



BBULL IMAGE 360

4-Camera Image Processing System
for All Around Inspection on the Conveyor
up to 72.000 b/h

PRODUCT SPECIFICATION

General

BBULL IMAGE 360 is a highly precise multi-camera system for inspection of containers not depending on rotation up to 72.000 b/h. Based on longtime experience in the field of professional digital image processing in the beverage industry **BBULL** provides a reliable and professional device. A huge number of different application modules allow the use in the beverage, food and pharmaceutical industry.

The integrated inspection bridge is equipped with 4 CCD cameras that are installed circularly in 90° steps around the inspection object. The processing and calculation is performed in a high-quality industrial pc-controller with flexible combination of different software-algorithms.

Important Features

The system can be used for:

- PET and glass bottles
- beverage and food cans

and detects the following characteristics:

- missing labels
- faulty labels
- imprints with a text height greater than 1 mm
- tilted labels more than 0,5 mm

Optionally the system allows the detection of visible qualities like:

- fill level
- incorrect applied caps

For the compact design of the inspection bridge, the system can be integrated in nearly every production line with little efforts.

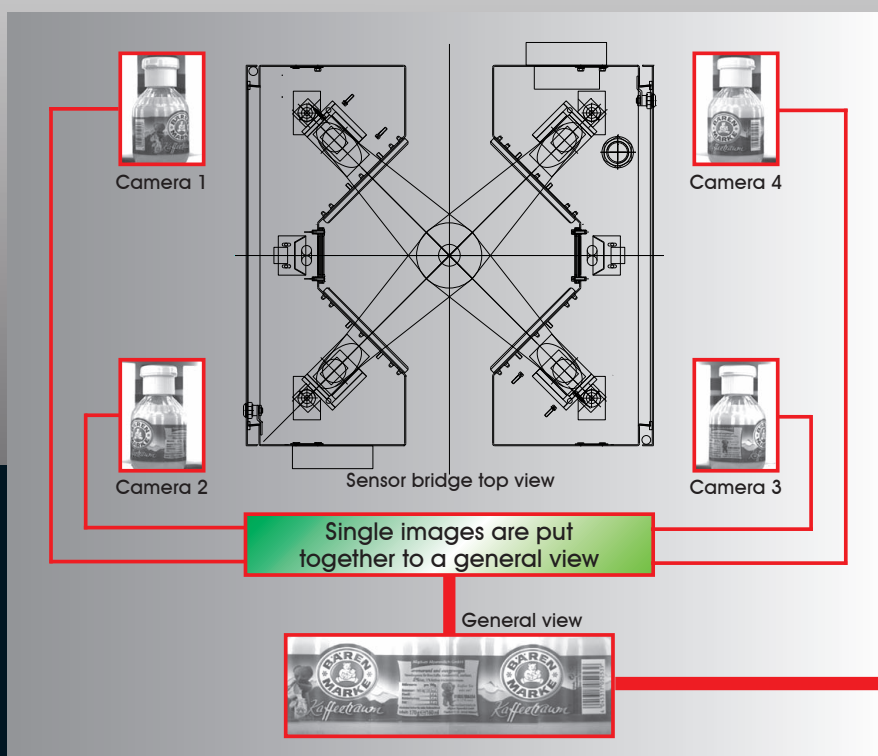
The extended memory of the pc-board allows the data saving of numerous different labels / containers.

Operation

BBULL IMAGE 360 records a complete 360° image of every container by 4 fire-wire cameras that are installed in 90° steps. The processor calculates a complete image from the 4 single images in order to show the total picture of the complete label imprint. Special software tools compensate curvature of the labels in every single image. Afterwards the four partial images are processed and put together to one complete picture. Finally this complete image is shifted to a previously defined origin. Then the final image can be analysed using multiple tools provided by the inspection software.

To define the inspection features the software offers a number of different calculation tools, such as the measurement of absolute or relative positions or grey-value analysis.

The values can be defined and memorized individually for every product.



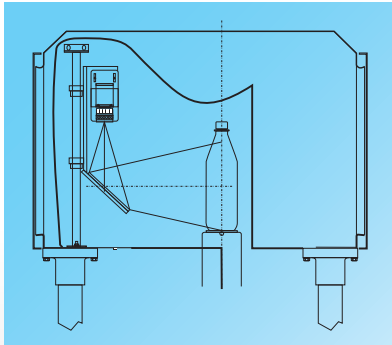
Performance

All menu items are clearly arranged in order to allow a fast adaptation and recall of the required data.

The operation is performed by a software based on „Windows“. All functions can be activated fast and uncomplicated by a touch-display.

The optimised calculation and processing of the measurement values is the essential base for an efficient and cost effective production.

BBULL IMAGE 360 offers a view to the past in order to guarantee a complete recording of faulty containers.



View: running direction

Interface connection to present Systems

An important feature of any professional image processing system is the integration in existing systems to simplify processes and to avoid data-redundance.

BBULL IMAGE 360 offers the necessary interface for a lot of different industrial applications. For our big experience we are also able to support the realisation of special interface connections to external applications.



Operating-, Control- and Processing Unit BBULL PC-5000

The screenshots show the software interface for BBULL IMAGE 360. The top window displays a logo with the text 'EIBULL TECHNOLOGY' and 'System zur Rundumkontrolle am Band'. The bottom window shows the results of a logo recognition process, including a table of data and various control buttons.

Score	Angle	H [mm]	V [mm]	dH [mm]	dV [mm]	dR [grad]
0.93	1.40	53.36	35.71	53.36	35.71	1.40

Found = 1
 NOK Counter = 0 (0.00%)
 PosCor_X = 0.00
 PosCor_Y = 0.00
 PosCor_R = 0.00

Buttons: Stop, Live, Run, Setup Mode, Save Config, Test Ref. Image, Retest Image, Train Shape, Save Shape, Test Ref. Image, Retest Image, No images, Only errors, Only next, Auto Switch, Retrigger, Save Img.

View: recognition of a logo

View: recognition of a marked writing

Technical Data

Performance in containers per hour: _____max. 72.000

Control unit measurements

(WxHxD) in millimetres: _____ 520 x 1700 x 400

Sensor bridge measurements

(WxHxD) in millimetres: _____940 x 550+conveyor height x 890

Power supply in volt; hertz: _____110-250; 50/60

Ambient air temperature in degree Celsius: _____5 - 40

Signal output with pusher tracking

Industrial PC with Dual Core 2,5 GHZ processor units

Windows XP systems software

CAN / TCP / IP interface

4 GigE CCD cameras with a resolution
up to 2452 x 2056 pixel per camera

Flashed LED light source

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