BOXMAT
BOXMAKERS

made in EU

BOXMAT HD   BOXMAT PRO   BOXMAT 2   FLEXOMAT

AUTOMATIC BOXMAKERS

European Funds
Regional Programme

Republic of Poland

promotes lodzkie

European Union
European Regional
Development Fund

zemat® TECHNOLOGY GROUP

60 YEARS STRONG

60 YEARS STRONG

Every precious cargo deserves the best, tailored to size, sturdy and reliable packaging. At Zemat Technology Group we are passionate about creating innovative technological solutions for packaging and shipping industry.

In our design and manufacturing process we implement **over 60 years of European and American expertise** providing exceptional equipment for the packaging industry, where customized, short run production series are the key to achieving the market success and satisfying even the most demanding customers.

We are providing a wide range of corrugated box making machines designed for short run production needs to help your company to **save time**, **increase productivity** and create sustainable production flow, while **decreasing costs and waste**.

Our machines offer full technological flexibility in any corrugated cardboard converting organization, with state-of-the-art box design software, unsurpassed quality of tools and assembly and the XXI century machine design implementing the best components and industrial solutions.

The design, engineering and manufacturing team is based in Europe. We have offices in the USA, UK and commercial and technical presence in many countries around the world, including Australia.

www.zemat.com

BOX MAKING TECHNOLOGY WITH THE HUMAN TOUCH

BOXMAT HD

The newest High Definition corrugated box making system
for highly demanding short run manufacturing processes

Boxmat HD is the fifth generation of short run box making machines designed and built in Europe by Zemat Technology Group.

The new design of Boxmat HD incorporates the universality of using corrugated Sheets and/or Fanfold for manufacturing short run boxes.

- Detachable precision cardboard feeder. The machine can be fully configurable to be used with manual feed, printer or fully automatic feeder
- The new design of beams provides much less wear of the slotting knives.
- Reinforced chassis construction assures less vibrations during production process
- **The die cutting system with extra built-in beam equipped with two die-cutting units** and work area of 210x130 mm (8.25 x 5.1") each, with independent drives to set in the right position. It enables cutting out handles, revisions or angular cuts in corrugated box panels
- Additional shaft for feeding the corrugated board. By reducing the distance between shafts machine can use much shorter boards for production and also to enter the next one more quickly in the automatic production process
- A new design of scoring/creasing/knives beam
- 2 linear guide strips with 4 tools nests on each for total of 8 tools (with expansion to 12 tools)
- **Independent drive for each tool nest provides very fast position setup** Each tool nest can handle either scoring/creasing wheels or knives
- **Automatic recognition of the specific set tool**
- **The beam equipped with counter-creasing and counter-knife system**
- Ability to set the tools inline, one-after-another, e.g. for double creasing of heavy boards
- The minimum distance between tools: 30 mm

Multi-language intuitive and Easy-to-Use SOFTWARE

Custom Box Creation WIZARD

Thick and Heavy Boards AUTOMATIC FEED

Fast Automatic Setup of ALL TOOLS

BOXMAT HD

Precise GLUE APPLICATION System

Precision Cut-and-Score DIE CUTTING, PERFORATION

THE BETTER WAY TO MAKE BOXES

- **Slotting, Cutting, Scoring, Creasing, Board Rrimming, Die Cutting and Gluing IN ONE MACHINE**
- One pass operation to make a perfect box
- Single, Double wall and Heavy Duty board
- Switchover time – less than 30 seconds
- Fully automatic servo-drive setup
- Counter-knife and counter scoring/creasing system
- Large 19" touch screen HMI
- JQS Job Queue System production scheduling
- Box Design WIZARD
- MRP/ERP manufacturing integration system

BOXMAT PRO

Boxmat PRO is the most advanced and universal machine revolutionizing the short run and serial production process of corrugated cardboard boxes.

All settings are entered directly from a touch screen panel with no manual tool adjustment. **In less than 1 minute the machine can be reprogrammed** for any of the 100 box styles. S**litting, scoring/creasing, gluing and printing** is all done in one pass on one compact machine - without the need for additional equipment!

10 sectional slotting knives, 4 longitudinal cutting knives plus 4 scoring wheels are set automatically by the servo-drives to suit the size and thickness of the board. The cardboard is centrally positioned with auto-guides. Soft grip rollers and solid input/output shafts and **double encoders provide precision board feed control and prevent skewing.**

The innovative system of rotary knives installed in the rear cutting/scoring section allows for bi-directional board size adjustment without the need for precutting the blanks to the exact size on a separate machine.

The **gluing section** provides on-the-go **single or double line cold glue application.**

Under 60 sec. changeover and set-up time

Eco-friendly low power consumption

NO CORRUGATED CARDBOARD CONTRACTS
We give you freedom to choose your own corrugated supplier and make your own boxes on demand!

OVER 100 BOX STYLES

ALL-IN-ONE

AUTOMATIC SHORT RUN BOXES PRODUCTION SYSTEM

- No manual setup for changeover and no need for extra tools or dies
- All settings made from an intuitive touch screen panel
- Fully synchronized with optional FLEXOMAT printer and auto-feeder
- Slotting, bi-directional scoring/creasing, cutting, gluing and printing in ONE CYCLE
- Create your own box design with built-in FreeStyle settings
- Freely modify standard FEFCO/RSC/OPF/FPF and other boxes
- Optional use of perforation knives and special shape scoring wheels
- Modular built for cutting knives (circular or blade) and scoring/creasing wheels
- Buit-in secure VPN connection for remote diagnostics and calibration

Technical information:

Maximum board size: 2400 mm (94") width x unlimited length
Minimum board size: 200 mm (8") width x 650mm (25") length
Maximum distance between slotting knives: 2000 mm (79")
Minimum distance between slotting knives: 70 mm (2¾")
Slot width: 8 mm (⁵⁄₁₆")
Sectional slotting knives: 100 mm (4") each
Standard slotting knives length: 500 mm (20") each side
Min/max slotting knives length: 200 - 700 mm (8 - 27 ½")
Cardboard used: single amd double wall (triple wall with limitations)
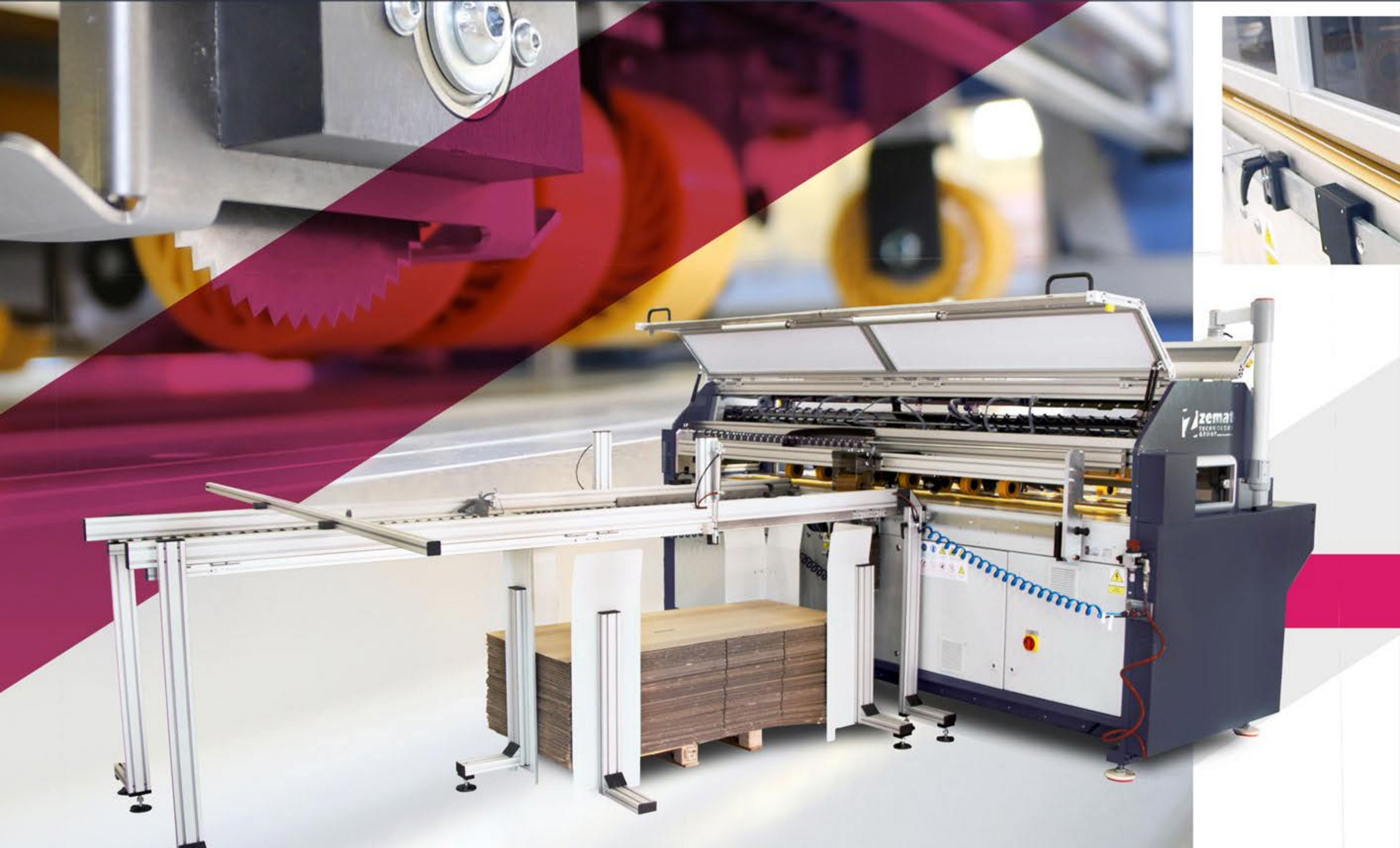Power supply: 3 x 380/415/480 V (per request)
Footprint: 3300 x 1600 x H1600 mm (130" x 63" x H63")

THE COMPLETE SOLUTION
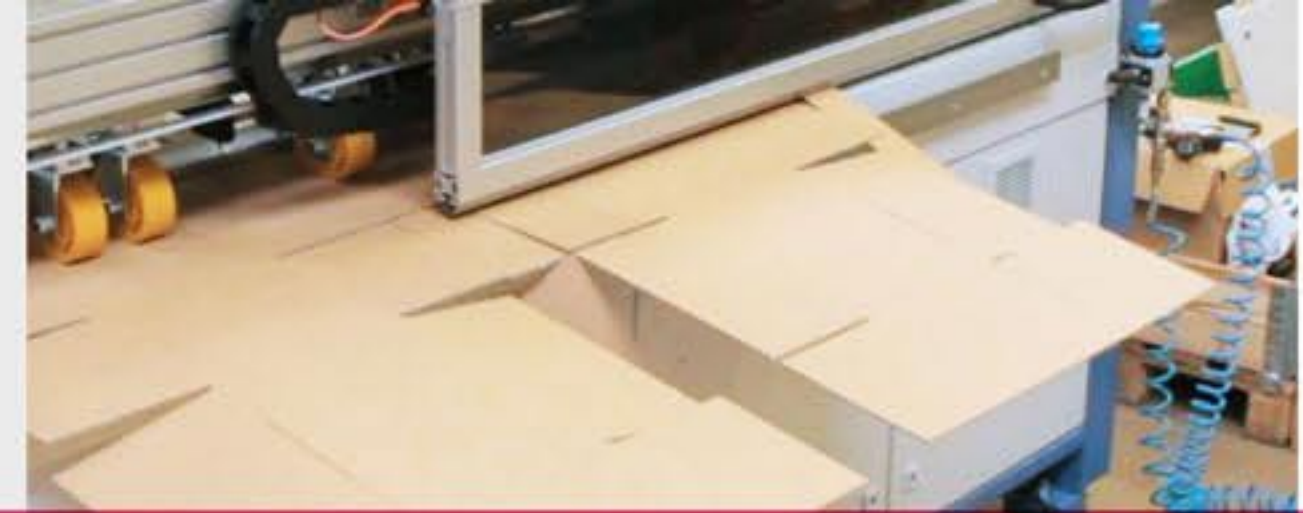
GLUING SYSTEM

Our innovative cold gluing system gives a fresh and exceptional approach to the corrugated board gluing cycle.

With the double nozzle applicator integrated with a cross-cutting knife we apply cold glue in the same cycle as trimming the board – saving time and streamlining the box production cycle. The unit is using single or double nozzles for dotted, dashed or continuous glue line application. Especially helpful with the production of large boxes.

STACKING UNIT

- Pneumatically controlled board receiving / drop arms
- Stacking height for palettizing: 800 mm
- Board reception width: up to 2400 mm
- Length of stacking boards: up to 3000 mm (or by request)
- Gravitational precision stacking with guide plates
- Quick manual setup – only compressed air, no electric required!
- Rigid aluminum frame and smooth glide rolls

THE INNOVATIVE SIDE-BY-SIDE BOXES PRODUCTION

With the use of optional Multiproduction module you can **double your production capacity** on the Boxmat PRO machine. The Side-by-Side Multiproduction assembly requires installation of additional center-location slotting knives and upgrading the pneumatic controls and control software. When fully installed, you can remove the middle slotting knives for a standard production and reinstall them again, if needed, in less then 10 minutes. With Multiproduction machine can deliver up to 1200 standard RSC/Fefco 201 boxes per hour.

V-CUT

HAND HOLE

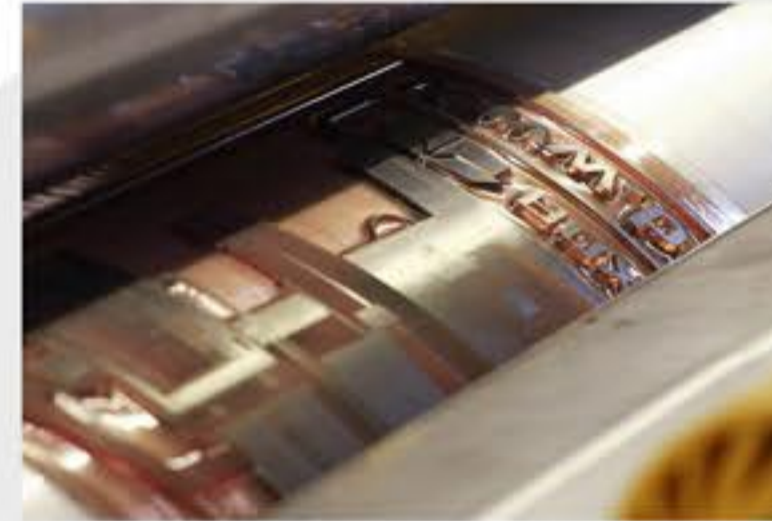## SCORING WHEELS

PERFORATION

FLEXOMAT

FLEXOGRAPHIC PRINTER

The **FLEXOMAT** printing unit integrates inline with all box making machines (**Boxmat PRO / HD / 2**) or it can be used as stand alone printer.

Standard configuration has one 760 mm (30") wide print drum/cylinder which is fully programmable and automatically adjustable across the width of the machine, to print image onto different panels, utilizing the full 2400 mm (94") size.

Optionally, the **FLEXOMAT** can be fitted with a second drum/cylinder to double the print area or utilize the use of second color.

SAMPLE PRINT

EXPANDABLE SOLUTION
PRINT YOUR FULL SIZE BOX UP TO 2400 MM (94")

Features:

- Special design steel/AL profile structure for vibration free printing
- Single or double print cylinders
- 1 or 2 color printing
- **Ultra-Raster printing with ceramic anilox cylinder**
- **FRR - Fast Repeat Rotation of print cylinder**
- Print width: 760 mm (30") – single cylinder
- **Print length: 900 mm (35") with FRR for multi-panel printing**
- Max. working width: 2400 mm (94")
- Independent drives and motion control of each cylinder
- Servo control for maximum print quality
- Infeed and outfeed system for precision registration
- Dynamically balanced ink applicator rolls
- Easy access for clean up and quick changeover of polymer plates
- Intuitive touch screen HMI for easy setup and control
- EPC - Edge Position Control
- Automatic ink feed system by ink pump from containers

MINIPRINT

BOX PRINTING & MARKING

- One color mini-flexo technology printing
- Printing/marking from the bottom-up
- Automatic indexing of print area
- Multiple box panel printing
- Full control of the printing area with start/stop setup
- Printing area: 100 mm (4") width and up to 300 mm (12") long
- Ability to connect additional **MiniPRINT** modules in series to print various areas of the box with different colors
- Integrated ink container and applicator
- Rigid aluminum frame and smooth glide rolls

THE YOUNGER BROTHER

BOXMAT 2

PROVIDING SIMPLICITY AND FLEXIBILITY FOR BOX PRODUCTION

BOXMAT 2 is a semi-automatic box making machine providing perfect and simple solution for short run production of boxes or a large format box manufacturing.

The machines are designed for companies requiring in-house production of cardboard boxes and flexibility of a quick box size change. The use of BOXMAT machines allows efficient **manufacturing of a single box or hundreds, depending on demand.**

With the use of a touch screen HMI and some uncomplicated manual setup you can start production of boxes in mere minutes. The machine has the most common FEFCO/RSC styles of boxes preprogrammed in the HMI. Using the FreeStyle software option you can compose your own box project on a touch screen and store it in machine memory, with over 1000 other individual projects.

The blank corrugated sheet is positioned to the left edge with automatically set bumper. This feature allows for the use of straight blade knife for cutting off the cardboard excess and a glue flap. **Board size adjustment is made without the need for precutting the blanks to the exact size** (e.g.: on a separate machine). The use of soft grip rolls and special anti-slip feeder assembly prevent cardboard skewing and allows smooth and even feed through of small and large blanks. The slotting and scoring section has a special hardened steel feeding roll for increased precision and extended productivity.
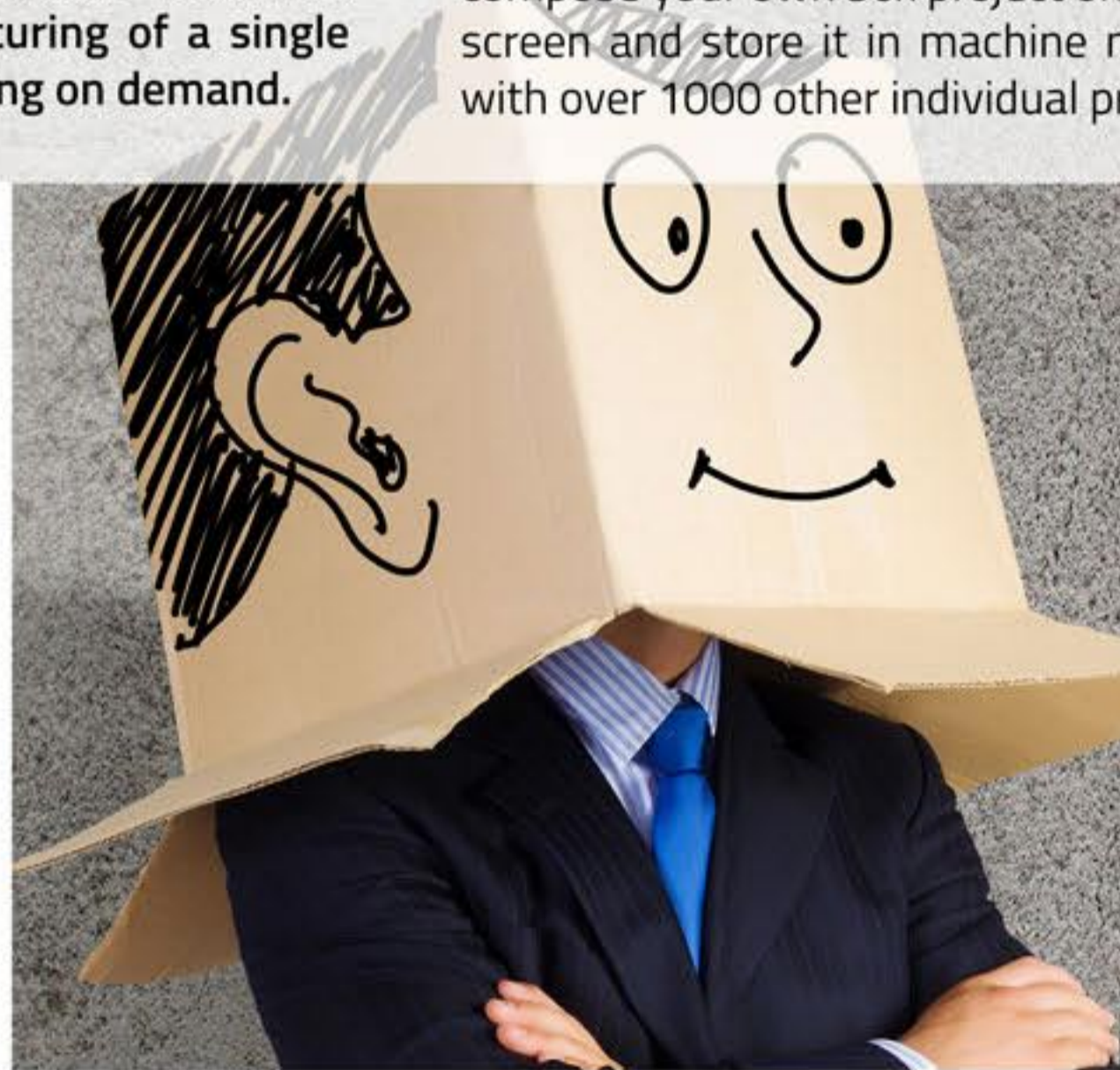
Low power consumption
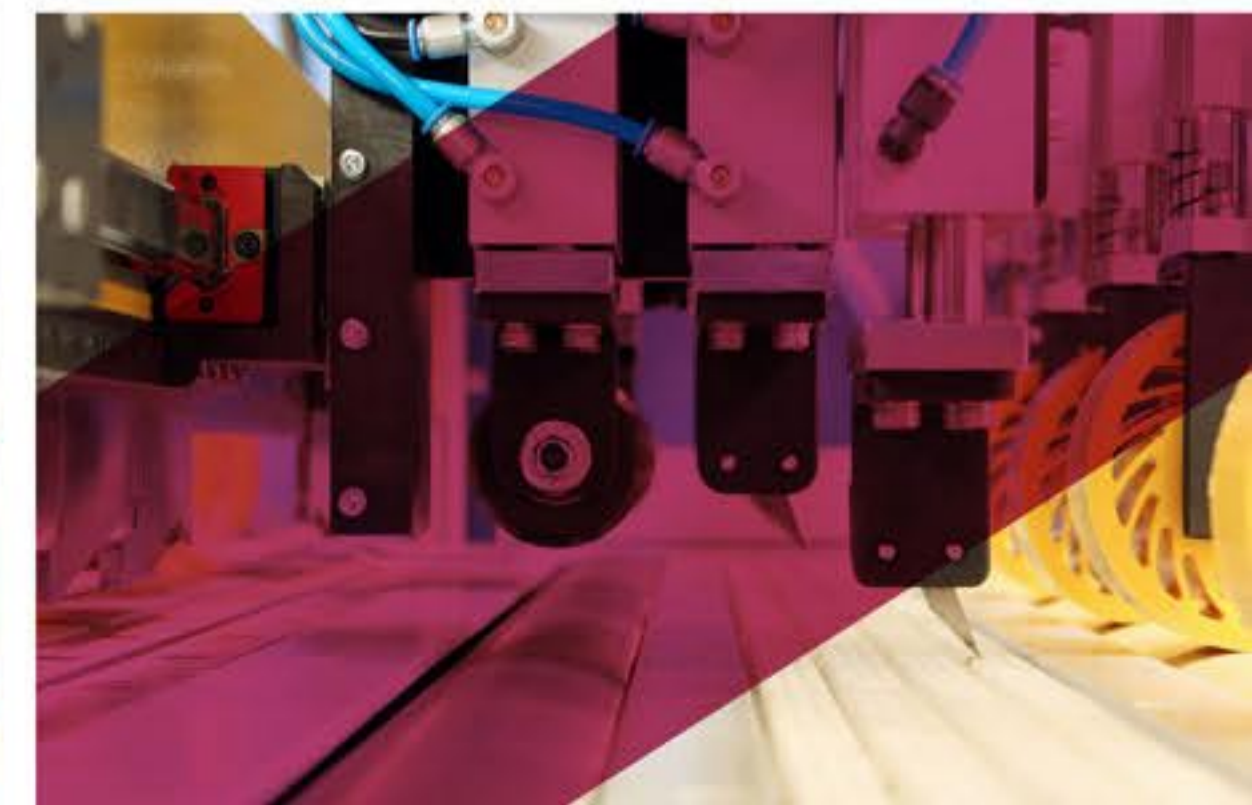
Under 60 sec. set-up time

OVER **40** BUILT-IN STYLES FEFCO

UP TO **700** boxes per hour

Technical data:

Maximum board size: **2500 mm (98") width x unlimited length**
Minimum board size: **250 mm (10") width x 650 mm (25") length**
Maximum distance between slotting knives: **2200 mm (86.5")** **with 100 mm (4") L / 200 mm (8") R**
Minimum distance between slotting knives: **70 mm (2¾")**
Slot width: **8 mm (⁵⁄₁₆")**
Sectional slotting knives: **100 mm (4") each**
Standard slotting knives length: **500 mm (20") each side**
Min/max slotting knives length: **200 - 700 mm (8 - 27 ½")**
Cardboard used: **single and double wall (triple wall with limitations)**
Power supply: **3 x 380/415/480V (per request)**
Compact footprint: **3300 x 1400 x H1600 mm (130" x 55" x H63")**

INTELIGO HMI SYSTEM

Every intelligent machine needs a smart programming to interact with its human operator.

The **INTELIGO** system creates **the most user friendly interface** for the Boxmat series of machines. The logic behind this creation is to make the interaction with the machine intuitive and allow it **to think ahead** – to predict the next move of the operator, to help to **create the best box in a fastest time frame** available.

Large **19" touch screen HMI** providing the most user friendly, multi-panel, ergonomic operator interface.
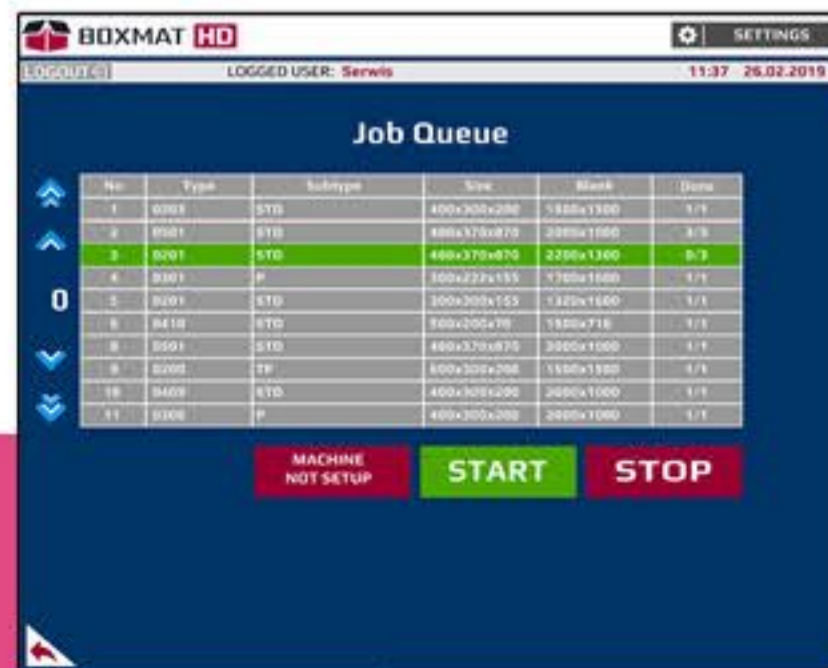
Box Design WIZARD allows to create any box intuitively right on the screen. It will show and place the scoring/creasing and cutting lines exactly where they will be in the finished box.
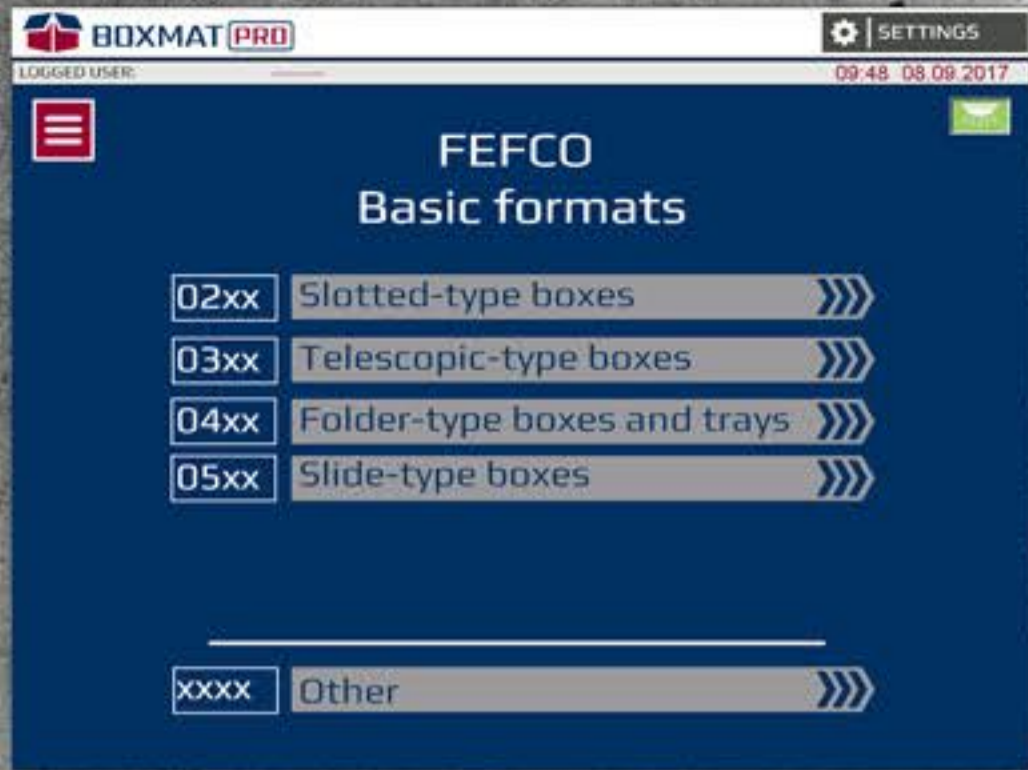
Job Queue System JQS can be programmed each day for smart scheduling of the box production flow process or synchronized (with custom modification) with any internal MRP, MES, ERP, MOM and production control software.

3D Product Scanning and data input capability. With **INTELIGO** system you can scan dimension and weight of the product to be packaged and send this data directly to the machine which will calculate the required box size.
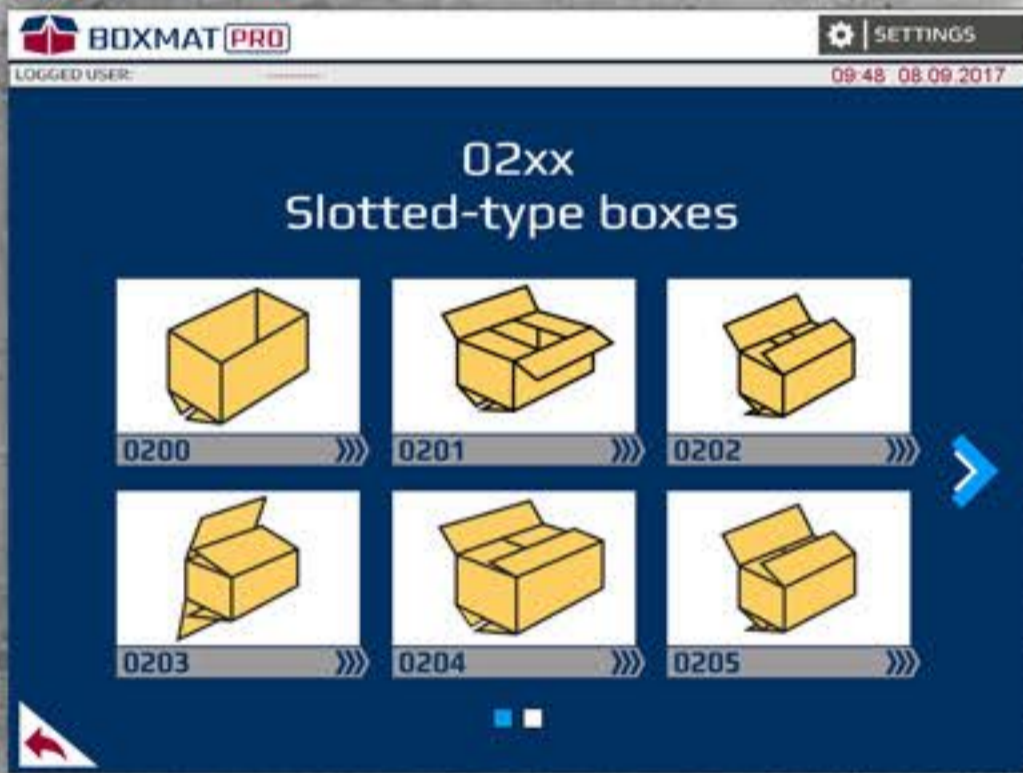
Barcode Scanner integration allows for fast and efficient production data input into the work flow scheduling process.

We use the state-of-the art PLCs and programming platforms to achieve the best results, both visual and logical. Our team designs and builds highly reliable HMI/PLC system that delivers safe, cost-effective, consistent, and intuitive performance which relies on the application of engineering best practices throughout design, panel layout, production, testing, and quality assurance processes. They apply a thorough knowledge of technical ergonomic, design, and manufacturing standards ISO, IEEE, ANSI, CE which are fundamental to HMI system design. Each HMI/PLC system we provide has built in secure VPN interface allowing remote calibration, servicing and updating.

BOXMAT PRO

FEFCO Basic formats

- 02xx — Slotted-type boxes »»»
- 03xx — Telescopic-type boxes »»»
- 04xx — Folder-type boxes and trays »»»
- 05xx — Slide-type boxes »»»

- xxxx — Other »»»

02xx Slotted-type boxes

| 0200 | 0201 | 0202 |
| 0203 | 0204 | 0205 |

0201

QUANTITY SET: 1000
QUANTITY DONE: − 1 + RESET

DIMENSIONS

- LENGTH [L]: 400 mm
- WIDTH [B]: 300 mm
- HEIGHT [H]: 200 mm
- THICKNESS: 3 mm

CREASING DEPTH MANUAL CORRECTION

ACROSS 90 %   ALONG + −   1.5 bar
REF

SET THE LENGTH & WIDTH OF PRESENT BOARD

SETUP MACHINE
READY TO WORK

START   STOP   PRINTING

PROGRAMMED INTUITIVE SMART LOGIC PLC TO MAKE YOUR JOB EASIER

Use multiple preprogrammed box styles or make your own creation with FreeStyle programing option

BUILT IN VPN INTERFACE FOR ONLINE CONNECTIVITY

UNIVERSAL SOLUTIONS

BOXMAT HD

- Used cardboard: corugated sheets
- **4 (max. 8) cutting knives for blank formatting and cutting off glue flaps**
- Circular knife for board length (cross cut) adjustment
- **4 wheels (max. 8) for longitudinal scoring/creasing**
- Pressure for creasing/scoring wheels set from touch panel
- **Working width: up to 2400 mm**
- Independent drive for each tool nest / very fast position setup
- **Pads production available**
- Each creasing/scoring wheel and knife set independently
- **Multiproduction: longitudinal -** standard, **side-by-side -** soon
- Right cardboard bumper locked automatically
- **Interior LED lights**
- MiniPRINT module not available
- **Gluing system available**
- Works with FLEXOMAT printer
- **Dimensions (L x W x H): 3500 x 1950 x 1750 mm**

ONLY IN BOXMAT HD:
- Double die cutting system 210 x 130 mm (8,25x5,1") each
- Counter-knife system set automaticaly with knives
- Counter-scoring/creasing system set automatically

AS STANDARD IN BOXMAT HD:
- Large 19" touch screen HMI
- NEW, extended user friendly GUI
- Job Queue System JQS production scheduling
- Box Design WIZARD interface
- Cut/Score Allowances correction and editing
- Integration with MRP/ERP manufacturing systems

BOXMAT PRO

- Used cardboard: corugated sheets
- **4 (max. 8) cutting knives for blank formatting and cutting off glue flaps**
- Circular knife for board length adjustment (cross cut)
- **4 wheels (max. 8) for longitudinal scoring/creasing**
- Pressure for creasing/scoring wheels set from touch panel
- **Working width: up to 2400 mm**
- Each of 4 (8) knives set independent and automatically by servo drive
- **Pads production available**
- Each creasing/scoring wheel and knife set independently
- **Multiproduction: longitudinal -** standard, **side-by-side -** optional
- Right cardboard bumper locked automatically
- **Interior LED lights**
- MiniPRINT module available
- **Gluing system available**
- Works with FLEXOMAT printer
- **Dimensions (L x W x H): 3300 x 1600 x 1600 mm**

BOXMAT PRO i

AFTER UPGRADING TO BOXMAT PRO INTELIGO:
+ Large 19" touch screen HMI
+ NEW, extended user friendly GUI
+ Job Queue System JQS production scheduling
+ Box Design WIZARD interface
+ Cut/Score Allowances correction and editing
+ Integration with MRP/ERP manufacturing systems

BOXMAT 2

- Used cardboard: corrugated sheets
- 2 knives for cutting off glue flap, +1 knife for removing excess board
- No board length adjustment (cross cut)
- 2 wheels for longitudinal scoring/creasing
- Pressure for creasing/scoring wheels set with adjustment knob
- Working width: up to 2500 mm
- Knife for removing excess set manually
- Pads production not available
- Creasing/scoring wheel and cut-off knife in line with slotting knife tip
- No multiproduction
- Right cardboard bumper set and locked manually
- No interior lights
- MiniPRINT module available
- Gluing system not available
- Works with FLEXOMAT printer
- Dimensions (L x W x H): 3300 x 1400 x 1600 mm

OPTIONALLY FOR BOXMAKERS:

INTEGRATION WITH:
- Flexographic printers
- Automatic stackers
- Industrial production line
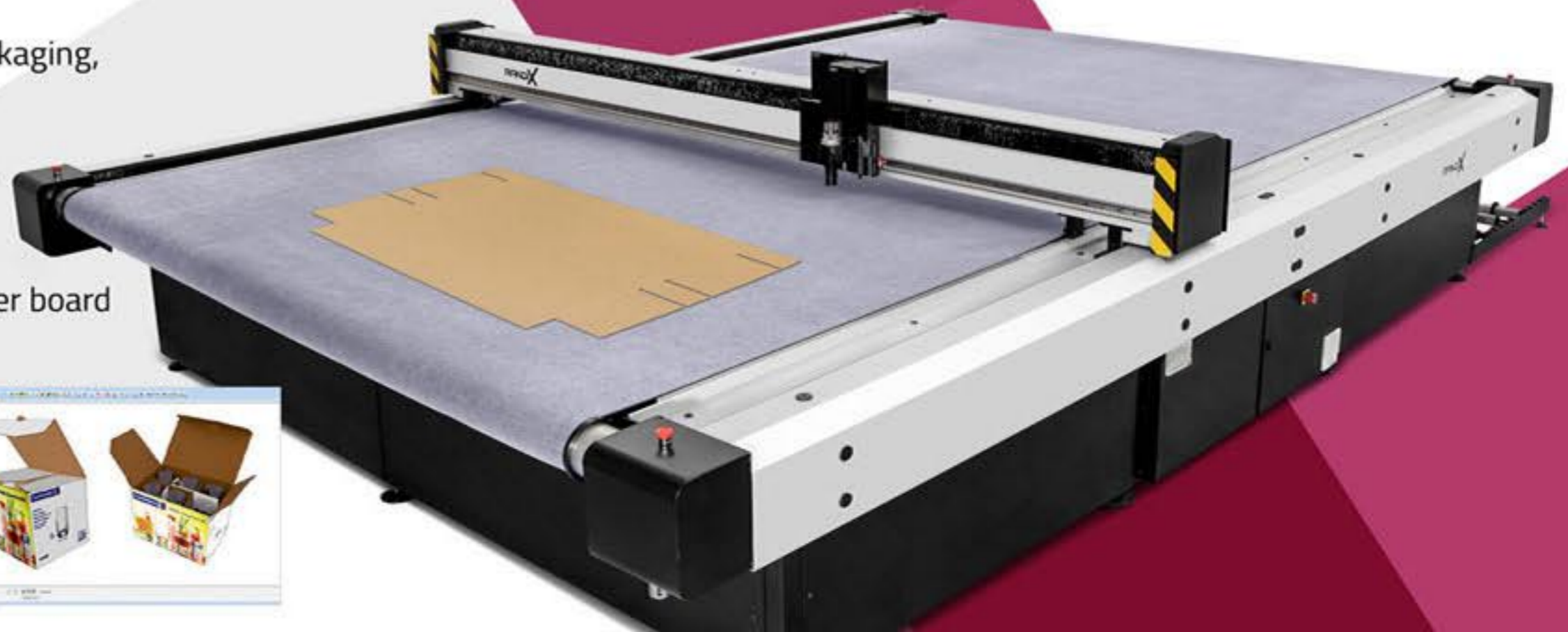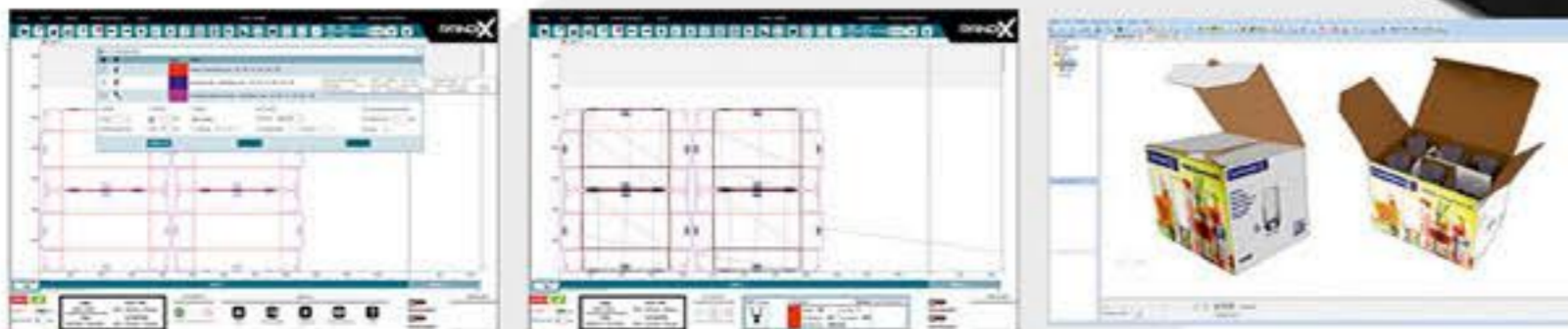
ROLLMAT

FLAT DIE ROLLER CUTTER

- Synchroset Rolls and belt drive work tables
- Manual and automatic shuttle production cycles
- Precision cutting with simple flat bed wood/steel blade dies
- Widths from 800mm (31") to 2500mm (98")
- Max die height: 75mm (3")
- Production speed max: 20-30 cut cycles/min
- Touch screen setup and PLC control
- Change from one die to the next in seconds
- Convert a range of materials from 0-12mm (1/2") thickness
- Powered belt drive in-feed and out-feed of the die
- Double safety system
- Compact and foldable design

PROGRAMMABLE SEMI-AUTOMATIC SHUTTLE OPERATION
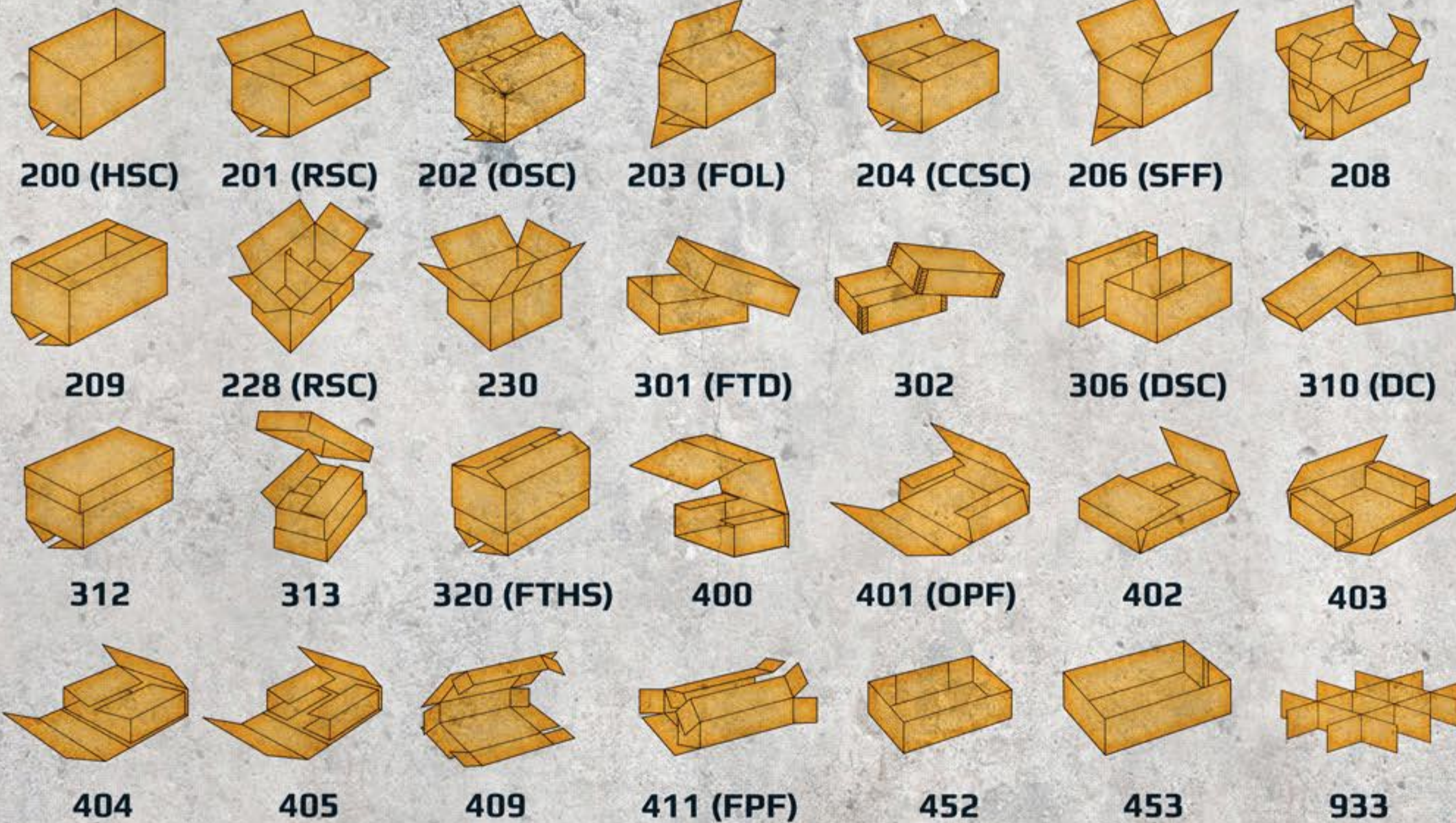
RANDIX

DIGITAL FLATBED CUTTING TABLE

- For cardboard boxes prototyping or the production of packaging, displays, signage
- Perfect for short run custom production
- No dies and very short set-up time with special software
- Upload and cut your own design in seconds
- Extraordinary throughput and speed
- A wide range of versatile tools for corrugated or thin paper board and honeycomb

100+ FEFCO STYLES WITH FREE STYLE. IT'S ALL YOU NEED!

FEFCO
Corrugated Packaging

200 (HSC) · 201 (RSC) · 202 (OSC) · 203 (FOL) · 204 (CCSC) · 206 (SFF) · 208

209 · 228 (RSC) · 230 · 301 (FTD) · 302 · 306 (DSC) · 310 (DC)

312 · 313 · 320 (FTHS) · 400 · 401 (OPF) · 402 · 403

404 · 405 · 409 · 411 (FPF) · 452 · 453 · 933

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zemat TECHNOLOGY GROUP

60 YEARS STRONG

+ 4842 632 8484
+ 1 410 609 3080