The Solution to validate the rotation pattern of Rotary Jet Heads

Alfa Laval Rotacheck

Application

The Alfa Laval Rotacheck is designed to fulfill the demands for a safe and validated Tank Cleaning verification in the Brewery, Dairy and Pharmaceutical industry. The main features are:

- Build on the Alfa Laval patented teach-in and monitoring system offering easy installation and validated monitoring capability.
- Uses the Patented Alfa Laval Hygienic Tank Connection (HTC) which ensures a full flushable process connection.
- 3A and EHEDG approved.
- Visual light indication integrated into the field housing, offering visual status feedback to operators and maintenance staff on the factory floor.
- electrical outputs for PLC control system (OK, Alarm, Idle).

TECHNICAL DATA

Protection class: IP67

Pressure

pressure overload on diaphragm: . . . 17 bar
Max. working pressure in tank while perfoming monitoring: . . . . . 0.5 bar
Max impact pressure from waterjet: . . 1.5 bar

Electrical data

The integrated electronics features short circuit and high temperature protection.

Power supply: . . . . . 24 Vdc +- 10%
Power consumption max: . . . . . 70 mA
Outputs (OK, Alarm, Idle): . . . . . logic PNP
Max current per output: . . . . . 50 mA
Electrical connection: . . . . . M12 (6 poles) or M16 cable gland with 2 mtr. Cable
Reaction time: . . . . . 1 S.

Certificates

- 3,1 certificate (option)
- Q-doc (option)
- FDA conformity declaration (option)

PHYSICAL DATA:

Materials:

Wetted parts: . . . . . AISI 316L
Fieldhousng: . . . . . Polymer PA12
Filling: . . . . . FDA approved Silicone oil

Operating temperature

Wetted parts: . . . . . -40 to 125°C (140°C < 1 hour)
Field house: . . . . . 40 to 115 °C.

Weight: . . . . . Approx 500 gr.

Process connections

Alfa Laval Hygiejnic Tank Connection (HTC).
Retrofit options available.

Authorized to carry the 3A symbol

Standard Design

The Alfa Laval Rotacheck is ideal for validation of the cleaning process inside any hygienic tank cleaned with a rotary Jet head. The integrated electronics provides 3 digital output signals (Idle, OK and Alarm) and one digital input signal used to activate the initial teach-in. The hygienic installation is guaranteed by using the new Alfa Laval full flushable connection, approved for 3A and EHEDG. The Rotacheck is also offered in a Basic version (Rotacheck Basic) without the patented validation option, this product is ideal for retrofitting.

Working principle

The Alfa Laval Rotacheck sensor is based on a complete new Alfa Laval patent which features unique teach-in and monitoring functions. The Patented teach-in function is used during the first validated/approved CIP run, During this first CIP run the Rotacheck stores time and pressure data from the cleaning process, these data is called the validated reference data.

In terms of water intensity on the tankwall (hits) and the time between the hits from the waterjet the reference data represents a unique pattern for the specific installed cleaning head.

Based on the validated reference data the Rotacheck analyzes and automatically calculates an acceptance window in which the tank cleaning machine will perform within the boundaries of the validated reference data. Afterwards, during production, the analogue feedback from the integrated pressure transducer is online monitored and continuously compared to the stored acceptance window, and the Rotacheck digitally outputs a validated feedback. This digital feedback clearly indicates the state that the cleaning processes are in. The system feedsback has 3 different outputs.

OK output:	on when cleaning is within acceptance window
ERROR output:	on when cleaning is out off teached-in acceptance window
IDLE output:	on when cleaning is not performed

Electical connections

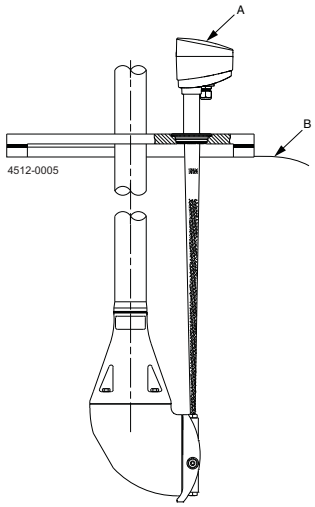
M12 Plug

PIN 4:	+
PIN 6:	Output: OK
PIN 3.	-
PIN 7.	Input: Teach-in
PIN 5:	Output: Idle
PIN 8.	Output: Alarm

M16 cable gland with 2 mtr cable

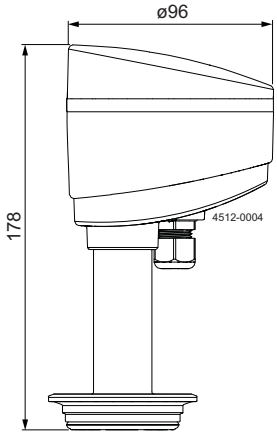
Brown:	+
Yellow:	Output: OK
Blue:	-
White:	Input: Teach-in
Green:	Output: Idle
Red:	Output: Error

Installation of Alfa Laval Rotacheck



A = Rotacheck Sensor B = Tank Top

Dimensions (mm)



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