

# Fill That Container!

## Model No. DM-800CFS Container Filling Station Semi-Automatic Siphon Filling of Bottles, Jars & Cans

### Applications & Features

This semi-automatic Container Filling Station permits semi-automatic gravity filling of almost any small glass, plastic or metal containers.

The **DM-800CFS Container Filling Station** is safe, accurate, and economical.

Excellent for rack filling all kinds and sizes of containers via filling spouts in 3/8, 1/2", 5/8" and 3/4" sizes for containers with mouths larger than these sizes. The filling station receives liquid product from an overhead storage container, tank, drum or IBC (tote).

A float ball in the tank reservoir ensures that it is constantly replenished to a preset level and prevents spillage or over-filling. The container maximum fill rate is predetermined by the fill-spout size, and dependant on the liquid thickness and other variables.

Multiple filling stations can be easily and quickly set up to permit larger scale filling operations.



### Specifications & Options

#### DM-800CFS • Multiple Container Filling Station

<b>Filler Specs:</b>	42"W x 22"D x 44"H, Reservoir: 36"W x 8"D x 6"H, Unit Wt. 120 lbs.
<b>Fill Rate:</b>	Depends on container size, height, liquid viscosity, temperature and other variables.
<b>Station Frame:</b>	Mobile stand on castors in enamel painted carbon steel. (Also available in 304SS)
<b>Pouring spouts:</b>	Includes 5 spouts. Stainless steel, Neoprene (Also available in Viton, EPDM, Teflon.)
<b>Ball Float-valve:</b>	MOC's: Plastic (HDPE), (avail. 304ss) Float-valve gaskets in Neoprene, Viton, EPDM

#### Recommended Optional Accessories

<b>Alternate Spouts:</b>	Spout nozzle sizes, 3/8", 1/2", 5/8", 3/4"
<b>Spout Seals:</b>	Teflon, Viton, EPDM, Neoprene
<b>Reservoir Heaters:</b>	Steam or hot water jacket type, or immersion type, Temp range: 35° - 180°F
<b>Reservoir Mixers:</b>	Clamp mount impeller style, or air operated, variable sparging mixer, with flow valve.



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# Overview & Operating Instructions for the DM-800CFS Filling Station

**WARNING!** Always wear appropriate safety clothing and apparel for all filling operations.

## Application –

The **DM-800CFS Container Filling Station** offers a very economical system for small to medium volume production siphon filling of glass, plastic or metal containers from 2 ounces through 1 gallon (and up to 2 gallon depending upon the dimensions of the container) of most low viscosity liquids.

## Construction and Principle of Operation –

The filler consists of a rectangular reservoir with a float controlled valve to maintain a fixed level of liquid as the tank is being replenished. The mobile filler is ergonomically mounted on castored legs for a convenient operating height. It is supplied with a 1) bottle holder rack, 2) drip tray, 3) filling spouts, 4) siphon starter and other components. The spouts have specially designed tubular goosenecks mounted on brackets which serve as fulcrums. Spout nozzles use double tube assemblies attached to the goosenecks. The outer tube of the nozzle has a weighted drop-stop which serves as the contact area for the bottle or other container to be filled. When the outer tube is raised by the bottle, it exposes an opening on the inner tube permitting the liquid to flow into the bottle. When the bottle is removed, the weighted drop-stop brings the outer tube down against a valve seat on the inner tube, shutting off the liquid flow before the bottle is completely removed from the spout.

As soon as the Operator replaces the full bottle with an empty, refilling begins immediately. The siphoning principle function of the **DM-800CFS Container Filling Station** permits liquid from one container to fill another; and when the liquid levels in the two containers are balanced, the flow automatically ceases. Once adjusted, the height of the bottle holder rack limits the level in the bottle so that there is no danger of overflow should the operator leave the filler unattended.

## Procedure –

**Reservoir replenishment** from a gravity feed storage vessel is preferred. The supply for the siphon filler reservoir is constantly maintained by gravity feed from the overhead storage container until it is refilled or replaced. For best gravity feed results the supply tank should be at least 3 feet above the siphon filler reservoir inlet. Total head should not exceed 18 feet. The outlet line from the storage tank is attached to the inlet of the siphon filler by means of a permanent pipe connection or suitable, safely mounted hose. A sparging (air) mixer is available to maintain product uniformity if stratification is indicated.

The bottle rack is controlled by an adjustable screw. The float valve is set so that the liquid in the reservoir is at the same height as the desired liquid level in the bottle. It is best to set the liquid level in the reservoir as close to the top as is possible. To prime the flow into the spout, the siphon primer bulb is slipped over the outer tube of the spout and pressed firmly against the weighted drop-stop on the spout so that the gasket on the starter forms a seal. The stop, in turn, should slide up until it is in contact with the gasket located immediately under the junction of the gooseneck and inner tube. While keeping the starter pressed against the drop-stop the primer bulb should be compressed and released by hand several times until liquid is drawn from the tube filling both the filling spout and the bulb. With the bulb full, the primer bulb is withdrawn from the nozzle, permitting the outer tube to slide down, retaining the liquid in the spout. This same operation is repeated with each of the spouts. It is not necessary to use the primer bulb again during the filling operation. It is important that the spouts are filled at all times so that the flow will start immediately as the bottle is placed into position. The operator should place the bottles on the machine, one under each spout. Usually, by the time last container is placed on the bottle rack, the first is filled. The first container is replaced with an empty one and same procedure continued, resulting in uniform, systematic and speedy filling operations. To prevent tubes from sticking and to prevent contamination or corrosion, it is strongly recommended that the filler be carefully cleaned after each use. In handling siphon filler spouts, precautions must be taken to avoid bumping or dropping the spouts which may damage the drop tubes so that they will not slide easily. The nozzle is attached to the gooseneck by tightening the nut by lock-hand. Neoprene gaskets are used to obtain a leakproof seal. (Teflon and other materials can be supplied for special applications.) Care should be always taken so that the gasket is placed uniformly inside the nut. Be sure it is inserted to the full depth of the nut and lies flat against the flange seat.

**CAUTION – No Tools!** Only finger tighten or loosen the lock-nut which holds the nozzle on the spout. **No Tools!**

Should it become desirable to fill containers in sizes other than those for which the unit was originally purchased, two systems may be used. Additional sets of nozzles are available in various sizes and can be easily interchanged on the gooseneck of the spout assembly, except for shallow container spouts. However, some operators prefer using separate, complete sets of siphon filler spouts where it is necessary to remove on complete spout and substitute another. Smaller spouts may be used for filling larger containers but nozzles of the largest diameter which will fit the container opening should be used to obtain maximum flow. As already noted, proper care must be taken in using and handling of spouts. With good care this equipment will provide excellent service for many years. Forcing bottles onto tubes, dropping the spouts or nozzles, banging the bottles against the tubes, bending the tube, applying the wrenches or other tools to the tubes may cause irreparable damage. Handle the equipment with care for long trouble-free service.

DRUM-MATES, Inc. is always available to serve your liquids handling requirements.



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