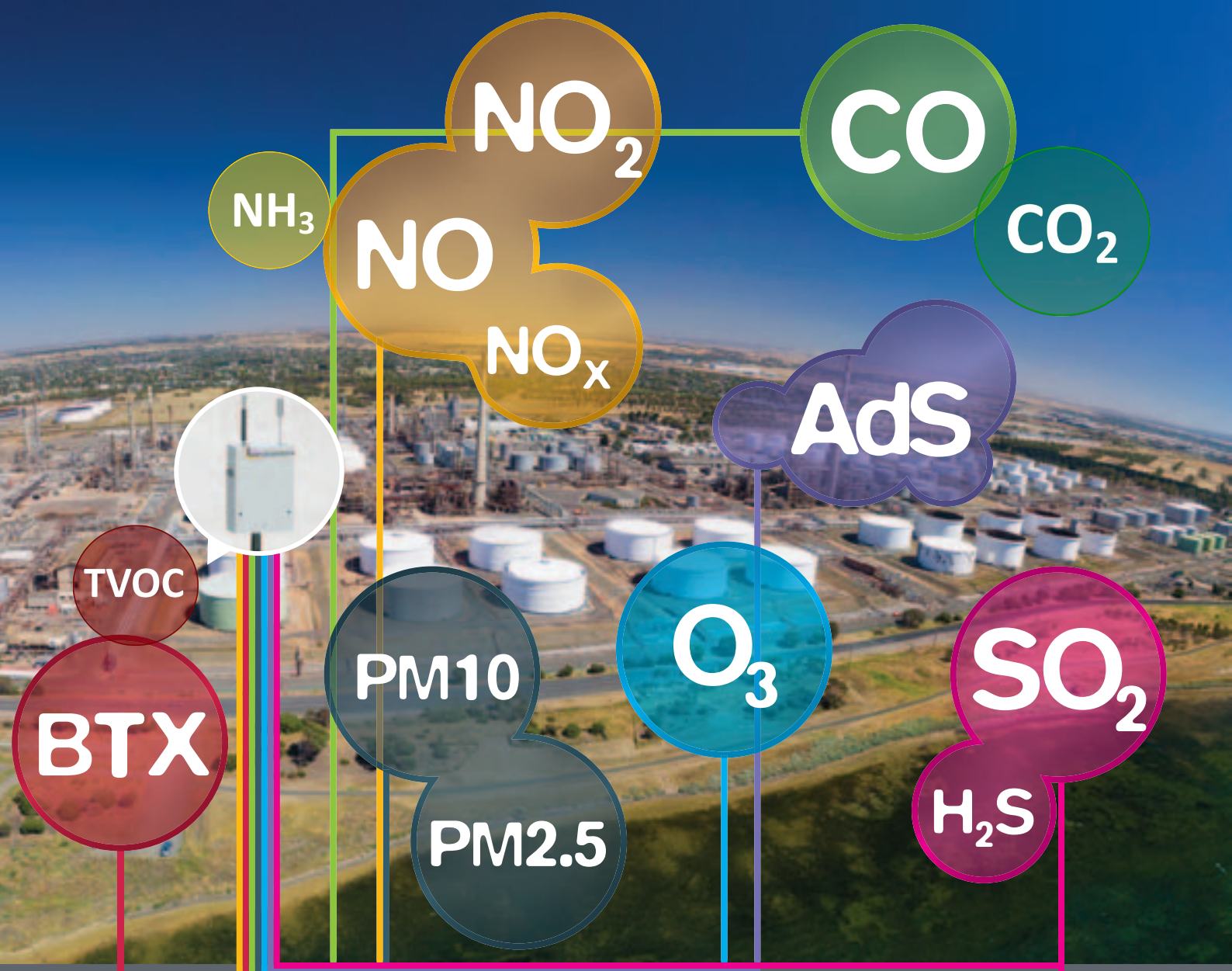


Next Generation Air Quality Monitoring

airpointer®

ambilabs®

www.ambilabs.com * 877-247-0403 * info@ambilabs.com


airpointer®


90% smaller than traditional measurement stations
Flexible at point of interest
Modular configuration for each application
Easy web browser-based data access
80% less maintenance costs
Approved compliance with legal standards (EN, US-EPA)
Successful through more than 30 years in the industry
Turn-key product, up and running in 30 minutes

Zero air supply
for daily quality control for generating pollutant-free air.

PM sampling inlet
for continuous PM2.5, PM10 or TSP measurement depending on the configuration. Temperature-controlled to avoid the effects of humidity.

Air sampling inlet
continuously draws in air samples according to the respective directives.

Handle

Computer

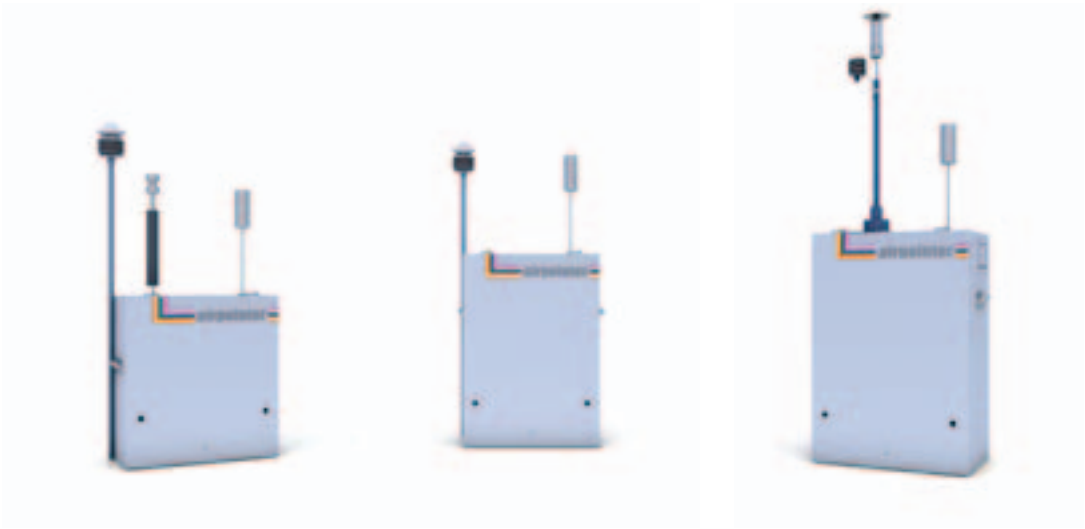
Gas spring strut

Maintenance door
provides access for easy inlet filter changing, network connection, and a calibration gas inlet.

Air conditioning
controls the internal operation temperature to ensure measurement data quality.

Pump
draws sampling gas through modules using one or two pistons, depending on configuration.

Extended lifetime filter (optional)
A Teflon screen cylinder filter allowing for extended filter life even for high PM contamination may be used instead of the standard Teflon filter.



	airpointer 2D	airpointer 4D	airpointer PM (HC)
Pollutants Standard modules	2 of the following modules	4 of the following modules	4 of the following modules
	$NO/NO_2/NO_x/NH_3$	Weight: 12.0 kg/26.5 lbs, see page 12 for technical specifications; optional: span module	
	O_3	Weight: 5.8 kg/12.8 lbs, see page 13 for technical specifications; optional: span module	
	SO_2 (H_2S)	Weight: 8.5 kg/18.7 lbs, see pages 14-15 for technical specifications; optional: span module; optional: H_2S module	
	CO/CO_2	Weight: 9.0 kg/19.8 lbs, see page 16 for technical specifications; optional: span module	
	PM10/PM2,5	Type approved PM10 and PM2,5 (Met One BAM1020 or EDM 180C)	
More sensor modules			
	BTX/TVOC	see page 17 for technical specifications;	
	Standard Modules Dust Monitoring: Nephelometer for indicative PM monitoring (PM10, PM2,5) or Multi PM (laser spectrometer) for indicative PM monitoring (PM10, PM4, PM2,5, PM1 and TSP)		
	Meteorological sensors: wind direction, wind velocity, temperature, air pressure, relative humidity, precipitation, made by various manufacturers		
	Traffic data sensors: traffic count, made by various manufacturers		
	Noise sensors, made by various manufacturers		
	Electrochemical sensors for formaldehyde, ethane, chlorine… For industrial applications, environmental hygiene, and indoor air quality monitoring (IAQ)		
	Sensors for monitoring indoor CO_2 (IAQ)		
	Navigation system (GPS) for linking monitoring data with geographical data		
Features (Model)			
Dimensions (H/W/D, w/o sample inlets)	890/920/400 mm 34,80/36.22/15.75 in.	1120x920x400mm 44,09x36,22x15,75 in.	1480x920x650mm 58,28x36,22x25,59 in.
Weight	65.8 kg/145.1 lbs	73.9 kg/162.9 lbs	110 kg/242.5 lbs
Power consumption*	max. 670 W	max. 670 W	max. 2000 W
Flow without Dust:	<2000 ccm/min	<3000 ccm/min	<3000 ccm/min
Common features			
Construction	Well-isolated double aluminium construction		
	Standard monitoring modules on removable drawers		
	Rugged, inconspicuous burglar-proof design		
Standard equipment	Internal air conditioning and temperature control		
	Maintenance door		
	Cylinder lock (standard)		
	Zero air supply		
Operating temperature	-20 °C/-4°F to +42 °C/108°F (optional heating for down to -40 °C/-40°F) (+50°C for HC)		
Options	Various types of mounting brackets		
	Wireless communication (LTE/UMTS/3G Modem,…)		
	Sample gas conditioning (high relative humidity, high PM exposure)		
	Integration of external devices and instruments (e.g. 4-20 mA, RS-232, Modbus via IP,…)		
	Solutions to communicate with external data systems (e.g. TCP-IP, Modbus via IP, RS-232, 4-20 mA,…)		
	Various base frames and handling devices for on-site operation (roadside, workshop, indoor, pickup truck, trailer,…)		

Measuring where necessary

Traditionally air quality monitoring stations are as big as building site containers, installed mostly on large-scale sites. Not the airpointer. It can be quickly installed, cost-effectively operated and easily maintained.

Mobile operation

It is often necessary to measure briefly at different sites. The compact design of the airpointer makes it the ideal tool for mobile operation.
The airpointer ensures flexible air monitoring while using the required reference measurement methods. The airpointer can be quickly transported by car or trailer to the measurement site where it is needed.

Permanent installation

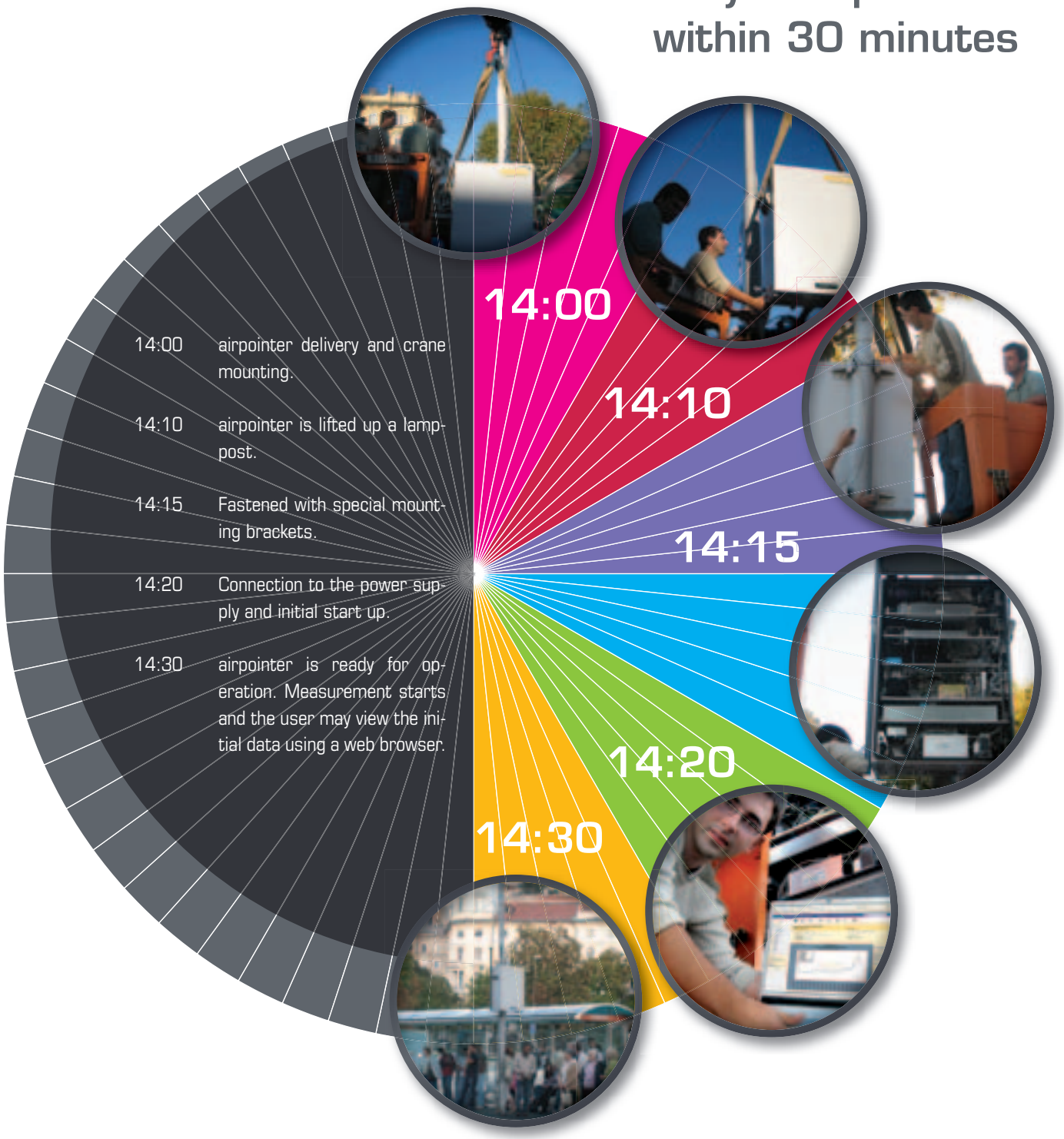
The airpointer is typically mounted on a pole (or a wall if necessary). Permanent installation is necessary when continuous monitoring over an extended period is required. The airpointer is lifted to the designated position with a crane and mounted with appropriate mounting brackets. It can be relocated within a minimal amount of time.

The airpointer can be transported on a pickup truck or a trailer of the right size.

Various options for wall or pole mounting are available.

Compact airpointer design enables it to be used for monitoring pollutants in tunnels.

Ready for operation within 30 minutes



14:00 airpointer delivery and crane mounting.

14:10 airpointer is lifted up a lamp-post.

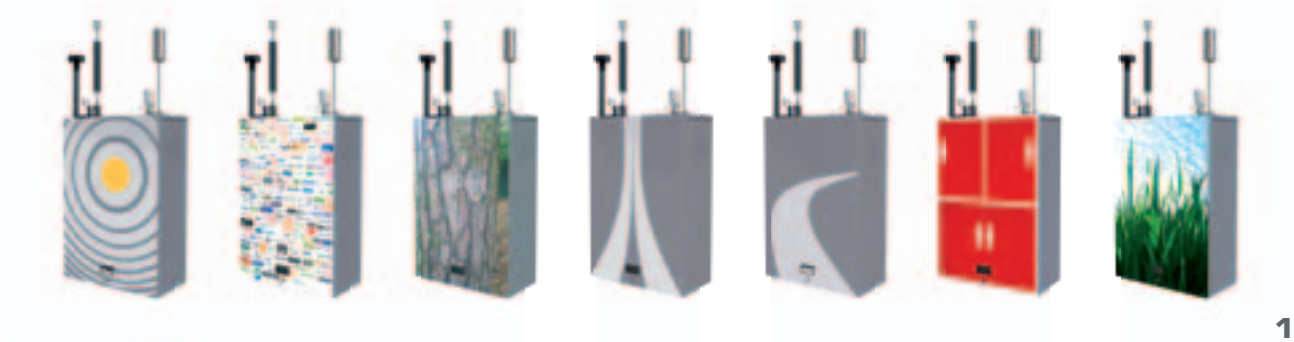
14:15 Fastened with special mounting brackets.

14:20 Connection to the power supply and initial start up.

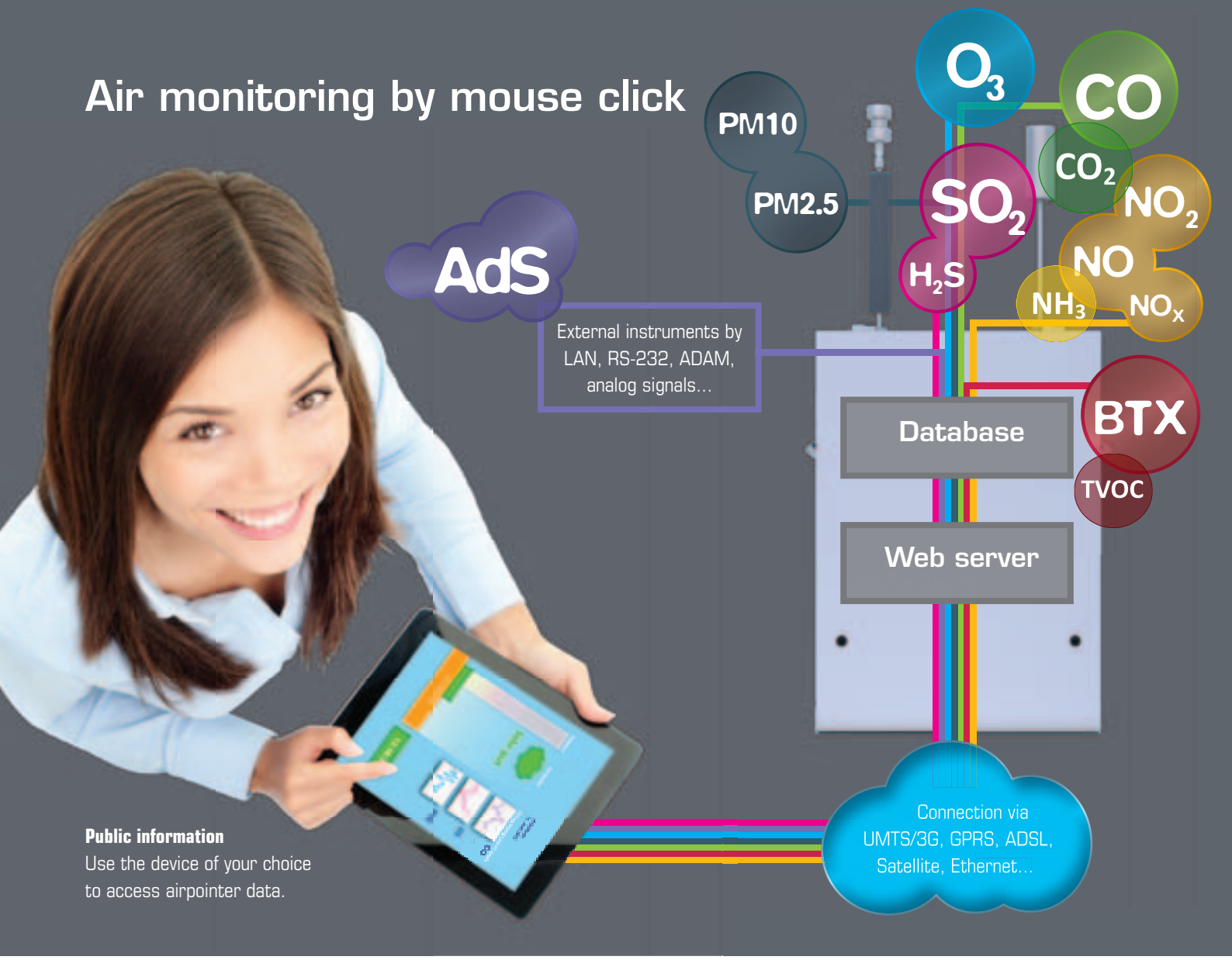
14:30 airpointer is ready for operation. Measurement starts and the user may view the initial data using a web browser.

Personalize your airpointer

The airpointer is delivered in an unobtrusive design and can therefore blend in with its surroundings. By designing the front of the airpointer as you like you can purposely make it conspicuous or use it as advertising space.



Air monitoring by mouse click



Next generation air quality monitoring also provides further capabilities for acquiring data. The airpointer is „live on air" at all times and may be accessed by authorised persons via the Internet using a web browser. No special software is necessary. The user may quickly and easily view, download and analyze **measurement data**, update the **data recording system** from anywhere in the world and automatically forward **maintenance information** by e-mail.

Data access

The user may access data via modem (GSM, GPRS, UMTS) or LAN (direct, cable, or wireless). A separate maintenance interface shows real-time data.
The data recording system is also equipped with an interface for communicating with devices made by other manufacturers. Automated downloads allow for data transmission to a central data acquisition system.

Password protected access

User interface access on various levels requires a login name and is password-protected. An optional alarm system sends a text message via SMS in the event of unauthorized access.

Linux operating system

A Linux-based data processing system guarantees complete Internet connectivity as well as high reliability and flexibility. Data security is provided by an automated internal backup based on a mirrored hard drive.

What is saved?

Measurement data: Depending on the selected modules, data are recorded on an internal hard drive with a minimum storage capacity for five years.

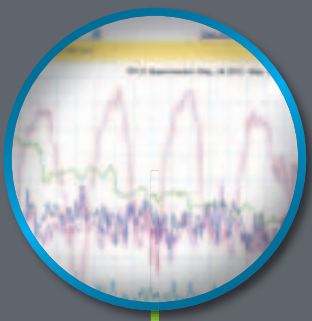
Operational data: Temperature of heated and cooled parts, air pressure and fan rotation speed etc. are stored in the database.

Data backups

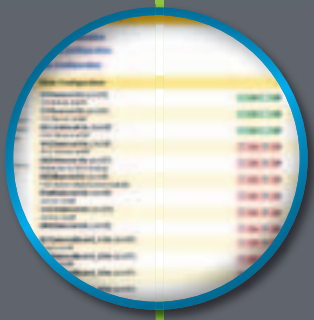
Capabilities are provided to also automatically save data to a central server – continuously, so to speak. A network of monitoring systems may also be established using the recordum portal server.

airpointer interface

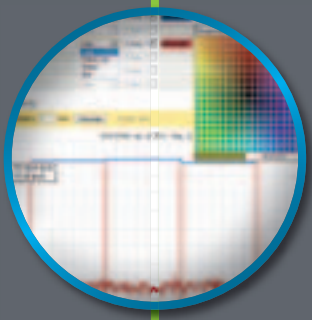
Download
All parameters can be downloaded easily and quickly to your PC. You may configure the default selection of parameters and use Excel for further processing for example.



Measurement data displayed in a time diagram
One to six parameters are displayed in a clearly arranged graphic. Zoom function allows for detailed viewing.

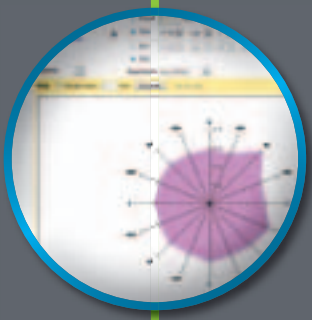


Setup
Setup is used for settings in general. Here you may enable or disable the various modules and change units such as ppb and µg/m³.



Graph design
For the purpose of clarity, you may present measurement data in different form and in various colors: as a line, a filled line, a step or a bar diagram.

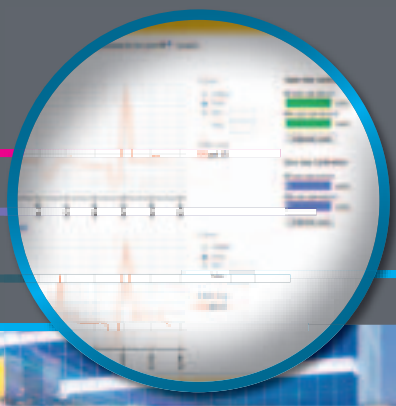
Measurement campaign
Measurements may be assigned to defined time periods and locations.



Radar chart/wind rose
Measurement data may be displayed in relation to wind direction to localise pollution sources.

Reports
Reports may be defined and automatically created. The results are converted to pdf or xls files.

Quality assurance QA/QC



Many years of security, reliability and continuity

The airpointer has been developed by experts with field experience with special emphasis placed on data quality assurance. recordum quality management is certified for research, development and production in accordance to ISO 9001:2008 standards.
Only a minimum amount of maintenance is necessary to continuously guarantee the quality of the measurement data. The filter, absorbent and zero air cartridge should be checked regularly while the device is operating. The modules and electronics must be checked once a year. The airpointer is equipped with a large number of functions for controlling and maintaining operation, which are easy to use, clearly displayed, and quickly implemented.

Calibration

A span gas port in the **maintenance door** is provided for calibrating the airpointer with external span gas. The user does not have to open the front door thus leaving the temperature inside unaltered. The airpointer is calibrated using a **graphic interface** in the user menu, which displays the parameters to be calibrated in a concentration-time-diagram. Thus the user may evaluate stability of both measurement signal and span gas concentration. After calibration, the airpointer displays a message indicating whether or not the calibration was successful. The calibration data are saved and can be retrieved at any time.

Software

A user network connection (RJ45) located behind the maintenance door is provided for local operation and **monitoring of all device functions**. Extensive diagnostic functions included in the software are used to continuously monitor all key operating parameters and save them once a minute in the system data base for preventive fault detection and tracking the effect of faults on measurement data.
A separate program (**watchdog**) additionally controls correct operation and automatically repairs any faults that may occur. Changes of site, calibrations, faults and their remedies etc. can be entered in an electronic station logbook. You may further increase data security by using an automatic **backup** with the recordum portal independent of the airpointer.

Operational test

Each airpointer features internal **zero air generation** for automatic or manual zero point check of each module. You may individually select a zero point check or an automatic adjustment.

You may optionally check all gas ambient air analyzer modules individually using **internal span gas generation** and the following methods.

Ozone

An ozone generator generates a constant sample flow of ozone using a UV lamp.

Carbon Monoxide

Span is generated using a refillable calibration gas cylinder and an internal dilution system.

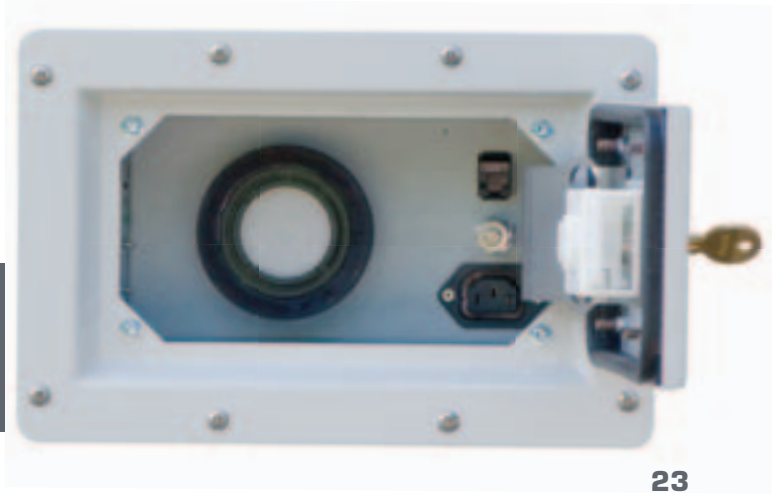
Nitrogen Dioxide, Sulfur Dioxide/Hydrogen Sulfide, BTX

A permeation tube contains the condensed airborne pollutant in liquid form and releases it at a constant high temperature (ensured by a controlled oven) via a membrane.

The user may track at all times the results of the internal operational test that are saved in the airpointer **database**.

Filter changing

The filter holder is also located in the vicinity of the **maintenance door**. The filter holder features a glass plate to check the cleanliness of the filter and if it is properly seated. An optional **extended lifetime filter** with a greater volume extends the intervals between filter changes and is used in **high humidity environments** and hot climates. The extended lifetime filter is monitored by the airpointer operating system regarding the **degree of contamination and level of the integrated reservoir for moisture**. The integrated work flow system will **send an alarm in case of a malfunction or overflow**.



The side maintenance door is provided for quick and simple maintenance.
Maintenance switch, sample gas filter, notebook network connection (RJ45), sample gas inlet, notebook power supply.