

PET FOOD EFFICIENTLY PRODUCED.

Reliable processes through
decades of experience



zeppelin-systems.com

 **ZEPPELIN**[®]
WE CREATE SOLUTIONS

ZEPPELIN SYSTEMS – RIGHT AT YOUR SIDE IN PET FOOD PRODUCTION.

Zeppelin Systems specializes in plants for handling high-quality bulk materials. We have over 70 years of experience and extensive know-how in handling a wide range of raw materials – from raw material reception, storage and discharge to conveying, preparation and dosing, as well as mixing and regulating. Over 1,600 employees, most of them highly qualified process technicians and engineers, work toward your success.

WORLDWIDE ACTIVE

We accompany you from individual plant planning to implementation, providing all services from a single source. With innovative process concepts, smart automation solutions and comprehensive service throughout the entire life cycle of a plant. Our 22 locations worldwide ensure short distances and fast, flexible and extremely customer-oriented service around the clock. In our technology center network for bulk materials, we also enable you to carry out tests on an industrial scale in order to check and optimize the plant design.

OPTIMAL RAW MATERIAL HANDLING

A basic requirement for the production of pet food is efficient production lines with high availability and reproducible quality. Zeppelin Systems supplies the optimum system technology for this and has developed processes that are designed to meet the specific requirements of whatever you are producing. They ensure that cross-contamination is virtually eliminated, guaranteeing clean production in line with hygiene standards. Extremely accurate measuring technology ensures precise ingredient metering.

HIGH PLANT FLEXIBILITY

Constantly changing raw materials are commonplace in pet food production. Zeppelin Systems plants are also adapted to this. They can be quickly refitted to different aggregate states, such as powder instead of granulate, or to regionally varied raw materials with varying bulk densities.

YOUR ADVANTAGES AT A GLANCE

- No cross contamination
- Hygienic production
- Precise measurement technology
- Easy cleanability
- Reliable traceability
- Quickly adapted to changing raw materials



PET FOOD – A GROWING MARKET.

More and more people are deciding for a pet. In Germany alone almost 50% of households keep a pet and the proportion of pet lovers is also rising. The growth trends steadily upwards. Through this the demand for high-quality pet food is also growing steadily. You can benefit from this – thanks to efficient production plants from Zeppelin Systems!





COMPREHENSIVE EXPERTISE FOR OPTIMAL PROCESSES.

Leading companies worldwide rely on the expertise of Zeppelin Systems for the production of pet food. Our systems are involved in almost every processing stage, from raw material intake to recipe-accurate dosing and gentle conveying – and they are used for all types of pet food, for extruded and baked dry feed as well as for wet feed.

RAW MATERIAL INTAKE

Zeppelin Systems plants are specially designed to meet the needs of the pet food industry. Starting at the raw material receiving stage, you lay the groundwork for successful plant operation. We analyze the design and layout in advance in order to be able to optimally plan the dimensions of the plant. In doing so, we take into account hygiene aspects, environmental requirements and occupational health and safety regulations. You can decide where and how the acceptance takes place: Whether indoors or outdoors, stationary or mobile, manual or fully automatic, sorted by type via several stations or collected via a receiving point. In the area of raw material acceptance, for example, the entire range of pneumatic conveying processes, big bag and bag emptying stations is available to you. Of course, all processes can also be combined.

STORAGE

Proper raw materials storage is a central prerequisite for the first-class quality of your end products. Therefore, we rely on a hygienic design of all components. In addition, our silos and bins are designed in accordance with the proven “first in - first out” principle, which handles both powdered and liquid raw materials particularly gently. We develop individual storage solutions with cooling, insulation, admission of dehumidified air as well as discharge devices against clumping through to explosion protection. Our silos and storage tanks offer optimal cleaning possibilities, oxidation-free storage and maximum storage times – permanently monitored and regulated.

PNEUMATIC CONVEYING

Product-specific conveying is crucial for an optimal end result. We have various pneumatic conveying methods that are used depending on the product properties. For the transport of non-sensitive bulk materials, the so-called pneumatic conveying (LeanTec) is used, in which the raw materials are conveyed in positive or negative pressure operation.

Fracture-sensitive bulk materials are transported with the gentle dense phase conveying (DenseTec). The AQU air volume control system from Zeppelin Systems reduces the conveying air volume, extremely throttling the conveying speed and preventing the kibbles from breaking.



WEIGHING AND DOSING

Zeppelin Systems supplies everything from a single source for efficient weighing and dosing of free-flowing and difficult-to-handle substances – from components for batch weighing to differential dosing scales including regulation. Since allergies are also becoming increasingly common in pets, cross-contamination of raw materials must be avoided as far as possible. This is ensured by various plant systems that are used depending on the size of the components: the manual, semi-automatic and fully automatic MicDos small component plant, the MinDos medium component plant and the fully automatic MacDos high-performance plant. In addition, the KOKEISL mechanical discharge and dosing module can also be used to fill bulk materials in any quantities from silos and containers into other containers with an extremely high throughput accuracy.

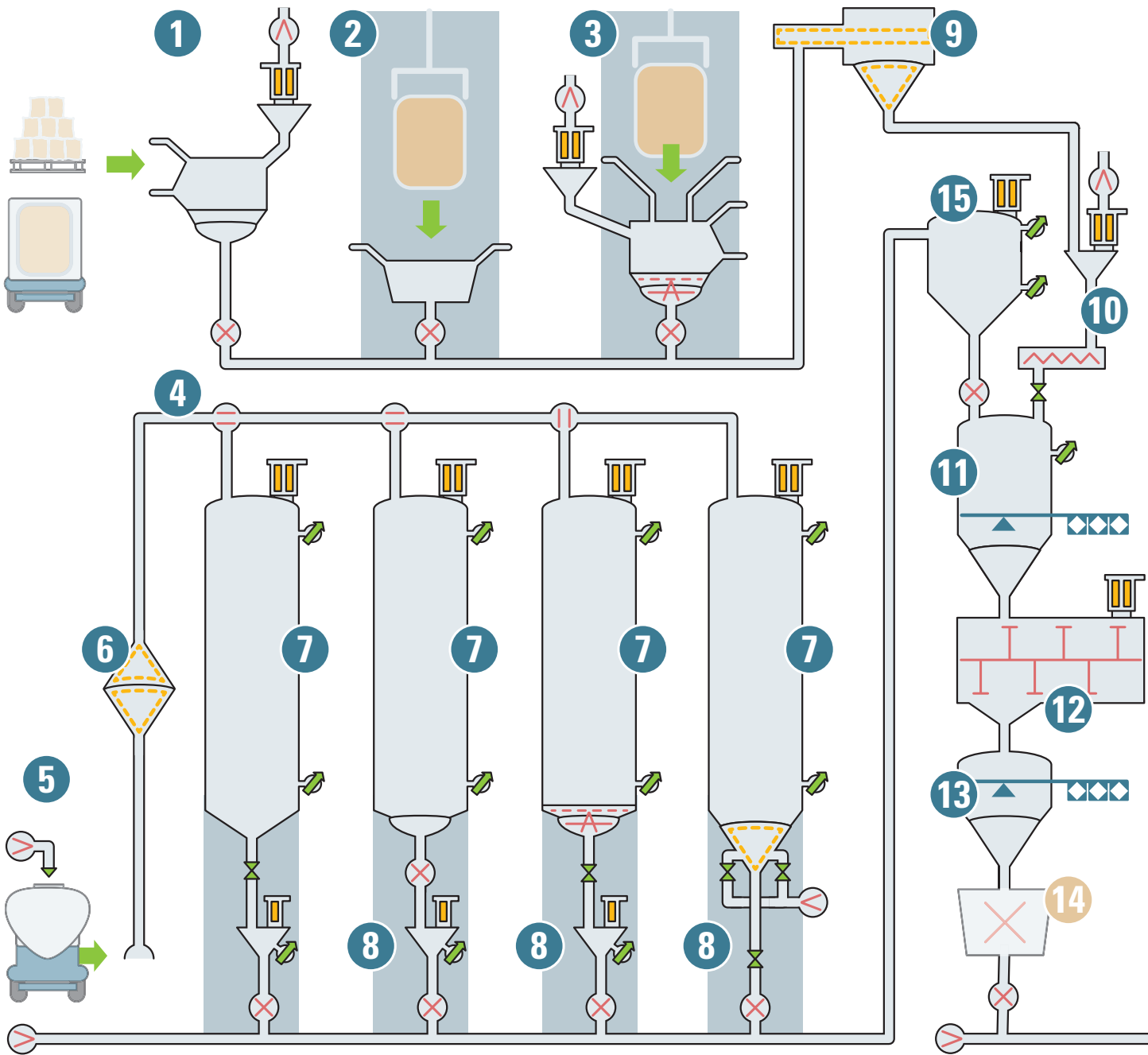
EXTRUDING, SHAPING AND DRYING

The extrusion technologies used in the food and pet food industries are continuous processes that can generally be divided into cooking and wet extrusion. Continuous extrusion gives the kibbles their characteristic shape, which is created based on the cutting tool downstream of the extruder die. Once the kibbles have been cut, they are gently conveyed by a special vacuum conveying system using a high volume of air. In the process, it is important that as little abrasion as possible is produced. The equipment from Zeppelin Systems is compatible with commercially available extruders and dryers.

COATING, COOLING AND PACKAGING

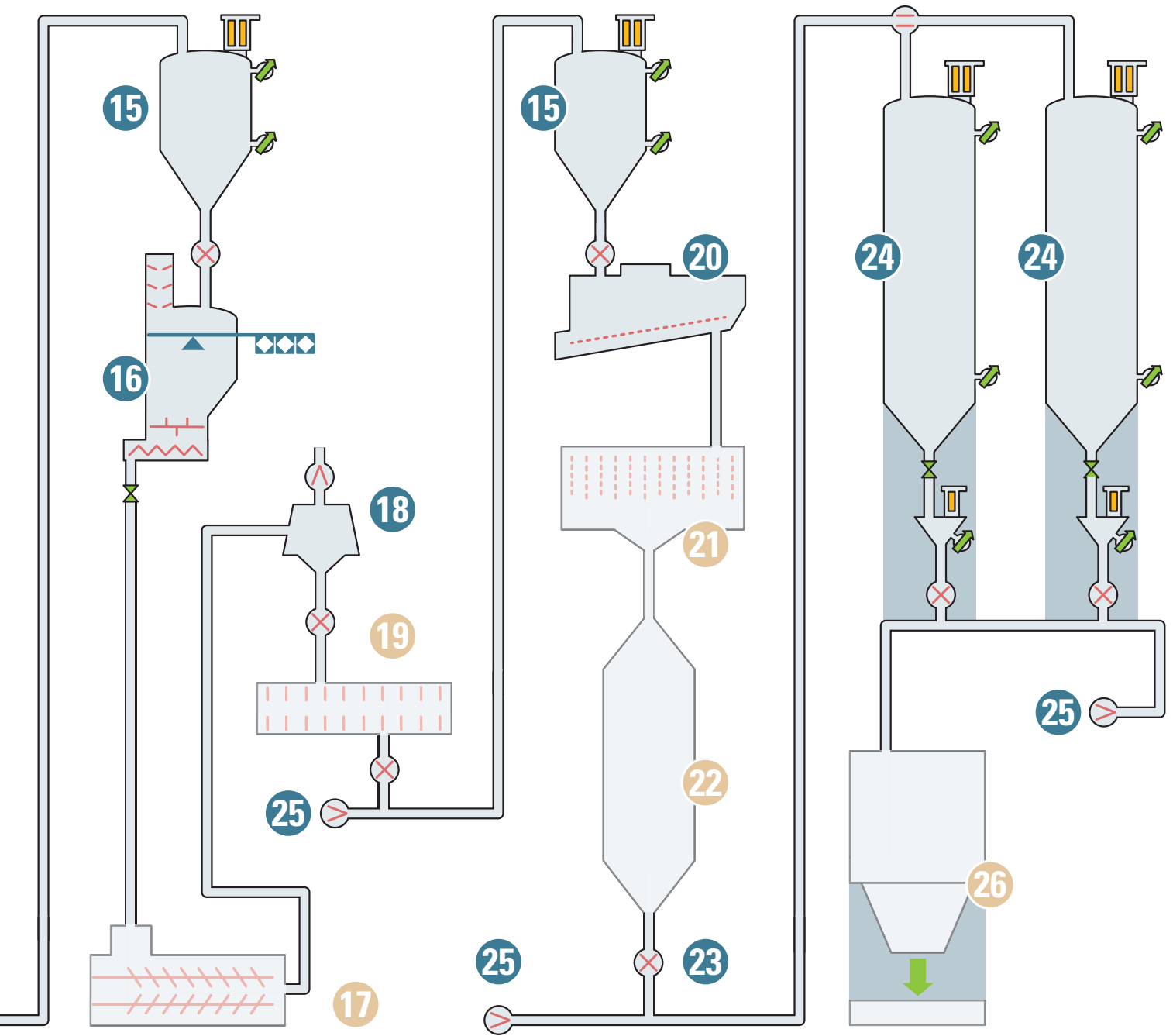
The innovative plant solutions from Zeppelin Systems cover virtually all important process steps up to this stage. This means that the components can be optimally adapted to your specific application requirements. For the transport to the cooler and to the packaging plant, for example, we offer dense phase conveying systems for extremely gentle conveying. And our silo technology ensures intelligent solutions for each end product – economical and individually adapted to the product properties and your overall conditions. Of course, our components are compatible with all commercially available products.

PROCESSING RAW MATERIALS SAFELY.



1 Bag emptying station **2** Big Bag emptying
3 Bag/Big Bag combination system **4** Diverter valve
5 Delivery of bulk materials and transfer to storage silos with pressure conveying system
6 Truck screening system

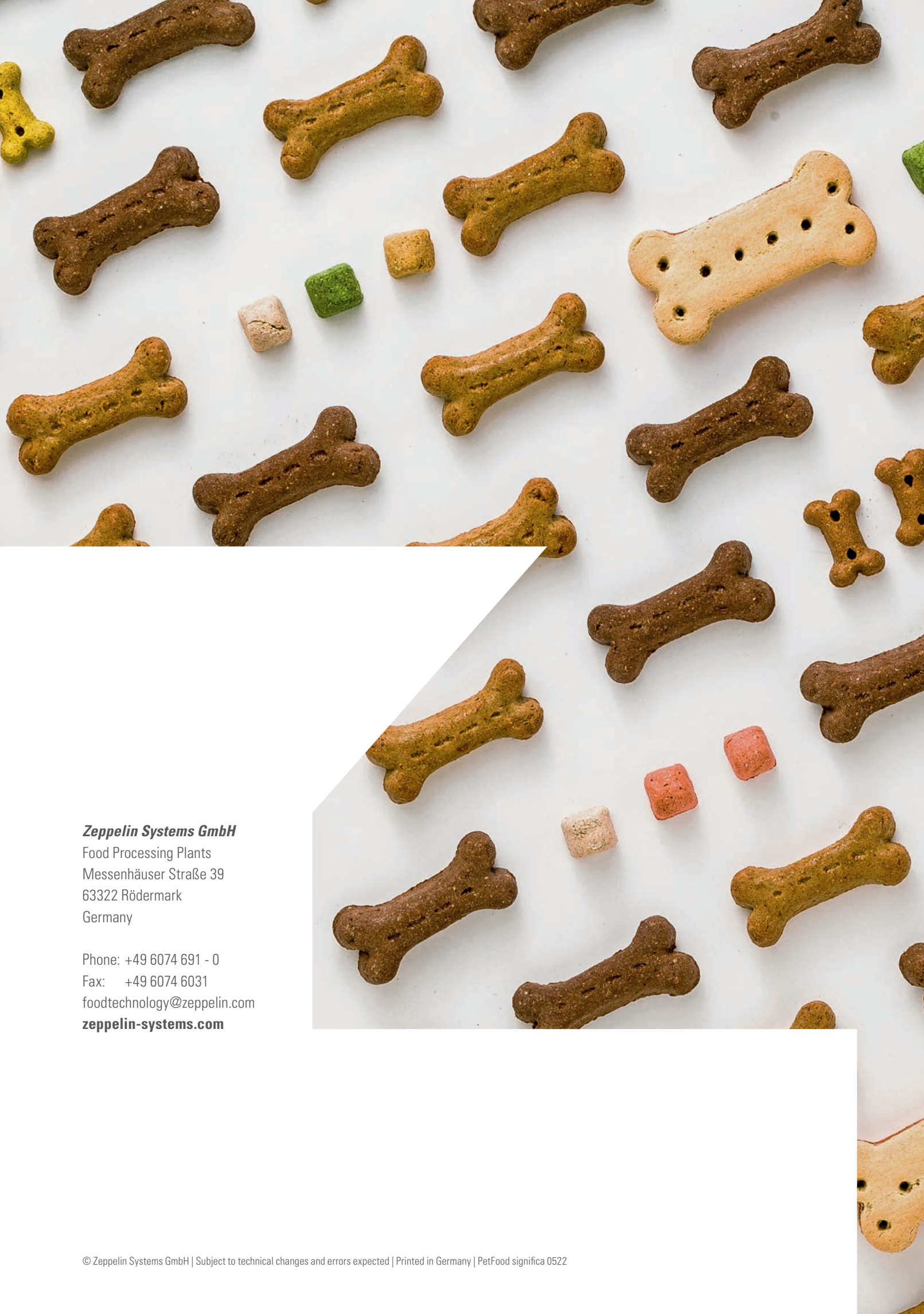
7 Storage silos with top filter **8** Silo discharge systems **9** Rotation sifter
10 MinDos and MicDos dosing system
11 Weighing hopper **12** Mixer
13 Secondary hopper **14** Hammer mill



15 Filter receiver **16** Loss in weight feeder
17 Extruder **18** Cyclone with fan
19 Dryer

20 Screening unit **21** Coater
22 Cooling system **23** Rotary valve
24 Storage silos **25** Dense phase conveying for fragile bulk materials **26** Packaging system

● Process step - Zeppelin Systems
 ● Process step - external



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