

HSAJET® Print & Verification

PV650C PRINT & VERIFICATION UNIT FOR CARTONS

Turnkey Print & Verification unit for
pharmaceutical folded cartons

HSAJET® PV650C

The HSAJET® solution is a stand-alone pack handling system for marking applications on folded carton.

The design of a continuous top / bottom belt conveyance system ensures accurate transport of products, providing optimal circumstances for high quality printing.

The use of qualified components allows fast integration into existing line concepts.

As standard the machine is installed with one HSAJET® TIJ 2.5 1-pen Premium printhead and one VS2 camera.

HSAJET® Print and verification

The HSAJET® Print and Verification software is the control centre of the machine, providing design of jobs, control of print, verification, eject and logging as well as machine interface. All from a single touch monitor.

Turnkey solution

The combination of the HSAJET® software and the pack handling machine results in a compact overall solution for trouble-free print and verification of folded carton in a pharmaceutical production.

Key features

- Complete machine controlled by HSAJET® software and hardware
- The unit makes it possible for the pharmaceutical company to comply with GAMP and 21 CFR part 11 or other present regulatory demands
- Print and verification in accordance with ISO15415 and ISO15416 and other industrial standards
- User-friendly operating of machine, printer and vision via one central touch screen
- Excellent in-line print quality thanks to synchronized guiding (top/bottom belt)
- Carton can be printed on the front or the back (2nd position optional)
- Integrated ejection control system
- Easy batch change without use of tools
- The most compact, flexible and maintenance friendly concept in the market
- Easy maintenance of all machine parts via large front cover and removable back cover
- Validation package available



Design, print, verify and control the machine from one interface

Technical Details

PV650C PRINT & VERIFICATION UNIT FOR CARTONS

HSAJET® Controller

The controller is built with a powerful Intel® Core i7 processor and a fast SSD hard drive for maximum processing power and minimum noise.

For printing features the controller is equipped with the HSAJET® PCI Express based CB6e controller board. This board interfaces between the controller, printhead(s), camera and the I/O connection panel.

Conveying System

The system is equipped with a top and bottom belt for smooth conveying of the products and high print quality.

It also helps with grading of the barcode. The speed synchronisation between the top and bottom belt is done through the software and no manual settings are required.

Both drives are controlled by stepper motors.



CONNECTIONS / INPUT & OUTPUT

External connections

Main power, air pressure, upstream-downstream machine control signals

Format adjustment

Tool free adjustment. Reproducible by display at the spindle.

Product position sensors

Omron E3Z-LS83-2M (3 pcs)

Omron E3Z-T81 (1 pc)

for print, camera, reject and accept

Input / Output

I/O LVDS Module

w/ 40 inputs and 32 outputs

Verification log file

Error log file

System log file

Errors & Warning

Messages, e.g.:

- low ink
- system will stop at consecutive errors
- device not ready
- cartridge not inserted
- up-stream/down-stream not ready
- top cover open
- air pressure below required level (optional)

Interlocking

- Queue control management with 4 sensors for carton location tracking
- Carton length verification
- Rejection verification
- Up-stream/down-stream verification (like cartonator and bundler)
- Cartridge absent/present verification
- No-gap between boxes detection

Accessories

- Uninterruptible power supply (UPS)
- Beacon
- Front print kit

Technical Details

PV650C PRINT & VERIFICATION UNIT FOR CARTONS

CONVEYOR UNIT

Dimensions

Length: 664 mm
Width: 640 mm
Height: 1015 mm
Height adjust ± 50 mm

Working height

870 mm ± 50 mm

Weight

90 kg (approx.)

Belt speed

5-60 m/min

Running direction

Left to right

Electrical connection

Voltage: 230 VAC / 110 VAC
Frequency: 50 Hz / 60 Hz

Cabinet

Stainless steel with key locked space for controller and reject bin

Top cover

Transparent polycarbonate
Cover equipped with safeguard switch to stop the machine if opened during production

Emergency operation

Switch on front panel. Hardware controlled emergency stop function

Air pressure

8 bar main supply

Reject system

Air pressure carton blow-out for cartons up to 250 g
Pneumatic push out device available for >250 g products.

Reject bin

Reject bin secured with key lock

Mountings

Integrated mounting bracket for printhead and camera positioning

Complies to

CE directives

VISION SYSTEM

Camera

HSAJET® VS2

Resolution

1280 x 1024 px

Inspection area

45 x 45 mm

Light

Integrated light
Shielding against stray light with diffuser for glossy substrates

USER INTERFACE

Display

15" Touch monitor

Software

HSAJET® multi-lingual software for printing, grading and HMI (PGH)
Controls the machine from one interface

VERIFICATION & GRADING

Verification

Verification of printed text, 1D, 2D code

Grading

Quality of 1D/2D code is determined.
Grade level between F and A (0-4).
Quality of Unicode text is determined with a font-based reference scheme.
Grade level between 0 and 100.

Qualification of printed items

in accordance with industrial standards, ISO/IEC 15415 and 15416

Datamatrix standard

according to GS1 and ISO/IEC 16022

Barcode standard

PIATS code according to ISO/IEC 15417

Text standard

OCR-B font (possible to use other fonts)

PRINTING SYSTEM

Technology

HSAJET® Premium printheads
HP TIJ 2.5 technology

Print height

12.7-25.4 mm / ½"-1" / 1 to 2 pens

Resolution

up to 600 dpi

Print distance

0.5-5.0 mm dependent on ink and speed, typically 0.5-2.0 mm (nozzle to print surface)

Ink supply

HP 45 ink cartridges, water and solvent based inks

Printhead features, e.g.

Purge and ink reset button
LED indication for cartridge detection and low ink
Switch for cartridge detection

Machine controller

I/O LVDS connection board
CB6e controller board
Intel® Core i7 processor

PRODUCTION

Print position

Print on back
Print on front (optional)

Carton size (max)

A: 40-210 mm (leading edge)
B: 10-75 mm (height)
C: 125 mm (printed side)

Throughput

300¹ units/min (average sized product)
480¹ units/min (special product size and machine configuration)

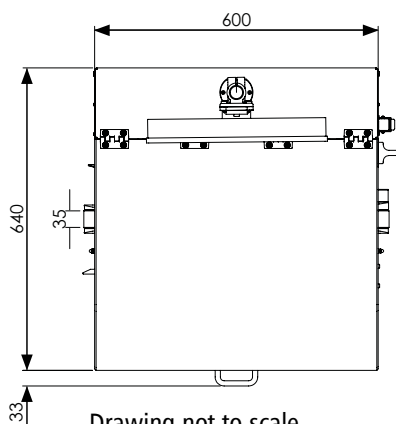
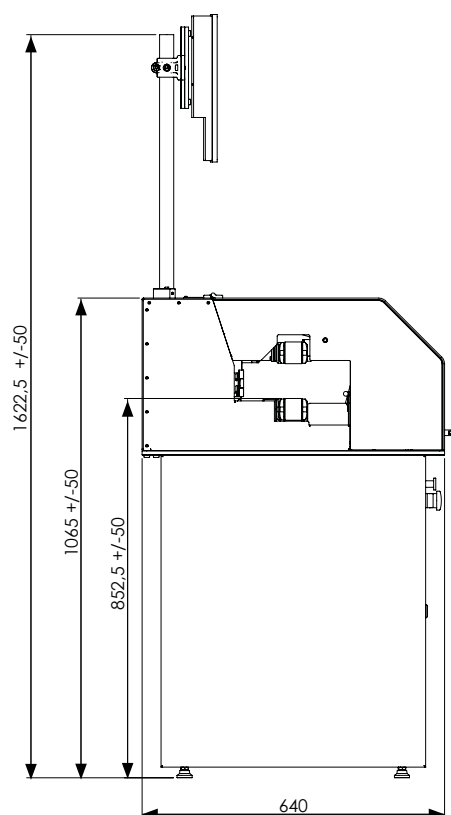
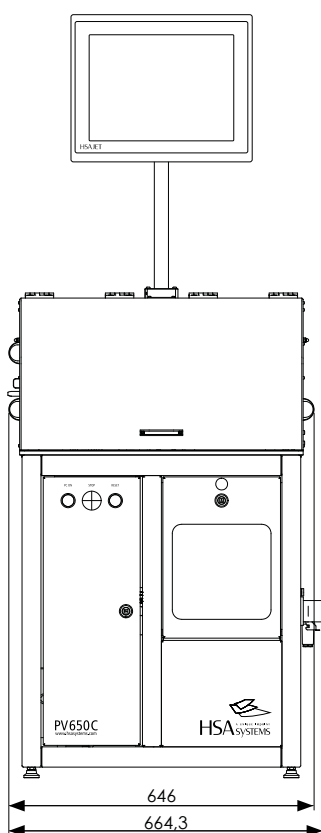
1) The actual throughput is dependent on the distance between products, carton surface, stability and rigidity of the carton

Precise position control

Synchronized top and bottom belts and sensors ensure that the exact position is known during the carton's travel along the conveyor.
If a carton is incorrectly positioned, the conveyor stops.

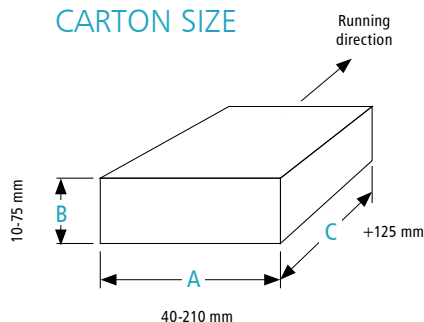
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Drawing not to scale

CARTON SIZE



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