



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 (HIT "Rotation OK", Alarm, Idle).



TECHNICAL DATA

Protection class: IP66 and IP67

Pressure

pressure overload on diaphragm: 15 bar
Max. working pressure in tank while
performing monitoring: 0.3 bar

Electrical data

The integrated electronics features short circuit and high temperature protection.

Power supply: 24 Vdc +- 10%
Power consumption max: 70 mA
Outputs (HIT "Rotation OK", Alarm, Idle):
. logic PNP
Max current per output: 50 mA
Electrical connection: M12 plug (8 poles) or M16
cable gland

Certificates

Q-doc (option)

PHYSICAL DATA:

Materials:

Wetted parts: AISI 316L
Fieldhousing: Polymer PA12
Product wetted elastomer: EPDM
Other elastomer: NBR

Operating temperature

Wetted parts: -40 to 125 °C.
($<140^{\circ}\text{C}$ in 1 hour)
Field house: -10 to 60 °C.

Weight: Approx. 600 gr.

Process connections

Alfa Laval Hygienic Tank Connection (HTC).



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 signals, hit (basic version), rotation ok (plus version) 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 basic version (Rotacheck Basic) without the patented validation option, this product is ideal for retrofitting as it only outputs 3 pulses.

Working principle

The Alfa Laval Rotacheck plus 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 plus stores time and pressure data from the cleaning process, these data are 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 in the tank.

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. The Rotacheck digitally outputs a validated feedback. This digital feedback clearly indicates the state that the cleaning processes are in. The system feedback has 3 different outputs.

Rotation OK output

(only plus version): on when cleaning is within acceptance window

ERROR output: on when cleaning is out off teach-in acceptance window

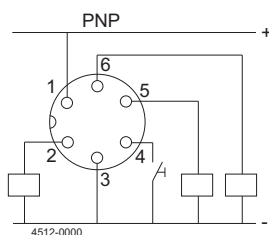
IDLE output: on when cleaning is not performed

Hit (only basic) on when sensor is hit by waterjet.

Electical connections

M12 Plug

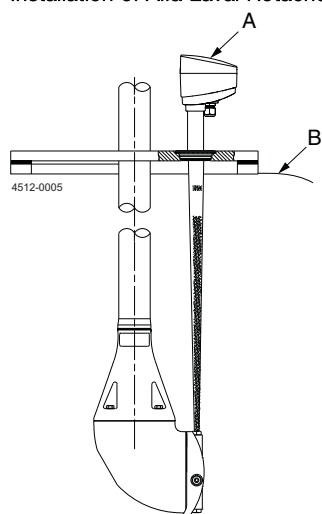
PIN 1:	+
PIN 2:	Output: Rotation OK/hit
PIN 3:	-
PIN 4:	Input: Teach-in
PIN 5:	Output: Idle
PIN 6:	Output: Alarm



M16 cable gland

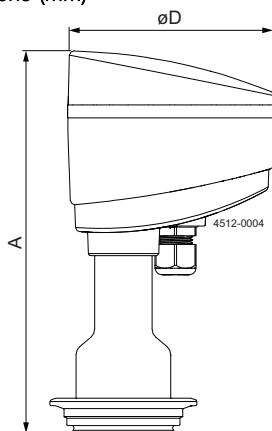
1	+
2	-
3	Output: Idle
4	Output: Rotation OK/hit
5	Output: Error
6	Input: Teach-in

Installation of Alfa Laval Rotacheck

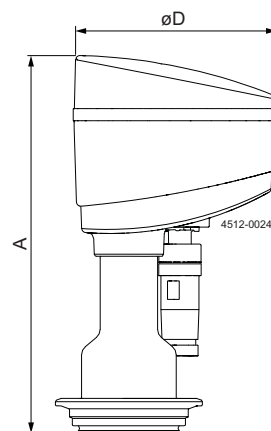


A = Rotacheck Sensor B = Tank Top

Dimensions (mm)



Rotacheck with M16 cable gland



Rotacheck with M12 plug

A	øD
178	96

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