



Screw Feeder

DDSR20 2.0 (AC-motor)



Volumetric and gravimetric

General Information

The [DDSR20](#) is a feeder ideal for difficult flowing, sticky or floodable bulk ingredients at low feed rates.

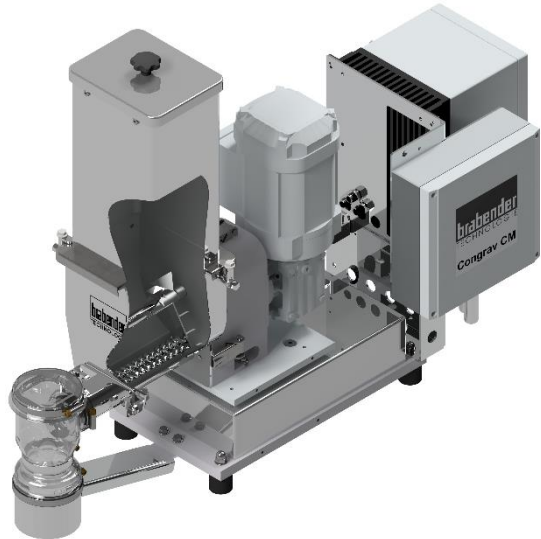
The feeder has the following main components: A stainless steel screw trough, an agitator in the screw trough, a twin screw, a screw tube, a 3 phase [AC motor](#) and an extension hopper with volumes of 5 dm³ (0.18 cuft), 10 dm³ (0.35 cuft) or 20 dm³ (0.71 cuft).

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 [DDSR20](#) 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.

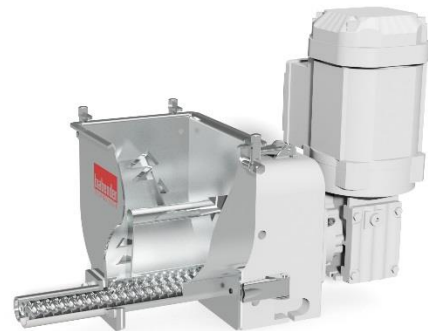
The gravimetric version includes the weighing systems [MD2 and MD3](#) featuring a high-resolution digital load cell with serial data transmission as well as MS2 and MS3, with strain gauge load cell with advanced filtering technology.

The unit conforms to CE directives.



Model Specification

| | |
|-------------------------|---|
| Screw drive | AC-Motor |
| Drive power | 0.18 kW (0.24 HP); 0.12 kW (0.16 HP) 0.09 kW (0.12 HP) |
| Screw speed | 485 min ⁻¹ |
| Screw speed optional | 250 min ⁻¹ ; 105 min ⁻¹ |
| Trough agitator | yes |
| Separate agitator drive | no |



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 | DDSR20 2.0 -5Q | DDW-MD(S)2-DDSR20 2.0 -5Q | DDW-MD(S)2-DDSR20 2.0 -5Q CM |
| 10 dm ³ (0.35 cuft) Hopper | DDSR20 2.0 -10Q | DDW-MD(S)2-DDSR20 2.0 -10Q | DDW-MD(S)2-DDSR20 2.0 -10Q CM |
| 20 dm ³ (0.71 cuft) Hopper | DDSR20 2.0 -20 | DDW-MD(S)2(3)-DDSR20 2.0 -20 | DDW-MD(S)2(3)-DDSR20 2.0 -20 CM |



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Available Screw Sizes and Feed Rates

| Screw type | Designation Ø / p [mm] | Tube designation | Tube dia. [mm] | Max. speed [min ⁻¹] | Max. feed rate * [dm ³ /h] | Max. feed rate * [cuft ³ /hr] |
|--|---------------------------|---------------------|-------------------|------------------------------------|--|---|
| Double spiral screw (SS) | SS 13/10 | 200 | 24.0x2.0 | 485 (250) [105] / 100Hz | 60 (30) [19] | 2.1 (1.1) [0.7] |
| | SS 13/10 | 223 | 26.9x2.3 | 485 (250) [105] / 100Hz | 125 (62) [40] | 4.4 (2.2) [1.4] |
| | SS 13/15 | 200 | 24.0x2.0 | 485 (250) [105] / 100Hz | 98 (50) [21] | 3.5 (1.8) [0.7] |
| | SS 13/15 | 223 | 26.9x2.3 | 485 (250) [105] / 100Hz | 195 (101) [42] | 6.9 (3.6) [1.5] |
| Twin-spiral screw (TS) | TS 18/13 | 200 | 24.0x2.0 | 485 (250) [105] / 100Hz | 150 (77) [18] | 5.3 (2.7) [0.6] |
| | TS 18/13 | 223 | 26.9x2.3 | 485 (250) [105] / 100Hz | 199 (102) [33] | 7 (3.6) [1.2] |
| | TS 18/19 | 200 | 24.0x2.0 | 485 (250) [105] / 100Hz | 237 (122) [51] | 8.4 (4.3) [1.8] |
| | TS 18/19 | 223 | 26.9x2.3 | 485 (250) [105] / 100Hz | 308 (158) [66] | 10.9 (5.6) [2.3] |
| | TS 18/29 | 200 | 24.0x2.0 | 485 (250) [105] / 100Hz | 380 (196)[82] | 13.4 (6.9) [2.9] |
| | TS 18/29 | 223 | 26.9x2.3 | 485 (250) [105] / 100Hz | 489 (252)[106] | 17.3 (8.9) [3.7] |
| Twin-concave screw (TC) | TC 20/12 | 200 | 24.0x2.0 | 485 (250) [105] / 100Hz | 35 (18) [7] | 1.2 (0.6) [0.2] |
| | TC 20/11 | 223 | 26.9x2.3 | 485 (250) [105] / 100Hz | 67 (34) [14] | 2.4 (1.2) [0.5] |
| | TC 20/20 | 223 | 26.9x2.3 | 485 (250) [105] / 100Hz | 139 (72) [30] | 4.9 (2.5) [1.1] |

* 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 have to be considered for gravimetric feeding, as max. speed should be reduced to allow for bulk density variations.

[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 15/15): | 1.5 kg/dm ³ (94 lb/cuft) * with hopper 5 dm ³ (0.18 cuft) 1.1 kg/dm ³ (69 lb/cuft) * with hopper 10 dm ³ (0.35 cuft) |
| max. bulk density (with MD3): | 1.5 kg/dm ³ (94 lb/cuft) * with hopper 10 dm ³ (0.35 cuft) 1.2 kg/dm ³ (75 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) 1.1 kg/dm ³ (69 lb/cuft) * with hopper 10 dm ³ (0.35 cuft) |
| max. bulk density (with MS3): | 1.5 kg/dm ³ (94 lb/cuft) * with hopper 10 dm ³ (0.35 cuft) 1.5 kg/dm ³ (94 lb/cuft) * with hopper 20 dm ³ (0.71 cuft) |
| Screw trough, extension hopper, hopper lid: | 1.4301 (304 SS) |
| Screws, screw tubes, outlets: | 1.4571 (316 SS), 1.4301 (304 SS) or polyurethane, food-proof acc. to LMBG* |
| Non-contact components: | plated or painted steel (RAL 7035) |
| Extension hopper 5 dm ³ (0.18 cuft), 10 dm ³ (0.35 cuft) or 20 dm ³ (0.71 cuft): | Hopper lid for automatic refilling or manual refilling |
| Drive: | 0.18 kW (0.24 HP), 0.12 kW (0.16 HP), 0.09 kW (0.12 HP) IP65; ISO class F; TEFC; frequency-controlled |
| Power supply: | AC 230/400 V (110VAC/460VAC)- 50Hz** or 266/460 V (230/460VAC) - 60Hz |
| Net weighing range MD2 15/15: | 11.5 kg (25.4 lb) with hopper 5 dm ³ (0.18 cuft) 10.5 kg (23.1 lb) with hopper 10 dm ³ (0.35 cuft) |
| Net weighing range MD3: | 25.5 kg (56.2 lb) with hopper 10 dm ³ (0.35 cuft) 22.5 kg (49.6 lb) with hopper 20 dm ³ (0.71 cuft) |
| Net weighing range MS2: | 11.5 kg (25.3 lb) with hopper 5 dm ³ (0.18 cuft) 10.5 kg (23.1 lb) with hopper 10 dm ³ (0.35 cuft) |
| Net weighing range MS3: | 30.5 kg (67.2 lb) with hopper 10 dm ³ (0.35 cuft) 27.5 kg (60.6 lb) with hopper 20 dm ³ (0.71 cuft) |
| * other values upon request | ** Three-phase motors are designed for a power supply of: 230/400 V - 50 Hz, and 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 than standard
- [Explosion-proof versions](#) as per directive 2014/34/EU (ATEX) or NFPA
- 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