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The Flow-Injection Device for Remaining Chlorine in Technological Water

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The flow and flow-injection methods of lead through of analysis are effectively used for development of automatic control systems (ACS) of technological water. The creation ACS of remaining chlorine conducted in the direction of diminishing of physical devices specifications, increase of analysis automation, diminishing of their production and exploitation cost. Further development ACS is limited to possibilities of sensors. Most attention to show researches of constructions of the measuring modules of information-measuring system, sensors, to the study of directions to automation of analysis and improvement of metrology descriptions of measuring.

The measuring module of analysis of remaining chlorine is developed in technological water with the use of methods of iodimetry. A sensor determines maintenance of free iodine.

A primary chart contains an entrance channel for the test serve, capacity with solution of KI, knot of solutions correlation, reactionary spiral for solutions interfusion, sensor, capacity for weathering of exhaust solutions, valve.

This measuring module is used in laboratory terms, because works on principle of pressure drop. Solution independently can move on micro ducts by a diameter 0,5-0,8 mm. Stop of interfusion of solutions carried out by an electromagnetic valve. Analyzable solution and reagent enter knot of connection of solutions in correlation 1/10. A chemical reaction takes place in reactionary to the spiral, and maintenance of iodine is analyzed by a ionometric detector.

The flow slit detector has two silver iodide measuring and auxiliary electrodes. Both electrodes were prepared under the same conditions (Ukraine Patent 3914): 10 mkm electrode thickness, the current is 10^{-5} A at a voltage of 0.5-1 V, 15 minutes during manufacture, the diameter electrode 2.2 mm.

Placement of the electrodes, the geometric parameters of the detector slit defined performance characteristics analyzer.