

CAP3070 PN

PARTICULATE MEASUREMENT IN NUMBER



NUMBER PARTICLE MEASURING CELL

Do particle filters work as well as you think they do?

The good news is that good filters work extremely well.

The bad news is that a significant proportion (15%) have a problem and emit up to 10,000 times more particles.

The result: the average particle emissions of the entire fleet are underestimated by a factor of 5. Europe intends to put an end to this disorder (Holland, Belgium, Switzerland and Germany are the pioneers) ... petrol (GPF) and diesel (DPF) filters will have to be tested and changed if we want to protect the planet and "pass" the technical inspection.

CAP3070, thanks to a new Technology without soot clogging, requiring little maintenance, opens up a new field of precision and sensitivity.

CAP3070 is a Number Particle (PN) measuring cell using DC (Diffusion Charging) measurement technology.

CAP3070 interfaces with all the CAPELEC range of emission measurement (CAP3201, CAP3500, CAP3600) and as a complement of the gas analyzer and opacimeter functions.

It can be autonomous with a Windows or Android terminal.

The procedure, based on an idle measurement, is adapted to the local legislation.

CAP3070 complies with Dutch legislation and is NMI approved.



CAPELEC DESIGN

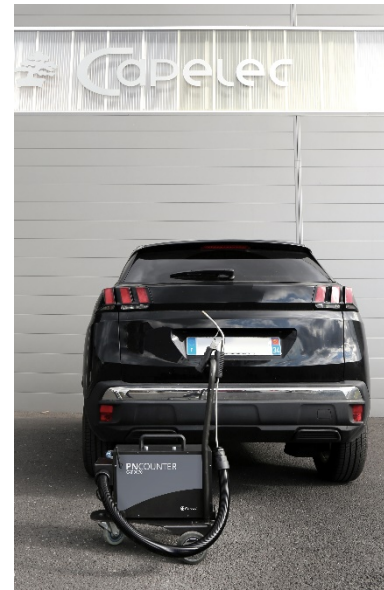
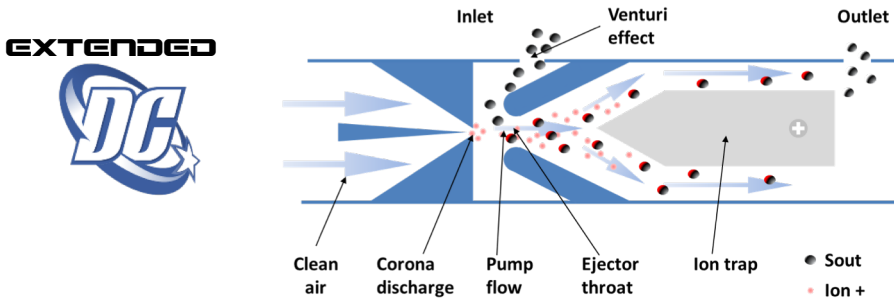
Based on DC technology (Diffusion Charging) more robust than the CPC in the PTI e workshop universe, CAP3070 inherits the CAPELEC transmission range, its design, its maintainability, its HMI, its complementary equipment (speed measurements, EOBD interface, temperature sensor).

- No operation fluids required
- Insensitive to vibrations & chocks
- Flow variation proof / high pump flow
- Position independent operation
- Condensation proof
- Removing volatile particles (VPR): no artefact impact
- No dilution (less risk of imprecision after time)
- No need of compressed air
- Internal monitoring:
 - Residual particulates detection
 - Leakage warning
 - Clogging warning
 - Low flow warning
- Easy to use:
 - Wireless communication to the central unit/display
 - 3 wheelers trolley based
 - Easy hooking of heated probe on the trolley
 - Automatic start-up procedure
 - Easy and intuitive operation
- Calibration :
 - Combustion generator
 - Salt particulate generator

METROLOGICAL SPECIFICATIONS

- Limit of detection = 1 000 particles/cm³
- Measuring range = 5 000 to 100 000 000 particles/cm³
- Resolution of indication = 100 particles/cm³
- Detection efficiency / Particle size
 - 20 – 60 % / 23 nm +/- 5 %
 - 60 – 130 % / 50 nm +/- 5 %
 - 70 – 130 % / 80 nm +/- 5 %
- Water trap , filtration
- Sampling heated probe: 100°C
- VPR (Volatile Particulate Remover): 240°C
- PN measurement chamber: 100°C
- Removing volatile particles (VPR) effectiveness rating of 95 % for 30 nm Tetracontane particles at a concentration from 5 000 to 10 000 per cm³.
- Logging frequency of the particle counter is 1 Hz.
- Response time: < 7s (T0 to T95)
- Warm up time: <8 min at 5°C.
- Visual indication when measuring range is exceeded.
- Relative humidity: up to 95 % RH
- Atmospheric pressure: (860 – 1 060) hPa
- Ambient temperature operating range: -5 to +40°C.
- Size: 500 x 300 x 200 mm.
- Weight: 7 kg
- Power supply: 100-260 VAC - 50-60hz

Measurement Principle : Extended Diffusion Charging



Heated probe Mobility Cell



Optional truck heated 4m probe



CAP4350 EOBD module option



CAP8533 Engine speed option



IR temperature Measurement option



Calibration means