

דרך קצרה

Brief summaries of cRc Kashrus Policies

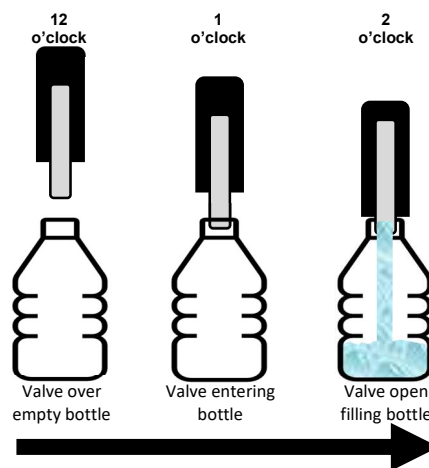
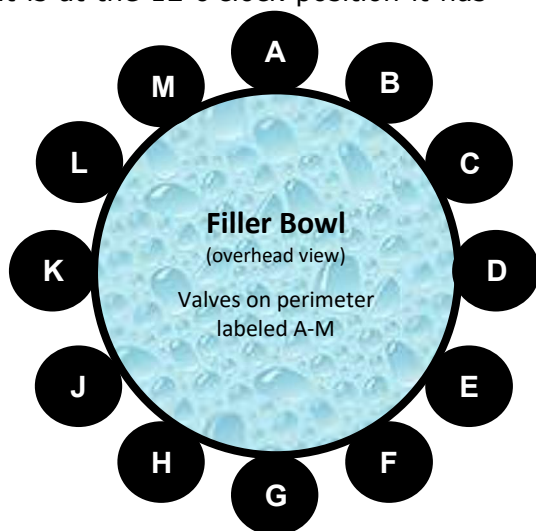
GRAVITY FILLER [FILLERS - PART 2]

A gravity filler is the simplest type of filler for liquid products. It consists of a dozen or so filler "valves" mounted underneath a filler bowl or on the outer perimeter of that bowl. The valves pass over the belt that carries the empty bottles, and the valves come down onto the bottles. As the edges of the valve push down on the top of the bottle, that opens up a flap inside the valve and liquid pours from the filler bowl, through a pipe in the center of the valve, and into the bottle. Liquid keeps pouring into the bottle until it is full (at which point gravity cannot force anymore into it), and the valve lifts off (since the bottle has now moved far enough on the belt).

not yet engaged with the bottle. At the 1 o'clock position it first enters the bottle, and then at the 2 o'clock position the flap has been opened and liquid begins flowing through the valve into the bottle. The bottle will be filled by the time it reaches the 8 o'clock position, at which point the valve will begin lifting up and disengaging with the bottle. Once it lifts a bit, the flap will close, and no more liquid will flow through the valve until it once again lands on another bottle at the 2 o'clock position and the process begins again. Thus, at every point in time, there are valves at all positions; some flaps are open filling bottles and others are closed.

The left diagram shows an overhead view of a filler bowl with 12 valves labeled A-M, and in this case the filler rotates clockwise. When it is at the 12 o'clock position it has

It is common that gravity fillers are used for hot products, where the hot product flowing into the bottle ("hot fill") serves to sterilize the bottle. The filler bowl has hot



product in it for many consecutive hours, and when it is *kashered* it surely must get hot enough to not have דפנות מקררות. It is not as clear that the same applies to the valves. This is because during each rotation of the filler, part of the time there is hot product flowing through the valves (from the 2 o'clock position till the 8 o'clock position, in our example), but there is no product flow for the rest of the time. Thus, the valves themselves continuously have time to cool down, and may therefore permanently retain the status of being דפנות מקררות. The answer to this question depends on the setup of a given filling line – e.g., how much time per rotation is product flowing, how many hours does the filler run continuously, how hot is the product – and must be determined individually for each filler.

Regardless of whether the filler valves have the upgraded status of being like a *kli rishon*, they surely require a hot *kashering* since hot product flows through them. To do this, the filler bowl must be filled with boiling water and the flaps opened in the valves, so that hot water flows through. It is also necessary to get hot water on the underside of the valves and the outside of any piping which reaches into the bottle. All of that can be accomplished by running empty bottles on the production line during *kashering* so that they will cause the flaps to open and for hot water to flow to all the places it usually does during filling. This process will require a reasonably large number of empty bottles, to ensure that the hot water flows for long enough to heat the metal.

מראה מקומות

שולחן ערוך סימן תנ"א סעיף ה'