

Measuring point

Installation

Measuring task

1

pipeline after treatment tank

process monitoring of TiO₂ treatment

2

pipeline to filter

density-adjustment for optimal filtration

TiO₂ post-treatment

Introduction

Titanium Dioxide (TiO₂, titanium(IV) oxide) is used as white pigment in paints and lacquers, as well as UV blocker for sunscreen products.

The production of TiO₂ involves two processes: either the sulfate process or the chloride process. After this processing, the TiO₂ has to be refined to optimize the surface structure for better gloss and extended shelf life. Subsequently, the TiO₂ suspension has to be filtered and dried.

In this posttreatment a continuous process monitoring by TiO₂ suspension density measurement is needed to guarantee high product quality and to make up optimum use of the plant capacity.

LiquiSonic® is ideally equipped for this complex measuring task. The robust, maintenance free inline measuring technology convinces customers, mainly with an attractive price-performance ratio.

Application

The refined TiO₂ suspension is collected in a storage tank and afterwards filtered. To determine the suspension density, LiquiSonic® immersion sensors are installed before storage tank (1) or filtration unit (2). By using LiquiSonic®, the TiO₂ post-treatment is permanently monitored and can be regulated in a matter of seconds. This helps to save process costs and increase the product quality.

The LiquiSonic® measuring technology convinces customers, compared to Coriolis flowmeters, with an attractive price-performance ratio, even in pipelines with bigger diameters. Furthermore the LiquiSonic® analyzer operates maintenance free and with high precision for a long time.

Customer value

LiquiSonic® analyzer with numerous advantages:

- attractive price-performance ratio, even for nominal pipeline diameter DN 25 and bigger
- no abrasion by usage of titanium sensor
- robust and maintenance free function
- easy installation by individual choice of process connection
- durable use

SensoTech enables with LiquiSonic® a stable, user-friendly measuring technology, perfectly suitable to determine the TiO₂ suspension density.

Installation

The LiquiSonic® sensor is easily installed into TiO₂-pipelines (DN 25 or bigger). The process connection can be chosen individually.

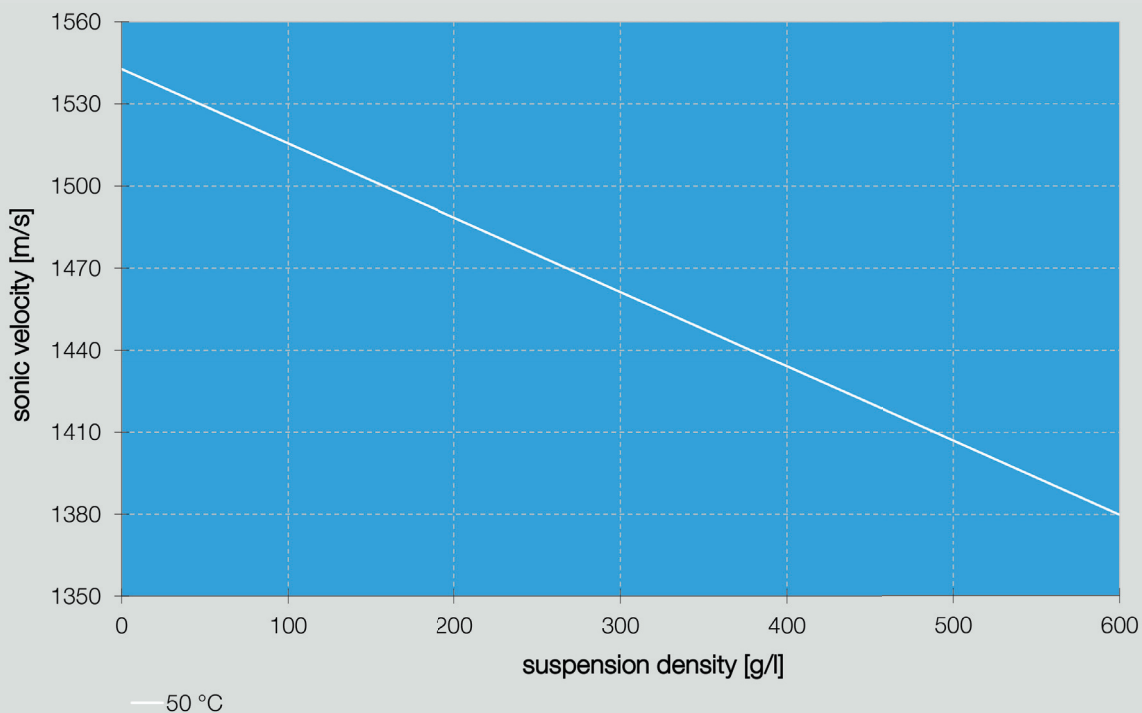
By using the LiquiSonic® controller 30, up to four sensors can be connected, allowing the simultaneous monitoring of several measuring points. This allows optimal process control, either before the collection tank or before filtration.

Typical measuring range:
concentration range: 0 to 600 g/l
temperature range: 10 to 80 °C

References

The LiquiSonic® analyzers are successfully implemented in TiO₂-plants, e.g. at KRONOS Titan GmbH (Leverkusen, Germany).

LiquiSonic® sonic velocity measurement in titanium dioxid suspension



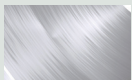
LiquiSonic® 30



21001311
LiquiSonic® Controller 30 V10



21010112
Immersion sensor V10 40-14, DIN DN50, L092



21005020
Material extra charge titanium

BUS

21004435
BUS connection: Profibus DP



21004449
Network integration



21004110
High power sensor electronic



21004202
Bus cable indoor (100m)



21007846
Factory acceptance test (FAT) certificate



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