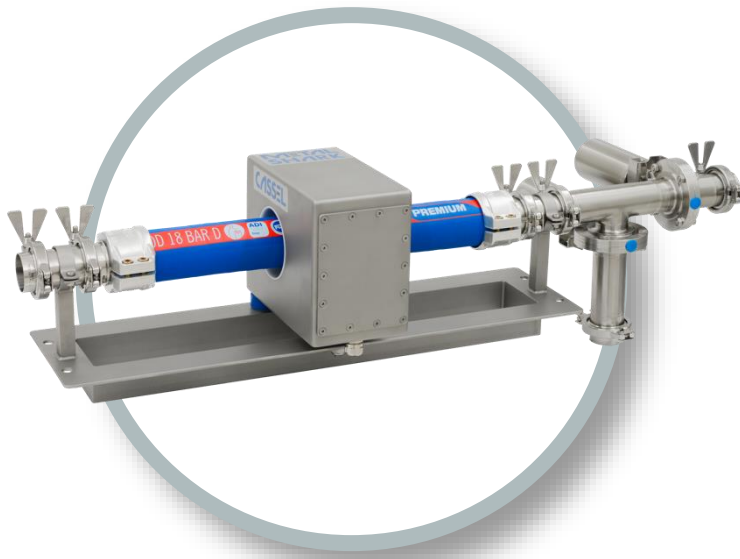


# METAL SHARK® IN LIQUID

Metal detection for liquids and pastes



## Highlights

- Reliably detects metal contaminants in liquid and pasty products
- Easy to integrate into common pipeline systems from 1 in. – 6 in.
- Stainless steel housing and frame are easy to clean, supplied tube is CIP-capable (Cleaning In Place)
- Intuitive control and easy installation through autocalibration and teach-in wizard

## Features

- 4-quadrant technology provides maximum search performance with high reliability
- Simple setup with TeachAssistant, preset product types like salty, sweet, wet, dry etc.
- Memory for up to 250 products
- Easy to use with intuitive and multilingual menus
- 4-level password system, automatic log out after time lapse
- Easy to integrate into common pipeline systems
- Documentation of all events and metal messages
- FS5 and HACCP reports available on the display at the touch of a button
- Optional: Data transfer to USB interface or connection to the company network via SHARKNET® software
- Cyclical function monitoring with Performance Validation System (PVS)



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### Overview

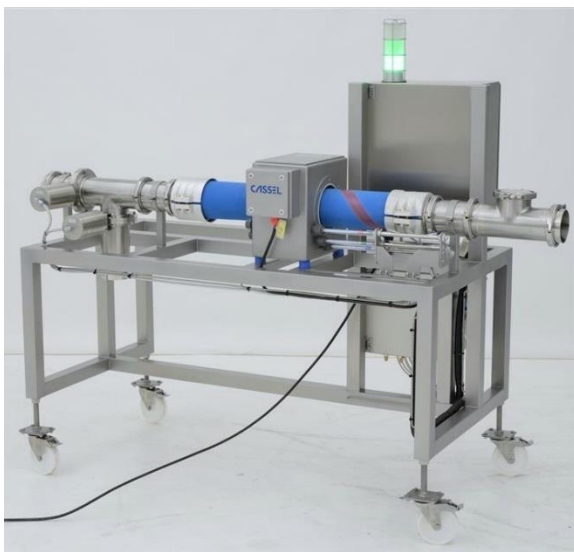
The METAL SHARK® IN Liquid is developed for liquid and pasty products. With its maintenance-free design and high-quality, hygienic construction, the metal detector is ideal for reliable use in the food industry.

METAL SHARK® IN Liquid can be easily integrated into all common piping systems for pumps, vacuum fillers or even sausage meat filling plants.

Three different valve models, optimally adapted to the respective product, guarantee a safe discharge of metallic contaminants.

### Industries

- Food processing
- Chemicals and pharmaceuticals



METAL SHARK® IN LIQUID in a mobile frame for use at several locations

### Application

- Monitoring of liquid or pasty products in pipes between pump and filling station, e.g.
- soups and sauces,
- ketchup and mayonnaise,
- edible oil or processed cheese,
- creams, toothpaste and much more.
- Sausage or meat fillings are possible (see also METAL SHARK® IN MEAT)

### Included

- Detection unit (sensor) IN LIQUID including mounting frame or mobile stand with 4 rollers
- Controller METAL SHARK® Type IN LIQUID
- Reject unit (arc or butterfly)
- Pressure hose or POM pipe section made of for detection zone incl. matching connectors

### Accessories & Extras

- Versions for hose cleaning (LPW) or cleaning with high-pressure cleaner (HPW) possible
- SHARKNET® connection for automatic documentation according to HACCP, IFS or BRC standard
- Signalling devices (optical/acoustic)
- Ensuring the functionality by autotest or simple test port for manual insertion of the testball



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### Specifications

<b>Electronics</b>	Digital signal processor, digital frequency generation, digital balance control, automatic calibration, digital noise filters, integrated flexible control functions
<b>Input</b>	2 analog 0...10 VDC (Option: 4-20 mA) ; 8 freely configurable 24 V DC signals, e.g. for reject confirmation
<b>Output</b>	2 floating: "error" and "metal" ; 8 freely configurable 24 V DC signals, e.g. for metal or acoustic alarm
<b>Inspection Method</b>	High-frequency magnetic field, multi-channel operation, symmetrical receiver coils
<b>Metal Detection</b>	Ferrous, non-ferrous (e.g. aluminum or copper) and stainless steel
<b>Product Compensation</b>	250 memory locations, automatic product compensation, TeachAssistant
<b>Enclosure Rating</b>	IP66 (optionally IP67), Controller IP66
<b>Environmental Conditions for Controller</b>	20°C to +40°C / -4°F to 104°F, option: -40°C / -40°F or +55°C / 131°F, rel. humidity 20% up to 90% (non-condensing), >95% rel. humidity (condensing) with closed cabinet door
<b>Environmental Conditions for Sensor</b>	-30 °C to +60 °C / -22 °F to 140 °F Option: Up to +90 °C / 194 °F
<b>Temperature of Goods Inspected</b>	Up to +95°C / 203°F (liquids) or up to +164°C / 327°F (steam)
<b>Power Supply</b>	One phase 110-230 V AC +/- 5 %, typ. consumption 20 W (max. 60 W)
<b>Interface</b>	RS232, provides documentation according to HACCP- and IFS-standard, USB- or ethernet option
<b>Maintenance</b>	Maintenance-free, self calibrating sensors
<b>Diagnostics</b>	Integrated diagnostic software, automatic self-test

### Rejects

Two different valve types, optimally matched to the respective product, guarantee reliable discharge of metallic contaminants. All valves can be CIP cleaned.



Butterfly-/Shim valve EX-BF



Arc valve EX-BOG

- For liquids and slightly pasty products
- Very stable
- Pre-opening on ejection side prevents recoil into pipeline
- Low cost version
- For pressure up to 8 bar
- For viscous, pasty products
- For liquids with solids in it
- For pressure up to 40 bar
- CIP-cleanable and free from Dead spaces
- Suitable for cleaning with a Cleaning pig



## METAL SHARK® IN LIQUID

Metal detection for liquids and pastes



### Hoses/tubes and connections

- food safe pressure hose, applicable up to 6 bar with steam up to 164°C
- Pipe made of polyoxymethylene (POM) for operating pressure up to 40 bar
- Connections selectable from milk thread, Tri-Clamp or SMS couplings
- available in all common sizes: hose from 1"/25 mm to 4"/100 mm, pipe up to 6"/150 mm



METAL SHARK® IN LIQUID  
in a mounting frame

### METAL SHARK® IN Liquid Self-Monitoring (optional)

Metal detectors are critical control points in every production line and the components connected to them should also be continuously monitored.

Material	Properties
Compressed Air Monitoring	Reports an error if the air pressure is too low for the functionality of the sepa flaps.
Reject Monitoring	Warns if the reject unit has not switched correctly after metal detection.
Testport	Simple version, without BF valves, only one tube with sealing cap (Tric-lamp) for inserting the test ball, incl. test bodies
Testport Check & Catch	Tube with sealing cap for insertion of a test body and wide ejection valve (stainless steel 1.4404 / AISI316L, IP65) to ensure the flow of material during function test
Autotest	Functional test that does not require opening the product pipelines: Test pieces (FE/NFE/VA) are moved with compressed air through a separate test tube. The control unit indicates which sphere sizes are to be tested. Incl. push button for FE, NFE and VA testing, pneumatic valve, test specimen.
Test Balls	Test balls, diameter 10 mm made of plastic POM, with embedded metal ball made of iron, brass and stainless steel, certified. Ball size, metal type and certificate number are embedded in the test ball.

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