APPLICATION NOTE

No. 6.01 PULP & PAPER

CHLORINE DIOXIDE (LIQUID)

- 1 ppm – 20 g/L
- Real time continuous measurement
- Optimize generator & gas scrubber performance
- Assure correct dosage concentration

Chlorine dioxide (ClO_2) is used primarily as a bleaching agent in the pulp and paper industry for elemental chlorine free (ECF) bleaching.

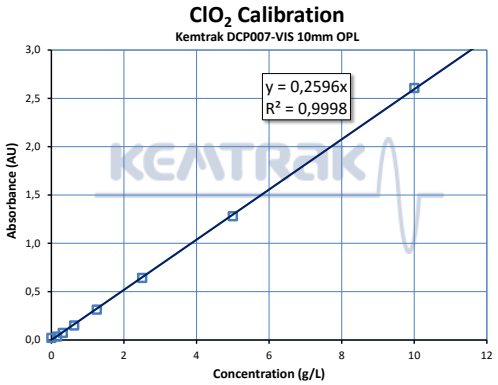
Chlorine dioxide has a strong UV absorption and can be accurately and continuously measured in all liquid and gas streams.

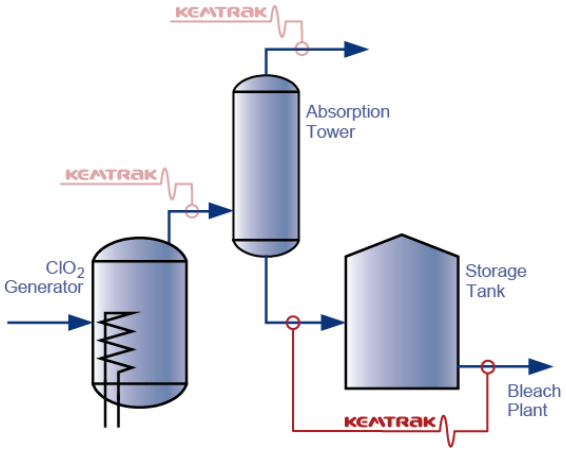
APPLICATION

Chlorine dioxide is measured with a Kemtrak DCP007 LED process photometer to optimize the reaction efficiency of ClO_2 generation, optimize and improve the control of vent-gas scrubbers to reduce emissions into the atmosphere and for monitoring the final concentration of chlorine dioxide product sent to the bleaching plant.

The Kemtrak DCP007 LED process photometer uses high performance long life LED light technology that provides substantial benefits over traditional incandescent lamps. The optical output from a LED light source is exceptionally stable and consistent over time which eliminates drift and removes the need for recalibration. LED light sources also have a zero maintenance requirement.

Initial calibration is simplified using an automated QuickCal one point calibration. NIST-traceable validation filters are available to verify analyzer performance without process interruption.





INSTALLATION

Due to the aggressive nature of chlorine dioxide, all wetted parts are manufactured from corrosion resistant materials, such as titanium Gr 2 and sapphire. The recommended measurement cell for this application is a DIN DN25 or ANSI 1” 150lb installed in a bypass line where water is available to zero the instrument.

Kemtrak DCP007 process photometer DIN DN25 Titanium Gr 2 measurement cell

In certain locations groundwater contamination of the optical surfaces might occur. The Kemtrak DCP007 LED process photometer has the unique ability to dynamically control the LED light brightness to compensate for fouling and this procedure can be fully automated.

For gas measurement applications, please refer to application note 9.02 Chlorine Dioxide (gas).