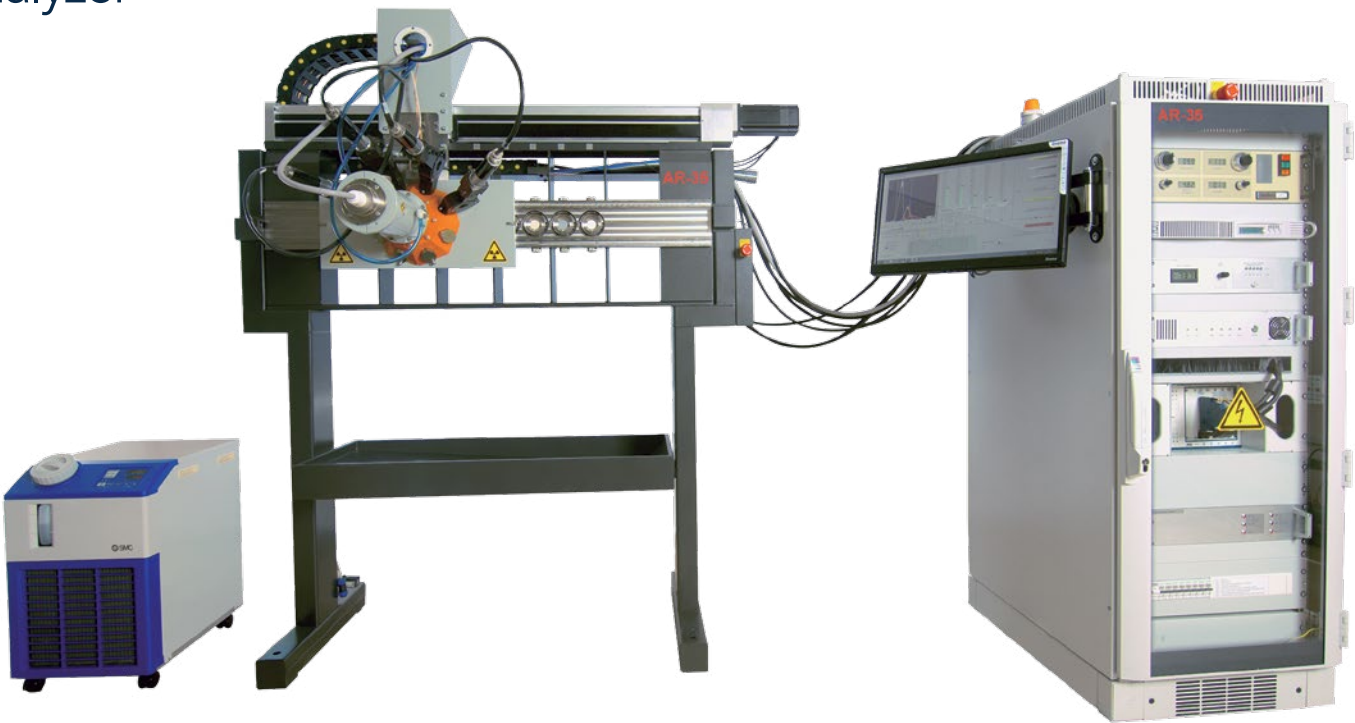


Automated On-line XRF Wavelength Dispersive slurry analyzer



AR-35 Automated On-line XRF Wavelength Dispersive slurry analyzer



The analyzer design provides overall protection of operation personnel against X-ray radiation.

AR-35 analyzer is designed for on-line flowstream X-ray fluorescence analysis of solutions, suspensions and slurries of ore processing. AR-35 analyzer simultaneously measures concentrations of up to 8 chemical elements in technological product that saves time and reduces the cost of element determination.

The analyzer operation principle is based on the excitation of atomic fluorescence radiation of substance sample by X-ray tube radiation. The fluorescence radiation of various chemical elements is dispensed by the analyzing crystal, and then radiation of a particular wavelength is registered by X-ray detector. Intensity of fluorescence radiation registered of a certain wavelength is directly proportional to the mass fraction of a chemical element in the substance tested.

Technical data

Range of determined chemical element	²⁰ Ca - ⁹² U
Number of simultaneously defined chemical elements	7
Number of flow measuring cells (sequentially analyzed products, flows), per one unit, depending on customer’s requirements	6,12 or 15
Limits of basic relative error, %	±0.5 %
Detection limits, ppm	
- in solutions	10 ... n*0.1
- in suspensions and slurries	500 ... 10
Average time of one flow analysis, s	20 - 100
Power consumption, W	5
Instrument weight, max, kg	1200

Distinctive features

- At concentrating mills of mining enterprises of ferrous and non-ferrous metallurgy, in chemical industry, etc.
- Compatible with systems of automated sampling, sample delivering, processing and presentation of the analysis results, organization of data analysis archive storage.
- Communication with the factory automated process control system
- High expressivity, accuracy of the analysis, low detection limit, analysis reproducibility
- High reliability.

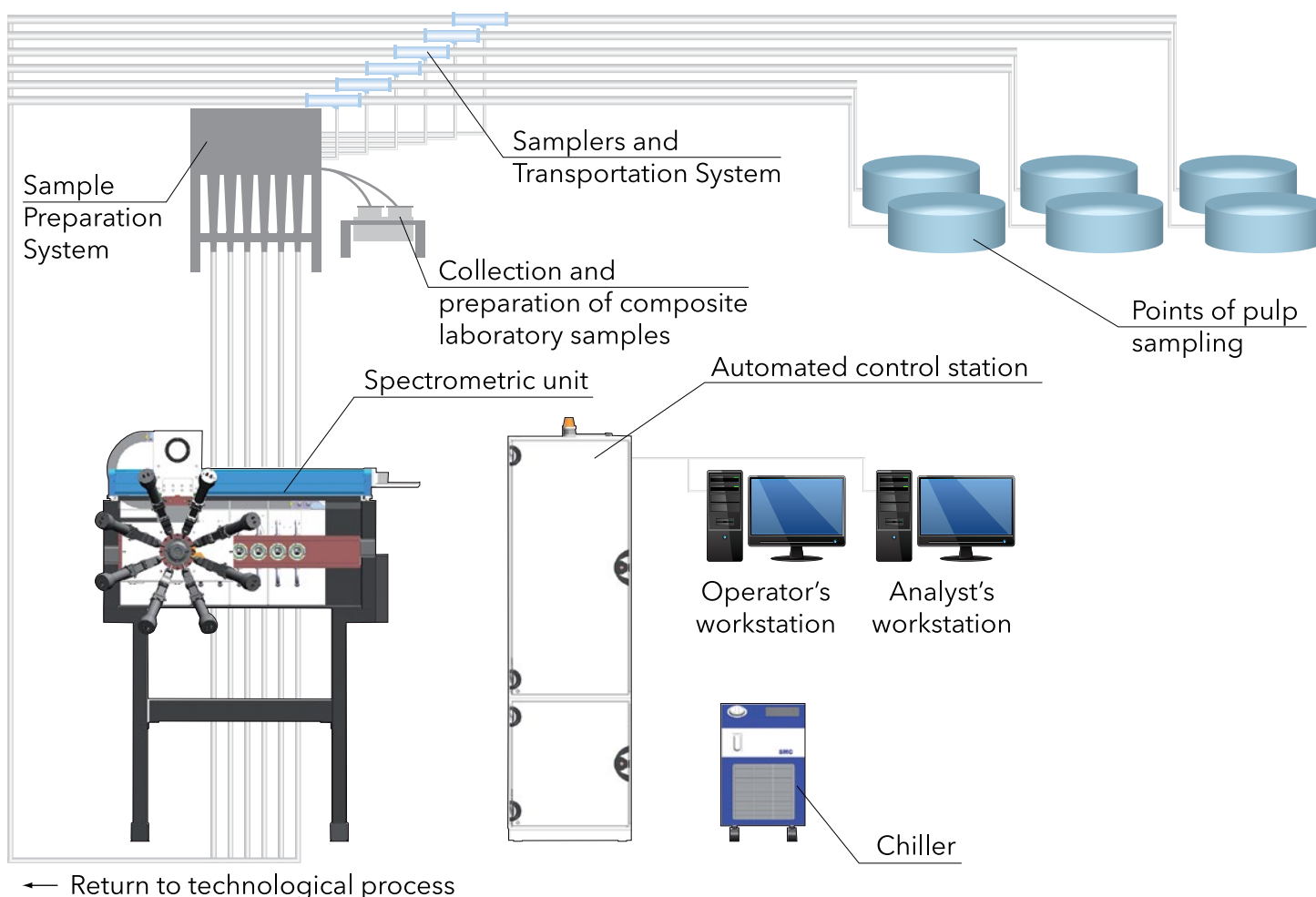
Scope of application

- Automated system of analytical monitoring and SCADA of nonferrous metals ore processing plants (Fe-Cu-Zn-Pb, Fe-Ni-Co-Ni, Cu-Mo, Mo-W) with branched mixed flotation circuits.
- Hydrometallurgical limits of extraction and refining of non-ferrous, rare and scattered elements (Co, Ni, In, Tl, Sc, Y, rare earth elements, Nb, Ta, Mo, W, Re, U).

Functional diagram of the analytical control based on AR-35

Automated workstations are based on advanced software and hardware.

The software implements two main methods for quantitative analysis: on regression equations and method of standard scattered radiation.



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