

Application

Volumetric feeding of free flowing to very poorly flowing powders (e.g. lumpy, moist or bridge building materials) as well as fibers, flakes and other bulk materials.

The feeder can be upgraded to a loss-in-weight feeder system at any time.

Design

Twin 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.

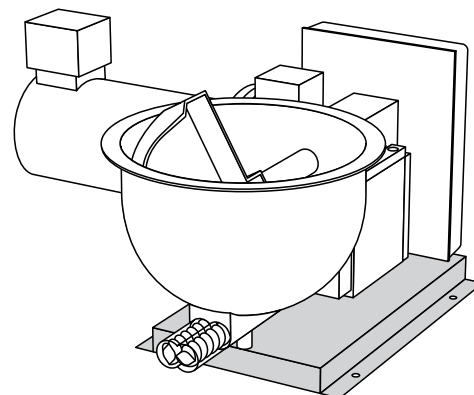
Feeder screws are easily interchangeable.

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)

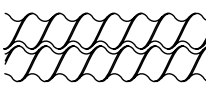
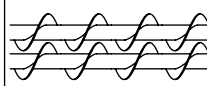
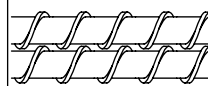
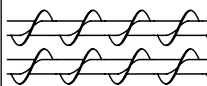


K-MV-KT20 on base plate for units with hoppers up to 80 liters

Feed Screws and Sample Feed Rates

Feeder screws are determined based on the material being fed. The theoretical throughput range of 1:100 is influenced by feeder configuration and material characteristics. The sample feed rates below were tested with a free-flowing material (semolina, bulk density 0.783 kg/dm³).

Attention: Actual feed rates depend on individual material characteristics. At higher screw speeds a poorly flowing powder may only achieve 30-50% of the throughput possible with a free-flowing material due to reduced degree screw fill. For feed rates at the upper or lower limits of the theoretical range, check with a Coperion K-Tron Test Lab.

Pitch		 Twin concave screws	 Twin auger screws	 Twin spiral screws	 Double auger screws	Screw speed range	Gearbox type
coarse pitch	dm ³ /h	2.8 - 254	4.2 - 371	3.0 - 288	3.1 - 254	7.5 - 746	A
	ft ³ /h	0.10 - 8.97	0.15 - 13.10	0.11 - 10.17	0.11 - 8.97		
	dm ³ /h	1.6 - 148	2.4 - 237	1.9 - 171	2.0 - 167	3.6 - 357	B
	ft ³ /h	0.056 - 5.22	0.085 - 8.37	0.067 - 6.04	0.071 - 5.90		
	dm ³ /h	0.7 - 66	1.1 - 97	0.8 - 78	0.8 - 77	1.5 - 154	C
	ft ³ /h	0.025 - 2.33	0.039 - 3.42	0.028 - 2.75	0.028 - 2.72		
fine pitch	dm ³ /h	1.5 - 138	1.2 - 112	1.9 - 185	2.3 - 202	7.5 - 746	A
	ft ³ /h	0.053 - 4.87	0.042 - 3.95	0.067 - 6.53	0.081 - 7.13		
	dm ³ /h	0.9 - 81	0.7 - 65	1.2 - 109	1.5 - 124	3.6 - 357	B
	ft ³ /h	0.032 - 2.86	0.025 - 2.29	0.042 - 3.85	0.053 - 4.38		
	dm ³ /h	0.4 - 36	0.3 - 29	0.5 - 49	0.6 - 57	1.5 - 154	C
	ft ³ /h	0.014 - 1.27	0.011 - 1.02	0.018 - 1.73	0.021 - 2.01		

Feed rates shown are with DC motor and KCM controller (Range 1:100 / Max. motor speed 2000 RPM).

For feed rates with vector-duty AC motor with speed pick-up and KCM controller multiply values by 0.875 (Range 1:100 / Max. motor speed 1750 RPM).

Pre-reducer with a reduction of 1:4 available for use with B or C gearboxes and DC motor.

Configuration

Description	Selection	Remarks	Weight kg [lb]
Vertical agitator	3x400/230 V 180/250 W KA: 115/230 VAC 0.25, 0.33 HP or 100/200 VDC 0.33 HP	4D (50 L, 80 L) 6D (110 L, 180L)	25 [55] 36 [79]
Cover		2D 4D 6D	1 [2.2] 2.5 [5.5] 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	A B C B+V C+V		6 [13.2]
Motor	100/200 VDC 450 W IP65 CKS: 3x230 VAC CKA: 3x220 VAC 370/450 W IP65	standard: 450 W DC	12 [26.4]
Screws		see page 1	2 [4.4]
Outlet	Horiz. outlet Vertical outlet Pressure compensation	standard: horiz. outlet	1 [2.2]

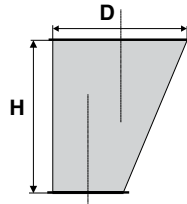
Materials:

Material 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, Silicone
Painting: Light gray RAL 7035

Temperature-Limits:

Ambient: 0...40°C [32...104°F]
Material: 0...50°C [32...122°F]
for other material temperatures contact factory



Volume dm³ [ft³]	H mm [in]	D mm [in]	Weight kg [lb]
Asymmetrical Hoppers			
50 [1.76]	615 [24.2]	400 [15.75]	7 [15.4]
80 [2.8]	869 [34.2]	400 [15.75]	11 [24.2]
110 [3.88]*	922 [36.3]	600 [23.62]	17 [37.4]
180 [6.4]*	1176 [46.3]	600 [23.62]	23 [50.6]
Cylindrical Hoppers			
10 [0.35]	283 [11]	220 [8.66]	3 [6.6]
20 [0.71]	566 [22.28]	220 [8.66]	6 [13.2]

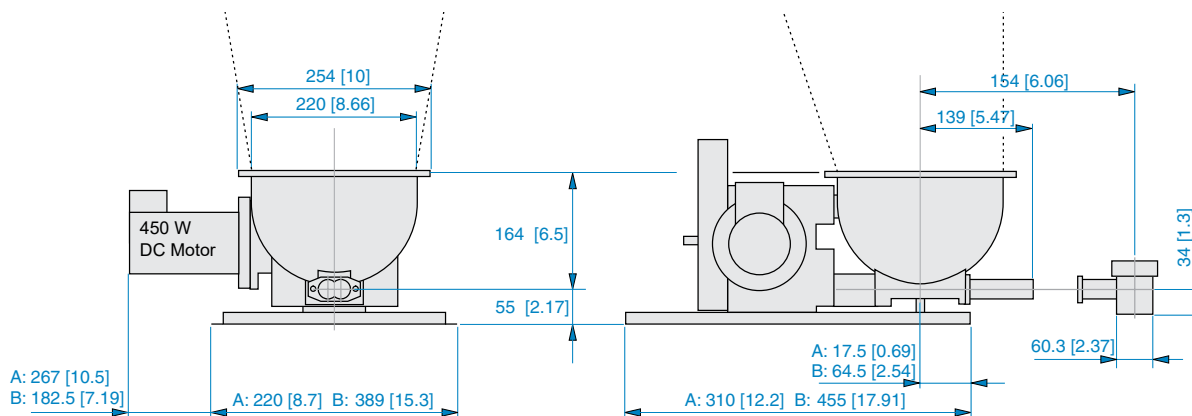
* require support

Dimensions mm [in]

A: Baseplate dimensions for hoppers up to 80 liters
B: Baseplate dimensions for 110 liter hoppers or larger

Options

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



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