

# PFM D-Series

The Stand-Up Pouch Machine





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**Simple**



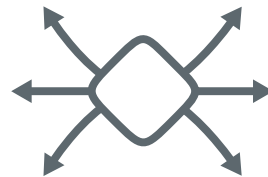
**Modular**



**Accessible**



**Compact**



**Fast Format Change**



**High Productivity**

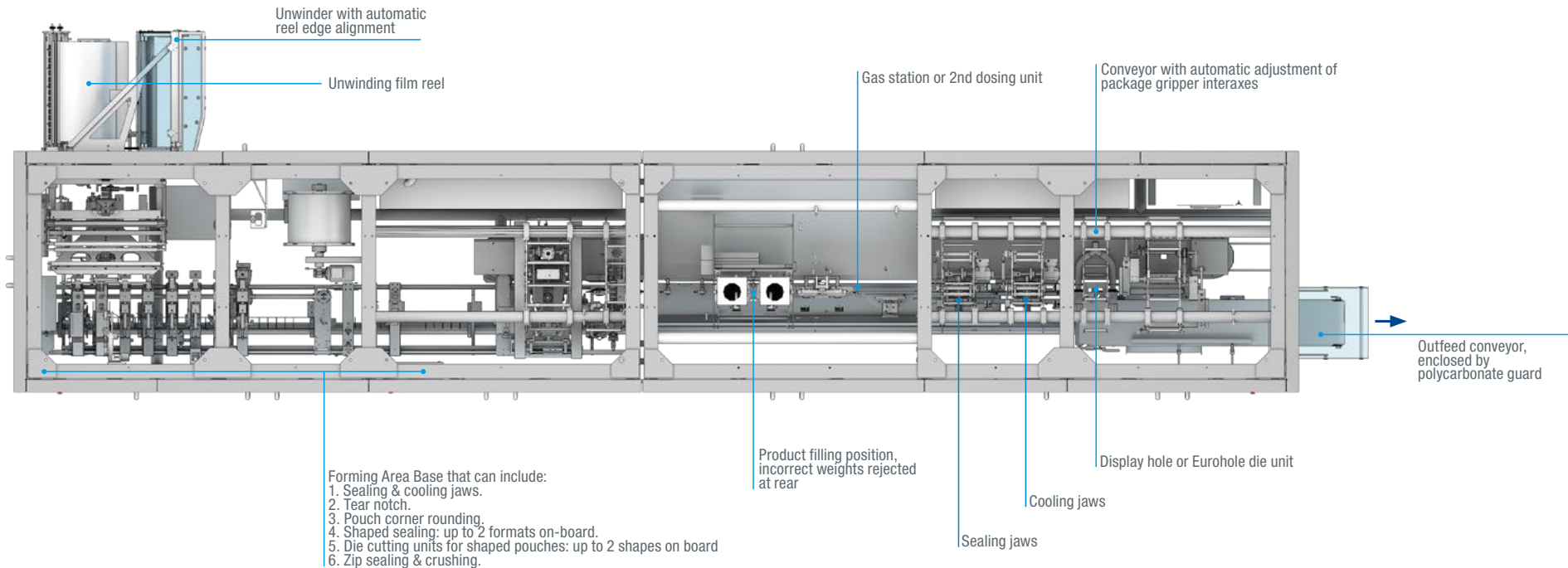
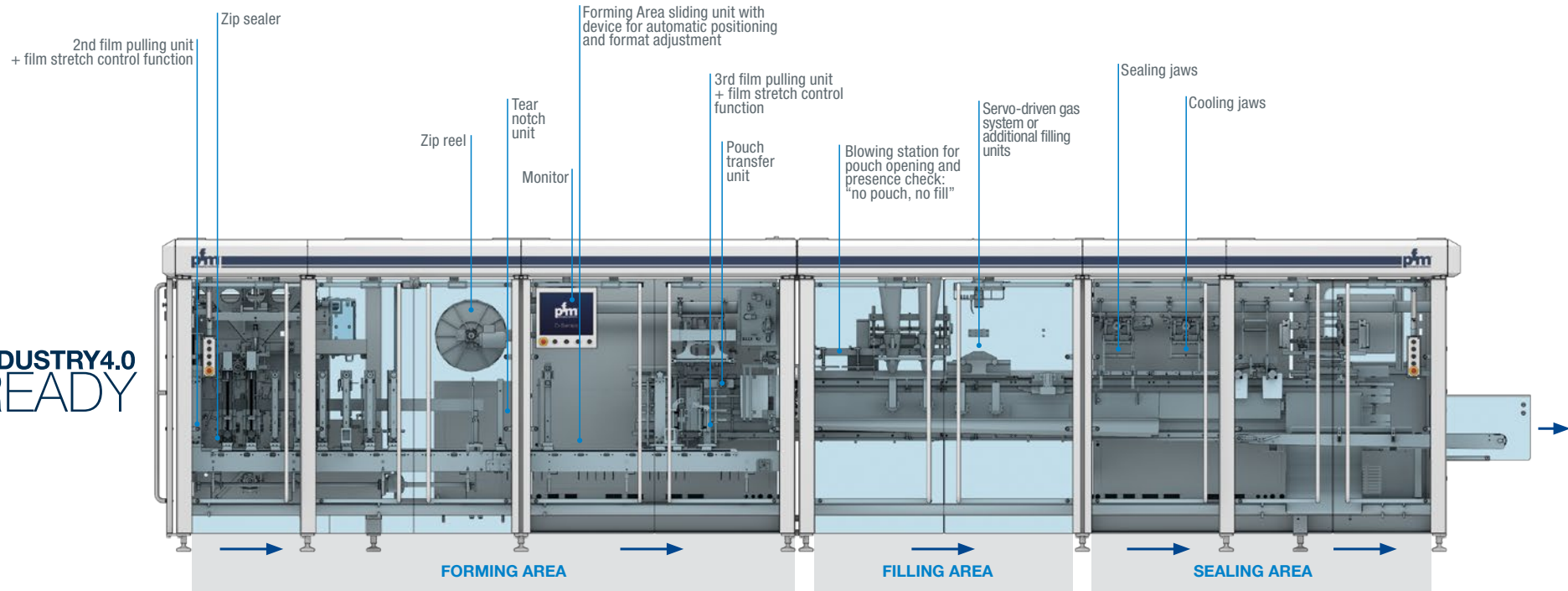


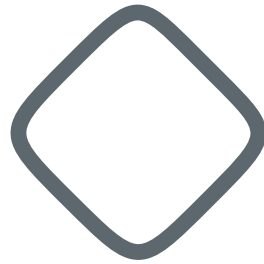
# PFM D-Series: Why?

Top 6 product innovations.



INDUSTRY4.0  
READY





# Simple

The D-Series is simple because all functions and operations are precisely controlled, parameterized and repeatable, including:

- Automatic film stretch control & compensation.
- Sealing parameters are material driven, not speed dependent.
- Format change takes 20 minutes on average.
- Low-tension film transport.
- Indicates time left before the end of the reel.
- Machine is easily accessible, can be sanitized and inspected.





# Modular

A single machine with modular functionality! Each D-Series base machine features 3 areas that can be set-up independently during the format change: Forming Area takes the material from the reel, forming the pouch up to the cutting stage; in other words until the pouches are separated. In the Filling Area product is dosed, filling the pouches. The Sealing Area transports the pouch without releasing it until the packaging process is completed.

The pouch is opened, checked, filled with product, gas flushed (if necessary), sealed and cooled.

The machine can be enhanced by integrating the following modules: Check-weigher, Metal detector, X-Ray, Secondary Packaging. The open architecture offers plug & play installation of additional functionality such as zip, applicators, shaped pouches etc., future-proofing the investment for an everchanging world.





side view



1

optional automatic  
reel change

2

vertical  
pouch  
forming  
and Zip  
sealing

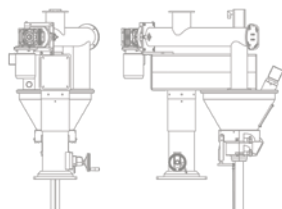
3-4

bottom sealing group with  
automatic height and width  
adjustment

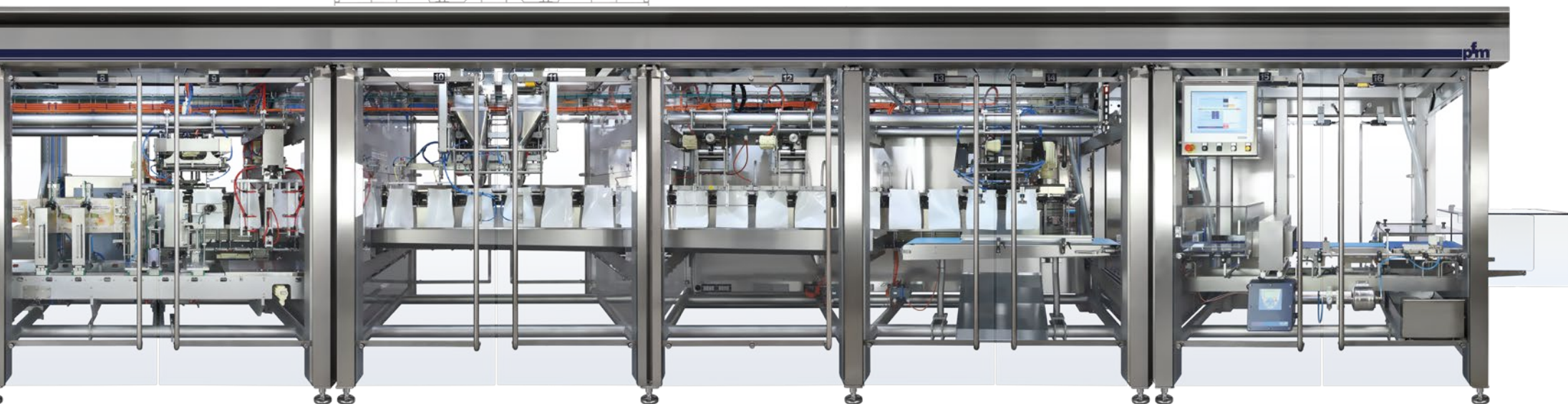
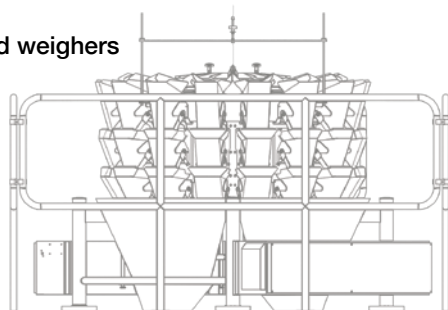
5-6

side sealing unit

auger fillers or other  
dosing systems



multihead weighers



7-8

pouch cutting &  
opening devices

9-10

pouch filling zone

11

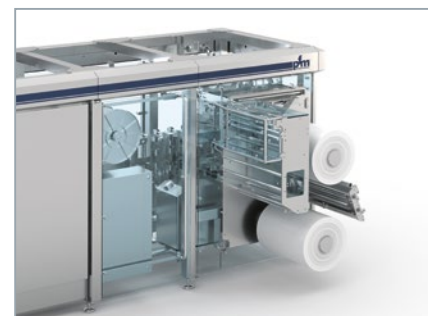
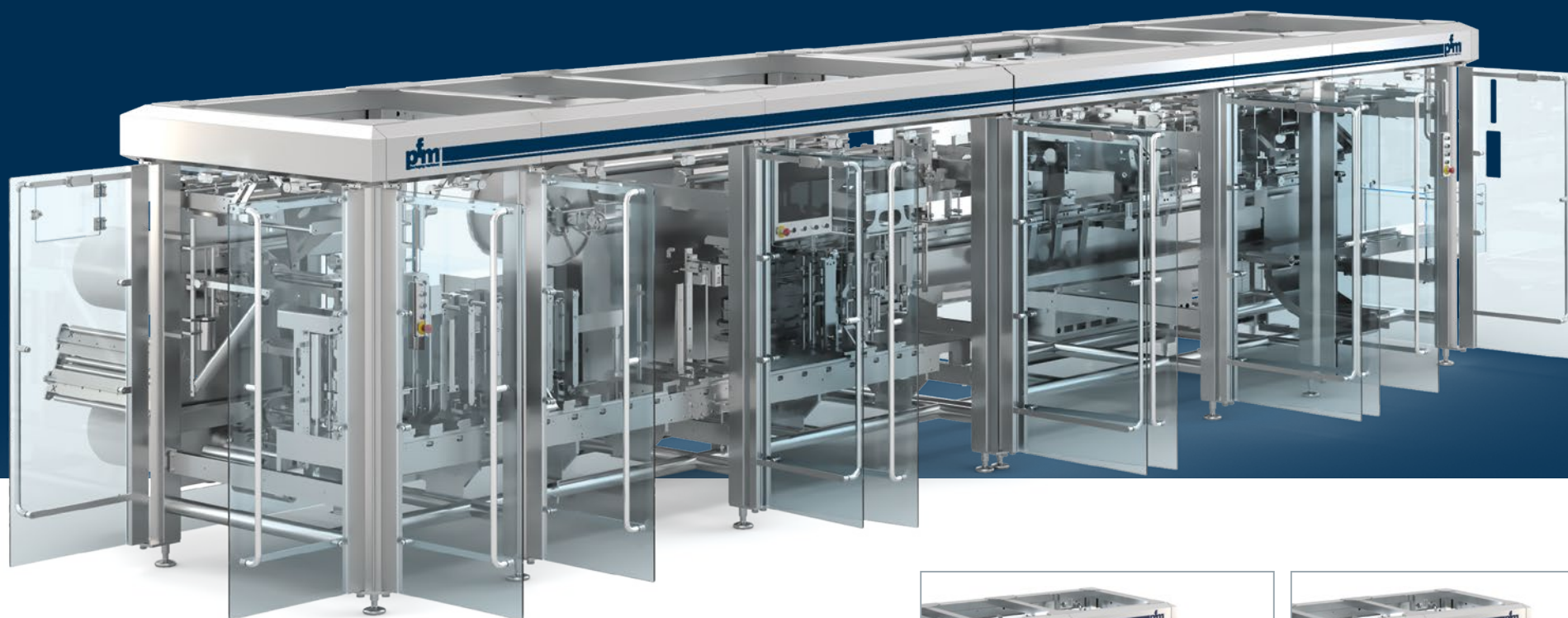
top sealing and  
cooling units

12-13

pouch output transfer  
with pouch rotation

14-15

in-line check-weigher  
module with metal  
detection or X-ray



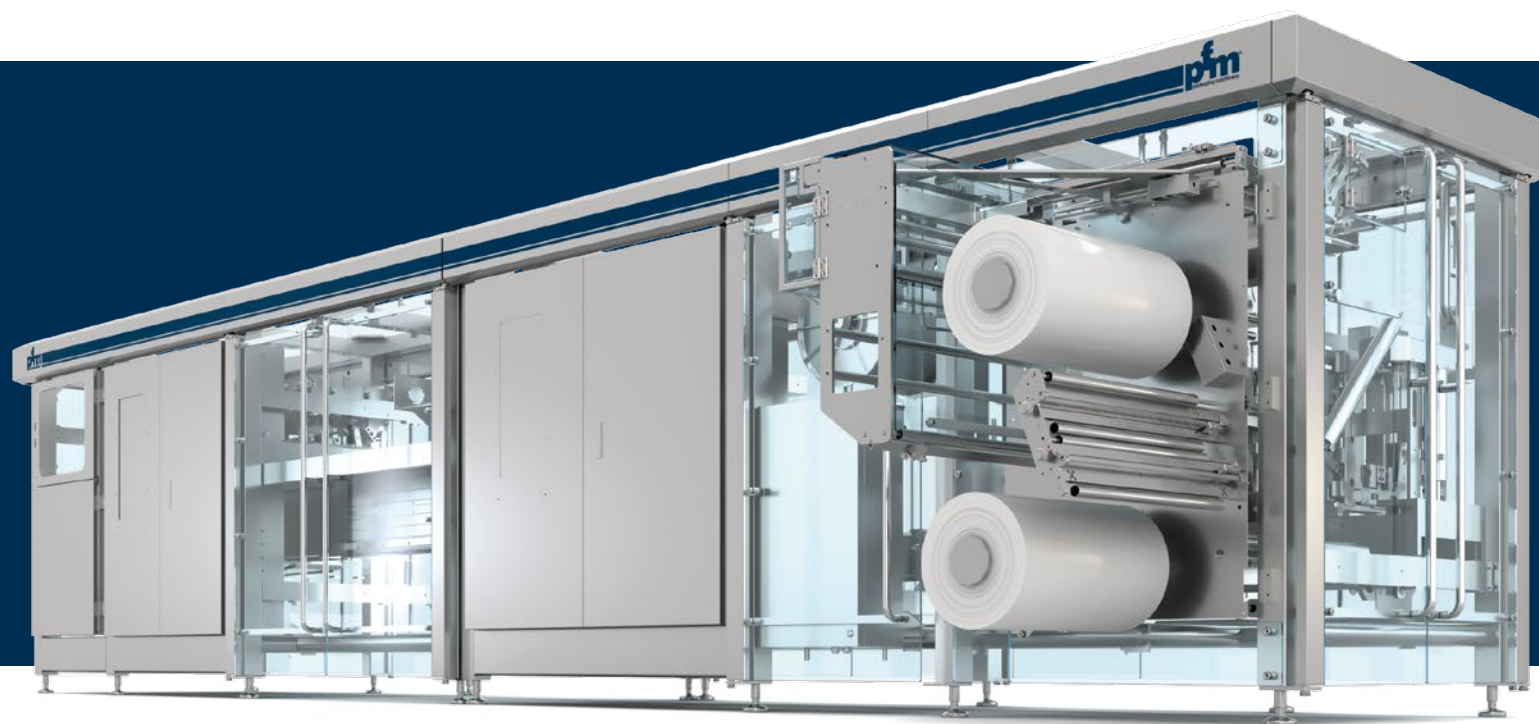


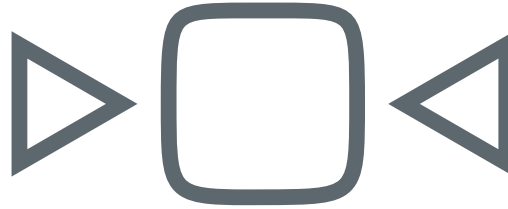


# Accessible

We created a machine with a “portal” build concept. The entire machine is supported by the structural frame and protected by full height doors which give 360° access to all the mechanical and electronic components of the machine. As a result, operators can quickly and easily access the machine without having to remove guards.

Ergonomics are further enhanced with mechanisms located at a comfortable working height and exceptional floor clearance completes the supreme cleanability from top to bottom.



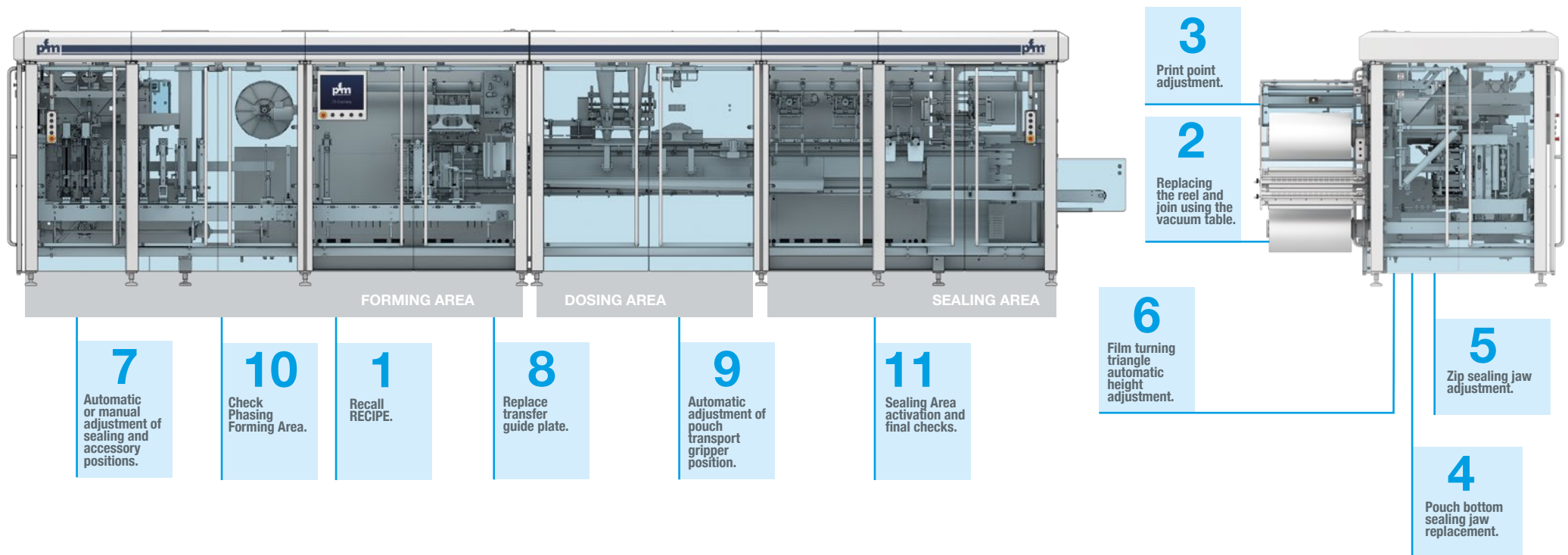


# Compact

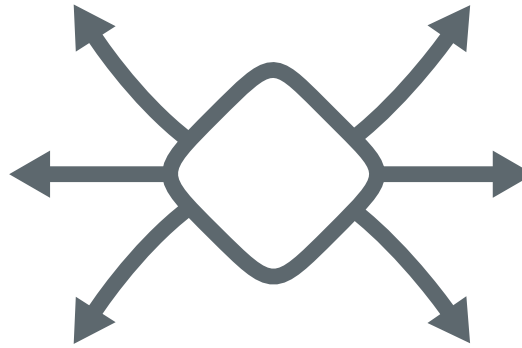
The PFM D-Series features a space-saving 90° reel holder assembly layout.

The film unwinder, reel-holding shaft, compensating device, printer adjustment system and the gusset punch dies are located at the back of the machine.

This arrangement significantly reduces the overall machine length. Electrical cabinets are integrated in the machine frame to reduce overall installation width and avoid cable trays crossing walkways. “Mirror” right-left configuration is available in all models offering additional flexibility for difficult spaces or shared operator zone for multi-machine installations.

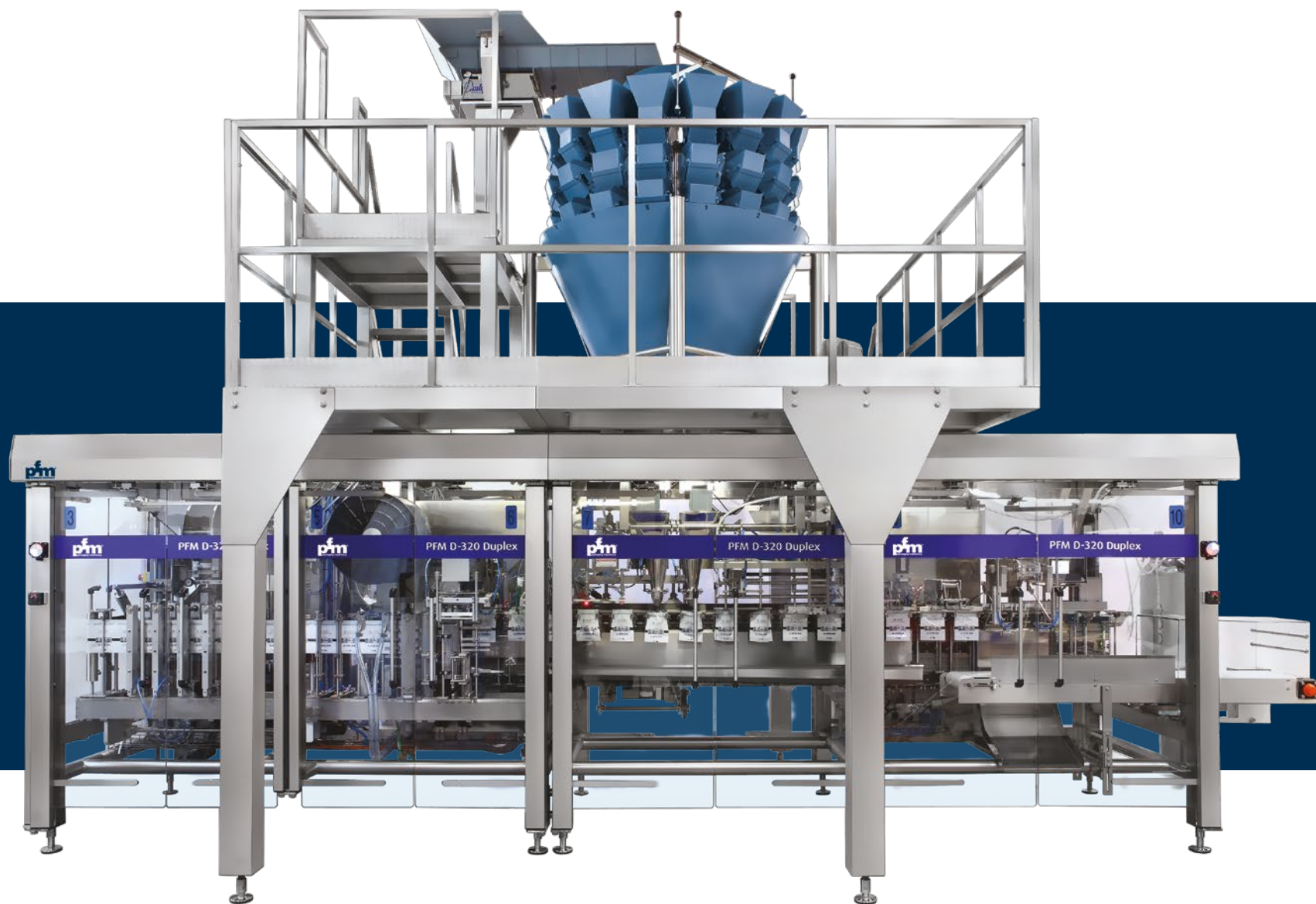


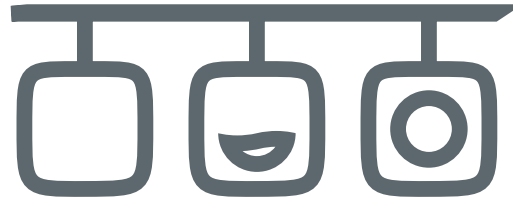
**Tool-less Format Change Procedure: approx. 20 minutes**



# Flexible: Fast Format Change

Complete format changes in minutes, not hours thanks to a highly automated, tool-less procedure with no clean-down required before changeover. Pouch formats selected from HMI menu, pouch transport grippers reposition in seconds, automated positioning of module A assemblies, including: sealing jaws, tear notch & corner rounding units, knives and material pulling rollers. Automated reel edge alignment. Minimal change parts with “Single Minute Exchange of Dies” concept. Fast ramp-up to full production with HMI-driven adjustments. Intelligent interface suggests positions for new formats. Fully automatic option for “K” base seals. Optional automatic reel splicing.





# High Productivity (OEE)

The combination of innovative functions and construction details. It takes an average of 20 minutes to switch from one format to another. The “all in one conveyor” system transports and firmly holds the pouches in order to ensure maximum operational safety. The film-stretch control, sealing pressure, unit acceleration and reel-end prediction system are just some of the software features making the operator’s job easier permitting constant monitoring of all functions. The OEE index (Overall Equipment Effectiveness) is the verifiable scale of high performance created by the whole set of features included in the D-Series machine.

# Powd

## POWDER PRODUCTS

Foods Baby foods  
Freeze-dried drinks Supplements  
Spices Cocoa Coffee  
Milk Sugar Salt Desserts Raising agents  
Flours Instant food  
Drink formulations  
Ice cream  
Chemicals Medicines  
Insecticides

# Gran

## GRANULAR PRODUCTS

Sweets Lozenges Toffee Dried fruit  
Frozen Vegetables Frozen Seafood  
Grated Cheese Cheese in cubes  
Cheese strips  
Mozzarella and Mini Mozzarella  
Mini Salamis Peanuts Pulses  
Cereals Muesli Snacks Pasta  
Rice Ready-cooked Foods Pickles  
Vegetables Technical Products  
Pet Food Toys Screws

# Liqd

## LIQUID PRODUCTS

Fruit juices Fruit nectars  
Soft drinks  
Herbal Teas Hand and body lotion  
Ready to use Broth Smoothies  
Oil Tea Ready-made meals  
Fruit and vegetables mixes  
Energy drinks  
Laundry soap Fabric softener  
Detergents

# Dens

## DENSE PRODUCTS

Fruit puree Creams  
Cosmetics Sauces  
Mayonnaise Mustard  
Nutritional products  
Soups Ready-made meals  
Liquid spices  
Dairy products Processed cheese  
Honey Ketchup Glue  
Fruit purée Yogurt  
Detergents Liquid soap  
Toilet cleaner Pet food



# PFM D-Series

Just what you need.

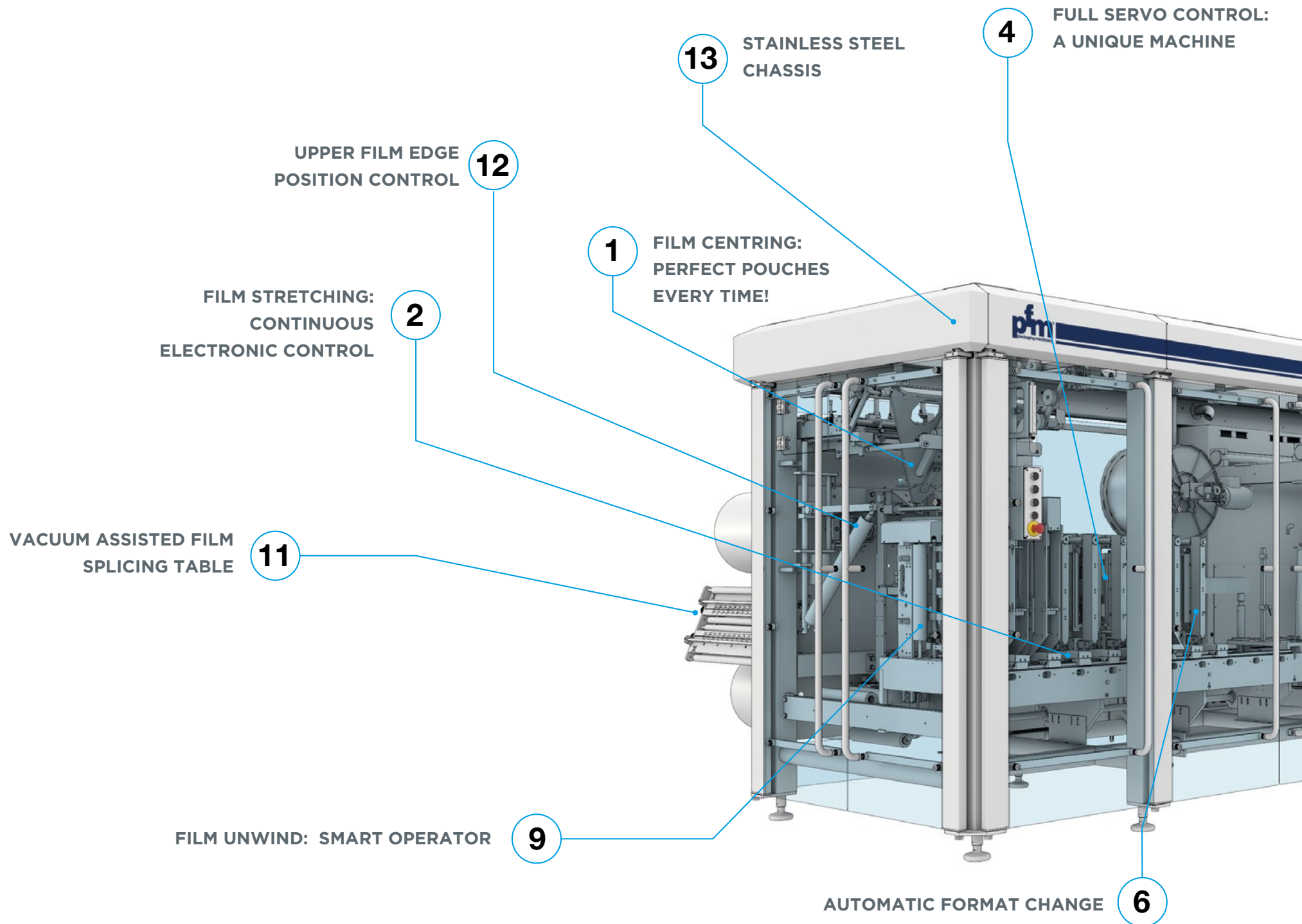




# Pouch Examples

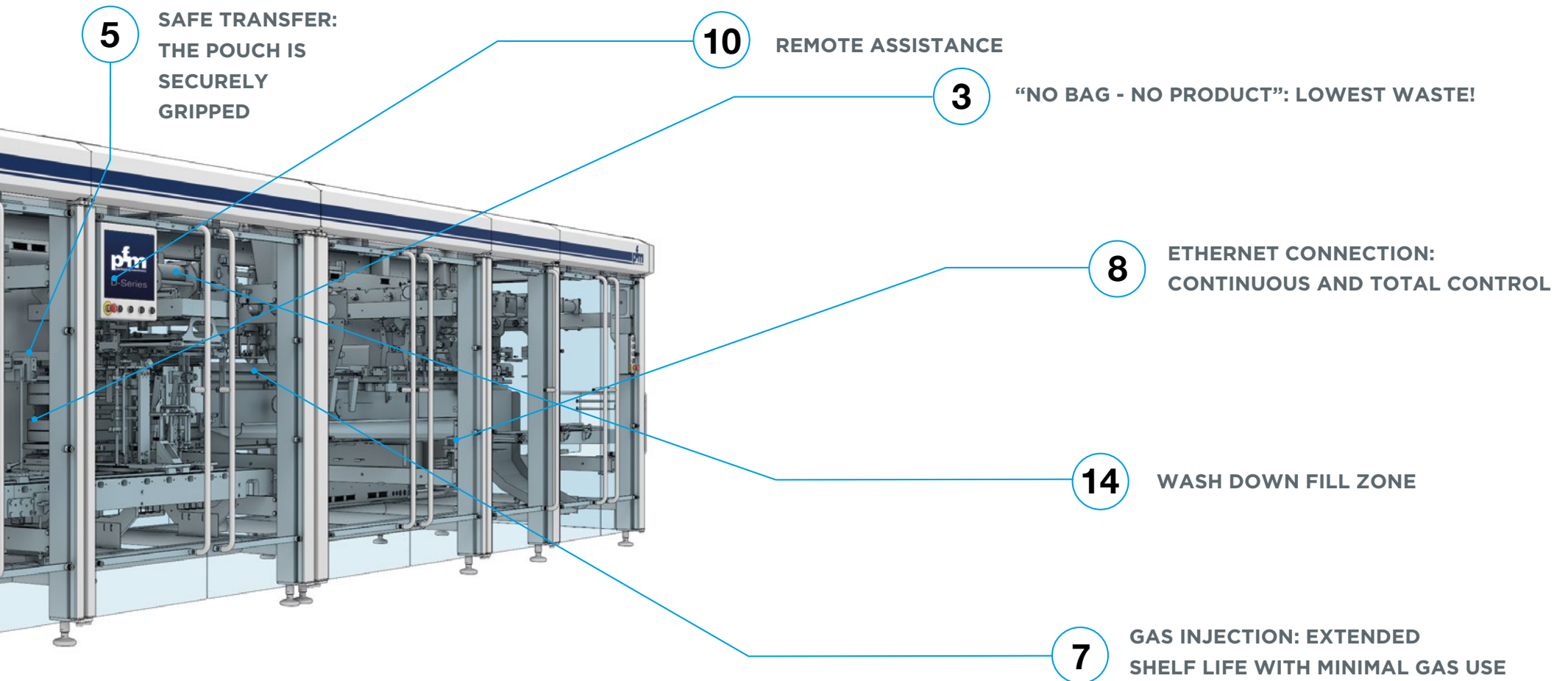
5 good reasons to choose pouch and go beyond packaging.

1. Suitable for individual portions: dramatic waste reduction.
2. Re-closable.
3. Lightweight.
4. Informs the consumer and protects the product.
5. Optimizes shelf displays: the pouch is the display.



# PFM D-Series

Great features make everyday operation easy.





# Special Functions

A universal 45° bottom sealing unit can be installed in Forming Zone, eliminating the need for expensive format parts with long lead times. The unit centre position and seal bar height are adjusted automatically according to pouch width, height and gusset dimensions in the HMI. Pouch format change times are enhanced by eliminating the times usually associated with changing bottom seal bar sets.



# Technological Innovations

Clear ideas, in everything we do.



Full Servo Control



All-in -One Conveyor

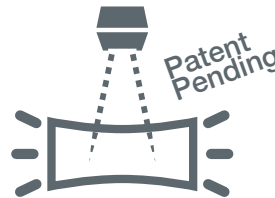


Patent  
Pending

Automatic Format Change



Remote On Line Support



Patent  
Pending

Non-stretching Film Transport





# Full Servo Control

Electronic control of every function.

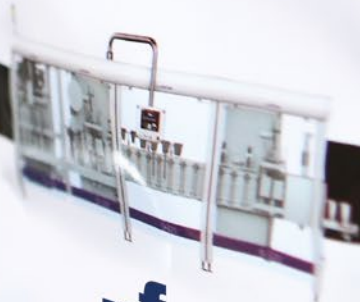
PFM D-Series is completely servo-driven, which offers immediate benefits such as a perfect micrometric check on package movement and constant monitoring of all sealing unit pressures. Greater productivity, faster format changes and precise package control are made possible by the independent mechanism control achieved with the 18-20 servomotors typically fitted to each PFM D-Series machine.

The control software takes advantage of servo-drive feedback function to intelligently manage alarms and safety.

Connectivity via Ethernet IP device 10/100Mb HMI interface via Touch Screen control panel (industrial PC) Remote on-line support via internet (PFM Ubiquity software) with webcam for monitoring individual devices offers really effective intervention.



D-320<sup>SERIES</sup>  
Horizontal Form Fill Seal Machine



**pfm**  
packaging machinery



# All-in-One Conveyor

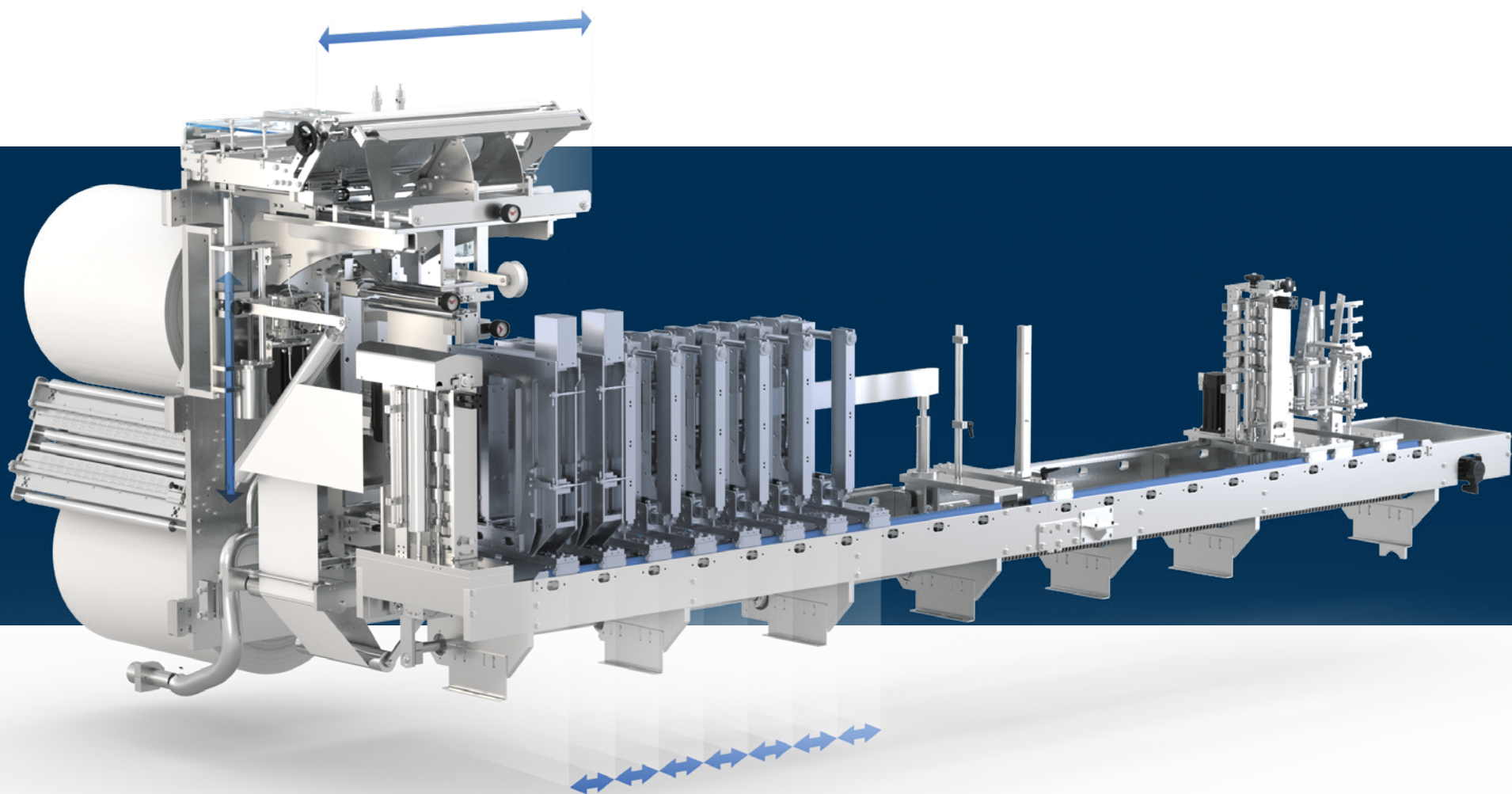
Pouch transport system with automatic gripper spacing change.

The exclusive D-Series “All-in-One” conveyor system ensures the pouch is firmly held at all times by the same gripper pair throughout the entire opening, filling and sealing process, including any additional accessories (inert gas, hang holes etc.).

The package is never released from the initial transfer at the knives until the final exit conveyor. During the format change procedure, the Universal All-in-One Conveyor adapts pouch width in seconds. The changeover is automatic, tool-less and requires no machine clean-down prior to initiation.

The time savings and fast ramp-up translate to exceptional OEE with perfect pouches and represent a radical change in operation planning as in-shift format changes become not only feasible, but everyday procedure.

For the first time, running all formats in-sequence for each product is a practical reality.





# Automatic Format Change

Automatic adjustment of the centre-to-centre distance of  
Forming Zone assemblies.

The sealing units, tear notch assemblies, knives and other devices are mounted on linear guides & bearings. A servomotor driven “shunt module” automatically engages with each device, releasing its locking brake then repositioning it to the position stored in the format recipe. Each device is moved in sequence and absolute precision is achieved with an anti-backlash function. In addition to drastic savings in format change time, the same system is employed to automatically make minor adjustments during production to compensate for material stretch or print

errors. Photocells at each end of the horizontal forming module continuously monitor the packaging material.

When variation occurs due to film stretch/rewind tension changes or similar print repeat errors the machine automatically repositions seal bar sets and knives to compensate, ensuring vertical seals and knife cuts are correctly centred at the pouch repeat line.

This feature eliminates dependence on operator skill & knowledge and eliminates time-consuming manual intervention.





# Recyclable Material - Ready

Ready for the new generation of recyclable materials!

- Validated with multiple material types from various suppliers.
- Ultra low-tension web handling delivers superb quality pouches without speed penalties.
- 100% PE or 100% PP recyclable films with corresponding zip compounds.
- Compostable material option too: Microcellulose and biopolymer with biopolymer zip (industrial composting).
- Future-proof: prepared for today's and tomorrow's packaging materials.

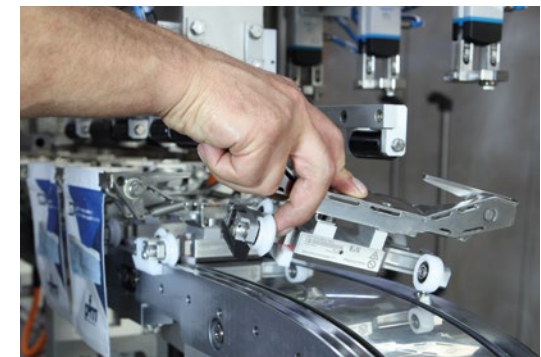
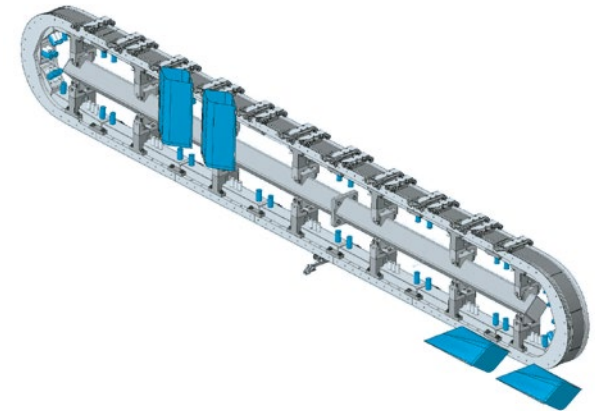




# P.E.P.T.

## PFM Electromagnetic Pouch Transport

- Optional leading edge pouch transport technology.
- Unparalleled flexibility for simplex-duplex-triplex-quadruplex configuration on same machine.
- Pouch buffer capability delivers ultra-long fill times (3-4 times standard machine).
- Welded stainless-steel drive modules with IP69 protection for full wash-down.
- Magnetic connection for super-simple maintenance.
- Modular construction enables custom configurations for multiple fill modules.







# The Clean Machine

- Stainless steel frame.
- Looks good for life.
- Sanitary design from day 1.
- Filling area 100% wash-down (standard).
- Full length stainless catch tray with drain.
- NEMA 4X electrical cabinets (stainless steel).
- Optional stainless top covers with inclines and drain.
- Open concept with high floor clearance.



**Standard  
wash-down  
filling area**



**pfm**<sup>®</sup>  
packaging machinery

Be inspired  
to inspire

**pfm**<sup>®</sup>  
packaging machinery

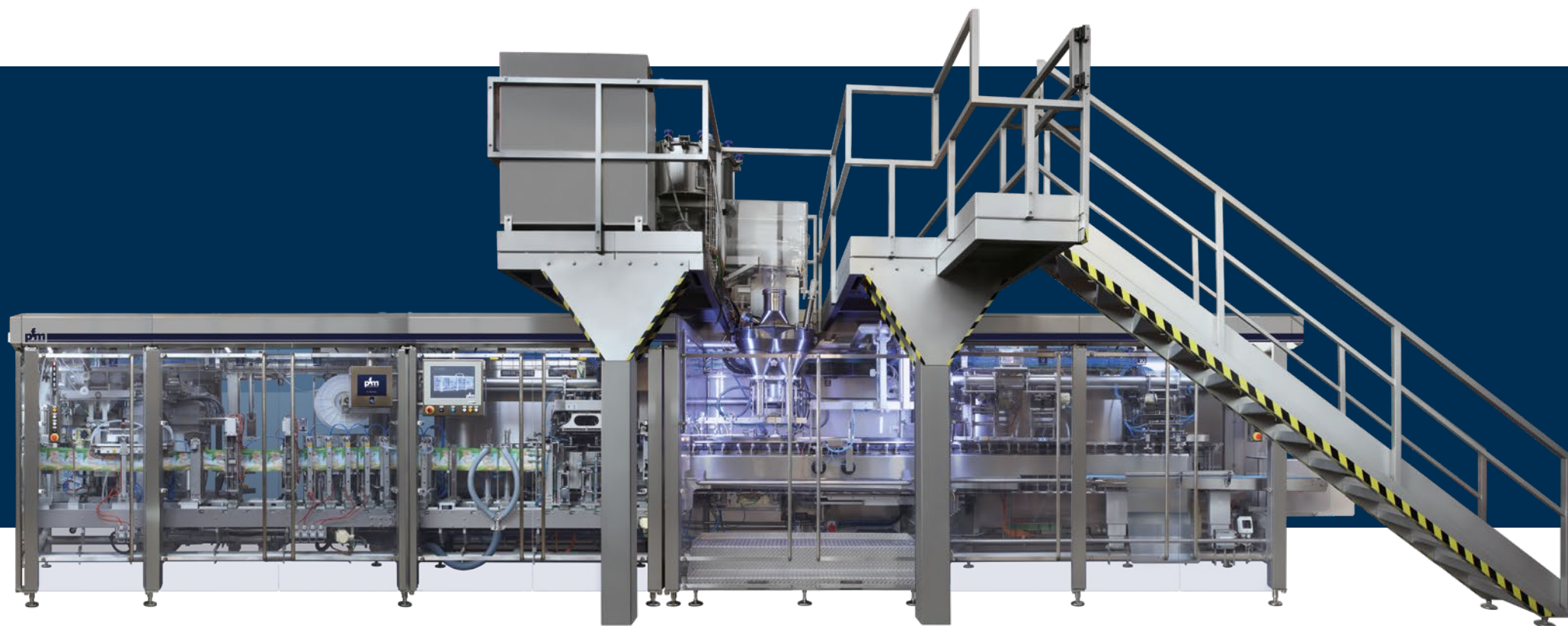
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packaging machinery

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to inspire

# Shaped pouches

- Die cutting units.
- Full or partial shape.
- Servo drive.
- Low air consumption.
- Low noise.
- Multi-format options.
- Fine position adjustment.
- Easy change.





# Feeding Systems



## Filling Systems for Liquids

Precision, reliability and cleanability: PFM offers a complete range of liquid fillers. In each case, the ideal filling system is agreed with the customer according to the specific product type, fill volume, required production speed and the hygiene/cleaning protocol.



## Volumetric Feeders

PFM offers a comprehensive range of volumetric filling systems for powders and granules including auger-screw and rotary cup (pocket) fillers. The AF-5000 series screw fillers are the ideal solution for powders such as sugar, beverage powders, soups, coffee, cocoa, baby formulas etc. Maximum dosing repeatability is ensured by the auger's precise construction and perfect surface finish combined with the rotational consistency of servomotor drive and an independent product stirrer.






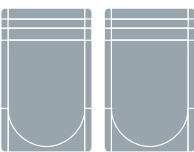
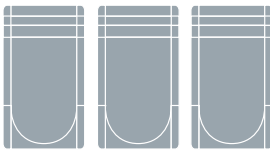


## Multi-head Weighers

Almost thirty years experience and intense research have led MBP, a PFM Group company, to manufacture a diverse range of weighing units, 100% made in Italy, technologically advanced and providing solutions for the most demanding customers.



# Technical Data

Model	Version	Package dimensions (base x height)		Speed (cycles/min)	Speed (packages/min)
		Min (mm)	Max (mm)		
D-180	S 	90 x 100	180 x 300	80	80
D-240	S 	90 x 100	240 x 300	70	60
	D 	90 x 100	120 x 300	70	140
D-320	D 	90 x 100	160 x 300	70	140
D-400	D 	90 x 100	200 x 300	60	120
D-480	D 	90 x 100	240 x 300	60	120
	T 	90 x 100	146 x 300	60	180

PFM reserve the right to make modifications without prior notice.

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# Notes

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Tech Area Access









