



PARTICLE COUNTER



CAP3070



PN COUNTER

RELIABLE AND FAST MEASUREMENT

- ✓ Easy integration
- ✓ Simplified maintenance
- ✓ Economic and sustainable

Extended DC Technology

A SIGNIFICANT PROPORTION OF PARTICLE FILTERS MALFUNCTION AND EMIT UP TO 10,000 TIMES MORE PARTICULATE MATTER. THE AVERAGE EMISSIONS OF THE ENTIRE VEHICLE FLEET WOULD THEREFORE BE UNDERESTIMATED BY A FACTOR OF 5.

CAP3070 INNOVATION AND ACCURACY

Introduction of particle counting for PTI is being implemented by some European countries. Capelec has developed a reliable and fast solution for the efficient measurement of particle-number concentration. The CAP3070 uses Extended Diffusion Charging measuring principle, an innovative technology to support PTI evolutions.

Easy integration

Fast and reliable testing

Low maintenance

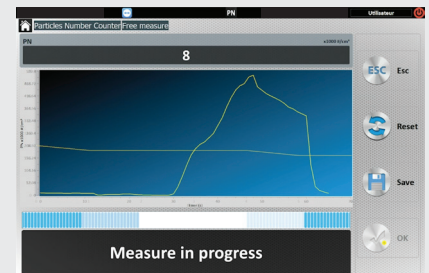
CAP3070 interfaces with all CAPELEC emission testers. It can be used in addition to the gas analyzer and opacimeter functions, or as a stand-alone unit.

The measurement is done at idle in less than 30 seconds without the need for free acceleration, which is polluting, noisy and stressful for the engines or the operators.

The CAP3070 uses ExtDC measuring principle without soot clogging. The straight-through design keeps the sensor clean for extended operating time.



The CAP3070 PN counter complies with the particle concentration measurement requirements fixed by legislation in the Netherlands, Belgium and Switzerland. Further approvals are in progress.





EXTENDED DIFFUSION CHARGING RELIABILITY AND REPEATABILITY

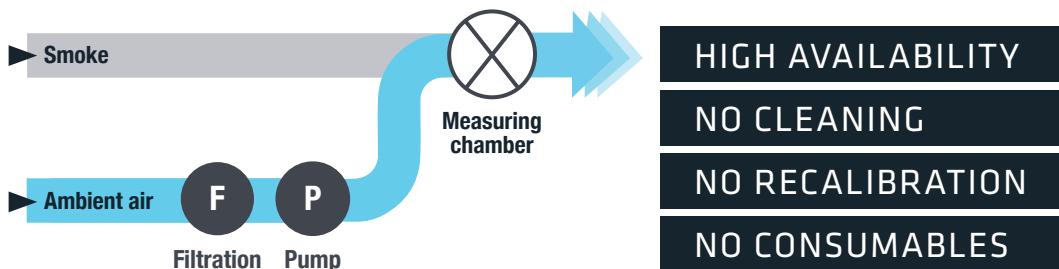
ExTDC consists in electrically charging the particles by the diffusion of a high density of ions (positive) created in an ionization chamber by corona effect.

The concentration of charged particles is measured when leaving the sensor, the measurement corresponding to a leakage current per unit of time.

This leakage current is proportional to the number of particles - and their specific surface - leaving the sensor per second, it allows to easily find the concentration in number and even in mass of particles.

Patented soot-free solution

The smoke particles are sucked in by the Venturi effect thanks to a clean air flow, and are electrostatically charged (15 KV) at the sensor inlet. No risk of sooting the filter and the pump.



BENEFITS

- No soot build-up
- No flammable operating liquid
- Insensitive to vibrations
- Independent of position during measurement
- No dilution
- No need of compressed air

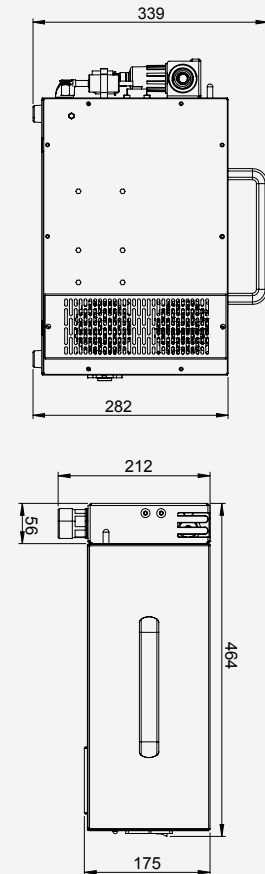
SPECIFICATIONS

CAP3070

Limit of detection	1 000 #/cm ³
Measuring range	5 000 à 5 000 000 #/cm ³
Resolution of indication	1000 #/cm ³
Response time	< 7s (T0 à T95)
Power supply	100-260 VAC - 50-60hz
Detection efficiency	20 - 60 % / 23 nm +/- 5 % 60 - 130 % / 50 nm +/- 5 % 70 - 130 % / 80 nm +/- 5 %

HMI

Communication	Bluetooth
Device	PC or Tablet
OS	Windows



CHECKING AND CALIBRATION

PTI PN CALIBRATOR offers a solution connected to a reference Condensed Particulate Counter verified annually, with salt generator included.

This robust equipment is quick and ultra-simple to implement. It dispenses with the need to take expensive, fragile reference equipment and a set of complementary means into the field.

Adjustable particle concentration range from 0 to 10⁷ #/cm³.

Recommended values for PTI :

- High value: 3x10⁵ to 5x10⁵ #/cm³
- Medium value: 2.5x10⁵ #/cm³
- Low value: 5x10⁴ #/cm³
- Zero #/cm³
- Salt solution (certified) for the salt generator.

