

- A Weigh belt feeder
- B Control Module
- C Operator interface
- External communication

Each Coperion K-Tron Smart Weigh Belt Feeder consists of the components A, B and C.

Component A is specified in this spec sheet.

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.

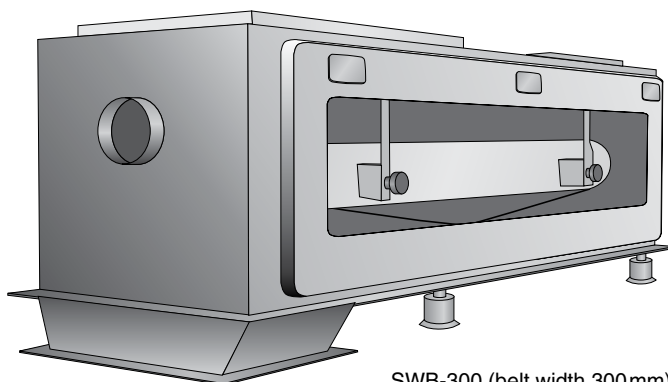
The SmartConnex™ control system allows individual or a multi-component control. Interface-modules for computer communication are installed in the control module.

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 from the stainless steel housing. Gasketed side and top covers include full length windows and, when mounted, provide for a dust tight enclosure (the SWB-600 only has a window in the front cover).

The continuous woven belt is driven by an 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.

The unit is supplied with a DC 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).



SWB-300 (belt width 300mm)

Material flow onto the belt/weigh bridge is set through a stainless steel inlet chute with adjustable gate height. Side skirts prevent material spillage on the conveyor.

Material weight on the primary weigh deck and belt tare weight on the secondary weigh deck are determined by Coperion K-Tron's patented 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.

The unit can be supplied with pre-feeder units such as rotary valves, screw feeders or vibratory trays.

The SWB-300 and SWB-600 are available as closed (shown above) or open frame (see S-030202) units.

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, 3G/3G, 2GD/2GD (outside/inside)

Feed Rates

Belt speeds are controlled to within +/- 1 RPM over a 100:1 range from full motor speed. Three standard ranges of drive reducers are available: 19.89:1, 43.68:1, 80.96:1. Three standard widths of inlet gates are available:

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

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.

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

Rates may vary with materials and conditions.

Technical Data

Materials of Construction:

Housing:	Stainless steel, DIN 1.4301 [AISI 304], 220 ground and brushed [No. 4]
Conveyor:	Stainless steel, DIN 1.4301 [AISI 304], electropolished
Weigh bridge:	Aluminium, cast, powder coated (FDA approved)
Material contact surfaces:	Stainless steel DIN 1.4404 [AISI 316L], electropolished
Belt:	Silicone or Polyurethane
Gaskets/Seals:	White or gray FDA conforming material
Access doors:	ABS (Acrylonitrile Butadiene) with PET windows

Painted surfaces:

Motors and reducers: RAL 7035 (light gray)

Motor:	standard: 100/200 VDC, 450 W, IP65, NEMA 12 Flange mounting IEC 71/B5 (56 C Face) option: 3x230 or 3x220 VAC, 370/450 W, IP65 Flange mounting IEC
Reducer:	Helical/Worm 90° 19.89:1, 43.68:1, 80.96:1
SFT III protection:	IP65, NEMA 4
Speed pickup protection:	IP65, NEMA 4
Min. batch size:	0.5 kg (1 lb)

Design pressure: atmospheric

Temperature:

Process material:	0...40.5°C (32...105°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)	

Air flow for dust exhausting:

SWB-300:	22 m³/h (777 ft³/h)
SWB-600:	44 m³/h (1554 ft³/h)

Shipping weight:	SWB-300	140 kg (308 lb)
(without packaging)	SWB-600	180 kg (396 lb)

Options:

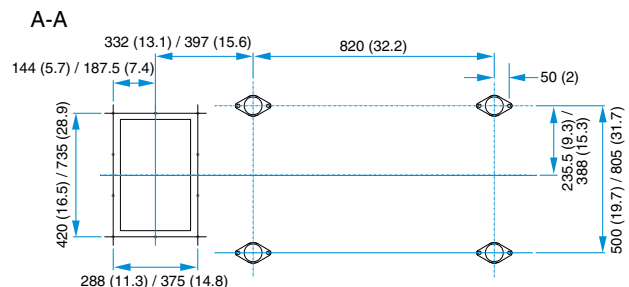
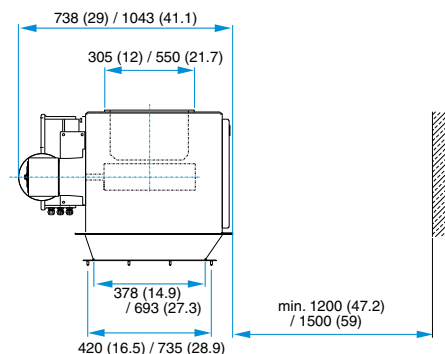
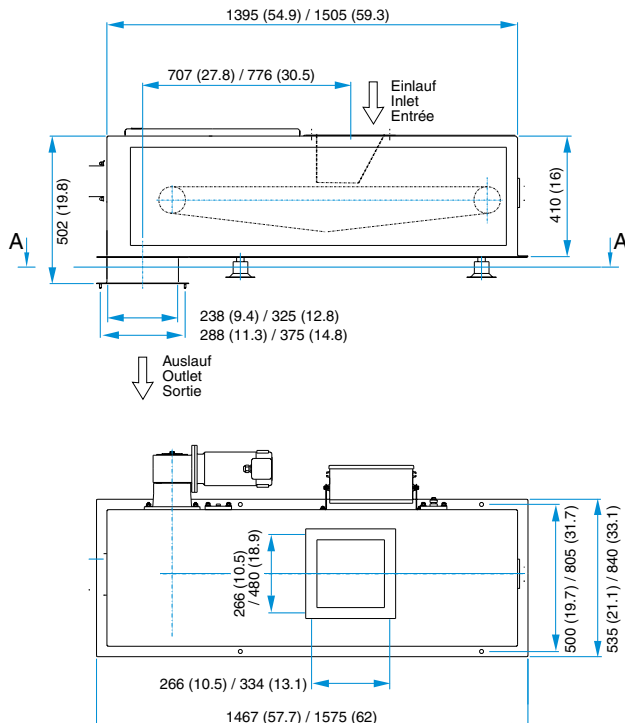
- Second weigh deck for autotare
- Belt slippage detection
- Inlet shutoff gate
- Flexible connections
- Sampling valves (automatic and manual)
- Mounting stands
- Vibrating inlet
- Inlet hoppers
- Special paint
- Service cover in stainless steel without window
- Right hand frame construction
- Design pressure up to 5 or 10 mbar(g)
- Food grade version
- High temperature version

Dimensions SWB-300 / SWB-600

Measurements shown for SWB-300 followed by SWB-600 in mm(in).

Where one measurement is shown it applies to both models.

Drawing not to scale.



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