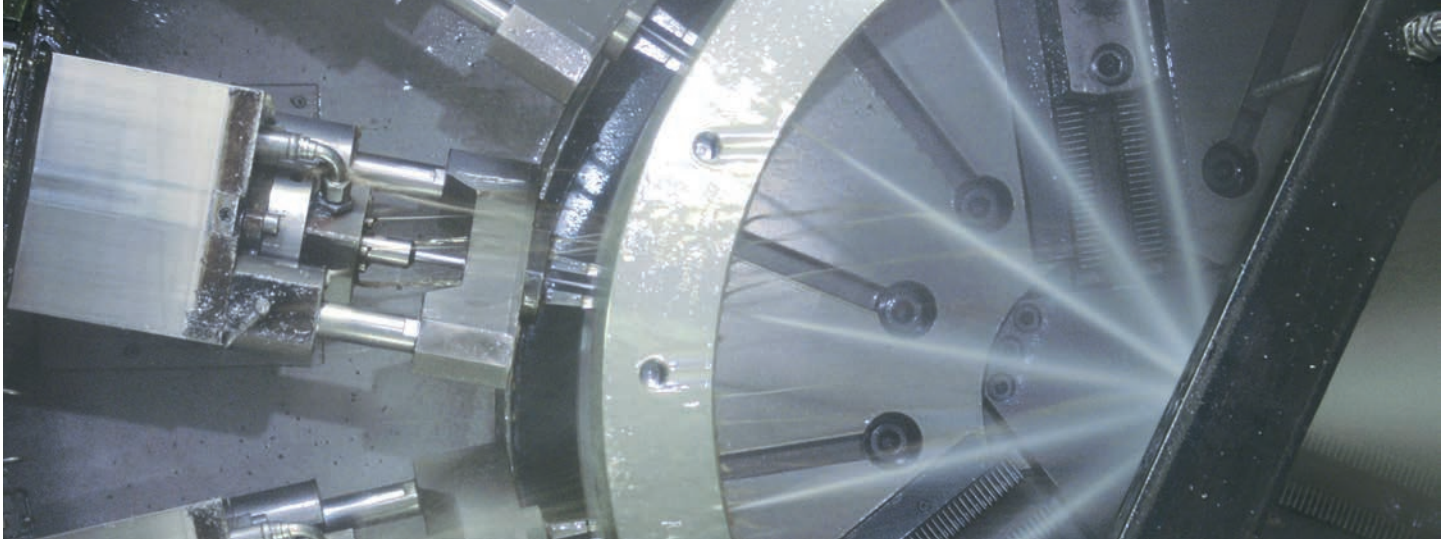


## **Pellet dies**

Roll shells and hammer mill beaters



# World-leading manufacturer of pellet mill dies



Gun drilling ▲

ANDRITZ profits from decades of practical experience and has invested heavily in perfecting the process of manufacturing highly specialized products.

As well as producing key components for our own range of pellet mills, ANDRITZ also produces pellet dies for other pellet mill makes and models, thus setting the standard in the industry for products.

## Manufacturing process

Every tiny part of the die has, at some stage, been produced with a single machining operation. A mid-sized die with 4 mm holes

will have as many as 10,000 holes. Add to that a countersink and a counter-bore, and the result will be 30,000 machining operations, each one conforming to the accuracy of the pattern. After drilling and tapping bolt holes, milling keyways, turning up the basic shape of the die blank, cleaning, drying, vacuum hardening, tempering and finally finishing to the fitting sizes, the entire production of the die has gone through nearly 40,000 separate machining, processing, and handling operations.

## Materials

ANDRITZ offers a variety of chrome steel alloys. By varying the content of vanadium, chromium, manganese nickel, and carbon, we can select a material that suits every individual requirement for a wide range of operating environments.

## Precision machining

With our technical support, customers take great care in specifying size, shape,

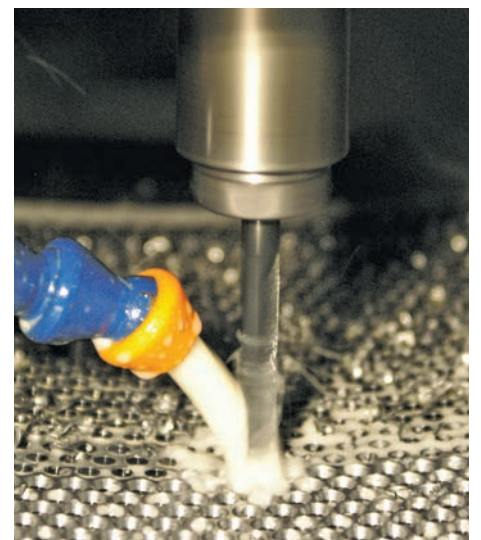
and pattern of the required die holes. We meticulously follow these instructions and manufacture the dies with accuracy and repeatability on the basis of an automated production process.

## Heat treatment

Our experienced operators establish heat treatment programs for dies going into vacuum hardening ovens. The heat treatment process is of utmost importance as it guarantees the product uniformity. ANDRITZ has invested substantially in the most modern hardening technology to produce a long-life and high-performance die.



Countersink ►



# Cornerstones of our quality-assured product range

## Raw materials

Selected high-quality steels with fine grain structures give high strength and durability.

## Automated countersink

Carefully following the drill pattern, the countersink is machined into the die track. Countersink sizes are selected to increase the pelleting performance.

## Gun drilling

A fast and accurate process for producing highly polished extrusion holes. ANDRITZ pioneered this technique in the early 1980s and now produces the finest pelleting dies in the world by optimizing drilling speed and controlling lubricants.

## Washing and polishing

Oil, moisture, and machining burrs are removed from the die surface prior to the heat treatment.

## Machining

CNC machining centers programmed with die dimensions for all pellet mill makes and models machine the basic shape of the die with precision accuracy.

## Vacuum hardening

A hard-wearing surface in the holes will maximize the life of the die. Air is removed to create an inert environment. The die is heated in stages controlled by a microprocessor up to a temperature of 1,010 °C, and the steel becomes a hard molecular structure as a result of this process.

## Finishing and final inspection

Quality-assured systems monitor the product throughout the entire manufacturing process. In the final stage, and as the die is machined to fit the pellet mill perfectly, a check is conducted to ensure that the



Grinding die surface ▲

product conforms to the original specifications. The dies are then packed and prepared for dispatch to all parts of the world.

# Service Original spare parts and service support

## Roll shells

Roll shells operate under extremely harsh conditions. Massive forces are transferred

from the die face through the bearings to the roll support shaft. It is vital that dimensions are accurate and that the hardening process is of a high standard. ANDRITZ has developed roll shells to match the excellent performance of its dies. Roll shells are available in several patterns, e.g. dim-

pled and fluted. ANDRITZ will help the customer to select the correct design for the application.



◀ Roll repair



▲ Beaters

## Beaters

Profiled and hardened on our premises, the beaters have established an excellent, worth-the-money reputation. Now in the third generation of steels, beaters combine good wear resistance properties with strength and durability. ANDRITZ manufactures beaters of any size or shape to fit all hammer mill models.

# Where to find us

## Global supplier – local presence

**ANDRITZ is truly a global organization – but also with local presence.** We are represented all over the world. The global market for feed technologies is served from five main locations:

- Esbjerg, Denmark
- Sanshui, Guangdong Province, China
- Geldrop, Netherlands
- Muncy, PA, USA
- Humenné, Slovakia

In addition, we operate from several strategic regional sales, engineering, and service locations in China, Vietnam, India, Australia, Mexico, Venezuela, Brazil, Chile, France, the UK, and Germany – and are also represented locally by agents and distributors in many other markets.



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