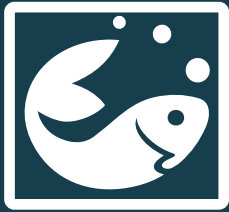




fish.weda.de/en

Fisch.iT





Opti.In 24 - continuous dosing



Intelligent technology for fish feeding

The fish farming industry is facing a variety of challenges in fish feeding. Feeding with feed pellets, in particular, is presenting breeders with various problems. Depending on the age of the fish, feed pellets must be fed in different sizes to ensure optimal growth. It is important to increase the size of the pellets as the fish grow. However, feed pellets are delicate and can be damaged during transport. This often shows itself in fine dust particles that are discharged into the tank. Since the fish cannot consume this dust, it sinks to the bottom of the tank, soiling it. In addition, conventional compressed air conveying systems are space-intensive, costly and require an energy-intensive transport of feed. This results in high feed losses, increased treatment efforts and rising costs for fish farmers.

To meet these challenges, WEDA has developed the Opti.In 24 system based on decades of experience in feeding technology. It can transport the feed pellets in constantly changing recipes particularly gently over long distances using a chain conveyor, without the need for any pneumatic pressure.

- No use of air
- Space-saving installation of weighing and transport equipment
- Precise feeding of small, needs-based portions at any time
- Increased feed intake rates
- Reduced feed losses



- **Reduced purification requirements**
- **Fresh feed at all times**
- **Improved hygiene**

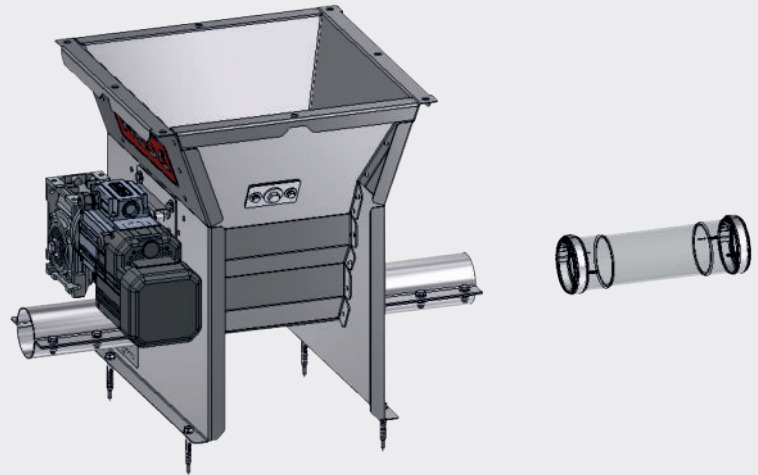
Over a period of up to 24 hours, the system dispenses the pellets in a distributed manner via the tubular augers. These are placed above the fish tanks. The tubular augers are equipped with slots through which the feed is metered out into the tanks. The slots are designed in such a way that the amount of feed metered out decreases from the outside area towards the inside area. Precise dosing and continuous feed delivery ensure that fish are fed as needed and feed losses are minimized.

The fish circle in the tank, generating a pull at the centre. This pull can cause the pellets in the centre of the tank to not be picked up by the fish and pumped out of the tank through the drain located there. To prevent this, the auger does not have any slots in the middle.

This ensures that the pellets arrive intact in the tank and can be optimally absorbed by the fish. By using the Opti.In 24 system from WEDA, fish farmers benefit not only from the reduction of feed losses, but also from lower treatment costs and improved hygienic conditions.



Perfect for ideal growth

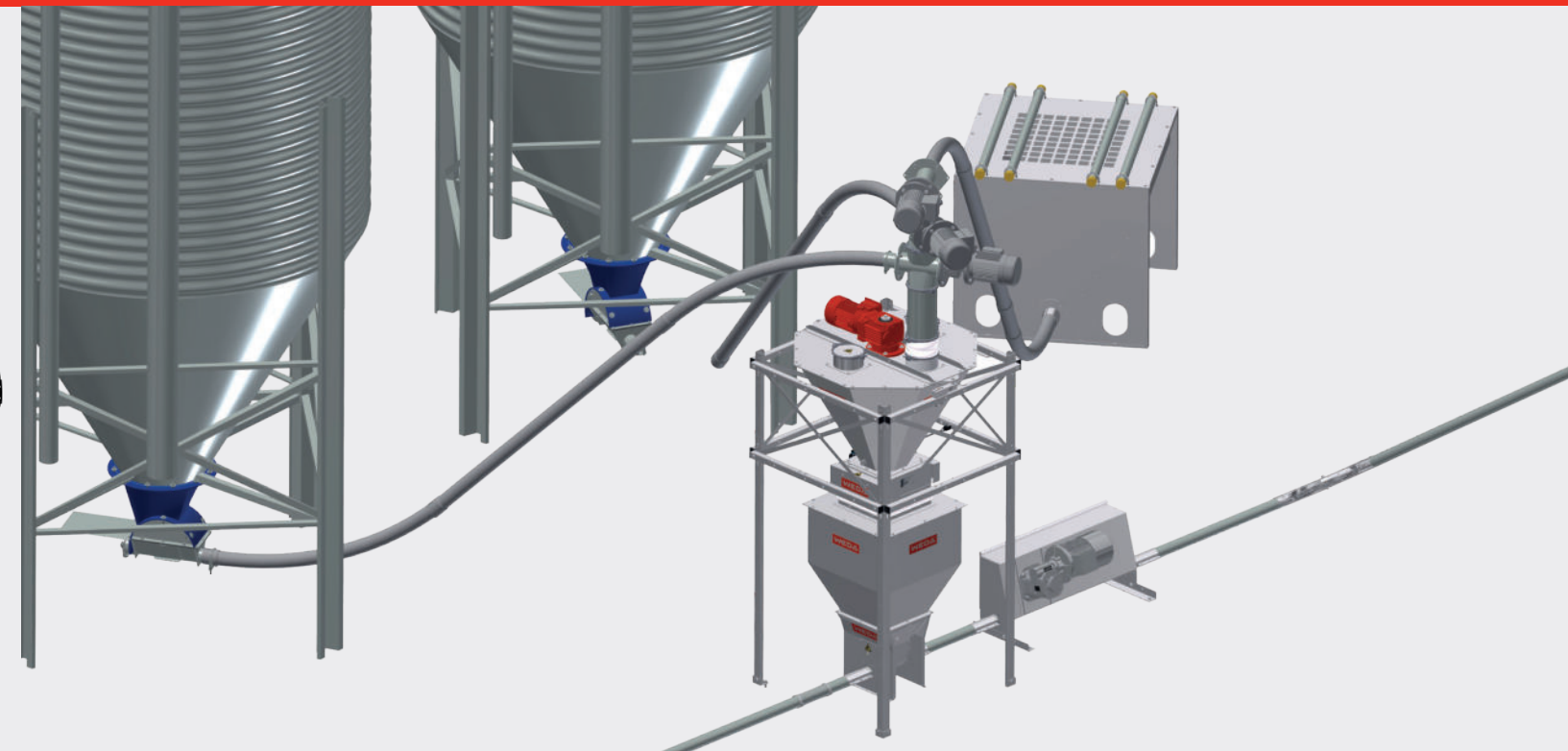


Proven technology – now also available for fish

All relevant system components are made of stainless steel. The downpipes that lead into the weighing unit are made of robust synthetic material. The auger integrated in the feed hopper ensures continuous transport of various pellet fractions from the weighing unit to the chain conveyor system.

Feed doser and weighing unit are equipped with sealed tanks to prevent moisture from getting into the stored feed. The inlet port mounted on the tanks facilitates hygienic dosing of pellets into the tanks.

- Proven materials
- High corrosion resistance
- Hygienic dosing and transport



Feeding with DryComp

- **Protective transport**
- **Great weighing precision**
- **Weighing and transport according to recipe**
- **Simultaneous weighing and feeding**
- **Control via Excellent 4PX fish**

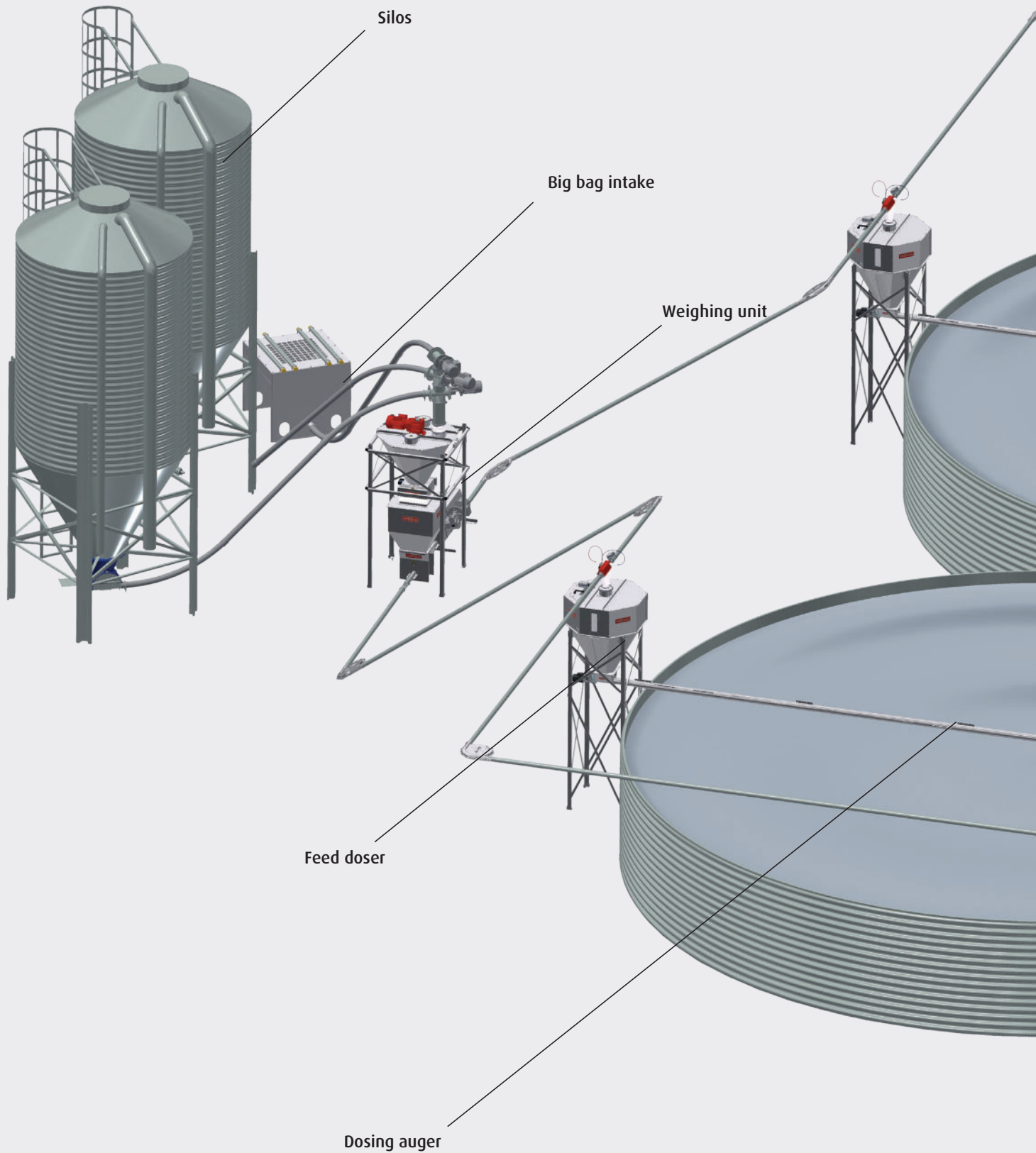
The DryComp system is the core of the WEDA feeding system, facilitating a precisely weighed and needs-based feed mixture depending on the growing stage of the fish.

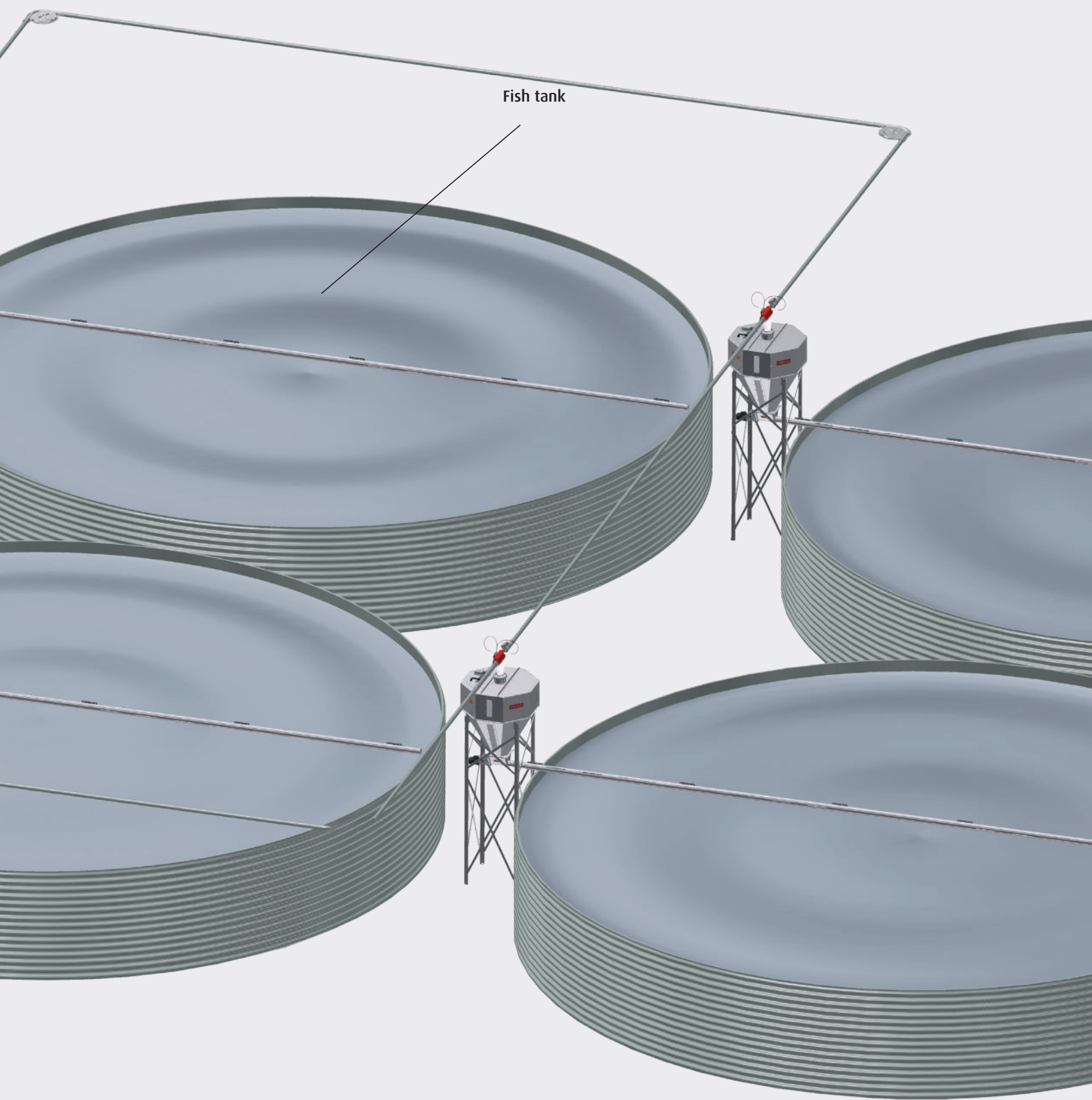
The weighing unit weighs the pellets and the transport technology delivers them to their respective fish tanks without damage. Depending on facility size, it is also possible to operate two weighing systems in parallel to enable simultaneous weighing and feeding for increased feed requirements. The weighing of pellets is realized with a definition of up to 10 g.

Loading the DryComp system with the respective recipe is achieved via the feeding computer Excellent 4PX fish with integration of feed curve specifications.



System overview

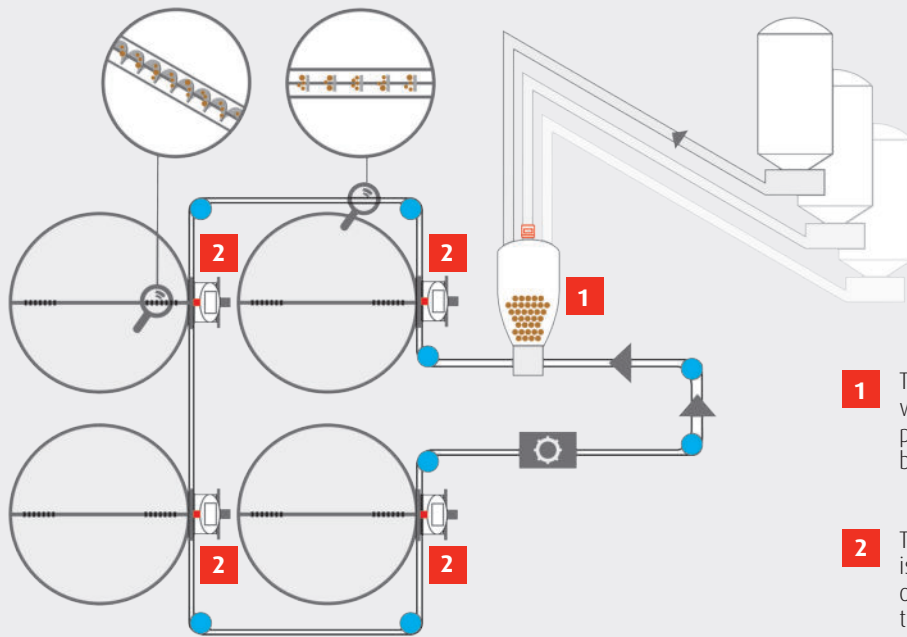




Fish tank



Fresh feed at all times

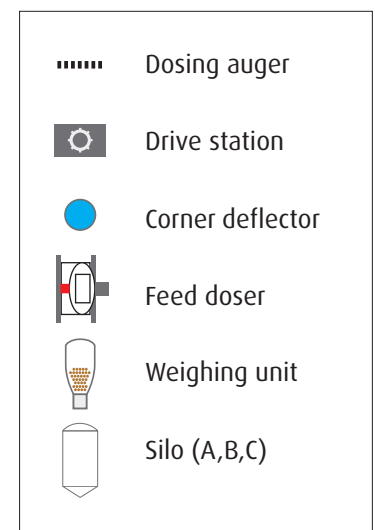


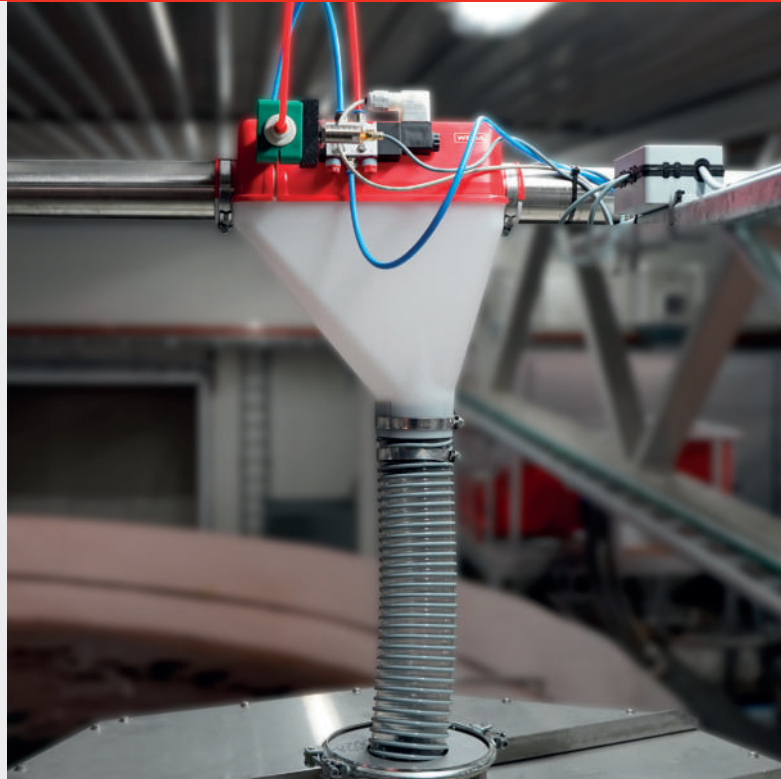
- 1** The pellets are drawn from the silos and weighed. From there, the conveyor chain transports them to the feed dosers. This process can be repeated several times per day
- 2** The number of dosing points at the fish tanks is customized for each plant. The feed is dosed out by the feed dosing units above the tank through slots in the pipe.

Ideal feeding at any time

In fish feeding, the use of feed transport systems where air is pushed through the lines with the required pressure is widespread. One significant disadvantage of these systems: fish tanks are only ever supplied with feed one after the other. This means that with large consumption quantities, there can be long waiting periods before a given fish tank is fed again.

The fish feeding system by WEDA solves this problem. At each fish tank, a dry doser is installed. This achieves continuous feeding according to size and feeding cycles of the fish. Small and fresh feed portions can also be dosed at any time.





Filling the dry dosers

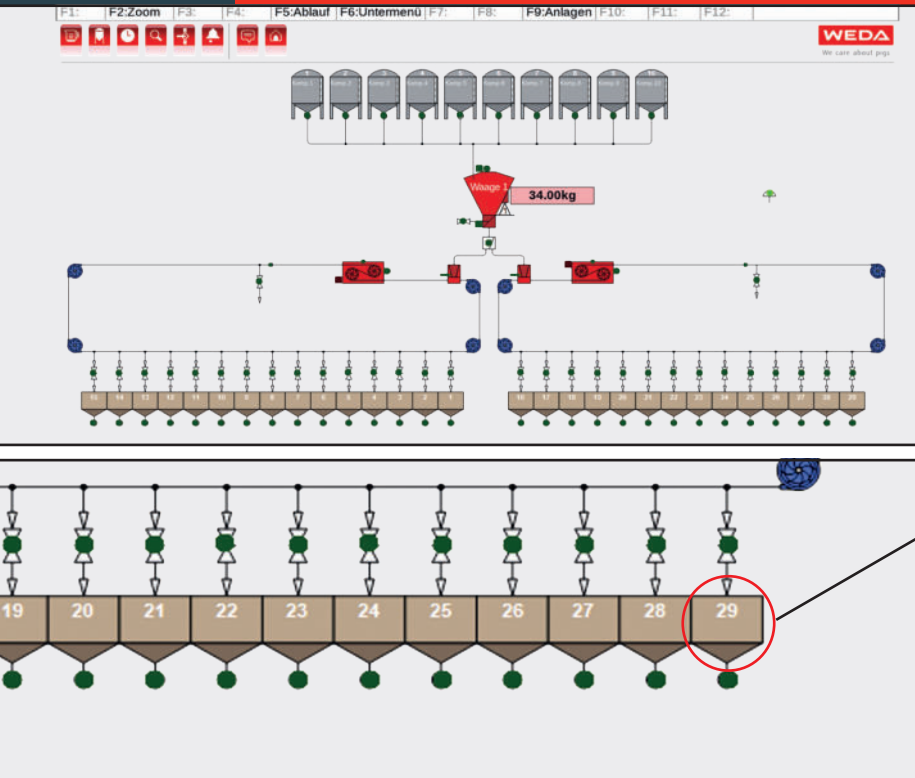
- Feed delivery according to feed curve
- Precise feed delivery to the dry dosers
- Simultaneous dosing
- Automatic valves above dry dosers

The pellets stored in the silos are dosed to the weighing unit in a pre-programmed quantity ratio (feed recipe) via augers. The feed is moved along to the feed line and from there, the conveyor chain with transport plates transports it to the feed dosers at the fish tanks, where it is dosed via automatic feed valves.

While the first feed recipe is being transported to the automatic feeders and dosed out, the installation can already dose a new recipe and subsequently transport it to the desired dry dosers. The system separately weighs and doses out for each doser. After filling the last feeder, the system switches off automatically or the filling of the dry feeder starts again.



State-of-the-Art



Order activated	<input checked="" type="checkbox"/>	Time	%	kg
Current number of animals	10000	1	10	0.061
Current animal weight	1.99 g	2	10	0.061
Biomass	19.90 kg	3	10	0.061
DF quantity per animal	0.220 g	4	10	0.061
DF quantity for the day	2.200 kg	5	10	0.061
		6	10	0.061
		7	10	0.061
Appetite faktor	67.00 %	8	10	0.061
		9	10	0.061
DF Cor.	1.474 kg	10	10	0.061
Act. quant.	2.100 kg	11	10	0.061
		12	10	0.061
		13	10	0.061
		14	10	0.061
	2 °C	15	10	0.061
Order quantity	25 kg	16	10	0.061
A-Recipe	1	17	10	0.061
B-Recipe	2	18	10	0.061
Proportion of recipe A in %	100 %	19	10	0.061
		20	10	0.061
Dosing start	14:23:58 h	21	10	0.061
Number	5 / 2	22	10	0.061
Quantity	0.0400 kg	23	10	0.061
		24	10	0.061

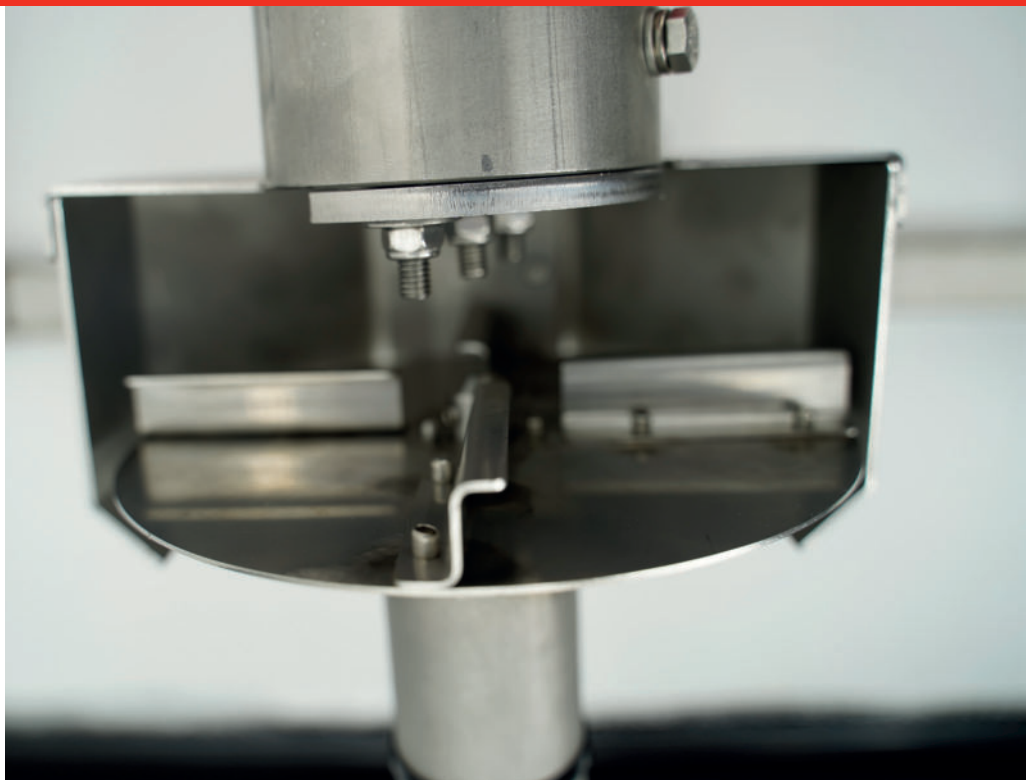
Modern control technology

The Excellent 4PX Fish is a cost-effective Linux-based control system that enables efficient control of all fish feeding processes. The system, developed by WEDA, ensures minimal hardware retooling and spare parts supplies over the long term. The interface is designed in a user-friendly manner and features easy-to-understand symbols for easy operation. Thanks to a customised process image visualisation, the system can be adapted to individual requirements quickly and easily. Access rights can be set for different users and an integrated logbook allows for the tracking of activities.

The system also takes the water temperature into account during feeding using predefined feed curves. The feed curve defines the composition and amount of feed that a fish should receive according to its weight over the course of its life. Based on these values, a feed curve is created and used. An additional feature of the Excellent 4PX Fish is the appetite factor, which can adjust the feed curves and amounts depending on the feeding behaviour of the fish. The feed quantity can be easily adjusted via the system visualisation.

With the W-Mobile app, the Excellent 4PX Fish can also be controlled from a smartphone or tablet, allowing the user to access the system from anywhere in the world. Upon request, the WEDA Service team can also access the customer's control computer to provide support for settings or in case of problems.

- Designed in-house by WEDA
- Easily comprehensible symbols
- Individual process visualization
- Interactive operability
- User-based input permissions
- Reporting function
- Feed quantity adjustment according to appetite factor
- Remote control via W-Mobile app on smartphone/tablet
- WEDA Service can log into the system on request



Opti.4C Pellet Doser

- For the feeding of crustaceans
- With rotary valve
- Rotating spreader disc
- Runtime-controlled feeding
- Controllable spreading radius
- Multiphase feeding and dosing out according to feed curve possible
- Controllable with Excellent 4PX Fish

The Opti.4C Pellet Doser is ideal for feeding crustaceans such as lobsters, shrimp and other marine organisms. Thanks to a built-in rotary valve, the feed can be metered out and distributed in the tank via a rotating spreader disc. The spreading radius can be controlled at any time via the speed of the rotating discs, and run-time controlled feeding is possible at any time thanks to WEDA's own Excellent 4PX Fish computer program.

Of course, the Opti.4C Pellet Doser can be used for multiphase feeding as well as for predefined feeding curves when the amount of feed increases in growing animals.

The spreading radius can be changed via the speed of the spreading discs and can distribute a maximum of 21 kg/h at a feed density of 0.7 kg/l.

Image Cover: iStock/DaveAlan

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All specifications with reservation.
Alterations are possible at any time.



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