

# SMART

FILLING, STOPPERING AND CAPPING MACHINE



# SMART FILLING, STOPPERING & CAPPING MACHINE FOR ASEP

## INSPIRED BY EXCELLENCE

This is the refrain that always drives us to further innovate. Combining essential features and the simplicity of proven technology with widely appreciated high standards of quality and reliability the **new SMART is the ultimate innovation in the IMA LIFE range** of liquid filling machines.

- 100% IPC
- INTEGRATED CAPPING
- QUICK CHANGE OVER



## SMART: THE RIGHT ANSWER

SMART is the right answer to the flexibility requirements of the today's pharmaceutical industry. When a high degree of modularity and flexibility for aseptic liquid production is required, SMART is the ideal solution.

Particularly suited to small to medium batch production, configured to handle glass and plastic vials in both the SVP and LVP filling range, SMART has the capability to reach up to 120 vpm (double index) and contemporarily offer 100% IPC of all vials filled.

The machine, which features an intermittent vial transport system, can be equipped with all types of dosing systems, typical of the aseptic operations, such as, traditional volumetric, or the newly IMA LIFE patented volumetric differential pumps, peristaltic, mass flow and T/P time pressure, assuring in this way the highest possible range of applications.

CIP/SIP cleaning options are also available.

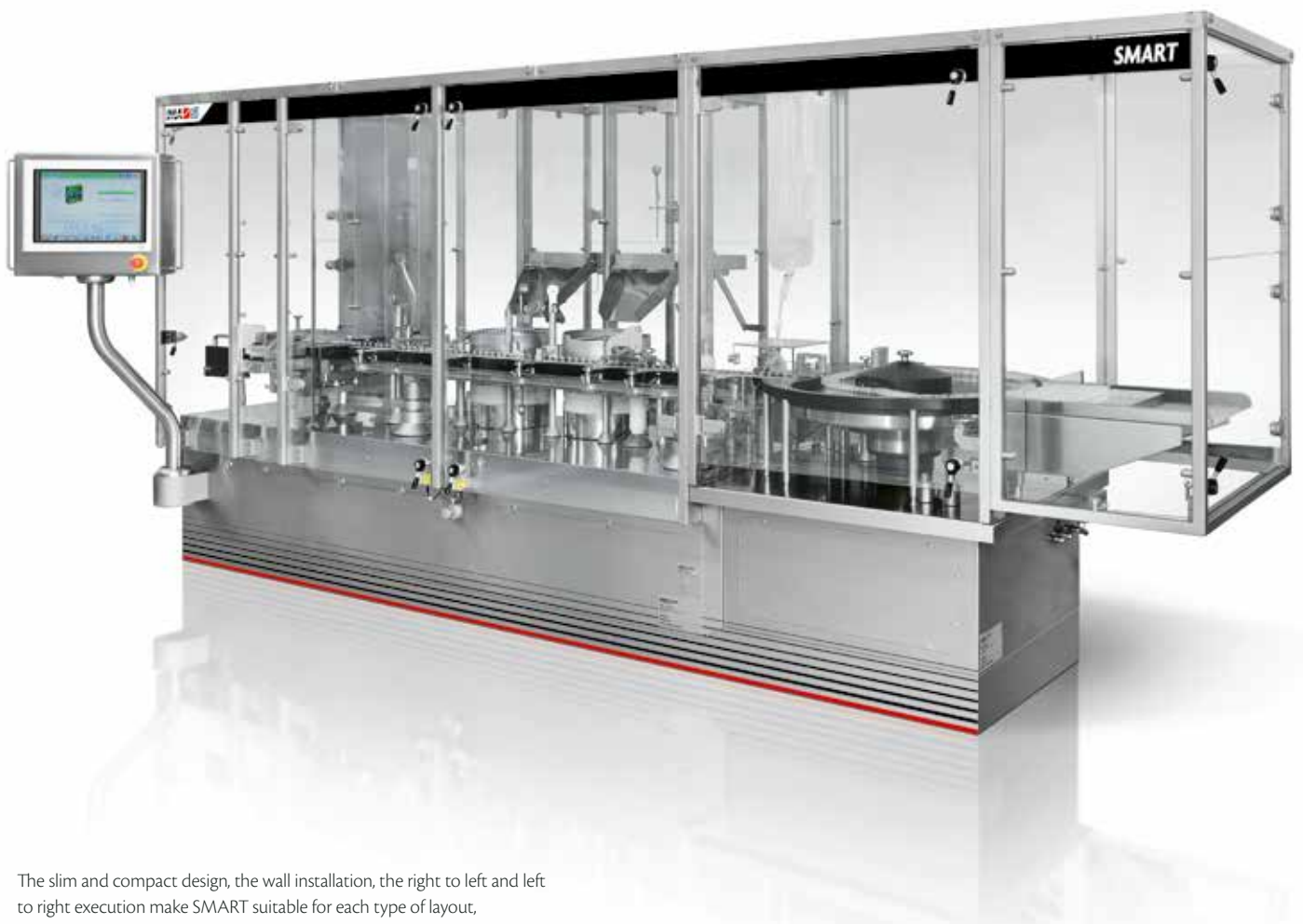
# TIC ENVIRONMENTS



Control your process

THE VIAL TRANSPORT IS CARRIED OUT BY MEANS OF A DOUBLE COMB SYSTEM: THE LOWER PART MOVES HORIZONTALLY TO CONVEY THE VIALS; THE UPPER PART SERVES AS CENTRING DEVICE FOR THE VIALS IN EACH MACHINE STATION. THIS MEANS MAINLY TWO THINGS: A POSITIVE TRANSPORT SYSTEM, WITH FULL POSITIONING CONTROL OF EACH SINGLE VIAL WHICH RESULTS IN VERY HIGH ACCURACY OF MACHINE MOVEMENTS.

- POM-C TRANSPORT COMB
- ST. STEEL CENTERING COMB
- INTERMITTENT MOTION
- SERVO-DRIVEN



The slim and compact design, the wall installation, the right to left and left to right execution make SMART suitable for each type of layout, even when space constraint is a problem, both in case of stand alone application or integration in complete processing lines.

# SMART MAIN FEATURES



Pick & Place arm

## MOTION CONTROLS

The filling, stoppering and capping operations are carried out by means of pick & place devices, whose motions are also controlled by servomotors and automatically adjusted by HMI, according to the selected product recipe and format size.



Quick release size part

Completely servodriven and equipped with quick snap release assembly for filling, stoppering and capping heads (no tools required), the machine is particularly user friendly and allows a significant reduction on change over operations.



Integrated capping area

Integrated or separate capping station, preserving in both cases the ANNEX 1 guidelines. The capping operation is achieved by vial rotation with an idle roller, this reduces particle generation to a minimum.



# SMART CONTROL SYSTEM



Nitrogen purging before stoppering station

The machine can be equipped with 100% IPC control of each vial filled; gross and tare weights are checked before and after filling, allowing in this way the system to calculate and track the net weight of the filled product.

For each single vial a series of data are tracked, such as for example, date and hour of production, weight checked including the values detected by the weighing cells and set data, causes of rejections, etc. All these data are then collected and stored in end of batch reports, along with other production details, and are available for download by means of connection to PC or data collector servers.

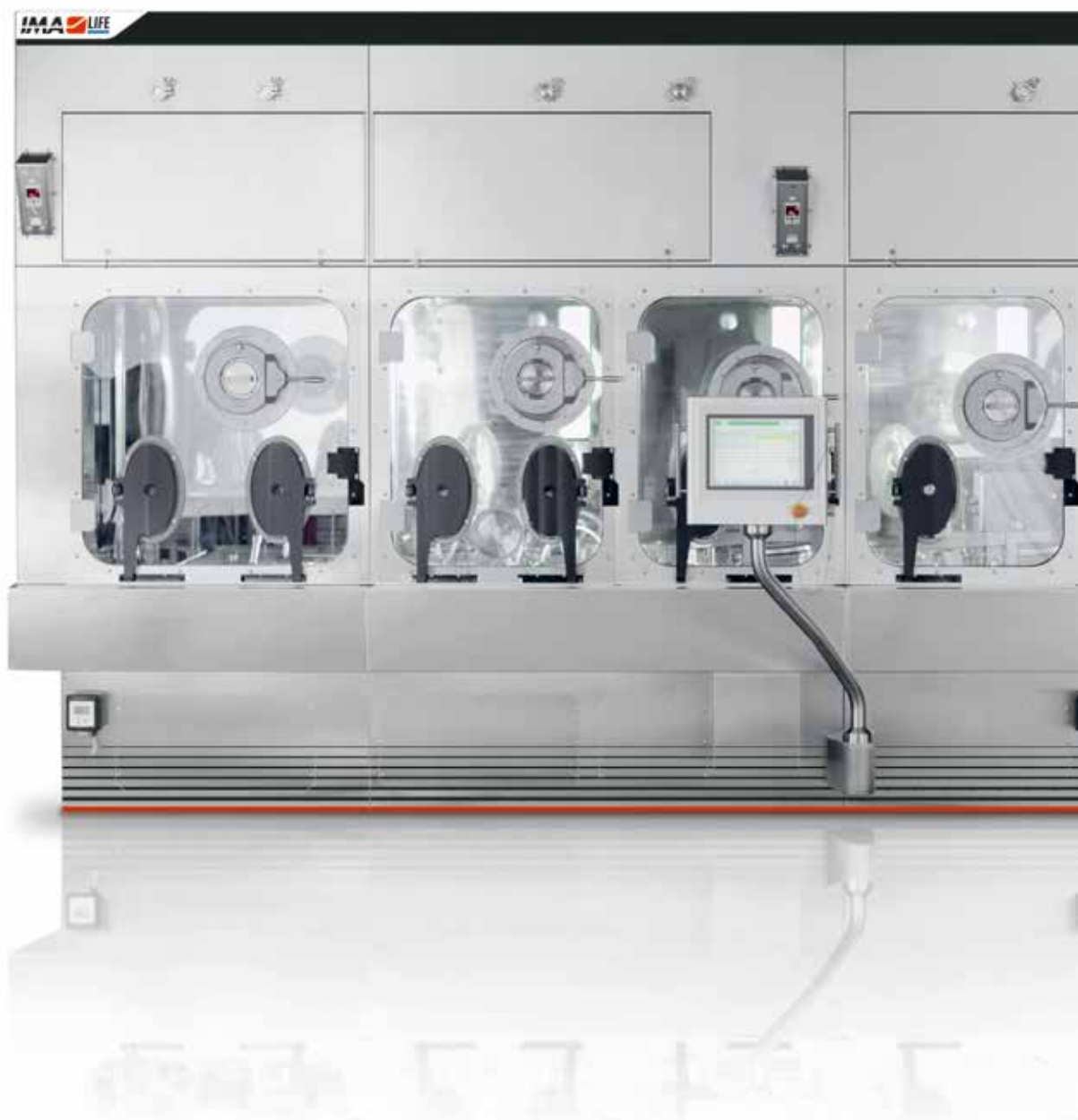
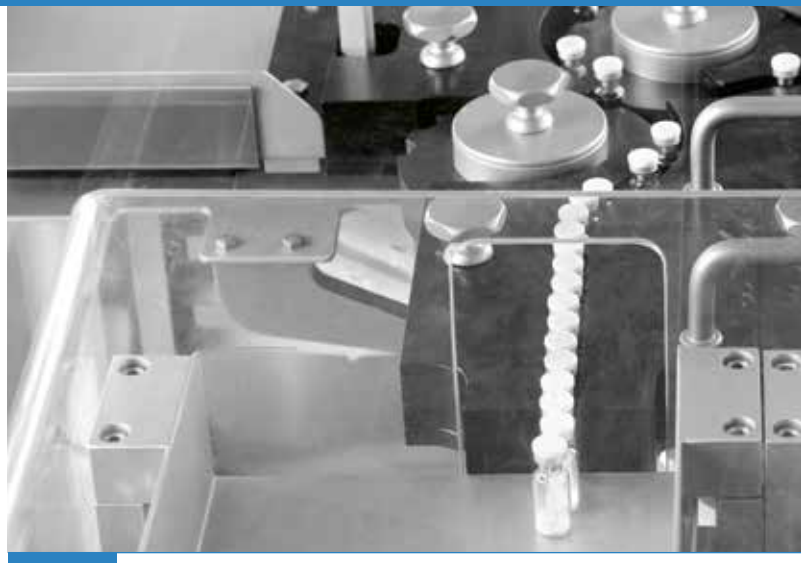


100% IPC Control

- OPERATOR FRIENDLY HMI TOUCH SCREEN
- B&R® PC BASED HMI
- EASY COMPLIANCE TO 21 CFR PART 11
- MULTILEVEL PASSWORD SYSTEM
- SLIM DESIGN ON SWINGING ARM
- MACHINE JOG OPERATION WITH ELECTRONIC HAND-WHEEL
- DIGITAL FIELDBUS FOR MOTION CONTROL
- MACHINE MOTIONS CONTROL INTEGRATED INTO MACHINE PC

# SMART BARRIER TECHNOLOGY

The machine is pre-arranged to receive open or closed RABS as well as ISOLATORS, being all materials compatible with sterilizing agents and suitable for VHP (Hydrogen Peroxide in Vapour Phase) exposure.



# SMART OUTFEED SOLUTIONS



Rejection: missing rubber stopper

Vials are automatically rejected and collected on a dedicated tray, without machine stop, in case of:

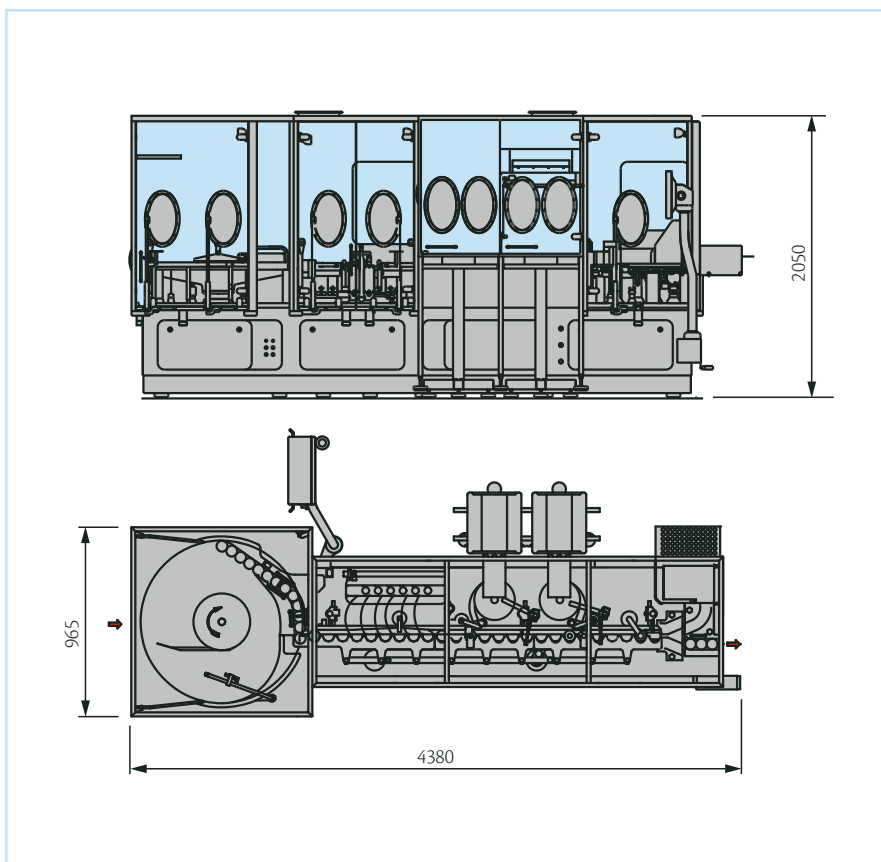
- missing or misplaced rubber stopper;
- wrong weight (if equipped with IPC);
- alu cap missing (when equipped with capping station).

## OUT-FEED SOLUTIONS:

- IN LINE
- AT 90° RESPECT TO LONGITUDINAL AXIS
- STOPPER PRESENCE AND HEIGHT DETECTION
- SERVO-DRIVEN VIAL DIVERTING SYSTEM
- REJECTED VIAL TRANSFER TO DEDICATED TRAY



# SMART TECHNICAL DATA



## OPTIONAL UNITS

- 100% IPC
- NITROGEN PURGING SYSTEM
- PRE-FEEDING HOPPERS FOR STOPPERS AND CAPS
- CIP/SIP
- CAPPING MONITORING SYSTEM
- SINGLE TRAY LOADING UNIT AT OUT-FEED
- RABS OR ISOLATOR INTEGRATION
- WALL INSTALLATION

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	SVP version		LVP version	
	Min.	Max.	Min.	Max.
Vial diameter (mm)	16*	54 (up to 36 with double index)	16*	88
Vial height (mm)	35	91,4	35	150
Stopper diameter (mm)	13	20	13	33
Stopper height (mm)	-	25	-	25
Filling Volume	0,25	100	0,25	500
Filling accuracy with volumetric pumps	±0.5% on nom. dosing volume based on a water based product			
Output	Up to 120 vpm with double index configuration Up to 90 vpm with single index configuration		Up to 75 vpm	
Output with 100% IPC	Max 120 vpm (double index)		Up to 75 vpm	
Vial transport system	Intermittent motion			

\*Diameter smaller than 16 mm (up to 14,75 mm) can also be handled with dedicated size parts

MACHINE CONFIGURATIONS ARE MERELY INDICATIVE



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IMA S.p.A. reserves the right to make any changes to the described machine characteristics.