



Analytic equipment





Horiba Mexa-9430H, 9100H

Exhaust gas analyzers

Emission analyzers (HORIBA MEXA-9430H, 9100H)

Emissions analyzers with analytical modules NGA, includes:

- Process Multi-Method
- Channel Analyzer (MLT 1)

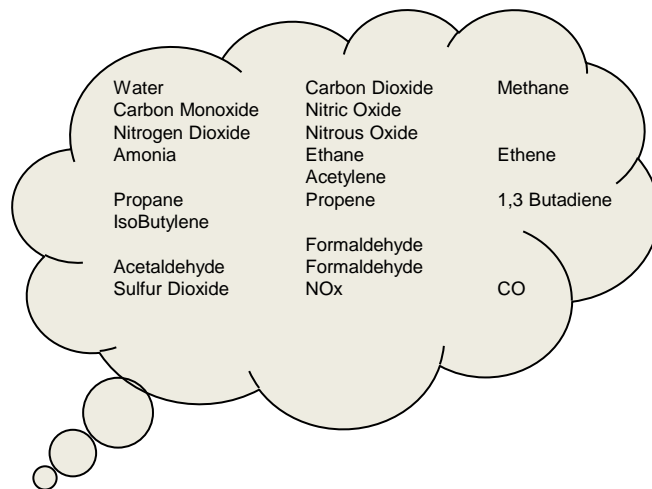




FTIR spectrometer Nicolet Antaris IGS

Spectrometer

- Possibility to analyze a gas solutions
- Spectral range 6 000-650 cm^{-1}
- Continuous quantitative analysis showing up to hundred components of gas at a time
- Possibility to extend the analysis of liquids and solids





Oxford AZtec

Analysis of chemical composition

Part of SEM system

EDS System – AztecEnergy

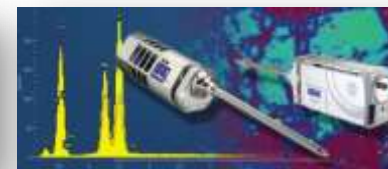
- X-Max detector
- Quality and quantity analysis of local chemical composition (from Be to Pu)

WDS System - INCAWave

- INCAWave 500
- Ultra-precision analysis of local chemical composition
- Radius from 0,17 to 10,84 keV

EBSF System - AZtecHKL

- HKL NordlysNano
- Crystallographic information





Domena B3, Domena Promag, Domena NC

Magnetic structure-scoping

Technical parameters:

- Magnetic metals
- Magnetic spot method
- Measurement time 3-5 sec

- Magnetic hardness tester
- Measurement of perlit, ferrit, martensit, bainit
- Degradation and deformation of austenitic steels





CCD spectrometer Q4 Tasman

Precise multi-base optical emission spectrometer

Technical parameters:

Optical system Dual CCD

Detectors are new type CCD detectors without coating with smaller pixels. Continual spectrum cover

Focus range 500 mm / Paschen Runge

Wave length range

130 nm to 620 nm. This wave length range enables and encourages N in FE matrix from 25 ppm and analysis of P in Al matrix from 10 ppm.

Calibration matrix

Al, Fe, Cu, Mg, Zn, Ti a Ni

Fully digital spark optical emission spectrometer with digital Bit-Stream plasma generator and double CCD optical system. Designed for routine analysis of smelting plants, laboratories and quality control labs. Tasman is full immune against changes in outside temperature.





(HPLC)- ICP-MS NexION 3000D, Perkin Elmer

Mass spectrometer with inductively coupled plasma

Connection possibility of HPLC enables
specialization of selected elements

Collisional reaction cell for matrix interference
removal

Assessment possibility of most elements in
periodic table, in ultra-trace concentration

Detection limits from 0,5 ppt





ICP-OES OPTIMA 2100 DV, Perkin Elmer

Emission spectrometer

Emission spectrometer with inductively coupled plasma

- Axial and radial plasma observation
- Range 160 – 900 nm
- Possibility of peak deconvolution

Assessment of most elements in periodic table even in trace amounts

Detection limits in tenth of ppb

Connection possibility of hydroid (As, Se, Sb,...)





ICS-90, Dionex

Ion chromatograph

Device for ion analysis in modification for assessment of standard ions (Cl^- , F^- , NO_3^- , NO_2^- , SO_4^{2-} , PO_4^{3-}) in water solutions ranging from pH 0-14

- With manual injection
- Range of detection 0,5 mg/l

Technical parameters:

- Isocratic pump
- Conductivity detector (0 –10 mS)





GC MS MS

Quadrupole spectrometer

Assessment of :

- Residual pesticides
- Hormonal disruptors

All in ultra-trace concentrations

Used in municipal, industrial and drinking water analysis

Assessment possibility of whole range of other analytes, by the need of research programs and customer requirements





GC/MS/FID Saturn 2200, Varian

Gas chromatograph

Gas chromatograph with:

- Mass detector
- Flame – ion detector

Auto-sampler Combi-Pal for dosage of fluid samples even for head-space technique

Routine assessments:

- Volatile organic compounds
- Pesticides

Assessment possibility of whole range of other analytes, by the need of research programs and customer requirements





GC/FID Autosystem XL, Perkin Elmer

Gas chromatograph

Gas chromatograph with two flame-ion detector

Possibility of conducting a confirmation analysis simultaneously in two columns with different phases

Auto-sampler for dosage of fluid samples

Routine assessment: C₁₀-C₄₀

Possibility of implementation of next analysis by the need of research programs or customer requirements





GC/FID/TCD Clarus, Perkin Elmer

Gas chromatograph

Gas chromatograph with:

- Thermal conduction detector
- Flame-ionization detector

Possibility of on-line analysis of gas samples

Possibility of kinetic event study in closed systems with gas phase





HPLC UltiMate 3000, Dionex

Fluid chromatograph

Fluid chromatograph with detector:

- UV/VIS
- ELSD

Pump with quaternary gradient

Routine analysis:

- Analysis of organic acids
- Analysis of surface active compounds

Possibility of assessment of whole range of other analytes by the need of research projects of customer requirements





Real-Time PCR

Measurement of gene expression

Measures the amount of cDNA or mRNA in a sample, either from a population of cells or a single cell

Used in the detection of pathogens in the blood such as viruses

Can be used to compare normal (control) samples to disease samples, giving an idea as to expression changes which occur with pathogenesis

- 16S or 18S rRNA
- Automatic data storage





Sequenator

Gene sequencing

Measurement of nucleotide sequencing in molecules of nucleotide acids

- Sequence of gene
- Screening of mutations
- Identification of organisms
- Identification of transcripts





Next generation sequencing

Gene sequencing

Measurement of nucleotide sequencing in molecules of nucleotide acids

- Sequence of gene
- Screening of mutations
- Identification of organisms
- Identification of transcripts





DR 2800, Hach-Lange

Spectrophotometer

Technical data:

Transportable photometer for laboratory and field

- Range of wave-length 340 – 900 nm
- Width of rift 5 nm

Working mode:

- Penetrability, absorption, concentration
- 50 user programs
- Programs for bar code

Adapter:

- Classic 1 cm, 5 cm,
- Circular diameter 13 mm

Cuvetter tests Hach-Lange





Spectrophotometer DR 2900, Hach-Lange

Spectrophotometer

Technical data:

Photometer UV/VIS for lab work

- Range of wave lengths 340 – 900 nm
- With of the rift 5 nm

Working modes:

- Penetrability, absorption, concentration
- One wave length, move wave lengths, scan, timescale
- 50 user programs
- Programs with bar codes

Adapter:

- Classic 1 cm, 5 cm,
- Circular diameter 13 mm

Cuvetter tests Hach-Lange





LT 200, Hach-Lange

Digital thermo-reactor

For standard decomposition of CHSK, TOC, P and heavy metals for cuvette tests

- Preset temperature modes even for possibility of ones own programing
- Cuvette tests Hach-Lange (bar codes for differentiation of assessed compound and concentration range)

For general photometric assessment

F^- , NO_3^- , NO_2^- , SO_4^{2-} , PO_4^{3-} , CHSK, TOC, Fe^{2+}/Fe^{3+} , AOX, fenols...)





Lambda 35, Perkin Elmer

UV/VIS spectrophotometr

Technical parameters:

- 190 – 1100 nm
- Two-ray
- Width of the rift 0,5- 4 nm

Operation modes:

- Kinetics
- Concentration
- Spectral
- More wave lengths

Cuvettes:

- Continuous 10 mm
- Standard to the length of 100 mm





Zetasizer ZS, Malvern

High performance two angle particle and molecular size analyzer

Device for measurement:

- Size of particles by method DLS (laser 633nm), from 0,6 nm – 6 μ m
- Molecular weight by method SLS, from 1000 - 2x10⁷ u
- Zeta potential by method Laser Doppler electrophoresis, from 5 nm – 10 μ m

Auto-titration MPT-2

One-shot plastic, even silicon measuring cell

