistance level: A drone with a high wind resistance level can maintain stable flight in bad weather. The higher the wind resistance level, the better the stability of the drone in bad weather. The wind resistance level of general consumer drones is 4~5, and some high-end products can reach 6 or above.

Image transmission system: determines how far and how clear the real-time image you can see. Choosing an image transmission system with stable signal and long transmission distance is crucial to ensure image quality and operation experience.

Controllability: Understand the control method of the drone (remote controller, mobile phone APP, gesture control, etc.) and the control distance. The remote controller usually provides more precise control, while the mobile phone APP and gesture control are more convenient

Camera and Sensor: Choose a camera and sensor type with appropriate pixels according to your shooting needs. The higher the pixels and the larger the sensor size, the better the image quality

Pixels: Choose a camera with appropriate pixels according to your shooting needs. Generally, the pixels of consumer-grade drones are around 10 million, while professional-grade drones can reach more than 20 million pixels.

Sensor type: Understand the impact of different sensor types on image quality, such as CMOS, CCD, etc., and choose a drone with good image quality. The larger the sensor size, the better the image quality.

Other camera parameters: such as resolution, frame rate, sensor size, color reproduction, dynamic range, etc. The higher the resolution and the faster the frame rate, the better the quality of the video and photos.

Portability: If you often need to take your drone out for filming, portability is important. Choose a drone with a foldable design that is easy to carry and store. Also, consider the weight and size of the drone to make sure it can fit easily into a backpack or suitcase.

4.Brand and channel: Choose a well-known brand of drone, the quality is guaranteed, and the after-sales service is better. At the same time, choose a regular sales channel to avoid buying fakes or second-hand goods

5. Personal experience or test flight

Physical store experience: If conditions permit, it is recommended to go to a physical store to personally experience the drone's key performance such as controllability, stability, and camera quality.

Participate in test flight events: Some drone manufacturers or dealers will hold test flight events, which give users the opportunity to actually test fly the drone in an outdoor environment and have a more comprehensive understanding of the drone's performance.

Choose a suitable location: stay away from obstacles such as high-voltage lines, big trees, and tall buildings. Don't fly in crowded places to avoid accidentally injuring others.

Perform a pre-flight check: Before each takeoff, check that the drone's battery level, signal strength, camera, propellers and other components are functioning properly.

Pay attention to the flight environment: Avoid flying in bad weather such as strong winds, thunderstorms, etc. to prevent the drone from being damaged or in danger.

Pay attention to the flight speed: Don't blindly pursue the maximum flight speed. The faster the speed, the more difficult it is to control the drone and the greater the safety risks may be.

6. Consider After-sales Service

A complete after-sales service system is crucial to the user experience of drones. When purchasing a drone, you should pay attention to the brand's warranty period, maintenance services, user reviews and other information.

When choosing an industrial drone, the following aspects should be considered:

1. Application requirements: Industrial drones are mainly used for commercial and industrial applications, such as building inspection, energy monitoring, and logistics distribution. Such drones usually require higher load capacity and more complex functions: First, clarify your usage scenarios and requirements. Industrial-grade drones are suitable for professional fields such as film and television production, agricultural plant protection, and geological exploration.

Professional film and television production: For professional film and television production teams, which require higher image quality, more powerful flight performance, and more professional functions, they can choose professional-grade drones, such as the DJI INSPIRE series.

Geographic surveying and mapping: You need to focus on camera performance, high-definition image transmission and battery life. It is recommended to choose a drone with a precise positioning system, high resolution, high-definition image transmission and long battery life.

For example

Beginner - DJI Mini SE is compact, easy to carry, and simple to operate, making it suitable for beginners or users with a limited budget to perform basic land surveying and GIS applications.

Popular choice - DJI Air 2S, with a 1-inch image sensor, can record more details, make the picture more textured, and provide clear, high-quality image data.

Professional use - Walkera R500-RTK mapping drone adopts lightweight carbon fiber body design, strong shock resistance, provides real-time centimeter-level positioning data, and ensures the accuracy of mapping data.

Agricultural plant protection: Drones used in the agricultural field need to have a large load capacity and a long flight time in order to carry materials such as pesticides or seeds for large-scale operations. Agricultural plant protection drones can be selected, such as XAG's P series.

Agricultural monitoring: Focus on camera performance and battery life. It is recommended to choose a drone with a multispectral or thermal imaging camera for precise fertilization or spraying.

Beginner - DJI Mini 2 SE is small and light, easy to carry and operate. Although it is mainly designed for aerial photography, its stability and long battery life (31 minutes) are also suitable for basic agricultural monitoring tasks.

Popular choice - DJI Mavic Air 2, with high image transmission quality and stability, can clearly capture the details of the farmland, and the intelligent flight mode and obstacle avoidance function make operation more convenient and safer.

Professional use - DJI Mavic 3 Multispectral Edition can efficiently collect multispectral information of crops, helping users to gain an in-depth understanding of crop

growth status, conduct crop growth analysis, capture abnormal status, and perform variable fertilization and medication, etc.

Power inspection: The drone must be able to fly stably in complex environments, have strong wind resistance and precise positioning and hovering functions, and be equipped with a high-definition camera or infrared thermal imaging equipment to detect faults and hidden dangers in power lines. You can choose an industrial-grade drone, such as DJI's M300 RTK.

Search and rescue operations: You need to focus on camera performance, image transmission, and battery life. It is recommended to choose a camera with a thermal imaging camera and real-time video transmission so that search and rescue personnel can quickly obtain intelligence.

Beginner - DJI Mini SE is compact, easy to carry and quick to deploy. Although its functions are relatively basic, it is sufficient for simple search and rescue missions.

Popular Choice - DJI Mavic 2 Pro, equipped with a high-quality camera, can provide clearer images and help locate trapped people more accurately.

Professional use - Walkera K700 UAV has stronger load capacity and longer flight time, and can carry more rescue equipment, such as lifebuoys, medicines, etc.

2. Flight performance:

Flight time: Industrial drones usually have longer flight times to meet the needs of long-term operations. For example, some industrial drones can achieve a flight time of more than 60 minutes in a windless or light wind environment.

Flight speed: Industrial drones usually have a faster flight speed to improve work efficiency. The specific speed will be affected by many factors such as load, flight altitude and wind speed.

Load Capacity: The maximum take-off weight of industrial drones is usually larger to meet the needs of various heavy-load missions.

Flight altitude: Some high-end industrial drones can fly up to several thousand meters to meet the needs of high-altitude operations

3. Control system: Understand the control methods of drones, such as remote control, mobile phone APP, gesture control, etc., and choose the control method that suits you. At the same time, the control distance is also very important. Generally, the control distance of consumer-grade drones is 1-2 kilometers, and the control distance of professional-grade drones can reach more than 5 kilometers.

4. Sensors and perception systems: Industrial drones are usually equipped with high-precision sensors and perception systems, such as accelerometers, gyroscopes, satellite navigation systems such as GPS/GLONASS, and obstacle avoidance sensors such as binocular vision, lidar, ultrasonic sensors, etc., to ensure stable flight and safe operation in complex environments.

5. Image transmission system: The image transmission distance is usually longer to ensure stable video transmission when working at a long distance.

6. Environmental adaptability: Industrial drones usually have strong wind resistance and working environment temperature adaptability to cope with severe weather and operational needs in different regions.

In addition, brand reputation and after-sales service: choose a well-known and well-reputed brand to ensure product quality and after-sales service. Understand the warranty policy and maintenance service of the drone, and choose a product with thoughtful maintenance guarantee.

Other factors Regulations and safety: Before purchasing and using a drone, make sure you understand local regulations and restrictions. Some areas may have strict regulations on the flight altitude, weight, and flight area of drones. No matter which drone you choose, you should follow safe operating specifications and avoid flying in crowded or no-fly areas. At the same time, regularly inspect and maintain the drone to ensure it is in good condition.

Generally, when purchasing a drone, you need to consider multiple factors, including usage requirements, performance parameters, budget range, and after-sales service. I hope these suggestions can help you choose the right drone.

We can also select the right drone for you from our drone product library free of charge according to your needs.

If you have additional questions or need further assistance, please feel free to contact us:

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