



# Screw Feeder

## DDSR20 2.0 (DC-Smart)

Volumetric and gravimetric



### General Information

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

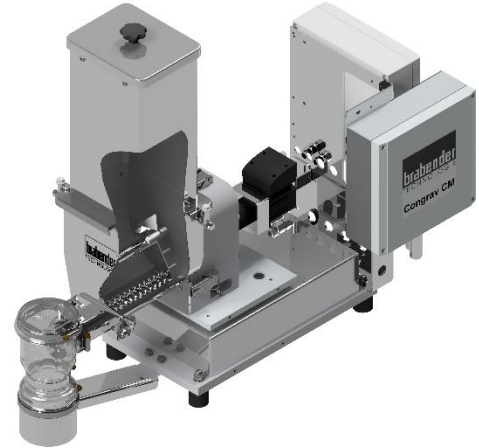
The feeder has the following main components: A stainless steel screw trough, an agitator in the screw trough, a twin screw, a screw tube, a 3 phase [DC smart motor](#) and an extension hopper with volumes of 5 dm<sup>3</sup> (0.18 cuft), 10 dm<sup>3</sup> (0.35 cuft) or 20 dm<sup>3</sup> (0.71 cuft). 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 [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 und 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	<a href="#">DC smart motor</a>
Drive power	0.18 kW (0.24 HP)
Screw speed	485 min <sup>-1</sup>
Screw speed optional	- *
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 <sup>3</sup> (0.18 cuft) Hopper	<a href="#">DDSR20-5Q</a>	<a href="#">DDW-MD(S)2-DDSR20-5Q</a>	<a href="#">DDW-MD(S)2-DDSR20-5Q CM</a>
10 dm <sup>3</sup> (0.35 cuft) Hopper	<a href="#">DDSR20-10Q</a>	<a href="#">DDW-MD(S)2-DDSR20-10Q</a>	<a href="#">DDW-MD(S)2-DDSR20-10Q CM</a>
20 dm <sup>3</sup> (0.71 cuft) Hopper	<a href="#">DDSR20-20</a>	<a href="#">DDW-MD(S)2(3)-DDSR20-20</a>	<a href="#">DDW-MD(S)2(3)-DDSR20-20 CM</a>



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### Available Screw Sizes and Feed Rates

Screw type	Designation $\emptyset$ / p [mm]	Tube designation	Tube dia. [mm]	Max. speed [min <sup>-1</sup> ]	Max. feed rate* [dm <sup>3</sup> /h]	Max. feed rate* [cuft <sup>3</sup> /hr]	Control range Screw drive
<a href="#">Double spiral Screw (SS)</a>	SS 13/10	200	24.0x2.0	485	60	2.1	1:100
	SS 13/10	223	26.9x2.3	485	125	4.4	1:100
	SS 13/15	200	24.0x2.0	485	98	3.5	1:100
	SS 13/15	223	26.9x2.3	485	195	6.9	1:100
<a href="#">Twin-spiral Screw (TS)</a>	TS 18/13	200	24.0x2.0	485	150	5.3	1:100
	TS 18/13	223	26.9x2.3	485	199	7	1:100
	TS 18/19	200	24.0x2.0	485	237	8.4	1:100
	TS 18/19	223	26.9x2.3	485	308	10.9	1:100
	TS 18/29	200	24.0x2.0	485	380	13.4	1:100
	TS 18/29	223	26.9x2.3	485	489	17.3	1:100
<a href="#">Twin-concave screw (TC)</a>	TC 20/12	200	24.0x2.0	485	35	1.2	1:100
	TC 20/11	223	26.9x2.3	485	67	2.4	1:100
	TC 20/20	223	26.9x2.3	485	139	4.9	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 <sup>3</sup> * (94 lb/cuft)
max. bulk density (with MD2 15/9):	1.5 kg/dm <sup>3</sup> (94 lb/cuft) * with hopper 5 dm <sup>3</sup> (0.18 cuft)
max. bulk density (with MD2 15/15):	1.1 kg/dm <sup>3</sup> (69 lb/cuft) * with hopper 10 dm <sup>3</sup> (0.35 cuft)
max. bulk density (with MD3):	0.7 kg/dm <sup>3</sup> (44 lb/cuft) * with hopper 20 dm <sup>3</sup> (0.71 cuft)
max. bulk density (with MS2):	1.5 kg/dm <sup>3</sup> (94 lb/cuft) * with hopper 20 dm <sup>3</sup> (0.71 cuft)
max. bulk density (with MS3):	1.5 kg/dm <sup>3</sup> (94 lb/cuft) * with hopper 5 dm <sup>3</sup> (0.18 cuft)
max. bulk density (with MS3):	1.5 kg/dm <sup>3</sup> (94 lb/cuft) * with hopper 10 dm <sup>3</sup> (0.35 cuft)
max. bulk density (with MS3):	1.5 kg/dm <sup>3</sup> (94 lb/cuft) * with hopper 20 dm <sup>3</sup> (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 <a href="#">5 dm<sup>3</sup> (0.18 cuft)</a> , <a href="#">10 dm<sup>3</sup> (0.35 cuft)</a> or <a href="#">20 dm<sup>3</sup> (0.71 cuft)</a> :	Hopper lid for <a href="#">automatic refilling</a> or <a href="#">manual refilling</a>
Drive:	0.18 kW (0.24 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 15/9:	11.5 kg (25.4 lb) with hopper 5 dm <sup>3</sup> (0.18 cuft)
Net weighing range MD2 15/15:	10.5 kg (23.1 lb) with hopper 10 dm <sup>3</sup> (0.35 cuft)
Net weighing range MD3:	13 kg (28.7 lb) with hopper 20 dm <sup>3</sup> (0.71 cuft)
Net weighing range MS2:	28.5 kg (62.8 lb) with hopper 20 dm <sup>3</sup> (0.71 cuft)
Net weighing range MS3:	17.5 kg (38.6 lb) with hopper 5 dm <sup>3</sup> (0.18 cuft)
Net weighing range MS3:	16.5 kg (36.4 lb) with hopper 10 dm <sup>3</sup> (0.35 cuft)
Net weighing range MS3:	33.5 kg (73.9 lb) with hopper 20 dm <sup>3</sup> (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 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