

Quadro Ytron®

DISPERSING INGREDIENTS IN THE PRODUCTION OF SOFT DRINKS

BACKGROUND

In the manufacture of soft drink syrups, gums (acacia and arabic), sugars/starches and oils are added to water. Traditionally, a Tri-blender® or Eductor is used to incorporate the powders, in multiple passes. A piston homogenizer is used to reduce the oil droplets in order to prevent color ringing in the bottles. Unfortunately for soft drink syrup suppliers, homogenizers are expensive to maintain, and users of this type of equipment often look for more efficient process equipment substitutes. Soft drink syrup suppliers require quick, lump-free dispersion of sugars, gums, flavors, preservatives and oils. An emulsification of the finished product is required to be less than or equal to 0.5 micron without the high maintenance costs associated with a piston homogenizer; other Dispersers fall short, and both technologies are required.

QUADRO YTRON® PERFORMANCE

The Ytron XC Powder Disperser was chosen for a trial run and set up in recirculation loop. On average, approximately 95 lbs/min. of gums and other powder ingredients were incorporated, lump-free. The color and flavor crystals were completely dissolved. The oil was effectively introduced via the Clean-In-Place (CIP) port at a rate of approximately 9 USGPM. The recirculation loop was not required as consistent product quality was achieved in a single-pass. The product contained oil with a droplet size of less than 0.5 micron forming a stable emulsion and thereby, eliminating the need for the piston homogenizer. A production scale model, the XC3, was able to incorporate gums, syrups and other ingredients for soft drinks at approximately 400 lbs/min., and reduced the overall batch time from 6 hrs. to approximately 45 mins.

EQUIPMENT RECOMMENDATIONS

For high-capacity production requirements, Quadro recommends the use of our XC technology for the in-line dispersion of sweeteners, gum acacia, preservatives, and emulsification of flavor oils.

SUMMARY

The Ytron XC in-line dispersion equipment disperses sugars, gums and oils into water lump-free, with lower operating costs and a fraction of the maintenance associated with traditional methods. The major benefits of single-pass operation include significantly reduced batch times and repeatable/consistent results.



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