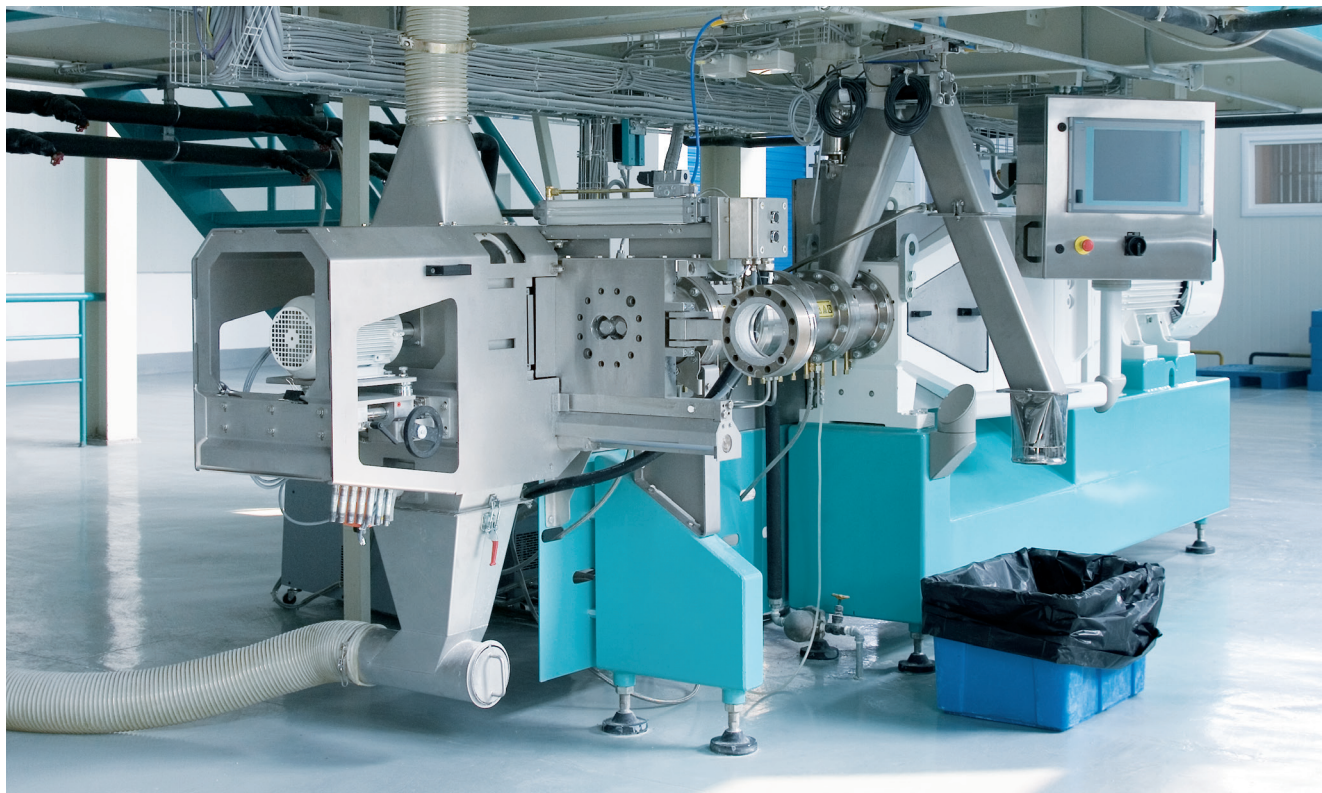




# Twin-Screw Extruder **PolyTwin™**



# PolyTwin™ – multi-function twin-screw extruder. **Economical solution for numerous industries.**



State-of-the-art technology for reliable process control.

## Application examples:



### **Petfood:**

- Direct-expanded kibbles
- Semi-moist pet food
- Foods for small pets
- Multicolor



### **Aquafeed:**

- Micropellets
- Floating feeds
- Sinking feeds
- Shrimp pellets



### **Ready-to-eat:**

- Direct expanded cereals
- Indirect expanded flakes



### **Standard ingredients:**

- Modified flours and starches
- Breadcrumbs
- Texturized proteins
- Reconstituted rice
- Fortified rice



### **Indian snacks:**

- 2D Snack pellets
- Direct expanded snacks



The cutting apparatus moves laterally to allow exchange of the knife head even during production.

## Wide range of applications.

The twin-screw extruder PolyTwin™ completely fulfills process requirements such as high torque, screw speeds and pressure. Thanks to its modular design, this highly sophisticated machine is extremely flexible in application. It can be used to process breakfast cereals, food ingredients, petfood and fish feed for industrial fish farming optimally. Other customer specific applications are also possible. High sanitation standards, excellent workmanship and an outstanding price-performance ratio make PolyTwin™ the ideal solution in the field of food and feed extrusion.

## State-of-the-art technology for reliable process control.

In order to guarantee an end product of consistent quality, the twin-screw extruder PolyTwin™ is equipped with an intelligent recipe memory. This offers two significant benefits: the susceptibility to process errors decreases, and production can be quickly adapted to other recipes. Predefined start-up and shut-down sequences optimize the starting and shutting down of the machine. Virtually no raw material is wasted, and the production process speeds up considerably.

## Modular design for variable use.

The innovative design of the housing according to the «shell principle» offers special advantages: the housing excels through its mechanical stability, resistance to wear and highly efficient tempering.

The relationship of housing length to screw diameter is 4 independent of model size. The modular process component can be easily adapted to higher capacities and different processes.

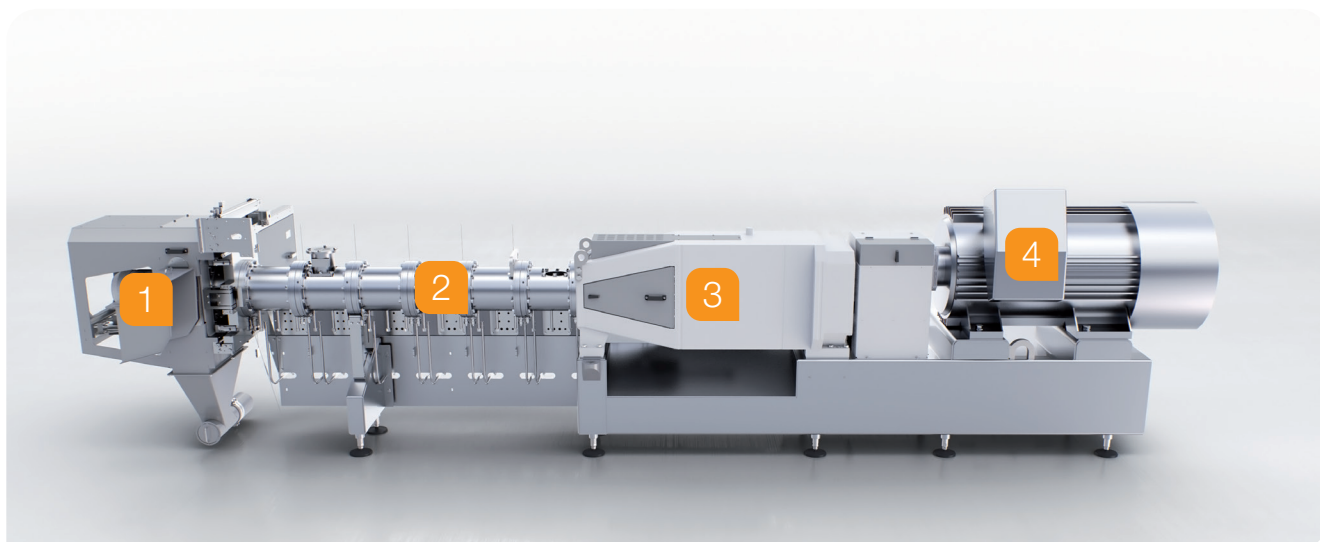
The maintenance costs of the PolyTwin™ are minimized: The interior casing is extremely resistant to wear.

## The PolyTwin™ convinces with:

- Patented screw ejection unit
- Cutter with lateral movement
- Modular machine design
- Intelligent process control



# Modular technology ensures success. **Performance features at a glance.**



1

Proven cutter design  
which can be moved to  
the side.

2

Modular 4D-round barrel  
design 300 bar, 300 °C.

3

Compact design of  
gearbox

4

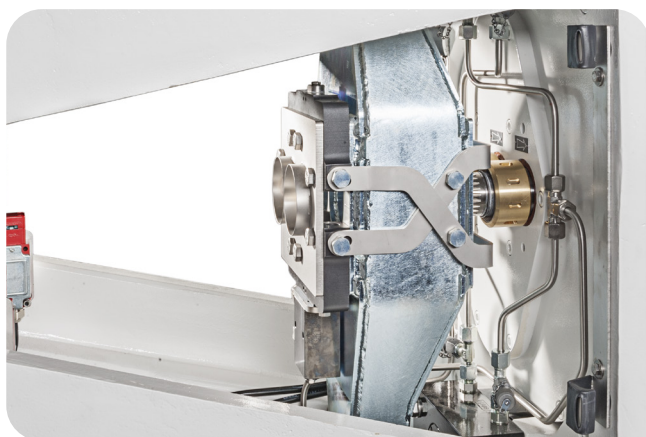
Movable and intuitive  
control unit

## **User-friendly automation system for efficient and safe production.**

The PolyTwin™ is equipped with a user-friendly and intuitive touch-screen control system. Safety circuits prevent damage due to improper use. Emergency situations will lead to fully automatic selfstopping of the extruder.

For quality and food safety reasons the control contains important functions as logging and trending of actual and historical data. With the user management, event log of user interaction and logging of quality relevant data it contains some required functionalities of the FDA21CFR part 11.

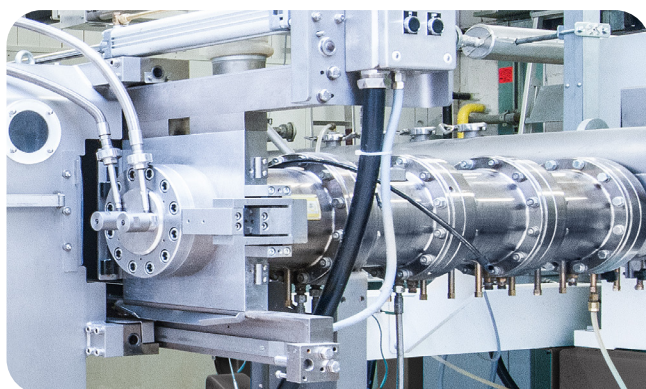




Fully automatic screw push out.

## High operational dependability thanks to a robust, fully automatic screw ejection unit.

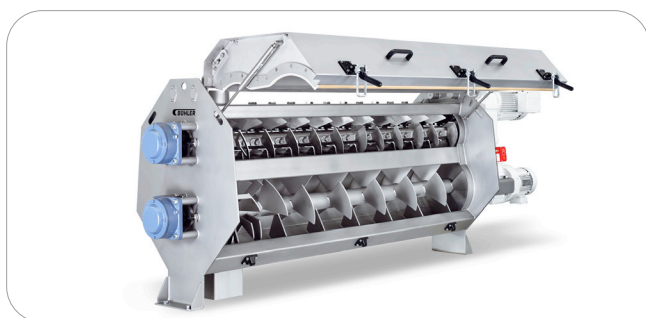
Thanks to an ejection unit developed and patented by Bühler, even strongly seized screws can be ejected by an hydraulic unit – eliminating the need to disassemble the machine. With a touch of the corresponding touch-screen button, ejection of the pair of screws is carried out within a very short time. Thanks to this refined technology, the risk of damages to the screw elements is reduced to a minimum.



Knives adjustable during operation to keep constant product quality.

## Optimized productivity thanks to a highly flexible cutter.

The twin-screw extruder PolyTwin™ emphasizes flexibility – as in the case of the laterally movable cutter. Because the cutter can be adjusted during operation, a consistently high quality of the end product is guaranteed. Unwanted deformation is avoided. Changing the knife heads can also be done quickly and without interrupting production. In this way, production flow can be optimized.



Preconditioning system with outstanding sanitation and accessibility thanks to large doors.

## Double-stage preconditioner for consistently high product quality.

The double-stage preconditioner provides a separation of the mixing zone from the retention zone. This ensures optimal, intensive mixing at high screw speeds and gentle retention across a narrow time range at a low screw speed. The design of the double-stage preconditioner is such that the material inlet is vertically positioned exactly above the outlet.

## Service for demanding customers. **Available worldwide, reliable and fast.**

Customers can rely on Bühler when it comes to service and maintenance of their extrusion systems. Thanks to company representatives the world over, specialists are within reach when needed. A central spare parts service also ensures that required components are at the ready for fast shipment.



When customers need spare parts or support from a technician, Bühler stands ready.

Customized maintenance, retrofitting and reconditioning packages ensure that your Bühler equipment is always state of the art. The advantage: customers can operate profitably and reliably even with older systems. Training options tailored specifically to production personnel ensure smooth machine operation that results in excellent product quality with optimum throughput.

Bühler is represented on every continent, maintains its own production, development, and service locations worldwide, and is quickly on site when customers need good service.

Special service offerings like barrel wear measurement service enable optimum system output and training courses keep personnel abreast of current technologies and safety standards – for labor law regulations as well as food safety.

In our pilot plants in Switzerland, China and the USA customers can conduct trials on standard machines and can learn about the possibilities of extrusion.

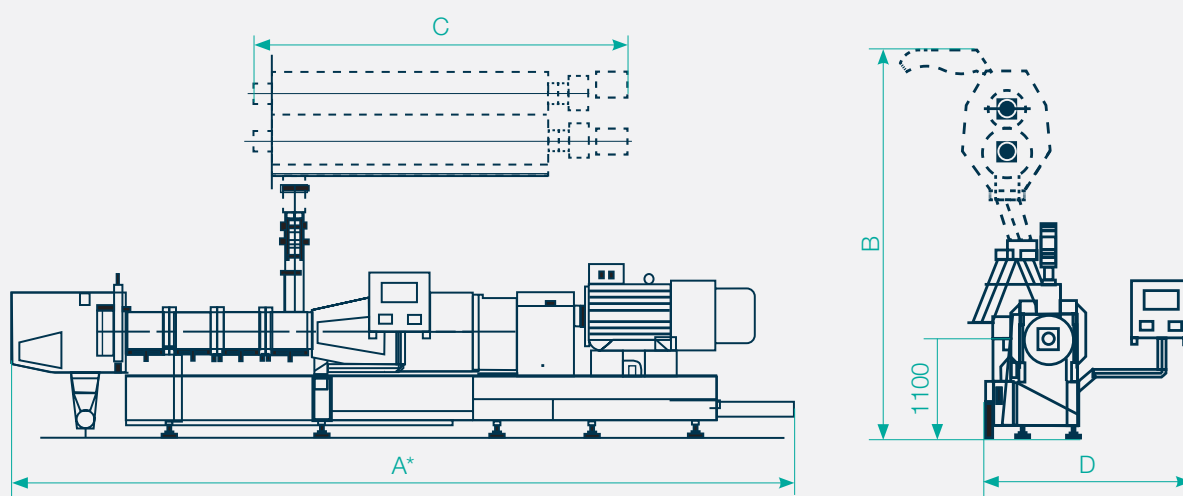
# Technical data.

## PolyTwin™.

### Technical data:

PolyTwin™ extruder Preconditioner (option)		PolyTwin™ 42 / Preconditioner 10	PolyTwin™ 62 / Preconditioner 22	PolyTwin™ 93 / Preconditioner 48	PolyTwin™ 125 / Preconditioner 100
Extruder screw diameter	mm	42	62	93	125
Throughput dependent upon product	kg/h	50 – 450	150 – 1400	500 – 4500	1000 – 8000
Maximum electrical power	kW	– 110	– 200	– 630	– 710
Dimensions					
A*		4464	6260	7910	9055
B		2920	3315	3710	4230
C		2312	2741	3547	4239
F		1890	1990	2090	2220
I		1990	2195	2310	2560

\* The dimensional data A refers to 20D machines.



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