

- Reliably detects metal contaminants in liquid and pasty products
- Easy to integrate into common pipeline systems from 1" – 6"
- Stainless steel housing and frame are easy to clean, supplied tube is CIP-capable (Cleaning In Place)
- Highest sensitivity with 4-quadrant technology
- Intuitive control and easy installation through autocalibration and teach-in wizard



- Maximum search performance with highest reliability in the entire detection area due to 4-quadrant technology
- Simple setup with teach assistant
- 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
- IFS5 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)
- CIP (Cleaning In Place) possible



METAL SHARK® IN Liquid on a mobile stand for use at different locations.

Scope of Delivery:

- Detection unit (sensor) IN incl. mounting frame or mobile stand with 4 rollers
- Controller METAL SHARK® type IN Liquid
- Reject unit (arc, butterfly or piston valve)
- 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 access 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

Functions:

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.

Applications:

Monitoring of liquid or pasty products in pipes between pump and filling station, e.g.

- soups and sauces,
- ketchup, mayonnaise,
- edible oil or processed cheese,
- creams, toothpaste and much more.

Even sausage or meat fillings are possible (see also IN Meat)

Industries:

- Food
- Chemicals and pharmaceuticals



The pressure hose guarantees stability even at pressures up to 16 bar. For higher pressure up to 40 bar, pipe sections made of POM are used.

Specifications:

Electronics	Digital signal processor, digital frequency generation, digital balance control, automatic calibration, digital noise filters, integrated flexible control functions
Input	2 analog 0...10 V DC (option: 4-20 mA) 8 freely configurable 24 V DC signals, e.g. for reject confirmation
Output	2 floating: "error" and "metal" 8 freely configurable 24 V DC signals, e.g. for metal or acoustic alarm
Inspection method	High-frequency magnetic field, multi-channel operation, symmetrical receiver coils
Metal detection	Ferrous, non-ferrous (e.g. aluminium or copper) und stainless steel
Product compensation	Memory for 250 products, automatic product compensation, TeachAssistant
Enclosure rating	Sensor IP66 (optionally up to 69k) Controller IP66
Environmental conditions for controller	-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
Environmental conditions for sensor	-30°C to +60°C / -22°F to 140°F optionally up to +90°C / 194°F
Temperature of goods inspected	Up to +95°C / 203°F (liquids) or up to +164°C / 327°F (steam)
Power supply	one phase 110-230 V AC +/-5%, 20 W (max. 60 W)
Interface	RS232, LAN (optional, for SHARKNET®), USB (optional), for documentation according to HACCP- and IFS-standard
Maintenance	Maintenance-free, selfcalibrating sensors
Diagnostics	Integrated diagnostic software, automatic self-test

Rejects:

Three 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

- for liquids and slightly pasty products
- very stable
- pre-opening on ejection side prevents recoil into pipeline
- low cost version
- for pressure up to 16 bar



Arc valve EX-BOG

- 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 pig



Piston valve EX-PWC

- for tough pastes like sausage meat
- internal piston lowers into the product flow and "punches" contaminated product parts out of the product flow
- for pressure up to 25 bar

Hoses/tubes and connections

- food safe pressure hose, applicable up to 6 bar with steam up to 164°C or 16 bar at 95°C water temperature or
- 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 self-monitoring (optional)

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

Product	Properties
Compressed air monitoring	Reports an error if the 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. Control unit indicates which sphere sizes are to be tested. Incl. pushbutton 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

CASSEL quality promise:

As a premier manufacturer, CASSEL is committed to the highest quality standards. For more than twenty-five years, our goal has been to ensure the uncompromising quality of your products. We supply customers worldwide in various industries, including food, plastics, pharmaceuticals, textiles, lumber and mining.

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