



Screw Feeder

DSR28 2.0 (DC-Smart)

Volumetric and Gravimetric



General Information

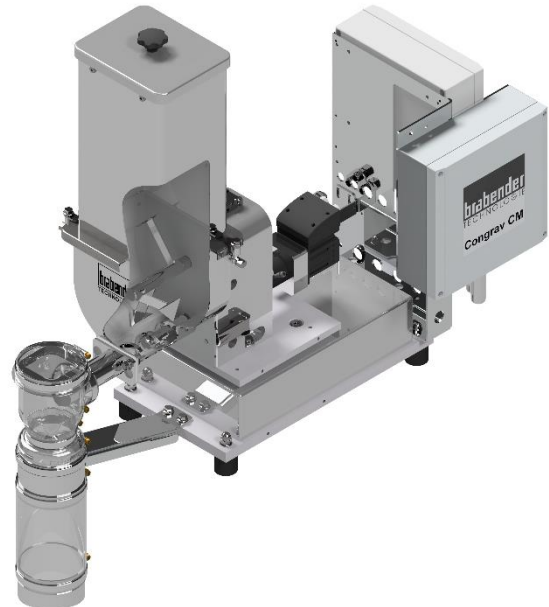
The [DSR28](#) is a feeder ideal for poor or difficult flowing bulk ingredients at low feed rates. The feeder has the following main components: a stainless steel screw trough, an agitator in the screw trough, a screw, a screw tube, a [DC smart motor](#) and an extension hopper with a volume of 5 dm³ (0.18 cuft), 10 dm³ (0.35 cuft) or 20 dm³ (0.71 cuft), low mounting height. The smart motor is characterised by an extremely high adjustment range of 1:100.

The horizontal agitator works to consistently fill the screw and prevents hopper bridging while providing mass flow. This results in optimal feeder accuracy and control.

The [DSR28](#) is easily disassembled for wet or dry cleaning by releasing three quick release clamps from the gear motor assembly. All service is from the front or rear.

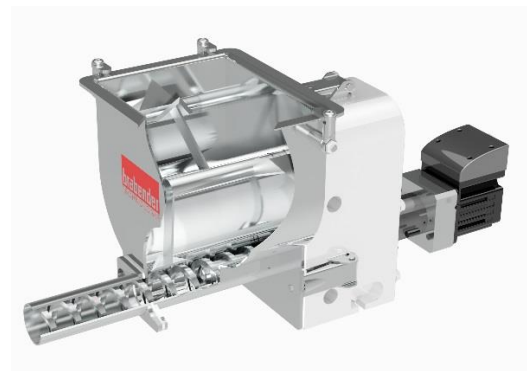
The gravimetric version includes the weighing systems [MD2 and MD3](#) featuring a high-resolution digital load cell with serial data transmission as well as MS2 and MS3, with strain gauge load cell with advanced filtering technology.

The unit conforms to CE directives.



Model Specification

| | |
|--|------------------------------------|
| Screw drive | Brushless DC motor |
| Drive power | 0.18 kW (0.24 HP) |
| Screw speed | 268 min ⁻¹ |
| Optional Screw speed | - * |
| Trough agitator | Yes |
| Separate agitator drive | no |
| * not necessary, due to extremely high adjustment range of 1:100 | |



Control Modules

Control and speed modules are offered either mounted onto the feeder ([Congrav® CM-E](#)) or are available for mounting in a separate control panel ([Congrav® CB-E](#) or [Congrav® CB-S](#)).

Controls can communicate directly to most host/ PLC systems or to Brabender Technologie Congrav® Operator Interfaces.

Technical Drawings and Dimensions

| | volumetric feeders | gravimetric feeders | |
|---------------------------------------|--------------------------------|--|---|
| | | Control module CB | Control module CM |
| 5 dm ³ (0.18 cuft) Hopper | DSR28 2.0 -5Q | DDW-MD(S)2(3)-DSR28 2.0 -5Q | DDW-MD(S)2(3)-DSR28 2.0 -5Q CM |
| 10 dm ³ (0.35 cuft) Hopper | DSR28 2.0 -10Q | DDW-MD(S)2(3)-DSR28 2.0 -10Q | DDW-MD(S)2(3)-DSR28 2.0 -10Q CM |
| 20 dm ³ (0.71 cuft) Hopper | DSR28 2.0 -20 | DDW-MD(S)2(3)-DSR28 2.0 -20 | DDW-MD(S)2(3)-DSR28 2.0 -20 CM |



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Available Screw Sizes and Feed Rates

| Screw type | Designation \emptyset / p [mm] | Tube designation | Tube dia. [mm] | Max. speed [min ⁻¹] | Max. feed rate* [dm ³ /h] | Max. feed rate* [cuft ³ /hr] | Control range Screw drive |
|--|----------------------------------|------------------|----------------|---------------------------------|--------------------------------------|---|---------------------------|
| Spiral screw (S) (TA= with trough activation) | S 13/10 (TA) | 160 | 20.0x2.0 | 268 | 17 | 0.6 | 1:100 |
| | S 13/15 (TA) | 160 | 20.0x2.0 | 268 | 27 | 1 | 1:100 |
| | S 20/15 (TA) | 210 | 25.0x2.0 | 268 | 56 | 2 | 1:100 |
| | S 20/19 (TA) | 210 | 25.0x2.0 | 268 | 76 | 2.7 | 1:100 |
| | S 20/24 (TA) | 210 | 25.0x2.0 | 268 | 100 | 3.5 | 1:100 |
| | S 28/22 | 320 | 38.0x3.0 | 268 | 187 | 6.6 | 1:100 |
| | S 28/35 | 320 | 38.0x3.0 | 268 | 314 | 11.1 | 1:100 |
| Spiral screw (S) for granules | S 13/10 | 210 | 25.0x2.0 | 268 | 32 | 1.1 | 1:100 |
| | S 13/15 | 210 | 25.0x2.0 | 268 | 50 | 1.8 | 1:100 |
| | S 20/15 | 320 | 38.0x3.0 | 268 | 108 | 3.8 | 1:100 |
| | S 20/19 | 320 | 38.0x3.0 | 268 | 142 | 5 | 1:100 |
| | S 20/24 | 320 | 38.0x3.0 | 268 | 184 | 6.5 | 1:100 |
| | S 24/35 | 320 | 38.0x3.0 | 268 | 319 | 11.3 | 1:100 |

* Theoretical values at 100% screw filling level and motor speed. Depending on the flow characteristics the screw filling level may decrease to 50%. Further limitations must be considered for gravimetric feeding as max. speed should be reduced to allow for bulk density variations. The values in brackets refer to optional motors. [How to read the table of screws](#)

Technical Specification

| | |
|--|---|
| Ambient temperature: | 0°C to +45°C (32°F to 113°F) |
| Humidity of the air: | up to 85% without condensation |
| max. vacuum/pressure: | 3 hPa (3 mbar) (1.2 inches of water) |
| Ingredient temperature: | 0°C to + 60°C (32°F to 140°F) |
| max. bulk density (volumetric): | 1.5 kg/dm ³ * (94 lb/cuft) |
| max. bulk density (with MD2 15/9): | 1.5 kg/dm ³ (94 lb/cuft) * with hopper 5 dm ³ (0.18 cuft); 1.2 kg/dm ³ (75 lb/cuft) * with hopper 10 dm ³ (0.35 cuft) |
| max. bulk density (with MD2 15/15): | 0.7 kg/dm ³ (43,7 lb/cuft) * with hopper 20 dm ³ (0.71 cuft) |
| max. bulk density (with MD3): | 1.5 kg/dm ³ (94 lb/cuft) * with hopper 20 dm ³ (0.71 cuft) |
| max. bulk density (with MS2): | 1.5 kg/dm ³ (94 lb/cuft) * with hopper 5 dm ³ (0.18 cuft); 1.5 kg/dm ³ (94 lb/cuft) * with hopper 10 dm ³ (0.35 cuft) |
| max. bulk density (with MS3): | 0.8 kg/dm ³ (50 lb/cuft) * with hopper 20 dm ³ (0.71 cuft) |
| max. bulk density (with MS3): | 1.5 kg/dm ³ (94 lb/cuft) * with hopper 20 dm ³ (0.71 cuft) |
| Screw trough, extension hopper, hopper lid: | 1.4301 (304SS) |
| Screws, screw tubes, outlets: | 1.4571 (316 SS), 1.4301 (304SS) or polyurethane, food-proof acc. to LMBG* |
| Non-contact components: | Aluminum, plated or painted steel (RAL 7035) |
| Extension hopper 5 dm³ (0.18 cuft) , 10 dm³ (0.35 cuft) or 20 dm³ (0.71 cuft) : | Hopper lid for automatic refilling or manual refilling |
| Drive: | 0.18 kW (0.24 HP), IP65 |
| Power supply: | 100-240 V , 50-60 Hz (1/N/PE AC) ** |
| Net weighing range MD2 15/9: | 13.5 kg (29.92 lb) with hopper 5 dm ³ (0.18 cuft); 12.5 kg (25.3 lb) with hopper 10 dm ³ (0.35 cuft) |
| Net weighing range MD2 15/15: | 14.0 kg (31 lb) with hopper 20 dm ³ (0.71 cuft) |
| Net weighing range MD3: | 29.0 kg (64 lb) with hopper 20 dm ³ (0.71 cuft) |
| Net weighing range MS2: | 18.0 kg (40 lb) with hopper 5 dm ³ (0.18 cuft); |
| | 17.5 kg (38.6 lb) with hopper 10 dm ³ (0.35 cuft) |
| | 14.0 kg (31 lb) with hopper 20 dm ³ (0.71 cuft) |
| Net weighing range MS3: | 34.0 kg (75 lb) with hopper 20 dm ³ (0.71 cuft) |
| * other values upon request | ** for the operation in TT networks, TN networks or networks with earthed neutral. For different networks adaptation measures are necessary. |

Options and Accessories

- Flexible [inlet and vent connections](#)
- Flexible [outlet connections](#)
- Interchangeable screws and screw tubes
- [DESTACO clamp fasteners](#) with safety switch
- Versions for higher or lower temperatures
- Vertical outlet with [quick release](#)
- [Maintenance disconnect box](#)
- [Filter bag](#) or [JetFilter](#) for vent pipe
- [Inertia base](#), [turntable](#) or [cart mounting](#)
- [Pressure compensation for the outlet](#) Cleaning and refill systems upon request

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