

CARTRIDGE FILLING MACHINE

Producers of materials packaged in cartridges continually encounter problems getting consistent level, void free fills. This is particularly true when filling the dual type of cartridge typically used to package two component epoxies, silicones, and urethanes etc. In these cases secondary operations are normally employed to even up the quantities in each of the cartridges in order to obtain both proper cosmetic appearance, and correct ratios from the cartridges. Time consuming cleanup procedures when switching from one product to another is an equally frustrating and costly problem.

The Tridak filling machine overcomes these long standing problems in a benchtop cartridge/syringe dispense system that will automatically fill these packages to accurate, repeatable, preset levels. Although it was specifically designed to handle medium to heavy viscosity materials, it has proven to be equally at home on many low viscosity materials.

The dispenser's design guarantees consistent, void free, fills by combining bottom-up filling with a special low clearance nozzle design and an adjustable cartridge/material counterbalance system.

Among the filler's other unique features are: a) a low cost, 5 or 10 gallon, quick change polypropylene reservoir insert system that can be treated as permanent containers or alternatively, can be easily removed to store materials in a safe economical manner, b) a straight-through flow, wetted system that's easily cleaned, capable of millions of cycles, but low enough in cost to be disposable, c) a precise, adjustable, level control system, d) a built in pinch type valve to assure accurate shut-off, and e) a stainless steel reservoir with pressure regulation to control flow rate (the system can also be fed from external tanks or drums using optional pumps), f) All pneumatic operation.

The automatic cycle is initiated by an operator-controlled footswitch or other external switch closure.

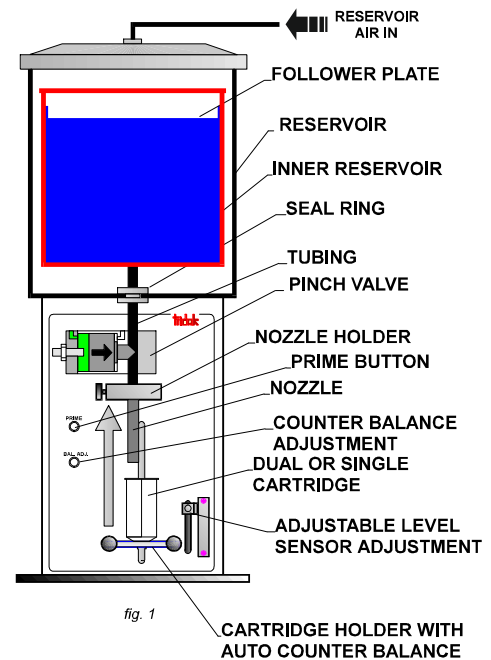
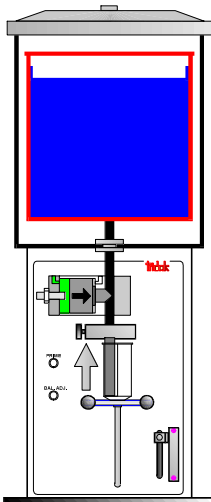
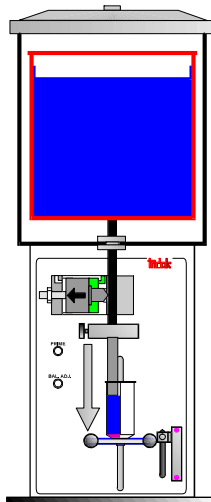


fig. 2



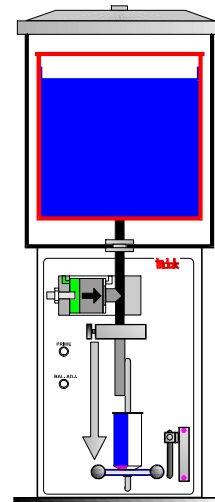
Operator places cartridge into retracted holder then allows holder to raise part into position

fig. 3



The cycle is initiated (*footswitch or other external sig.*) and the cartridge fills from the bottom up.

fig. 4



When the cartridge/part holder has moved to its preset level the cycle automatically stops. The operator retracts the cartridge and holder and removes the filled container.

PISTON INSERTING MACHINE

Manually inserting pistons into the dual cartridge packages that are commonly used to contain a variety of two component materials, such as epoxy and silicone, is a difficult and time-consuming task. Typical difficulties encountered include: excessive force required to insert the pistons; trapping air under the pistons (which leads to drooling or inexact proportioning when the packaged materials are dispensed) and inconsistent piston insertion depth and alignment, which is not only bad from a cosmetic standpoint, but also leads to inexact ratios when the product is dispensed.

The TRIDAK 'INSERTA' piston insertion machine solves each of these problems in a simple benchtop system.

The system features: a) a mechanical sequencing system that performs each operation in a predetermined order, b) an automatic guidance and holding system to accurately align the cartridge and pistons, c) individual piston insertion depth adjustments and d) pneumatic operation.

To use the 'INSERTA', the operator simply loads the pre-filled syringe into the nest provided and places the pistons in the piston guide. The footswitch is then depressed and held until the insertion sequence is completed. Total cycle time is 2-3 seconds. The 'INSERTA' can be factory modified to accommodate almost all single and dual syringes and pistons.

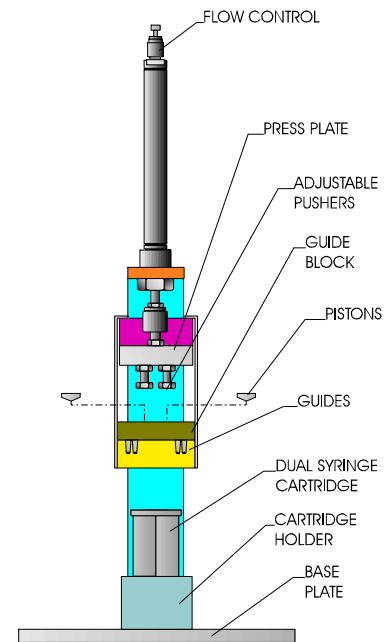


fig.1

Operator places piston in guide block and loads a filled cartridge into the holder.

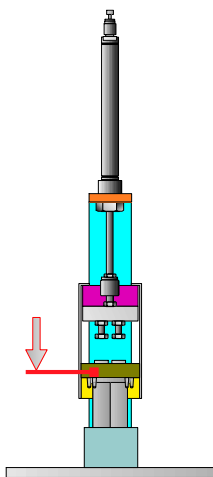


fig. 2

Operator depresses footswitch. The guide block descend and the guides automatically position the cartridge.

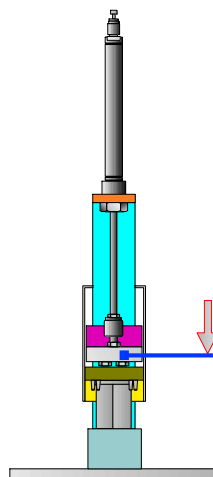


fig. 3

The cycle continues and the piston pushers engage the pistons, and push them through the guide block. While being pushed through the guide block the pistons automatically engage the air bleeder to insure air does not get trapped between the piston and the material in the

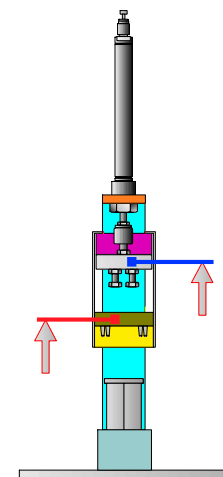


fig. 4

The cycle is complete and the system returns to the start position and the operator removes the cartridge



Cartridge Filler Unique Features

- Consistent fill levels
- Void free fills
- Low cost and simple material switch over
- Simple clean up.

Piston Inserter Unique Features

- Easy and rapid inserting
- No trapped air in product
- Dual cartridges show consistent depths
- Dispenses in exact ratios

