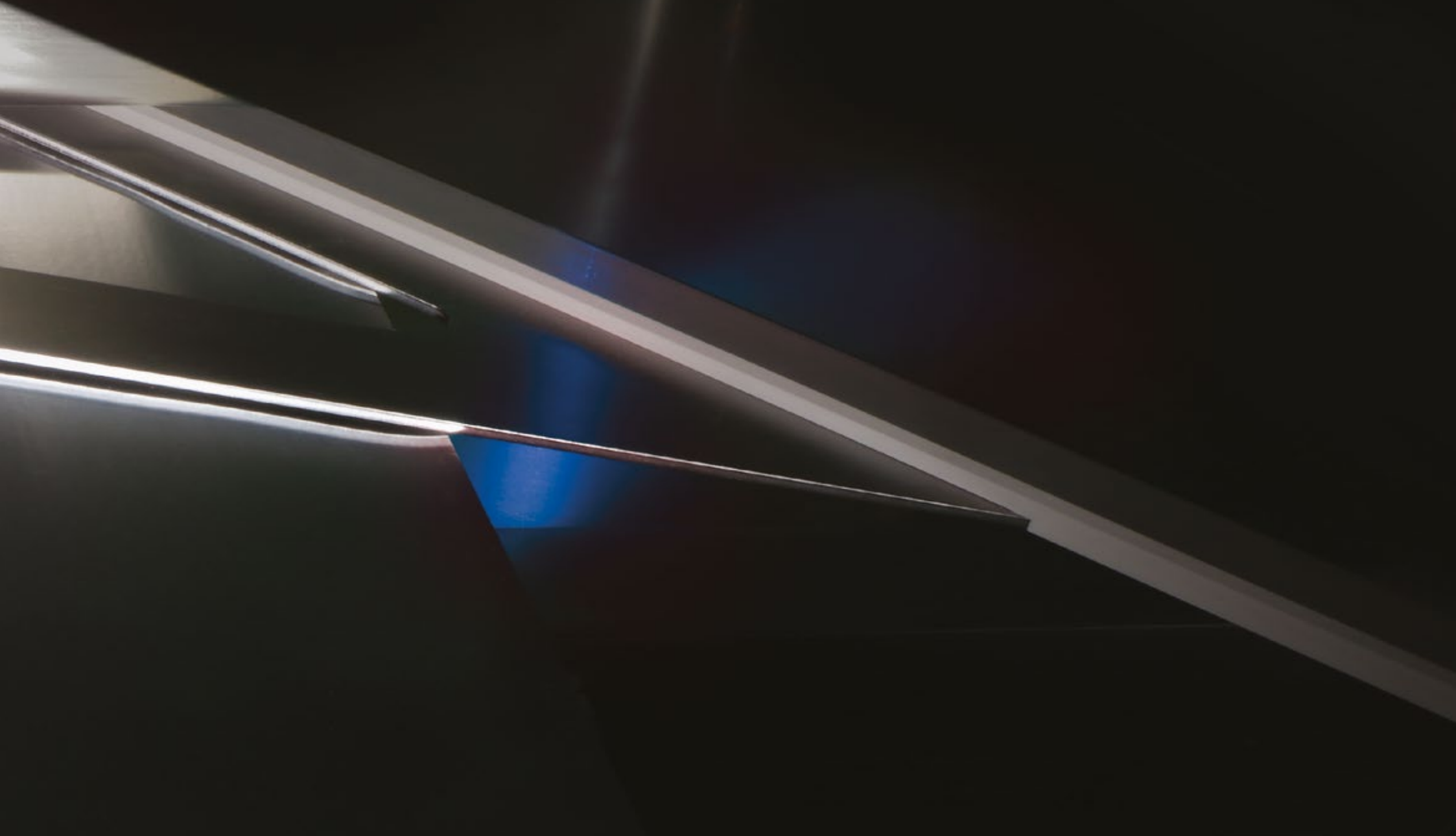


MBP R-Series

R-evolutionary VFFS Wrappers - Intermittent Motion





MBP R-Series

R-evolutionary VFFS Wrappers - Intermittent Motion



R-EVOLUTION

IN VERTICAL PACKAGING

The R-Series is a revolutionary range of VFFS packaging machines designed by MBP, that are the result of over 50 years' experience and research in the packaging sector.

The perfect combination of hardware and software has produced a series of innovative solutions, which ensure that the R-Series are the best packaging machines ever.



SERIES R

R Concept
**PATENT
PENDING**



MBP R-SERIES

CHOOSE YOUR R



R-700
Intermittent
Single-reel
Steelo-Bag on forming tube



RS-700
Intermittent
1+ 1 reel (optional)
Steelo-Bag on calender



R-700/500 TWIN

Intermittent
Single-reel
Steelo-Bag on forming tube



RD-700

Open Frame version of the R and RS models.
Can be combined with a Metal detector + weight
control module.

10 BENEFITS

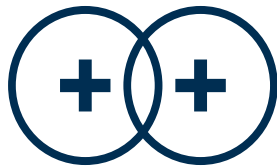
OBVIOUS RIGHT FROM FIRST START-UP

- ❶ Film passage, format change and fine tuning are very easy for the operator. As the R-700 machine has no calender there are only six film passage transport rollers.
- ❷ Regardless of the reel width, the operator always positions the reel at the end of the pneumatic spread shaft. Even the eye mark detection photocell is automatically centred.
- ❸ There is no mechanical reel brake. No more adjustment, calibration or wear problems.
- ❹ The result is a perfect pack, every time. Film friction on the forming tube collar is reduced to a minimum. The dancing roller compensates for the continuous reel movement with the alternated intermittent action of the film pulling belts and is electronically managed to ensure that the film tension is maintained at all times.
- ❺ Perfect centring is maintained in real time. The film-turn triangle acts as a centring device and is positioned next to the forming tube.
- ❻ The R-Series packaging machines do not require any internal ventilation system to cool the electrical panel. As a consequence, the mechanical and electronic components are fully protected from dust and humidity.
- ❼ Two brushless motors control the vacuum film pulling belts
- ❽ As the production speed changes the sealing time remains the same and, therefore, also the temperature of the sealing elements remains constant, thus guaranteeing perfect packs every time.
- ❾ High output; up to 130 packs per minute and up to 70 for the Steelo-Bag format.
- ❿ The R-Series machines guarantee the same performance and fluidity of a continuous machine together with the mechanical simplicity of an intermittent machine.



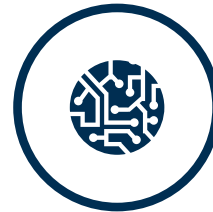
MBP R-Series

R-EVOLUTIONARY VFFS WRAPPERS



PRODUCTIVITY

THE-R-SERIES INCREASES
EFFICIENCY TO ITS MAXIMUM LEVEL



EASY TO USE

100% INDUSTRIAL PC: MBP R-SERIES
+ C-SERIES MULTIHEAD WEIGHERS



R SOFTWARE

THE SMART BREAKTHROUGH IN
VERTICAL PACKAGING



SPACE

DRAMATIC REDUCTION OF
OPERATING SPACE



PROTECTION

VACUUM TECHNOLOGY
NO AIR OR DUST INFILTRATION



REMOTE ASSISTANCE

MBP IS WITH YOU,
NO MATTER WHERE YOU ARE

PRODUCTIVITY

THE R-SERIES INCREASES EFFICIENCY TO ITS MAXIMUM LEVEL

Up to 150 mechanical cycles per minute

Faults:

1

- R700 installs high quality mechanical components and hardware. The predictive maintenance system (PMS) allows maintenance operations to be programmed preventing sudden break-downs.

Format change:

2

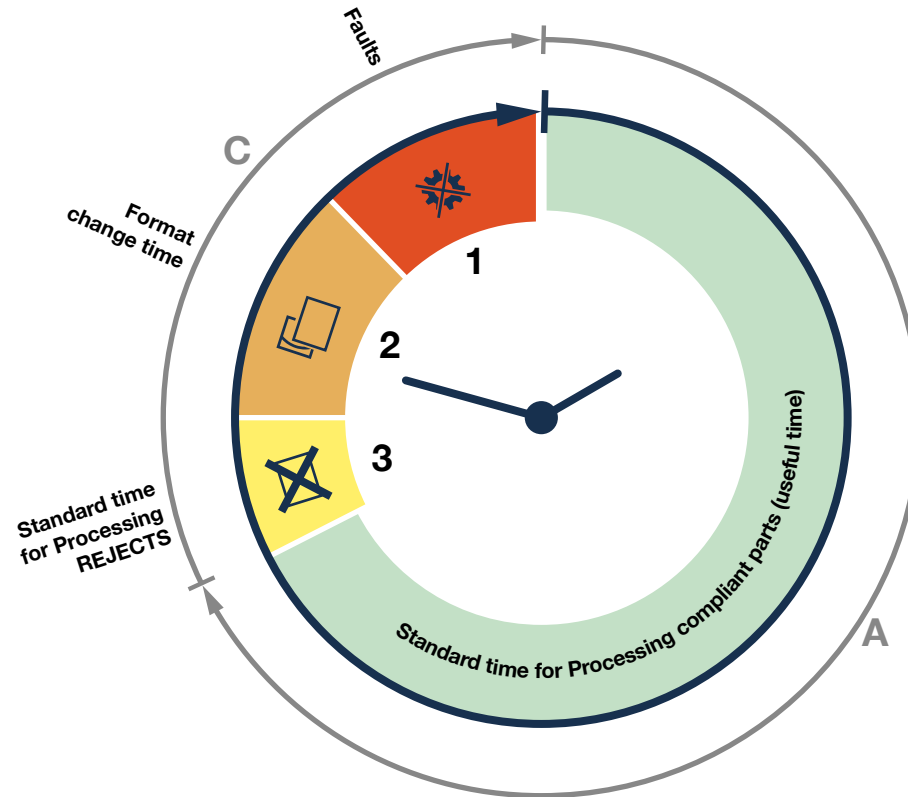
- Format change requires approximately 50% less time than traditional machines.
- Automatic timing system, which detects the arrival of product and the length of the stream. It consequently controls the sealing jaws.
- Most parameters are automatically calculated by a user-friendly programming system. The software allows the operator to enter only the main ones.

The rejects are minimized thanks to automatic functions such as:

3

- The “Constant Sealing Time” system ensures perfect seals even if the production speed changes.
- Automatic timing system (optional)
- Motorized reel holder system that, paired with the electronic control of the dancer roller synchronized with the film pulling belts, assures the constant and optimal pulling of the film, from start to finish.

Conclusions: thanks to high speed production, automatic control functions during production, and simple format change, the R-series assures one of the highest Overall Equipment Effectiveness in this category of VFFS machines.



$$\text{OEE (Overall Equipment Effectiveness)} = A / C$$



Faults

they depend on the quality of the mechanical/electronic components, the bearing reduction units and the mechanical processing.



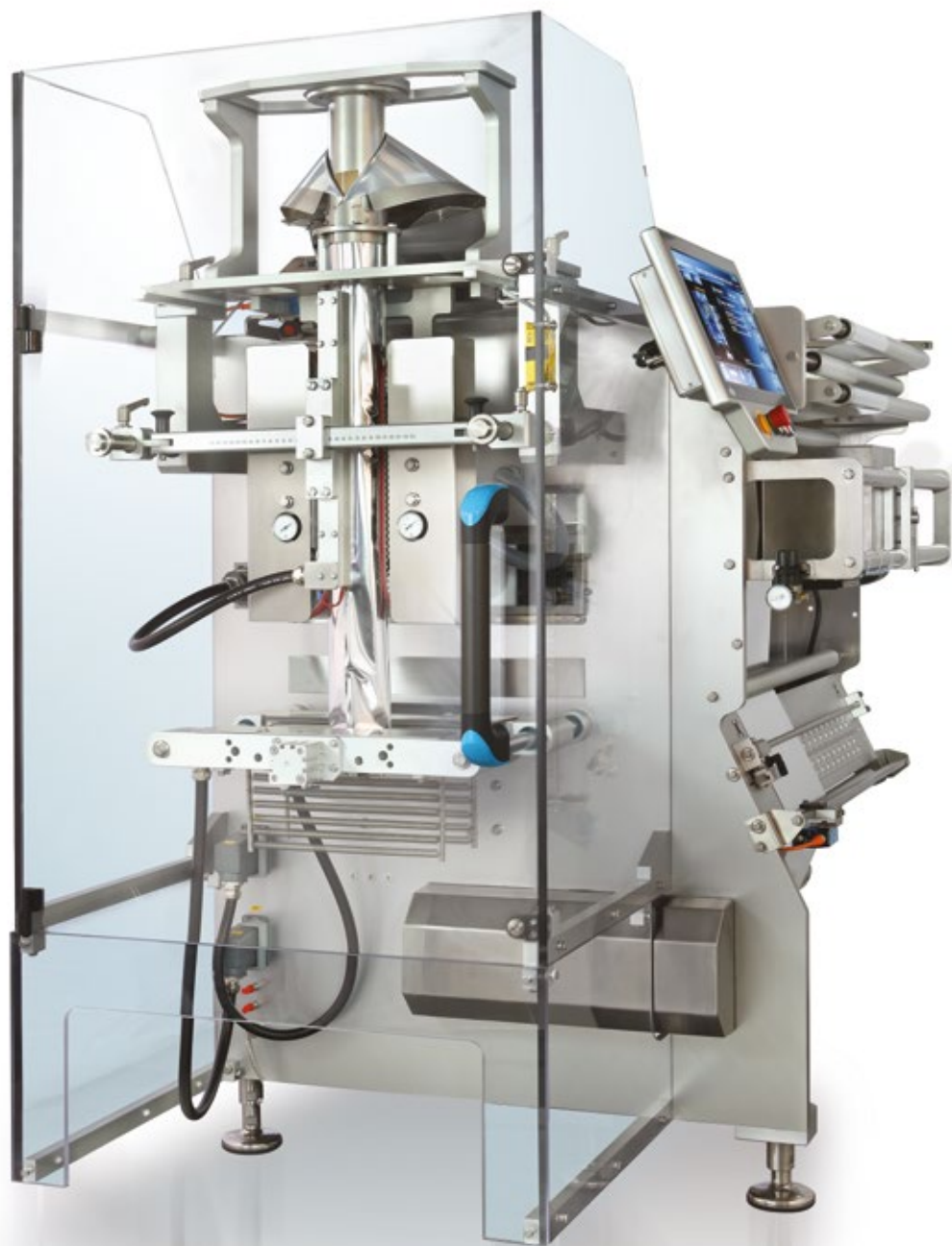
Format change

it depends on the type and complexity of the calender, the film passage, the dimensions/weight of the forming tube, and the software's timing system.



Rejects

influenced by the efficiency of all the main factors, including the dosing system.



PRODUCTIVITY



2x
doubled production volume



Efficiency
Minimum of +50%,
guaranteed

EASY TO USE

**100% INDUSTRIAL PC: MBP R-SERIES
+ C-SERIES MULTIHEAD WEIGHERS**

It is possible to operate both the weigher and the packaging machine using one PC.

It is therefore necessary to use an Industrial PC to face modern requirements that call for large data exchange between production units and the control and supervision systems.

The hardware architecture of the I-PC components is particularly modular and compact, which reduces the overall dimensions of the electrical panel of the R-Series by 50% when compared to traditional ones.

The use of Windows 7 allowed us to develop an attractive user friendly interface which is as easy to use as a personal computer/tablet.

The multi-touch screen display allows all the interactive help pages to also be displayed in video format.





Optional additional table
for labeller



EASY TO USE



Industrial PC
simply, using your tablet



Adaptive Graphics
You only see what you need to



Interactive Guide
with specific manuals



Illustrating Videos
that can be viewed from
the panel

R SOFTWARE

THE SMART BREAKTHROUGH IN VERTICAL PACKAGING

Simple, powerful and functional: the beating heart of the R-Series packaging machines. Fully developed by MBP down to the finest detail, it guarantees perfect integration with the packing machine's mechanics, fully exploiting the machine's potential.

Perfect Bags!

R-Series exploits the latest ultrasound technology to precisely monitor the exact position of the film on the forming tube. The software constantly checks the data received from the sensor and automatically corrects the position of the film on the triangle.

Operating organization

Screen saver with end-of-reel calculation and countdown. The R-Series machine automatically calculates the reel diameter, the remaining runtime of the machine and the exact time when the machine will automatically stop because the film has finished.

Synoptic panel

In the home page there is a synoptic panel which shows the machine status. This allows the operator to quickly understand the state of every single machine component.

Interactive helps system

Every alarm is linked to the corresponding video and text that illustrate how to solve the problem. Furthermore, dedicated videos illustrate the maintenance operations to be carried out in accordance with the predictive system.

Automatic synchronization with product drop time.

R Series software device is able to anticipate the product onto the weigher automatically, according to the production speed.

Automation

Acceleration and closing of the jaws are automatically calculated and optimised by the software according to the pack dimensions, packaging speed and sealing time.

Automatic sealing time

As the speed changes, the powerful management software can recalculate the path of any moving part in order to ensure the movement is as smooth as possible and the sealing time constant, eliminating the need for the operator to modify the parameters of the machine.

Just like a continuous machine

The R-Series are intermittent machines, but encompass all the advantages of continuous machines: the production speed is extremely high, in contrast with continuous machines, intermittent machines are cheaper but, have smaller moving mass, this means lower power consumption and fewer mechanical maintenance interventions.

Connection to company's servers Industry 4.0

Windows architecture, which is installed on all the R-Series packaging machines, allows connecting to company's servers as well as to production management software, and also sending and receiving data regarding the production flow.

Automatic temperature control system

The software constantly controls the temperature of the sealing systems.

Therefore, the integrity of the seals is maintained as the production conditions change.

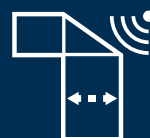
Connection to the coder and labeller

The software manages any date codes and labellers installed on the machine, as if the latter were a continuous one. The label position is managed by the software. No mechanical adjustments are necessary for format change.

Screensaver



Reel Unwind Control



Perfect alignment
Automatic adjustment of the triangle



Automatic sealing time



Organization
programmed reel change



Algorithm
rotating concept translated
into intermittent operation



Synoptic Panel



Connection
to company's servers and
management systems
4.0 Industry



Automatic synchronisation
with product falling time



Sealing units
Automatic temperature
control system



Optimisation of jaw
opening
according to the tube diameter



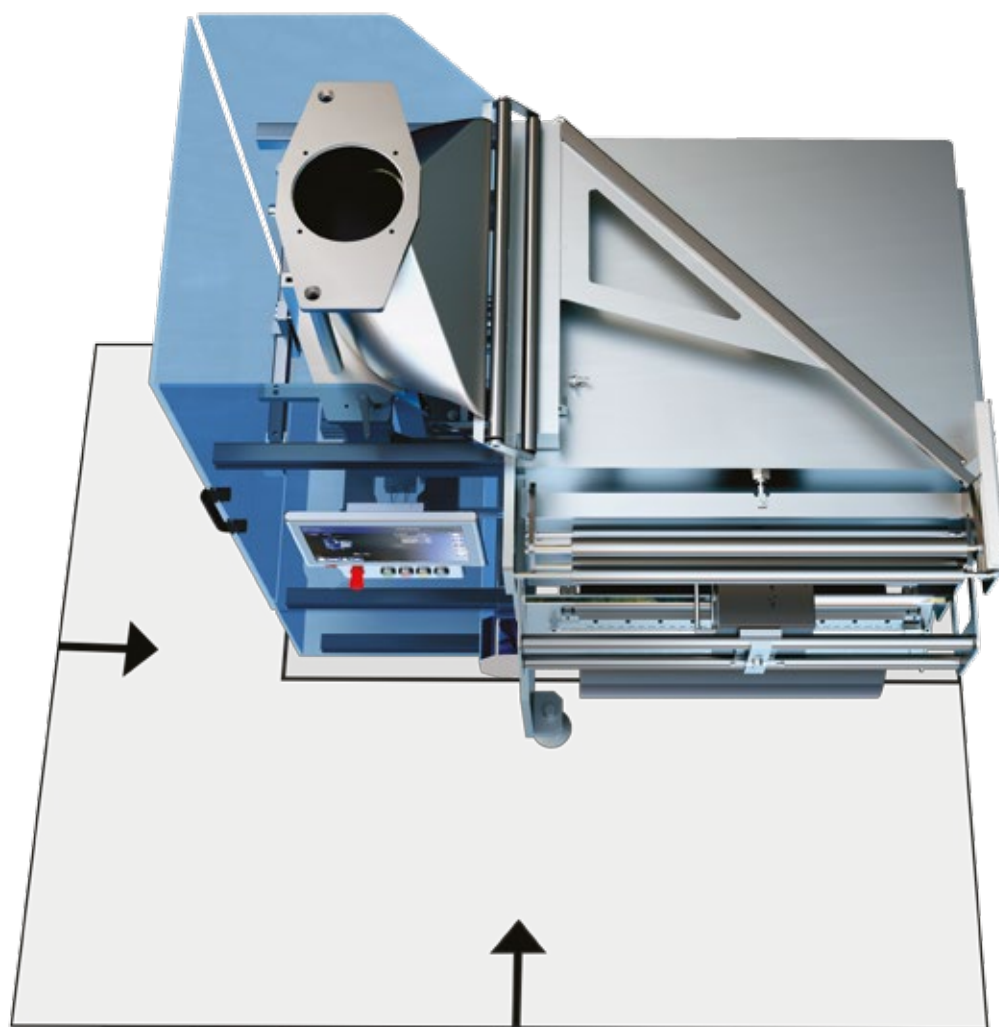
Date stamp and labeller
managed automatically

SPACE

DRAMATIC REDUCTION OF MACHINE FOOTPRINT

R-Series: occupies half the space. Accurate design and innovative technologies allow for the machine to occupy extremely small spaces while guaranteeing unprecedented performance for intermittent packaging machines:

1. The R-Series is compact: all the features in 1.42 sq. m; it fits into even the smallest space.
2. The possibility of installing Steelo-Bag sealing devices on the forming tube, allow the height of the forming tube to remain unvaried compared to the basic version.
3. The Twin version with only one MBP multi-head weigher, guarantees double productivity.



MHW MBP 14C2
EXTRA WIDE VERSION



CUT SALAD VERSION



SPACE



One multi-head weigher
double production



Compactness



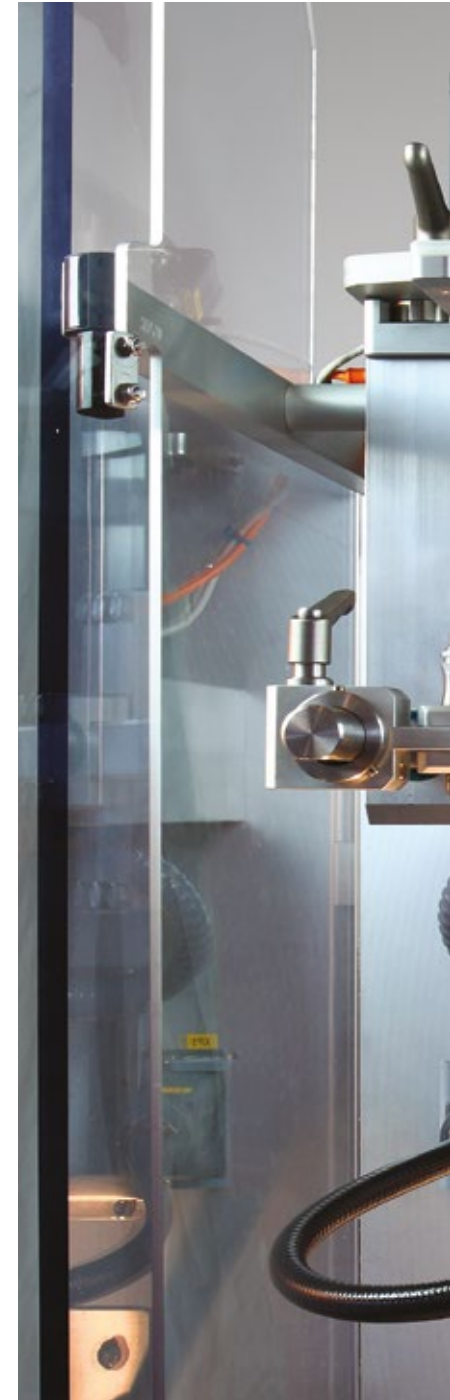
Steelo-Bag on forming tube
The height of the forming tube remains
the same

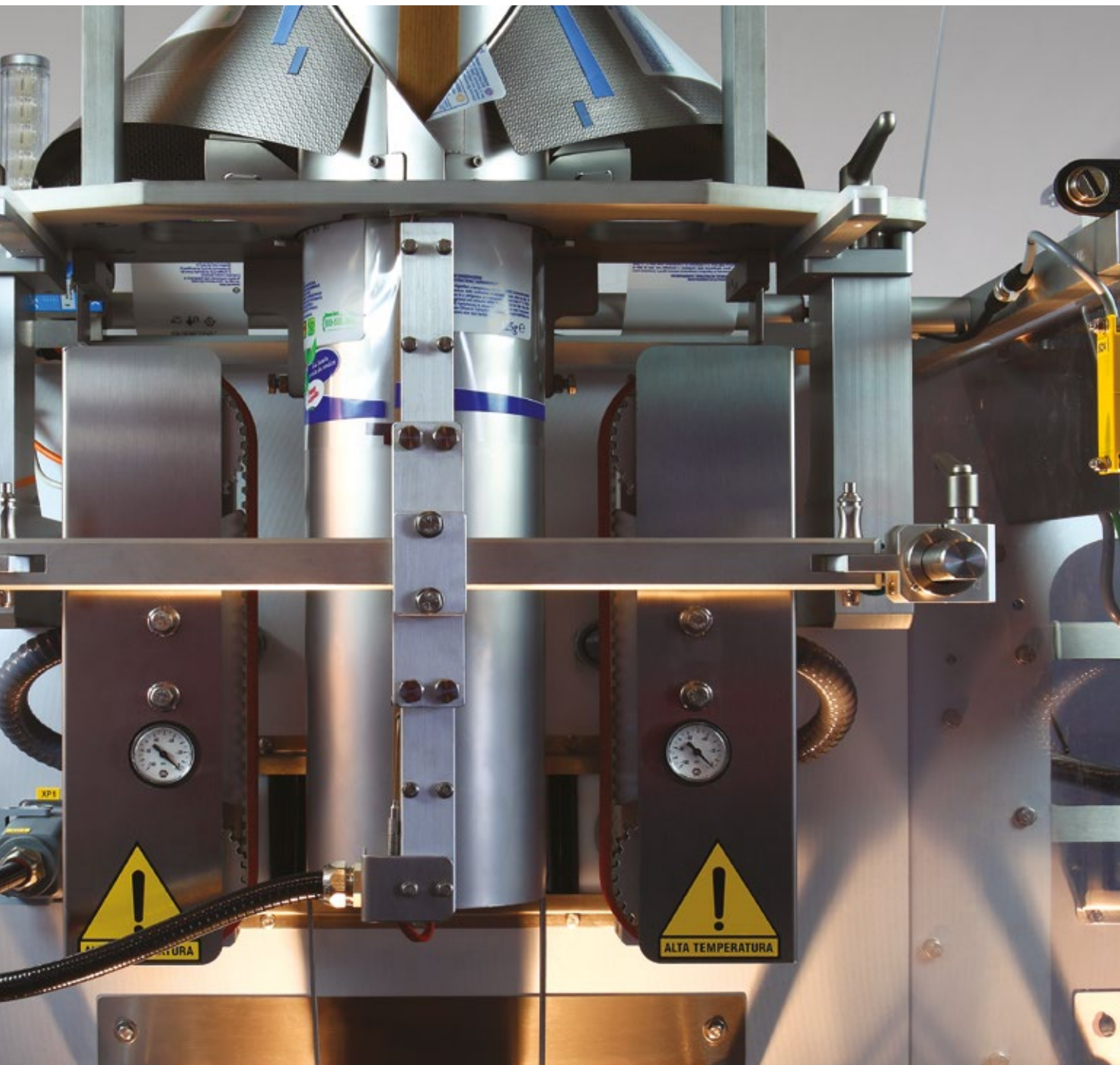
PROTECTION

**VACUUM TECHNOLOGY:
NO AIR OR DUST INFILTRATION**

The R-SERIES exploits the Ventury-Vacuum principle, applied to the film pulling belts and to the dry air recirculation within the body of the machine (including the electrical board).

This eliminates the need for ventilation systems for cooling and, therefore, guarantees that the inner parts of the machine remain dry and protected.





PROTECTION



Venturi vacuum
vacuum generated by
compressed air



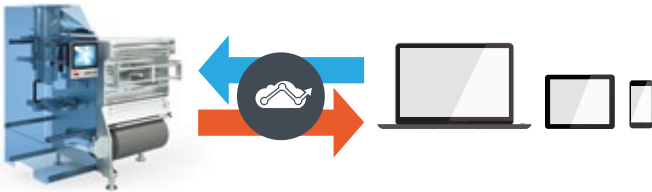
Fewer maintenance
operations
**Quieter operation, reduced
dimensions**



No Dust
no cooling fans

REMOTE ASSISTANCE

MBP IS WITH YOU, NO MATTER WHERE YOU ARE

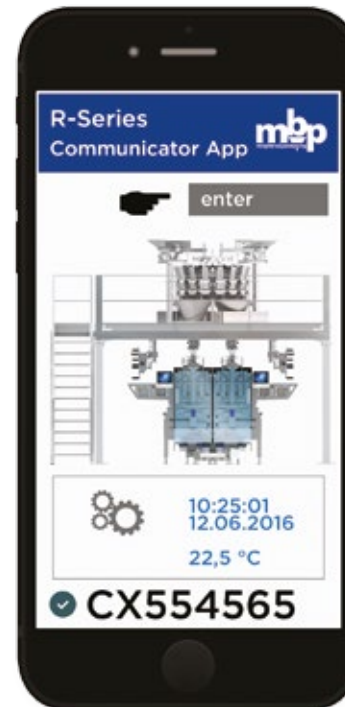


Thanks to the remote assistance features, fitted on all our packaging machines as standard, it is possible to supervise and control the machines anywhere in the world. This also allows MBP to remotely interrogate the machine and quickly solve any faults or update software.

R-Series COMMUNICATOR App

Offers a simple solution to control and analyse data on mobile devices (smartphones, PCs & Tablets). The APPs to receive, transmit and display messages coming from the R-Series machines are available free of charge on the APP STORE. To run the APPs you will need:

An internet connection on the mobile device, an environment where TWIN CAT can be run, with the R-SERIES COMMUNICATOR extension.





REMOTE
ASSISTANCE



Remote Access



Remote Assistance

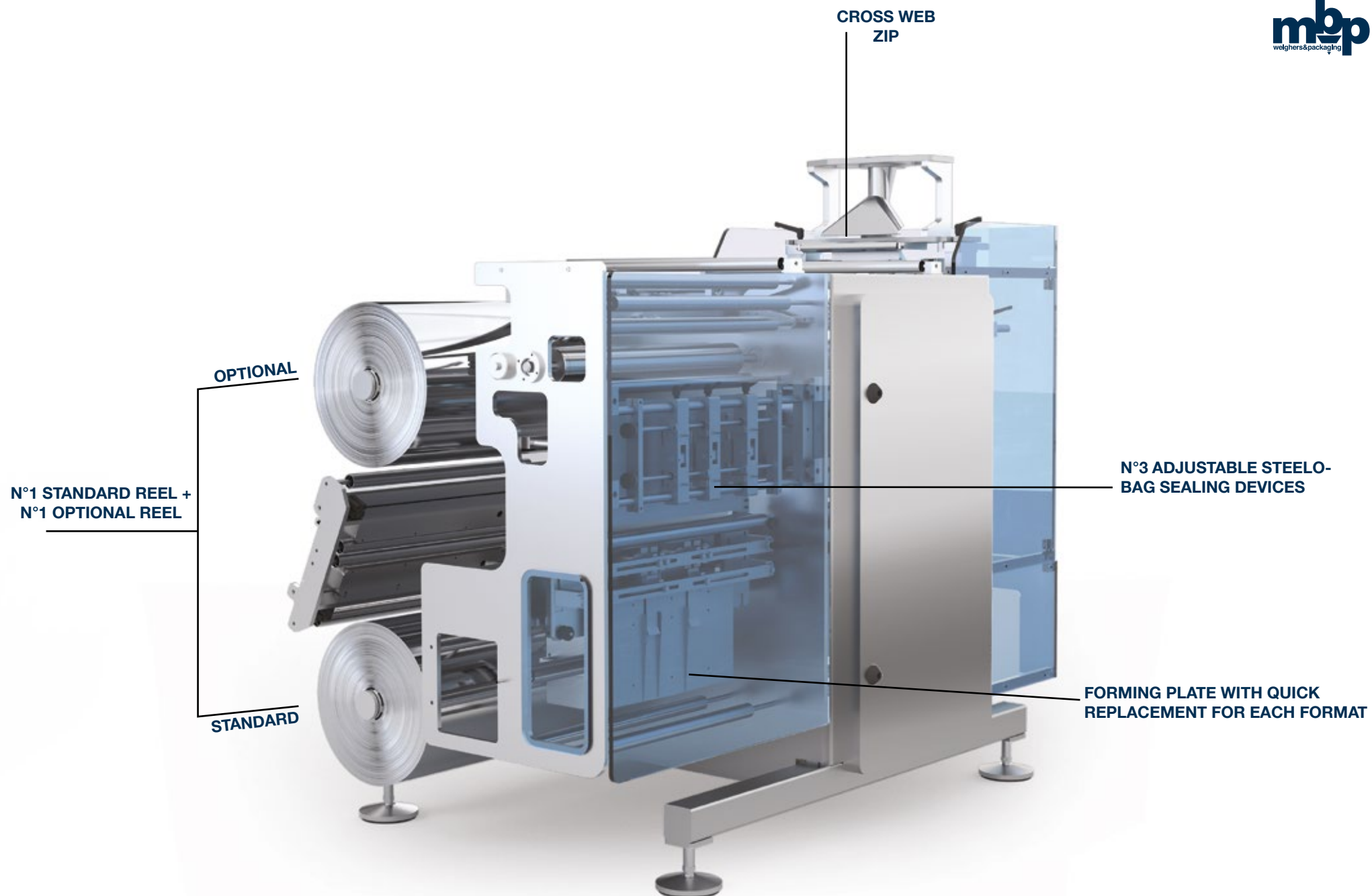
RS-SERIES

MULTIPLIES THE POSSIBILITIES

The versatility of the R-series becomes evident with the RS version, which increases the machine's range of use, simply by adding some options:

- 1 The possibility of installing two motorized reel-holding shafts with easy reel splicing;
- 2 The possibility of adding a cross web zip;
- 3 The possibility of positioning the Steelo-Bag sealing unit (square bottom, 4-seals) in the calender; useful in the case of numerous format changes;
- 4 The possibility of using forming tubes with a round section and rectangular ends, which simplify the passage of bulky products.



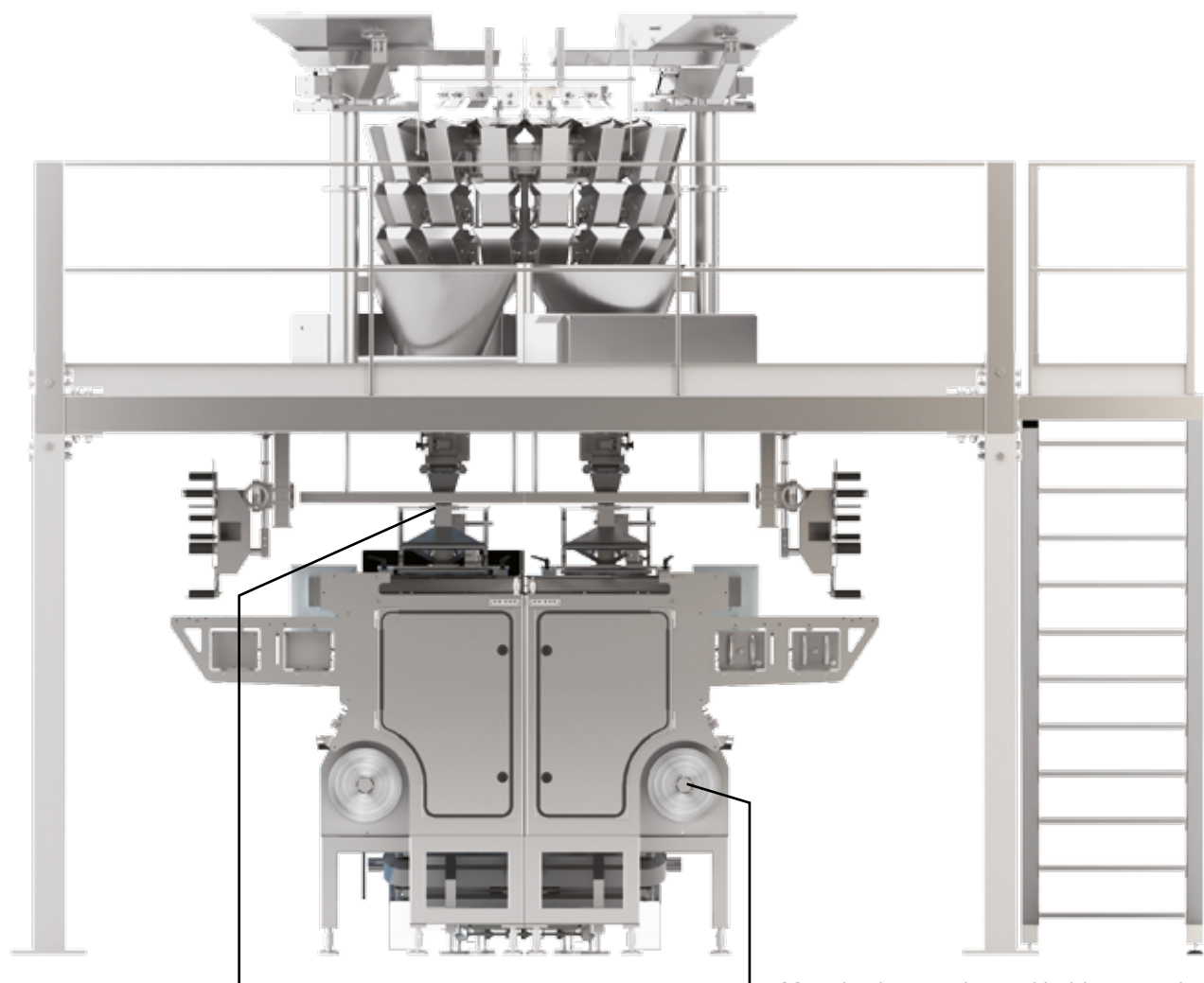


R-SERIES TWIN

DOUBLE PRODUCTION, SMALLER SPACES

R-Series' technology guarantees top performance and smaller overall dimensions. The TWIN configuration allows double production using one MBP multi-head weigher, even in small places.

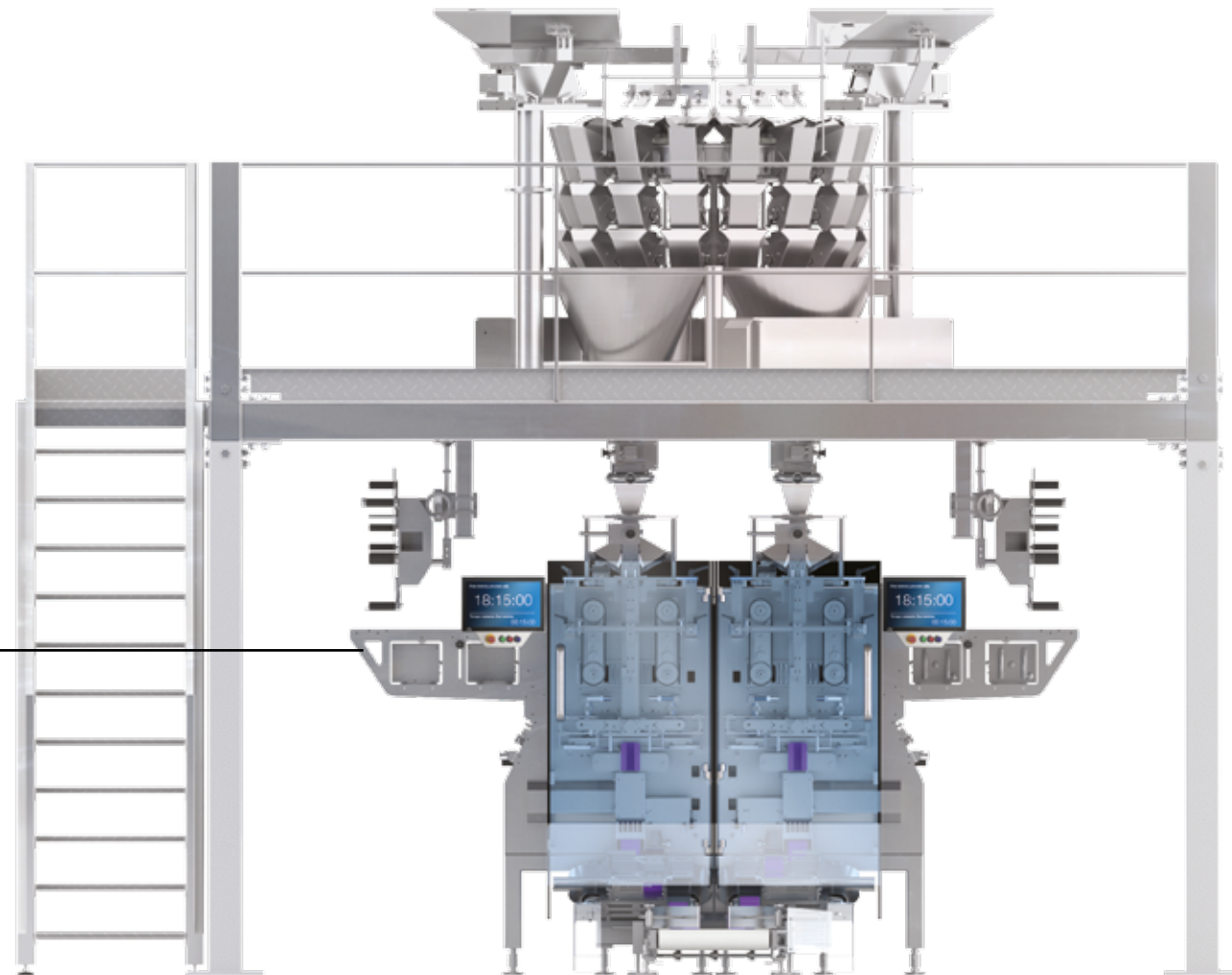
- 1 R700 TWIN occupies 3,2 m² and features a 700 mm film width.
- 2 R500 TWIN occupies 2.7 m².
- 3 Steelo-Bag sealers are installed on the forming tube, leaving the height of the forming tube unvaried compared to the basic version.
- 4 Production with square bottom and/or Steelo-Bag can reach up to 70+70 packs/min with one outfeed conveyor.
- 5 Pillow-bag output can reach up to 120+120 packs/min (16C2DMA TWIN).
- 6 The films that can be used with the R-700 are less complex than those used with a continuous machine.
- 7 The time needed to change the format with an R-700 TWIN is halved compared to any Steelo-Bag continuous machine model
- 8 50% of the production is always guaranteed. If the potential is not exploited to its maximum, it is possible to increase line production so as to compensate for a stopped line



With or without rephasing bucket according to the product.

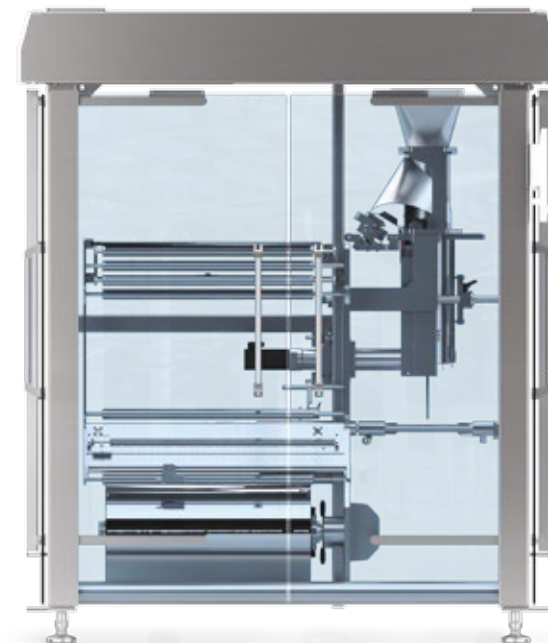
- Motorized expansion reel holder spread shaft.
- Max reel width:: 400 mm.
- Automatic reel end calculation end of film sensor, margin of error approximately 1.5m

R700 TWIN
2 labellers
2 printers



RD-SERIES

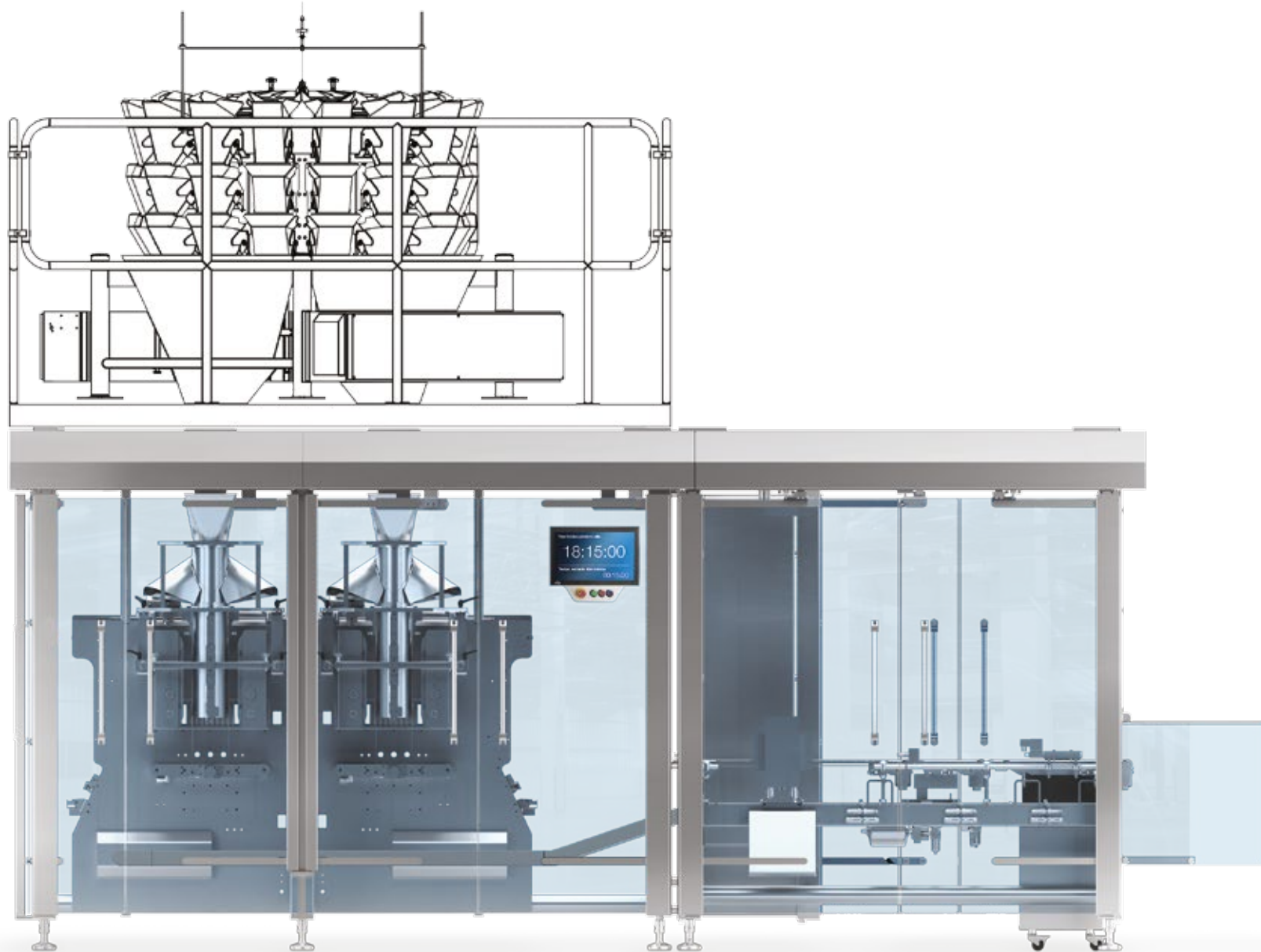
MODULARITY AND TWIN INTEGRATION



It features an Open-Frame structure and a perimeter guard. It maintains all the advantages of the R-Series as well as the following aspects:

- 1 Mechanical components in full view;
- 2 Immediate access to every mechanical component;
- 3 Easier cleaning and sanitising operations and the possibility to inspecting each component;
- 4 Electrical panel located on the upper section;
- 5 Full compliance with safety standards;
- 6 The possibility to installing weighers, volumetric dosing hoppers or auger filler dosing hoppers, without the need for any additional support structures;
- 7 The possibility to add a metal detector + weight control module;
- 8 Integrated electronics; the possibility of continuous monitoring of any device and relative productivity.





MBP INDUSTRY 4.0 : CHOOSE PERFECTION

FEEDING SYSTEMS

SPEED, ACCURACY, MIX

The R-Series packaging machines are fully integrated with MBP multihead weighers (Series C1, C2, and C3). The I-PC technology used for the R-Series allows the machine and the weigher to be managed using the same hardware/software package.

The DMA concept applied to MBP weighers, together with top weighing precision, exponentially increases the number of possible combinations.

Dosing Screw Feeders

PFM offers a complete series of volumetric dosing systems, Series AF-5000, for products in powder form (sugar, salt, beverages in powder forms, flour, cocoa, coffee, etc.).

Maximum dosing precision is guaranteed by the screw's accurate construction, the perfect finish of product contact surfaces and the precision and consistency in the shifting angles and the screw rotation.

Multi-head Weighers

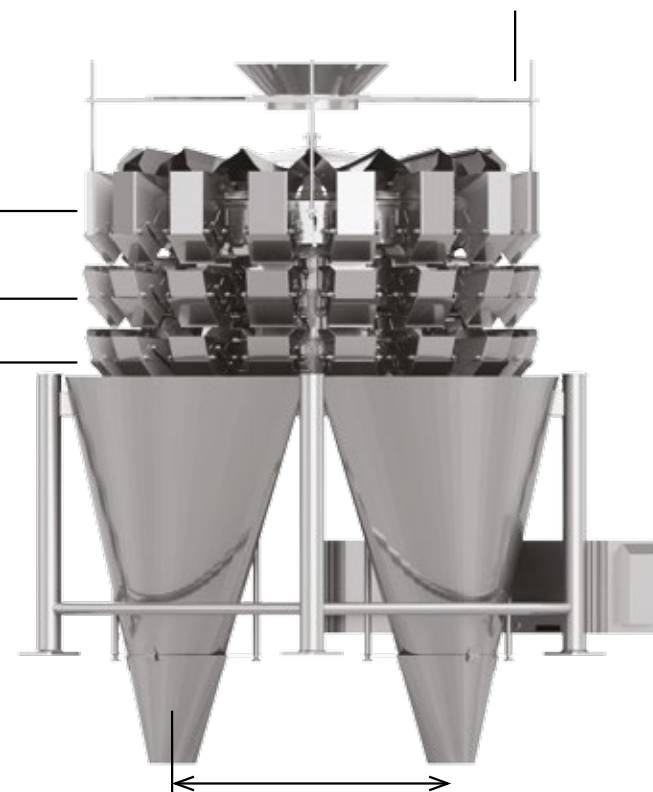
Almost thirty years experience and intensive research have led MBP, a PFM Group company, to manufacture a series of weighing units, 100% made in Italy (C1, C2, C3, C4, C5) technologically advanced and providing solutions for the most demanding clients.



D PRE-DOSING

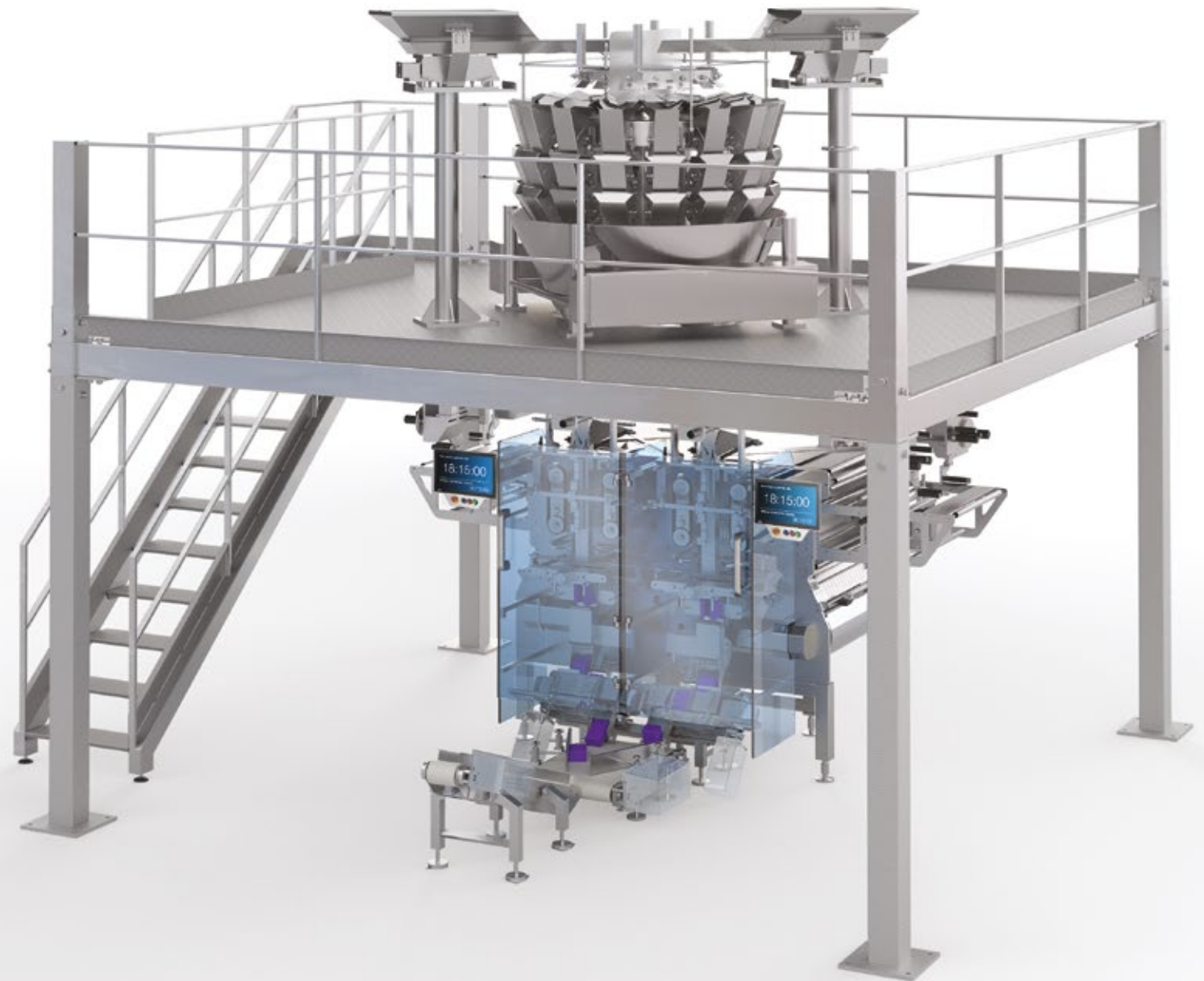
M WEIGHING

A MEMORISING



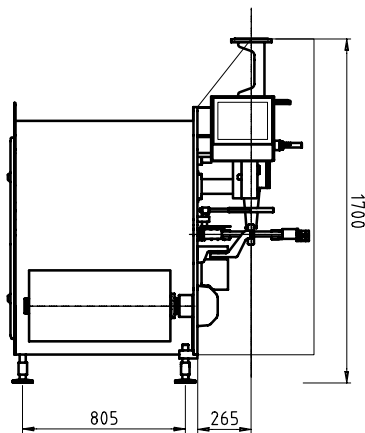
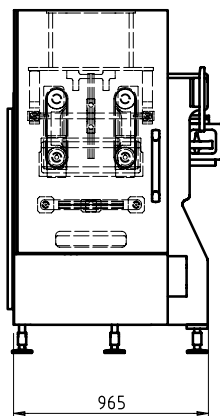
R500 TW = 550 mm

R700 TW = 800 mm

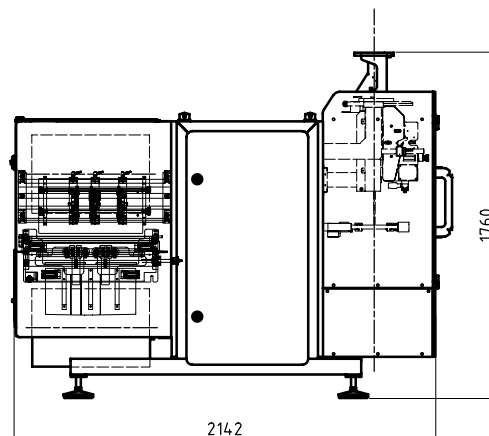
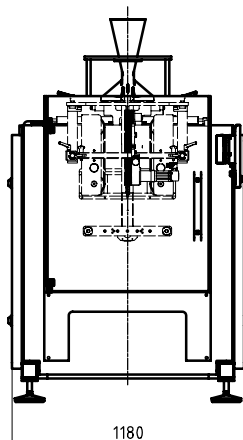
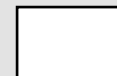


LAYOUTS

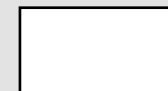
DRAMATIC REDUCTION OF OPERATING SPACES

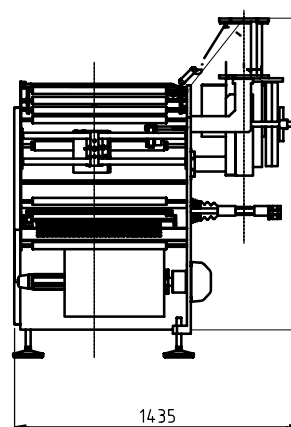
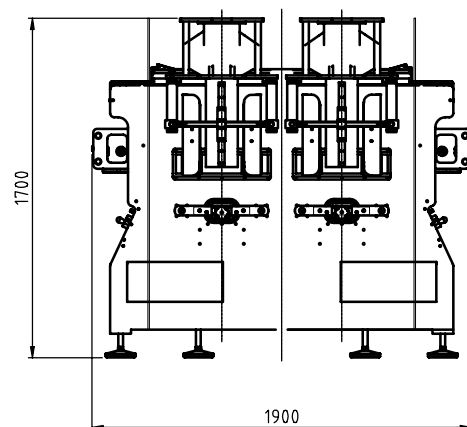


R700
1.4 m²

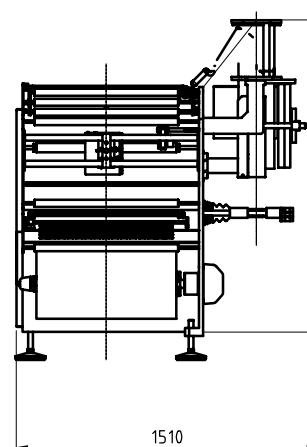
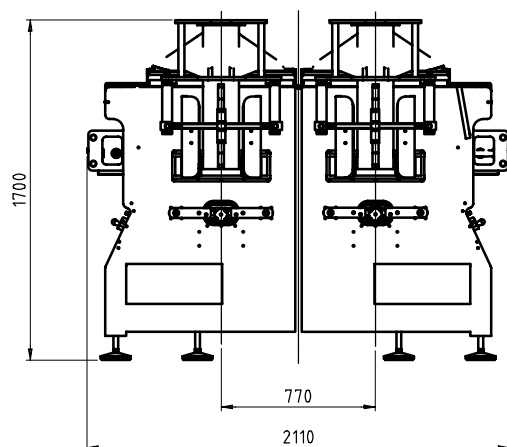


RS700
2.5 m²

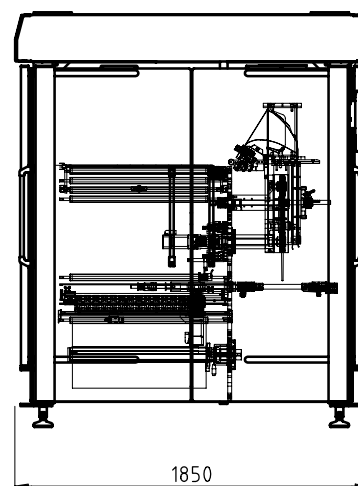
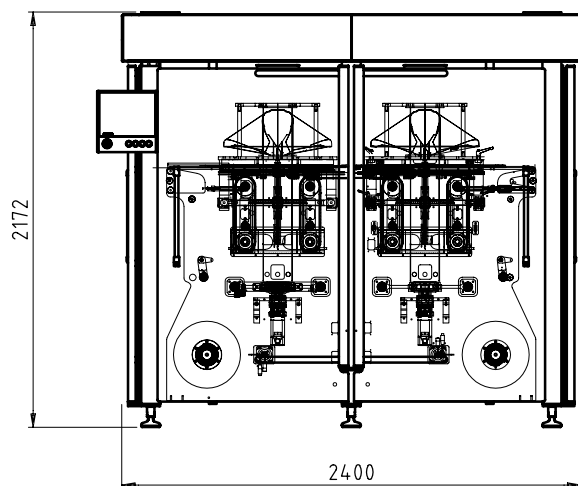
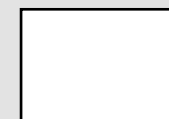




R500 TWIN
2.7 m²



R700 TWIN
3.2 m²



RD700 TWIN
4.4 m²



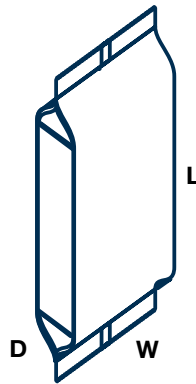
CHOOSE YOUR BAG



Pillow-Bag

R700 - RS700

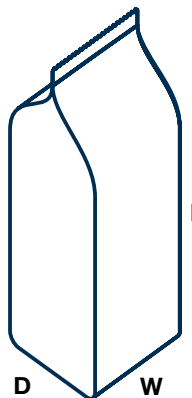
W: 80-300 mm
L: 50-400 mm
Up to 140 packs/min
Up to 60 packs/min with Zip



Gusseted

R700 - RS700

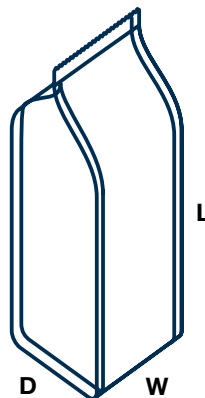
W: 80-300 mm
D: 30-100 mm
W+D<250 mm
L: 50-400 mm
Up to 140 packs/min



Block-Bottom

R700 - RS700

W: 100-260 mm
D: 50-100 mm
W+D<250 mm
L: 100-380 mm
Up to 70 packs/min



Steelo-Bag 4 Seals

R700 - RS700

W: 100-170 mm
D: 50-90 mm
W+D<250 mm
L: 100-350 mm
Up to 70 packs/min

Technical specifications are affected by:

- 1 Film quality: sealing characteristics and friction coefficient
- 2 Reel winding with maximum external edge tolerance + / - 1 mm.
- 3 Max permissible error of cutting pitch between photocell notches is 0.5 mm; special care should be taken in the last few metres before the film core.
- 4 The presence of the euro-hole reduces the maximum useful dimension of the pack.
- 5 Type of product, specific weight, fall time, friction coefficient.
- 6 Product volume and pack volume ratio.
- 7 ZIP type and characteristics.
- 8 Required residual oxygen percentage.

	R700	RS700
Sealing jaws width	350 mm	350 mm
Forming tube diameter minimum-maximum	50-200 mm	50-200 mm
Pillow-Bag Production	150 cycles/min	150 cycles/min
SquareBlock-bottom bag production or Steelo Bag, finseal folding device on sealing bar	60 packs/min	60 packs/min
Block-bottom bag production or Steelo-Bag, fin-seal folding device riveted sealed in place under crimper unit	75 packs/min	75 packs/min
Riveting Sealing system fin-seal folding device	Step motor	Step motor
Film pulling belts	N°2 brushless motors	N°2 brushless motors
Transversal sealing unit, intermittent	N°1 brushless motor	N°1 brushless motor
Vertical sealing unit, intermittent	Pneumatic inside the machine	Pneumatic inside the machine
Motorized expansion reel holder spread shaft.	N°1 feedback step motor	N°1+1 feedback step motors
Unwinding device	/	N°1 brushless motor
Film-turning triangle	N°1 step motor	N°1 step motor
Steelo-Bag sealing system	No. 4 fixed sealing units on forming tube No. 1 kit for each format Forming tube with rectangular section	Sealing unit in the calender. Max reel width 600 mm or No. 4 fixed sealing units on forming tube. Forming tube with either round or rectangular section
Labellers	1+1	1+1
Printers	1+1 continuous rotation	1+1 continuous rotation
Electronics	Beckhoff	Beckhoff
Resistors voltage	220V	220V
Touch Screen	Beckhoff 16.6" (16/9) slim, integrated push-button panel	Beckhoff 16.6" (16/9) slim, integrated push-button panel
Master-control	I-PC Beckhoff	I-PC Beckhoff
Communication network	Ethercat	Ethercat
Power Supply	220V Monophase power consumption 3 Kw/h	220V Monophase power consumption 4 Kw/h
Air Consumption	min. 6 bar	min. 6 bar

PFM and MBP
reserve the right to
implement changes and
modifications without
prior notice.



MBP S.r.l. MULTIHEAD WEIGHERS - PFM GROUP
Via Toscanini, 48/B - 46043 Castiglione Delle Stiviere (MN) ITALY
Tel: (+39) 0376. 638.479 | Fax: (+39) 0376. 670.727
www.mbp.it



