

Application

Volumetric feeding of easily-flowing powders and granules. The feeding station is specially suited for quick changes of bulk materials with no clean-up time.

The feeder can be upgraded to a loss-in-weight feeder system at any time.

Design

Single screw feeder with a variety of feeding screws in a range of diameters.

Quick-change containing units (container itself and feeding tools) and easily exchangeable feeding tools for adaption to the various bulk-materials.

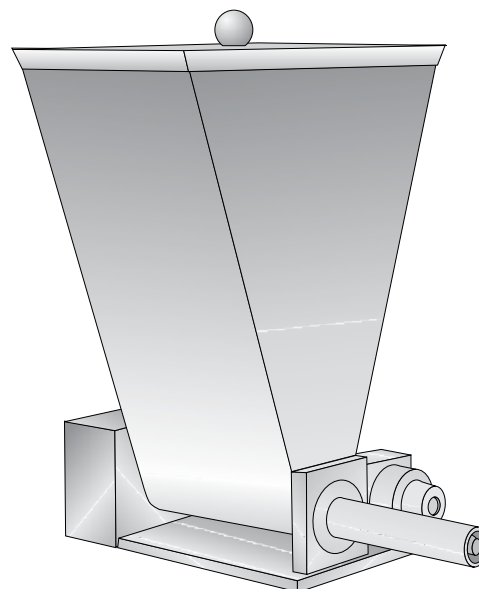
All parts in contact with the material being fed are stainless steel.

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-000002)

consult factory



Feed Screws and Sample Feed Rates

Feeder screws are determined based on the material being fed. The theoretical throughput range is influenced by feeder configuration and material characteristics. The sample feed rates below were tested with a free-flowing material (masterbatch, bulk density 0.84 kg/dm³, and semolina, bulk density 0.783 kg/dm³). **Attention:** Actual feed rates depend on individual material characteristics. At higher screw speeds a poorly flowing powder will not achieve the full throughput possible with a free-flowing material due to reduced degree screw fill. For feed rates at the upper or lower limits of the theoretical range, check with a Coperion K-Tron Test Lab.

Granule screws (feeding particles ca. 3 mm (0.12 in))					
Screw / tube diameter	mm	9 / 15	12 / 21.7	24 / 36	30 / 40
Pitch	mm	6	8	15	30
Feed rate	dm ³ /h	0.05 - 4.3	0.12 - 11.6	0.8 - 74.6	2.3 - 218
	ft ³ /h	0.002 - 0.15	0.004 - 0.41	0.028 - 2.63	0.081 - 7.70
Micro-granule screws (feeding particles <1 mm (0.039 in))					
Screw / tube diameter	mm	9 / 12 (US only)	12 / 15	24 / 28	30 / 36
Pitch	mm	6	8	15	30
Feed rate	dm ³ /h	0.06 - 2.3	0.06 - 5.6	0.6 - 48.4	2.0 - 183
	ft ³ /h	0.002 - 0.08	0.002 - 0.20	0.021 - 1.71	0.071 - 6.46

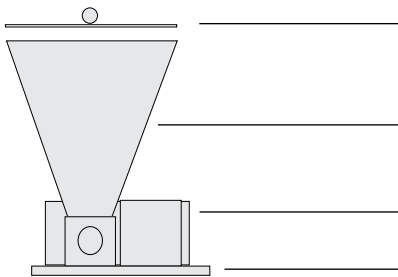
Screw speed range: 3 - 180 rpm.

The gravimetric feed rate in kg/h can be calculated from the bulk density.

Coperion K-Tron Product Specification Compact Volumetric Single Screw Feeder

K-CV-KQx4

Configuration

	Description	Alternatives	Remarks	Weight kg (lb)
	Cover	plastic stainless SS refill lid (standard)		9.2 (20.3)
	Hopper	5 dm³ (0.176 ft³) (standard) 11 dm³ (0.39 ft³)		
	Motor drive	124 W, 10:1 IP55, NEMA 12		
	Feeder	KQx4: screw sizes below		

Materials:

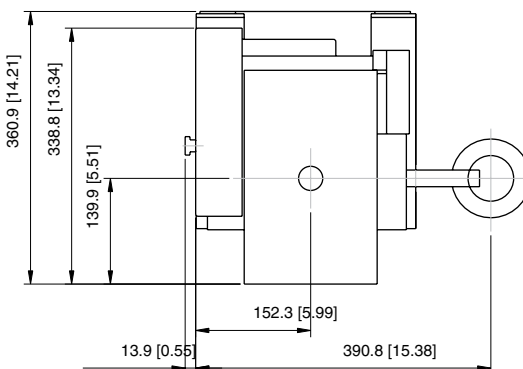
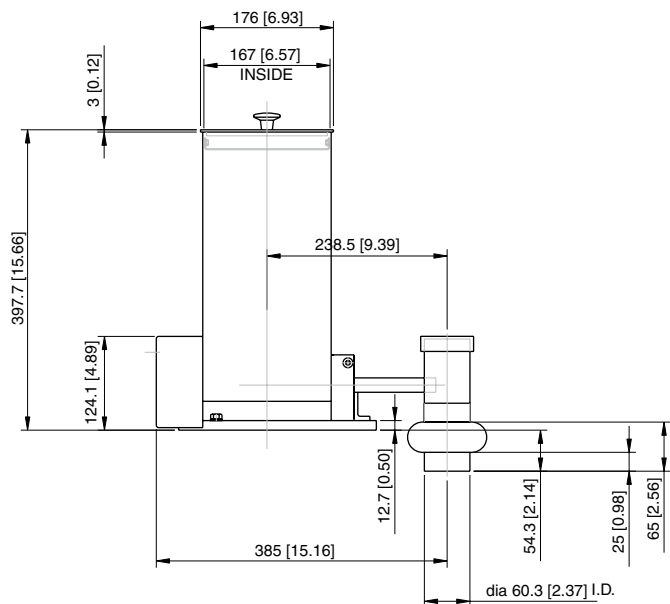
Material contact
parts and scale: stainless steel DIN 1.4404 / 1.4435,
AISI 316L
Seals & O-Rings: Nitril, PTFE and Silicone
Paint: Light gray RAL 7035

Temperature-Limits:

Operating temp.: 0...40°C (32...105°F)
Material temp.: 0...40°C (32...105°F)

Dimensions mm(in)

shown with optional vertical outlet



Options

- 1 Exchange hopper, screw, tube
- 2 Vertical discharge
- 3 High temp version 200°C (390°F)
- 4 Special paint (motor)

Screw tube mm(in)	
outer Ø	inner Ø
44 (1.73)	40 (1.62)
40 (1.57)	36 (1.40)
32 (1.26)	28 (1.12)
26.9 (1.06)	21.7 (0.87)
18 (0.71)	15 (0.62)
16 (0.63)	12 (0.50)

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