

# STERIFILL F2000

HIGH SPEED FILLING & STOPPERING MACHINE FOR ASEPTIC ENVIRONMENTS



# FUNCTIONING

Sterifill F2000 is an in-line filling & stoppering machine with continuous motion positive in-line transport system. The machine is suitable for filling liquid solutions into cylindrical vials and inserting of rubber stoppers.

Thanks to its design criteria, such as reduced dimensions, the geometry facilitating the unidirectional airflow, and the high ergonomic level, STERIFILL F2000 is particularly suited for aseptic filling, as it can be installed either inside a conventional sterile room or under isolation technology.

The design criteria and the very accurate constructive concepts allow the machine to condition vials at very high speed: up to 600 vials/min.

## ■ ACCURATE DESIGN & ERGONOMIC CONCEPT

This very compact and narrow basement (850 mm width) allows the operation from one side only, facilitating the operator reach of the main machine areas making the machine suitable for wall-installation, as well. The increased distance between vial working height and machine base plate avoids air turbulence and particle generation on top of the vial mouth.

## ■ HIGH VERSATILITY

3 basic machine versions are available with 6, 8 or 12 filling nozzles to meet even the most demanding production capacity. Output ranges from 150 through 600 vials/min – with a dosing capacity from 0,25 through 500 ml.

With the aid of the innovative servo drive technology, production parameters can be easily adjusted for reproducible operating results. Easy and quick size change over without tools.

## ■ A MACHINE SUITABLE FOR ISOLATION

In its basic design Sterifill F2000 can be installed under an isolator. The ergonomic location of the machine operating groups and the possibility to expose the vial transport system to VHP (Vapour Phase Hydrogen Peroxide) without the need of re-circulation systems, ensures that the sterilizing agent reaches all machine surfaces, even the less exposed areas.





HIGHER OUTPUT  
WITH BIGGER VOLUMES.



# AN INNOVATIVE TRANSPORT SYSTEM

The “dovetail shaped locators” are very easy to dismantle without the need of tools and the complete in-situ decontamination of the transport system is possible. The locators are made of stainless steel to enable direct sterilization in an autoclave. To reduce the generation of particles the vials are positively transported in the stainless steel locators throughout the whole machine length without causing any friction to the bottom side of the vial.

Linear “walking beam” nozzle carrier with adjustable vertical stroke and horizontal travel, according to the vial size and product requirements.

Each nozzle dispenses the full volume into the vial.

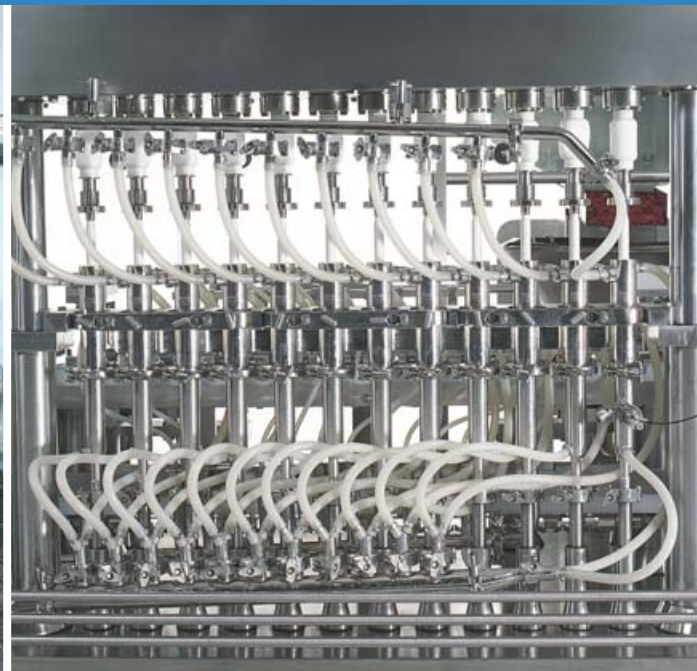
No bottle - no fill Option is a standard feature.



CONTINUOUS-MOTION LINEAR TRANSPORT FOR VIALS. THIS INNOVATIVE SYSTEM ALLOWS THE CONDITIONING OF A WIDE RANGE OF VIALS WITHOUT REPLACING EACH INDIVIDUAL TRANSPORT PUCK, LOCATING CONTAINERS RANGING IN A DEFINED DIAMETER SPECTRUM.



# DIFFERENT DOSING SYSTEMS AVAILABLE



CIP/SIP skid available upon request



## DOSING SYSTEMS

- VOLUMETRIC WITH ROTARY VALVE PUMPS OR ROLLING DIAPHRAGM PUMPS
- TIME / PRESSURE
- NET WEIGHT FILLING
- PERISTALTIC PUMPS.

STERIFILL F2000 CAN BE EQUIPPED WITH CIP/SIP SYSTEMS, PARTICULARLY ADVANCED AND EFFECTIVE, PROVIDED WITH PROGRAMMABLE AUTOMATIC CYCLE, WITHOUT THE NEED TO REMOVE COMPONENTS.



# HIGH SPEED STOPPERING STATION



THE STOPPER FEEDING SYSTEM ENSURES THAT THE INDIVIDUAL STOPPERS TRAVEL A VERY SHORT DISTANCE BEFORE BEING INSERTED INTO THE CONTAINERS. THIS ALLOWS THE REDUCTION OF VIAL PARTICLE CONTAMINATION.

Vials are transferred from the transport system on to the lifting platforms which elevate the vials in motion to pick up the stoppers that are, in this way, automatically inserted into the vial mouth, partially or completely.

- Continuous stopper in-feed from a vibratory bowl to an intermediate sorting star-wheel.
- Stopper sorting wheel adjustable in height by means of servomotor (optional).
- Equipped with 12, 24 or 32 vacuum operated heads, according to the machine speed required.
- “NO VIAL – NO STOPPER” device.
- Stopper presence control.



- LOW PARTICLE GENERATION
- EASIER CLEANABILITY
- COMPLETE SEGREGATION OF THE STERILE AREA FROM THE “GREY” AREA
- EASY SIZE CHANGE OVER WITHOUT TOOLS
- VHP COMPLIANT MATERIALS

# STATISTICAL IPC OF FILLED VOLUME



The machine PC works out the values read, stores them and supply the statistical data sheets for certification of production.

The accurately and widely tested software has been developed to allow the automatic processing of all main operations such as:

- calibration of load cells
- initial calibration of the dosing units
- production statistics.

The machine computer also stores, for each size/product, the set parameters of the different operative units and the CIP/SIP cycles. By recalling a product code the machine automatically reproduces its predefined and validated operating conditions.

Statistics regarding functioning of the machine in production can be obtained recording all process data and any intervening alarms.

In the intermittent motion version the machine can be equipped with 100% IPC checkweighing system.



THE IN-PROCESS CHECK SYSTEM FOR DISTRIBUTED VOLUME IS BASED ON A NON – DESTRUCTIVE STATISTICAL SAMPLING.

ROBOTIC ARMS PICK UP THE VIALS BEFORE AND AFTER FILLING.

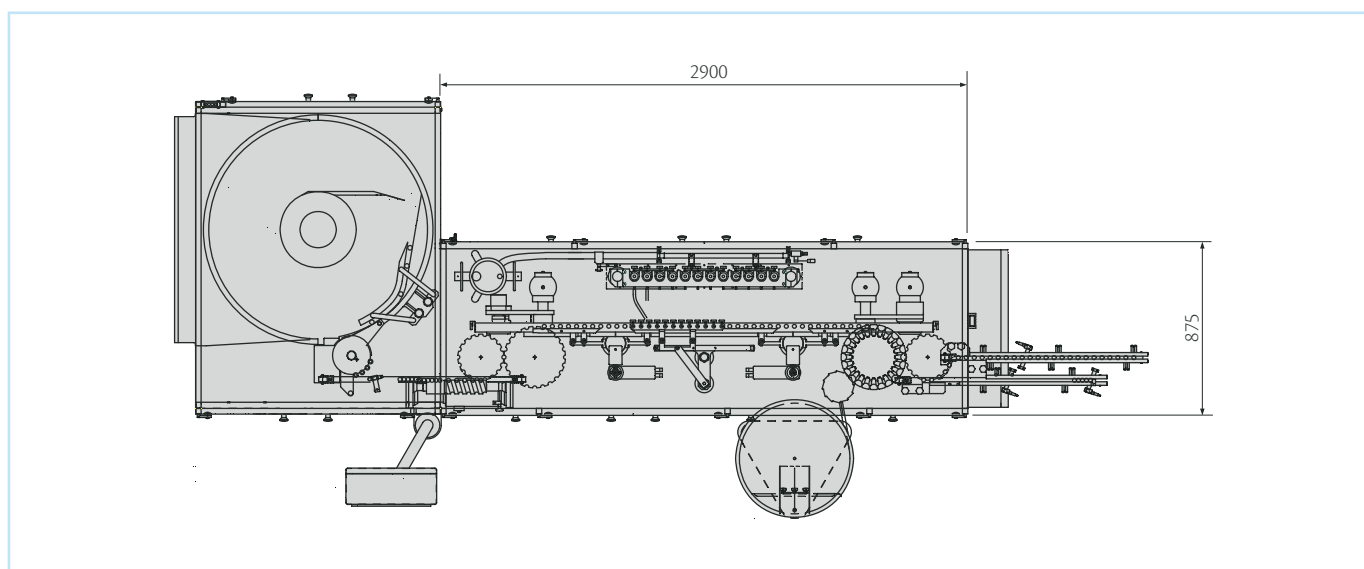
THE PC CONTROL SYSTEM RESOLVES THE NET WEIGHT BY MEANS OF LOAD CELLS.

# STERIFILL F2000 TECHNICAL DATA

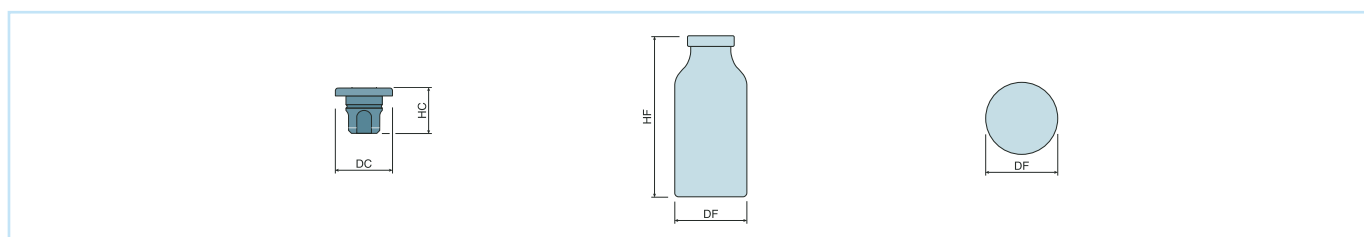
## COMPLETE LINES

STERIFILL F2000 is at the heart of fully integrated lines. IMA LIFE designs and develops complete aseptic processing lines, from vial washing and depyrogenating tunnels, to filling & closing machines, and also the final packaging of the product. Turn-key lines are developed based on customer requirements.

February 2012 - 9915H120100



	F2000-600		F2000-400		F2000-300	
	Min.	Max.	Min.	Max.	Min.	Max.
Vial diameter (mm) DF	14	42,5	14	56	14	78
Vial height (mm) HF	35	125	35	125	35	190
Stopper diameter (mm) DC	13	28	13	28	13	28
Stopper height (mm) HC	-	25	-	25	-	25
Dosing groups	Up to 12		Up to 8		Up to 6	
Dosing range	0,25-100 ml		0,25-100 ml		0,25-500 ml	
Ouptut (vials/min)	Up to 600		Up to 400		Up to 300	
Standard voltage	400V		400V		400V	



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