# PARTICLE COUNTER


CAP3070

## PN COUNTER

RELIABLE AND FAST MEASUREMENT

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

Extended DC Technology

Capelec®

A significant proportion of particulate filters (DPFs) 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

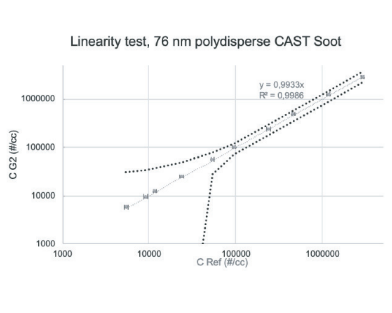
**CAP3070 interfaces with all CAPELEC emission testers.** It can be used in addition to the gas analyzer and opacimeter functions, or as a stand-alone unit.

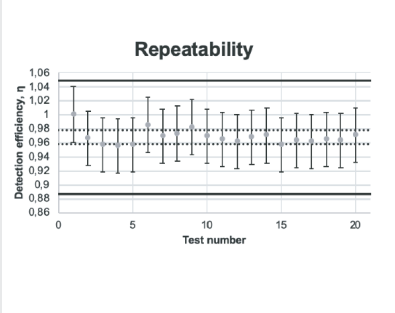
**The measurement is done at idle in less than 30 seconds** without the need for free acceleration, which is polluting, noisy and stressful for the engines or the operators.

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

NMi APPROVED

The CAP3070 particle analyzer meets the requirements for measuring the concentration of particulate matter in numbers as required by Dutch legislation.

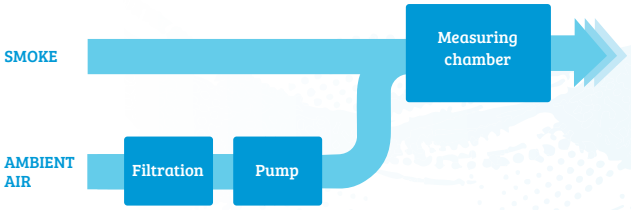



# Extended Diffusion Charging Technology
# RELIABILITY AND REPEATABILITY

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.

- HIGH AVAILABILITY
- NO CLEANING
- NO RECALIBRATION
- NO CONSUMABLES

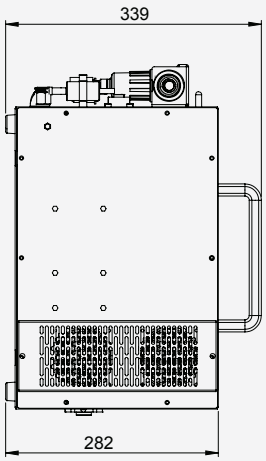
## BENEFITS

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

### HMI


Bluetooth communication

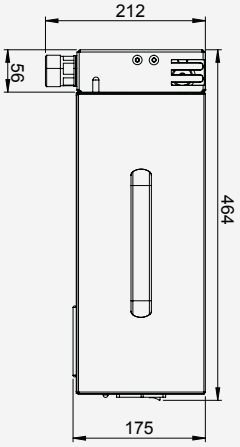
Tabet | PC | Smartphone


## SPECIFICATIONS

### CAP3070

| | |
|---|---|
| Limit of detection | 1 000 #/cm³ |
| Measuring range | 5 000 à 5 000 000 #/cm³ |
| Resolution of indication | 1000 #/cm³ |
| Response time | < 7s (T0 à T95) |
| Power supply | 100-260 VAC - 50-60hz |
| Detection efficiency | 20 – 60 % / 23 nm +/- 5 %<br>60 – 130 % / 50 nm +/- 5 %<br>70 – 130 % /80 nm +/- 5 % |
| Communication | Bluetooth |




## 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 $10^7$ #/cm³.

Recommended values for PTI :

- Hight value: $3x10^5$ to $5x10^5$ #/cm³
- Medium value: $2.5x10^5$ #/cm³
- Low value: $5x10^4$ #/cm³
- Zero #/cm³
- Salt solution (certified) for the salt generator.