

- 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.

Applications

Accurate gravimetric feeding of liquids in either continuous or batch operation for applications in various industries such as batteries, high-moisture meat analogues, recycling, plastics, chemicals or pharma.

The liquid is metered by a pump outside the scale area. The feed pump is selected according to the desired feeding capacity and the characteristics of the liquid to be fed.

Each liquid feeder is tailored to the parameters of the customer process. This specification sheet offers an overview of the available configurations.

Design

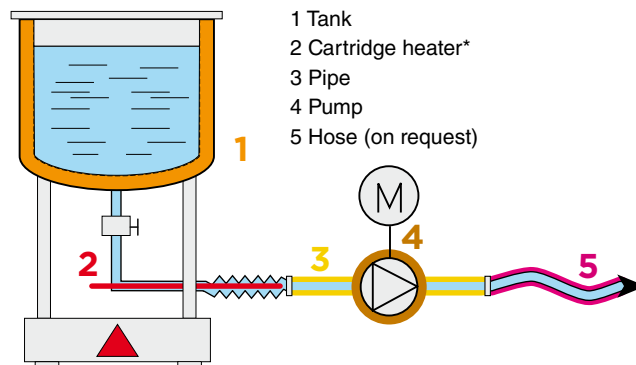
The foundation of this modular liquid feeder is a base frame, available in various lengths and widths, which can be outfitted with optional feet or casters. The pump and weigh bridge (D5/SFS platform scale or 3 SFTs with support frame) are mounted on the base frame. The exclusive, patented Smart Force Transducer (SFT) weighing technology features vibrating wire technology and an on-board microprocessor. The storage tank is mounted on the scale. A flexible connecting line is required between tank and pump. Depending on the application, additional options such as heating can be supplied as well.

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.

Heating Concept

The heating system is designed to maintain a constant temperature - it is not intended to heat up the product. There are five heating zones.



- 1 Tank
- 2 Cartridge heater*
- 3 Pipe
- 4 Pump
- 5 Hose (on request)

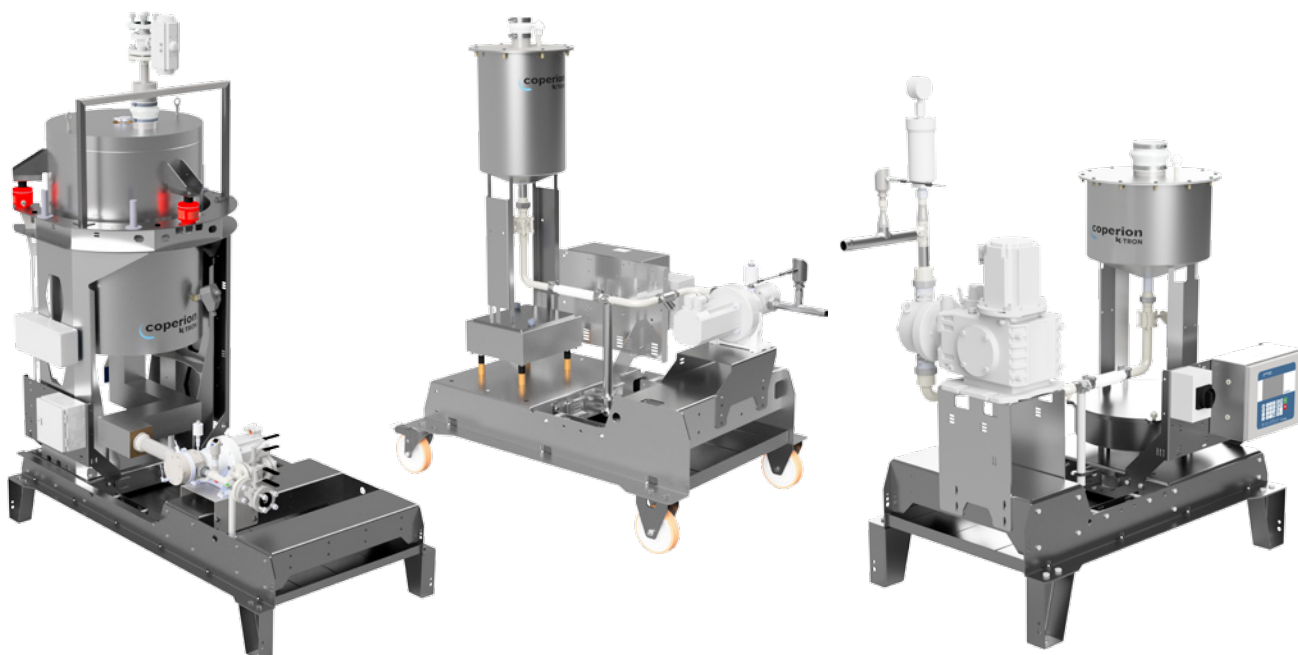
* For ATEX applications a heating jacket is used instead of the cartridge heater.

Images below (left to right)

K-ML-P liquid feeder on 3 SFTs with heated 200 liter tank and gear pump, optional drip tray and feet.

K-ML-SFS-P liquid feeder on an SFS scale with 15 liter tank and gear pump, optional drip tray and casters.

K-ML-D5-P liquid feeder on a D5 scale with 30 liter tank and diaphragm pump, optional drip tray and feet.



Technical Data

Pump

- Pump type (diaphragm, gear, excentric screw pump, etc) selected based on application
- Pump driven by a servo motor
- Feeding capacity based on to pump capacity

Standard Application Limits

- Feed range: 0.5 to 1,500 dm³/h
- Backpressure: 1 to 40 bar
- Viscosity: 1-10,000 mPas

Materials of construction

- Storage tank: Stainless steel
DIN 1.4404/1.4435, AISI 316L
- Frame and drip tray: Stainless steel
DIN 1.4301, AISI 304
- Platform scales: Stainless steel
DIN 1.4404/1.4435, AISI 316L
- SFT load cells: Powder coated cast aluminum
- Hose: Silicone, natural rubber, PTFE

- Tank insulation: 40 mm mineral wool mat with aluminum covering
- Hose insulation: Elastomer foam EPDM with aluminum covering

Weigh bridge

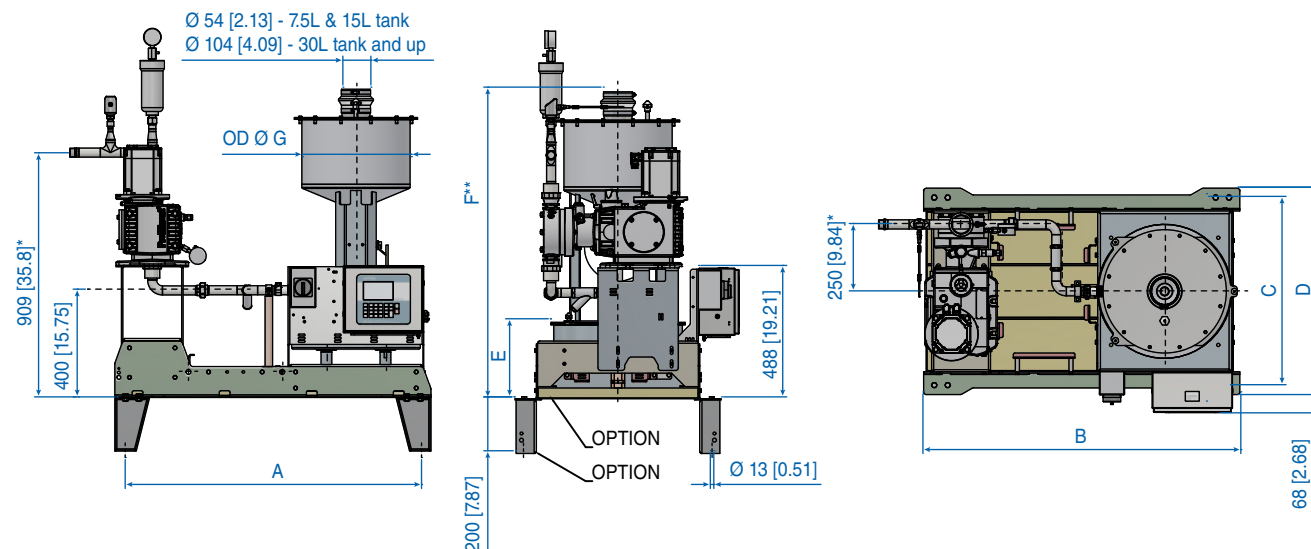
- Platform scale with gross weighing capacity:
 - SFS: 24 kg
 - D5: 45 / 60 / 120 / 200 kg
 - SFTs: 3 x 120 / 200 kg
- Enclosure protection: IP65

Options

- Feet (fixed or variable), casters
- Drip tray
- Heating (to maintain temperature)
- Level sensors
- Vertical agitator
- Hygienic design
- Nitrogen purging
- ATEX or NEC versions for hazardous locations

Dimensions mm [in]

Sample configuration shown with D5 scale, base frame 1180 x 770 mm, 30 liter tank with diaphragm pump, optional drip tray and feet



Base Frame

Type	Scale	A	B	C	D
mini	SFS	900 [35.43]	980 [38.58]	600 [23.62]	670 [26.38]
modular	SFS / D5	1100 [43.31]	1180 [46.46]	700 [27.56]	770 [30.31]
modular	D5	1400 [55.12]	1480 [58.27]	700 [27.56]	770 [30.31]
modular	D5	1700 [66.93]	1780 [70.08]	700 [27.56]	770 [30.31]
modular	D5 / SFTs	1100 [43.31]	1180 [46.46]	900 [35.43]	970 [38.19]
modular	D5 / SFTs	1400 [55.12]	1480 [58.27]	900 [35.43]	970 [38.19]
modular	D5 / SFTs	1700 [66.93]	1780 [70.08]	900 [35.43]	970 [38.19]

Tank

Volume	Scale	E	F	G	Outlet
7.5 dm ³	SFS	290 [11.42]	980 [38.58]	254 [10]	M38x1.5
15 dm ³	SFS	290 [11.42]	1180 [46.46]	254 [10]	M38x1.5
30 dm ³	D5	290 [11.42]	1150 [45.28]	404 [15.9]	M45x1.5
60 dm ³	D5	290 [11.42]	1400 [55.12]	404 [15.9]	M45x1.5
120 dm ³	D5	290 [11.42]	1550 [61.02]	504 [19.8]	M62x1.5
200 dm ³	SFTs	n/a	1700 [66.93]	604 [23.78]	M76x1.5
300 dm ³	SFTs	n/a	2050 [80.71]	604 [23.78]	M76x1.5

* these measurements may vary, depending on exact configuration

** heated version is slightly taller

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