

- Ext. communication to Host System
- A Feeder
  - B Weighing System
  - C Control Module
  - D Operator Interface

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

Component A is specified here.

## Application

Gravimetric feeding of free flowing powders, granules and other bulk materials.

## Design

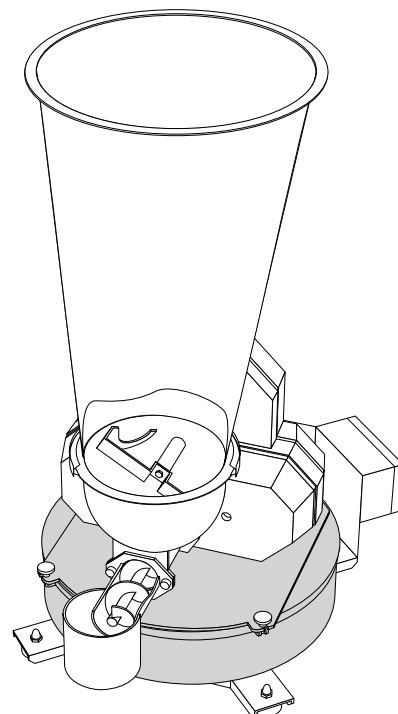
Single screw feeder with interchangeable feeding tool mounted on a D5 weigh bridge. The weigh bridge is stainless steel and the scale housing is completely enclosed. All parts in contact with the material being fed are stainless steel. Feeding equipment is easy to disassemble. The horizontal agitator 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-0000002)

- 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 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. For feed rates at the upper or lower limits of the theoretical range, check with a Coperion K-Tron Test Lab.

| Pitch  | DN Screw (Tube) | Auger screws |             |             |              |             | Spiral screws |             |              |              |             | Gearbox |
|--------|-----------------|--------------|-------------|-------------|--------------|-------------|---------------|-------------|--------------|--------------|-------------|---------|
|        |                 | ø15 (15)     | ø25 (30)    | ø40 (40)    | ø50 (50)     | ø60 (60)    | ø15 (15)      | ø25 (30)    | ø40 (40)     | ø45 (50)     | ø60 (60)    |         |
| coarse | dm³/h           | 0.78 - 70.1  | 3.84 - 354  | 12 - 1041   | 38 - 2740    | 54 - 4404   | 0.76 - 74.4   | 4.14 - 383  | 15.2 - 1320  | 32.8 - 2335  | 58 - 3669   | High    |
|        | ft³/h           | 0.03 - 2.47  | 0.14 - 12.5 | 0.42 - 36.7 | 1.34 - 96.72 | 1.91 - 155  | 0.03 - 2.63   | 0.15 - 13.5 | 0.54 - 46.6  | 1.16 - 82.43 | 2.05 - 130  |         |
|        | dm³/h           | 0.15 - 14.5  | 0.82 - 78   | 2.7 - 233   | 7.4 - 657    | 11 - 1000   | 0.15 - 15.8   | 0.83 - 80   | 3.1 - 287    | 8.17 - 600   | 12 - 976    | Low     |
|        | ft³/h           | 0.01 - 0.51  | 0.03 - 2.75 | 0.1 - 8.22  | 0.26 - 23.2  | 0.39 - 35.3 | 0.01 - 0.56   | 0.03 - 2.82 | 0.11 - 10.13 | 0.29 - 21.18 | 0.42 - 34.5 |         |
| fine   | dm³/h           | --           | 1.88 - 183  | 6.9 - 673   | 21.7 - 1965  | 31 - 2752   | --            | 2.16 - 199  | 8.1 - 794    | 19.4 - 1690  | 34 - 3002   | High    |
|        | ft³/h           | --           | 0.07 - 6.46 | 0.24 - 23.8 | 0.77 - 69.4  | 1.09 - 97.2 | --            | 0.08 - 7.02 | 0.29 - 28    | 0.68 - 59.7  | 1.2 - 106   |         |
|        | dm³/h           | --           | 0.42 - 37   | 1.4 - 140   | 4.4 - 433    | 6 - 576     | --            | 0.46 - 42   | 1.7 - 165    | 4.19 - 393   | 7 - 639     | Low     |
|        | ft³/h           | --           | 0.01 - 1.31 | 0.05 - 4.94 | 0.16 - 15.3  | 0.21 - 20.3 | --            | 0.02 - 1.48 | 0.06 - 5.82  | 0.15 - 13.9  | 0.25 - 22.6 |         |

Screw speed (RPM): Gearbox **High (3.6:1)** = 5.6 - 555 **Low (18:1)** = 1.1 - 111

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).

# Coperion K-Tron Product Specification Loss-in-Weight Single Screw Feeder

**K2-ML-D5-S60**

## Configuration

| Description                   | Alternatives                                                  | Remarks                 | Weight kg (lb) |
|-------------------------------|---------------------------------------------------------------|-------------------------|----------------|
| Vertical agitator             | KS: 230/400 VAC<br>180 250 W<br>IP55                          | 4D (50 L, 80 L)         | 25 (55)        |
|                               | KA: 115/230 VAC<br>0.25, 0.33 HP<br>or 100/200 VDC<br>0.33 HP | 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 VDC<br>450 W<br>IP65                                  | standard: 450 W DC      | 12 (26.4)      |
|                               | CKS: 3x230 VAC<br>CKA: 3x220 VAC<br>370/450 W<br>IP65         |                         |                |
| Screws                        |                                                               | see page 1              | 2 (4.4)        |
| Outlet                        | Horiz. outlet                                                 | standard: horiz. outlet | 1 (2.2)        |
|                               | Vertical outlet                                               |                         |                |
|                               | Pressure compensation                                         |                         |                |
| Weigh bridge (gross capacity) | 60 kg<br>132 lb                                               | D5<br>IP65, NEMA 4      | 32 [70]        |
|                               | 120 kg<br>264 lb                                              |                         |                |
|                               | 200 kg<br>440 lb                                              |                         |                |

### 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 gray RAL 7035

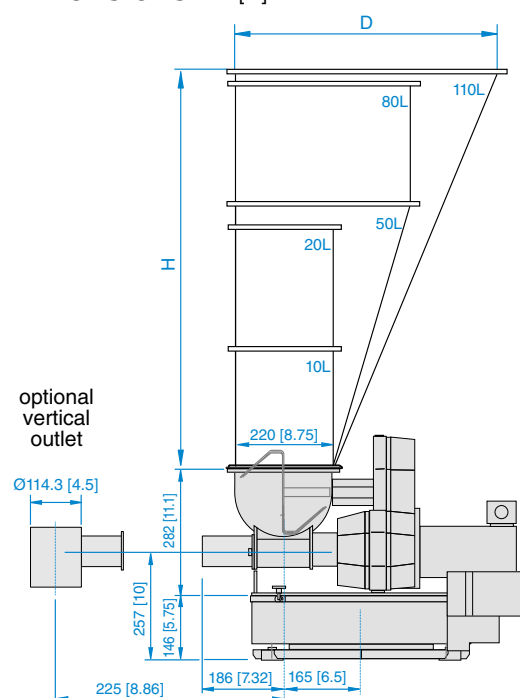
### Weighing Range:

Gross weighbridge 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

## Dimensions mm [in]

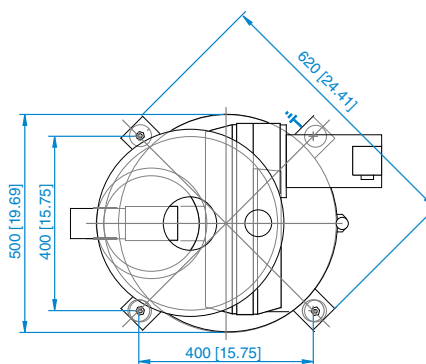


| Ø Screw<br>mm [in] | Ø Tube<br>mm [in] |
|--------------------|-------------------|
| 60 [2.4]           | 70 [2.76]         |
| 50 [2]             | 60.3 [2.4]        |
| 40 [1.6]           | 48.3 [1.9]        |
| 25 [1]             | 33.7 [1.32]       |
| 15 [0.6]           | 21.3 [0.84]       |

| Volume<br>dm³ [ft³]         | H<br>mm [in] | D<br>mm [in] | Weight<br>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 Standard hopper
- 2 Vertical outlet
- 3 Special paint / finish
- 4 Extended screws



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