

AZODOS® type P ... DV, type P ... DW

For continuous dosing of powder products

Maximum dosing accuracy

Used as loss-in-weight scale

Easy to clean by means of extraction device

Double screw for bulk materials with poor flow properties

Preferred applications

The AZODOS® dosing unit, type P ... DV for volumetric dosing of powder products into weighing and production processes. The unit can be used in the food industry as well as in the pharmaceutical, chemical and plastics industries wherever production processes require coarse/fine flow at a uniform mass flow rate.

In connection with a weighing device, the unit can be built up to

the AZODOS® Type P... DW dosing system for gravimetric product feed to production processes. The unit can be used as a negative scale to meter product in precisely dosed quantities into a downstream system. For continuous gravimetric processes the AZODOS® P...DW is connected to the AZO®CONT controller to create a loss-in-weight feeder DDW.

THE INNOVATION



Special advantages

- Stainless chrome nickel steel design with various surface finishes
- High grade dosing screws
- Easy-to-clean system for rapid changeover of components
- Compact design
- Easy to extend thanks to modular design
- Maximum dosing accuracy thanks to coarse/fine flow
- Double screw version for bulk materials with poor flow properties
- Dosing screw and agitator with bayonet connection for easy removal without tools
- Various screw geometries available
- Detachable extraction unit

AZODOS® type P ... DW

- Used as loss-in-weight feeder
- Precise online adjustment control and quick correction in case of any deviations from target values
- Absolute weight recording
- No false reading due to bulk weight fluctuations
- No intricate calibration work
- Measurement value logging with high resolution

AZO®

AZODOS® type P ... DV design

The basic unit consists of a housing, in which one or two dosing screws are installed. The dosing screws are driven by frequency-controlled geared motors. An agitator is used to uniformly fill the dosing screws from a surge bin. Different versions and sizes of the surge bins are available, suitable for automated or manual filling.

The dosing screws can be removed from the housing by pulling back with a detachable extractor, thus facilitating cleaning and replacement of individual components.

AZODOS® type P ... DW design

When the basic unit is expanded with a platform load cell or a 3-point weighing frame a dosing system is created that can be used as negative scale. Flexible connections at the surge bin inlet and screw outlet decouple the system thus preventing force shunts.

Combining AZODOS® P...DW with the AZO®CONT controller

creates a loss-in-weight feeder. The controller continuously regulates the mass flow in terms of setpoint and actual throughput.

AZODOS® type P ... DV operating principle

The AZODOS® Type P ... DV operates in volumetric mode. The powder bulk products flow out of the surge bin into the dosing screw. An agitator is used to ensure uniform discharge. With a frequency-controlled motor, the dosing screw can be switched from coarse to fine flow for precision metering in the downstream weighing process.

AZODOS® type P ... DW and DDW operating principle

A weigh feeder consists of the basic unit mounted on a platform load cell or integrated in a 3-point weighing frame. It can be mounted in a frame structure on the floor or suspended from the ceiling. The dosing screw meters the bulk material in coarse/fine flow to the downstream process. The amount of product that is metered out of the AZODOS® is weighed. The system operates gravimetrically in accordance with the negative weighing principle.

The AZODOS® type P ... DW becomes a loss-in weight feeder (DDW) when it is paired with a corresponding control system (e.g. AZO®CONT). The bulk material is discharged by the dosing screw and the resulting loss in weight per unit of time is registered by the weighing and control system. The actual loss in

weight per unit of time (actual throughput) is compared against the required setpoint, which is defined by the downstream process, e.g. extruder. Differences between the actual loss in weight per unit of time and the setpoint are corrected by changes in the screw speed.

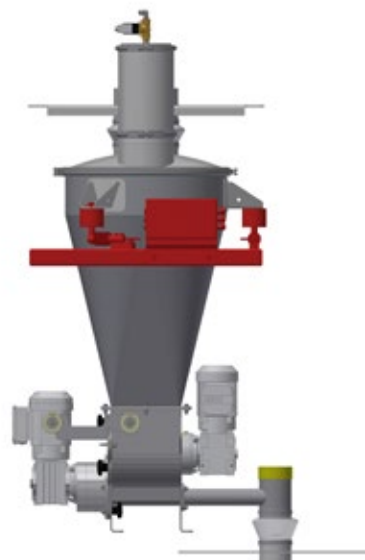
The control process is briefly interrupted when the product in the AZODOS® reaches a preset minimum level and the surge bin is replenished. During the refill time the dosing screw output is set to a value based on empirical weight and output data gained from previous metering cycles.

Type	Platform load cell	3 point weighing frame
P30/1	x	
P30/2	x	
P50/1	x	x
P50/2	x	x
P70/1		x
P70/2		x
P100/1		x
P140/1		x

Weigher versions:



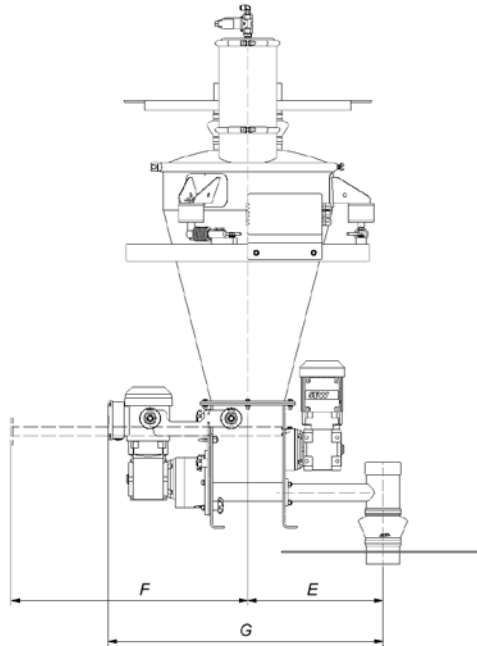
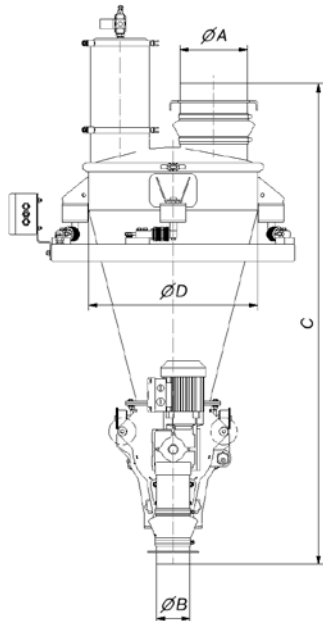
AZODOS® type P 50/2 with platform load cell



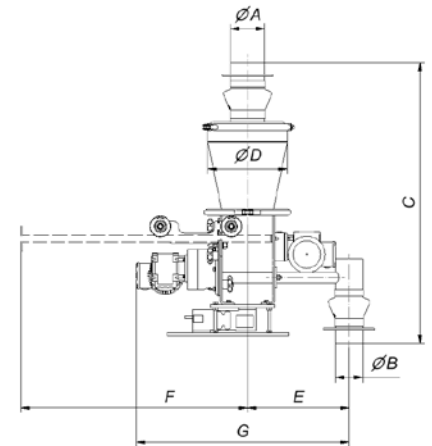
AZODOS® type P 70/2 with 3-point weighing frame

Technical data

AZODOS® types P 70 ..., P 100 ... and P 140 ...



AZODOS® types P 30 ... and P 50 ...



Type	A	B	C	D	E	F	G
P30/1	100	80	830	235	300	670	630
P30/2	100	80	830	235	300	670	630
P50/1	200	100	1420	500	400	825	815
P50/2	200	100	1420	500	400	825	815
P70/1	200	128	1955	500	500	1020	1010
P70/2	200	128	1955	500	500	1020	1010
P100/1	300	128	1370	800	750	1570	1220
P140/1	300	200	1410	800	830	1600	1300

Noise level:	< 70 dB (A)
Dosing accuracy:	Dependent on output/product. In continuous operation typical: +/- 0,5% (Namur)
Dosing screw speed:	Control range 1:15
Protection class:	IP 54
Material:	in contact with product: 1.4301 (optional 1.4404)

Weight:

Connected load:

Throughput

(theoretical data: depends on screw type and product characteristics)

Standard gear motor:

High speed gear motor:

AZODOS® type P 30/1

approx. 36 kg

approx. 0.21 kW

2 – 44 dm³/h

3 – 75 dm³/h

AZODOS® type P 30/2

approx. 40 kg

approx. 0.21 kW

2 – 56 dm³/h

5 – 109 dm³/h

AZODOS® type P 50/1

approx. 45 kg

approx. 0.43 kW

9 – 343 dm³/h

23 – 874 dm³/h

AZODOS® type P 50/2

approx. 55 kg

approx. 0.55 kW

15 – 570 dm³/h

29 – 1.088 dm³/h

Weight:

Connected load:

Throughput

(theoretical data: depends on screw type and product characteristics)

Standard gear motor:

High speed gear motor:

AZODOS® type P 70/1

approx. 90 kg

approx. 0.92 kW

96 – 1,836 dm³/h

150 – 2,872 dm³/h

AZODOS® type P 70/2

approx. 105 kg

approx. 1.12 kW

104 – 2,332 dm³/h

165 – 3,715 dm³/h

AZODOS® type P 100/1

approx. 200 kg

approx. 1.65 kW

375 – 6,963 dm³/h

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AZODOS® type P 140/1

approx. 215 kg

approx. 2.05 kW

834 – 15,457 dm³/h

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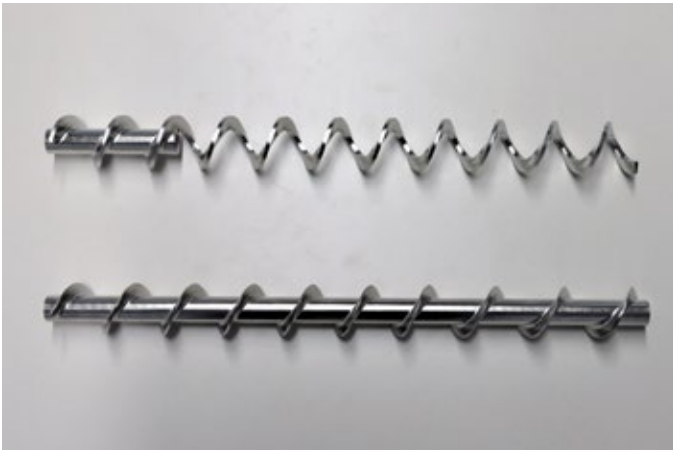
Operation and control

Up to 10 dosing stations can be controlled with the central AZO®CONT controller. The system is displayed and its parameters set on an operator control panel. A PC-based visualisation system (Intouch, WinCC, etc.) can be connected corresponding to requirements. An interface for the KASTOR process control system is additionally integrated in the controller.

Extensive work flows such as balancing and recipe handling can be implemented with this process control system.

The material feed for replenishing the dosing units can be additionally controlled with the AZO®CONT controller. AZO®CONT can control up to four independent group feed systems with max. 32 receivers.

Screw variants



Following screw variants are available for single screw dosing systems: Spiral screw (top), full flight screw (bottom)



Following screw variants are available for double screw dosing systems: Spiral screw (top), full flight screw (middle), double concave screw (bottom)



AZODOS® type P 50/1 with dosing screw extracted



AZODOS® type P 70/2 with dosing screw extracted



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The design is subject to change due to our continuous improvement program.