



AIR EMISSIONS MEASUREMENT AND AIR QUALITY MONITORING

DEKONTA offers accredited air emissions measurement and air quality monitoring in the framework of services performed by the company-owned environmental laboratory located in Usti nad Labem. Thanks to high qualified and experienced personnel as well as up-to-date technical equipment the Air Quality Team guarantees flexibility and top quality of services provided in the Czech Republic and abroad.

- DEKONTA's laboratory in Usti nad Labem is accredited, according to the EN ISO/IEC 17025:2005 standard, for the measurement of air emissions as well as for ambient air quality and air quality monitoring
- DEKONTA's laboratory in Usti nad Labem is an authorized subject for stationary air emission sources monitoring according to the relevant Czech legislation.



Services offered by the DEKONTA's Air Quality Team:

Authorized monitoring of stationary air emissions sources comprising the following:

- Determination of concentration and mass flow rate of particulate pollutants
- Determination of mass concentration of sulphur dioxide
- Determination of mass concentration of nitrogen oxides
- Determination of mass concentration of carbon monoxide
- Determination of mass concentration of nitrogen monoxide and nitrogen dioxide
- Determination of mass concentration of total gaseous organic carbon
- Determination of mass concentration of individual gaseous organic compounds
- Determination of mass concentration of PCDDs/PCDFs
- Determination of mass concentration of PCBs
- Determination of mass concentration of hexachlorocyclohexane, tetrachlorophenol, hexachlorobenzene, trichlorobenzene
- Determination of mass concentration of polycyclic aromatic hydrocarbons
- Determination of particulate metals and metalloids emissions (As, Be, Cd, Cr, Co, Cu, Mn, Ni, Pb, Sb, Se, Sn, Te, Ti, V, Zn)
- Determination of Mercury emissions (Hg)
- Determination of hexavalent chromium emissions (Cr VI+)
- Determination of ammonia and ammonium compounds emissions
- Determination of hydrogen sulphide emissions
- Determination of cyanides and hydrogen cyanide emissions
- Determination of emissions of fluorine and gaseous fluorine compounds (expressed as hydrogen fluoride)
- Determination of emissions of chlorine and gaseous chlorine compounds (expressed as hydrogen chloride)
- Determination of emissions of bromine and gaseous bromine compounds (expressed as hydrogen bromine)
- Determination of phenol emissions

- Determination of carbon sulphide emissions
- Determination of emissions of phosphorus and phosphorus compounds
- Determination of emission of strong inorganic acids (expressed as H+)
- Determination of emission of sulphur oxides and sulphuric acid
- Determination of plume of smoke darkness
- Determination of asbestos fibres in air

Technical measurement of air emissions comprising the following:

- Measurement of technical air and other parameters
 - Measurement of gas steam temperature in ducts
 - Measurement of gas steam pressure in ducts
 - Determination of gas humidity in ducts
 - Measurement of gas velocity in ducts
 - Measurement of gas flow rate in ducts
 - Determination of oxygen and carbon dioxide concentration (volume)
 - Determination of composition and density of gas in ducts
- Monitoring of pilot-scale and full scale incineration and thermodesorption processes
- Verification of correct operation of incineration equipment
- Verification of correct operation of air emission treatment equipment
- Verification of quality of automated air monitoring systems
- Identification of particular pollutants in air emissions and air streams
- Determination of total petroleum hydrocarbons (TPH) and $C_{10}-C_{40}$ content in air emissions
- Determination of concentration of pollutants in air streams using gas sorption tubes
- Measurement of gaseous substances with specific detectors (H_2 , H_2S , NH_3 , CH_4 etc.)
- Measurement of air emission and thermal-technical parameters for boilers

Technical measurement of ambient air quality comprising the following:

- Determination of particulate pollutants and the PM₁₀ and PM_{2.5} fractions of suspended particulate matter in ambient air
- Determination of metals and metalloids in ambient air
- Determination of polycyclic aromatic hydrocarbon in ambient air
- Determination of ammonia in ambient air
- Determination of hydrogen sulphide in ambient air
- Determination of nitrogen oxides in ambient air
- Determination of total petroleum hydrocarbons (TPH) and $C_{10}-C_{40}$ in ambient air
- Determination of volatile organic compounds (VOC) in ambient air
- Measurement of metrological and other parameters
 - Measurement of temperature of ambient air
 - Measurement of barometrical pressure
 - Measurement of relative humidity
 - Measurement of velocity and direction of wind

Field measurement of soil gas quality comprising the following:

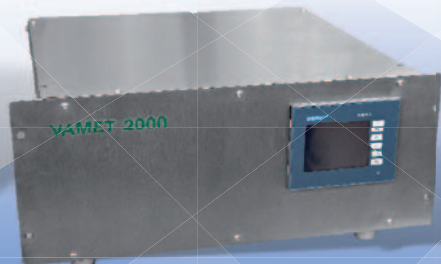
- Determination of total petroleum hydrocarbons (TPH)
- Determination of aromatic hydrocarbons (BTEX)
- Determination of styrene
- Determination of chlorinated hydrocarbon including vinyl chloride
- Determination of other volatile organic compounds (VOC)
- Determination of Mercury (Hg)
- Measurement of metrological and other parameters
 - Measurement of ambient air and soil gas temperature
 - Measurement of barometrical pressure
 - Determination of relative humidity of ambient air and soil gas



Technical Equipment

The DEKONTA's Air Quality Team is equipped with an air monitoring truck in which the following analyzers and devices are installed:

EQUIPMENT	MEASURING RANGE	MEASURING METHOD
Automatic analyser Horiba PG 250	NO ₂ : 0–2500 ppm	Chemiluminescence method
	SO ₂ : 0–3000 ppm	Infrared spectrometry
	CO : 0 –5000 ppm	Non-dispersive infrared spectrometry
	CO ₂ : 0–20 %	Infrared spectrometry
	O ₂ : 0–25 %	Paramagnetic method
Optima 7 device	NO : 0–5 000 ppm	Electrochemical sensor
	NO ₂ : 0–1 000 ppm	
	SO ₂ : 0–5 000 ppm	
	CO : 0–10 000 ppm	
	O ₂ : 0–20,9 %	
Isokinetic sampler Tecora TCR Isostack basic 3MC/h with Isofrost 2	Sampling PCDD/F, PCB, PAH, Metals, Metalloid, Particular matter, and other manuals sampling	Isokinetic sampling
Combined probe for PM sampling (1,5 m a 2,5 m)	–	
Combined probe for metals sampling (1,5 a 2,5 m)	–	
TRC Tecora device with head EN LVS PM10 and PM2,5 2,3 m³/h according to DIN EN 12341	Sampling of PM10 a PM2,5	Gravimetric determination of PM10 a PM2,5
Vamet 2000	Total gaseous organic carbon (TOC) 0–20000 ppm	
Drum gas meter P 0,1	0,01–0,15 m³/h	
Digital thermometer GMH 3210 with GTF 1200 thermocouple	–65 až +1372 °C	
Barometer GPB 3300	300–1100 mbar	
Manometer GDH 01AN	0–1999 Pa	
Hygrometer GMH 3330 with probe TFS 0100E	0–100 %	
Anemometer TA 410	0–20 m.s ⁻¹	
Analytical balance Mettler AT 261	0–200 g	
Analytical balance DENVER MXX 50001	0–5000 g	
SKC device for collection of gaseous samples into sampling bags and sorption tubes	–	
Vacuum pump KNF	–	
Sampling kit for collection of gaseous and vapour samples into liquid or absorbing matrices	–	
Aero Qual serie 500	Concentration of H ₂ , CH ₄ , H ₂ S, NH ₄ etc.	Specific detector
Kit for determination of darkness of smoke according to Bacharach	0–9 Bacharach scale	
Kit for determination of darkness of smoke according to Ringelmann	0–100 % Ringelmann scale	





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