

Screw Feeder

DDSR20 2.0 (AC)

Volumetric and gravimetric

General Information

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

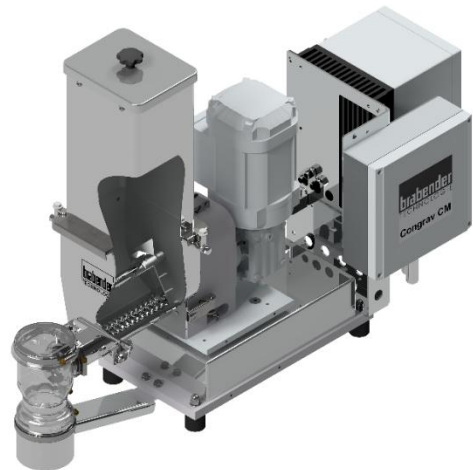
The feeder has the following main components: A stainless steel screw trough, an agitator in the screw trough, a twin screw, a screw tube, a 3 phase [AC motor](#) and an extension hopper with volumes of 5 dm³ (0.18 cuft), 10 dm³ (0.35 cuft) or 20 dm³ (0.71 cuft).

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.

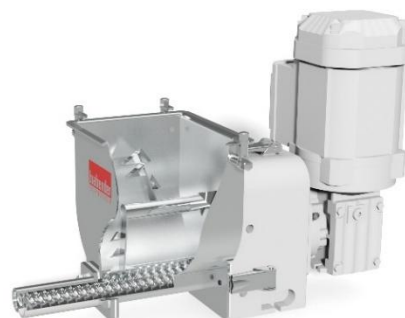
The gravimetric version includes the weighing systems [MD2 and MD3](#) featuring a high-resolution digital load cell with serial data transmission as well as MS2 and MS3, with strain gauge load cell with advanced filtering technology.

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.



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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 MF*	DDSR20 2.0 -10Q MF	DDW-MD(S)2-DDSR20 2.0 -10Q MF	DDW-MD(S)2-DDSR20 2.0 -10Q CM MF
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

*manual filling

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)	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)	7 (3.6) [1.2]
	TS 18/19	200	24.0x2.0	485 (250) [105] / 100Hz	237 (122)	8.4 (4.3) [1.8]
	TS 18/19	223	26.9x2.3	485 (250) [105] / 100Hz	308 (158)	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	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](#)



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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/dm³ * (94 lb/cuft)
max. bulk density (with MD2 15/15):	1.5 kg/dm³ (94 lb/cuft) * with hopper 5 dm³ (0.18 cuft) 1.1 kg/dm³ (69 lb/cuft) * with hopper 10 dm³ (0.35 cuft)
max. bulk density (with MD3):	1.5 kg/dm³ (94 lb/cuft) * with hopper 10 dm³ (0.35 cuft) 1.2 kg/dm³ (75 lb/cuft) * with hopper 20 dm³ (0.71 cuft)
max. bulk density (with MS2):	1.5 kg/dm³ (94 lb/cuft) * with hopper 5 dm³ (0.18 cuft) 1.1 kg/dm³ (69 lb/cuft) * with hopper 10 dm³ (0.35 cuft)
max. bulk density (with MS3):	1.5 kg/dm³ (94 lb/cuft) * with hopper 10 dm³ (0.35 cuft) 1.5 kg/dm³ (94 lb/cuft) * with hopper 20 dm³ (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 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), 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 dm³ (0.18 cuft) 10.5 kg (23.1 lb) with hopper 10 dm³ (0.35 cuft)
Net weighing range MD3:	25.5 kg (56.2 lb) with hopper 10 dm³ (0.35 cuft) 22.5 kg (49.6 lb) with hopper 20 dm³ (0.71 cuft)
Net weighing range MS2:	11.5 kg (25.3 lb) with hopper 5 dm³ (0.18 cuft) 10.5 kg (23.1 lb) with hopper 10 dm³ (0.35 cuft)
Net weighing range MS3:	30.5 kg (67.2 lb) with hopper 10 dm³ (0.35 cuft) 27.5 kg (60.6 lb) with hopper 20 dm³ (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

