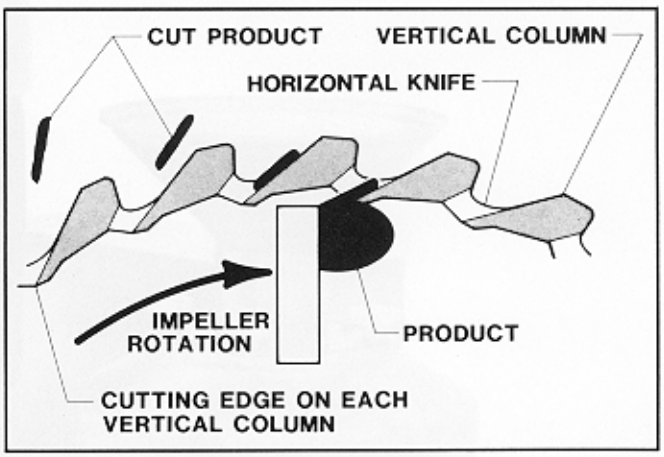

Comminutor cutting action controls product size

Comminutor reduces particle size to prepare pharmaceutical for tabletting

Grinding time reduced 80%, reliability improved

Comminutor cuts product to controlled size to prepare pharmaceutical for tabletting

MARTIN J. USHER
Project Engineer
Reckett & Colman Ltd.
Kingston Upon Hull, U.K.

CP Staff

New Solutions to Plant Problems

Problem: Grinding pharmaceutical crystals in preparation for tabletting was a slow, dusty and unreliable operation. The size reduction equipment frequently broke down, causing product contamination and off-spec material. Maintenance labor and material losses were costly.

Reckitt & Colman Limited's Pharmaceutical Division in Kingston Upon Hull, U.K., produces Fenclofenac, an anti-inflammatory drug used for treating rheumatological conditions. Sold in tablet form, the drug must be ground to the proper particle size for optimum tabletting. The optimum particle size for tabletting this material is 200 microns (about 75 mesh). Unsatisfactory operation of the existing size reduction equipment provided the impetus to search for a more reliable machine.

Solution: Reckitt & Colman installed a comminutor that cuts the material into a controlled particle size. The product is fed into the top of the cutting chamber which contains a stationary cutting head and an impeller (see illustration above). Centrifugal force imparted by the high speed impeller forces the product into the cutting elements in precise increments, thus producing particles cut to a controlled size.

Results: A batch of Fenclofenac, which previously required eight days to prepare for tabletting, now requires only 1½ days. Dusting has been reduced, and production of off-spec and contaminated material has been minimized while meeting all requirements for the subsequent tabletting operation. ■

Comitrol® Processor Model 1700 — Urschel Laboratories, Inc., 2503 Calumet Ave., P.O. Box 2200, Valparaiso, IN 46384-2200 U.S.A. Telephone: (219) 464-4811, Fax: (219) 462-3879

Reprinted from CHEMICAL PROCESSING magazine