

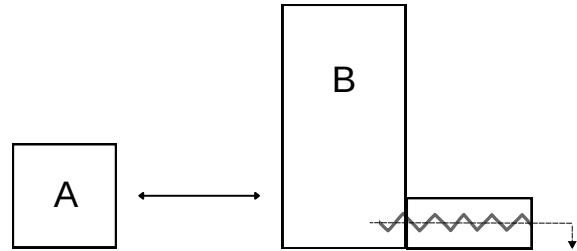
## Single & Twin Screw Micro Feeders

### Typical application of OSS-Micro:

- A. Motor Control
- B. Single Screw Feeder

### Typical application of OTS-Micro:

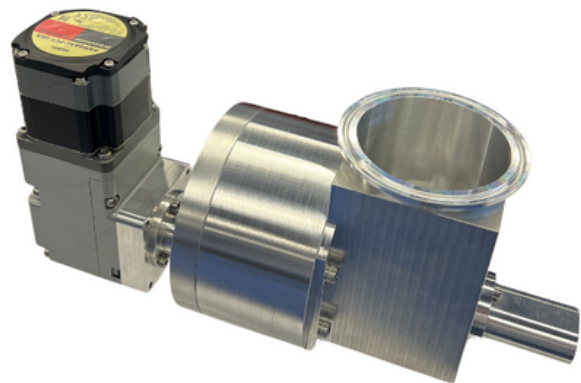
- A. Motor Control
- B. Twin Screw Feeder



## Description

Orbetron's OSS / OTS Micro feeders are designed to feed free-flowing materials and poor-flowing powders at very low rates.

The sanitary clamp feed hopper makes it ideal for applications that require material changes by removing the existing hopper and replacing it with a new clean hopper. The feeders' small footprint can be used as a storage container, eliminating cleaning and the possibility of product contamination. These include a single screw hopper to feed free-flowing products, and a twin screw with a horizontal agitator to feed materials. The feeder can be easily integrated with gravimetric or volumetric controls, as well as installed separately or in a production line with multiple feeding devices.



OTS-Micro is displayed above.

## Dosing Performance

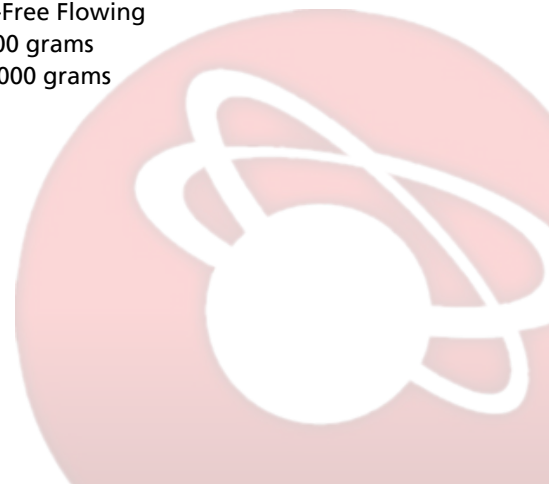
### OSS-Micro

- Used for pellets and powders
- Free-flowing
- Stepper Motor 20 - 1,000 grams
- AC/DC Motor 80 - 5,000 grams

### OTS-Micro

- Used for powder material
- Free-flowing & Non-Free Flowing
- Stepper Motor 5 - 500 grams
- AC/DC Motor 50 - 3,000 grams

Note: All throughputs are estimates and is dependent on bulk density.



## Design

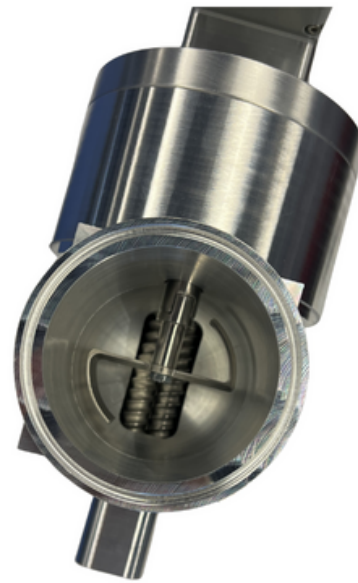
- Compact feeder and gearbox design
- High modularity for easy dismantling and cleaning
- Horizontal material outlet discharge
- Tool-free change of the feeder screw
- Applicable for single spiral and auger screws
- All metal parts which are in material contact are aluminum
- Motor configuration AC/DC, Stepper
- Gearboxes in multiple configurations
- Weight without accessories volumetric 5 lbs

## Options

- *Gravimetric and volumetric controls*
- *Hopper extension modules*
- *Special hoppers are available by request*
- *Removable vertical outlet tube with the size of 2"*
- *Silicon sealing*
- *Gravimetric loss-in-weight batch*
- *Gravimetric gain-in-weight*
- *Gravimetric low-in-weight continuous*
- *Volumetric continuous or batch*
- *Ezi-Dock adaptation for material containment*
- *Integration with OSB Series*
- *Vertical Discharge*
- *SS Configuration*

## Additional

Top-view and interior of OTS-Micro



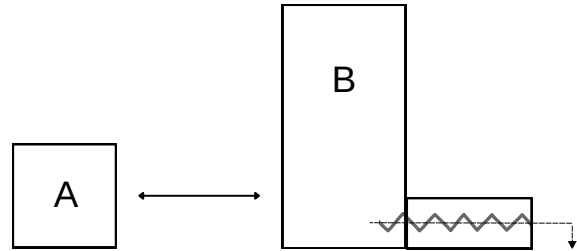
## Single &amp; Twin Screw Feeder with or without Agitation

**Typical application of AS25:**

- A. Motor Control
- B. Single Screw Feeder

**Typical application of AT16:**

- A. Motor Control
- B. Twin Screw Feeder


**Description**



Orbetron's AS25 / AT16 feeders are designed to feed free-flowing materials and poor-flowing powders at very low rates.

The removable feed hopper makes it ideal for applications that require quick material changes by removing the existing hopper and replacing it with a new clean hopper. The removable feed hopper can also be used as a storage container, eliminating cleaning and the possibility of product contamination. These include a single screw hopper to feed free-flowing products, and a twin screw with a horizontal agitator to feed materials. The feeder can be easily integrated with gravimetric or volumetric controls, as well as installed separately or in a production line with multiple feeding devices.





**Dosing Performance**

AS25 is displayed above.

**AS25**

Screw Type		F 		S 	
		Full-Flight		Spiral	
Gear Reducer	Speed (rpm)	Ø 12 x 5 dm <sup>3</sup> /h	Ø 17 x 17 dm <sup>3</sup> /h	Ø 15 x 11 dm <sup>3</sup> /h	Ø 20 x 11 dm <sup>3</sup> /h
6:1	12-500	0.15-6	1.08-45	0.6-24	1.02-42
21:1	4-143	0.04-2	0.3-13	0.18-7	0.3-12
36:1	2-83	0.025-1	0.18-8	0.1-4	0.17-7
Gear Reducer	Speed (rpm)	Ø 20 x 15 dm <sup>3</sup> /h		Ø 30 x 16 dm <sup>3</sup> /h	Ø 30 x 32 dm <sup>3</sup> /h
6:1	12-500	1.8-75		2.88-120	7.08-294
21:1	4-143	0.5-21		0.8-34	2-84
36:1	2-83	0.3-12		0.48-20	1.18-49

**AT16**

Screw Type		C 	F 	S 
		Double Concave	Double Full-Flight	Double Spiral
Gear Reducer	Speed (rpm)	Ø 13 x 11 dm <sup>3</sup> /h	Ø 12 x 5 dm <sup>3</sup> /h	Ø 14 x 10 dm <sup>3</sup> /h
6:1	14-580	0.60-24	0.3-12	1.5-60
21:1	4-166	0.2-7	0.08-3	0.4-17
36:1	2.3-96	0.10-4	0.05-2	0.25-10
Gear Reducer	Speed (rpm)	Ø 14 x 15 dm <sup>3</sup> /h	Ø 14 x 20 dm <sup>3</sup> /h	Ø 14 x 20 dm <sup>3</sup> /h
6:1	14-580	1.2-48	2.4-96	3.6-150
21:1	4-166	0.3-14	0.07-27	1.0-43
36:1	2.3-96	0.2-8	0.4-16	0.6-25

### Design

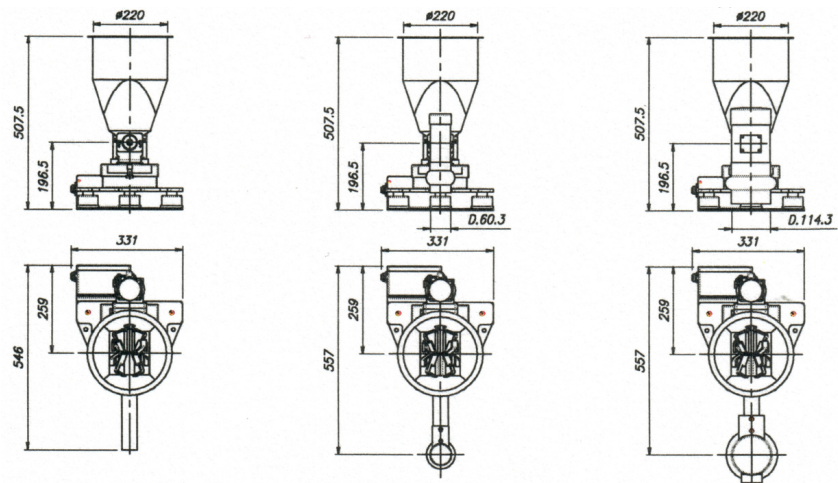
- Compact feeder and gearbox design
- High modularity for easy dismantling and cleaning
- Horizontal material outlet discharge
- Tool-free change of the feeder screw
- Applicable for single spiral and auger screws
- All metal parts which are in material contact are in stainless steel 1.4404 (AS1316L)
- Mechanical gearbox with lifetime lubrication
- Motor configuration AC/DC, Stepper
- Gearboxes in multiple configurations
- Weight without accessories volumetric 6kg
- Gravimetric 13kg
- Exchange hopper 9kg

### Options

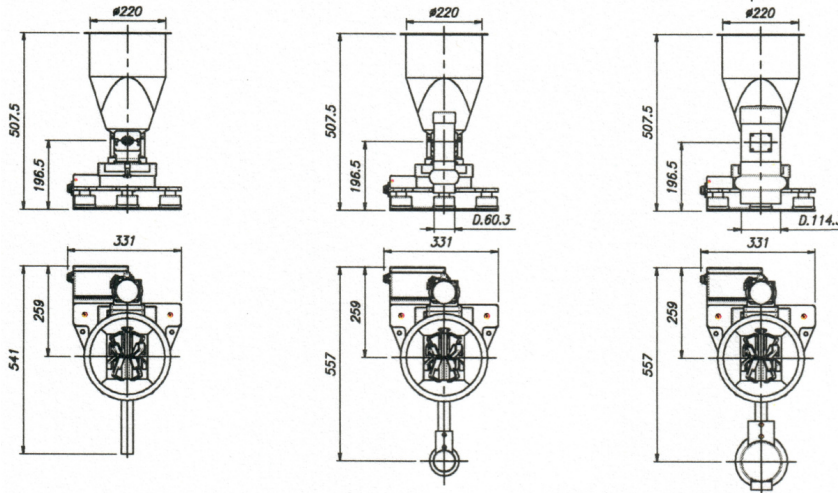
- Gravimetric and volumetric controls
- Hopper extension modules
- Special hoppers are available by request
- Removable vertical outlet tube with the size of 4"
- Counter bearing for very poor flowing or heavy materials
- Silicon sealing
- Gravimetric loss-in-weight batch
- Gravimetric gain-in-weight
- Gravimetric low-in-weight continuous
- Volumetric continuous or batch
- Ezi-Dock adaptation for material containment
- Integration with OSB Series
- Vertical Discharge

### Drawings

AS25



AT16

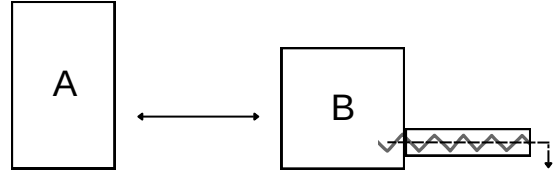




## Twin Screw Feeder with Agitation

### Typical application of AT20:

- A. Motor Control
- B. Single Screw Feeder




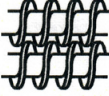
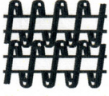
### Description

Orbetron's AT20 feeder is designed for dosing powders, granulates, regrinds, fibers, and flakes in a continuous and batching process.

Orbetron feeders have been designed to have a wide range of flexibility for the different bulk solid materials, and throughput ranges. The feeder is designed with a multiple wing agitator ensuring full agitation of the entire ingredient compartment. The multiple-wing agitator eliminates bridging and inducing free material flow and an optimum screw-filling level for consistent linear mass flow. On all mechanical connections for the material inlet and outlet of the feeder, it is possible to mount different accessories to reach the highest performance and precise accuracy in the desired application. The AT20 feeder can be used in a single standalone application or it can be integrated in a multiple feeding system, OSB.



### Dosing Performance

Screw Type		C 	F 	S 
		Double Concave	Double Full-Flight	Double Spiral
Gear Reducer	Speed (rpm)	Ø 20 x 11 dm <sup>3</sup> /h	Ø 20 x 11 dm <sup>3</sup> /h	Ø 14 x 11 dm <sup>3</sup> /h
	7:1	1.0–70	2.0–115	1.0–80
	15:1	0.5–30	1.0–50	0.5–35
28:1	0.2–15	0.5–25	0.2–20	
Gear Reducer	Speed (rpm)	Ø 22 x 20 dm <sup>3</sup> /h	Ø 22 x 20 dm <sup>3</sup> /h	Ø 14 x 20 dm <sup>3</sup> /h
	7:1	3–250	4–330	3–210
	15:1	2–115	2–150	2–100
28:1	1–60	1–80	1–50	



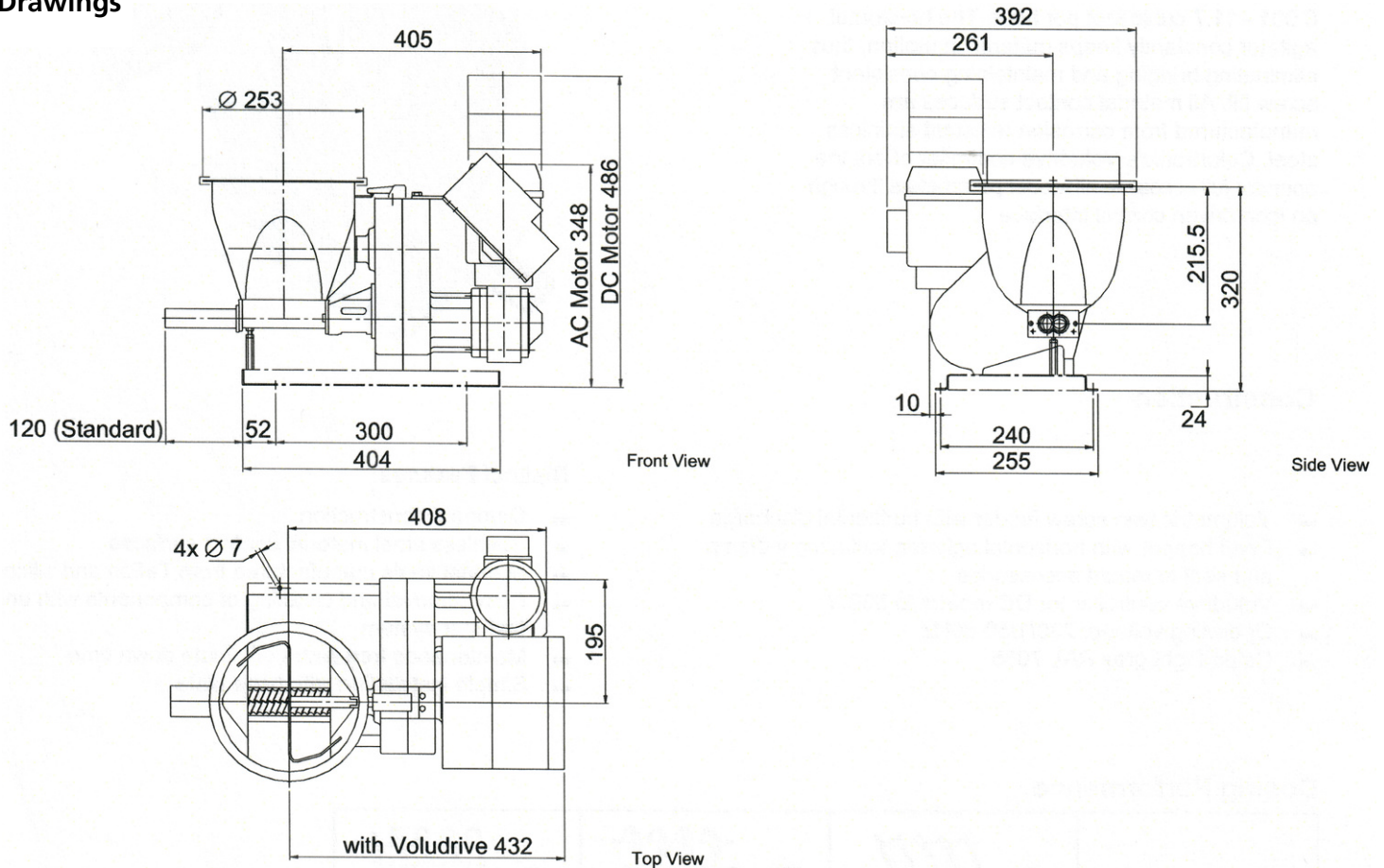
### Design

- Compact feeder and gearbox design
- High modularity for easy dismantling and cleaning
- Horizontal material outlet discharge
- Tool-free change of the feeder screw
- Applicable for twin screw spiral, auger, and concave screws
- All metal parts which are in material contact are in stainless steel 1.4404 (AS1316L)
- Mechanical gearbox with lifetime lubrication
- Motor configuration AC, DC
- Operating and material temperature -20..60°C (-4..130°F)
- Gearboxes in the sizes of 7:1, 15:1, 28:1, STD
- Weight without accessories 33 kg
- Color outside light grey

### Options

- Hopper extension modules in the sizes of 20l, 50l, 75l, 85l, 100l, 135l, 185l - special hoppers available on request
- Removable vertical outlet tube with the size of 4"
- Counterbearing for very poor flowing or heavy materials
- Screw and outlet tube extensions up to the total screw length of 600mm
- Flexible outlet tube
- Silicon sealing
- Different colors on request
- FDA certification according to FDA CFR 21 #178.3570
- ATEX Zone inside 3D T140°C, 2D T140°C, 2D T140°C/2G T4, 1D T140°C/2G T4
- ATEX Zone outside 3D T140°C, 2D T140°C / 2G T4
- Bottom outlet for material discharge available on request

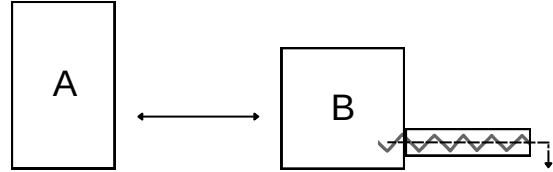
### Drawings



## Twin Screw Feeder with Agitation

### Typical application of AT35:

- A. Motor Control
- B. Single Screw Feeder



### Description

Orbetron's AT35 Twin Screw Feeder is designed for dosing powders, pellets, granulates, regrinds, fibers, and flakes in a continuous and batching process.

The feeder is designed with a multiple wing agitator ensuring full agitation of the entire ingredient compartment. The multiple wing agitator eliminates bridging and inducing free material flow and an optimum screw filling level for consistent linear mass flow. On all mechanical connections for the material inlet and outlet of the feeder it is possible to mount different accessories to reach the highest performance and precise accuracy in the desired application. The AT35 feeder can be used in a single standalone application or it can be integrated in a multiple feeding system.



### Dosing Performance

Screw Type		C	F	S
		Twin concave profile screw	Twin auger screw	Twin spiral screw
Gear	rpm	Ø 32 x 30 dm <sup>3</sup> /h	Ø 32 x 16 dm <sup>3</sup> /h	Ø 30 x 16 dm <sup>3</sup> /h
7:1	8-617	15-1230	10-750	4-320
15:1	4-288	7-570	5-350	2-150
28:1	2-154	4-300	3-180	1-80
Gear	rpm	Ø 35 x 40 dm <sup>3</sup> /h	Ø 32 x 32 dm <sup>3</sup> /h	Ø 30 x 32 dm <sup>3</sup> /h
7:1	8-617	25-1800	25-1800	10-800
15:1	4-288	15-840	15-840	5-370
28:1	2-154	5-440	6-450	2-200





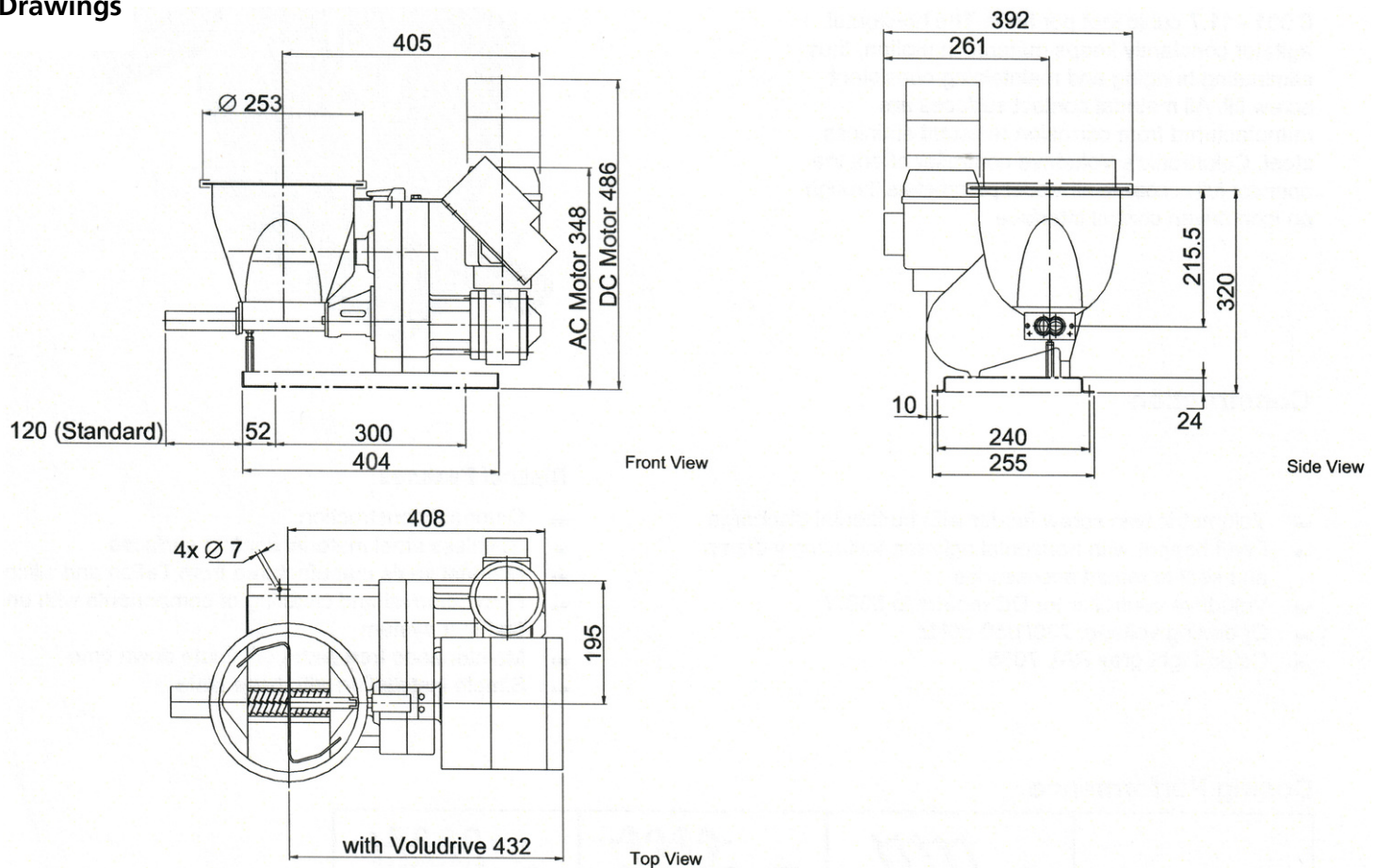
## Design

- Compact feeder and gearbox design
- High modularity for easy dismantling and cleaning
- Horizontal material outlet discharge
- Tool-free change of the feeder screw
- Applicable for twin screw spiral, auger, and concave screws
- All metal parts which are in material contact are in stainless steel 1.4404 (AS1316L)
- Mechanical gearbox with lifetime lubrication
- Motor configuration AC, DC
- Operating and material temperature  $-20..60^{\circ}\text{C}$  ( $-4..130^{\circ}\text{F}$ )
- Gearboxes in the sizes of 7:1, 15:1, 28:1, STD
- Weight without accessories 33 kg
- Color outside light grey

## Options

- Hopper extension modules in the sizes of 20l, 50l, 75l, 85l, 100l, 135l, 185l - special hoppers available on request
- Removable vertical outlet tube with the size of 4"
- Counterbearing for very poor flowing or heavy materials
- Screw and outlet tube extensions up to the total screw length of 600mm
- Flexible outlet tube
- Silicon sealing
- Different colors on request
- FDA certification according to FDA CFR 21 #178.3570
- ATEX Zone inside 3D T140°C, 2D T140°C, 2D T140°C/2G T4, 1D T140°C/2G T4
- ATEX Zone outside 3D T140°C, 2D T140°C / 2G T4
- Bottom outlet for material discharge available on request

## Drawings

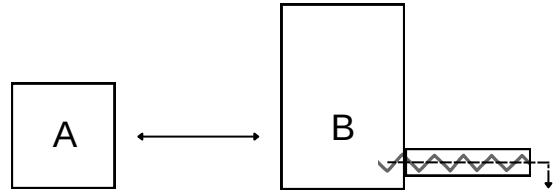




### Twin Screw Feeder with Agitation

**Typical application of AT70:**

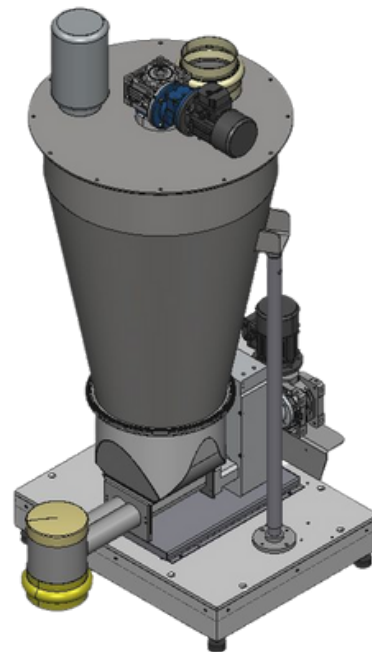
- A. Motor Control
- B. Single Screw Feeder




**Description**

Orbetron’s volumetric twin screw feeder AT70 is ideally suited for dosing powders, granulates, regrinds, fibers, and flakes in continuous and batching process.

Orbetron’s feeder has a compact modular design that gives the operator the flexibility to meet changing process requirements. Volumetric feed rates range from 2 to 285 cubic feet per hour. The horizontal agitator constantly keeps material in motion, thus eliminating bridging and maintaining consistent screw fill. All material contact surfaces are manufactured from corrosion-resistant stainless steel.



**Dosing Performance**

<b>Screw Type</b>		<b>C</b> 	
		<b>Double Concave</b>	
<b>Gear Reducer</b>	<b>Speed (rpm)</b>	<b>Ø 50 x 60 dm<sup>3</sup>/h</b>	<b>Ø 60 x 80 dm<sup>3</sup>/h</b>
7:1	8 – 617	100 – 7000	200 – 8000
15:1	4 – 288	50 – 3300	100 – 3250



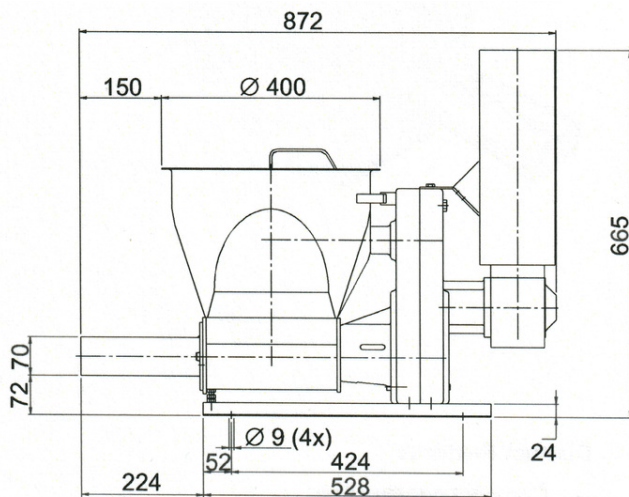
## Design

- Compact feeder and gearbox design
- High modularity for easy dismantling and cleaning
- Horizontal material outlet discharge
- Tool-free change of the feeder screw
- Applicable for twin screw, auger, and concave screws
- All material contact metals are stainless steel 1.4404(AS1316L)
- Mechanical gearbox with lifetime lubrication
- 750 W DC motor (3000 rpm) with speed control in protection class IP 54 or up to 2,2 kW AC motor
- Operating and material temperature -20..60°C
- Gearboxes in the sizes of 15:1, 28:1, STD
- Weight without accessories 75 kg
- Color outside light grey

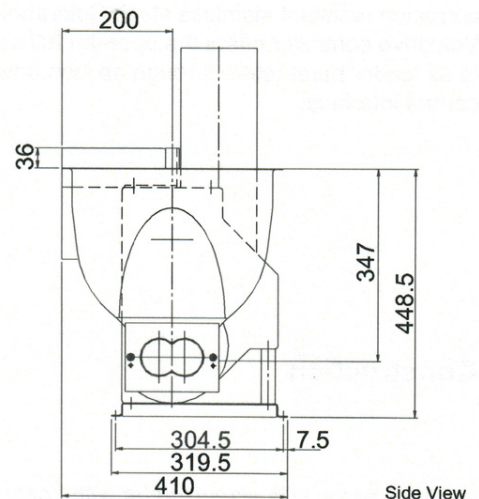
## Options

- *Gravimetric and volumetric controls*
- *Hopper extension modules, and special hoppers available on request*
- *Removable vertical outlet tube*
- *Counterbearing for very poor flowing or heavy materials*
- *Different color on request*
- *FDA certification: FDA CFR 21 #178.3570*
- *ATEX Zone inside 3D T140°C, 2D T140°C, 2D T140°C/2G T4, 1D T140°C/2G T4*

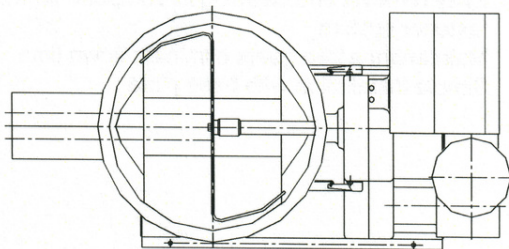
## Drawings



Front View



Side View



Top View