Precision at its best. **Dies and rollers for pellet mills.**

Innovations for a **better world.**

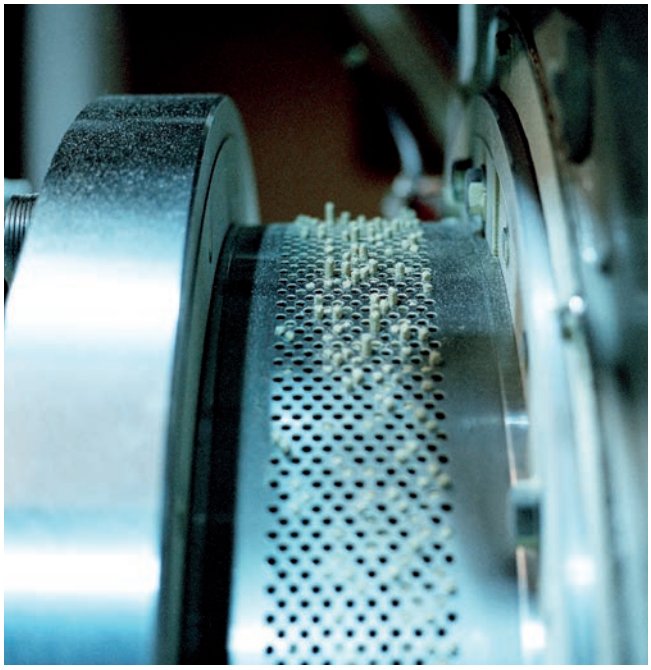
BÜHLER

Top quality for all brands.
For longer service lives and more profit.

Bühler is a proven specialist in the manufacture of high-precision and durable dies and rollers. Our wide range includes not only products for our own pellet mills, but also for the pellet mill models of other manufacturers. Customers worldwide rely on our longstanding experience in the design and manufacture of dies and rollers in outstanding quality.

Fast commissioning and short delivery times.

Bühler›s dies and rollers are characterised by easy installation and commissioning. Thus, our customers benefit in the shortest time possible from the product advantages. Thanks to flexible production and a comprehensive inventory of high-quality forged blanks, our dies and rollers are available worldwide as quickest possible.



Higher throughput rates and longer service lives.

Thanks to their outstanding quality, Bühler›s dies and rollers enable higher throughput rates and ensure a longer service life than comparable products. Maximum cost efficiency means that investments are paid off in no time.

Bühler example calculation:

Electric energy savings per year*:
3'750 $
or 37'500 kWh
or 19.8 t CO^2 less emissions

Start-up benefit during commissioning**:
200$ additional profit

**Example calculation based on pellet mill throughput of 15t/h; 150kW el. power consumption; 5'000 running hours a year; 0.10 $ per kWh costs for electricity; 5% el. savings.*

*** Start-up time to full capacity (15t/h): 0.5 hours*

The advantages at a glance:

- Up to 5% energy reduction due to Bühler specific parallel hole pattern
- Fast commissioning up to 10 times faster due to running in of dies
- Up to 60t feed production advantage during start-up of a new die
- Short delivery times thanks to stock capacities worldwide
- Dies and roller shells for all brands

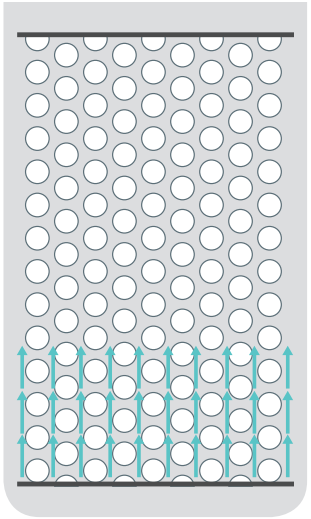
Optimised hole patterns.
Higher throughput and lower energy costs.

The design of the moulds and rollers is crucial for perfect pellet quality and a high throughput. To ensure both, Bühler uses a specially designed sprue to increase throughput and reduce energy costs. This has a lasting impact, with significant increases in throughput compared to non-optimised sprue patterns.

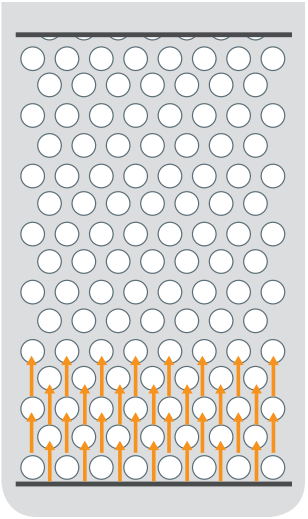
The so-called parallel hole pattern also reduces the forces between the rollers and the mould. This reduces the risk of the mould breaking and ensures more uniform wear. The design of the counterbores also enhances throughput and should be adjusted to the pellet formulation. When it comes to the choice of counterbores, there are virtually no restrictions, with the possibilities ranging from straight to conical.

Our experts are happy to assist customers with the precise optimisation of the sprue pattern in order to increase service lives and thus profitability.

Conventional:
standard hole pattern.



Bühler:
parallel hole pattern.



Customer-specific materials.
For customised solutions.

Choosing the right material is crucial.

Everything begins with the selection of the optimal material for the customer›s specific material formulation. Special metal alloys ensure that the products withstand the high abrasion and corrosion levels that occur during pelletisation.

For rollers, steel grades 20MnCr5 and 100Cr6 are generally used. Rollers can be grooved, perforated and provided with an open or closed end in order to match the different properties of the pelletised raw material. In addition, they can be hardened or cured to obtain a more brittle or flexible material. The design of a roller is crucial if it is to have a long service life and high throughput rate.

For most applications, the X46Cr13 is the preferred die alloy. The correct alloy in combination with the appropriate heat treatment results in a hardened, stainless die for a trouble-free operation.

A high-precision manufacturing process.

The production of each die begins with a forged, specially rolled ring, which is carefully checked for possible flaws. Computer-controlled deep drilling machines produce sprues with a very smooth surface, so that complex post-processing is unnecessary.

Each sprue is just the right size, so that all holes are worn evenly. The hardening and tempering process is crucial for a uniform die quality. Bühler uses state-of-the-art vacuum oven technology for die hardening. The heat treatment takes place in a separate building, ensuring a clean atmosphere and an even hardening process.

Sophisticated logistics.
For short delivery times.

Before products are delivered to customers, the hardness and dimensions are checked again. In addition, all the measurement data is recorded for traceability purposes. This ensures that only flawless products leave the factory to be sent to all corners of the world. Thanks to a large raw-material warehouse and efficient production facilities, we can guarantee our customers short delivery times worldwide. Moreover, Bühler offers stocks for finished dies in various locations.

Customised solutions.
According to need.

Bühler rollers and dies are manufactured according to need for all pellet mills models. Customer-specific advice from experienced pelletisation experts, the comprehensive inventory of high-quality blanks, leading machining technologies for sprues and counterbores, and a sophisticated quality assurance system enable us to provide customised solutions.

Step by step to an optimal solution:

Storage

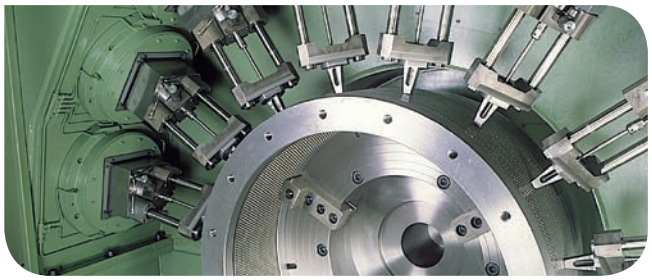
– Large inventory of high-quality forged blanks

– Short delivery times

Mechanical machining

– CNC machining centres for high precision

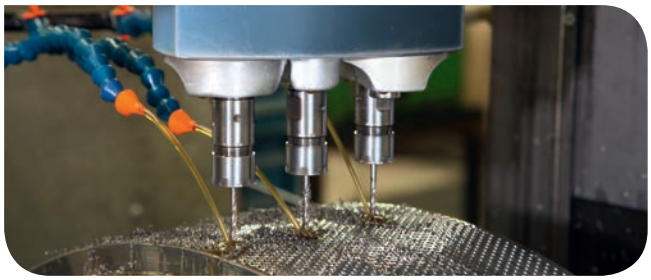
– High-precision machining ensures rapid and easy installation



Deep-hole boring

– Polished surfaces of the sprues

– Thanks to state-of-the-art drilling machines, there are no restrictions when it comes to hole patterns



Counterboring

– Various counterbores for different products

– Counterbores increase pelletising performance

Vacuum hardening

– Quenching and tempering in a vacuum and nitrogen atmosphere

– Low distortion and a smooth surface

Quality assurance

– Measurement of hardness and dimensions

– Recording of quality data for traceability purposes

Running-in

– Running-in process for deburring dies and rollers

– Dies are delivered ready for use

Delivery

– Best possible delivery times

– Deliveries worldwide

Services

– Advice on optimum hole patterns according to customer requirements

– Training and digital services

– Stock services in various locations

– Die refurbishment

Bühler B.V.

De Hoeveler 11
7547 SB Enschede
Netherlands

T +31 532 204 900
F +31 6 123 547 62

buhler.dies@buhlergroup.com
www.buhlergroup.com