

## Process Aerosol Photometer

## PAP 610



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The Process Aerosol Photometer was developed for inline concentration measurement of blow-by aerosols. This measuring instrument is an addition to the Gravimetric Measurement System GMS 141 which is also provided by Topas. The GMS 141 is used for calibrating the PAP 610.

### Operating Principle

A highly concentrated aerosol passes through an extinction of light arrangement and causes a light decrease of the incident light in propagation direction depending on the aerosol concentration and the particle size distribution.

For oil mist aerosols, it may be shown that it is possible to draw conclusions about the concentration and mean particle size (in a range of approx. 0.1 ... 1.5  $\mu\text{m}$ ) of the aerosol by measuring light decrease for two different wavelengths.

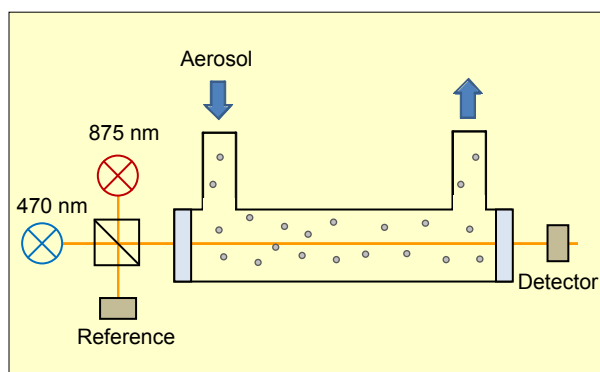
The Process Aerosol Photometer PAP 610 uses a serial port for stand-alone operation (software: PAPWin) or can be integrated to different engine test stand systems.

### Special Advantages

- High time-resolution transmittance measurement with 2 wavelengths
- Temperature compensation of electronic assembly
- Simple cleaning of process windows
- Heatable measurement chamber (maximum temperature limited by a safety temperature limiter)
- Seals of FKM/FPM (oil- and temperature-resistant)

### Applications

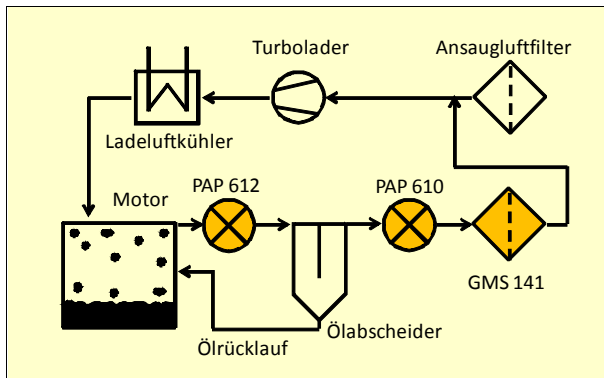
- Transmittance measurement of oil aerosol for crank case ventilation in combustion engines (blow-by measurement)
- Concentration monitoring of aerosol generators on oil mist test stands (SPT 140)
- In-line monitoring of aerosol separators
- Monitoring of mean particle size of submicron aerosols



Measuring principle of the PAP 610



## Specifications



Example: integration of the GMS 141 and the photometers PAP 610 and PAP 612 in an engine test stand

### Windows-Software PAPWin

- Data acquisition
- Calibration and online determination of oil concentration
- Configuration of PAP 610

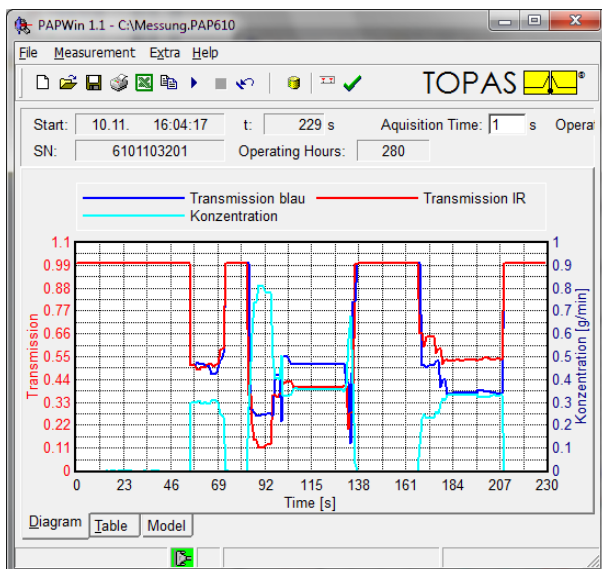


Diagram view of Software PAPWin

### Technical Data

Measurement range (transmittance)	0.1...100 %
Optical path length	300 mm
Wavelengths	875 nm and 470 nm
Installation	In-line
Pipe connection diameter	DN 28 mm
Aerosol contacting materials	Aluminium, Viton (FKM), glass, stainless steel
Heatable measurement chamber	max. 110 °C
Power supply heater	230 V AC, 50/60 Hz, 200 W, 1 A
Power supply PAP 610	12 V / 100 mA (USB supply)
Dimensions (L x Ø)	576 x 76 mm
Weight	approx. 6 kg

QMS certified to  
DIN EN ISO 9001.



12 100 11908 TMS

For more information please visit  
our website at  
[www.topas-gmbh.de](http://www.topas-gmbh.de)

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