15000-OEM

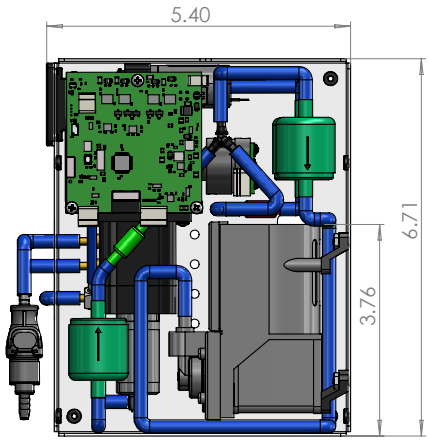
OEM Condensation Particle Counter (CPC) Optical System

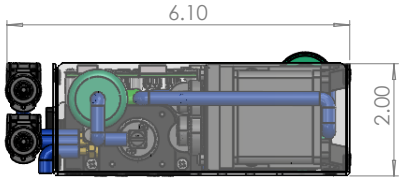
The Particles Plus® 15000-OEM Condensation Particle Counter (CPC) offers high-precision ultrafine particle detection at a fraction of the cost of traditional systems. By leveraging shared hardware architecture from the proven Particles Plus® platform, it delivers exceptional value while maintaining a strong correlation ($R^2 > 0.99$) with industry gold-standard instruments. Unlike conventional alcohol-based CPCs, the 15000-OEM uses a water-based condensation method—eliminating the need for flammable liquids and offering a non-toxic, VOC-free, and environmentally friendly solution. This significantly reduces maintenance while supporting safer and more practical deployment in both field and indoor environments.

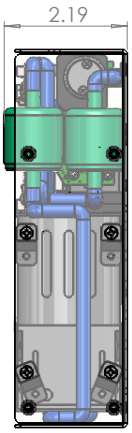
Capable of detecting particles as small as 5 nanometers (0.005 µm) and as large as 3 µm, the CPC records total particle counts every 6 seconds, providing near-real-time insights into airborne nanoparticle concentrations. Its compact footprint, high reliability, and rapid sampling make it ideal for research, air quality networks, and public health monitoring applications where size, safety, and affordability are critical.

15000-OEM: Features and Benefits

- Total particulate counts above ultrafine threshold (0.005 µm, from the CPC)
- CPC Aerosol Concentration Range of 0 to 100,000 particles/cubic centimeter
- Long-lasting water-based CPC
- Long life laser diode technology
- Assembly mounted on back plate for ease of integration
- 1 year limited warranty. Extended warranties available.

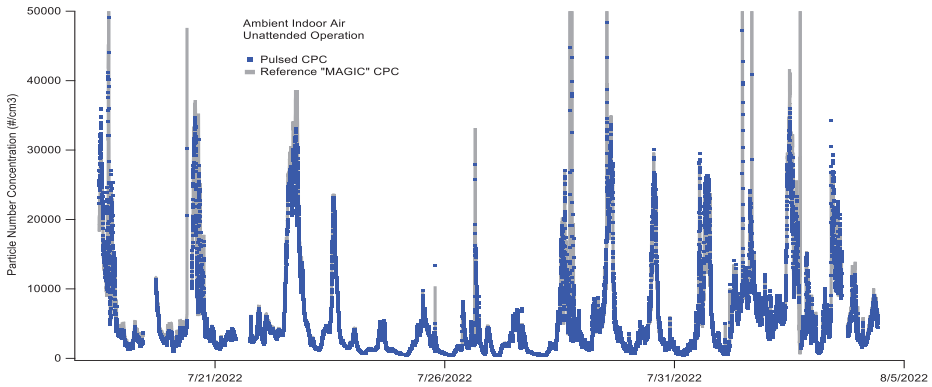






Specifications

Model 15000-OEM	Condensation Particle Counter
Measured Parameter	Ultrafine particle concentration
Operating Principle	Optical light scattering after water vapor growth
Condensation Approach	Near-adiabatic expansion with single particle counting
Concentration Range	0 to 100,000 particles/cm^3
Particle Size Range	0.005 to 3.0 µm
Size Channels	0.005 µm threshold (one size bin)
Efficiency	±10% below 30,000/cm^3, ±20% at higher concentrations
Sample Rate	6s cycle time
Number of Channels	1
Liquid Requirement	Distilled water
Water Consumption	< 3mL/day
Flow Rate	Variable
Internal Vacuum Pump	Internal pump with local control
Operating Conditions	45º to 100ºF (5 to 38°C)
Communication Modes	Modbus (RTU/ASCII) via 3.3v UART
Instrument Calibration	Recommended minimum once every one year
Dimensions (L x W x H)	5.40 x 2.00 x 6.71 inch (13.71 x 5.08 x 17.04 cm)
Weight	2 lbs (907 grams)
Optional Accessories	Standard filter, External 1L bottle
Operating Conditions	41º to 104ºF (5º to 40ºC) / 20% to 95% non-condensing
Storage Conditions	32º to 122ºF (0º to 50ºC) / Up to 98% non-condensing
Power	7 - 15 Vdc
Power Consumption	~12 Watts with the pump and ~8 Watts without the pump
Warranty	1 year limited warranty. Extended warranties available.



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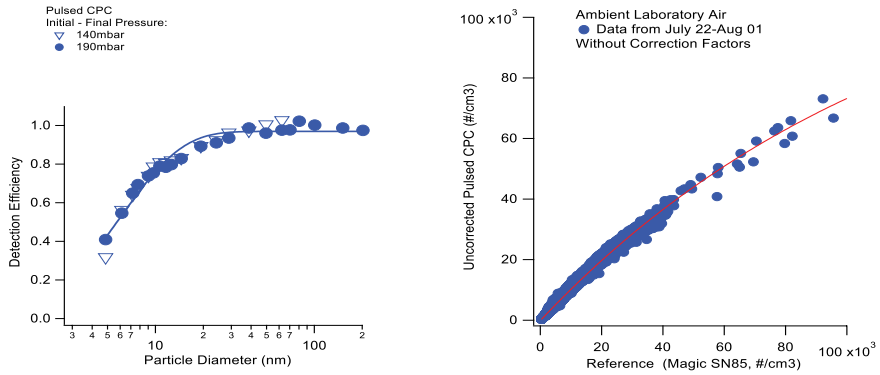

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Made in USA

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