LEIB||NGER

The **UP**grade for your egg marking and coding

Integration partners

MOBA

100% protection
SEALTRONIC
trouble-free startup, every time

LEIB||NGER

JET3 UP
— EP —

JET3 UP **EP** Industrial Inkjet Printer

JET3up EP – the integrated solution for marking and coding eggs and egg cartons

The JET3up EP is a special industrial printer for marking and coding eggs and egg packages. It is compatible with egg sorting and packaging machines from the leading manufacturer **MOBA** (Moba Group).

The cooperation between LEIBINGER and the Moba Group makes it possible to conveniently integrate the continuous inkjet printer into their egg sorting machines. That simplifies the process of marking and coding eggs and egg cartons many times over.

The benefit to you from the JET3up EP complete integration

1. Automatic print data transfer from the egg sorting machine to the printer

2. Accurate imprinting of eggs using egg-specific data

3. Positionally accurate printing on the egg shell/carton

4. Central management/modification of the print data

5. Variable data updated automatically (such as "best by" dates)

6. Convenient changing of the marking and coding imprint

Continuous inkjet printers (CIJ) in the egg industry

LEIBINGER CIJ printers label every possible product, material and surface without making contact, using fixed and variable data while production is in progress.

Why use CIJ technology to mark and code egg shells and egg cartons?

The continuous inkjet printer printhead can be flexibly installed in all directions and thereby enables full flexibility for positioning the mark/code. Thanks to the non-contact printing, different sized eggs can be marked/coded without readjusting the printhead. FDA and EU compliant food-grade inks ensure there are no health hazards from marking and coding the eggshells. CIJ marking and coding also provides excellent legibility on all egg carton materials and is significantly more cost-effective than labeling, for example. The marking and coding process is greatly simplified thanks to the complete plug-and-play integration in egg sorting machines. That makes CIJ technology the only complete economical solution for marking and coding eggs and egg cartons. Additional synergy effects arise from establishing a uniform coding system for all production steps.

Your advantages at a glance: The JET3up EP

Imprinting 252,000 eggs/hour

JET3up EP marks and codes up to 30,000 eggs/hour per lane at the maximum speed of current egg sorting machines. For 8 lanes and 8 printers, that corresponds to 252,000 eggs/hour.

EASY INTEGRATION: PLUG-AND-PLAY

Can be integrated into new or existing Moba and Diamond machines in just a few easy steps. Compatible with the sorting machine's printer interface. Communicates with the machine's control software.

Complete installation kits

Tested and approved for use with Moba and Diamond machines (Moba Group). Including all connections and wire harnesses for the specific interfaces and connector types of the respective machine.

100% protection against dust and spray water (optional)

Rugged stainless steel housing. IP65 protection class (JET3up EP as PRO version): No hidden dirt traps.

Maintenance-free start without rinse cycles. Guaranteed!

Automated **Sealtronic** nozzle seal. No drying out of ink in the printhead. Ready to print immediately, even after long shut-down periods.

Preventing downtimes

No daily service work, no forced stops due to scheduled service intervals. Nearly 100% availability.

German name-brand quality

Development and production in Germany. High level of in-house production. Decades of experience in precision engineering. German ingenuity. High-quality materials. Premium industrial product.

Intuitive operation

Fast and easy, like using your computer at home. 10.4" color touch-screen display, Windows-based, customizable user interface. Intuitive menu guidance.

Low operating costs

No solvent consumption during pauses in production, thanks to the automatic **Solvent Saving Mode** and **Sealtronic**. Minimum solvent consumption. Low maintenance costs, no replacement of expensive assembly units.

24-MONTH WARRANTY

3 versions – you decide! Egg marking and coding in your production line

1 ## Complete integration with automatic creation of print jobs

This complete integration enables the egg sorting machine's control system to create print jobs automatically. These are then sent to the printers, which imprint each egg or egg carton with the individual data in a fully automatic process.
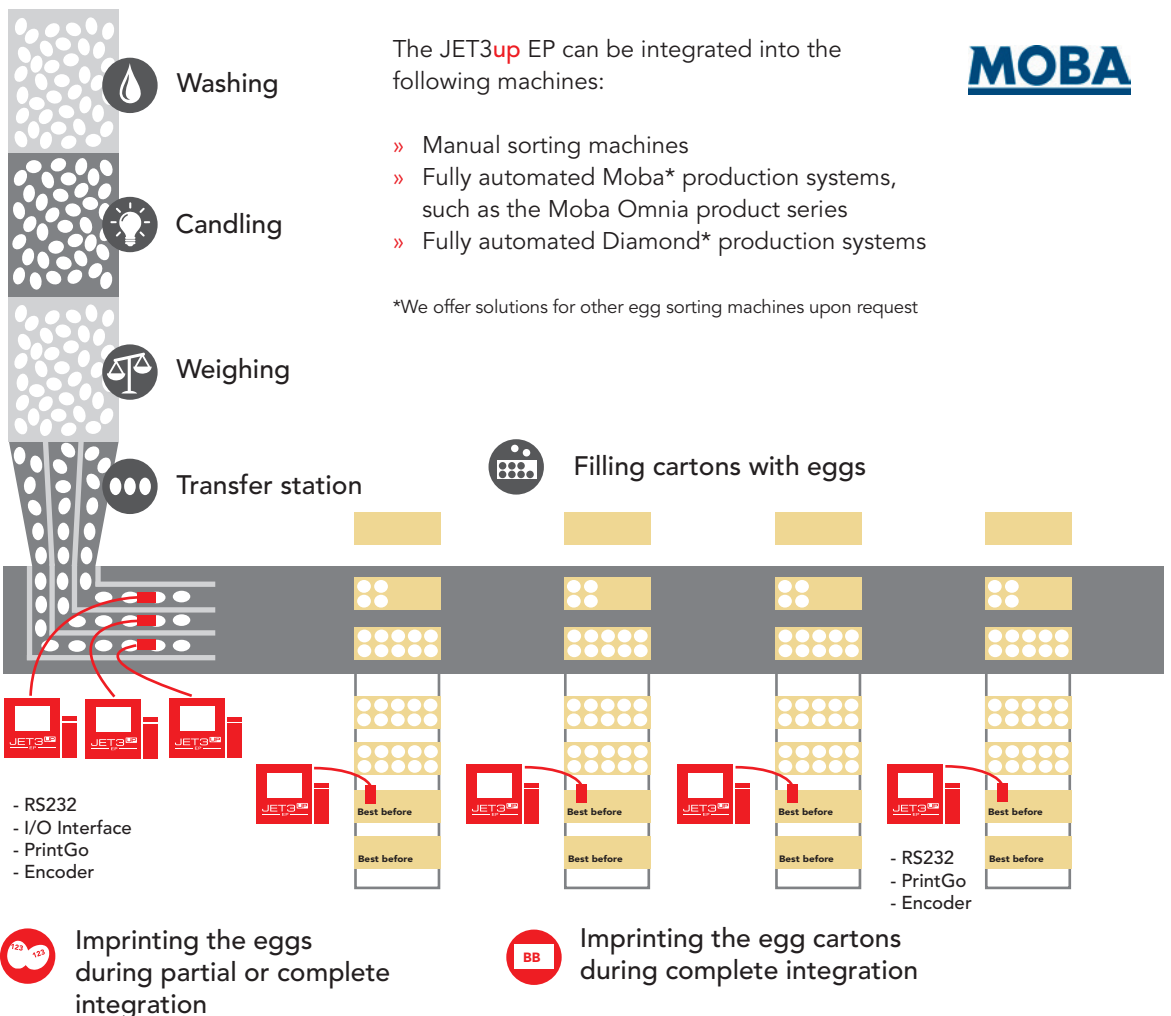
2 ## Complete integration with manual creation of print jobs

The operator creates all required print jobs directly at the printer. The egg sorting machine's control system then selects the respective print job automatically and determines which preconfigured imprint will actually be printed on the egg.

3 ## Standalone solution

The printer works independently from the egg sorting machine. The printer is where print jobs are created; they are selected and printed onto the eggs that pass by. This version is suitable for basic applications or if the egg sorting machine has no interfaces.

Washing

Candling

Weighing

Transfer station

Filling cartons with eggs

The JET3up EP can be integrated into the following machines:

» Manual sorting machines
» Fully automated Moba* production systems, such as the Moba Omnia product series
» Fully automated Diamond* production systems

*We offer solutions for other egg sorting machines upon request

MOBA

- RS232
- I/O Interface
- PrintGo
- Encoder

- RS232
- PrintGo
- Encoder

Best before

Imprinting the eggs during partial or complete integration

Imprinting the egg cartons during complete integration

Schematic representation of an egg sorting machine

Complete flexibility…

… when positioning marks/codes on the egg

From pole to pole

Is the most frequent method for directly marking/coding eggs, which can be easily integrated into all sorting machines. Additionally, the surface around the middle of the egg provides the most space for a marking and coding imprint.

From the bottom (imprinting the bottom)

Starting the coder without any trouble is possible, even when imprinting from the bottom, thanks to CIJ technology and the automated Sealtronic nozzle seal in the JET3up EP. The printhead is integrated into the production system as an overhead application.

From the top (imprinting the top)

The consumer gets all important information at one glance. Due to the limited amount of space in the sorting machines, LEIBINGER developed a special solution for the egg industry with the extra-short elbow printhead (see at the bottom right). Eggs in a 30-egg tray are marked/coded with the LEIBINGER JETmotion XY gantry system.

On the side (front side)

This solution is suitable if the eggs are imprinted independently from the sorting machine (standalone).

… regarding packaging material & marking/coding position

(i) CIJ technology is the only method that delivers excellent print results on all possible packaging materials when imprinting egg cartons. Using the LEIBINGER JET3up EP to mark and code cartons provides users with full flexibility, even when changing to another material! Moreover, CIJ marking and coding costs significantly less than labeling cartons.

» **Plastic**
» **Carton/paper**
» **Shrink wrap**
» **Foam**

Print position variants

» Front-side imprint (optimum for presenting goods on the shelf in stores)
» Front-side imprint on both sides (for separable cartons)
» Top side (optimum for presenting goods from within their cartons/cases in stores)

Sealtronic makes the difference

» No drying out of ink in the printhead!
» Ready to print in 1 minute – even after long production shutdowns
» Always a clean start-up and maximum availability

» No daily service work
» No rinse cycles

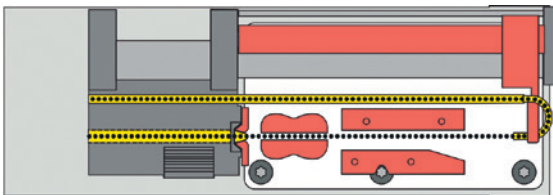## LEIBINGER printhead with nozzle seal

Shut down process

The gutter is moved to the nozzle automatically when shutting down the printer, forming a hermetically sealed, airtight circuit. **The result: 100% secure protection from ink drying out!**
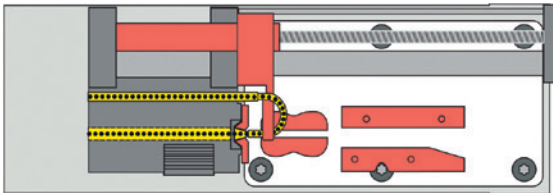
Switched-off LEIBINGER printer

Startup process

First, the ink begins to flow in the sealed circuit creating a stable ink stream. The gutter then opens automatically. This happens within a few seconds and guarantees a fast and error-free start. **The printhead remains absolutely clean in this process.**
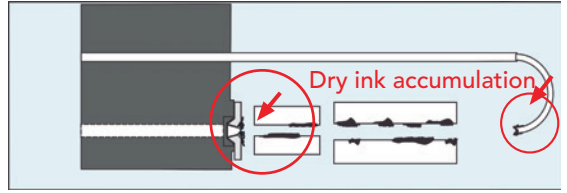

LEIBINGER printer after the startup process

Conventional printhead without nozzle seal

Shut down process

Nozzle and gutter remain open. The residual ink is exposed to the air unprotected and dries out. This causes problems the next time the printer is started.

Dry ink accumulation

Switched-off conventional printer

Startup process

The conventional design causes an unstable startup of the jet. The result: the printhead gets dirty regularly and thus drop charging is degraded right from the start.

Ink accumulation
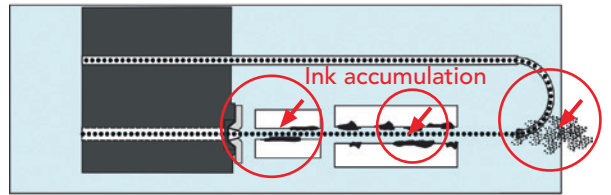
Conventional printer after the startup process

Elbow printhead: Special development for imprinting the top of eggs

» Very short printhead length: 190 mm
» Innovative, space-saving design: 90° angle transition to the umbilical
» Enables the JET3up EP to be integrated for imprinting the eggs from above (imprinting the top), even in extremely tight spaces
» Equipped with the tried-and-tested, automated **Sealtronic** nozzle seal!

Everything from a single source: complete solutions for egg producers

IP65 protection against dust and spray water

JET3up EP is optionally available as a PRO version with IP65

SAVE

Installation kits

Compatible with Moba and Diamond egg sorting machines.

Flexible printheads for all applications

Umbilical angled from 45° to 90°, various printhead versions, umbilical lengths from 3 to 10 m

Suitable inks

» FDA and EU compliant food-grade inks for imprinting egg shells
» Colors: red, blue and green (high contrast on white and brown eggs)
» Alcohol-based inks
» Inks for marking/coding cartons
» Black ink tested and approved for food packaging (FDA)

Installation accessories

The numerous accessories allow you to install the JET3up EP into the machine so that it fits perfectly: 3-tier shelf, various printhead brackets, status lights, etc.

We are there for you—worldwide!

With over 100 LEIBINGER authorized dealers worldwide, we are present everywhere to guarantee you one thing: the best service on site.

Technical specifications

PRINT PERFORMANCE/FUNCTIONS

» Printing speed up to 10 m/s (600 m/min)
» Printing height 1.2 to 16 mm, depending on nozzle size and head type
» Country and industry-specific fonts: Arabic, Cyrillic, Chinese, Persian etc.
» Fonts: from 5x5 to 32x20, special fonts, user-programmable fonts, tower printing
» Multi-line fonts (1 to 5 lines)
» Fonts and graphics can be positioned and combined in the print jobs as desired
» Proportional function for all fonts
» Font height and font width adjustable
» All major barcodes and DataMatrix codes (ECC200), GS1 DataMatrix (EAN/ECC), QR-Code, PPN-Code
» Time, auto-adjustable date, auto-adjustable expiration date, weekdays, calendar weeks, Julian calendar, shift identification
» Replacements: all date, time and counter functions can be replaced and user-programmed
» 32 individually programmable counters, consecutive numbering, production counter, meter marking with "Meter Go" function
» User-programmable graphics/logos can be created in the integrated editor
» Multi-stage contrast and bold function, print repetition, print delay, backward print, rotation/mirroring of font, inverse, reverse and alternating prints (object-related)
» Dynamic backward printing, for traversing lines
» Programmable batch production and interlinking of multiple jobs
» "External text" function via scanner or data interface
» Printing variable data from external files via USB stick or data interface
» Stop function after reaching predefined value
» Product jam detection / monitoring of product alignment
» Autostart function
» Prompt function (fast edit)
» Solvent Saving Mode
» Self-test function

DATA ADMINISTRATION/SECURITY

» Data buffer in case of power failure
» File Explorer
» Print jobs saved with printing data and machine parameters
» Printer data logging, production run logging
» Up- and download of jobs and graphics using USB stick or network
» Job select (1023 jobs selectable from PLC or scanner)

OPERATION/DATA INPUT

» 10.4" colour TFT touch-screen display (SVGA)
» Creating and editing jobs during production
» Customizable user interface
» Available menu languages: European languages, Arabic, Chinese, Vietnamese, Thai, Korean, Cyrillic, Persian, etc.
» Integrated font and graphic editor
» Illustrated operator instructions
» Alternative control using the data interface (serial or Ethernet)
» Country-specific on-screen key pad
» Operational available by mouse or keyboard
» Comprehensive self-diagnostics and status display with easy-to-understand text, help function, printer status display
» Storage of numerous jobs and graphics
» Password function and service menu
» Windows based interface, WYSIWYG, real-time refreshing of display
» Remote control over VNC

INTERFACES, INPUTS/OUTPUTS

» Product detector PNP/NPN 24V, FIFO buffer
» Shaft encoder input for printing speed synchronisation (TTL 5V, HTL 24V, RS422, 5V)
» 9 digital inputs and 8 outputs, user-selectable
» Printer alarm, low fluid, print ready, print finished, external job selection etc.
» Serial interface RS232 up to 115200 baud
» USB port
» Ethernet (industry standard M12D), script protocol
» Sensor for product monitoring and speed measurement
» Option: Special interface to connect several printers

LEIBINGER HYDRAULIC SYSTEM

» Low maintenance, diaphragm pumps with optimized run time
» Fully automatic viscosity and pressure control
» Thermally isolated hydraulics
» Automatic monitoring of compressed air (only with option IP65)
» Automatic daily interval function (Auto ink circulation)
» Integrated cabinet ventilation (only with option IP65)

PRINT HEAD

» Fully automatic nozzle and gutter seal "Sealtronic"
» Flexible umbilical, length: 3 m, optional: 6 or 10 m
» Stainless steel cabinet
» Fully automatic drop charging, drop break off control
» Nozzle size: 50 µm to 70 µm
» Upside down - 360° operation
» Safety switch for print head locking
» Head ventilation, options: 45° to 90° bent u umbilical, various print head versions
» Automatic inkjet monitoring

FLUID RESERVOIRS

» Capacity of the ink and solvent tanks are 1.3 liters, refillable while printing
» Level gauge with fully automated monitoring
» Remaining prints are displayed

INKS

» Ink consumption: up to 130 million characters/l. (matrix 7x5/nozzle 50 µm)
» FDA and EU compliant food-grade inks for imprinting egg shells
» Colors: red, blue and green (high contrast on white and brown eggs)
» Alcohol-based inks
» Inks for marking/coding cartons
» Black ink tested and approved for food packaging (FDA)
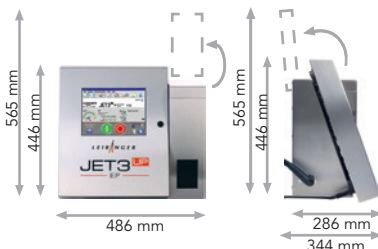
WEIGHTS AND PROTECTION CLASS

» Weight: print head 1.5 kg, cabinet 20.5 kg
» Protection class: IP54 (option: IP65)

SUPPLIES AND ENVIRONMENTAL CONDITIONS

» 100-240 V, 50-60 Hz, typical 20 VA
» Temperature range +5°C to +45°C
» Relative humidity max. 90%, non-condensing
» Compressed air consumption: 1,66 l/min (only with option IP65)
» Required inlet pressure: 1,4 bar (only with option IP65)

ACCESSORIES

» Vision System V-check, traverse system JETmotion
» Product detector, shaft encoders, printer stand, print head bracket, alarm lamps, etc.
» Software for remote control, multi-head control

SK4
259 mm
Ø 43 mm

SK6
212 mm
Ø 43 mm

SK6 Elbow
190 mm
Ø 43 mm

565 mm
446 mm
JET3up
486 mm

565 mm
446 mm
286 mm
344 mm

LEIB|||NGER

Quality Management
ISO 9001

LOCAL DISTRIBUTOR CONTACT:

JET3up EP-EN-001