

Single and twin screw feeders



FEATURES

- Precise volumetric and gravimetric feeding
- Extension with scale and weighing electronics possible
- Easily exchangeable feeding tools
- Various feeding tools such as auger, concave or spiral screws facilitate adaptation to the product to be fed
- Easy to clean and disassemble
- Available with and without discharge aid/bridge breaker
- Customized solutions

FEEDING TOOLS AND TROUGHPUTS

With the right feeding tool, you adjust your feeding device exactly to the product and thus achieve the best results. In addition to the standard feeding tools, we also manufacture special screws from 5 mm to 130 mm screw diameter, single-, double- or multi-flight, linear, conical progressive or relief-grinded.

The indicated throughputs have been measured with semolina. Since the throughput is highly product-dependent, the data should be regarded as theoretical values. We recommend carrying out tests with original products in our test laboratory.

APPLICATION

Single and twin screw feeders allow precise volumetric and gravimetric feeding of easy and free flowing dry powders, granules, micro-granules, grains, pellets, chips, flakes and short fibers.

All standard feeding devices can be supplemented with a scale and weighing electronics and operated as gravimetric «Loss in Weight»- or as batch systems. The devices are equipped with easily exchangeable feeding tools. The horizontally rotating discharge aid/bridge breaker prevents bridging and the bulk material thus flows into the feeding screws without interruption. For free-flowing bulk solids without bridging, devices are also available without discharge aid/bridge breaker.

The standard feeding units are available in a type version «Quick Change» as volumetric or gravimetric version, which are very easy to disassemble and to clean.

For heavy and poorly flowing powders which are cohesive, adhesive, bridging, hygroscopic, clumping, statically charging, sticky or greasy, we recommend our flat-tray feeding devices.

MATERIAL

Parts in contact with the product	Stainless steel DIN, AISI 316L (W.Nr. 1.4404), or higher grade, electropolished
Seals	PTFE and silicone
Color	RAL 9010 Pure white (or according to customer requirements)

CONTROL

The following controls are optionally available:

- LOGO!
- Potentiometer
- Frequency converter with touch panel
- Gravimetric control Siemens S7-1500 with Siemens HMI panel and Siwarex FTA or FTC weighing electronics

Higher-level controls for multi-feeding or feeding applications in a process with several components are available. Various communication protocols allow the integration of the feeding devices into existing plants. The feeding devices are equipped with asynchronous motors or stepper motors, depending on the control system.

ATEX (EXPLOSION PROTECTION)

Our equipment can be certified for all categories according to customer requirements in compliance with the ATEX Directive 2014/34/EC.

IP PROTECTION LEVEL

As standard, our devices are protected according to IP 54: Protection against dust in damaging quantity as well as protection against splash water from all sides. We can offer higher protection levels on request.

FDA

All plastic parts and seals in contact with the product that we use for our devices meet the requirements of the Food and Drug Administration (FDA) and are therefore FDA compliant. The greases and lubricants used are certified according to NSF-H1. At the customer's request, we document all FDA relevant parts used and compile a clear list with the corresponding FDA certificates.



OPTIONS

- Dosing lid made of plexiglass
- Additional hopper according to customer requirements
- Vertical or horizontal discharge pipe
- With or without discharge aid/bridge breaker
- PTFE seals optional with purge gas connection
- Dust-tight +/- 50 mbar overpressure or gas-tight
- Interference protection
- Flow inhibitor
- Ionisation
- Special painting according to customer requirements
- Extension of discharge pipe/dispensing tools
- Counter bearing of feeding tools
- Different control concepts
- GMP/ATEX

QUALITY AND DOCUMENTATION

- Risk analysis
- GMP documentation
- Operating instructions
- Material and surface certificates
- Welding certificate and welding seam documentation



ED 12

The ED 12 volumetric single-screw feeder without discharge aid/bridge breaker, with intervention protection and horizontal or vertical discharge tube is particularly suitable for fine feeding of small, highly free-flowing products such as granules and micro-granules. The particle size is limited to 2 mm with this small unit.

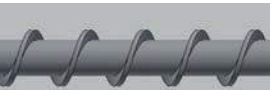


TECHNICAL DATA

	with AC three-phase motor	with stepper motor
Throughput *	2.4–35 l/h	0.05–31 l/h
Ø Feeding tools	12 mm	
Weight	≈ 6 kg (without control)	
Feeding hopper capacity	3 l	1 l
Additional hopper	-	1 l or 5 l
Voltage	230 V, 50–60 Hz	110–240 V, 50–60 Hz
Rotational speed	up to 560 rpm (gear dependent)	1–500 rpm

* Throughputs measured with semolina. Since the throughput is highly product-dependent, the data should be regarded as theoretical values.

FEEDING TOOLS AND THROUGHPUT

	with AC three-phase motor		with stepper motor	
Feeding tool				
Shape	Auger screw with core	Spiral screw	Auger screw with core	Spiral screw
Pitch	medium	medium	medium	medium
Throughput	2.4–30 l/h	2.8–35 l/h	0.05–27 l/h	0.06–31 l/h

ED 20 / ED 20 B

The ED 20 and ED 20 B volumetric single-screw feeders with and without discharge aid/bridge breaker, with intervention protection and horizontal or vertical discharge pipe are particularly suitable for the feeding of free-flowing products such as free-flowing powder, flakes, fibers and granulates up to 3 mm particle size.

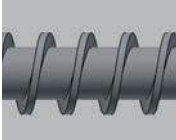
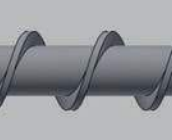
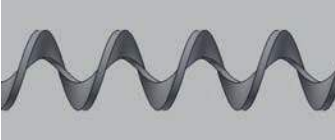


TECHNICAL DATA

	with AC three-phase motor	with servo motor
Throughput *	9.6–208 l/h	0–277 l/h
Ø Feeding tools	20 mm	
Weight	ED 20: 15 kg, ED 20 B: 25 kg (depending on the execution)	
Feeding hopper capacity	4.5 l	
Additional hopper	7 l, 12 l, 25 l, 50 l, 80 l or according to customer requirements	
Voltage	230 V, 50–60 Hz	
Rotational speed	up to 560 rpm (gear dependent)	0–750 rpm

* Throughputs measured with semolina. Since the throughput is highly product-dependent, the data should be regarded as theoretical values.

FEEDING TOOLS AND THROUGHPUT

Feeding tool				
Shape	Auger screw with core	Auger screw without core	Spiral- screw	
Throughput fine pitch	0.4–160 l/h	0.52–208 l/h	0.46–184 l/h	
Throughput medium pitch	0.43–213 l/h	0.55–277 l/h	0.49–245 l/h	

ED 40 / ED 50 / ED 65

The ED 40, ED 50 and ED 65 volumetric or gravimetric single-screw feeders without discharge aid/bridge breaker with horizontal or vertical discharge pipe are particularly suitable for the feeding of free-flowing products with good flow properties, such as powders, flakes, fibers and granules up to 10 mm particle size. Discharge tube and refill nozzles are provided with bellows for dust-free feeding.

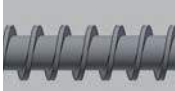


TECHNICAL DATA

	with AC three-phase motor			with servo motor		
	ED 40	ED 50	ED 65	ED 40	ED 50	ED 65
Throughput *	28–700 l/h	60–1'500 l/h	160–2'000 l/h	0–930 l/h	0–1'000 l/h	0–4'000 l/h
Ø Feeding tools	40 mm	50 mm	65 mm	40 mm	50 mm	65 mm
Weight	depending on the execution					
Feeding hopper capacity	40 l					
Additional hopper	according to customer requirements					
Voltage	230 V, 50–60 Hz					
Rotational speed	60–600 rpm (1:5) 6–60 rpm (1:50)			0–750 rpm		

* Throughputs measured with semolina. Since the throughput is highly product-dependent, the data should be regarded as theoretical values.

FEEDING TOOLS AND THROUGHPUT

		ED 40	ED 50	ED 65
Feeding tool		Auger screw with core		
Fine pitch		1.2–456 l/h	2.5–1'000 l/h	-
Medium pitch		2.4–930 l/h	5–2'000 l/h	6.7–2'670 l/h
Coarse pitch		-	-	10–4'000 l/h

ED 55 / ED 55 B

The volumetric single-screw feeders ED 55 and ED 55 B with and without discharge aid/bridge breaker are suitable for feeding easy-flowing granules up to 10 mm particle size.

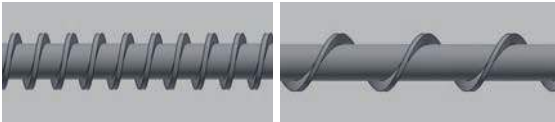


TECHNICAL DATA

	with AC three-phase motor	with servo motor
Throughput *	107–1'333 l/h	0–3'333 l/h
Ø Feeding tools	55 mm	
Weight	depending on the execution	
Feeding hopper capacity	15 l	
Additional hopper	40 l, 80 l or according to customer requirements	
Voltage	230 V, 50–60 Hz	
Rotational speed	up to 750 rpm (gear dependent)	0–750 rpm

* Throughputs measured with semolina. Since the throughput is highly product-dependent, the data should be regarded as theoretical values.

FEEDING TOOLS AND THROUGHPUT

Feeding tool		
Shape	Auger screw with core	
Pitch	fine	coarse
Throughput	3.3–1'333 l/h	8.3–3'333 l/h

ZD 12 B

The ZD 12 B volumetric twin-screw feeder with discharge aid/bridge breaker, intervention protection and horizontal or vertical discharge pipe is particularly suitable for the feeding of poorly flowing, baking and bridging products such as powder or micro-granules.



TECHNICAL DATA

	with AC three-phase motor	with servo motor
Throughput *	0.2–40.6 l/h	0–57 l/h
Ø Feeding tools	12 mm	
Weight	≈ 20 kg	
Feeding hopper capacity	4.5 l or 8.5 l	
Additional hopper	7 l, 12 l, 25 l, 50 l, 80 l or according to customer requirements	
Voltage	230 V, 50–60 Hz	
Rotational speed	up to 750 rpm (gear dependent)	0–750 rpm

* Throughputs measured with semolina. Since the throughput is highly product-dependent, the data should be regarded as theoretical values.

FEEDING TOOLS AND THROUGHPUT

Feeding tool							
Shape	Double concave screw			Double auger screw			Double spiral screw
Pitch	fine	medium	coarse	fine	medium	coarse	medium
Throughput (l/h)	0.1–19	0.2–33	0.25–43	0.1–20	0.2–39	0.3–57	0.2–39

ZD 22 B

The ZD 22 B volumetric twin screw feeder with discharge aid/bridge breaker, intervention protection and horizontal or vertical discharge pipe is particularly suitable for the feeding of shooting and free-flowing powder, granulates and other bulk materials.

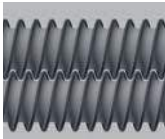
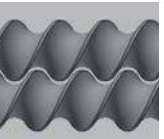


TECHNICAL DATA

	with AC three-phase motor	with servo motor
Throughput *	2.1–423 l/h	0–571 l/h
Ø Feeding tools	22 mm	
Weight	≈ 23 kg (without control)	
Feeding hopper capacity	4.5 l or 8.5 l	
Additional hopper	7 l, 12 l, 25 l, 50 l, 80 l or according to customer requirements	
Voltage	230 V, 50–60 Hz	
Rotational speed	up to 600 rpm (gear dependent)	0–650 rpm

* Throughputs measured with semolina. Since the throughput is highly product-dependent, the data should be regarded as theoretical values.

FEEDING TOOLS AND THROUGHPUT

Feeding tool							
Shape	Double concave screw			Double auger screw			Double spiral screw
Pitch	fine	medium	coarse	fine	medium	coarse	medium
Throughput (l/h)	0.5–110	1.8–243	2.1–422	1.1–227	2–403	2.9–571	2–403

ZD 32 B

The ZD 32 B volumetric twin-screw feeder with discharge aid/bridge breaker, intervention protection and horizontal or vertical discharge pipe is particularly suitable for feeding poorly flowing and free-flowing powder and micro-granules.

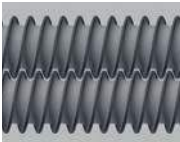
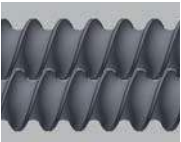


TECHNICAL DATA

	with AC three-phase motor	with servo motor
Throughput *	8.7–2'460 l/h	0–3'135 l/h
Ø Feeding tools	32 mm	
Weight	≈ 55 kg	
Feeding hopper capacity	14.5 l	
Additional hopper	25 l, 50 l or according to customer requirements	
Voltage	230 V, 50–60 Hz	
Rotational speed	up to 750 rpm (gear dependent)	0–750 rpm

* Throughputs measured with semolina. Since the throughput is highly product-dependent, the data should be regarded as theoretical values.

FEEDING TOOLS AND THROUGHPUT

Feeding tool						
Shape	Double concave screw			Double auger screw		
Pitch	fine	medium	coarse	fine	medium	coarse
Throughput (l/h)	2.6–500	5.1–966	10.6–2'000	3.6–675	8–1'510	16.7–3'135

QUICK CHANGE DEVICES

The volumetric and gravimetric single or twin screw Quick Change feeding devices are very easy to disassemble and clean. Since disassembly is done by quick-release fasteners, no tools are required. The feeding screws are secured by a bayonet lock located inside the screw, these can be disassembled and assembled by a simple 90° rotation.

For easy disassembly, cleaning or replacement of the seals, the seals are grouped together in stainless steel sleeves. The gas purged seals are grouped together in seal packs. This allows easy disassembly for cleaning or replacement of the seals.

In case of the T QC models, the feeding hopper can be removed in one piece, together with the feeding screws and the discharge aid/bridge breaker, by simply loosening quick release rings. This eliminates the need to empty the hopper. In order to be able to feed another product immediately and without cleaning, a second feeding hopper can be placed on top. This can significantly reduce equipment downtime, as well as eliminate contamination risks due to product mixing. These features also allow installation in an isolator (wall installation), since the drive elements are located outside the isolator and can be operated inside without tools. The standard material used is stainless steel 1.4404. The Quick Change feeding devices are particularly suitable for feeding poorly flowing powder and microgranulate with flow values of $ffc > 3$.

Throughput: 0.02 to 4'000 l/h



AVAILABLE QUICK CHANGE DEVICES

- ZD 12 T QC
- ZD 22 T QC
- ED 40 Q
- ED 50 Q
- ED 65 Q
- ED 65 T QC