



100% safe

Inspection systems for the medical sector
and the cosmetics industry

Testing and inspection

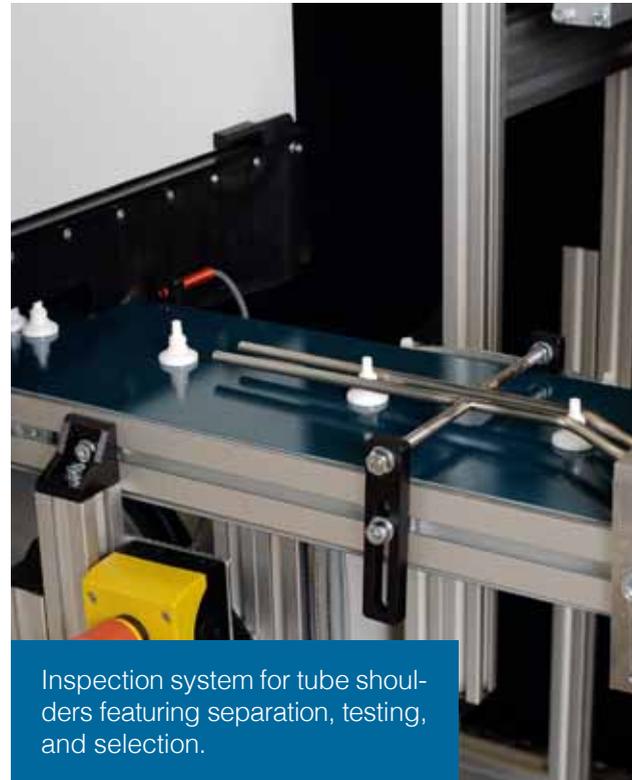
Complete technology, completely developed in-house

Inspection cells or modules for checking the quality of prefabricated parts or introduction parts are crucial elements in fully automated production lines as used in the medical sector and the cosmetics industry. Since they have to ensure no faulty parts will proceed through the production process. Especially complex is the feed-in and feed-out of the parts, which have to be separated and put in the right position when passing the inspection cells. ibea has the command of all technologies required here. Ensuring a quick and trouble-free handling as well as a perfect 100% inspection of the parts.



Mature and state-of-the-art

Most inspection methods are based on image processing. ibea uses its own multi inspection cameras, available in B&W, color or in a combined version. These systems have been continuously developed throughout the 20 years of our company history. They offer a realm of technical finesse. E.g. a modular RGB lighting that can be exchanged against white light or UV light. Naturally, an integrated light controller is included. Just as light modules like corona, beam splitters and cloudy-day domes.



Inspection system for tube shoulders featuring separation, testing, and selection.

The image processing is supervised by a gear clock operated „Real Time System“ (RTS) which controls the image scan, illumination and up to 3 ejectors. It supports the asynchronous scanning of three lines with up to eight cameras respectively. Type and resolution of the cameras will be adjusted according to the individual requirements (high resolution cameras, line scan camera, B&W or color). The RTS allows for three separate ejectors with integrated ejector control.

These high-end features allow for safe and simple inspections when combined with the handling process. This also applies for changeover lines fitted with according mobile motors or zoom motors. All job-related data and light adjustments will be saved under the respective job name and can be retrieved with a click.

Leakage inspection systems

The intelligent way to test for leaks

The Vacuum/Pressure Measurement Systems VPMS and LPT7000 by ibea are especially designed for leak-testing cans and ends. The underlying principle here is to work with vacuum and (over)pressure applied to the inspected product. The difference lies in the measuring systems to determine if there is a leakage:

1. Measurement discrepancies in pressure

After application of vacuum or pressure a first gauging, via pressure sensor, is taking place before adhering to a stipulated waiting period and a second gauging. The difference of the two readings determines if the product is ok or has a leak.

2. Light-leak testing

After putting a vacuum on the product it will be charged with very bright light on the outside. In the next step a picture will be taken of the hollow part of the product. If any light reaches the inside of the product it has a defect. Even very small defects can be detected by using this method, without waiting for different pressure values.

3. Thermographic measurement

During this application, generally known as heat-flow thermography, the product is temporarily heated at a defined point to create a heat flow into its immediate environment. In case of transitional defects thermal bridges occur, which can be recorded and analyzed by thermographic cameras.



ibea's Systems ensure that only glass ampoules complying 100% with the specifications are delivered.

Modular structure, flexible application

Construction of this system as a clock rotor or as a rotary rotor, its principle of measurement, and the number of testing stations per system depend on the clock speed of the production line. ibea systems are able to manage clock rates up to 3.000 ppm, while the mostly used application range is between 100 and 800 ppm.

High-class visual measurement

As dimensional accuracy is extremely crucial for medical products ibea offers a wide range of complementary visual measuring methods. With 3D sensors and highly precise telecentric optics providing a measuring accuracy of +/- a few μ .

Special systems for the inspection of glass ampoules



The system will be installed according to the client's needs. It is a stand-alone solution which indicates all faults by means of plain text and or speech.

100% fault-free glass ampoules for your customers

There are kinds of defects glass ampoules can suffer from: cracks, damaged or broken-off capillary openings, wrong diameter at the top or bottom, deviating thickness of the bottom, wrong shape of the tip, wrong thickness of the body or at the tip, wrong length of the tip or overall. The ibea inspection system knows and recognizes them all. Thanks to its modular construction and its automatic tool change it can be adjusted to different product variants. E.g. long or short ampoule tubes. Furthermore, the use of NFC-marked trays guarantees 100% documented and retracable batches.

Systems especially dedicated to the inspection of injection moulded parts

To enable you to provide your customers with 100% fault-free silicone products we offer inspection cells for silicone sealings and similar injection moulded parts. They check the products for over injection, holes, and glossy spots also recognizing when they haven't been fully injected. ibea inspection can execute all tasks – from separation to 100% inspection to packaging the products. Technologies like the possibly required ionisation of the products are part of our portfolio.

Special systems for the inspection of other medical products

ibea offers resp. develops solutions for a broad spectrum of other medical products. Whether syringes, packaging, tablets or metal. Whether inspection of surfaces, leakage testing, dimensional measurement or OCR. ibea is your competent partner when it comes to implementing a 100% quality control.



Handling and integration

A specialist by the clients' request

Ever since our foundation in 1991 clients asked us to develop solutions that combine inspection with handling automation.



So we did as requested, and became a specialist in handling systems, which are not only fit for the feed-in to inspections applications but also for further tasks, such as the packaging of products. Today, ibea develops handling and inspection systems for a multitude of big and small work pieces. We are able to provide the right components for every application, integrating them into existing production processes, e.g.:

- Vibratory bowls
- Vibration feeders
- Spiral feeders
- Drum feeders
- Linear feeders
- Centrifugal feeders
- Continuous conveyors
- Step feeders
- Screw conveyors
- Carousel conveyors
- Conveyor belts
- Clocked carrier belts
- Tilt and turn units
- Vacuum grippers
- Rotary rotors
- Multi-axis robots



ibea testing and inspection systems will be installed according to our client's needs.

High-class features for better, quicker results

For developing and tuning complex feeding and handling processes we use state-of-the-art 3D software. Thus simplifying the subsequent construction phase significantly, shortening the time to realization. Furthermore, ibea maintains its own production and machining center, enabling us to produce prototypes fast.

Collaborating with the SPS programming team on Simatec or B&R ten ibea engineers are responsible for the development and construction of complex systems fit for the use in all industry sectors. We have especially gained experience in the following branches:

- Packaging industry (tin, plastic)
- Ceramic industry (plaster, concrete, stone, tiles, porcelain, bricks)
- Medical technology (plastic, glass, metal, products)
- Cosmetics industry (plastic, glass, packaging, products)
- Automotive industry (casting, punchings, rubber parts)
- Glass industry (ampoules, plates, bottles)
- Timber industry (chipboards, small parts, décors)

Testing methods applied by ibea systems

- Standard image processing applications:
inspection by camera of surface, texture, geometry, shape and dimensional accuracy, color, 2D and 3D measurement, holographic imaging, roughness, measurement of position and torsion, leak tightness
- Image processing, special applications:
Heat-flow thermography by direct application of heat or ultrasonic initiation for structure checks, crack detection or the detection of other anomalies; UV light for fluxing agents or coating checks – crack detection, X-Ray
- Acoustic inspection:
initiation by a hammer system
- Eddy current measurement:
castings

What ibea systems inspect

- Ceramic tubes, ceramic insulators
- NoX sensors
- Sprinkler glasses, Sprinkler bodies
- Glass ampoules, plastic ampoules
- Syringes, syringe parts
- Laparoscopes, Biopsy forceps
- Catheter, Artery tubes
- Toothpaste caps or shoulders
- Blister packaging, before sealing:
two-sided and for filling
- Tablets – color, cracks, size
- Silicone sealings and plastic sealings
- Metal packaging
- Plastic packaging
- Heavy ceramics and fine ceramics

Put our know-how to the test

Feel free to send us samples of your faulty products that need inspection. Please give us a short description of your conveying system, possibly including photographs. Please also include conveyor speed and part rate. We will prepare a comprehensive offer specified to your needs, including needed accessories – all for an attractive price!

About ibea

ibea develops and implements inspection systems for a perfect quality check – modular, future-proof, and flexible. It is our aim to ensure a trouble-free production around the clock. Our focus is on producing systems, which are stable and maintenance-free. As a systems integrator we offer you comprehensive professional service from consulting to implementation.