

# technews

## INSPECTION IN PERFECTION BEVERAGES

[Full bottle inspection](#)

### MAKING THE INVISIBLE VISIBLE

The range of functions of the HEUFT *spotter SF* has been significantly extended for its debut at the Brau Bevale 2012 exhibition. It now also identifies safety risks in bottles filled with cloudy or dark drinks during the optical all-around inspection. Furthermore it can take over the fill level, closure and leakage check, detect bottle bursts and carry out a strictly fault-specific rejection.

Detecting damage, contaminants and low density foreign objects which are floating in the product or have sunk to the base of the bottle such as foil remnants, bits of paper, insects or mould: the HEUFT *spotter SF* achieves this with high precision in bottles filled with transparent liquids using its ingenious optical system. But what about black beer, naturally cloudy wheat beer or cola? The reliable detection of such safety risks in these sup-

posedly non-transparent products is now achieved purely camera-based for the first time – due to a new, unique lighting technology, special procedures for a bright field and a dark field inspection and the HEUFT *reflexx<sup>2</sup>* high-performance image processing system.

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[Empty bottle inspection](#)

### EXTREMELY PRECISE, EXTREMELY COMPACT, EXTREMELY VERSATILE

Whether an X-ray based glass in glass detection, the specific optical recognition of minute finish cracks or an especially compact solution for a reliable all-around inspection in a confined space: there are HEUFT *InLine* systems for all situations. Two versions of the high-performance empty bottle inspector will be presented at the Brau Bevale 2012 exhibition at the same time.

#### An X-ray system for maximum detection accuracy

The HEUFT *InLine IXS* is the highlight. As the very first empty bottle inspector of its kind it is not only equipped with superior optical technologies but also with X-ray strobes. The detection reliability when tracking down glass splinters, shell-shaped structures and chipping on the base of the bottle thus moves into completely new dimensions. A glass in glass detection is even possible when the transparent foreign object is surrounded by residual liquid. Furthermore the HEUFT *InLine IXS* produces very clear X-ray images with an unequalled low radiation exposure without motion blurs.

In addition an in-house developed detection module has been integrated into the tried and tested optical sidewall inspection of the HEUFT *InLine IXS* for the reliable identification of defects in the inner finish area. Special camera perspectives make a clear view of the inside of the finish possible. Neither the bottle thread nor its reflections affect the inspection result; chips and even minute vertical cracks in this area can be reliably detected for the first time. The new HEUFT *reflexx<sup>2</sup>* high-performance image processing system evaluates all the camera and X-ray images in real time. In the course of this it clearly differentiates between tolerable packaging structures and real damage, contaminants and foreign objects which jeopardize the safety and quality of the final product using special filter technologies.

This keeps the false rejection rate of the empty bottle inspector extremely low.

The conveyor belts of the HEUFT *InLine IXS* are driven by means of precisely working servo motors for an optimum all-around inspection and fast, automatic brand changeovers. As a result various formats of drinks packaging are each aligned precisely at the individual inspection stations. In addition the servo technology reduces the proportion of components prone to wear. This also makes the new development stand out from conventional devices. However what really distinguishes it is the patented, pulsed radiometric measurement for a previously unparalleled detection reliability during the base inspection.

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[Full container check](#)

### INGENIOUSLY SIMPLE, SIMPLY INGENIOUS

The prototype of the HEUFT *prime* already caused a sensation. The new generation of the full container check with its further optimised, ingeniously simple user guidance is now going into series production.

Carrying out brand changes, starting test bottle programs, dealing with cleaning and maintenance: all this is possible with the new HEUFT *prime* practically without any previous knowledge. Its self-explanatory user guidance leads the respective user through all the functions which are relevant to him and provides him with audiovisual support in the course of this.

Each individual step is displayed in detail on the multilingual HEUFT *NaVi* graphical user interface. Interactive help tools as well as animated tags, which are displayed on the touchscreen and now also light up actively at the corresponding mechanical parts of the full container check, provide valuable support during changeovers, cleaning and maintenance. At the same time a friendly voice provides audio information about the required procedure in each case.



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## ... MAKING THE INVISIBLE VISIBLE

Further technologies can be integrated into the compact system in order to be able to detect even more. This includes, among other things, the following:

- optical modules for checking the fill level and the presence of the closure
- the HEUFT sonic for the acoustic inspection of the tightness and integrity of crown corks and other metal closures
- an acoustic bottle burst detection for finding bottles which have burst in the filler and for specifically preventing the contamination of adjacent bottles by flying pieces of glass

In addition the perfected HEUFT spotter SF now offers the possibility of a strictly fault-specific

rejection: bottles which are contaminated, incorrectly filled, not sealed or with leaks can each be removed separately from the filling line if required. The system carries out brand and program changes automatically: the touch of a button suffices and the height and passage width of the servo-controlled belt drive for a precise container alignment and the positions of the individual detection units adapt themselves exactly to the changed bottle format. All these advantages make the further developed HEUFT spotter SF a real all-rounder during the all-around inspection of up to 72,000 filled bottles per hour. It makes safety risks and quality defects which were practically invisible up to now clearly visible.



MARINA HOFMANN  
General Manager  
OOO HEUFT EURASIA

*"The excellent performance of the HEUFT spotter SF ensures a high demand from our Eurasian clients especially in the beer and spirits industry. Numerous global players are considering equipping their production lines with the full bottle inspector. We assess the potential of the HEUFT spotter SF to be very high on the Eurasian market based on the high number of corresponding enquiries."*

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## ... INGENUOUSLY SIMPLE, SIMPLY INGENUOUS

MARKUS MÜLLER  
Product Manager  
Full Container Check & Labelling  
HEUFT SYSTEMTECHNIK GMBH



*"Simply simple: the revolutionary usability concept of the HEUFT prime full container check is the new state of the art. Inexperienced users can also find their way around quickly and easily due to the audiovisual user guidance. Why not try it out!"*

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This ingeniously simple audiovisual usability concept met with great approval at Brau Beviale last year at the exhibition debut of the HEUFT prime prototype. We have made further improvements based on the suggestions of our customers. As a result the compact, network and WLAN compatible full container check is now ready for series production and can be ordered immediately.

### HEUFT prime: FUNCTIONS & FEATURES

- fill level and internal container pressure check
- filler valve monitoring
- inspection for the presence of labels and closure
- bottle burst and serial fault detection
- container tracking including reject verification
- motor-controlled adjustment of the detection units during brand changes
- change assistant for an easy and fast program change
- cleaning and maintenance assistant
- integrated warning lights in order to identify

- malfunctions directly
- test container programs
- automatic sampling
- audiovisual user guidance
- the HEUFT NaVi touchscreen user interface
- RFID login
- quick start guide
- PDA and remote service online connection
- WLAN



Rejecting and sorting system

## GENTLY BUT FIRMLY

Distributing full bottles onto up to four lanes, sorting empties and removing faulty containers upright from the production flow: the HEUFT XY handles all types of drinks packaging particularly gently and carefully. The rejecting and sorting system demonstrates its true qualities along filling lines running individual premium bottles made of glass or empty lightweight PET containers.

Noble glass packaging places the highest demands on the equipment of a filling line. It has to be transported extremely carefully on the line so that it is not scratched or damaged. Glass to glass contact, collisions at transition points or hard impacts when laning the containers must be avoided. A reliable upright rejection of non-brand packaging is particularly in demand during the sorting of empty bottles along returnable PET lines. The HEUFT XY solves both tasks with style! It's all in the name: whilst its servo-controlled rejection table moves in the x direction exactly synchronously with the conveyor, the bottles are pushed onto the required lane, gently but firmly,

in the y direction by means of several rejection segments. This keeps their lateral acceleration at an extremely low level. They are precisely guided and not pushed at any stage. Oval, rectangular or square containers are distributed or rejected without changing their alignment. The HEUFT XY can be configured differently depending on the task on site using a user friendly colour touchscreen.

- It distributes bottles onto two, three or even four lanes as an independently operating laning system. Their number per laning cycle is freely selectable. Consequently a single-lane container transport can be distributed onto two lanes without a problem – e.g. in order to supply downstream packaging machines with a steady flow. This occurs so carefully that the drinks packaging neither falls over nor collides. As a result individual premium bottles keep their perfect appearance.
- The HEUFT XY makes sure as a sorting system that non-brand packaging is removed from the production flow, upright and with-

out falling over, in conjunction with an empty bottle sorter such as the HEUFT SX. This is achieved even in the case of extremely lightweight and unstable empty PET bottles.

This particularly careful laning and rejecting system for the most varied full and empty bottles makes the HEUFT XY a real all-rounder that no returnable line should be without.



## HEUFT FOR ALL EVENTUALITIES!

From the returned case inspection to the label inspection: HEUFT will be showcasing almost the total range of systems and tools for the in-line quality assurance of product and packaging as well as the optimisation of the efficiency of entire filling lines at the Brau Beviale 2012 exhibition in Nuremberg, Germany. We will be presenting the following HEUFT products on our significantly larger exhibition area (Stand 5/309) in addition to our latest innovations such as the HEUFT InLine JXS X-ray empty bottle inspector and the HEUFT spotter SF for a precise full bottle inspection:

- the HEUFT LGX with a sidewall inspection, capable of learning, for extensively testing the quality of returned crates
- the HEUFT SX for specifically sorting empty bottles
- the HEUFT VX for an effective filler and closer management
- the HEUFT TORNADO W for the high-speed wet glue labelling of full bottles
- the HEUFT FinalView FO for a final container inspection with optimised software for an even more precise label inspection
- the HEUFT PROFILER for permanent production data acquisition (PDA) and line analysis

As usual all these solutions from the HEUFT modular system can be experienced live and in action. In this way you can see their unrivalled performance with your own eyes!

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## EXTREMELY PRECISE, EXTREMELY COMPACT, EXTREMELY VERSATILE



### Compact alternative for medium-sized filling plants

Whether with or without X-ray technology: the complete examination of all the surfaces of an empty bottle is accomplished with the HEUFT InLine systems even at high line outputs of up to 72,000 containers per hour. But even filling plants with a lower output do not have to forgo their unrivalled precision and availability. The best example: the extremely space saving version of the inspection system which HEUFT will also be showing at Brau Beviale. It carries out an inspection of the base, finish and sidewall over the shortest distance limited to only those modules which are absolutely necessary at low line speeds. The particularly compact inspector can also be integrated into existing lines without a problem afterwards. Device dimensions can be reduced

even further or installation is possible at an angle where there is an acute shortage of space. Even then consistent container tracking through the complete system up to the monitoring of the rejector is always fully ensured. The HEUFT InLine designed for a round-the-clock operation in the high-speed section is especially impressive along the lines of medium-sized breweries and drinks producers which are running at slower speeds due to wearing parts with an above average service life and correspondingly long replacement intervals. That and its extremely low false rejection rate also make it a worthwhile investment there. Regardless of which inspection aims, requirements or space constraints have to be taken into consideration: there is a suitable HEUFT InLine available for all situations!

JOHANNES SEIDEL  
Sales Manager Southern Germany  
HEUFT SYSTEMTECHNIK GMBH



*"Medium-sized private breweries with a comparatively low output and little space also have the highest quality demands and want to inspect in the same way as larger businesses. It is good that I can offer them tailor-made compact solutions for inspecting empty bottles up to HEUFT standards."*

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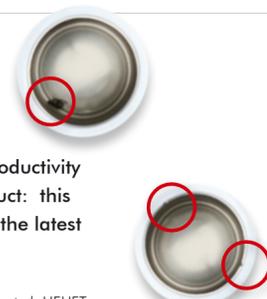
Empty can inspection

## EXTREMELY FAST AND PRECISE

Removing faulty empty cans in good time and safeguarding the productivity of the complete filling line as well as the integrity of the final product: this can now also be achieved in the absolute high-speed section with the latest version of the HEUFT canLine.

The new HEUFT reflexx<sup>2</sup> high-performance image processing system together with the latest software improvements bring the empty can inspector up to speed: the HEUFT canLine now inspects up to 144,000 cans per hour instead of the 132,000 previously. It identifies deformations, indentations and damage during the flanged edge inspection which could result in cans not being sealed at all or not being tightly sealed. The consistent rejection of the empty containers in question prevents losses in efficiency and productivity due to closer obstructions and protects the microbiological purity of the drink. Dents, bumps, dirt and foreign objects which are potentially dangerous to health are precisely tracked down by the base and inner wall inspection.

The compact, already tried and tested HEUFT canLine accomplishes this detection reliability by means of an LED illumination of the empty cans without reflections or shadows and with only a single camera which takes a photograph from above of the complete opening, inner wall and base area of the containers. The optics system has such a depth of field that the faults become clearly visible in the high-resolution images – even when the filling line is running in the absolute high-speed section.



A new field bus system

## FASTER, EASIER AND MORE EFFICIENT

Installing HEUFT systems, integrating spatially separated components and retrofitting add-on modules: we have developed the HEUFT ISI an isochronous serial interface so that this can be carried out faster, easier and more efficiently. It drastically reduces the amount of wiring required.

The HEUFT ISI replaces the complex parallel wiring of sensors and actuators and transfers their signals in real time. Only one single cable is necessary for this. As a result connecting photocells, jam switches and rejectors is uncomplicated and the error rate is dramatically reduced. This new interface technology even makes the direct integration of a complete conveyor control system in an inspection device possible.



## MODULAR & RETROFITTABLE

Is it possible to integrate the new inner finish inspection in my empty bottle inspector? Extend the range of functions of my foreign object inspector with a fill level or a closure detection? This can also be carried out afterwards with our modular system! Because almost all the HEUFT devices are based on a compact, universal control unit which accommodates all the cross-system components. The result: a unique upwards compatibility for particularly easy retrofits.

Furthermore integrated Ethernet and DDE interfaces and TCP / IP provide access to all networks. The multilingual HEUFT PILOT user interface is therefore not just available at the respective device itself but also at all the connected PCs. Online maintenance via the HEUFT TeleService and connection possibilities to PDA and MES systems are further advantages of this networking capability which already has a proven track record of over 15 years.

Due to their open modular structure HEUFT systems can be equipped exactly with those modules which you really need - even later on! Individual requirements and inspection aims are



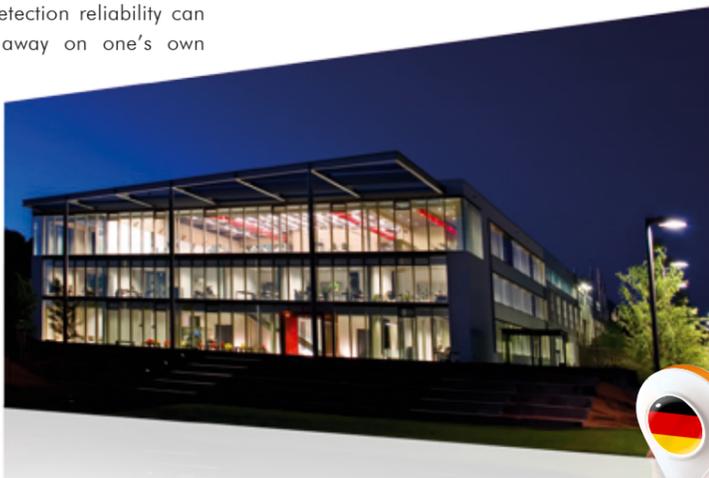
also optimally fulfilled in this way. You would like to know more? Please do not hesitate to contact us! Our competent experts will be pleased to inform you about the possibilities right now here at Brau Bevale.

HEUFT Customer Center

## FIND OUT MORE, EXPERIENCE MORE, UNDERSTAND MORE!

You want more background knowledge and to know more about how simply more can be detected during the inspection of product and packaging? Then why not visit us in the new HEUFT Customer Center! The conditions are ideal there for experiencing our inspection systems live and in action and to examine them in detail. Their unique detection reliability can even be tested straight away on one's own products and packaging by making an appointment and making the corresponding samples available beforehand: all conceivable operating situations can be presented in our spacious show arena directly at the respective device. Furthermore the new HEUFT Customer Center

provides more room for intensive consultations, training courses, seminars and workshops. Why not arrange an individual appointment: [welcom@heuft.com](mailto:welcom@heuft.com) or +49 2636 / 56-0. You are always welcome.



## GET IN TOUCH!

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## HEUFT IST SYSTEMTECHNIK!



A proven track record

### HEUFT SYSTEMS IN PRACTICE

#### "The brand essence is the decisive factor"

The teachable sidewall inspection of the HEUFT LGX checks the design and appearance of the empty crate pool of the "Fürstlich Fürstenbergische Brauerei" in Donauessingen.

[www.heuft.com/en/brand-essence-decisive-factor\\_669.html](http://www.heuft.com/en/brand-essence-decisive-factor_669.html)



#### "Leaving nothing to chance"

The "Paulaner" brewery in Munich ensures a dynamic, harmonious and quiet container transport as well as a supply of empty bottles which are of the correct type and free from defects with the HEUFT beetec, HEUFT synchron, HEUFT SX and the HEUFT InLine.

[www.heuft.com/en/nichts-zufall-ueberlassen\\_654.html](http://www.heuft.com/en/nichts-zufall-ueberlassen_654.html)



#### Budweiser Budvar prefers HEUFT

The major Czech brewery Budweiser Budvar makes sure, using two new HEUFT InLine systems, that only empty bottles from its own portfolio are filled which are without foreign objects, clean and undamaged.

[www.heuft.com/en/budweiser-budvar-bevorzugt-heuft\\_635.html](http://www.heuft.com/en/budweiser-budvar-bevorzugt-heuft_635.html)



#### China is committed to efficiency

Major Chinese brewery groups increase the efficiency and output of their filling lines with the HEUFT PROFILER and the HEUFT synchron.

[www.heuft.com/en/china-setzt-effizienz\\_644.html](http://www.heuft.com/en/china-setzt-effizienz_644.html)

