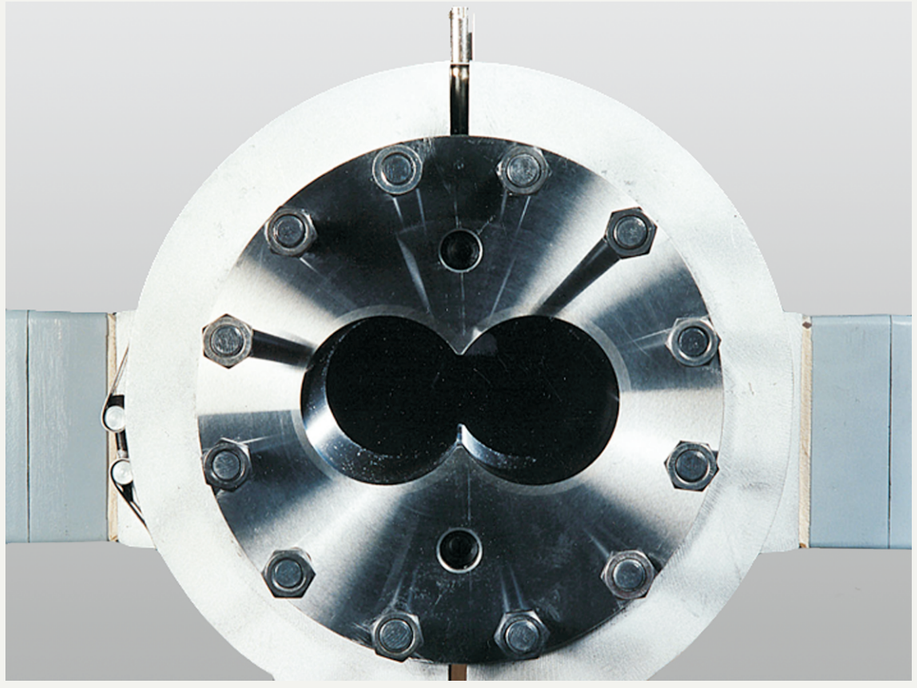
Reifenhäuser
EXTRUSION

REItruder III

Co-rotating twin-screw extruder



Barrel segments

Modular principle:

- Segment with special feed opening for different raw material forms, such as pellets and flakes
- Segments with atmospheric vent and vacuum degassing openings
- Segments with lateral opening for side feeding
- Combi segments for side feeding and venting
- Segments for gas introduction and liquid injection
- Closed segments

The REIFENHÄUSER Extrusion Center determines the optimum design for the respective application. Experienced process engineers adapt the REItruder to individual customer requirements by using modern computer simulation technology.

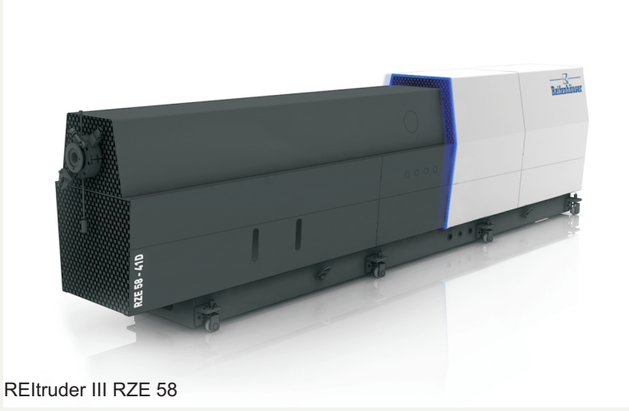
The specific torque of the REItruder III has been further increased by 20 %. This enables an optimized manufacturing process and improved products at higher output rates.

REIFENHÄUSER offers the customers many possibilities for a space-saving and operator-friendly integration of the REItruder into their lines. Low extrusion heights from 465 mm onwards enable the twin-screw technology to be utilized for new applications.

In addition to the standard extraction in extrusion direction, the screw can also be extracted to the rear. As a result, the costly disassembly of the downstream equipment is no longer required. Setup times are reduced and the line availability is increased.

	RZE45	RZE58	RZE70	RZE90	RZE120
Screw diameter	45 mm	58 mm	70 mm	90 mm	120 mm
max. throughput*	100 - 380 kg/h	240 - 775 kg/h	330 - 1200 kg/h	560 - 2400 kg/h	1000 - 4200 kg/h

*Outputs depending on raw material and application



REItruder III RZE 58

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REIFENHÄUSER GREEN IQ

REItruder III
Co-rotating twin-screw extruder

Reifenhäuser
EXTRUSION

The new "REItruder III"
An extruder concept geared for the future

The co-rotating twin-screw extruder REItruder (RZE) has been the basic component in the extrusion of plastics for a variety of applications for many years.

In the past, co-rotating twin-screw extruders were mainly used for compounding and pelletizing of plastic materials.

With the further development of a proven design concept, REIFENHÄUSER has created an efficient key component, the REItruder III, for use in direct extrusion lines.

The third generation of the REItruder series meets the growing requirements of the market with regard to price/performance, flexibility and energy efficiency.

The modern and functional design enables a more user-friendly operation and helps to save energy.

Applications

REItruders are successfully used in extrusion lines worldwide for the production of:

- Compound
- Thermoforming sheets
- Cast films
- Blown films
- Foamed films and sheets
- Filled films and sheets
- Laminating films
- Monofilaments
- Strapping tapes
- Pipes
- Nonwovens

PET thermoforming sheet line

The direct extrusion process is the result of a consistent further development of plastics machinery construction and innovative process technology concepts.

Direct extrusion enables a quality level of semi-finished and finished products which in the past could be realized only with a considerably higher technical input. The reason for this advance is the combination of the usual processing steps.

Direct extrusion requires only one heating-up cycle and takes place in a single operation step, from the basic product to the end product, with no intermediate compounding and re-melting of the plastic material.

Examples of application

Technology & Advantages

Extrusion lines equipped with a REItruder III are distinguished by their flexibility and versatility. The modular design offers the possibility to process raw materials of any type and in any form.

REIFENHÄUSER can supply a comprehensive portfolio of screw and barrel segments that can be used in nearly every combination to design the plasticizing unit.

The REItruder III technology combined with efficient vaccum units enables, for example, the direct processing of post-consumer PET bottle flakes without energy- and time-consuming pre-drying. The PET flakes can be processed directly into thermoforming sheets, cast films or strapping tapes.

The use of special side feeders enable additives and/or fillers, such as calcium carbonate, talcum or glass fibres, to be added to the polymer melt.

Compared to the processing of pre-mixed compounds, it is possible to reduce the raw material costs by 30 %. In addition, the stiffness and thermal stability of the end product can be improved.

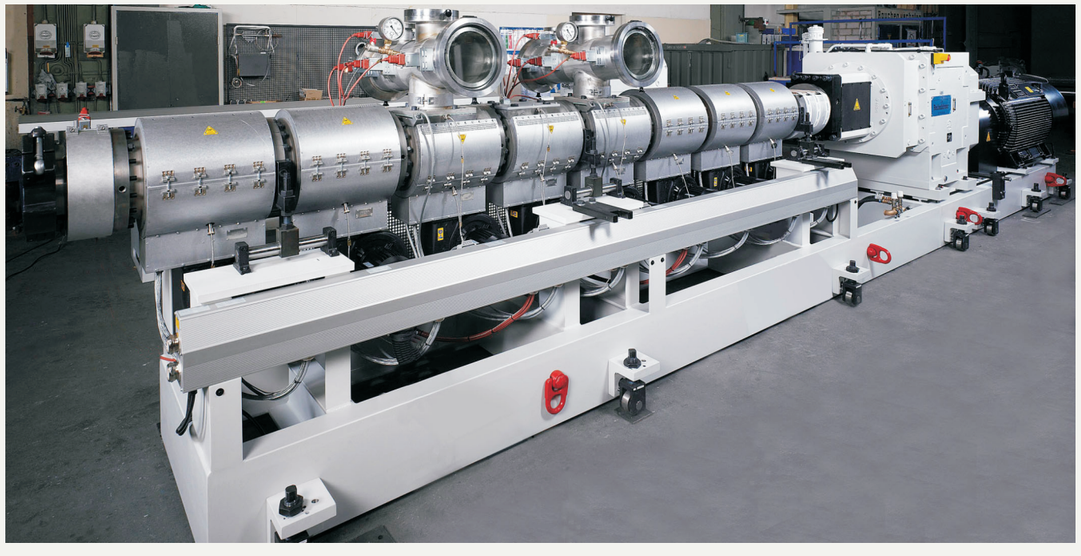
The fillers require a high level of wear protection for screws and barrels.

For this reason, bimetal screws and barrels manufactured according to the PM-HIP technology are used. Fine and isotropic structures with a high alloy content can be produced that increase the lifetime of screws and barrels and reduce costs for spare parts and maintenance.

Foaming of the polymer melt is a further application possibility of the REItruder technology. It can be realized with only a few modifications of the REItruder III and without the need for costly adaptations of barrel and screw configurations.

Advantages of process technology:

- Perfect feeding of raw materials with poor free-flowing properties
- Transport of powdery materials with poor flow properties, sticky materials and fibrous additives
- High pulsation-free output
- Excellent dispersion and homogenization
- Exact melt temperature profile and control
- Intensive single- and multi-stage degassing of volatile components
- Minimized wear of screws and barrels



REItruder RZE 120