

Each Coperion K-Tron gravimetric feeder consists of the components A, B, C and D.

Component A is specified here.

## Application

Gravimetric 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.

## Design

Twin screw feeder with interchangeable feeding tools mounted on a D5 platform scale. All parts in contact with the material being fed are stainless steel. The scale housing is stainless steel and completely enclosed. 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 all applicable European Directives (e.g. Machinery, EMC).

**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:

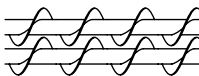
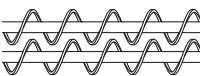
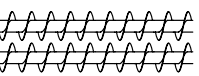
NEC Class II, Div. 2, Groups F & G / Class II, Div. 1, Groups F & G  
Class I, Div. 2, Groups C & D / Class I, Div. 1, Groups C & D  
ATEX 3D/3D, 3D/2D, 3G/3G, 2D/2D, 2G/2G (outside/inside)



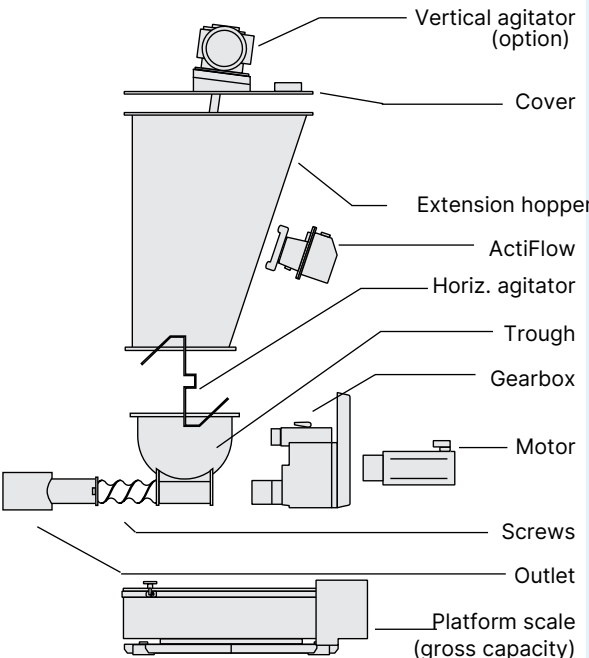
## Feed Screws and Sample Feed Rates

Feeder screws are determined based on the material being fed. The theoretical throughput range 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 will not achieve the full 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 | Max. screw speed |
|--------|-------|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|------------------|
| coarse | dm³/h | 3.1 - 1466                                                                                              | 5.6 - 2346                                                                                            | 3.6 - 1446                                                                                              | 4.6 - 1772                                                                                                | 621 RPM          |
|        | ft³/h | 0.11 - 51.75                                                                                            | 0.2 - 82.81                                                                                           | 0.13 - 51.04                                                                                            | 0.16 - 62.55                                                                                              |                  |
| fine   | dm³/h | 2.3 - 952                                                                                               | 2.6 - 1418                                                                                            | 1.9 - 1058                                                                                              | 2.5 - 1298                                                                                                |                  |
|        | ft³/h | 0.08 - 33.61                                                                                            | 0.09 - 50.06                                                                                          | 0.07 - 37.35                                                                                            | 0.09 - 45.82                                                                                              |                  |

Feed rates shown are with servo motor and KCM controller (max. motor speed 2000 RPM). For feed rates with DC or AC motors consult factory.

| Configuration                                                                     | Description                     | Alternatives                                                                                                           | Remarks                       | Weight kg [lb]                |
|-----------------------------------------------------------------------------------|---------------------------------|------------------------------------------------------------------------------------------------------------------------|-------------------------------|-------------------------------|
|  | Vertical agitator (option)      | EMEA/Asia: 230/400 VAC 180, 250 W, IP55<br>Americas: 230/460 VAC 0.25, 0.33 HP                                         | 4D (50 L, 80 L)<br>6D (110 L) | 25 [55]<br>36 [79]            |
|                                                                                   | Cover                           |                                                                                                                        | 2D<br>4D<br>6D                | 1 [2.2]<br>2 [4.4]<br>3 [6.6] |
|                                                                                   | Extension hopper                |                                                                                                                        | 2D, 4D or 6D                  | see below                     |
|                                                                                   | ActiFlow                        |                                                                                                                        | option (4D, 6D)               | 9.6 [21.6]                    |
|                                                                                   | Horiz. agitator                 |                                                                                                                        |                               | 0.7 [1.5]                     |
|                                                                                   | Trough                          | 5 L                                                                                                                    |                               | 2.5 [5.5]                     |
|                                                                                   | Gearbox                         |                                                                                                                        |                               | 15 [33]                       |
|                                                                                   | Motor                           | Servo motor - 800 W, 240 VAC, IP65<br>KCM-III requires 230 VAC single phase (US split-phase, 3 wire balanced, L1-N-L2) |                               | 5.8 [12.8]                    |
|                                                                                   | Screws                          |                                                                                                                        | see page 1                    | 2 [4.4]                       |
|                                                                                   | Outlet                          | Horiz. outlet   Vertical outlet   Pressure compensation                                                                | standard: horiz. outlet       | 1 [2.2]                       |
|                                                                                   | Platform scale (gross capacity) | 60 kg 132 lb   120 kg 264 lb   200 kg 440 lb                                                                           | D5 IP65, NEMA 4               | 32 [70]                       |

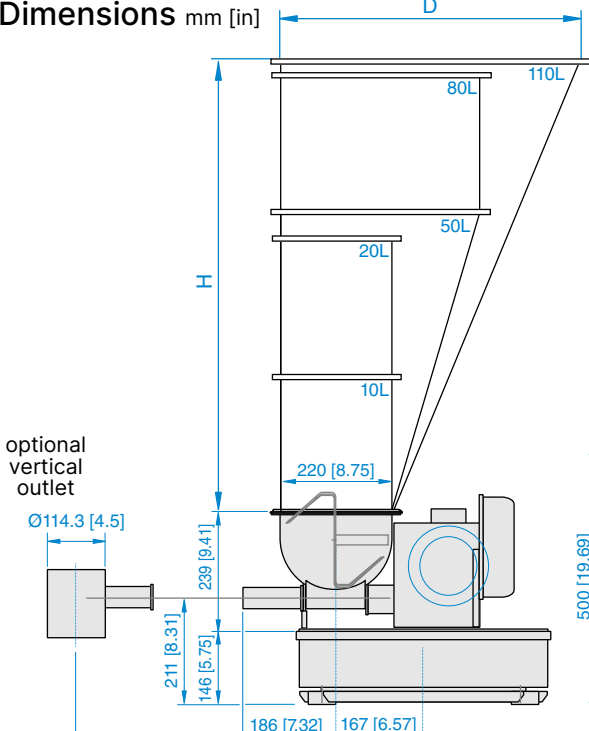
**Materials:**  
Product contact parts\*: Stainless steel  
EN 1.4404, 1.4435 (AISI 316L)  
EN 1.4409 (ASTM A743 CF3M)  
\*Horiz. agitator: EN 1.4034 (AISI 420) standard  
EN 1.4404 (AISI 316L) option  
Seals: PTFE, Neoprene, silicone

**Weighing Range:**  
Gross scale capacity (60, 120 or 200 kg) less total feeder weight.

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

**Painting:** Light gray RAL 7035

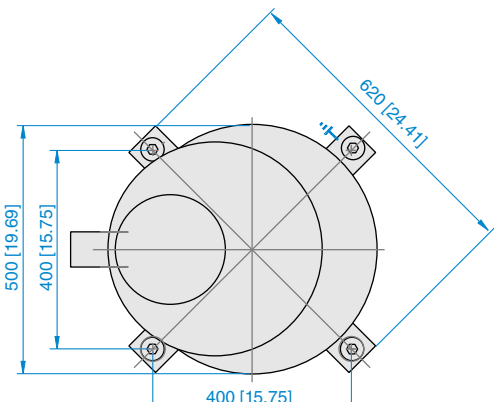
**Dimensions** mm [in]



| Volume dm³ [ft³]            | H mm [in]   | D mm [in]   | Weight kg [lb] |
|-----------------------------|-------------|-------------|----------------|
| <b>Asymmetrical Hoppers</b> |             |             |                |
| 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]      |
| <b>Cylindrical Hoppers</b>  |             |             |                |
| 10 [0.35]                   | 283 [11]    | 220 [8.66]  | 3 [6.6]        |
| 20 [0.71]                   | 566 [22.28] | 220 [8.66]  | 6 [13.2]       |

**Options**

- 1 Hopper
- 2 Vertical outlet
- 3 Special paint
- 4 Extended screws



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