

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

Component A is specified here.

Application

Gravimetric feeding of dry coating powder blends into a calendering process in order to produce a uniform sheet of material. Developed for lab and pilot lines in battery electrode manufacturing processes, to feed a blend of battery active materials and binders.

Design

Roller feeder suspended on two load cells. The combination of grooved feed roller and smooth scraper roller ensures gentle, consistent feeding and even material distribution. The coating width can be freely adjusted up to 400 mm [15.75 in]. Both rollers are replaceable. All parts in contact with the material are stainless steel or anodized aluminum.

Cooling ports are included to allow the use of optional compressed air within the hopper walls, which may facilitate the processing of certain sensitive materials.

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:

ATEX *consult factory*
NEC *consult factory*

Feed Rates

The actual feed rates depend on the individual material characteristics, which vary depending on the blend and pre-processing (e.g. the degree of fibrilization). The maximum feed rate depends on the coating width and compaction of material within the inlet hopper.

Sample Feed Rate

Up to 50 dm³/h [1.77 ft³/h] at a coating width of 400 mm [15.75 in] feeding dry coating blends with a density range of 0.4 – 1.5 kg/dm³, [25 – 93.6 lb/ft³] and with moderate flow properties. The blends typically include active materials (anode or cathode) as well as conductive and binder additives, such as PTFE.

Attention: For confirmation of feed rates with a specific material, check with a Coperion K-Tron Test Center.

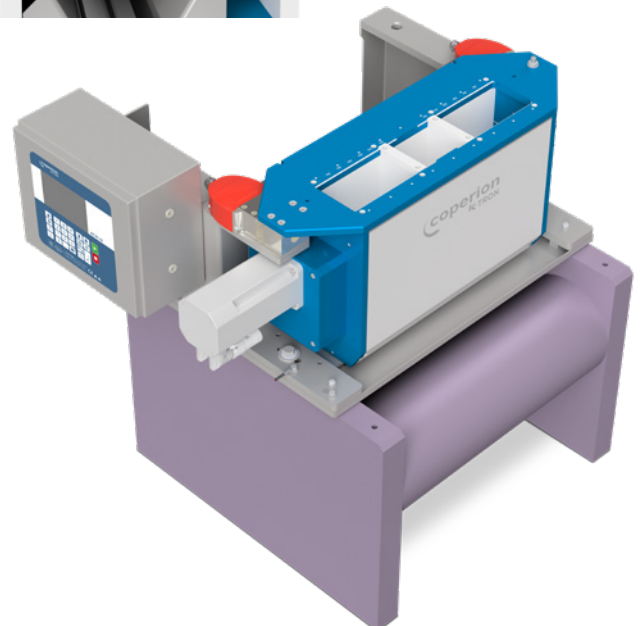


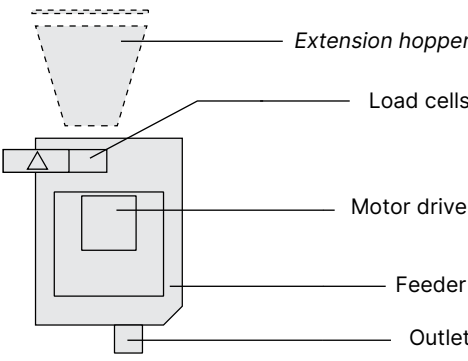
Above: Roller feeder base unit with load cells



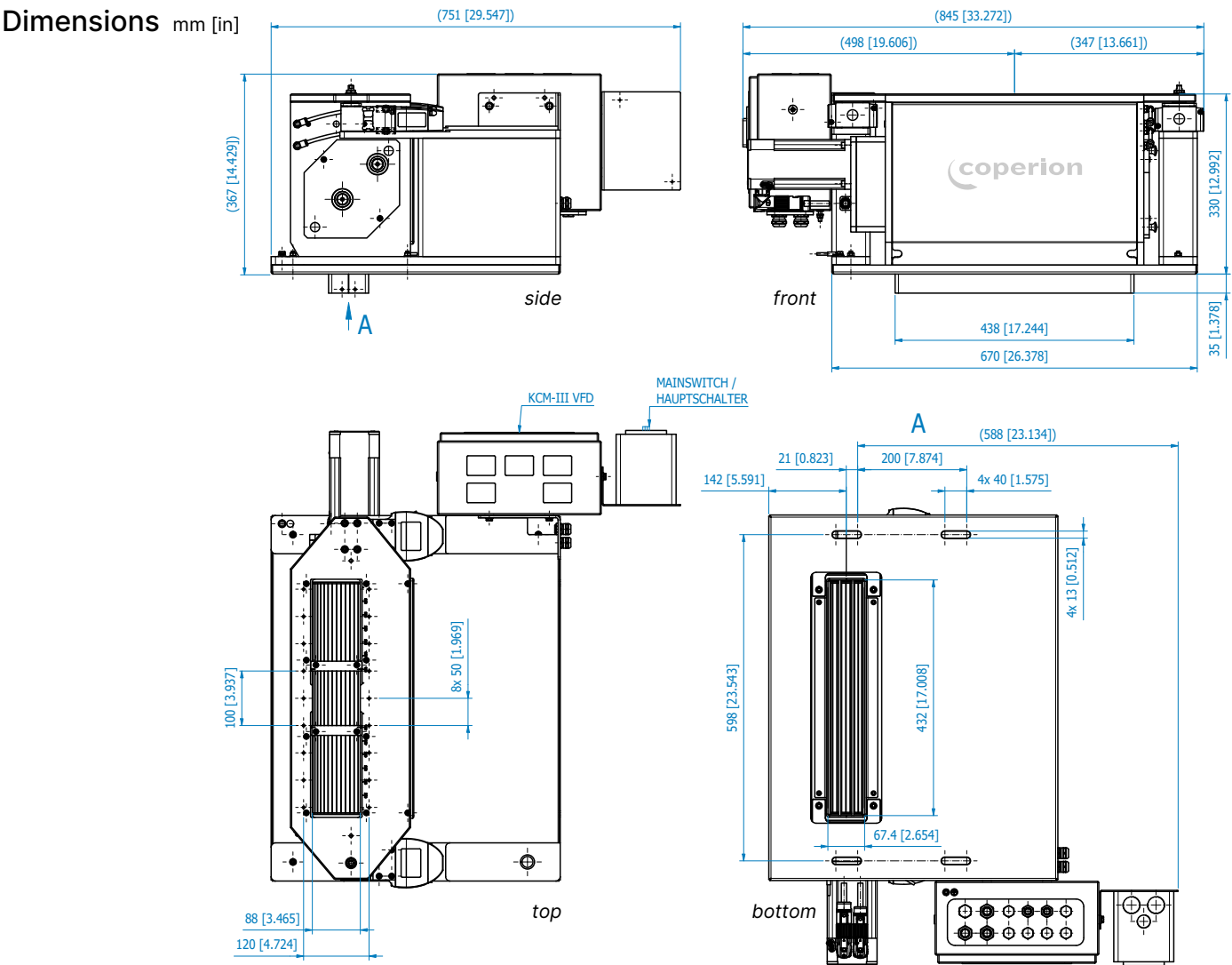
Left: Detail of roller configuration

Below: Roller feeder mounted over calender rollers



Configuration	Description	Alternatives	Remarks	Weight kg [lb]
	Extension hopper		project-specific	42 kg [92.4 lb]
	Load cells		2x K-SFT-III IP65, NEMA 4	
	Motor drive	Servo motor - 800* W, 240 VAC, IP65 * max. output limited by controller KCM-III requires 230 VAC single phase (US split-phase, 3 wire balanced, L1-N-L2)		
	Feeder	Buffer volume: up to 4 dm³ [0.14 ft³]		
	Outlet			
Full unit including baseplate and controls				90 kg [198 lb]

Materials:	Weighing Range:	100 kg [220 lb] gross
Material contact: Aluminum EN AW-6082 anodized, stainless steel DIN 1.4306 [AISI 304L], PMMA	Temperature-Limits:	
Seals & O-Rings: Silicone	Operating temp.: 0...50°C [32...122°F]	
Paint: Light gray RAL 7035	Material temp.: 0...50°C [32...122°F]	



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