


Safety and Hygiene Guaranteed

Stainless steel sensors and systems



more added value

Safety and Hygiene Guaranteed

Balluff stainless steel product line sets standards

Sensors and systems made of stainless steel offer everything you need to design your production process for safety, stability and hygiene. And perfected fastening and wiring technology in stainless steel guarantees optimal integration.



– Balluff "Wash-Down"

Products and systems for wet areas – with reliable sealing and tested resistance against industrial cleaning agents. The standard for the pharmaceutical and food industries.



– Balluff "HygieneDesign Ready"

Developed according to the guidelines for Hygiene Design, this new design leaves no weak points for microorganisms to attack and optimizes the cleaning process.



– Balluff "Full HygieneDesign" – certified Hygiene Design

Components, developed and certified according to the guidelines for Hygiene Design, reduce the risk of contamination and increase productivity. Balluff as an integrated part of your machine design.

Precisely matched fastening and wiring technology in stainless steel and IP 69K are standard.

more added value

- IP 67, IP 68 and IP 69K for reliable sealing
- Resistant to aggressive cleaning agents certified by Ecolab
- FDA-3A inspection of systems in direct contact with the product
- Sensors and systems from a single source



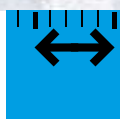
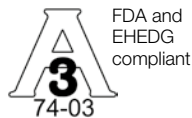
BES Inductive Sensors BOS Photoelectric Sensors BMF Magnetic Field Sensors

Food-safe stainless steel housing and certified resistance against aggressive cleaning agents make Balluff sensors the first choice for wet and hygienic processes in the food industry. IP 67, IP 68 and IP 69K for maximum sealing protection as well as heat resistance up to 120 °C guarantee maximum quality for a long service life and process reliability. The enormous spectrum of stainless steel sensors leaves a great amount of freedom for medical technology and the pharmaceutical industry.

BCS Capacitive Sensors BUS Ultrasonic Sensors

The lynchpin of capacitive and ultrasonic sensors are level control and the detection of fluid media. In addition to classic cylindrical designs, these sensors are also available with a cubic and flat dish shape made from chemically resistant materials suitable for a wide range of applications. Simply choose the option that's right for you.





BTL Micropulse Transducers – lengths ahead

Non-contact and wear-free FDA-compliant housing design sets standards for components that come into direct contact with products, e.g. fill-level monitoring during the filling of fruit juices, milk or beer. Simple and fast configuration facilitates simple integration in your control topology. Certified HALT test ensures maximum functional reliability for years.



BIS Industrial RFID system – for the utmost dependability and maximum transparency

Use the high-performance inductive BIS Industrial RFID systems for 100 % data security and optimized production processes. The BIS system is capable of sensing through stainless steel panels or covers and is therefore ideal for use in process technology and the food industry.



Cables, connectors, fastening systems and stainless steel accessories – for seamless integration

What is the use of the best sensor if you do not have a matching stainless steel system for mounting or if you must use a connector with a low protection class? Use customized Balluff accessories for optimized integration. High-quality Balluff products are fully compatible throughout the entire range.

Safety and Hygiene Guaranteed

Balluff stainless steel product line sets standards

BALLUFF

sensors worldwide

The Balluff Hygiene Design is based on:

- Machinery directive (RL 98/37/EC), part on food processing machinery: annex 1, item 2.1 (is replaced by 2006/42/EC)
- DIN EN 1672-2:2005 Food processing machinery:
Basic concepts – Part 2: Hygiene requirements
- DIN EN ISO 14159 Safety of machinery –
Hygiene requirements for the design of machinery
- Document 13 EHEDG Guideline the hygienic design of devices
for open processes, prepared in cooperation with 3-A and
NSF International

GMP Good Manufacturing Practice

GMP (Good Manufacturing Practice) refers to guidelines for the quality assurance of production processes and environment in the pharmaceutical industry, as well for foodstuffs and beverages. A quality management system that satisfies GMP criteria serves to ensure product quality and satisfy the legal requirements of the health authorities that are necessary for marketing.



In the USA, **3-A Sanitary Standards Inc.** formulates and monitors hygiene guidelines for devices used in the manufacture and packaging of milk and foodstuffs. Our products with this designation are 3-A authorized.



The **FDA (Food and Drug Administration)** oversees the U.S. food and drug industries and certifies devices, materials as well as systems in these industries. A product designation of this kind makes your system eligible for FDA approval.



The **EHEDG (European Hygienic Engineering & Design)** designation is the European standard for hygiene in the food industry. Our products with this logo conform to EHEDG standards.

ECOLAB®

 **Fraunhofer**
ICT

ECOLAB

Test of material resistance against aggressive cleaning and disinfection agents

Test conditions:

- Test duration 14...28 days
- Temperature: constant room temperature
- Visual assessment for swelling, embrittlement, changes in color

IP67

IP68

BWN Pr27
BWN Pr20

IP69K

Individual supplementary tests

- Resistance against peracetic acid
- Resistance against hydrogen peroxide
- ...

IP 69K seal protection test per DIN 40050

Enclosure rating IP 69K guarantees maximum seal protection of sensors and systems in plants used in the pharmaceutical and food industries with frequent and intense cleaning processes.

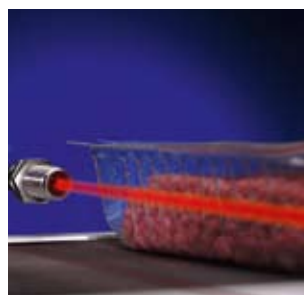
120°C

**High
Temperature**

**Stainless
Steel**

Test conditions:

- Water pressure 80...100 bar
- Water temperature +5...+80 °C
- Water flow rate 14...16 liters per minute
- Nozzle spacing to test sample 100...150 mm
- Spray duration 30 s per angle 0°, 30°, 60°, 90° on rotary table
- 5 rpm



Balluff GmbH
Schurwaldstrasse 9
73765 Neuhausen a.d.F.
Germany
Phone +49 7158 173-0
Fax +49 7158 5010
balluff@balluff.de
www.balluff.com