Packaging - Processing

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Automatic Filling Machines

Filamatic®
Filamatic Automatic Filling Machines

Filamatic Automatic Filling Machines are designed for smooth, trouble-free filling of all types of plastic, glass or metal containers, ranging in size from 1 dram to 1 quart (up to 1 gallon with a Multi-Stroke Attachment and 6" conveyor). Handle round, rectangular, oval or odd shaped containers. Fill a wide variety of liquids from free-flowing to viscous. Positive displacement, volumetric filling insures 1% accuracy. Individual, electronically controlled variable speed drives for filler and conveyor provide instant speed selection. Available in a variety of models to meet any production requirement.

EASY TO USE

Filamatic Automatic Filling Machines are easy to set up and use — even for inexperienced personnel. Changes for different bottle sizes or a different product can be performed in a matter of minutes. Makes it economically feasible to use a Filamatic for short runs requiring frequent changeover, as well as long run, production filling. Unsurpassed for aseptic filling of pharmaceuticals — the entire pump assembly can be removed for cleaning or sterilizing by merely loosening two thumbscrews. Interchangeable pumps with sanitary type construction are available for filling dairy products — plastic and glass for handling metal sensitive liquids. Turn a single micrometer knob on the Series 240R Filamatic, to simultaneously adjust the volume dispensed by all the nozzles. A vernier adjustment on each Filling Unit compensates for slight differences — permits the volume discharged by each nozzle to be "fine-tuned" with better than 1% accuracy.

SINGLE OR DUAL CONVEYORS

Single lane conveyors are standard equipment on all Filamatic Automatic Filling Machines. However, where production rates require a belt speed in excess of 80 feet per min., the Filamatic can be equipped with a dual lane conveyor. A container divider, available as optional equipment, can be installed on the infeed to divide the discharge from a single lane feeder, into the two lanes on the Filamatic. The two lanes are combined into a single lane, on the discharge side of the conveyor.

ADJUSTABLE BOTTOM-UP FILL WITH "CUSTOMIZED" CAM

For foam-free filling of detergents, shampoos and similar products, Series 120, 240 or 240R Filamatic Automatic Filling Machines are equipped with an adjustable, Bottom-Up Filling Mechanism that maintains the nozzle discharge precisely at the liquid level as it rises in the container during filling. The nozzle travel can be changed from 0 to 9" by merely turning a handwheel. Standard machines are equipped with a general purpose cam for use with round, rectangular, square or other straight sided containers. A special "customized" cam designed for use with odd shaped and non-uniform containers can be supplied at extra cost. A typical example would be a triangular shaped bottle — large at the bottom — small at the top. Here, the liquid level rises slowly at the bottom (Start of fill) and more rapidly as it reaches the top. A "customized" cam insures that the nozzle opening follows the liquid level precisely, eliminating foaming and splashing, and permitting faster filling rates. A separate "customized" cam is required for each different size and shape container.

BALL CHECK OR SLIDE VALVE FILLING UNITS

Standard Filamatic automatic and semi-automatic Filling Machines are equipped with ball-check Filling Units, designed for use with clear liquids or semi-liquids such as adhesives, creams, ketchup, mustard and similar homogeneous materials. For filling products containing a high concentration of semi-solid particles such as pizza sauce, meat sauce, tartar sauce, Italian dressing, etc., Filamatic fillers can be equipped with slide valve Filling Units. Modified ball-check or slide-valve type, Filling Units are available for handling products such as quick-setting cements and adhesives that tend to harden on the cylinder walls. These patented Filling Units, offered only on Filamatic Fillers, provide a sealed system in which the piston can operate, preventing sticking and binding caused by the evaporation of solvent on the atmosphere side of the cylinder wall.

DESCRIPTION

Filamatic Automatic Filling Machines consist of an electronic variable speed filler drive coupled to a series of positive displacement metering pumps and a variable speed conveyor. On Series 240R Fillers, a single micrometer knob simultaneously adjusts the volume of product dispensed by the entire group of pumps. Vernier adjustments are provided for the individual pumps. Series 120 and 240 Fillers incorporate individual micrometer volume controls for each fill station.

The Filling Units (metering pumps) are interchangeable, providing an amazing range from 1 dram to 1 quart (up to 1 gallon with the Multi-Stroke Attachment). A No-Bottle-No-Fill mechanism brakes the filler to a stop instantly, if one or more containers are missing from the filling station. Containers may be hand fed to the conveyor or fed automatically with an optional Filamatic Unscrambler Table. Available, with a continuous motion conveyor or, with intermit-
**CONSTRUCTION**

Filamatic Automatic Filling Machines are built around an electrowelded, 1½“ square tubular steel frame, for extra rigidity. All liquid contacting parts are fabricated of type 316 stainless steel. Kel-F plastic and glass metering pumps are available for use with corrosive or metal sensitive liquids. Conveyor bed and guide rails or fabricated of type 18-8 stainless steel. A Delrin plastic, flat-top chain belt conveyor provides a uniformly, flat surface that permits even narrow, unstable vials to be handled without tipping. Available with 5‘, 8‘, 10‘, or 12 long conveyor beds.

**OPTIONAL FEATURES**

SLIDE VALVE FILLING UNITS for use with products containing a high concentration of solid particles. Use also for filling liquids and pastes from a pressurized source.

VALVE-IN TIP NOZZLES for drip free filling of low surface tension liquids. Valve in the nozzle tip opens when fill cycle commences and closes when fill is completed.

**NOZZLE CENTERING MECHANISM.** Centers the container openings under the nozzles during each fill cycle. Prevents the nozzles from striking the top of the bottles, as they drop into the containers for bottom filling. Recommended for use with odd shaped, non-uniform containers, shaker top bottles, containers with restricted openings, and all Filamatic Automatic Fillers having six or more nozzles.

**LEVELLING STATION.** Levels the liquid height in the container with pinpoint accuracy, after the fill cycle is completed. No vacuum seal is required — flexible plastic containers can be handled without collapsing the wall.

**ANTI-BACK-UP ATTACHMENT.** Stops the filler instantly, if filled containers back-up on the discharge side of the Filamatic Conveyor.

**AUTOMATIC GAS INJECTION.** Automatically injects a neutral gas into the container before and/or after the fill cycle is completed. Gas injection, minimizes oxidation and greatly increases the shelf life of sensitive liquids. Adjustable cams make it easy to limit the amount of gas dispensed into each container.

**CAP TIGHTENING STATION.** Automatically tightens screw caps which have been preplaced by hand onto the filled containers. Handles cap sizes up to 40 mm.

**UNSCRAMBLER TABLE.** Automatically feeds round plastic, metal or glass containers single file onto the Filamatic Conveyor. Eliminates hand feeding. For use with stable, round containers only. 36“ dia. stainless steel table with adjustable stainless steel guide rails.

**ACCUMULATOR TABLE.** Accumulates the containers after filling, capping, labelling, etc. For use with stable, round containers only. 36” dia. stainless steel table with adjustable stainless steel guide rails.

**EXPLOSION PROOF OPERATION.** All Filamatic Fillers can be supplied for explosion proof operation.

**SPECIFICATIONS**

**FILLING RANGE:** 1 dram to 16 fl. ozs. with interchangeable filling units . . . or 1 dram to 32 fl. ozs. with required change parts and interchangeable filling units. Up to 1 gallon with 6’’ conveyor and Multi Stroke Attachment.

**CONVEYOR HEIGHT:** Adjustable from 32” to 36”. Other sizes to order.

**FILLING ACCURACY:** 1%.

**LENGTH OF CONVEYOR:** Available in 5’, 8’, 10’ and 12’ lengths. Longer lengths to order.

**Finish:** Blue-green epoxy.

**MOTOR DRIVES:** Supplied to meet any electrical requirement. Separate electronically controlled variable speed drives for filler and conveyor. Finger-tip speed adjustment.

**Shipment and delivery** will be made within 30 days of receipt of order.

**Floor Space** required: 240 sq. ft.

**Weight:** 600 lb.

**Specifications**

<table>
<thead>
<tr>
<th>MODEL NO.</th>
<th>NO. OF NOZZLES</th>
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<tbody>
<tr>
<td>120</td>
<td>4</td>
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<tr>
<td>240</td>
<td>6, 8, 10</td>
</tr>
<tr>
<td>240D</td>
<td>12 or 16</td>
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<tr>
<td>240R</td>
<td>12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32</td>
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All Filamatic Fillers are mounted on casters for easy portability. Built-in screw jacks permit the casters to be raised off the floor for final positioning.

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**CHECK THESE PLUS FEATURES:**

- Fill plastic, glass or metal containers with free-flowing, foamy or viscous liquids.
- Fill drums to gallon containers automatically — Up to 10 gallons semi-automatically.
- Anti-Back-up Control stops the Filamatic instantly, if a jam-up occurs downstream from the filling station.
- A single micrometer knob simultaneously adjusts the volume dispensed by all the nozzles.
- Adjustable Bottom Fill. Hand wheel adjusts nozzle travel from 0 to 9". No need to adjust or replace cams.
- No-Bottle-No-Fill Drip-Free Fills
- Vacuum leveling available where constant level filling is desired. Changeover to different size or product in a matter of minutes.
- Type 316 stainless steel contact parts. Plastic and glass pumps available for handling metal sensitive liquids.
- Aseptic filling — entire pump assembly can be removed for cleaning or sterilizing by merely loosening two thumbscrews.
- No metal-to-metal contact between piston and cylinder wall. Adjstable Teflon seal rings take all the wear.
- Electronically controlled variable speed drive — change filling speed at the turn of a knob.
- Delrin plastic flat top chain belt conveyor — chemical resistant — handles even the smallest vial without tipping.
- Fills directly from floor level drum.
- Cap tighten attachment tightens screw caps automatically.
- Models available for any production requirement.
- Caster mounted for easy portability — built-in screw jacks raise filler off floor — secure machine for final positioning.
- Adjustable conveyor height.
- Filamatic fits easily into existing conveyor lines.

*Optional*
Filamatic Automatic Filling Machines

Basic Models

Series R100
2 or 4 Nozzle Filler with Rotary Indexing Table

Recommended particularly for handling unstable or odd shaped containers which cannot be satisfactorily transported on a straight line conveyor. Equipped with an interchangeable, rotary indexing table which transports the containers to the filling station, holds them in position during the filling cycle and ejects them after filling. Merely replace the table disc, to change over to a different shape or size container. Fail-safe limit switches stop the filler instantly, if the nozzles do not enter the container openings or, one or more containers are missing from the fill station. Optional accessories include a bottom-fill mechanism which minimizes foaming and eliminates voids when filling viscous products; a nozzle centering mechanism for vertical and small-necked containers and slide valve type filling units for handling viscous materials and products containing a heavy concentration of semi-solids.

Series R100 Filamatic Fillers are installed on a 26"Wx42"Dx40"H welded steel, epoxy painted base cabinet. Equipped with an electronically controlled variable speed drive, one set of stainless steel Filling Units, indexing table and interchangeable table disc for one size container.

Model 120-4
4 nozzle automatic filler with adjustable bottom-up fill

A 4-nozzle, automatic filling machine for speeds up to 120 containers per minute. Heavy duty filler drive provides extra torque for dispensing cream lotions, oils, syrups and other viscous or semi-viscous fluids. Use FKS Filling Units for viscous liquids, FQS for cements and adhesives. Dispenses up to 1000cc (1 quart) when used with FUS-1000 Filling Units. Up to 1 gallon with an optional Multi-Stroke Attachment and a wide belt conveyor. Equipped with a 5', 8' or 10' stainless steel conveyor, adjustable stainless steel guide rails, no-bottle-no-fill, separate electronic variable speed drives for filler and conveyor, individual micrometer volume controls for each fill station, adjustable bottle indexing mechanism, bottom-fill mechanism with handwheel adjustment from 0 to 9" of nozzle travel, automatic cap tightening, automatic labelling, liquid levelling station, anti-back-up mechanism, no-drip nozzles, adjustable suck-back, welded steel epoxy painted cabinet, caster mounted base with built-in screw jacks to raise casters off the floor and all necessary electrical controls.

Optional Equipment

Synchromat Conveyor
Converts a 2 or 4 nozzle Filamatic portable filler into a conveyorized automatic filling machine.

(Must be factory installed)

The Synchromat Conveyor provides a low-cost means for converting a portable, semi-automatic Filamatic Filler into a conveyorized, automatic filling machine. May be used with any model Filamatic portable except the AB, AB-5 and DAB. The Synchromat Conveyor consists of an 8' or 10' stainless steel conveyor with a Delrin plastic conveyor belt, an electronically controlled variable speed drive, mounted on a 22"Wx22"Dx32"H welded steel epoxy painted cabinet. An indexing mechanism holds the containers under the nozzles during the fill cycle. A no-bottle-no-fill switch stops the filler instantly should the supply of bottles on the conveyor become depleted. Optional features include a Bottom-Fill Mechanism for handling foaming materials, a nozzle centering device for filling narrow necked containers, and a cap tightening and labelling station. See Page 2 of price list for ordering instructions.
Each Filamatic Automatic Filling or Cleaning Machine is “Custom-Engineered” to your specific requirements.

**MODEL 240D**
A high speed automatic filling machine available with 12 to 16 Filling Units arranged in parallel on each side of a drive mechanism. Speeds up to 240 containers per minute. Heavy duty filler drive provides extra torque for dispensing cream lotions, oils, syrups and other viscous and semi-viscous liquids. Use FKS Filling units for viscous liquids and FQS for cements and adhesives. Dispenses up to 1000cc (1 quart) when used with FUS-1000 Filling Units or, up to 1 gallon with an optional Multi-Stroke Attachment and a wide belt conveyor. Equipped with a single lane or optional dual lane 10' or 12' stainless steel conveyor, adjustable stainless steel guide rails, no-bottle-no-fill, separate electronic variable speed drives for filler and conveyor, individual micrometer volume controls for each fill station, adjustable bottle indexing mechanism, bottom-fill mechanism with handwheel adjustment from 0 to 9" of nozzle travel, automatic cap tightening, automatic labeling, anti-back-up mechanism, no-drip nozzles, adjustable suck-back, welded steel epoxy painted cabinet, caster mounted base with built-in screw jacks to raise casters off the floor and all necessary electrical controls.

**NOTE:** The maximum fill rate for any Filamatic Automatic or Semi-Automatic Filling Machine is determined by the viscosity and foaming properties of the product, volume of fill, diameter of container opening and number of nozzles on the filler. For free, no obligation recommendation, submit a 1 gallon sample of the product, 12 of each size container, indicate production rates required for each size and whether automatic or semi-automatic operation is desired. Any model Filamatic Automatic Filling Machine can be supplied for explosion-proof applications. Specify air or electrical operation.

**MODEL 240R**
A high speed automatic filling machine available with 12 to 60 Filling Units arranged in a circular pattern around a central drive mechanism. Speeds up to 600 containers per minute. A single micrometer control simultaneously adjusts the volume of product dispensed by all the nozzles. In addition, vernier adjustments are provided for each fill station for more precise volumetric control. Heavy duty filler drive provides extra torque for dispensing cream lotions, oils, syrups and other viscous and semi-viscous liquids. Use FKS Filling Units for viscous liquids and FQS for cements and adhesives. Dispenses up to 1000cc (1 quart) when used with FUS-1000 Filling Units. Up to 1 gallon with an optional Multi-Stroke Attachment and a wide belt conveyor. Equipped with a single lane or optional dual lane 10' or 12' stainless steel conveyor, adjustable stainless steel guide rails, no-bottle-no-fill, separate electronic variable speed drives for filler and conveyor, adjustable bottle indexing mechanism, bottom-fill mechanism with handwheel adjustment from 0 to 9" of nozzle travel, automatic cap tightening, automatic labeling, anti-back-up mechanism, no-drip nozzles, adjustable suck-back, welded steel epoxy painted cabinet, caster mounted base with built-in screw jacks to raise casters off the floor and all necessary electrical controls.

**MODEL 240**
A high speed, automatic filling machine available with 6 to 10 nozzles for speeds up to 200 containers per minute. Heavy duty filler drive provides extra torque for dispensing cream lotions, oils, syrups and other viscous and semi-viscous liquids. Use FKS Filling Units for viscous liquids and FQS for cements and adhesives. Dispenses up to 1000cc (1 quart) when used with FUS-1000 Filling Units. Up to 1 gallon with an optional Multi-Stroke Attachment and a wide belt conveyor. Equipped with a single lane or optional dual lane 8', 10' or 12' stainless steel conveyor, adjustable stainless steel guide rails, no-bottle-no-fill, separate electronic variable speed drives for filler and conveyor, individual micrometer volume controls for each fill station, adjustable bottle indexing mechanism, bottom-fill mechanism with handwheel adjustment from 0 to 9" of nozzle travel, automatic cap tightening, automatic labeling, liquid levelling station, anti-back-up mechanism, no-drip nozzles, adjustable suck-back, welded steel epoxy painted cabinet, caster mounted base with built-in screw jacks to raise casters off the floor and all necessary electrical controls.
Typical "Custom-Engineered" Filamatic Automatic Filling and Cleaning Machines


Eight Nozzle Filamatic Automatic Filler with automatic levelling station.

Photo: Courtesy Alberto Culver
Close up of nozzle centering mechanism of Filamatic Model 240-14 in use at Alberto Culver.

Filamatic Model 120-4 equipped with a liquid levelling station.
Heavy duty Filamatic Filler equipped with a carousel conveyor. Recommended for filling irregular shaped, unstable bottles.

Photo: Courtesy Stallfort Pressure Pak

Four-track Filamatic Aerosol Product Filler with two unscrambler feeders. Automatically fills 10 cc. of additive into aerosol cans at 120 per minute.

Filamatic Synchromat with a DAB-16 Filamatic Filler, equipped with automatic cap tightener.

Eight Station Filamatic Air-Wash Bottle Cleaner with a range from 1 dram to 1 gallon.

Photo: Courtesy Lanvin-Charles of the Ritz

Combination Filamatic Cleaner — Filler automatically air cleans, glass, plastic or metal containers, fills volumetrically then vacuum levels.

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SPECIAL FILAMATIC FILLERS can be constructed for any filling application.

Special Sixty-Nozzle Filamatic fills 900 single-use packages per minute with shoe polish.

DAB-16 dispenses preset volume of ink into marking pens at a rate of 35 per minute.

Eight nozzle Filamatic automatic filler with leveling stations.

Four nozzle automatic filler dispenses 4 oz. of liquid into container and injects an inert gas prior to capping.

Photo: Courtesy Esquire-Knmark

Special Sixty-Nozzle Filamatic fills 900 single-use packages per minute with shoe polish.

Photo: Courtesy Eagle Pencil Co.

DAB-16 dispenses preset volume of ink into marking pens at a rate of 35 per minute.

Special five nozzle Filamatic filling machine for use with customer in-plant conveyor. Fills 120 trays of finger paints per minute.

Twin Nozzle Synchromat Automatic Filler with Labelling Attachment.

Photo: Courtesy General Foods Corporation

Special five nozzle Filamatic filling machine for use with customer in-plant conveyor. Fills 120 trays of finger paints per minute.

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