



# Systems Technology

## CONTINUOUS SHAMPOO PRODUCTION

### Problem

SPX's shampoo blending system is a compact, closed, multi-stream continuous proportioning system with a variable delivery, positive displacement pump for each stream and a common drive for all the pumps. Drive speed can be fixed or variable to suit the application.

### Process

Continuous shampoo production can involve up to 20 independent ingredient streams. With each stream subject to precise control and ingredient ratios positively maintained by the common drive, the proportioning unit provides two important facilities:

- The ability, once the ingredient ratios are set, to produce a product of unvarying quality, at any selected rate, virtually indefinitely.

- The ability to vary product recipe almost instantaneously.

Every function of the proportioning system can be controlled, monitored and recorded automatically, with recipe changes, total flow rates, etc. controlled via AutoBlend21. System variables can be data logged and viewed again via AutoBlend21..

### Typical System

Many of the SPX systems for the production of shampoos and associated personal care products are similar to that illustrated and described here. The typical system, supplied complete with instrumentation and pipework, produces many variants. The process starts with the surfactants and the water being metered and passing through the first in-line mixer. The brine and one of the four

additives to produce the required recipe are added just prior to the second in-line mixer. Immediately after this stage, the mixture passes through a small vessel which contains the viscosity measurement. The pH measurement is carried out after this vessel. The finished product now goes to a buffer tank in which a level control automatically adjusts the total output of the blending unit according to the demand of the filling machine. Additional items are the suction vessels for each constituent. These are fitted with low level alarm probes for loss of liquid. A three way valve, fitted up stream, enables flushing water to be pumped through the system for rapid in-place cleaning and product change as necessary.



## Advantages

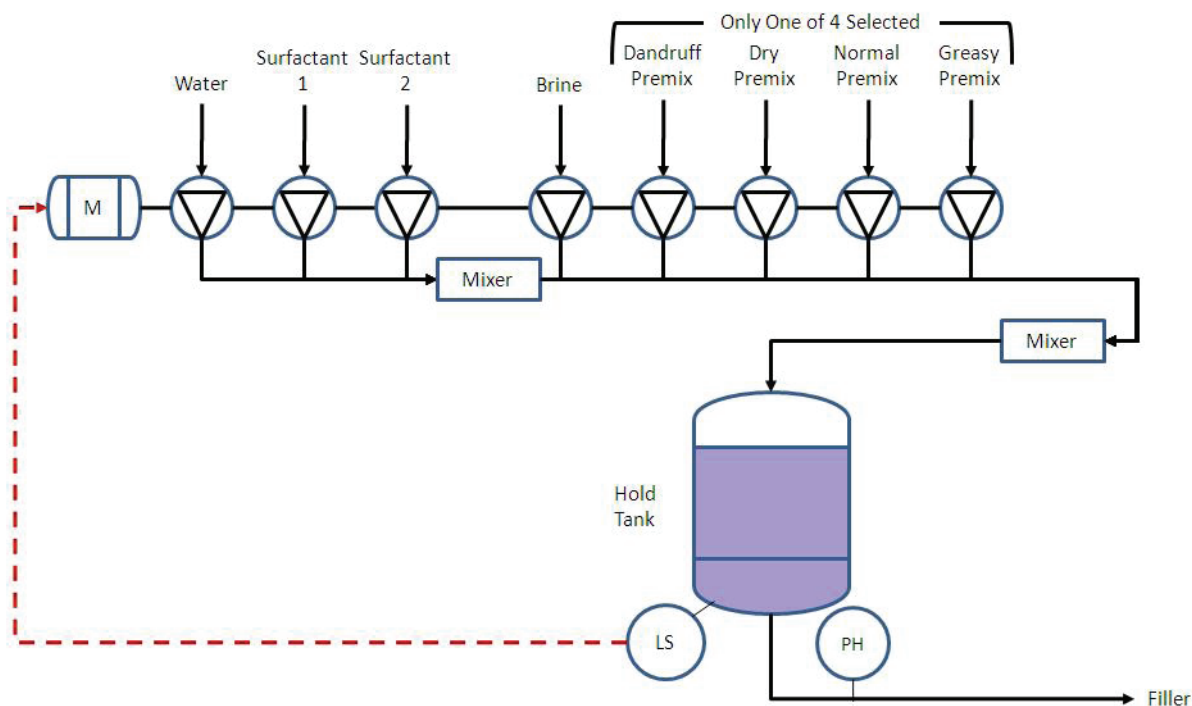
The major advantages of the SPX proportioning systems are:

- Substantial savings in production space, manpower and costs
- Product uniformity and total quality control
- Fast, easy recipe changing without wastage
- The option to automate any or all production functions
- Closed system produces a sanitary, air-free product

Type: Automatic Control, Continuous Production

Capacity: Up to 20 tonnes/hour

## Simplified process diagram



## Components

- Multi-gang SPX metering pump, in line mixing, PH and viscosity monitor system.

## Automation

- Batching or straight to filler production with options for auto pH and viscosity control.

## Global locations

### USA

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