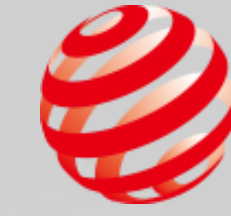


qingping

Qingping Air Monitor



reddot design award
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Breathing matters

We breathe thousands of times a day.
But just how can we know:

"Is the air we're breathing safe?"



Qingping Air Monitor

- Help users “visualise” air with the Qingping monitor.
- Real-time monitoring : PM2.5 + tVOC + CO₂ + temperature + humidity



- Realtime data and forecasts for outdoor air quality + weather + UV index

Product features

- Indoor air quality detection: PM2.5 + tVOC + CO₂ + temperature + humidity
- Weather forecast and outdoor air conditions can also be seen at a glance
- "Retina-grade" ultra-clear IPS screen
- Cell phone alike touch operation
- Two-color design, aluminum-magnesium alloy body
- Scientific air duct, more accurate measurement
- Support Mijia app, intelligent linkage access to Mijia environmental appliances
- Linux-based development, function can be continuously upgraded and improved



Accurate Monitoring

Built-in laser scattering PM2.5 sensor with high precision



- Particle concentration screening and analysis technique by laser scattering method
- High accuracy and stability, fast response, excellent anti-interference

Built-in Swiss Sensirion temperature and humidity sensor with high precision

SENSIRION
THE SENSOR COMPANY

The world's largest manufacturer
of temperature and humidity sensors



- High consistency
- High accuracy

Adopted by Porsche, Mercedes, BMW, Tesla, NASA, Nest

Built-in SGP30 gas sensor

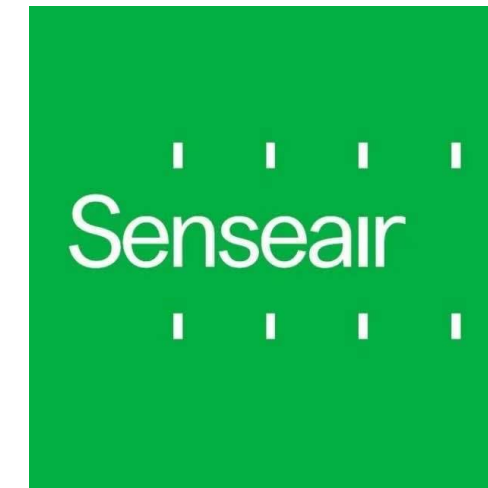
For tVOC

SENSIRION
THE SENSOR COMPANY



- Multi-pixel technology, good accuracy and high consistency
- Unparalleled siloxane resistance, long-term stability and low drift

Built-in SenseAir CO₂ Sensor S8



The world's largest manufacturer of CO₂ sensors



- Nondispersive infrared (NDIR) spectrum analysis is adopted
- High stability, consistency, precision, excellent anti-interference and sensitivity.

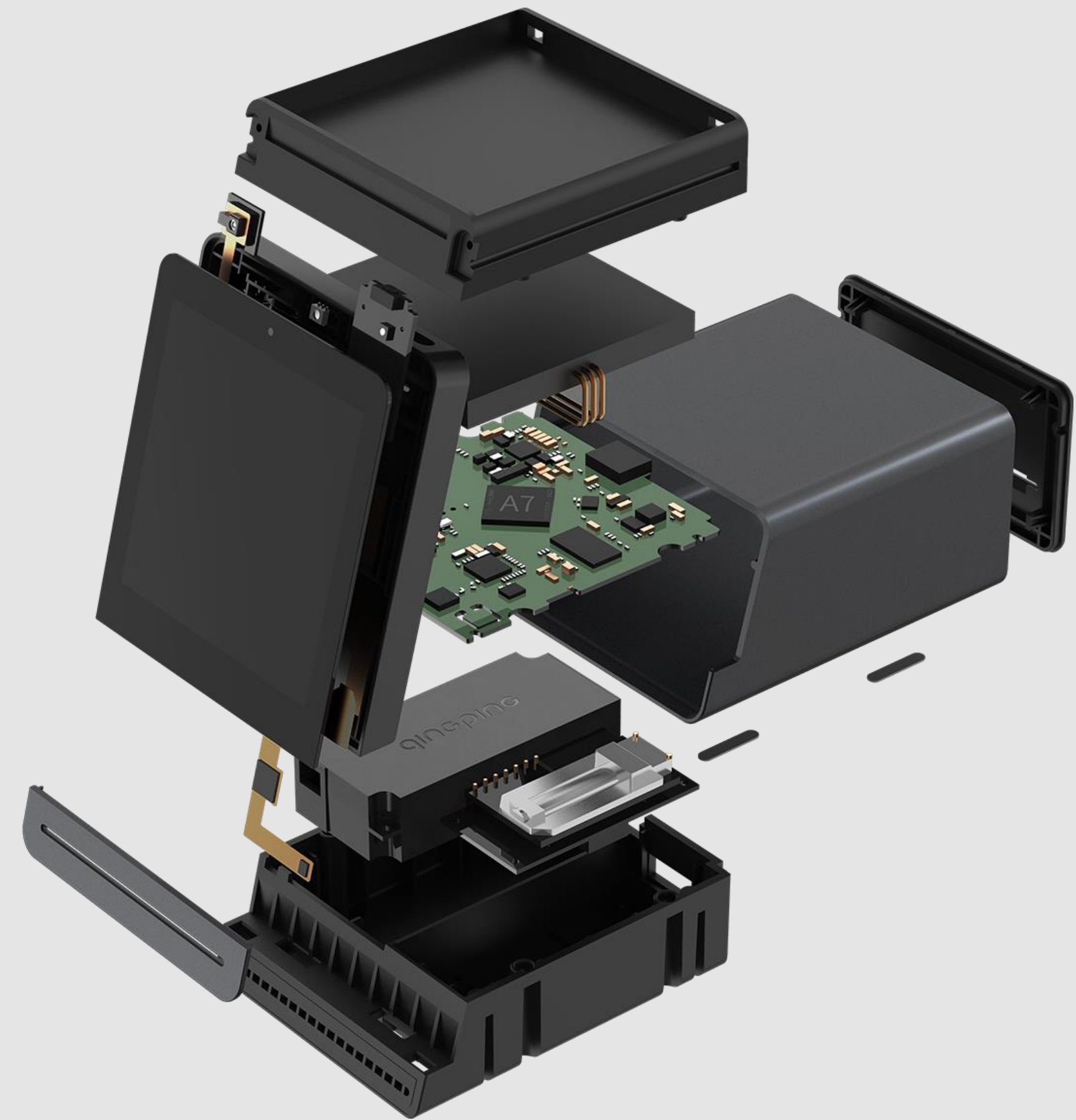
Fast response - accurate measurement - minimal drift over time



1.2GHz quad-core A7 processor



Multi-mode compensation algorithm



Measuring accuracy

The Qingping monitors have been tested and audited extensively to ensure accuracy.

- Temperature: $\pm 0.8^{\circ}\text{C}$ (the device needs to be turned on and placed in a windless environment for 30 min during the test.)
- Humidity: $\pm 8\%$ (the device needs to be turned on and placed in a windless environment for 30 min during the test.)
- PM2.5: $\pm 10\mu\text{g}/\text{m}^3$ when the reading is less than $100\mu\text{g}/\text{m}^3$; $\pm 10\%$ when the reading is greater than $100\mu\text{g}/\text{m}^3$ (the laser type PM2.5 sensor is susceptible to ultrasonic type humidifier, and it is recommended to turn off the humidifier during the test.)
- tVOC: $\pm 20\%$ (the tVOC sensor requires complete initialization)
- CO₂: $\pm 15\%$ (CO₂ in the air is not uniformly distributed, and a more professional environment is required to test the accuracy.)

Note: 100% accuracy cannot be guaranteed, due to the wide variation in user environments and testing methods

Sleek Design



iF design award and redden design award

Leans-back screen for easy reading, near and far



**Quality feel & build, with an
all aluminum magnesium alloy shell**



Air monitor with the highest screen resolution

Retina level



Dimension **3.1 inch**

Resolution **720*720**

Bit-depth **16 million colors**

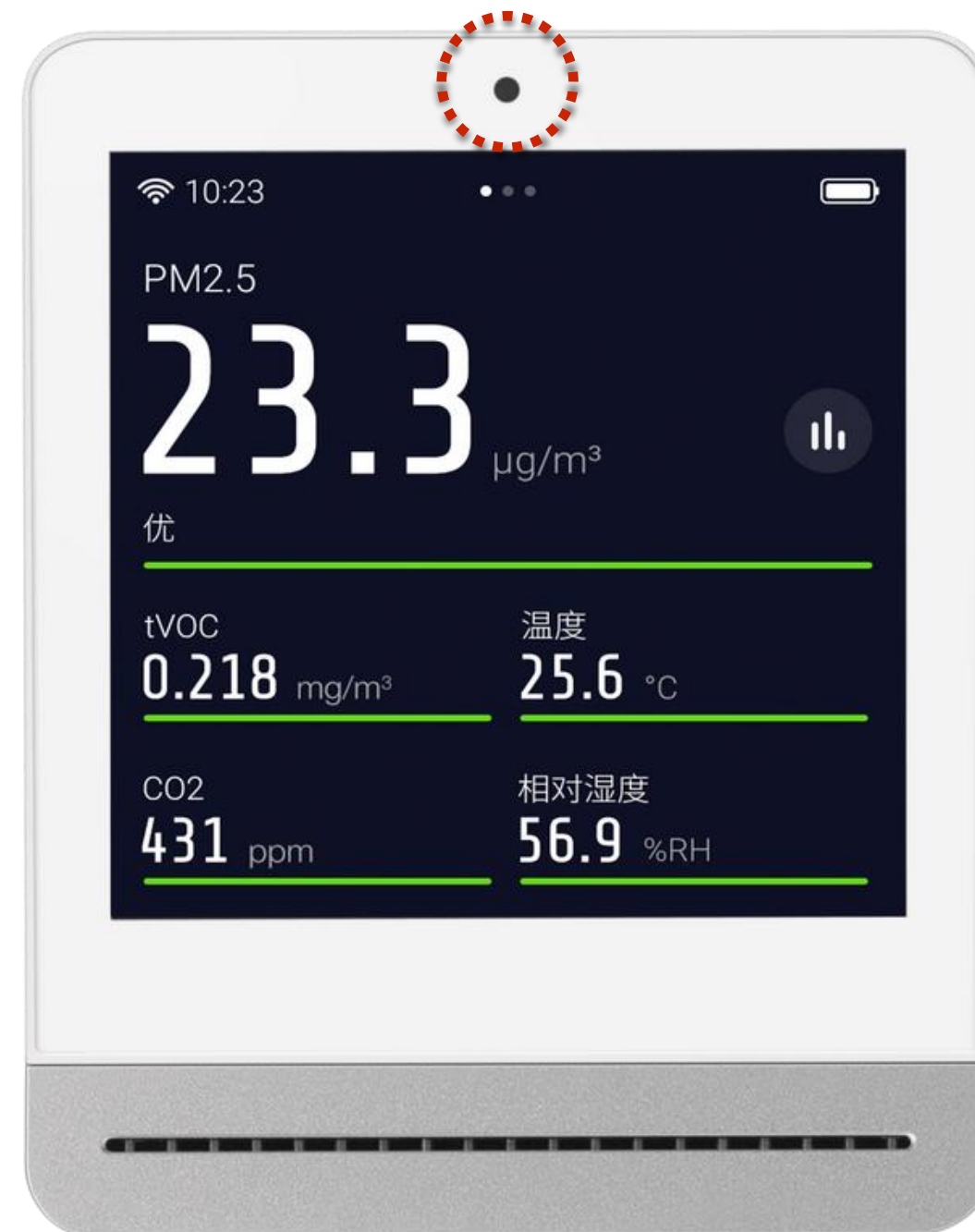
Touchscreen type **Capacitive touch screen**

Touch screen operation

Easy navigation with an intuitive UI, familiar to all



Built-in ambient light sensor screen brightness automatic adjustment



Customisable Home Screen & Screen Savers



- Time
- Weather
- Outdoor air quality index (AQI)
- Indoor air quality (PM2.5/tVOC/CO₂/temperature/humidity)

View historical data at any time

Historical data of 24 hours and 30 days is available to view, including PM2.5, tVOC, CO₂, temperature and humidity.



View real-time & forecasted air quality and weather

Weather broadcast for 24 h and 15 days and outdoor air quality broadcast for 12h and 7 days is available



Innovative ventilation hole and sensor location design



Air inlet

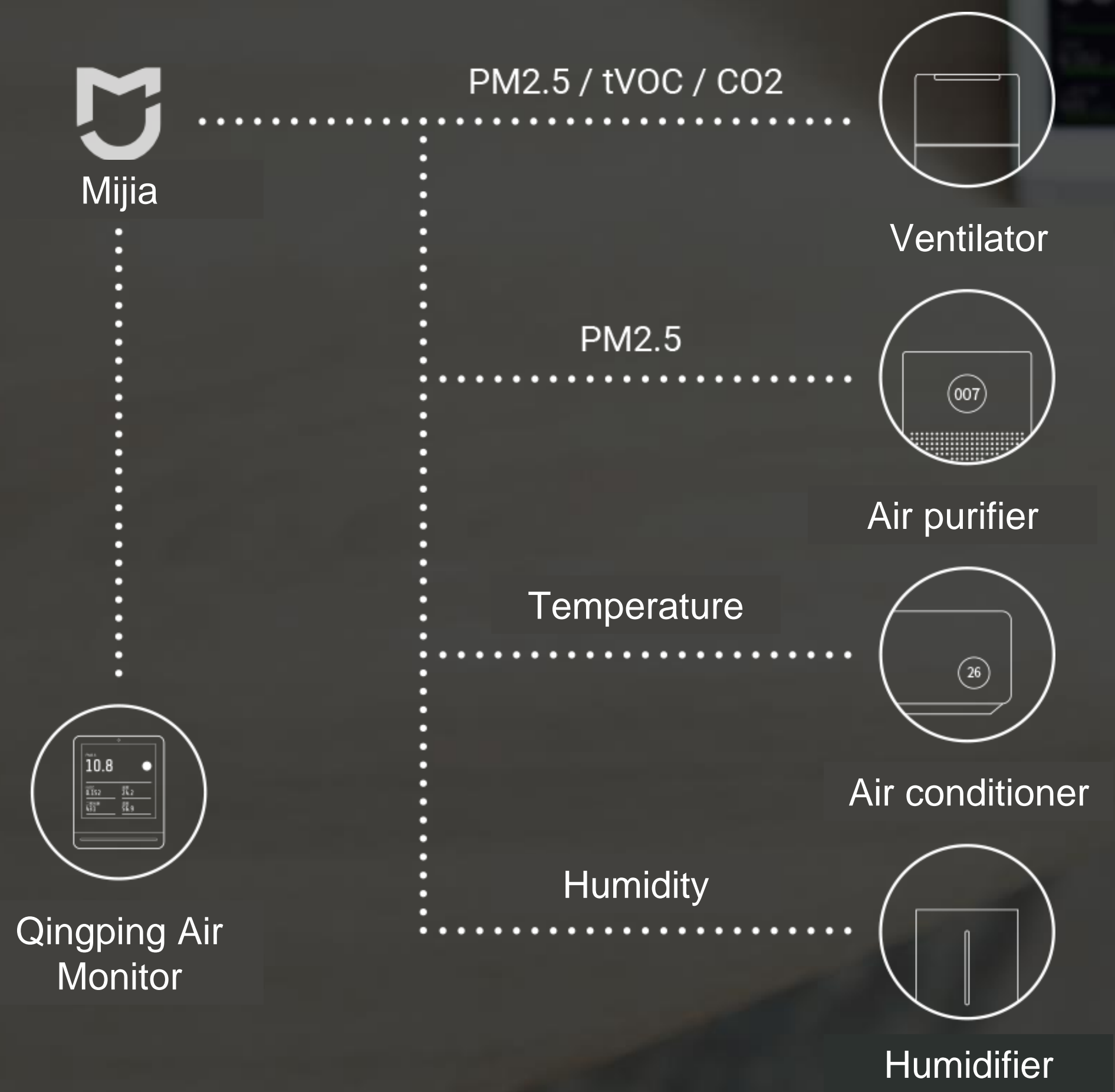


Air outlet

tVOC, temperature and humidity sensors

- Keep away from heating components such as CPUS, DDR, and batteries.
- Be exposed to the device surface as much as possible.

Home Connectivity



For example: Once the temperature or humidity, PM2.5, tVOC or CO₂ reaches the set value, the relevant equipment can be automatically turned on or off through Mijia APP.

Qingping air monitor can be linked with ventilator, air purifiers, air conditioners, electric fans, humidifiers, heating and other air conditioning equipment, to improve the air quality and comfort level of the room in a more intelligent and efficient way. Better experience and lower energy consumption.

Available brands or platforms

- Mijia
- JD Smart Home Platform
- AIRMX
- Chuanxiang Air
- Air Steward App
- Showmac
- Haier Smart Home



Support “Qingping+” App

Check readings and action suggestions anytime, anywhere



Easy Upgrade

Linux-based development, functions can be continuously upgraded and improved

OTA upgrades can fix bugs, optimise features, and even add new features, just like smart phones



Product parameters



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Product color	White / black
Product dimensions	85 × 68.4 × 86.3 mm
Product weight	217 g
Ranges	PM2.5 : 0 ~ 999 $\mu\text{g}/\text{m}^3$ Temperature : -10 ~ 50°C Humidity : 0 ~ 100% TVOC : 0.005 ~ 9.999 mg/m^3 CO ₂ : 400 ~ 9999 ppm
Power input	5V = 1A power port : USB-C
Battery type	Lithium ion battery 1800mAh/3.7V
Battery life	4 hrs (always connected to the power supply is recommended)
Wi-Fi	Wi-Fi 2.4GHz
Screen specification	3.1 inch LCD touch screen resolution : 720 × 720
Supported platform	Mijia



Certificates

- RoHS、SRRC
- Quality test report in Chinese
- UN38.3 report
- MSDS
- ZRLK report for sea shipping
- DGM report for air transportation
- Battery GB31241
- FCC ID
- Packaging reliability test
- Product test report
- Temperature and humidity calibration certificate



Common Questions

Why do we still need an air quality monitor, if air quality is improving?

- 99% of the world still breathes polluted air. PM2.5 levels may be improving in many countries, but they are still not safe.
- PM2.5 is not the only form of air pollution

CO₂

- High CO₂ concentrations can make people drowsy; CO₂ rises quickly in sealed rooms
- CO₂ is a way to measure freshness of indoor air:
- High concentrations generally mean room is poorly ventilated
- High concentrations may mean other gaseous pollutants are accumulating, such as aldehydes and benzene is reduced

Why do we need a standalone air quality monitor?

“My purifier already has one!”

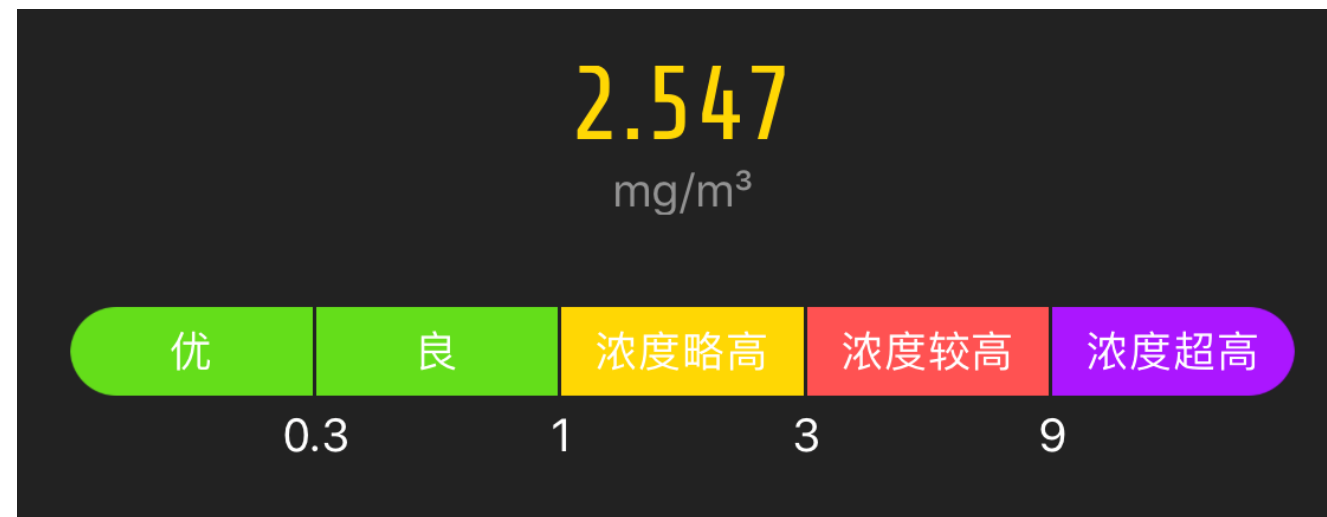
Standalone monitors vs. built-in monitors:

- Smart Air data shows standalone monitors are more accurate than built-in monitors
- Built-in monitors measure air right next to the purifier, which may not be representative of a room’s real air quality
- Standalone monitors are portable and can be used to measure air in multiple places
- Standalone monitors measure more than just PM2.5: temperature, CO2, humidity, giving a more wholistic view of air quality
- Built-in monitors are typically fixed to one AQI standard, and can’t be changed (e.g. Xiaomi purifier fixed to China standard)
- Standalone monitors have bigger screens more clearly showing your air quality, and can often show forecasts
- Built-in monitors inflate purifier cost. B2C case: 2 purifiers for 2 rooms – you’re paying x2 for a monitor. B2B case: 10 purifiers for one office – you’re paying x10 the price for monitors

Why doesn't the monitor support test for formaldehyde?

Formaldehyde testing is not possible out of lab conditions. Monitors that say they are measuring "Formaldehyde" are lying. The Qingping monitors show tVOC to give a more accurate representation of VOCs in the air.

Appendix: significance of tVOC



tVOC, or total volatile organic compounds, contains thousands of compounds that may have irritating odors, some of which are harmful to humans.

tVOC reading may increase significantly when there are more people in the room, or during activities such as cooking, eating, cleaning, or make up, and usually falls back after the activity finish or ventilation.

tVOC readings can also increase significantly when unsealed substances containing alcohol are present near the monitor.

Indoor tVOC can also come from combustion products such as coal or natural gas, tobacco, and materials used in construction and decoration, furniture, and household appliances.

When tVOC readings are between 1 and 3 mg/m³, avoid staying in that environment for 12 months or longer. Reduce tVOC concentrations by opening windows or turning on ventilation system, identify and eliminate the sources.

When tVOC is above 3 mg/m³, avoid staying in the environment for more than 1 month.

When tVOC is higher than 10 mg/m³, ventilation should be strong and try not to stay in the environment for more than a few hours.

Appendix: significance of CO₂



CO₂ is a common atmospheric compound, accounting for about 0.04% (400 ppm) of the atmospheric volume.

CO₂ is usually produced by organic compounds combustion, cell respiration, microbial fermentation, etc. Indoor CO₂ mainly comes from human breathing.

Some people may experience feelings of drowsiness when indoor CO₂ levels are above 1,000 ppm. At levels above 2,000 ppm, some people may experience nausea and headaches. Do not stay in the environment with a CO₂ level above 5000 ppm for more than 8 hours.

Appendix: significance of temperature and humidity

- There is a sweet spot in the relative relationship between temperature and humidity
- For example, the higher the temperature, the lower the tolerance of humidity
- ASHARE (American Society of Heating, Refrigeration and Air Conditioning Engineers) published the ASHARE-55 standard entitled Thermal Environmental Conditions for Human in 1966, which summarizes the relative relationship between temperature and humidity and put forward the concept of comfort zone. The latest version was released in 2013.

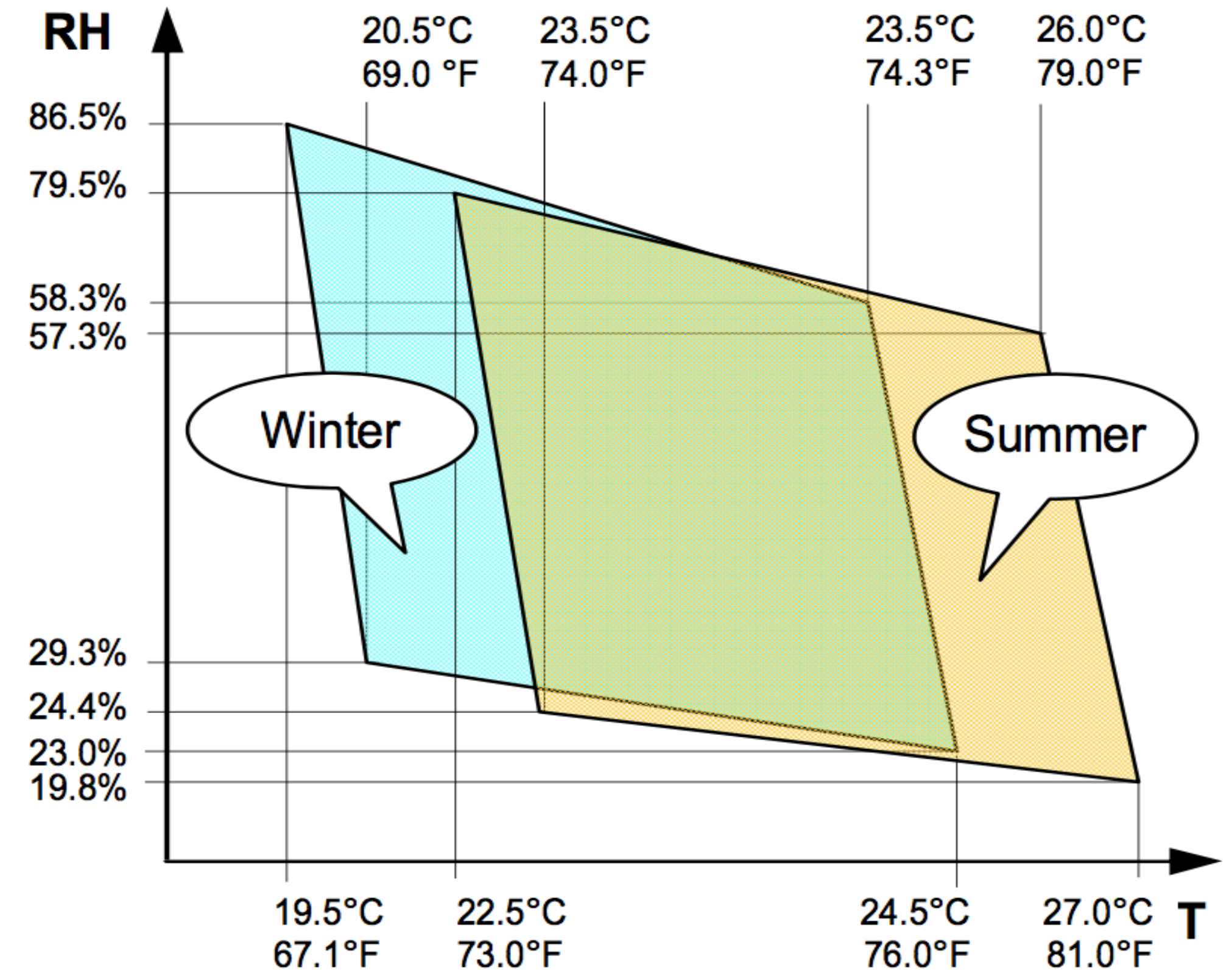


Figure 1 Relative humidity (RH) / temperature (T) diagram based on comfort zone according to ASHRAE 55-1992.

Comparison of competing products at similar prices



Brand	Qingping	Greensky	Siemens	Green Source
PM2.5	●	●	●	●
tVOC	●	●		●
CO ₂	●			
Formaldehyde		●	●	●
Temperature	●	●	●	●
Humidity	●	●	●	●
Screen	16 million color capacitive touch LCD	Color LCD	Color LCD	单色段码 LCD
Lux Auto Brightness	●			
Wi-Fi	●		●	
Time	●	●		●
Weather	●			
Outdoor air quality	●		●	
Supported platform	Mijia, Qingping+			
Price (RMB)	799	888	788	699