

Technical Information:

Date: October 2006
Subject: CLE Sensor and Temperature
Topic : Free Chlorine Measurement at Low Temperatures

The Free Chlorine (CLE) range of sensors have a published operating temperature range of 5° C to 45° C. In some colder climates it is normal in the winter for the temperature to go below 5°C. With regards to the sensor working in the range of 0°C to 5° C, it is not a problem.

In the range of 0° to 5° C the response time of the sensor is longer to react to changes, essentially the T_{90} value is doubled. As long as the water is not frozen, the sensor will measure fine.

As an example, if you are below 5°C, and the measurement changes from i.e 0 PPM to 2 PPM, it would take the sensor approx 60 seconds to respond compared with 30 seconds in the 5° C to 45° C temperature range.

The rate of change of temperature should be no greater than 0.3° C per minute in order for the sensors internal temperature measurement / compensation to keep up with the change.

In most cases the actual chlorine value being measured does not continuously change as residual is being maintained.

Experience of the last 20 + years have proved lower temperatures not to be a problem.