MGC AIR QUALITY MONITOR

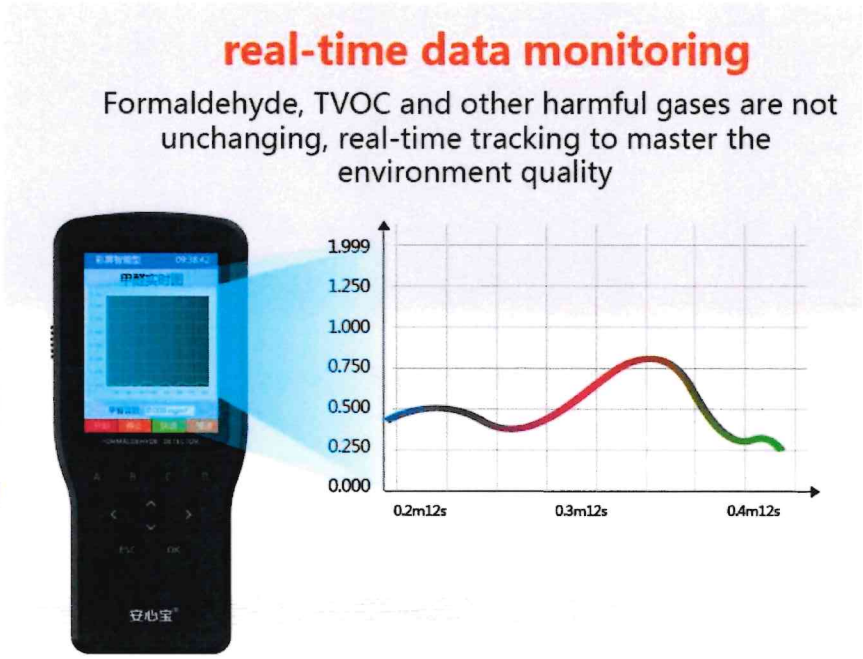
Particle pollution, also called particulate matter or PM, consists of solid and liquid particles made up of mould/fungi spores, ash, metals, soot, organic matter, pollen, diesel exhaust and chemicals suspended in the air. Particles are divided into two major groups based on size.

These tiny spores and particles are the most damaging to health. The smaller the particle the longer it can be suspended in the air and the further they can invade the body.

Eight functions for 24h real time monitor

Open the era of microcomputer air detect

- HCHO — Accurate Detection for formaldehyde
- Real time humidity monitoring
- TVOC — Accurate Detection for TVOC and benzene
- Air quality Record and analysis
- Air convection system
- 24 hours a day for Air detecting
- °C — Real time temperature monitoring
- Memory calibration



PM10: Are coarse particles between 2.5 and 10 micrometers (from about 25 to 100 times thinner than a human hair). These particles are called PM10 (Particulate Matter up to 10 micrometers in size). These particles cause less severe health effects mostly in the upper respiratory tract. These consist of mould and fungi spores, smoke, dirt and dust from factories, farming and roads as well as pollen. They are made from crushing and grinding rocks and soil then blown by wind.

PM2.5. The small particles are smaller than 2.5 micrometers (more than 100 times thinner than a human hair). These particles are called PM2.5 (Particulate Matter up to 2.5 micrometers in size). These consist of toxic organic compounds and heavy metals. They are made from automobile exhaust, burning garbage and landfill, smelting and processing of metals.

Both PM2.5 and PM10 are measured in micro grams/cubic meter.

- Measures pm2.5 (particle matter size up to 2.5 microns).
- Measures pm10 (particle matter size up to 10 microns).
- Identifies when air quality is likely to cause respiratory difficulties, allergic reactions and trigger a range of health issues.

The smaller particles or PM2.5 are lighter and go deeper into the lungs and cause greater damage longer term. They also stay in the air longer and travel farther. PM10 (big) particles can stay in the air for minutes or hours while PM2.5 (small) particles can stay in the air for days or weeks and travel great distances. PM10 particles can travel as little as a hundred yards or as much as 30 miles. PM2.5 go even farther; many hundreds of miles.

The size of particulate matter will determine where it will end up once you breathe it in. Larger particles may be trapped in your nose, while PM_{10} can reach your airways. Fine particles (PM_{25}) may reach the breathing sacs deep in your lungs, and ultrafine particles may even cross into your blood stream. These particles can carry toxic chemicals which are linked to cancer.

Particular matter irritates your nose and throat and may be associated with more severe symptoms in people with asthma. It results in more people with lung conditions (asthma, bronchitis) and heart conditions (heart attacks, strokes) being admitted to hospital. It also causes early deaths from lung and heart disease.

Band	Index	$PM_{2.5}$ particles 24-hour mean ($\mu g\ m^{-3}$)	PM_{10} particles 24-hour mean ($\mu g\ m^{-3}$)
Low	1	0–11	0–16
	2	12–23	17–33
	3	24–35	34–50
Moderate	4	36–41	51–58
	5	42–46	59–66
	6	47–53	67–75
High	7	54–58	76–83
	8	59–64	84–91
	9	65–70	92–100
Very High	10	71 or more	101 or more

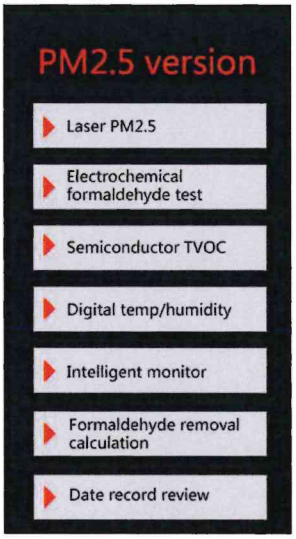
AQI chart of pm2.5 & pm10 as recommended by

If the levels on the monitor are showing Green and are registering Low (the Green section of the chart) masks should not be necessary.

If the levels on the monitor are showing Orange and are registering Moderate (the Orange section of the chart) masks FFP3/4 should be worn.

If the levels on the monitor are showing Red and are registering High (the Red section of the chart masks FFP4/HFM must be worn.

It is also good practice to carry out a site specific Risk Assessment and Method Statement for working to ensure all PPE is adequate, suitable for the conditions and the work to be carried out.



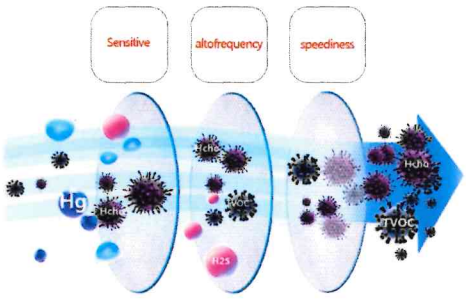
- Displays temperature
- Displays humidity level
- Eco friendly packaging

Children and the elderly are particularly vulnerable to particulate matter as it can affect the development of the lungs in very young children and the respiratory system is more at risk in the elderly.

Mould/fungi spores normally range from 3 – 100 microns in size. But some can be as small as 1 micron.

Spores and other particulates that are smaller than 10 microns (pm10) are not usually visible to the naked eye.

Every year in the UK, it is estimated that the equivalent of 40,000 early deaths can be linked to breathing in polluted air.



TVOC sensor

- Early indication of poor air quality allows for remedial action and can help to prevent serious health problems.
- Easy to use.
- Hand Held.
- Real time monitoring.
- Read outs in seconds.
- Rechargeable.
- Measures the overall level of particles including dust, dirt, mould, pollen, nitrates, bacteria etc.

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