

Batch Ratio Filling Application



CUSTOMER

Manufacturer of Cartridge Filling Machines
Byron, Michigan
Project Manager: Company Owner

APPLICATION

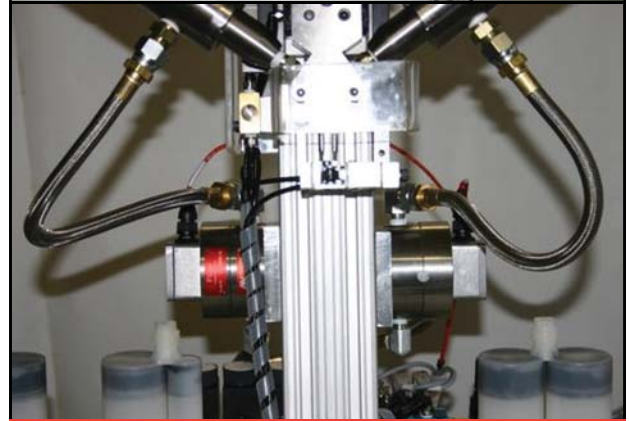
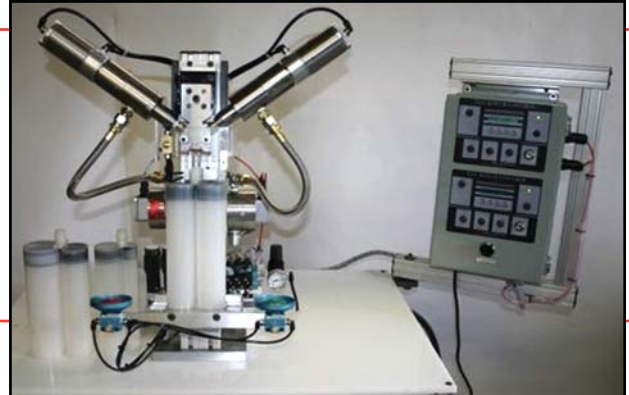
The application is filling various sized 2K cartridge assemblies in multiple ratios such as 1:1, 2:1, 4:1, and 10:1 and others. The process is to fill the two (2) separate cartridges simultaneously with the required amount (and ratio). The material quantities range from 30 ccm to 750 ccm (others are 75, 100, 150, 300, 600, etc) depending on the ratio and paired cartridges.

CHALLENGE

The previous filling technology was to fill the cartridges using a "fill and dispense" cylinder that was manually set at the required amount using hard stops. The process was to pump the material into the dispense cylinder (at correct cartridge size amount) and then unload the dispense cylinder into the cartridge. To get the exact amount often times there was timely set up and testing involved to get the exact required amount in the respective cartridge.

SOLUTION

The solution was eliminate the "fill and dispense" cylinder and to incorporate a flow meter into each of the cartridge fill supply lines (both lines) controlled by a special Batch Controller. The materials are now pumped direct from the bulk pail through the flow meter and directly into the cartridges. Since these are 2K (dual) cartridges it was required to design and build a Dual Batch Controller to control the two respective flow meters filling the cartridges. All the various cartridge size amounts are programmed into the Batch Controller.



AW products supplied:

- *Dual Batch Controller*
- *Two JVM-15CG Positive Displacement Flow Meters*
- *DH-B Sensors*



continued:
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RESULTS

The results are actually a production improvement in which the new flow meter approach is easier, quicker, more accurate and consistent to set up for any cartridge size(s) to be filled. The procedure now is a matter of calling up the correct recipe sizes (versus setting cylinder hard stops) on the dual batch controller, placing the cartridges into the fill machine and pressing a start dispense button.

