VOC

Noise

PM2.5
PM4
PM1 PM10

CO$_2$

Weather Sensors

Air Quality Monitoring System

VE VASTHI

The air quality monitoring station

- Continuous real-time measurement
- Quick and easy to install on walls, poles, masts etc....
- Equipped with advanced integrated data logging system
- Easy browser-based operation and data access
- Perfect infrastructur for ec (electro chemical) and other sensing technology
- Modular configuration for specific measurement needs
- Low maintenance costs and efforts

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How clean is the air we breath?

Its platform design includes various sensors for quick and easy monitoring.
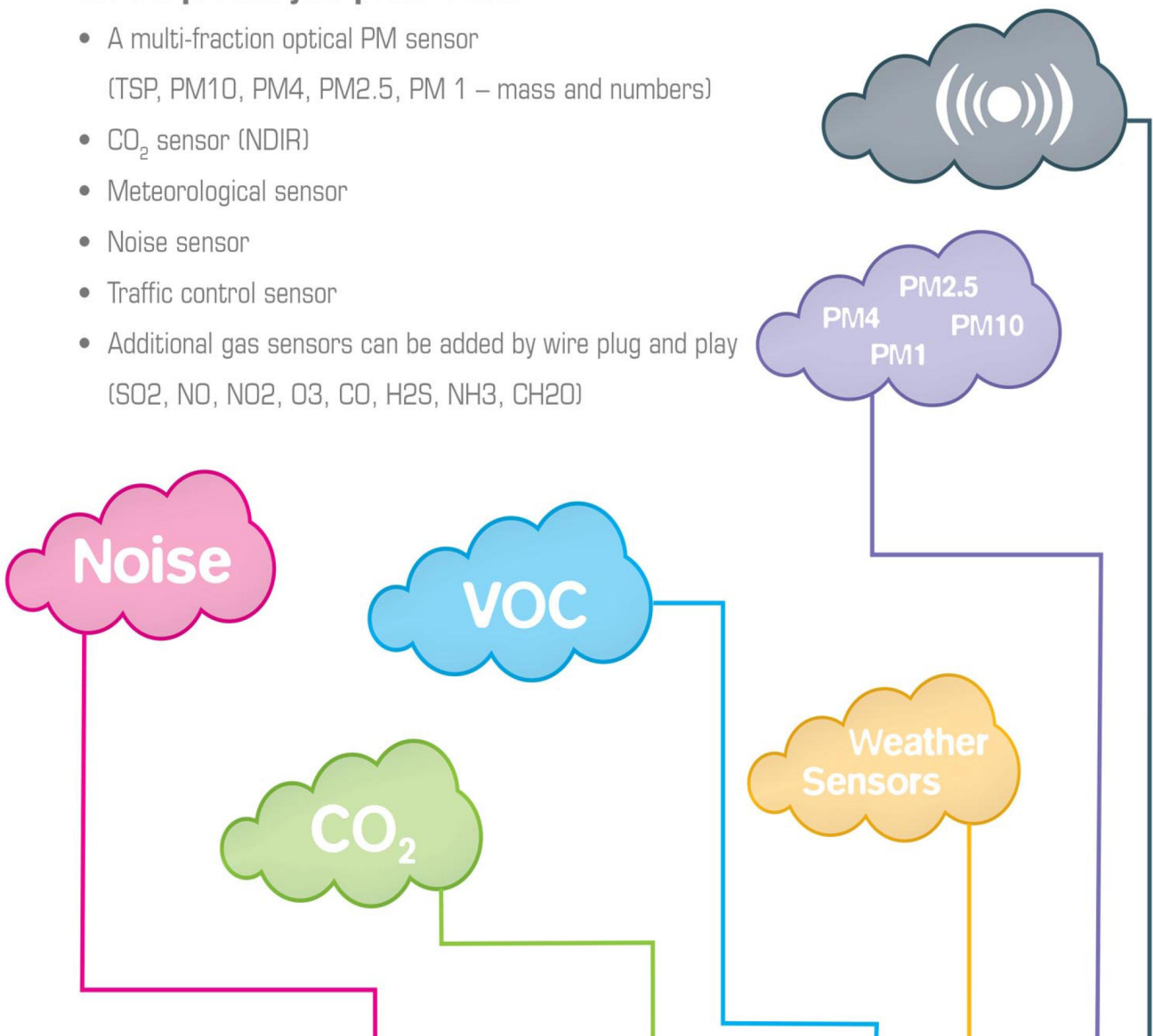
AQMS provides real-time **indicative measurement*)** of typical air pollutants including VOC and PM1, PM2.5, PM4, PM10.

It allows ambient air monitoring and indoor air quality monitoring in one device. Thanks to its modular setup this instrument can be customised to specific needs.

*) Note: Not suitable for threshold monitoring according to Indian regulations
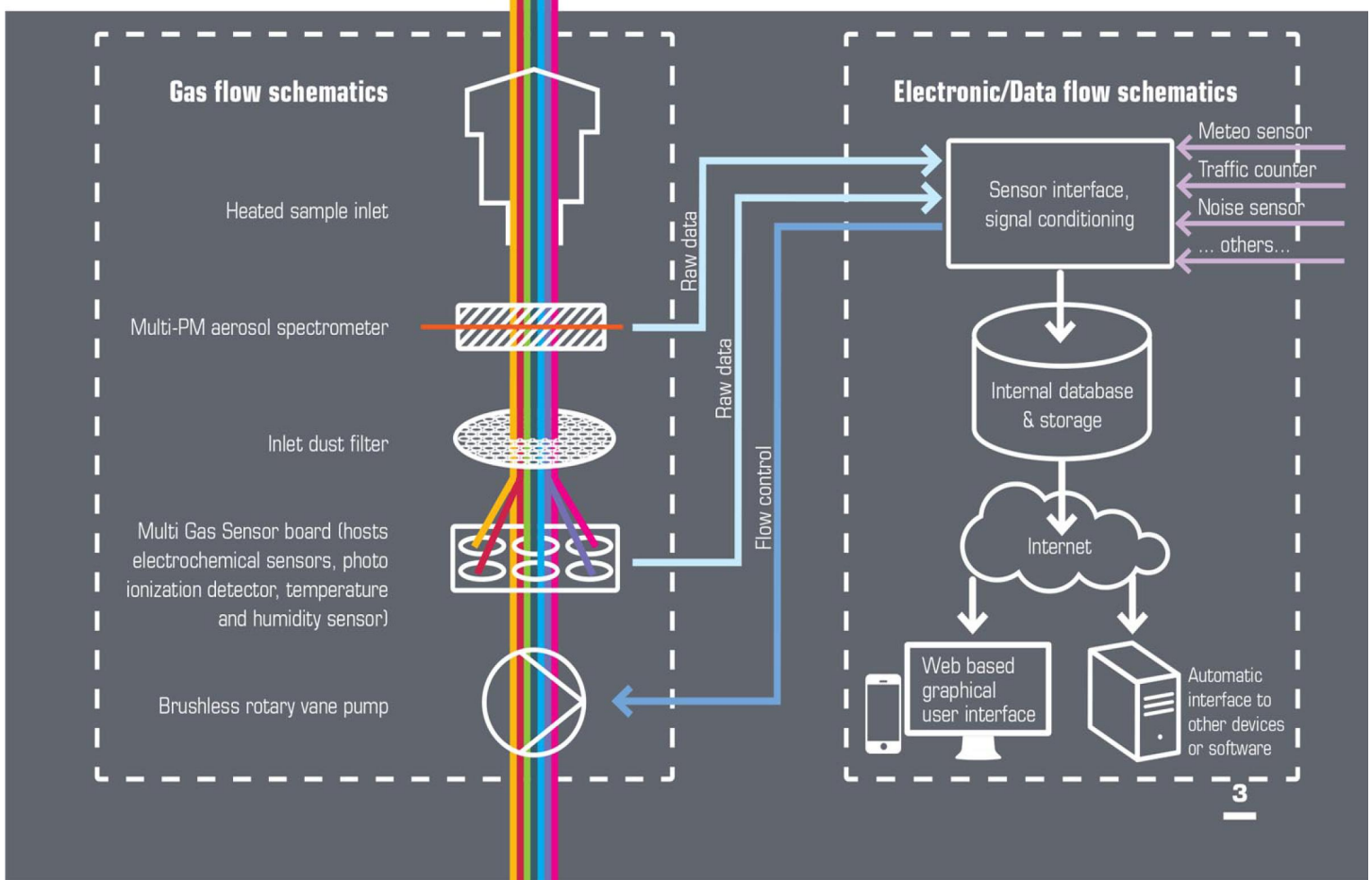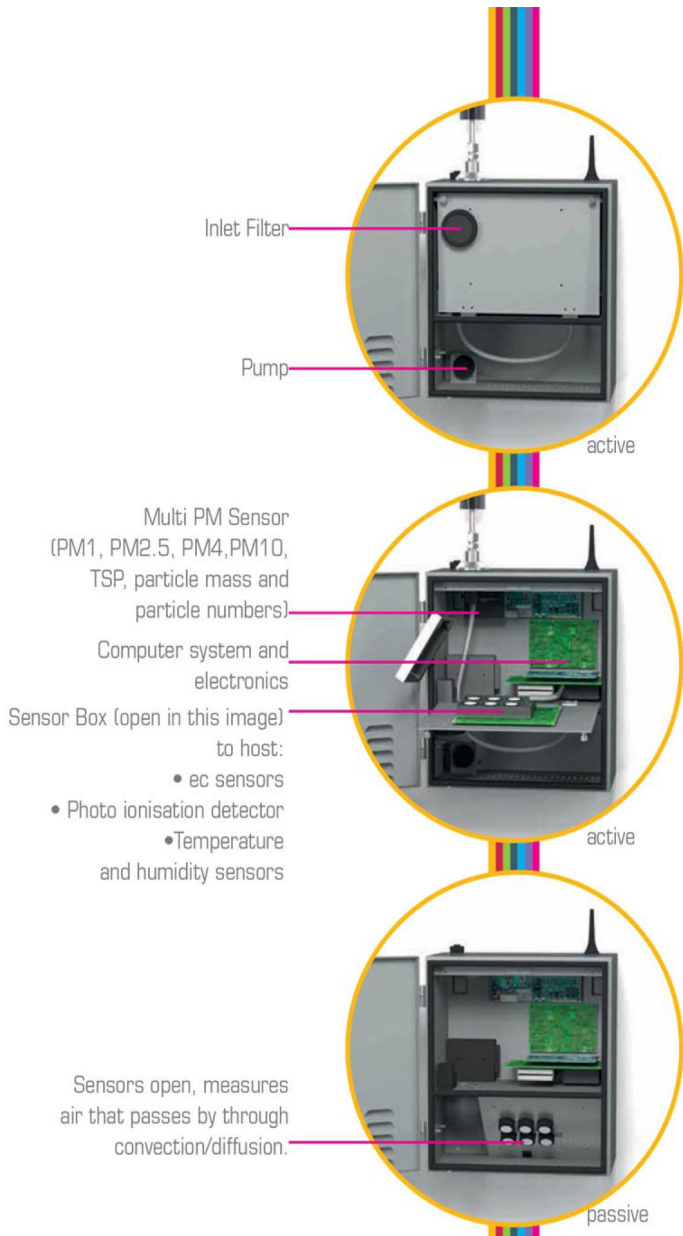
We can provide your product with

- A multi-fraction optical PM sensor

  (TSP, PM10, PM4, PM2.5, PM 1 – mass and numbers)

- CO_2 sensor (NDIR)

- Meteorological sensor

- Noise sensor

- Traffic control sensor

- Additional gas sensors can be added by wire plug and play

  (SO2, NO, NO2, O3, CO, H2S, NH3, CH2O)

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Inlet Filter

Pump

active

Multi PM Sensor
(PM1, PM2.5, PM4, PM10,
TSP, particle mass and
particle numbers)

Computer system and
electronics

Sensor Box (open in this image)
to host:
• ec sensors
• Photo ionisation detector
• Temperature
and humidity sensors

active

Sensors open, measures
air that passes by through
convection/diffusion.

passive

This instrument is available with three different sampling systems:

1. Active sampling system for PM with integrated pump and heated sampling head (for use of PM-sensor alone or combined with other sensors).

2. Active system with non-heated sampling head (not suitable for PM sensor) and pump to ensure optimal air flow to the sensors.

3. Passive system based on convection/diffusion without sample pump and sample head.
   • no pump
   • no noise
   • full data control

Gas flow schematics

Heated sample inlet

Multi-PM aerosol spectrometer

Inlet dust filter

Multi Gas Sensor board (hosts electrochemical sensors, photo ionization detector, temperature and humidity sensor)

Brushless rotary vane pump

Raw data

Raw data

Flow control

Electronic/Data flow schematics

Meteo sensor

Traffic counter

Noise sensor

... others...

Sensor interface, signal conditioning

Internal database & storage

Internet

Web based graphical user interface

Automatic interface to other devices or software

Air Quality Monitoring System

Heated sampling probe for PM and gases

Antenna for UMTS communication

Air Quality Monitoring System

Front door

Key kock

Ventilation slots

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System Specification	
Enclosure Material	Powder coated
Dimensions	L/W/H 370mm/270mm/540mm
Weight	10 kg (depending on configuration)
Handle	Carrying
Power	typical 35 W@ 12 VDC (internal 230/115 VQAC power supply)
Environmental Operating Range	Temperature: -20°C to + 40°C
Gas/Dust Sampling System	Optional (active or passive)
Communications	Standard Ethernet (LAN) Option (Antenna for LTE communication and/or Wifi)
Control System	Data processing platform with 32bit CPU, 512 MB RAM, 2 HDD (RAID 1) Over 230 sensors preconfigured

Multi-PM: PM1, PM2.5, PM4, PM10, TSP concentrations and particle number	
Particle size ranges	Typically two channels – 2.5 and 10.0 µm (optionally available: 1 µm, 4 µm TSP and number concentration)
Concentration range	0-1,000 µg/m^3
Accuracy	± 10% to calibrated aerosol
Sensitivity	0.3 µm
Sample duration	1 minute
Sample flow:	2 l/min

|	VOC	CO_2
Measuring principle	PID	Dual wavelength NDIR
Range	0.01-20 ppm (isobutylene)	0-2,000 ppm low / 0-10,000 ppm high
Detection limit	0.01 ppm (Isobutylene)	6 ppm
T90 response time	< 5 seconds	60 seconds
Temperature range	-20°C to 60°C	-40°C to 60°C
Accuracy	< ± 10%	< ± (50 ppm +2% of reading) (low) < ± (50 ppm + 3% of reading) (high)

Software and user interface

Ultra-compact air quality monitoring system based on well-proven hardware and software.

Some of the many features and screens:

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.
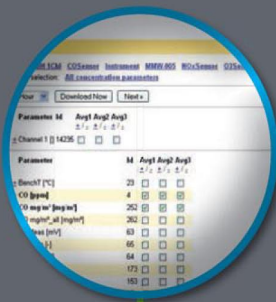
Measurement data displayed in a time diagram
One to six parameters are displayed in a clearly arranged graphic. Zoom function allows for detailed viewing.
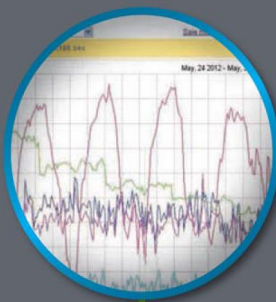
Setup
Setup is used for settings in general. Here you may enable or disable the various modules and change units such as ppb and µg/m³.

Graph design
For the purpose of clarity, you may present measurement data in different form and in various colours, e.g. as a line, a filled line, a stack or a bar diagram.
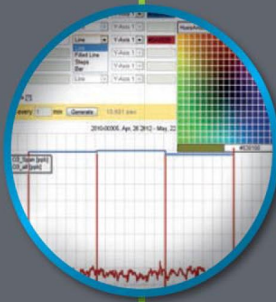
Measurement campaign
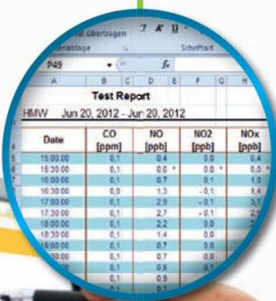Measurements may be assigned to defined time periods and locations.

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.

Many applications in industry, environment and health

- Air quality monitoring in public spaces
- Fenceline monitoring
- Industrial applications
- Production facilities (steel mills, chemical industry, refineries)
- Alarms/Hazardous incident monitoring
- Additional measurement points in a tight monitoring network
- Airports, ports, railway stations
- Indoor air quality monitoring
- Volcano observation
- Occupational health
- Fenceline alarm monitoring
- and much more for your specific monitoring requirements on request

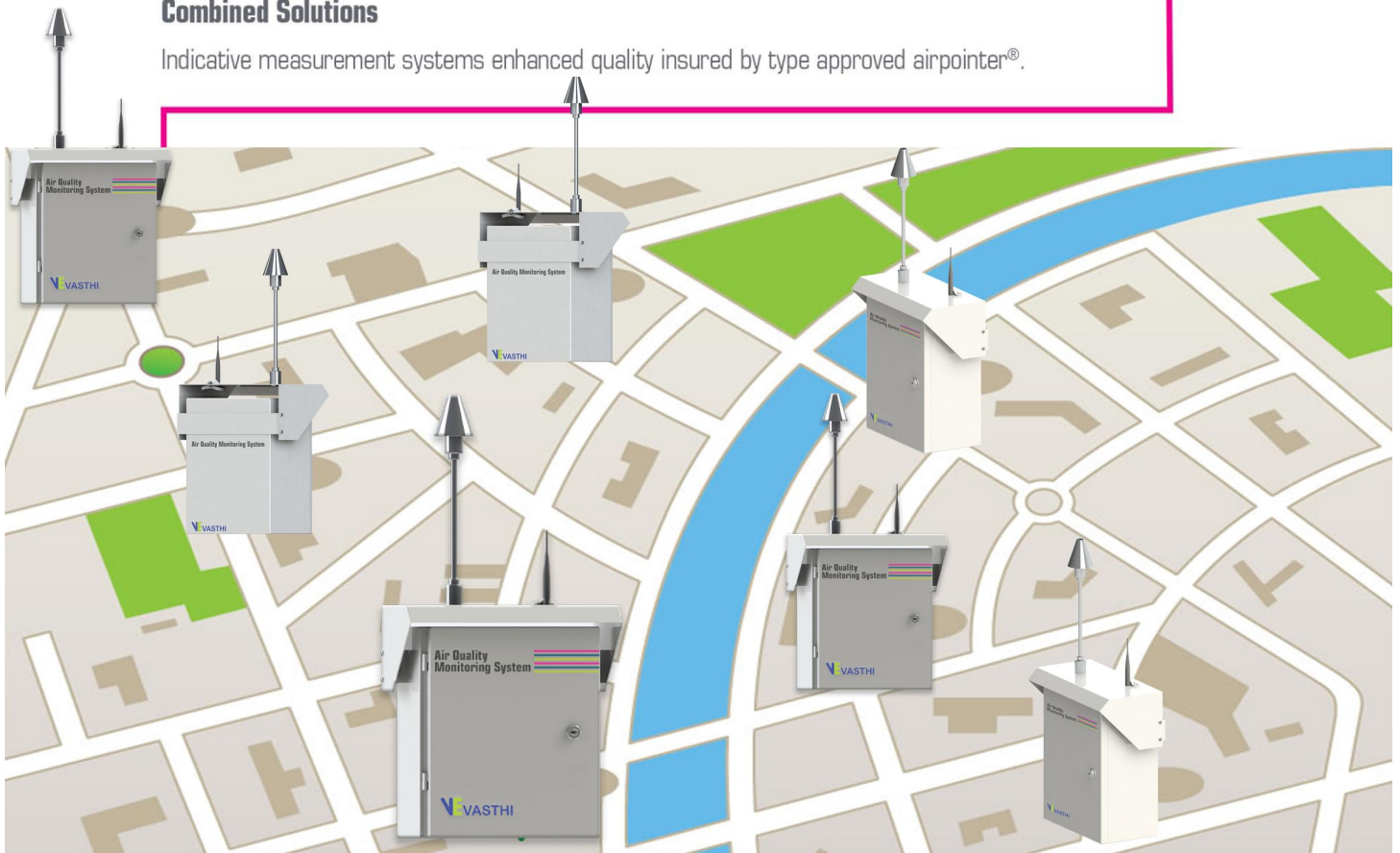# Pre-configured applications are available for:

Traffic pollution

IAQ (Indoor Air Quality) monitoring in schools, offices,

Combined Solutions

Indicative measurement systems enhanced quality insured by type approved airpointer®.

Air Quality Monitoring in Metropolitan Area with airpointer and indicative system

Increase the number of air quality monitoring stations in congested urban or industrial areas
using OEM (Your Brand) - network with indicative sensors and type-approved systems like the mlu-recordum airpointer®.

Construction sites monitoring

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