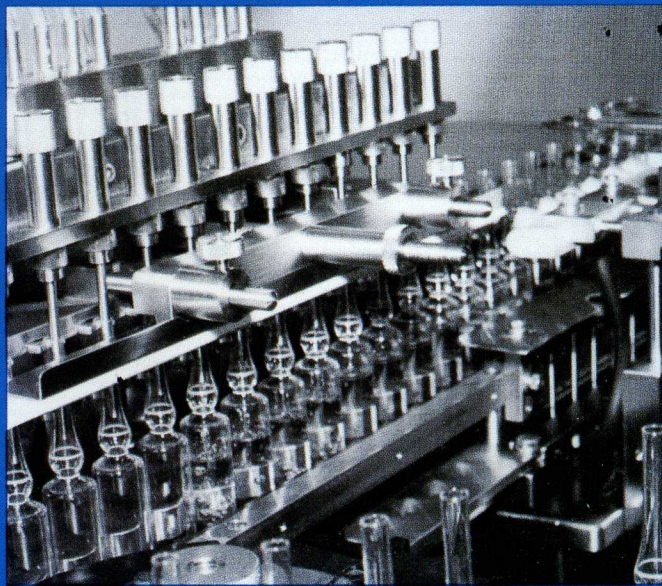
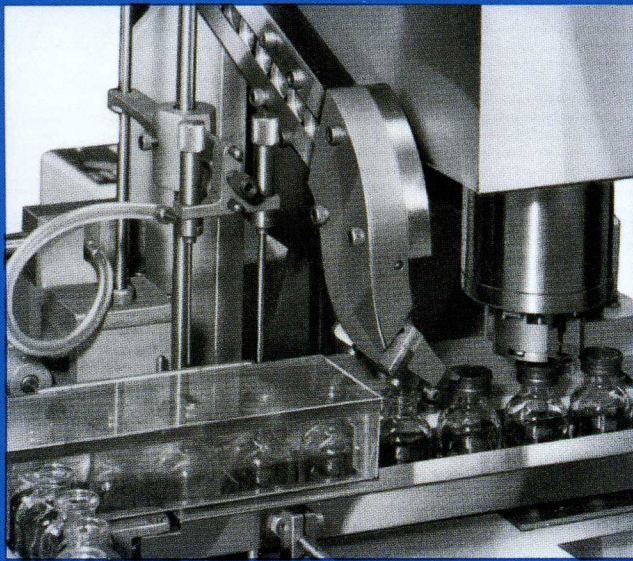


COZZOLI

AMPULE AND VIAL FLUSHING, FILLING AND SEALING



COZZOLI

PRECISION AMPULE FLUSHING, FILLING, SEALING

- **Versatility**
- **Simplicity of Design**
- **Accessibility of Parts**
- **Minimal Changeover Time**
- **Hanging-Drop Drawback Control**
- **Single Volume Adjustment Control**

FLUSHING:

An integral part of the Cozzoli ampule machine is the flushing station. Here each ampule can be flushed with inert gas, such as nitrogen, before and after filling. This procedure prevents oxidation of sensitive products. Optional flushing flow meters and monitors are suggested.

FILLING:

With Cozzoli's simple nozzle centering adjustment absolute concentric entry and exit is obtained through the container neck, eliminating unwanted product on the ampule and assuring char-free seals.

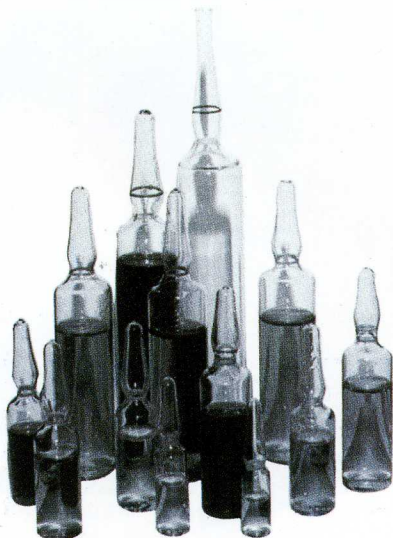
A safety "No-container, no-fill" mechanism eliminates product discharge if a container has not been delivered. This same safety device activates a valve/syringe sequence which keeps the product in motion to prevent settling of suspensions.

SEALING:

Reliable sealing occurs as each ampule rotates on a mechanism which assures positive circular movement and uniform heating of the glass.

Uniform, leakproof pull-seals are consistently produced by two-stage burner tips fired by manufactured, bottled, or natural gas, mixed with oxygen.

Ampules can also be tip sealed with no change parts.

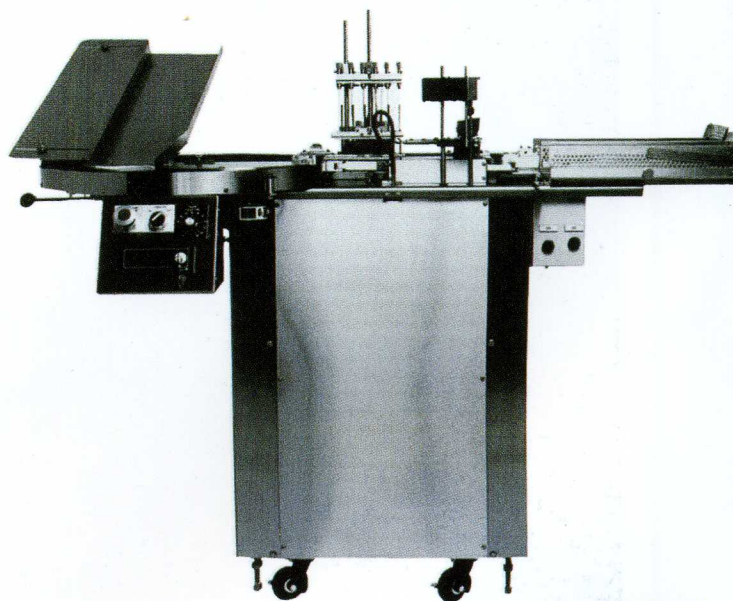


COZZOLI'S LINE OF HIGH VERSATILE, COMPACT, SE LAMINAR FLOW

The multifaceted line of Cozzoli ampule and vial machines accommodate a full range of products from aqueous solutions to heavy oils, suspensions and creams.

Although each model is distinct in its own right, all incorporate the same unique design technology long associated with the Cozzoli name. Like our exclusive "no-o-ring, no-packing" syringe and sliding valve design which eliminates a major source of potential product contamination. Our liquid contact parts are fabricated from 316 stainless steel, manufactured to precision tolerances and designed to be quickly disassembled for cleaning and sterilization.

Up To 120 Containers/Minute



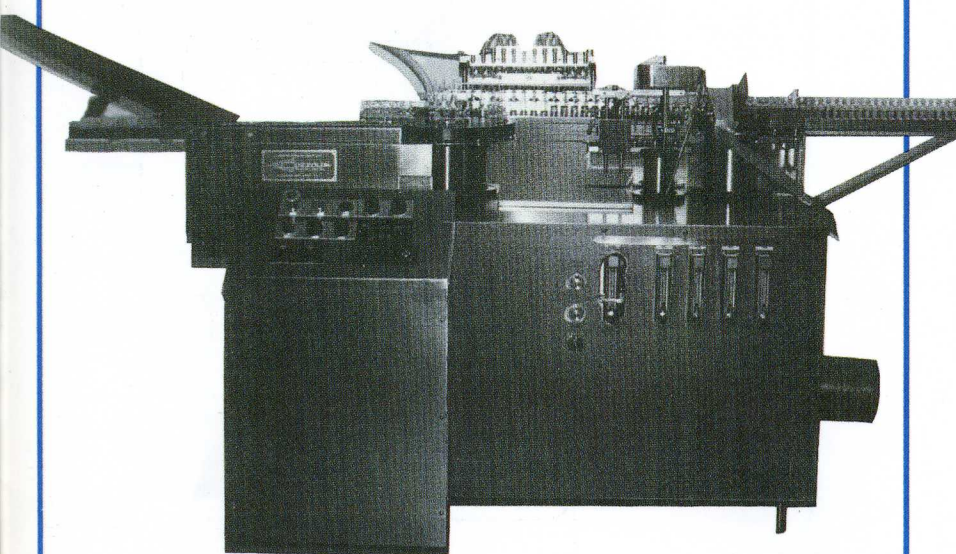
Model FPS2-SS

Cozzoli Models FPS1-SS and FPS2-SS for filling and sealing ampules feature stainless steel construction and are designed with a sealed top cover plate to ensure the internal drive mechanism remains free of extraneous matter. Syringes, filling nozzles and liquid contact parts are of 316 stainless steel.

HIGH-SPEED AMPULE AND VIAL MACHINES — SELF-CONTAINED AND ESPECIALLY SUITED FOR

Many Cozzoli ampule machines can be furnished with change parts for filling and stoppering of vials. We can also supply a single machine for automatic feeding, flushing, filling, sealing/stoppering and tray loading. Cozzoli's versatile ampule machines employ operational techniques for mass handling of ampules always ensuring consistent, high quality results.

High-Speed — Up To 220 Units/Minute



Model FS220

The Cozzoli high-speed Model FS220 for filling and sealing ampules has a uniquely designed infeed, discharge and traverse beam system to assure smooth operation. The filling valve features individual latching so that if one or more ampules are missing, the remaining will be filled and sealed. Supplied with four pre-flushing, filling, post-flushing, pre-heating and sealing stations, and four filling syringes. Optional flushing controls and flow alarms are also available.

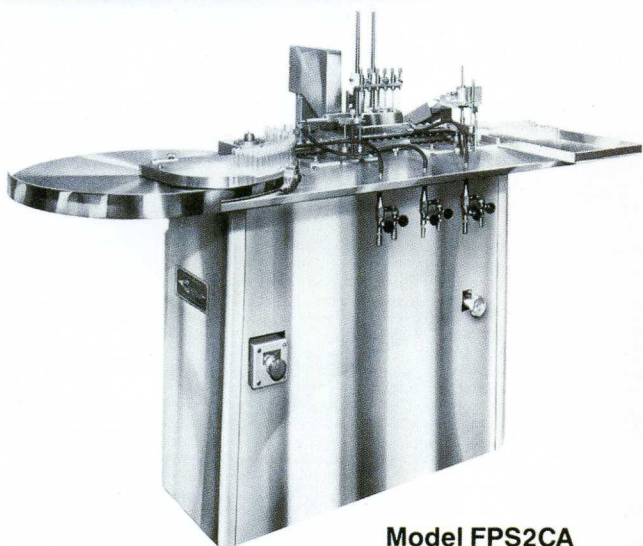
Options and Accessories

- Vial handling parts and stoppering attachments are available for specific models. (This combination produces a compact, self-contained, highly efficient machine for sterile vial filling and stoppering).
- Laminar flow hoods
- Mirror image (left hand) machines for single operator management of two machines.
- Feed chute assembly to handle ampules, test tubes, vials and unstable containers.
- Shuttle tray assembly (allows one tray to be loaded while another is removed and unloaded).
- Auxiliary loading shelf (permits bulk loading of large containers).
- Straight-line delivery for tie-in to other equipment.
- Non-metallic liquid contact parts for highly corrosive products.
- Alternate syringes and valves for abrasive products.
- Bottom-up filling.
- Non-splash filling nozzles for foamy products.
- Solid stainless steel top plate.
- Stainless steel conveyor chain.
- Fine-adjustment volume control.
- Mechanical or electrical counter.
- Final filters.
- Casters for machine mobility.
- Oxygen and gas flow meters.
- Monitored nitrogen flow meters with alarm to prevent insufficient flushing.

Note: Not all options or accessories are available on all machines. Please consult us for specifics.



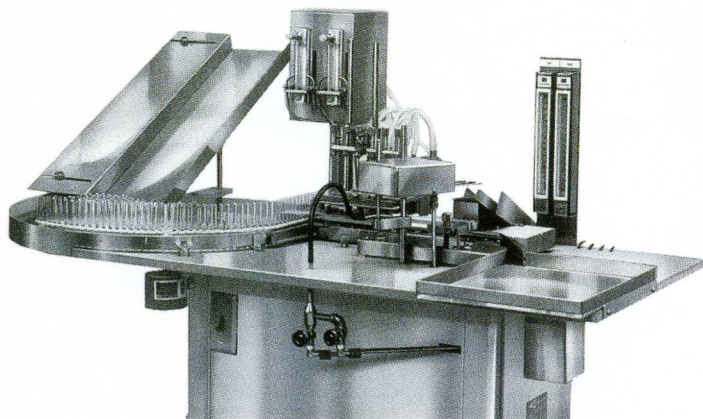
For Closed Ampules— 30-120 Ampules/Minute



Model FPS2CA

The Cozzoli Model FPS2CA is for filling and sealing closed ampules. This unit incorporates burners that melt the top of the ampules to create an opening. As this is occurring, another set of burners heat the body to establish a higher pressure inside the ampule, thus eliminating the possibility of particulates falling into the ampule.

The ampules then pass through a fiber optic detector which detects and rejects any unopened ampules. The open ampules are then pre-flushed, filled, post-flushed and sealed.



Automatic Ampule Filler and Sealer, Model FPS2 with Optional Adjustable Feed Chute, Oxygen and Gas Flow Meters, and Nitrogen Flow Meters with Monitors.

For products requiring more accurate control of gas purging, nitrogen-purge flow meters and monitors to ensure that precise quantities of nitrogen enter the ampules before and after filling can be supplied.

Note: One, two or four pre-flushing, filling, post-flushing, pre-heating, sealing stations, and filling syringes are available depending on model.

Cozzoli Model FPS2 is also available in mirror-image construction for the convenience of one operator attending two machines.

Diaphragm pump for filling of corrosive, abrasive and delicate liquid is an available option.

Onion-Skin Tubes

Automatic Onion-Skin Tube Filler and Sealer, Model FPS1-OS



This compact monoblock filling and sealing machine handles onion skin tubes as well as a variety of other tubes. Stainless steel models are also available.

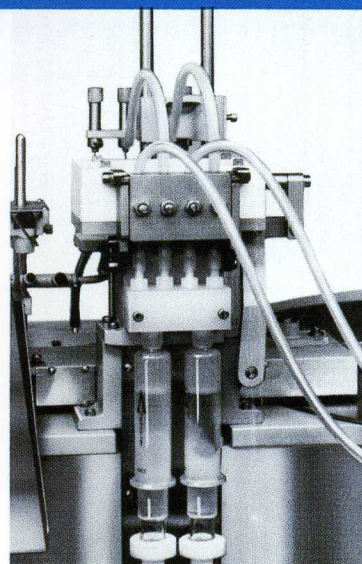
Filling & Stoppering

Automatic Vial Filler and Stoppering Machine, Model FSV30/PS10 (close up).



The Cozzoli vial filling and stoppering machine provides full or partial insertion of stoppers. It is also equipped with a built-in unscrambler.

Special Corrosive Product Handling



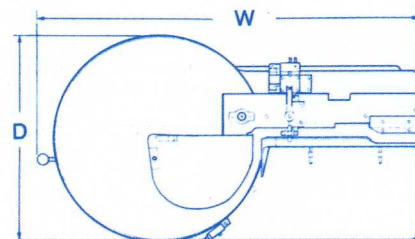
Special Resilient Tube Valve and Glass Syringes for Filling of Corrosive Products.

Specifications

MACHINE MODEL	FSV30	FSV230	FPS1-OS	FPS1-OS-SS	FPS1	FPS1-SS	FPS2	FPS2-SS	FPS2CA	FS250-SS	FS220-SS	FC2	
FUNCTIONS PERFORMED	unscramble/flush/ fill		fill/flame seal		unscramble/flush/ fill/flush/ flame seal		unscramble/flush/ fill/flush/ flame seal		unscramble/flame open/flush/fill/ flush/flame seal	unscramble/flush/ fill/flush/ flame seal	unscramble/flush/ fill/flush/seal/ tray load	unscramble/ flush/fill/ flush/cap	
FILLING NUMBER OF SYRINGES	1	2	1		1		2		2	2	4	2	
MIN/MAX SYRINGE SIZE	1ml - 30ml		1ml - 2ml		1ml - 30ml		1ml - 30ml		1ml - 30ml	2ml - 60ml	1ml - 30ml	1ml - 30ml	
MIN/MAX FILL VOLUME	.1ml - 33ml		.1ml - 2.2ml		.1ml - 33ml		.1ml - 33ml		.1ml - 33ml	.2ml - 66ml	.1ml - 33ml	.1ml - 33ml	
NUMBER OF VALVE ASSEMBLIES	1	1 duplex	1		1		1 duplex		1 duplex	1 duplex	1 quadruplex	1 duplex	
FLUSHING WITH INERT GAS	(1) flush, fill		(1) flush, fill		flush, fill, flush		flush, fill, flush		flush, fill, flush	flush, fill, flush	flush, fill, flush	flush, fill, flush	
SEALING TYPE			PULL SEAL OR TIP SEAL — VENTURI BURNER ASSEMBLY WITH AMPULE ROTATING ROLLERS									combination (4) aluminum seals (caps)	
OXYGEN FLOW RATE			1 to 2 liters per minute		1 to 2 liters per minute		2 to 4 liters per minute		2 to 4 liters per minute	2 to 4 liters per minute	6 liters per minute		
GAS FLOW RATE			½ to 1 liter per minute		½ to 1 liter per minute		1 to 2 liters per minute		1 to 2 liters per minute	1 to 2 liters per minute	3.5 liters per minute		
MIN/MAX SEALING HEIGHT			(10) 35mm - 88.9 mm 1-3/8" - 3-1/2"		44mm - 120mm 1-3/4" - 4-3/4"		44mm - 120mm 1-3/4" - 4-3/4"		44mm - 120mm 1-3/4" - 4-3/4"	64mm - 170mm 2-1/2" - 6-5/8"	47mm - 120mm 2" - 4-3/4"		
MIN/MAX STOPPERING HEIGHT	31.7mm - 107.9mm 1-1/4" - 4-1/4"				31.7mm - 107.9mm 1-1/4" - 4-1/4"		31.7mm - 107.9mm 1-1/4" - 4-1/4"						
GENERAL CONTAINERS HANDLED	vials		glass tubes, onion skin tubes		(7) ampules		(7) ampules		ampules	ampules	(7) ampules	cartridges and disposable syringes	
OPTIONAL MACHINES AVAILABLE FOR STOPPERING VIALS	RS100, PS10	RS100, PS10 (5)			RS100, PS10 (5)		RS100, PS10 (5)						
MIN/MAX CONTAINER DIAMETER	(8) 12.7mm - 38.1mm 1/2" - 1-1/2"		6.4mm - 16mm 1/4" - 5/8"		(2) 9.5mm - 25.4mm 3/8" - 1"		(2) 9.5mm - 25.4mm 3/8" - 1"		9.5mm - 25.4mm 3/8" - 1"	(3) 15.9mm - 37.1mm 5/8" - 1-1/4"	9.5mm - 25.4mm (9) 3/8" - 1"	25.4mm 1"	
MAX CONTAINER HEIGHT	114.3mm 4-1/2"		134.9mm 5-5/16"		134.9mm 5-5/16"		134.9mm 5-5/16"		134.9mm 5-5/16"	177.8mm 7"	134.9mm 5-5/16"	134.9mm 5-5/16"	
MAX NOZZLE ELEVATION	38.1mm 1-1/2"		57.1mm 2-1/4"		127mm 5"		127mm 5"		127mm 5"	152.4mm 6"	127mm 5"	57.1mm 2-1/4"	
CYCLES PER MINUTE	15 - 60		15 - 60		15 - 60		15 - 60		15 - 60	7-1/2 - 30	15 - 55	15 - 60	
CONTAINERS PER MINUTE	15 - 60	30 - 120	15 - 60		15 - 60		30 - 120		30 - 120	15 - 60	60 - 220	30 - 120	
CONTAINER MOVEMENT	INTERMITTENT												
LOADING	609.6mm (24") diameter unscrambling table		Manual		609.6 mm (24") diameter unscrambling table						conveyor	hopper	
CONTAINER SPACING	38.1mm 1-1/2"		25.4mm 1"		25.4mm 1"		25.4mm 1"		25.4mm 1"	31.7mm 1-1/4"	25.4mm 1"	38.1mm 1-1/2"	
CONTAINER DISCHARGE	straight line		chute		automatically into receiving trays (6)								chute
ELECTRICALS:	MAIN MOTOR		Capacitor start motor — ¼ h.p.; 115 V; 60 Hz; 1 Ph.									¼ h.p. D.C. motor	2 motors — ¼ h.p.; 115 V; 60 Hz; 1 Ph.
	CONTROLS		On-Off switch										On-Off switches
DIMENSIONS (SET UP) W x D x H		SEE DRAWINGS											1365.2mm x 787.4mm x 1320.8mm 53-3/4" x 31" x 52"
DIMENSIONS (CRATED) W x D x H		1498.6mm x 1143mm x 1651mm 59" x 45" x 65"								1143mm x 1753mm x 1575mm 45" x 69" x 62"	1498.6mm x 1143mm x 1651mm 59" x 45" x 65"	2362mm x 1600mm x 1702mm 93" x 63" x 67"	2413mm x 990.6mm x 1778mm 95" x 39" x 70"
NET WEIGHT	152 kg 335 lbs	170 kg 375 lbs	152 kg 335 lbs		152 kg 335 lbs		170 kg 375 lbs		181 kg 400 lbs	213 kg 470 lbs	362 kg 800 lbs	554 kg 1200 lbs	
GROSS WEIGHT	268 kg 590 lbs	285 kg 630 lbs	268 kg 590 lbs		268 kg 590 lbs		285 kg 630 lbs		317 kg 700 lbs	329 kg 725 lbs	546 kg 1200 lbs	694 kg 1530 lbs	

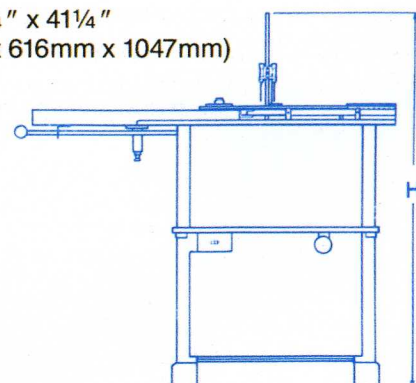
- (1) Can be supplied for fill/flush or flush/fill/flush.
- (2) Optional parts are available for vials from 25.4mm (1") up to 28.6mm (1 1/16") in diameter — production rates will be halved.
- (3) Optional parts are available for ampules from 11.1mm (7/16") up to 16mm (5/8") in diameter.
- (4) FC2 is equipped with vibratory feeder with stainless steel chute, and two crimping heads to handle combination aluminum seals.
- (5) Alternate feeding is required with PS10 — production rates will be halved.
- (6) Straight line discharge is available as an option.
- (7) Optional parts are available for handling vials.
- (8) Two conveyor chains are required to handle this complete range. One from 12.7mm (½") to 19.0mm (¾") diameters and one from 19.0mm (¾") to 38.1mm (1½") diameters.
- (9) Alternate feed for ampules over .781 diameter (19.8mm) — production rates will be halved.
- (10) Consult Cozzoli for sealing heights outside this range.

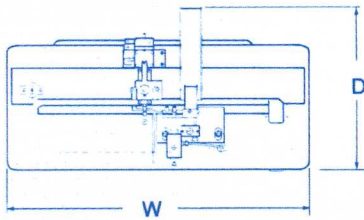
NOTE: Other sizes may be handled with optional change parts — please consult us.
Specifications are subject to change without notice.



FSV30

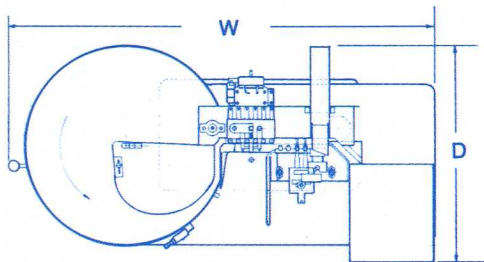
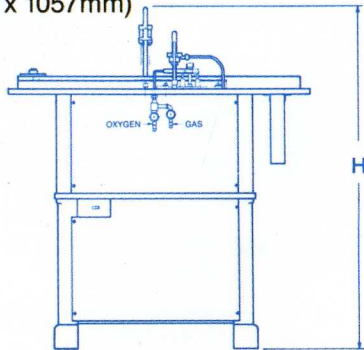
44" x 24 1/4" x 41 1/4"
(1118mm x 616mm x 1047mm)





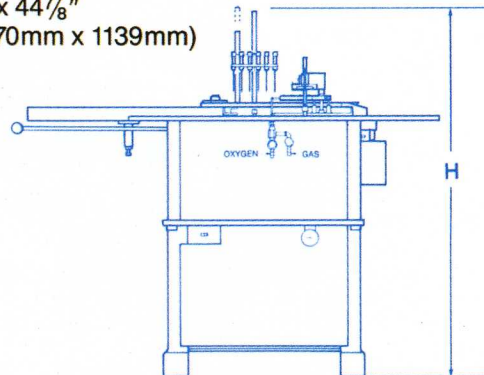
FPS1-OS

36" x 19⁷/₈" x 41⁵/₈"
(914mm x 504mm x 1057mm)

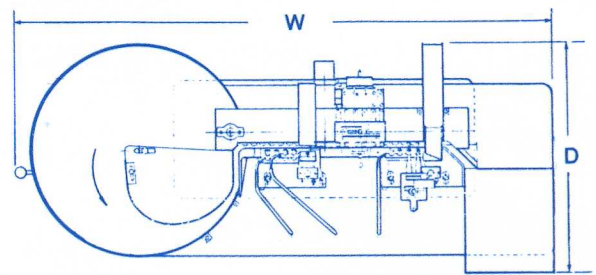


FPS2

51" x 26⁷/₁₆" x 44⁷/₈"
(1294mm x 670mm x 1139mm)

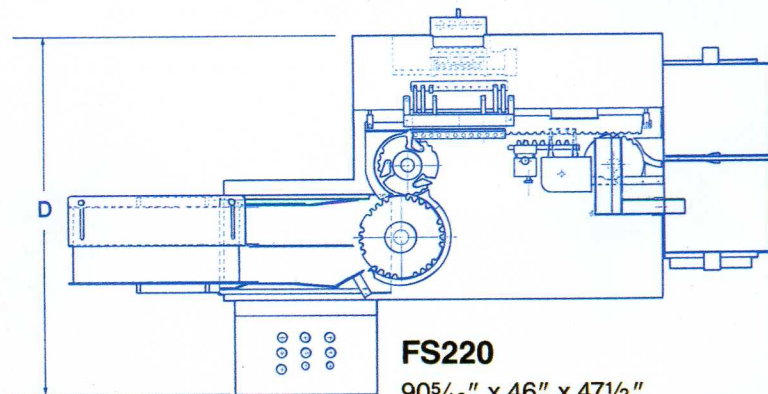
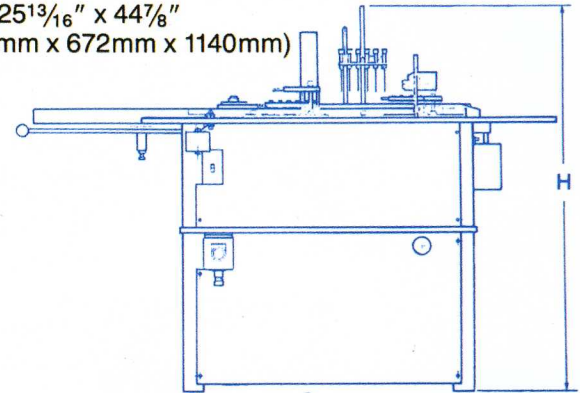


Note: Dimensions are maximum.



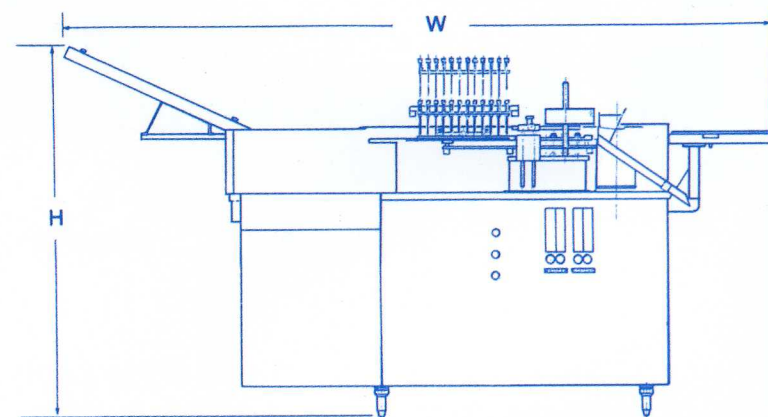
FPS2CA

61" x 25¹³/₁₆" x 44⁷/₈"
(1550mm x 672mm x 1140mm)



FS220

90⁵/₁₆" x 46" x 47¹/₂"
(2294mm x 1168mm x 1206mm)



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