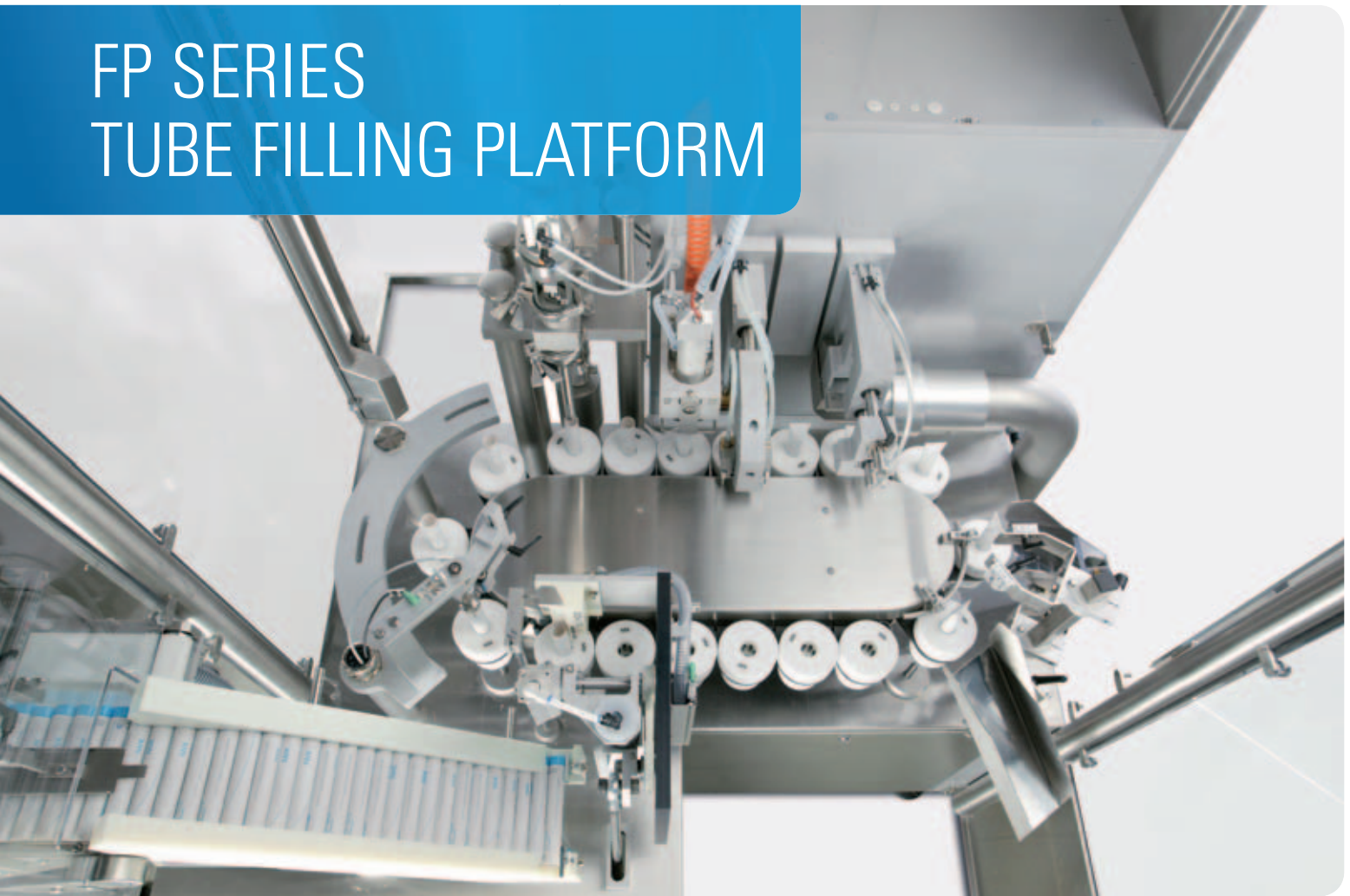


The highly productive, ergonomic
tube filler at affordable cost

FP SERIES TUBE FILLING PLATFORM



- The FP series is another record breaker in tube filling
- Patented innovations throughout the entire system from tube loading through filling and closing

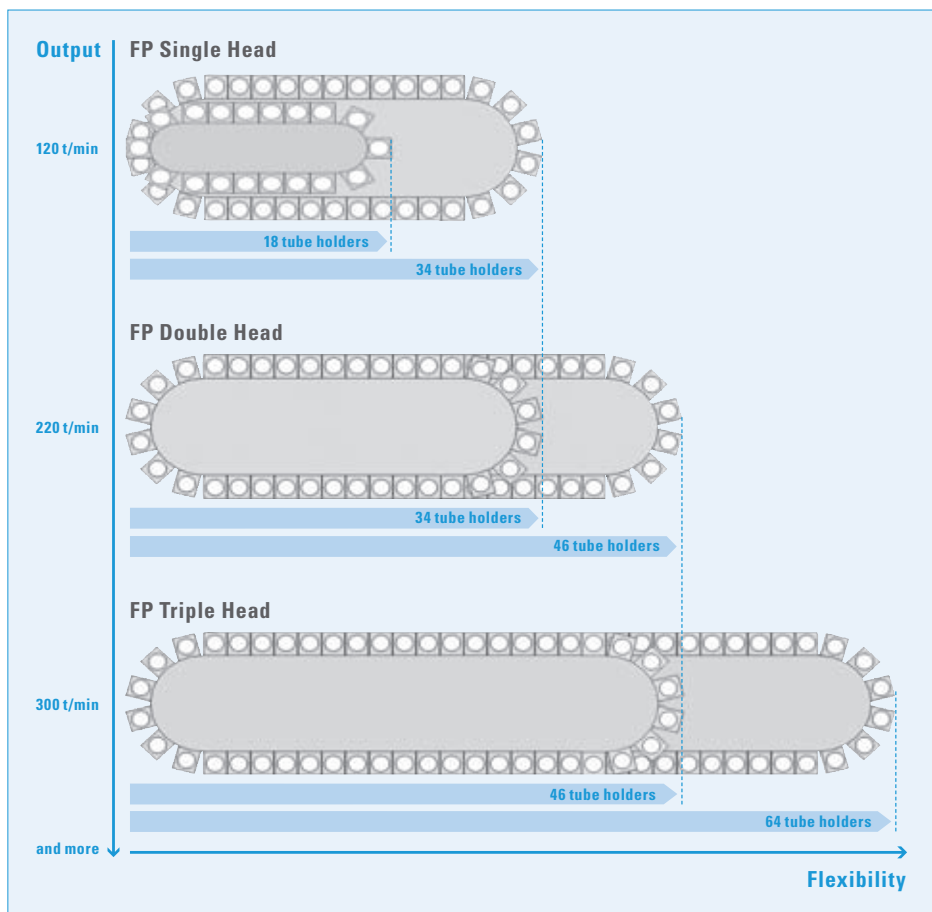


THE TUBE FILLING AND CLOSING MACHINES OF THE FP SERIES IMPRESS WITH THEIR

- IWK design, proven in the field over decades
- excellent accessibility from all sides
- maximum process reliability by use of servo technology where useful
- flexible positioning of working stations to fit your floor space requirements
- robust, highly accurate transport system with motorized height adjustment
- no stretching of the transport chain possible
- accurate position of the tube in the working stations guaranteed

FP series characteristics

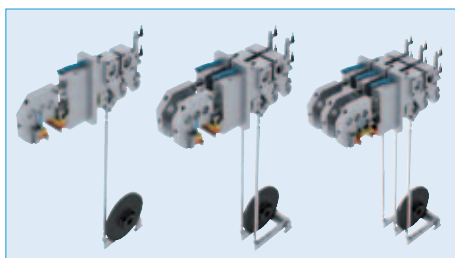
FP 18-1	120 t/min	18 tube holders
FP 34-1	120 t/min	34 tube holders
FP 34-2	220 t/min	34 tube holders
FP 46-2	220 t/min	46 tube holders
FP 46-3	300 t/min	46 tube holders
FP 64-3	300 t/min	64 tube holders
plastic-laminated tubes: ø 10 – 52 (63,5) mm		
metal tubes: ø 10 – 40 (50) mm		
$L_{\text{tube}} = 60 - 250 \text{ mm}$		
$V_{\text{Volume}} = 1,5 - 350 (700) \text{ ml}$		
metal, plastic or laminated tubes, standard or robotic in-feed, single or multi color products, dosing by piston or rotary lobe pump, small footprint, best accessibility, cGMP design		



MODULAR SYSTEM

The module- and platform based machine concept opens the following opportunities:

- optimized configurability for our customer's requirements
- more solid and robust module-design by higher reutilization
- consistent spare parts through the complete tube filler series
- choice between different technical solutions, e. g. dosing or tube in-feed
- standardized/consistent technical processes
- consistent/exchangeable format parts
- reduced effort for operator regarding documentation and training
- simplification of spare parts storage, maintenance and service



Example: Modular Press (Single, Double and Triple version)

DRIVE CONCEPT

5 servo drives

(4 additional servo drives as an option)

- oval transport system
- main shaft
- print registration
- tube de-dusting (optional)
- filling station lifter
- dosing piston or lobe pump
- rotary valve (optional)
- hot-air sealing (optional)
- direct discharge (optional)

Height adjustment of transport system is motor-driven

- high processing reliability
- high accuracy
- highest flexibility, because of fast change over
- fast ramp up

HMI CONCEPT



15,4" HMI

Our HMI has received the internationally acclaimed "red dot award" and "iF gold award". The jury of international experts conferred the award for the high-quality design of the recently developed user interface for IWK machines.

- industrial PC with diagnostic/report functionality
- all functionality for user administration
- all standard functions
- history/statistic of messages
- charge protocol
- 21 CFR Part 11 conform (audit trail)



reddot design award
winner 2011



Alternative



5,7" HMI panel

TUBE INSERTING

- smooth handling
- fast change over
- compact design
- cam driven
- easily accessible
- no spare times
- transport system is height-adjustable, gentle movement



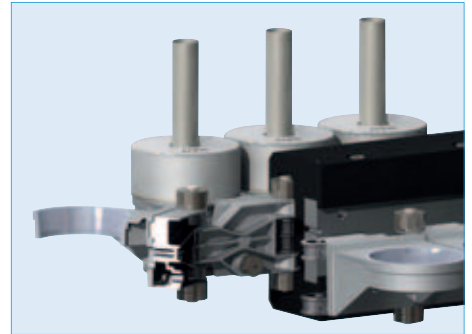
FP Single Head



FP Triple Head

TRANSPORT SYSTEM

- cast chain links
- mounted in precision needle bearings
- servo-motor drive with high-precision planetary gear drive
- no stretching of the chains
- use of robust chains enables a high degree of positioning accuracy



Transport system



Robust design of chain links

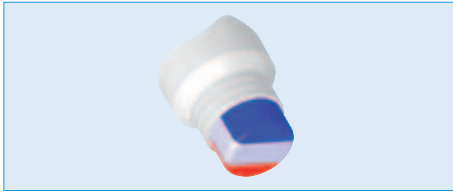
ROBOTIC TUBE IN-FEED

- Available for all flex versions:
FP 34-1, FP 46-2, FP 64-3
- Loading direction: right, left and front side

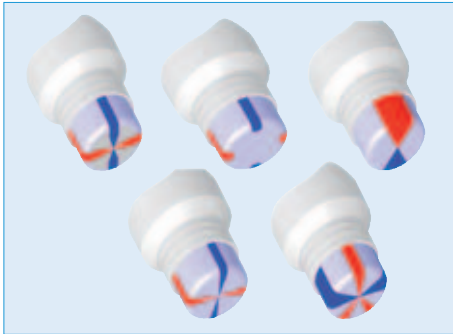


FP 46-2

MULTI COLOR FILLING WITH PATENTED QUICK-CHANGE SYSTEM (SWING OUT)



Sandwich



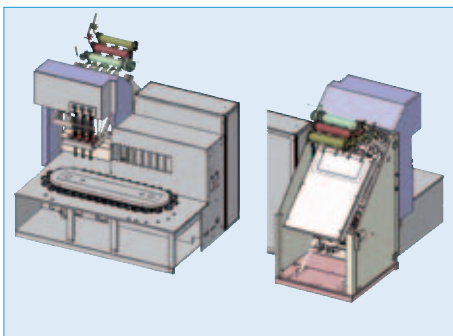
Deep Stripes



Surface Stripes



Core stripes



FP Single, Double & Triple Head

NEW CIP CONCEPTS WITH DOSING BY ROTARY LOBE PUMP

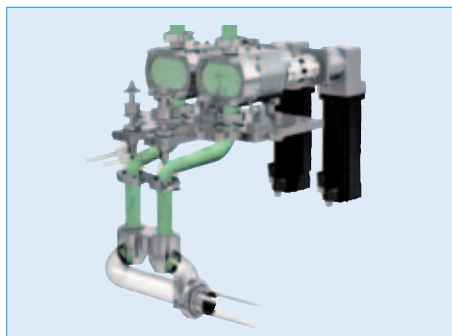
- cleaning on the machine
- FDA certified materials
- aseptic flange
(pharma sensitive)

Benefits of rotary lobe pump

- higher output – decrease of
total cost of ownership
- high reduction of cleaning time
(up to 70 %)
- less seals (wearing parts)
- optimized cleaning
(design free of gaps and dead leg)
- and more



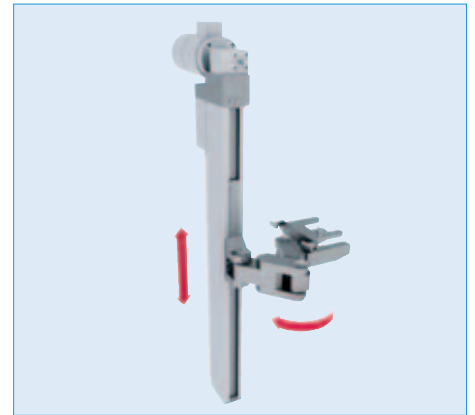
Rotary lobe pump



Rotary lobe pump module for double head filling

LIFTING DEVICE FOR BLOCK WISE CHANGE OF FILLING SYSTEM

- integrated in the FP-machine
- optimal change device
- fast change over



Lifting device



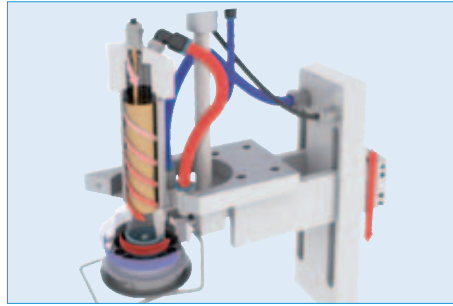
Block-wise exchange of product contact parts

HOT-AIR CLOSING

- robust design
- change over without tools
- high performance heating element
- energy-efficient pre-heating (without water chilling)
- servo drive as an option for contour welds

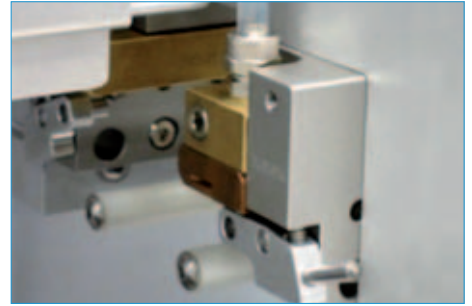
Option: special contour sealing

maximum sealing height of tube seals is 40 mm

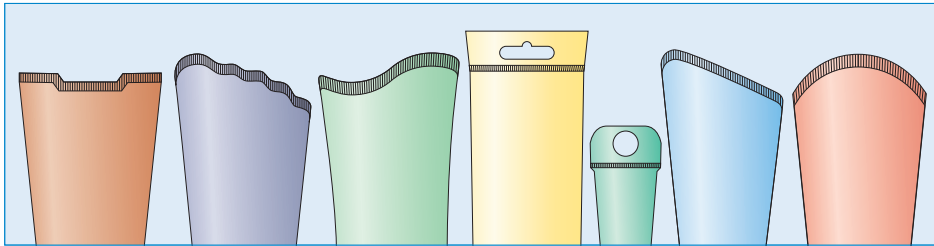


Sustainable energy savings with new state-of-the-art hot air cooling system

RAPID TOOL CHANGING

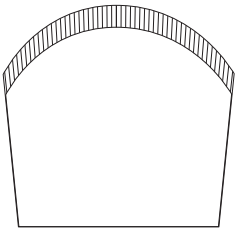
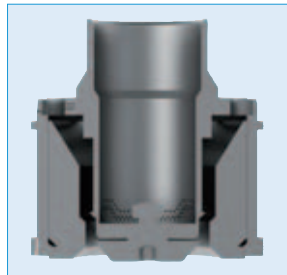
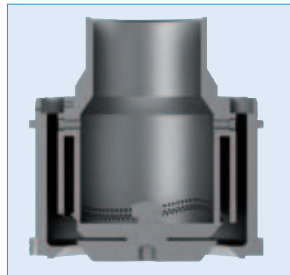
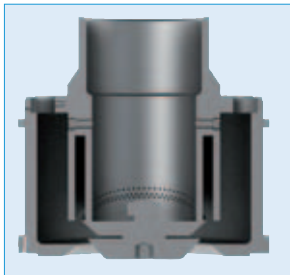


Example at press station

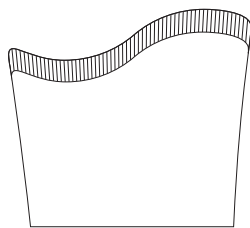


SHRED REMOVAL (APPLIED FOR PATENT)

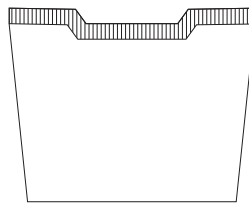
- for trimming and punching station
- by a pulsed vacuum conveyor
- process capable of any shred removal
- optimal accessible container



Contour seal – ARC



Contour seal – Wave



Contour seal – Step



Shred removal – Single Head

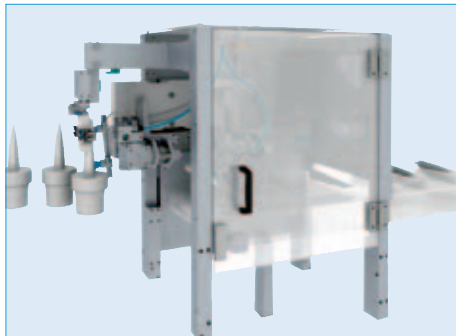
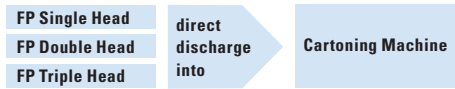
MODULAR FOLDING AND PRESS STATION



Modular folding and press station for metal tubes with double, triple or saddle fold

DIRECT DISCHARGE

- high reproducibility for adjustment
- high precision accuracy
- high repetition accuracy



Direct discharge



Direct discharge FP 18-1

FURTHER OPTIONS FP SERIES

- code scanning at print registration
- tube dedusting
- camera monitoring for tube edge, particles in tube, tube cap presence
- laminar flow and/or sterile applications
- different hoppers, accumulation cylinder (level monitoring)
- multi color filling
- change on block of product contact parts
- rotary lobe pump for CIP/Wash out
- gas purging, droplet dosing
- heated pressing jaws for metal tubes
- hot-air or high frequency welding
- double, triple or saddle fold for metal tubes
- labeling (embossing, laser-, ink-jet-printing)
- automatic central lubrication
- in-line check weighing
- and more

COMPLETE SYNCHRONIZED TUBE FILLING LINE



Tube in-feed system TZS – Filling platform FP 18-1 –
Cartoning machine SC 5

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