

Application

Gravimetric feeding of free-flowing bulk solids that require neither horizontal nor vertical agitator. Ideal for feeding pellets in the plastics industry.

ProRate PLUS feeders can be installed individually or a combination of up to six units (any model) can be clustered around a process inlet.

Design

The single screw feeder with extension hopper is suspended on a single-point weighing system in a compact frame. Proven Smart Force Transducer (SFT) weighing technology provides accurate and reliable performance.

The servo motor provides a high turndown, offering great flexibility in feed rate range.

With the ProClean Rail the feeding unit can be retracted and swiveled up to 140° from the working position. This allows for easy cleaning, replacement of the feed screw and inspection. All metal parts that come in contact with the bulk material are made of stainless steel. The transition between hopper and screw trough is made of polyurethane.

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

Features

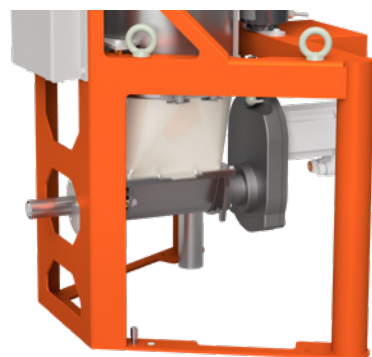
- Robust design
- Reliable feeding, weighing and control technology
- Simple to install and operate
- ProClean Rail for easy cleaning
- Both vertical and horizontal outlets included
- Compact design allows for cluster of up to six units around a process inlet
- Servo technology with extended turndown

Controller

Each feeder is equipped with an individual ProRate PLUS PCM control module with the possibility to connect up to eight feeders to one main control device. For more details see product specification sheet P020301.



ProRate PLUS-S feeder with vertical outlet (above) and horizontal outlet (below).



Sample Feed Rates		Auger screw 1 (screw/pitch/tube Ø: 15/9.5/22 mm)	Auger screw 2 (screw/pitch/tube Ø: 22/24/29.7 mm)
Fine granulate (0.82 kg/dm³) <i>Particle size approx. 0.5 mm</i>	dm³/h	4.8 - 60	20 - 190
	ft³/h	0.17 - 2.12	0.71 - 6.71
Plastic pellets (0.66 kg/dm³) <i>Particle size Ø 1.5 x 3 mm</i>	dm³/h	3.3 - 40	17 - 200
	ft³/h	0.12 - 1.41	0.6 - 7.06

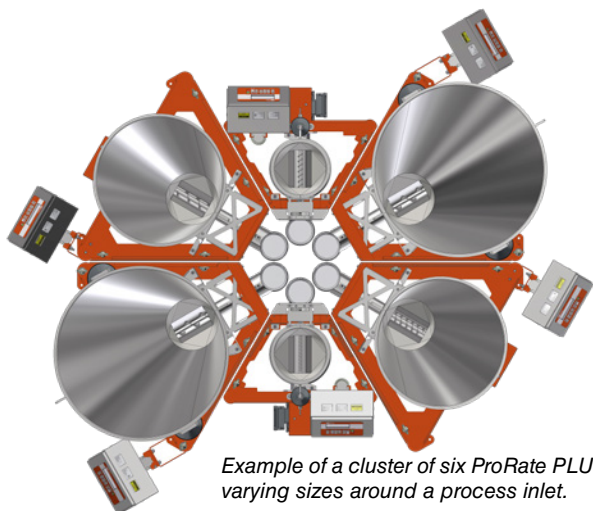
Attention: Actual feed rates depend on screw fill and vary based on individual material characteristics (flowability, particle size and geometry). The sample feed rates were tested with free-flowing materials as stated, based on 5-80% drive command.

For feed rates at the upper or lower limits of these ranges, check with a Coperion K-Tron Test Lab.

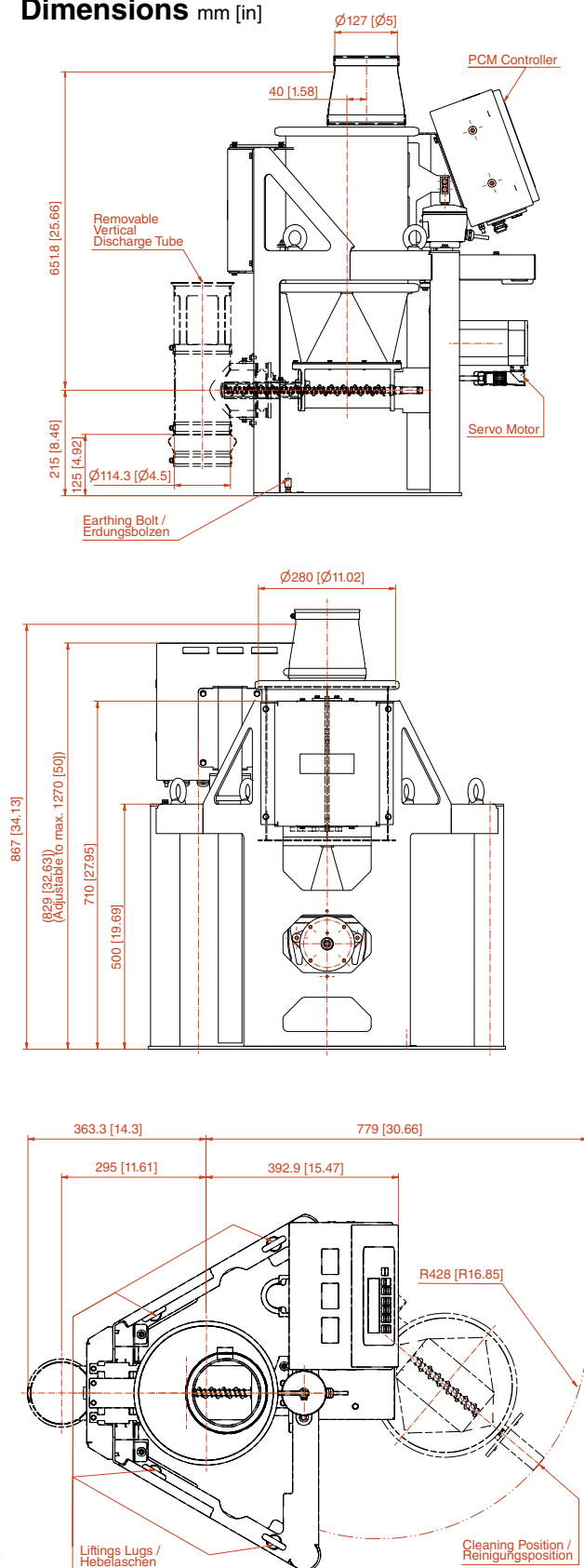
Not suitable for feeding magnetic materials because they may interfere with the magnetic couplings for the screws.

Technical Specifications

Extension hopper:	15 dm ³ [0.53 ft ³] stainless steel EN 1.4301 [AISI 304]
Transition:	white polyurethane
Screw trough:	cast stainless steel EN 1.4301 [AISI 304]
Screw & outlet tube:	stainless steel EN 1.4301 [AISI 304]
Flex/filter on inlet:	white polyester surface area 356 cm ² [0.38 ft ²]
Flex on outlet:	silicone rubber
Filter on outlet:	white polyester surface area 540 cm ² [0.58 ft ²]
Screw seal:	radial shaft seal FPM
Hopper seal:	silicone rubber
Frame:	carbon steel painted RAL 2001 Red Orange
Motor:	911 W 230 VAC servo motor (max. output limited by controller)
Weighing:	P-SFT-II-M load cell gross weighing capacity 60 kg
Temperature-Limits:	Ambient: 0 ... 40°C (32 ... 104°F) Material: 0 ... 50°C (32 ... 122°F)
Operating pressure:	atmospheric, 0 ... 10 mbar [0 ... 0.145 PSI]
Weight:	61kg [133 lb]
Hazardous locations:	NEC Class II, Div. 2, Group F & G (note: motor is IP65 dust tight, TENV) ATEX 3D/3D (outside/inside)
Refill:	Max. 15 refills recommended per hour Refill window between 20% and 80% hopper volume.
<i>Important: ensure free air flow between feeder hopper and refill device/hopper.</i>	
Option:	ProFlow bulk solids activator



Dimensions mm [in]



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