

Dear partners!

When configuring the controller of the CRYSTAL automatic dosing station (all types), namely: setting the operating parameters of the dosing pumps, cl. 4.6.9 - 4.6.11 of the Installation and Operation Manual, it is necessary to indicate the response duration for each dosing pump.

What is dosing pump response time?

Consider the example of a CL dosing pump. The dosing pump response time is the time of continuous operation of the dosing pump, during which the station must bring the CL value to the required value. After this time has elapsed, if the required value is not reached, the station will stop operating the dosing pump and an alarm occurs. The station can be restarted only manually, having previously dealt with the cause of the accident.

What is this response duration parameter intended for?

This parameter prevents the dosing pump from idle running for a long time. For example, the standard package of the Crystal P: Rx, pH station does not have a suction fitting with a level sensor. In this case, when the reagent in the canister is completely consumed, the station will work during the set response time and stop the CL dosing pump, thereby saving the resource of the hose of the peristaltic pump, preventing it from "wear out" without reagent. This protection will also work when the injection valve (which was not cleaned for a long time) is "clogged", it "suddenly" began to not let the reagent into the pipeline and, as a result, a loosely fixed supply pipe very often fell off the injection valve – and the reagent gushes on the floor of the technical room... To avoid such cases during the operation of the pool, it is necessary to have protection - limiting the duration of the continuous operation of each dosing pump.

By default, the response duration of 60 minutes for all indicators (pH, CL, Redox) is set on all types of Crystal stations. As a rule, this time is enough for the vast majority of pools and does not require adjustment, but you should know what this parameter is required for and how to measure it.

Consider an example: how to determine the actual duration of the response in a specific pool, for example: we consider that in the considered pool the water tends to increase the pH value, so we dose the pH minus reagent. The user has set the required pH value to 7.20. How to determine the pH response time for a given pool?

Let us assume that the current pH value is 7.19, so the dosing pump is not running at this time. We change the required pH value, for example, to 7.10 (we need the dosing pump to work) and note the time during which the pH value will change from 7.19 to 7.10, that is, when the dosing pump stops. Let's say we got 17 minutes. The time obtained is the duration of the response of the system in terms of pH value in a given pool. To determine the response time for the CL dosing pump, do it in reverse order: suppose that the CL value is now 0.41 mg/l (the required value is 0.40 mg/l), therefore, the dosing pump is not working at this time. We change the required value of the CL indicator, for example, to 0.50 mg/l (we need the dosing pump to work) and note the time during which the CL value will change from 0.41 mg/l to 0.50 mg/l, that is, when the metering pump stops. Let's say we got 15 minutes. The time obtained is the duration of the system response in terms of CL at the given pool.

A very important note: it is advisable to carry out these measurements during the "load" on the pool water, that is, when there are swimmers in the pool!

Now the question is: what time should be indicated in the station controller as the duration of the system's response in terms of pH value – it that the obtained 17 minutes? No, the time obtained must at least be increased by two or three times, so that the station has time to work out unfavorable situations, for example, an increased number of swimmers, adding fresh water after cleaning the filter, the sun came out

or it rained, etc. If you set too short response time, the station will often generate alarm triggers on response.

Can this parameter be disabled?

If you think that the system response time is an unnecessary parameter and is not needed in a particular pool, you can turn it off by specifying the response time value "0".

Best regards, DARIN