

HORIBA APDA-372

Continuous ambient air quality monitoring system for particulate matter
Fractions PM_{2.5} and PM₁₀ according to EN 16450

Type approved by TÜV Colonia

Equivalency test by UBA Vienna



The APDA-372 continuous ambient air quality monitoring system provides continuous and simultaneous measurements of PM₁, PM_{2.5}, PM₄, PM₁₀, TSP (PM_{tot}) and the particle number concentration.

All APDA-372 systems use the approved measurement technology of optical light scattering and are equipped with a LED light source with stable output and long lifetime. All systems include a filter holder for the insertion of an absolute filter (ø 47 or 50 mm). Thus, a chemical analysis of the composition of the aerosol is also possible.

The APDA-372 operates with an aerosol flow of 4,8 l/min and is equipped with a Sigma-2 sampling head according to VDI 2119-4, which allows a representative measurement even at strong winds. Further, both models provide an Intelligent Aerosol Drying System (IADS) as well as sensors for the measurement of ambient temperature, air pressure and relative humidity. The IADS prevents erroneous classification of particles due to moisture.

In addition a 47mm filter can be inserted to enable chemical and quantitative analyses of sampled particulate matter in laboratory.

The modular design of the APDA-372 system facilitates its assembly in existing 19" racks.

Particular advantages:

- Continuous real-time measurement of PM values (simultaneously)
- Additional information through particle number concentration
- Time resolution adjustable from 1min up to 24 h
- Light source: LED with high stability and long lifetime
- Long durability
- Low-maintenance, check of calibration possible on site
- Intuitive and easy handling
- Reliable function
- No radioactive material
- No consumables
- Reduced operating costs

Application examples:

- Environmental monitoring in networks
- Long-term studies
- Source apportionment
- Propagation and distribution studies (e. g. volcano, fire)

Technical parameters:

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| • Measuring principle: | optical light scattering |
| • Reported data (simultaneous): | PM ₁ , PM _{2.5} , PM ₄ , PM ₁₀ , PM _{tot} , number |
| • Size channels (optional): | 64 |
| • Measurement range (particle size): | 0.18 – 18 µm |
| • Measurement range (number): | 1 – 20,000 particle/cm ³ |
| • Measurement range (mass): | 0 – 10000 µg/m ³ |
| • Time resolution: | 1s – 24 h |
| • Aerosol flow: | 4,8 l/min (0.3 m ³ /h) |
| • Sample tube: | 2m (optionally 1,2m) |
| • Working temperature: | 0 to +35°C |
| • Power supply: | 115/230 V; 50/60 Hz |
| • Power consumption (incl. IADS): | 140 W |
| • Dimensions: | 19" or 18.5 x 45 x 32 cm |
| • Weight: | 9.3 kg |
| • Interface: | Touch display 800 x 480 pixels |
| • Data logger (inclusive): | 4 GB |
| • Network: | LAN, WLAN, RS232/485, USB
optional GPRS/UMTS modem |
| • Protocol: | Bayern/Hessen Protocol |

Accessories:

- PM heads (Leckel PMX-PNK, with aerosol flow 0.2 m³/h)
- Sensors for the measurement of ambient conditions