GRAVIMETRIC
SCREW FEEDER

DSL75G



DESCRIPTION

The DSL75G 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?

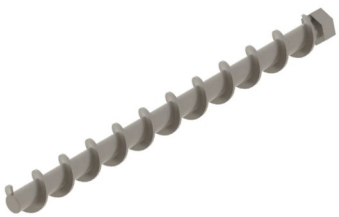
The choice of screw or spiral determines the uniformity of the material stream and control stability. The element type is matched to the material properties, not to the feeder size.



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

- At least one hopper wall is vertical, ensuring reliable material flow
- Total hopper capacities: 100, 200 or 300 dm^3
- Manual refilling – hinged lid with handle or bag dump chamber
- Automatic refilling – inlet nozzle and vent opening

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
- Drive ratings: metering element 0.55 kW, agitator 0.18 kW

METERING ELEMENTS

- Solid-flight – with core shaft
- Spirals – without core shaft
- Diameters (outer Ø × pitch): Ø35 × 17.5, Ø35 × 35, Ø44 × 22, Ø44 × 44, Ø57 × 28.5, Ø57 × 57, Ø74 × 37, Ø74 × 74 mm

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

DOSING RANGE

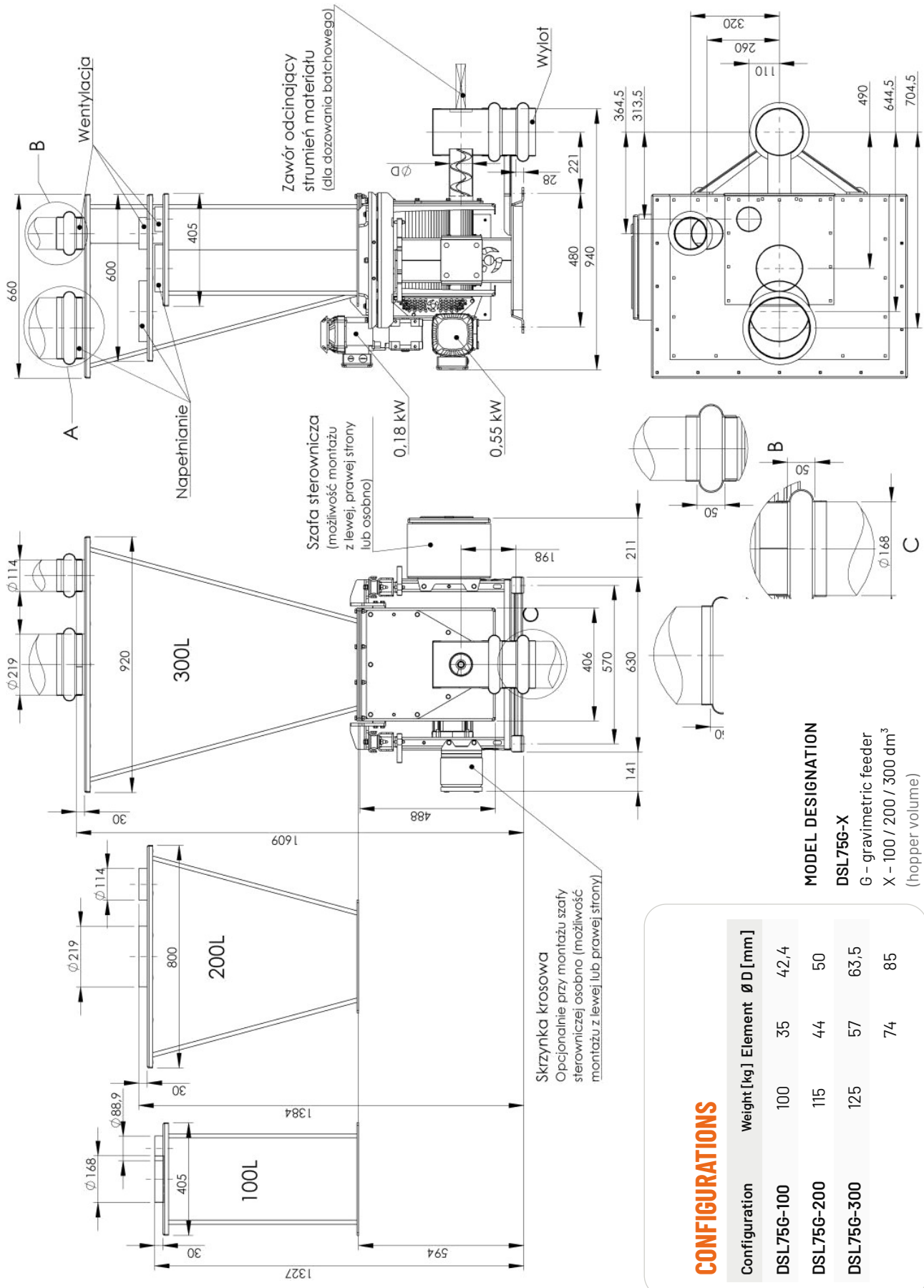
- Nominal turndown ratio (min:max): 1:10
- Continuous dosing accuracy: error typically < 0.5 % of setpoint
- Batch dosing accuracy: typically ±(0.1–0.5) % of setpoint for batches above 1 kg, depending on load cell range
- Minimum capacity 7 dm^3/h (solid-flight screw 35 × 17.5 mm, 10 rpm)
- Maximum capacity 5000 dm^3/h (spiral 74 × 74 mm, 250 rpm)

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
* Round hopper with additional vertical agitator (for poorly flowing and sticky materials)

The control system is mounted directly on the feeder frame or separately. The control cabinet can be mounted on the left or right side of the unit.

DIMENSIONS



CONFIGURATIONS

Configuration	Weight [kg]	Element Ø	D [mm]
DSL75G-100	100	35	42,4
DSL75G-200	115	44	50
DSL75G-300	125	57	63,5
		74	85

MODEL DESIGNATION

DSL75G-X

G – gravimetric feeder
X – 100 / 200 / 300 dm³ (hopper volume)

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