Reduce product loss with the modular, front flush ITM-51 turbidity sensor

ITM-51 Turbidity Sensor

Application in the production process

The ITM-51 enables active automated phase separation of milk/other milk products/water resp. of beer/yeast, by inline turbidity analysis and active process switching.

Passive phase separation by time or volume control always needs a safety margin. As a consequence, in every process step product is lost and/or quality is affected.

Advantages of the ITM-51

- Minimize the loss of raw material leading to less value loss
- The filling of tanks with wrong medium is avoided
- Less cost for waste water treatment
- Less need for additional laboratory analysis of the tank content
- Best possible concentration ensuring constantly high quality of the product such as milk / cream resp. beer / wort
- Efficient separator control in brewery applications for uniform quality of infiltered beer

Application in the CIP/SIP Process

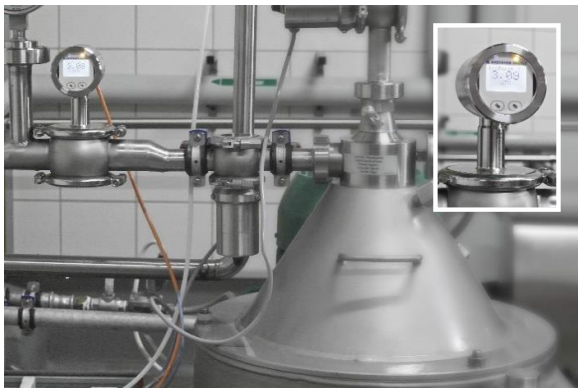
Active automated and temperature-independent phase separation in the return line of product / acid / base / water.

Advantages with the ITM-51

- Reliable control of the degree of concentration of the agents
- Optimize multiple usages of the cleaning agents
- Minimize cost due to less waste disposal
- Reduce the length of the cleaning process time and amount of water consumption: Active switching after reaching the desired degree of purity by inline turbidity analysis, and not after passive, fixed timing

Practical experiences & Customer applications

- Reduction of product lost from 5% to 3%, with 15% cost reduction due to less waste water treatment
- Less laboratory analysis necessary, leading to less personnel / time required and faster reaction to deviations
- 3,000 l less water consumption in each CIP process
- The ITM-51 reliably prevents the contamination of a glycol cooler with milk products, an issue which, in the past, repeatedly disturbed the cooling process and caused a complete cleaning
- 80% more consistency in the quality of the end product due to more precise separation of cream, mild and low-fat milk
- Constant turbidity level for Craft Beer without filtering due to precise separator control in a brewery



Technical Specifications At-a-Glance

- Compact front flush turbidity sensor with backscatter principle, in a modular set-up
- Flex-Hybrid-Technology with digital + analog interface (IO-Link + 4...20 mA)
- Process temp. up to 266 °F (130°C), pressure -14.5...290 psi (-1...20 bar))
- Independent to reflections at small diameters or electro-polished surfaces
- No color dependency (wave length 860 nm)
- High reproducibility: ≤ 1% of full scale
- Selectable range (%TU, NTU, EBC, %solids)
- Extended sensitivity: 200...300.000 NTU equivalent
- Smart Replace Design with Remote version for hassle free replacement of all components

Modular Sensor Platform with IO-Link and 4...20mA

The Flex-Hybrid Technology with IO-Link and 4...20 mA combines the best of both worlds: Data from the sensor can be transmitted digitally, analogously or in parallel. The bidirectional communication enables status control and preventive maintenance at any time to avoid production downtimes. Installation and commissioning are time- and cost-saving thanks to plug-and-play technology, and sensor replacement is easier than ever before thanks to "Smart Replace Design" with automatic detection, configuration and parameterization.

Order code

Note: For order code for the remote version ITM-51R and the remote cable, see product information

ITM-51 (turbidity sensor)

Process connection (Ⓐ: 3-A approval)

S0L	CLEANadapt G1/2", extended sensor stem
S01	CLEANadapt G1/2"
TC1	Tri-Clamp 1½" Ⓐ
TC2	Tri-Clamp 2" Ⓐ
T25	Tri-Clamp 2½" Ⓐ
TC3	Tri-Clamp 3" Ⓐ
TL1	Tri-Clamp 1½", extended sensor stem Ⓐ
TL2	Tri-Clamp 2", extended sensor stem Ⓐ
TL5	Tri-Clamp 2½", extended sensor stem Ⓐ
TL3	Tri-Clamp 3", extended sensor stem Ⓐ
V25	Varivent type F, DN 25
V40	Varivent type N, DN 40/50

Enclosure Orientation

H	horizontal
V	vertical

Output

A42	1 x 4...20 mA turbidity only, display prepared
I52	IO-Link and1 x 4...20 mA turbidity, 1 x switching out, no external range switching, display prepared
I53	IO Link and 1 x 4...20 mA turbidity, 1 x switching out, external range switching, display prepared

Electrical connection

P*	1x Cable gland M16x1.5 for A42 Analog Output
D*	2x Cable gland M16x1.5 for I52 or I53 Analog Output
M	1x M12 connector, 4-pin for output A42
N	2x M12 connector, 4-pin for output/input, 5-pin for power supply (I52/I53)
A	2x M12 connector, 4-pin for power supply, 5-pin for output/input (I52/I53)
R	2x M12 connector, 4-pin for analog output, 3-pin for IO-Link and input (I52/I53))

Interface/Display

X	without Interface
S	Simple User Interface with small display
L	Large User Interface with display

Enclosure

X	opaque plastic cap
P	clear plastic cap
M	stainless steel without window
W	stainless steel with window

Parameter configuration

X	standard

ITM-51 S01 / V / I53 / D / L / P / X

60019 / 1.5 / 2020-03-20 / NA / MH-JS

ANDERSON-NEGELE
156 Auriesville Road
Fultonville, NY 12072

Phone: 800-833-0081
Fax: 518-922-8997
info@anderson-negele.com

Technical Support
techservice@anderson-negele.com
Phone: 800-833-0081