GRAVIMETRIC
SCREW FEEDER

DSL150G



DESCRIPTION

The DSL150G is a gravimetric screw feeder. It is the most versatile solution for feeding both free-flowing, fine-grained bulk materials and poorly flowing materials that tend to compact and bridge. The unit can operate in continuous or batch mode (batching).

The feeder consists of a main trough, a hopper and a precision scale. Material flow is generated by the metering element – a solid-flight screw or a spiral, depending on the product. During operation, the product's loss in weight is measured, so the feed rate is controlled by a continuous control loop.

Material flow is assisted by a horizontal agitator driven by a separate motor at constant speed. In batch dosing, a fast-acting valve cuts off the material flow at the end of feeding.

Product-contact parts are made of 1.4301 (AISI 304) or 1.4404 (AISI 316L) stainless steel; other parts are powder-coated. For the food and pharmaceutical industries, internal surfaces and welds can additionally be ground in line with EHEDG guidelines.

SPIRAL OR SOLID-FLIGHT SCREW?

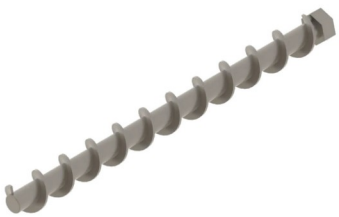
The choice of screw or spiral determines the uniformity of the material stream and control stability. The element type is matched to the material properties, not to the feeder size.



SPIRAL (HELIX)

SUITABLE FOR MATERIALS THAT ARE

- poorly flowing (e.g. flour, soda ash, granules)
- fine and sticky, building up on the core shaft (e.g. cocoa, titanium dioxide)
- coarse, causing friction between core shaft and feed tube
- subject to stricter hygiene requirements (e.g. food industry)



SOLID-FLIGHT SCREW

SUITABLE FOR MATERIALS THAT ARE

- free-flowing, very free-flowing (e.g. salt, sugar)
- prone to aeration and flushing (e.g. carbonates, gypsum)
- highly abrasive (e.g. quartz sand)
- friable, easily damaged (e.g. flakes, instant coffee)

HOPPERS

- Hopper geometry ensures reliable material flow
- Total feeder capacities with hopper: 400 and 600 dm^3 for Ø850 mm, and 1200, 1800 and 2600 dm^3 for Ø1200 mm
- Manual refilling – hinged lid with handle or bag dump chamber
- Automatic refilling – inlet nozzle and vent opening

METERING ELEMENTS

- Solid-flight – with core shaft
- Spirals – without core shaft
- Diameters (outer Ø × pitch): Ø74 × 37, Ø74 × 74, Ø89 × 44.5, Ø89 × 89, Ø127 × 63.5, Ø127 × 127, Ø150 × 75, Ø150 × 150 mm

DOSING RANGE

- Nominal turndown ratio (min:max): 1:10
- Continuous dosing accuracy: error typically < 0.5 % of setpoint
- Batch dosing accuracy: typically ±(0.1–0.5) % of setpoint for batches above 1 kg, depending on load cell range
- Minimum capacity 70 dm^3/h (solid-flight screw 74 × 37 mm, 10 rpm)
- Maximum capacity 25 000 dm^3/h (spiral 150 × 150 mm, 200 rpm)

DRIVE SYSTEM

- 3 × 400 V AC motors with SEW worm gearbox
- Optional 3 × 500 V AC drive or aseptic version
- Metering element drive controlled by frequency inverter

CONTROL SYSTEMS

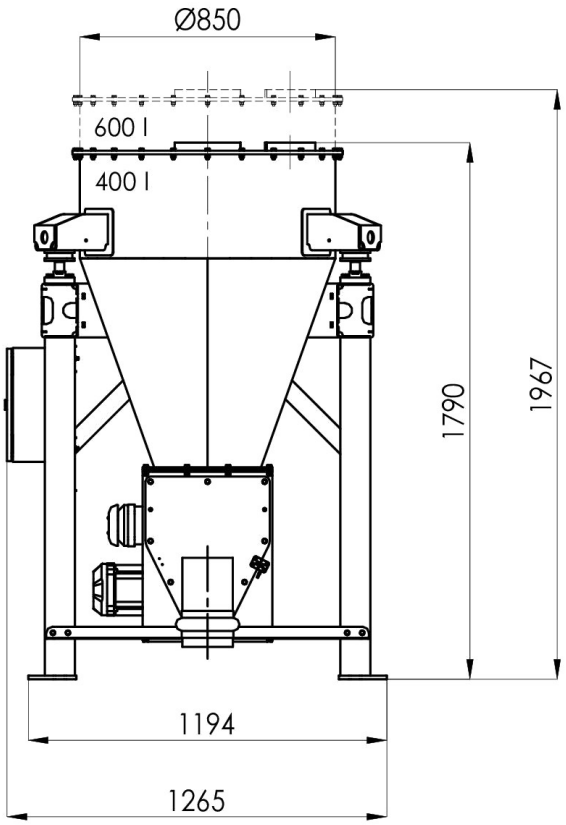
- Continuous dosing: FLEX 2100 / FLEX, ALPHA, SIWAREX WP361
- Batch dosing: 1020 / SGM800, FLEX 2100 / FLEX, ALPHA, SIWAREX WP351
- Communication: EtherNet/IP, Modbus TCP/IP, PROFIBUS, PROFINET

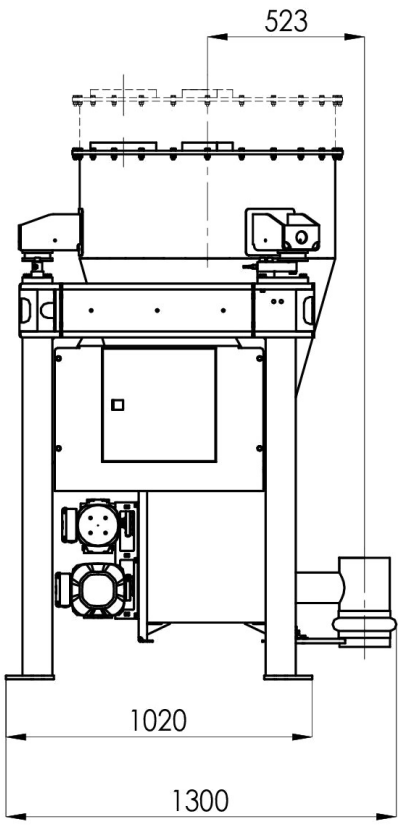
ADDITIONAL OPTIONS

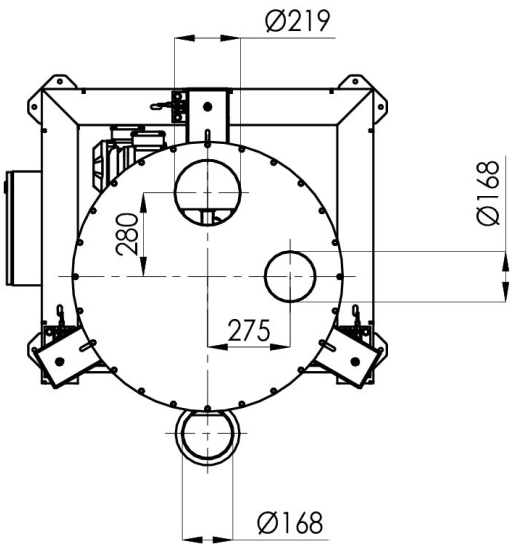
* Hygienic design – continuous welds inside and outside, internal surfaces and welds ground (Ra < 0.8 µm)
* Quick access to interior via knobs or clamps
* Material cut-off valve for batch dosing
* Ex version for hazardous areas
* Additional vertical agitator for very sticky and poorly flowing materials

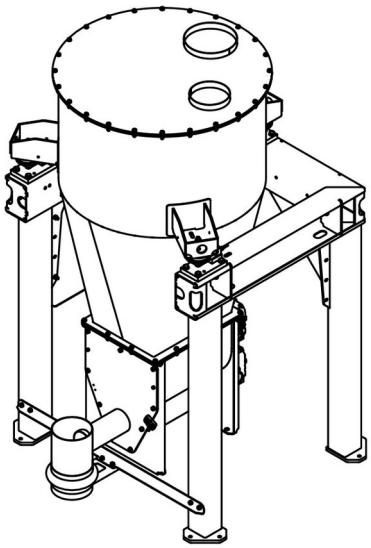
The control system is mounted directly on the feeder frame or separately.

DIMENSIONS









MODEL DESIGNATION

DSL150G-X

G – gravimetric feeder

X – 400 / 600 / 1200 / 1800 / 2600 dm^3

(hopper volume)

Dimensions are approximate. Certified installation drawings are available on request.