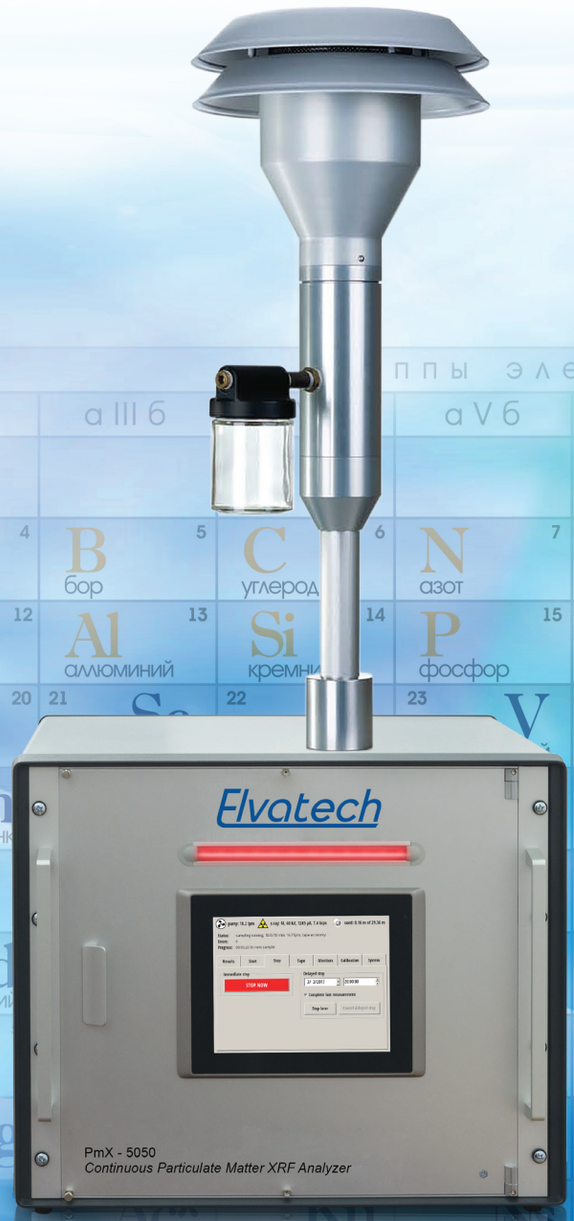
Elvatech
www.elvatech.com

# PmX-5050

## Continuous Particulate Matter XRF Analyzer




### What is ElvaX PmX-5050?

PmX-5050 is a Continuous Particulate Matter XRF Analyzer intended for online elemental analysis of heavy metals in the ambient air.

There is a growing concern about the health impact of particulate matter (PM) in the air. Previous solutions for PM monitoring were able to analyze only the total amount of particles in the air. But for a complete understanding of health impact and air pollution source elemental analysis of PM is necessary.

PmX-5050 is a fully stand-alone device for continuous analysis of particulate matter elemental composition.

### Features

- Continuous analysis of PM elemental concentrations
- Full compliance with the US EPA IO-3.3 standard
- Up to 3 months of stand-alone continuous operation
- Automatic correction of ambient temperature, humidity and pressure influence
- Heated operating plate for prevention of condensing
- Simple calibration procedure and tape replacement
- Intuitive software interface

## Scheme of PmX-5050

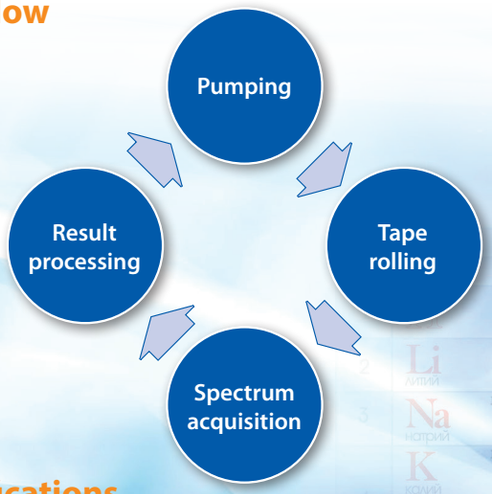
**Sampling unit**
- PM cutter
- Pump
- Flow meter

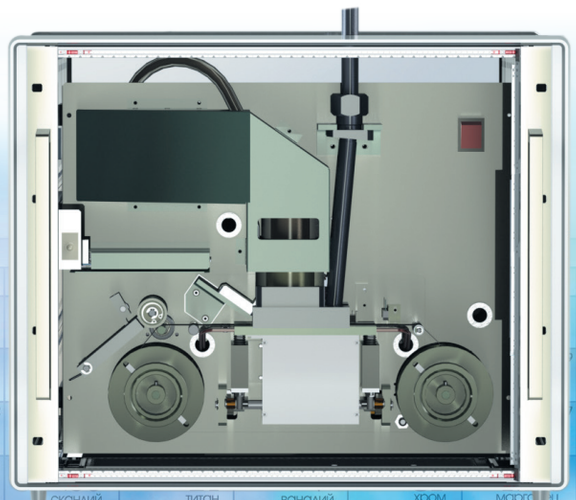
**Tape scrolling unit**
- Scrolling reels
- Operating plate

**XRF unit**
- X-Ray tube
- X-Ray detector
- Digital Pulse Processor

**Software**
- Spectrum decomposition
- Regression algorithm
- Calculation of PM concentration

## Workflow



## Specifications

| General | |
|---|---|
| Applicable standard | USA EPA IO-3.3 |
| Flow rate | (0 - 20) L/min |
| Filter tape | PTFE |
| Tape replacement interval | up to 3 months |
| Power supply | AC 100V - 240V, 50/60 Hz |
| Power consumption | 200 W |
| Dimensions (w/o sampling inlet) | 520mm (W) x 500mm (H) x 500mm (D) or 19" rack mount |
| Weight (w/o sampling inlet) | 40 kg |
| External connection | USB, Ethernet |
| **XRF unit** | |
| X-Ray tube | 50 W, 50 kV, 2 mAmp |
| Primary beam filter changer | 5 positions, automatic |
| X-Ray detector | SDD |
| Detectable elements | Mg(12) to U(92) |
| Sampling and analysis times | 3 - 1440 min |
| Measurement range | 0 - 200 μg/m$^3$ |
| Detection limit | ~ 0.1 ng/m$^3$ for most elements |
| Calibration samples | SS316 for energy calibration, NIST 2783 for concentration calibration, other samples(optional) |
| **Environmental conditions** | |
| Ambient temperature | 0°C - 40°C |
| Humidity | 0 - 80% |
| Altitude | up to 1000m |

**Elvatech Ltd.,** 50 Mashinibudivna Str. Kyiv, 03680 Ukraine. Tel. +38044 5991143. Fax +38044 4066583. office@elvatech.com