

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

Component A is specified here.

Application

The Smart Weigh Belt Feeder is used for continuous controlled gravimetric feeding of bulk materials. The unit can also be used for gravimetric batch feeding or for continuous metering of bulk material flow.

The SmartConnex™ control system allows individual or a multi-component control. Interface-modules for computer communication are installed in the control module.

Design

The stainless steel belt conveyor frame includes the primary material weigh bridge and an optional secondary continuous auto tare weigh bridge. The conveyor frame is removable on a telescopic support structure.

The continuous woven belt is driven by a EPDM (FDA approved) coated discharge pulley. Continuous belt tensioning is achieved through a spring loaded assembly and belt removal is accomplished through a simple release of that assembly. Continuous automatic belt tracking is assured by Coperion K-Tron's well proven tracking and internal belt cleaning technology. A secondary internal belt scraper is employed prior to the idler pulley. The idler and drive pulley are equipped with stainless steel scrapers and the external surface of the belt is scraped clean at the discharge point.

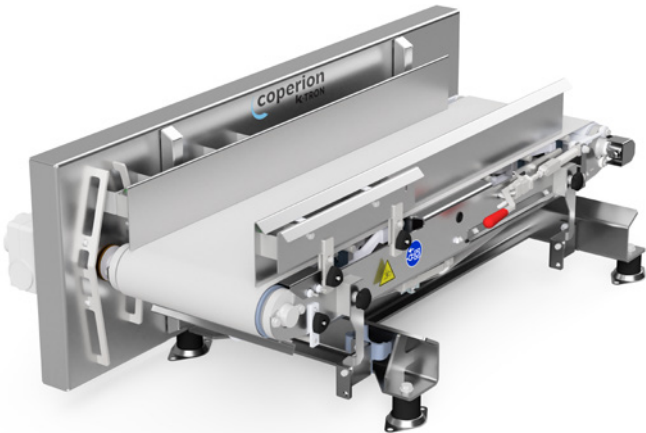
Material flow onto the belt/weigh bridge is set through a customized inlet chute. The flow must line up exactly with the weighing platform. Side skirts prevent material spillage on the conveyor.

The unit is supplied with a servo drive motor and robust helical/ worm 90° gear reducer. Belt speed is sensed via an optical encoder on the idler pulley (for general purpose applications). The servo motor features an integrated speed encoder which makes it possible to detect belt slippage without additional sensors.

Feed Rates

Belt speeds are controlled to within +/- 1 RPM. Rates may vary with materials and conditions.

For sticky bulk materials or very low belt load (<1 kg/m for the SWB-300 or <2 kg/m for the SWB-600) we recommend the twin scale configuration for optimal accuracy.



SWB-300 Open Frame  
(belt width 300mm)

Material weight on the primary weigh deck and belt tare weight on the secondary weigh deck are determined by Coperion K-Tron's advanced SFT weighing technology with vibration and temperature immunity, zero deflection and resolution of 1:8,000,000 in 20ms. The control employs belt segmentation and weight shift technology to achieve control of material rate at the discharge point.

This equipment conforms to all applicable European Directives (e.g. Machinery, EMC).

The SWB300 and SWB600 can be supplied as open (shown here) or closed frame (see S-030201) units .

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, 3G, 2D, 2G

Three standard widths of inlet gates are available:

SWB-300: 75mm (3"), 150mm (6"), 230mm (9")  
SWB-600: 300mm (12"), 375mm (15"), 450mm (18")

|           | dm³/h       | ft³/h       |
|-----------|-------------|-------------|
| SWB-300-O | 10 – 40 000 | 0.4 – 1 400 |
| SWB-600-O | 20 – 80 000 | 0.7 – 2 800 |

Rates may vary with materials and conditions.

## Technical Data

### Materials of Construction:

Frame: Stainless steel, EN 1.4301 (AISI 304),  
220 ground and brushed (No. 4)

Conveyor: Stainless steel, EN 1.4301 (AISI 304),  
electropolished

Material contact  
surfaces: Stainless steel EN 1.4404 (AISI 316L)  
electropolished

Weigh bridge: Aluminium, cast, powder coated

Belt: Silicone or Polyurethane

Gaskets/Seals: White or gray FDA conforming material

### Painted surfaces:

Motors and reducers: RAL 7035 (light gray)

### Motor:

Servo motor - 800 W, 240 VAC, IP65  
*KCM-III requires 230 VAC single phase  
(US split-phase, 3 wire balanced, L1-N-L2)*

### Reducer:

Helical/Worm 90°, 19.89:1

### SFT III protection:

IP65, NEMA 4

### Design pressure:

atmospheric

### Temperature rating:

Ambient temperature: 0... 40°C [32...104°F]

Process material: 0...50°C [32...122°F]

Temperature change: < ± 5°C [± 9°F] per hour

### High temperature option\*:

Process material: 0...80°C [32...176°F]

*\*max. temp. possible in ATEX applications is 55°C [131°F] for XPC2 and 60°C [140°F] for XPC3*

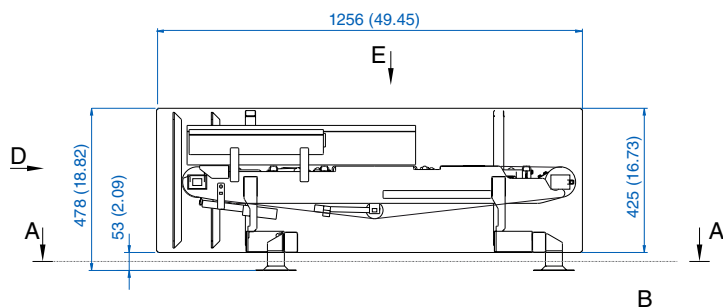
|                     |           |                 |
|---------------------|-----------|-----------------|
| Shipping weight:    | SWB-300-O | 125 kg [275 lb] |
| (without packaging) | SWB-600-O | 160 kg [352 lb] |

## Options:

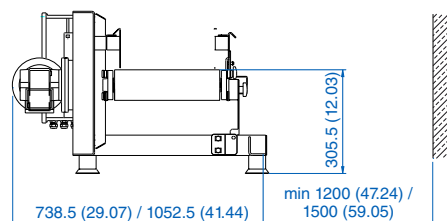
- Second weigh deck for autotare
- Mounting stands
- Special paint
- Right hand frame construction
- Food Grade version
- High temperature version
- Belt slippage detection (for DC motors)

## Dimensions SWB-300-O / SWB-600-O *Drawing not to scale.*

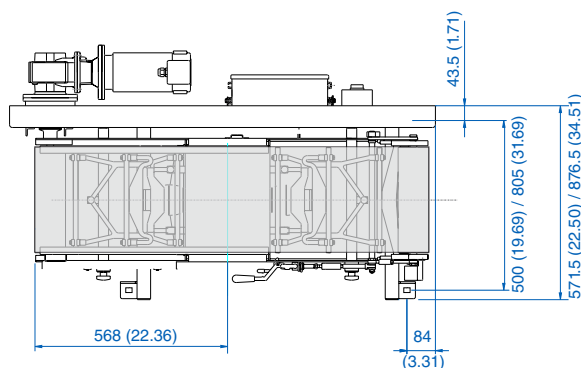
Measurements shown for SWB-300 -O followed by SWB-600-O in mm(in). Where one measurement is shown it applies to both models.



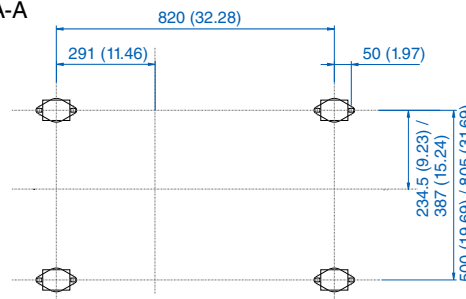
VIEW D



VIEW E



A-A



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