



## BBULL COMPACT LINE (2G)

Compact System for Quality Inspection on the  
Conveyor for Glass, PET and Canning Lines

# PRODUCT SPECIFICATIONS

## General

**BBULL COMPACT LINE** systems have been proven for many years as quality inspection systems in production lines all over the world. The reliability and simplicity of the systems in connection with minimum installation requirements and an outstanding cost/benefit relation have made **BBULL COMPACT LINE** one of the most used inspection systems in the beverage industry. With the systems of the 2. generation, **BBULL** has adapted the proven concept to current technical requirements and possibilities.

For data processing and control, latest 32-bit processors allow improved processing with optimized performance and extended features

The big alphanumeric displays allow also the monitoring of uni-code signs in order to present the counters in all relevant languages (e.g. Cyrillic, Chinese, ...).

Operation is done by 6-key buttons and alternatively via windows-client by Ethernet connection.

Of course the **BBULL COMPACT LINE** systems provide all required interfaces for connection to and in the customers network for data acquisition. Via intra- or internet the systems can be operated and maintained by remote which allows savings in service and maintenance.

During design of the systems all relevant direction has been considered to fulfil all requirements of the CE conformity.

## Important Features

- compact design, inspection bridge and controller in one unit
- minimum space requirement
- minimum installation efforts
- high reliability and accuracy
- inspection for underfill and overfill (separate bridges)
- cap inspection integrated in the inspection bridge
- inputs for external inspection on the conveyor
- inputs for label inspection in the machine (presence)
- synchronisation of the shift register with the conveyor speed via encoder
- serial fault detection
- self diagnosis
- manual height adjustment via spindle with digital counter
- simple operation by 6 key buttons
- remote operation by windows client
- monitoring of production counters by alphanumeric display (4x20 signs)
- interface in local language (also Cyrillic, Chinese, Korean,..)
- password protection
- production data acquisition (24 h)
- production data can be collected via web interface
- data backup on laptop via Ethernet interface
- ODA interface via Ethernet (Weihenstephaner protocol)
- remote diagnosis by network / internet

## Application

- for glass, PET and canning lines
- independent from bottle format and variety
- installation on the conveyor, after filler, pasteurizer or labeler
- underfill inspection
- overfill inspection (separate bridge)
- cap presence inspection
- label presence inspection on the conveyor
- label presence inspection in the machine

## Technical Data

Line speed: \_\_\_\_\_ 120.000 cph

Power supply: \_\_\_\_\_ 110 / 230 V

Power consumption: \_\_\_\_\_ < 100 VA

Protection: \_\_\_\_\_ IP 65

Environment

Temperature range: \_\_\_\_\_ 5 - 40 °C

Format memory: \_\_\_\_\_ up to 30 different format

External inputs: \_\_\_\_\_ 2

Minimum container height: \_\_\_\_\_ 40 mm

Maximum container width: \_\_\_\_\_ 120 mm (extendable)

Height adjustment via spindle: \_\_\_\_\_ 500 mm



## Fill Level Inspection

BBULL offers the equipment of the COMPACT LINE systems alternative with gamma, X-ray or optical sensory.

The different technologies offer the same reliability and accuracy. The application is depending on technical and legal requirements. Thus projects need to be confirmed.

## X-Ray Technology (BBULL CL-X)

The X-ray technology is measuring the absorption of the radiation by product and container. As X-rays penetrate any established container materials the X-ray technology can be used universally.

### Features of the X-Ray Technology

- universal application
- for glass, PET and cans
- Independent from containers shape, colour, size and variety
- suitable for all liquids (also oil, benzol and high-percentage alcohol)
- installation after filler, pasteurizer or labeler
- no limitation by foil or metalized labels
- no limitation by protection barriers of the containers
- high accuracy also for foaming products
- no limitation for transport and storage
- no disposal problems
- minimum legal requirements (please check local requirements)

## Gamma Technology (BBULL CL-G)

According to the X-ray principle, the gamma principle measures the absorption of the applied radiation. At the gamma principle, the radiation is generated by a radioactive gamma source. This results in higher legal requirements in respect of use, storage, transport and disposal.

Application and accuracy are identical for X-ray and gamma principle.

### Features of the Gamma Technology

- universal application
- for glass, PET and cans
- independent from containers shape, colour, size and variety
- suitable for all liquids (also oil, benzol and high-percentage alcohol)
- installation after filler, pasteurizer or labeler
- no limitation by foil or metalized labels
- no limitation by protection barriers of the containers
- high accuracy also for foaming products
- no limitation for transport and storage
- labelling for radioactive material
- import license for user by local authorities
- transport and storage only by authorized companies
- cost for nuclear waste disposal when scrapping of the system



## Optical Fill Level Inspection (BBULL CL-O)

The optical inspection principle is measuring the absorption of the light by water-based liquids. The applied light has the same wave-length as water-based liquids. Thus the light can even penetrate paper, plastic and glass, which allows the installation after labeler, or even the inspection of non-transparent containers.

Metallic packages and containers with metalized labels as well as strong foaming products are not suitable for the optical principle.

### Features of the Optical Inspection

- universal application
- for glass and PET lines
- independent of shape, size and colour of the container
- for water-based liquids
- installation after filler, pasteurizer and labeler (no metallic foil or labels)
- not suitable for intense foaming products
- no limitation for transport and storage
- no waste disposal
- no legal requirements

## Technical Data

Accuracy: \_\_\_\_\_ 1 - 3 mm  
Radiation source: \_\_\_\_\_ compact  
x-ray module  
High voltage: \_\_\_\_\_ max. 65 kV

## Technical Data

Accuracy: \_\_\_\_\_ 1 - 3 mm  
Radiation Source: \_\_\_\_\_ AM 241  
Radiation Intensity: \_\_\_\_\_ 45 mCi

## Technical Data

Accuracy: \_\_\_\_\_ 1 - 3 mm  
Light source: \_\_\_\_\_ optical sensor

# PRODUCT SPECIFICATION



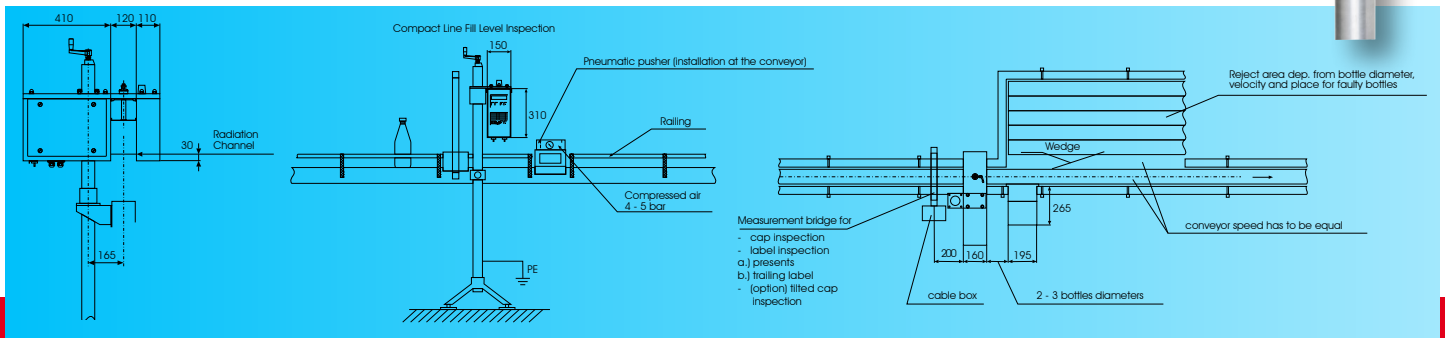
## Cap Inspection

- inspection sensory integrated in fill level inspector
- cap presence inspection for metal, plastic and cork caps
- height adjustment by fast connector

## Label Inspection

- label presence inspection for paper and plastic labels
- installation of the sensory on the conveyor or in the labelling machine
- tracking module for synchronisation of the labeler

## Installation Drawing



## Application

- cap inspection on the conveyor
- label presence inspection on the conveyor and in the machine
- container counting
- Barcode inspection at the conveyor
- leakage inspection by independent inspection methods
- vent tube detection
- fill level inspection with separate inspection bridge
- controlling of a reject system



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