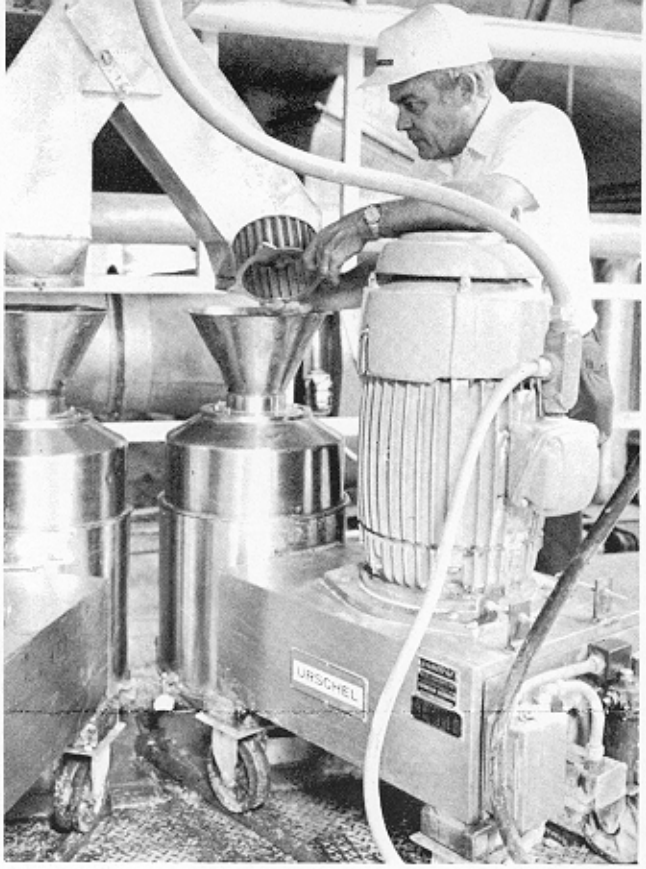
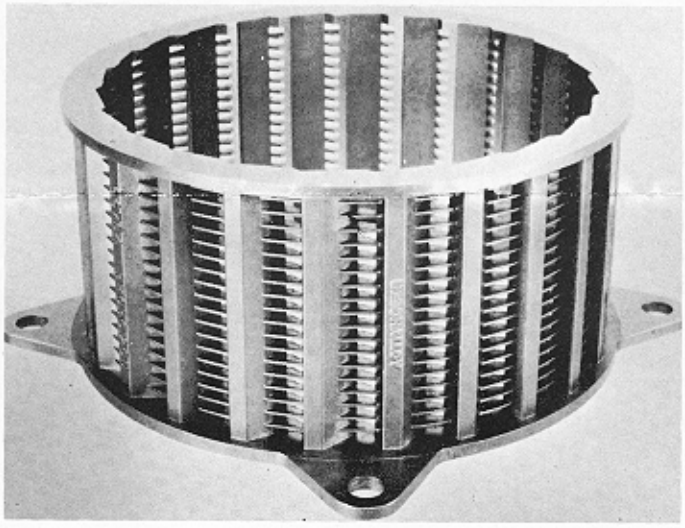


Plant manager Dave Wetzel holds one of the special stainless alloy cutting heads used in the size-reduction unit shown



Closeup of cast, one-piece-design stainless cutting head

Processing

Solves tough textured-soy size-reduction problem at Archer Daniels Midland

Cast alloy cutting head saves soy producer $60,000/yr

DAVE WETZEL, TVP Plant Manager
Archer Daniels Midland Company
with **FOOD STAFF**

New Solutions to Plant Problems

PROBLEM: High-speed flake cutting of textured vegetable protein—a key step in Archer Daniels Midland's production operations—was rapidly dulling conventional 17-4 PH stainless steel cutting heads. Because of the high volume, and the tough-to-cut nature of the textured soy, cutter heads had to be replaced frequently.

The size reduction is accomplished by high impeller rotational speeds (up to 12,000 rpm). Centrifugal force moves the soy into contact with an outer ring of extremely sharp edges in a stationary cutting head. The precision cutting action produces uniform-size flake-shaped soy particles—a form that helps maintain inherent product texture and quality, rehydrates instantly, and integrates easily into processes.

SOLUTION: After 18 months of research and testing, a new stainless alloy and a precision casting technique to form the entire cutting head were developed. The special alloy formula retains cutting-edge sharpness much longer than anything previously available. The cast one-piece head design assures exceptional strength, structural integrity, and freedom from bacteria retention.

The research, carried out by the engineering department of the manufacturer of the flake-cutting equipment, resulted in the awarding of a copyright for the development of the alloy—which is called Urschalloy®.

RESULTS: Archer Daniels Midland, the first of the soy protein manufacturers to use the new cutting heads, reports a $60,000 first-year savings as a result. The new heads do the job—and continue to do it—in the company's tough cutting operations.

For additional information about the Urschel Comitrol® size reduction unit, capable of uniformly reducing products through a wide range of sizes, and the new Urschalloy® cast, cutting heads—write for a copy of the 20 page illustrated brochure "Comitrol".

Write:

Urschel Laboratories, Inc.
Valparaiso, Indiana 46383 U.S.A.
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Reprinted from FOOD PROCESSING magazine

John Sedor, manufacturing manager at Armour Pharmaceutical, Kankakee, examines new-type cast-alloy cutting head

'20 times more cutting life' in tough non-food application

An even tougher processing test for the cutting heads is size-reducing meat and meat byproducts—particularly hard-frozen meat raw materials and/or meat containing high percentages of gristle and some bone chips. But the hardest job is in the pharmaceutical extraction process.

For example, Armour Pharmaceutical Co., Kankakee, IL, processes several million lb annually of hard-frozen (—10F) beef pancreas for the extraction of insulin. In addition, Armour processes other frozen animal glands in preparation of other pharmaceuticals.

Here again, the flake-cutting approach is used because it creates uniform particles with increased surface area—and thus increases extraction efficiency. But the hard-frozen raw material dulled the cutting heads, and production had to be interrupted to change heads.

The stainless alloy cutting heads proved to be the answer. According to John Sedor, Armour Pharmaceutical's manufacturing manager: "We've increased our head life by a factor of 20—that's right, 20 times more cutting life. We no longer have to stop production to change dull heads, and that saved us money. We've just installed our second unit."

Contact Urschel Laboratories for more information