

Application

Volumetric feeding of free flowing powders, granules and other bulk materials. The feeder can be upgraded to a loss-in-weight feeder system at any time.

Design

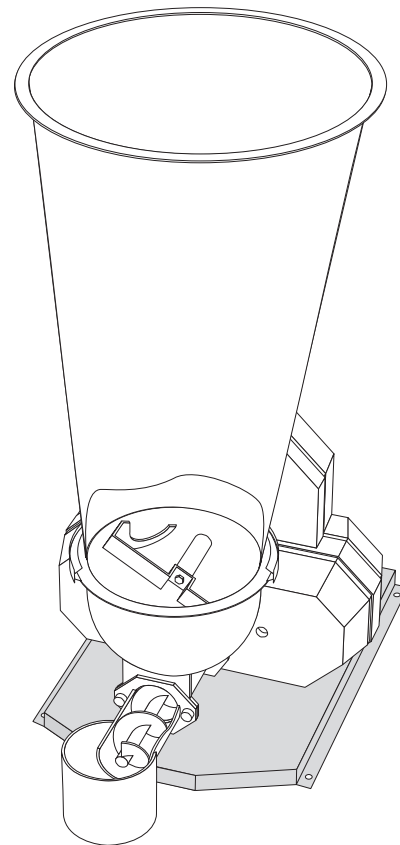
Single screw feeder with interchangeable feeding tools. All parts in contact with the material being fed are stainless steel. Feeding equipment is easy to disassemble. The horizontal agitator gently moves the bulk material to the large throat and then into the screws. Feeder screws are easily interchangeable. This equipment conforms to CE standards regarding EMC and safety.

Controller: (see separate data sheets)

The SmartConnex® control system allows individual or multi-component control. Each feeder has its own control module. Connection between feeders, operator interface and smart I/O is via an industrial network. A variety of protocols is available for connection to the plant's host system.

Hazardous Location Options: (see sheet I-000002)

- NEC Class II, Div. 2, Groups F & G / Class II, Div. 1, Groups F & G
- Class I, Div. 2, Groups C & D / Class I, Div. 1, Groups C & D
- ATEX 3D/3D, 3D/2D, 3G/3G, 2GD/2GD (outside/inside)



Feed Screws and Feed Rates

Actual feeder screws are determined based on the material being fed.

Attention: The following rates are theoretical values for free flowing materials being fed volumetrically. Actual feed rates depend on individual material characteristics. The feed range for loss-in-weight feeders is somewhat smaller. For feed rates at the upper or lower limits of the theoretical range, check with a K-Tron Test Lab.

Pitch	Auger screw					Spiral screw			Maximum Particle Size mm (in)	Reduction/Max Screw Speed (RPM)	
	3 (0.10)	4 (0.15)	6 (.25)	8 (0.30)	9 (0.35)	4 (0.15)	6 (.25)	9 (0.35)			
Coarse	15mm	25mm	40mm	50mm	60mm	25mm	40mm	60mm	dm ³ /hr	High 3.6:1 / 555	
	.425 - 42.5	3.40 - 340	11.3 - 1130	24.1 - 2410	45.0 - 4500	4.25 - 425	8.50 - 850	42.5 - 4250			ft ³ /hr
	.015 - 1.50	.120 - 12.0	.400 - 40.0	.850 - 85.0	1.60 - 160	.150 - 15.0	.300 - 30.0	1.50 - 150	dm ³ /hr	Low 18:1 / 111	
	.115 - 11.5	.850 - 85.0	2.80 - 280	5.95 - 595	9.06 - 906	1.15 - 115	2.10 - 210	8.78 - 878			ft ³ /hr
Fine	.004 - .400		.030 - 3.00	.100 - 10.0	.210 - 21.0	3.20 - 32.0	.040 - 4.00	.075 - 7.50	.310 - 31.0	Maximum Particle Size mm (in)	High 3.6:1 / 555
			4 (0.15)	6 (.25)	9 (0.35)	4 (0.15)	6 (.25)	9 (0.35)	dm ³ /hr		
			25mm	40mm	60mm	25mm	40mm	60mm		ft ³ /hr	
			1.70 - 170	5.65 - 565	28.3 - 2832	2.00 - 200	4.25 - 425	27.5 - 2750	dm ³ /hr		Low 18:1 / 111
		.060 - 6.00	.200 - 20.0	1.00 - 100	.070 - 7.00	.150 - 15.0	.970 - 97.0	ft ³ /hr			
		.425 - 42.5	1.40 - 140	7.08 - 708	.500 - 50	1.15 - 115	5.50 - 550	dm ³ /hr	Low 18:1 / 111		
		.015 - 1.50	.050 - 5.00	.250 - 25.0	.017 - 1.70	.040 - 4.00	.194 - 19.4	ft ³ /hr			

DC-motor with speed controller / Range 1 : 100 / Max. motor speed 2000 RPM

Feed rates when using AC motors: The feed rates may here be roughly estimated through a calculation using the screw speeds.

Europe/Asia: AC motor with frequency inverter / Range 1 : 17 / Max. motor speed 2440 RPM

Americas: AC motor with frequency inverter / Range 1 : 12 / Max. motor speed 1725 RPM

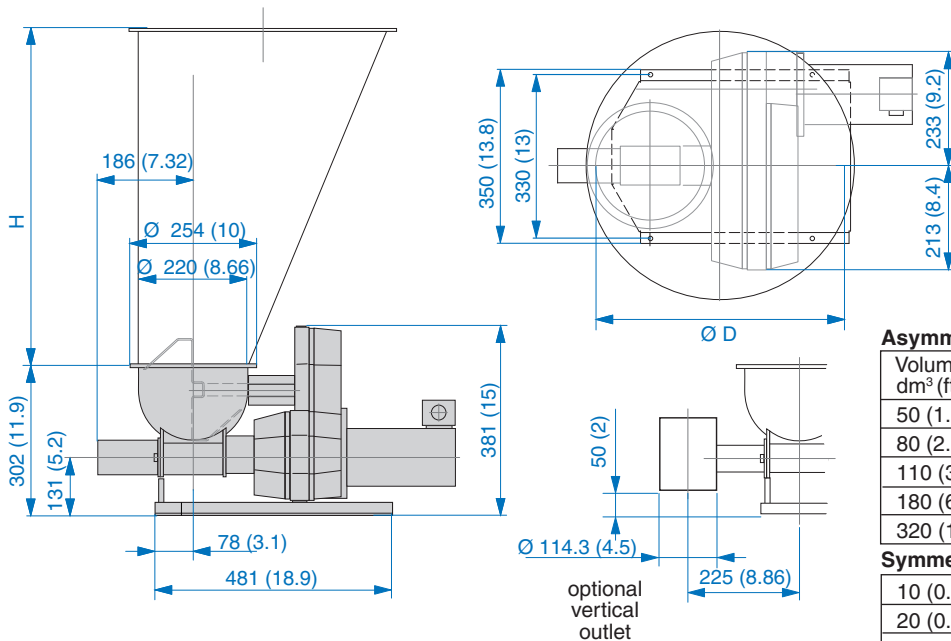
Configuration

Description	Alternatives	Remarks	Weight kg (lb)
Vertical agitator	KS: 230/400 VAC 0.18, 0.25 kW IP55	4D (50 L, 80 L)	25 (55)
		6D (110 L)	36 (79)
Cover		2D	1 (2.2)
		4D	2 (4.4)
		6D	3 (6.6)
Extension hopper		2D, 4D or 6D	see below
Horiz. agitator			0.7 (1.5)
Trough	5 L		2.5 (5.5)
Gearbox			15 (33)
Motor	100/200 V DC 0.45 kW IP 65	3 phase with freq. inverter KS: 230/400 VAC KA: 230/460 VAC 0.55 kW, IP 55	standard: 0.45 kW 12 (26.4)
Screws		see page 1	1 (2.2)
Outlet	Horiz. outlet Vertical outlet Pressure compensation	standard: horiz. outlet	1 (2.2)

Materials:
 Product contact parts*: Stainless steel
 DIN 1.4404, 1.4435 (AISI 316L)
 DIN 1.4409 (ASTM A743 CF3M)
 *Horiz. agitator: DIN 1.4034 (AISI 420) standard
 DIN 1.4404 (AISI 316L) option
 Seals: PTFE, Neoprene, Silicon
 Painting: Light grey RAL 7035

Temperature-Limits:
 Ambient: 0 to 40.5 °C (32 to 105°F)
 Material: standard: -20 to 55 °C (-4 to 130 °F)
 option: -20 to 150 °C (-4 to 300 °F)

Dimensions mm (in)



Options

- 1 Standard hopper
- 2 Vertical outlet
- 3 Special paint / finish
- 4 Extended screws

Asymmetrical Hoppers

Volume dm ³ (ft ³)	H mm (in)	D mm (in)	Weight kg (lb)
50 (1.8)	615 (24.2)	400 (15.7)	7 (15.4)
80 (2.8)	869 (34.2)	400 (15.7)	11 (24.2)
110 (3.9)	922 (36.3)	600 (23.6)	17 (37.4)
180 (6.4)	1176(46.3)	600 (23.6)	23 (50.6)
320 (11.3)	1684 (66.3)	600 (23.6)	35 (77)

Symmetrical Hoppers

Volume dm ³ (ft ³)	H mm (in)	D mm (in)	Weight kg (lb)
10 (0.35)	283 (11)	220 (8.7)	3 (6.6)
20 (0.71)	566 (22.3)	220 (8.7)	6 (13.2)
80 (2.8)	727 (28.6)	400 (15.7)	11 (24.6)
180 (6.4)	889 (35)	600 (23.6)	23 (50.6)

Caution: these measurements are for general reference only. Please consult dimensional drawing for exact measurements