



Screw Feeder

DSR28 2.0 (AC-motor)

Volumetric and gravimetric



General Information

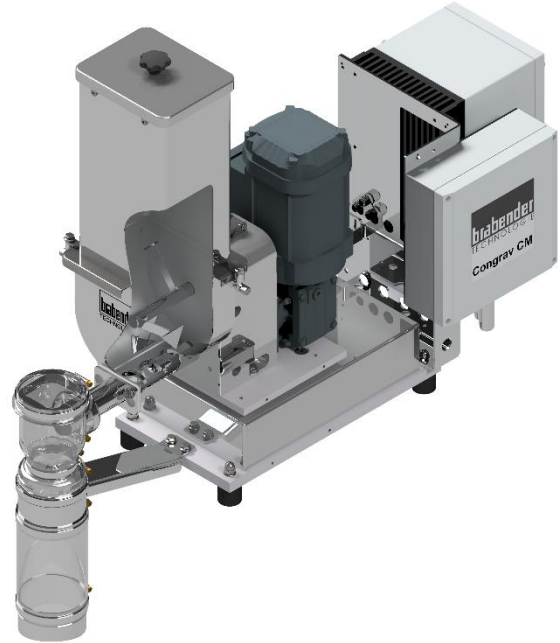
The [DSR28](#) is a feeder ideal for poor or difficult flowing bulk ingredients at low feed rates. The feeder has the following main components: a stainless steel screw trough, an agitator in the screw trough, a screw, a screw tube, a 3 phase [AC motor](#) and extension hopper with volumes of 5 dm³ (0.18 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 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.

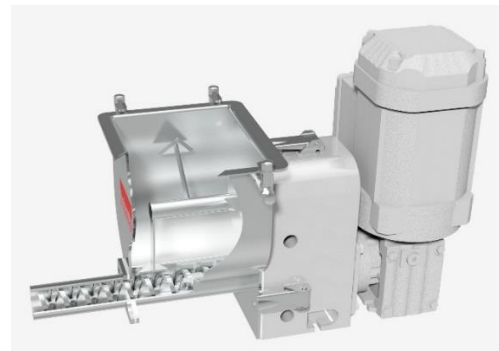
The gravimetric version includes the weighing systems [MD2 and MD3](#) featuring a high-resolution digital load cell with serial data transmission as well as MS2 and MS3, with strain gauge load cell with advanced filtering technology.

The unit conforms to CE directives.



Model Specification

Screw drive	AC-Motor
Drive power	0.18 kW (0.21 HP); 0.12 kW (0.16 HP)
Screw speed	268 min ⁻¹
Optional Screw speed	112 min ⁻¹ ; 58 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	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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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/hr]
Spiral screw (S) (TA=with trough activation)	S 13/10 (TA)	160	20.0x2.0	268 (112) [58] / 100Hz	17 (7) [4]	0.6 (0.2) [0.1]
	S 13/15 (TA)	160	20.0x2.0	268 (112) [58] / 100Hz	27 (11) [6]	1 (0.4) [0.2]
	S 20/15 (TA)	210	25.0x2.0	268 (112) [58] / 100Hz	56 (23) [12]	2 (0.8) [0.4]
	S 20/19 (TA)	210	25.0x2.0	268 (112) [58] / 100Hz	76 (32) [17]	2.7 (1.1) [0.6]
	S 20/24 (TA)	210	25.0x2.0	268 (112) [58] / 100Hz	100 (42) [22]	3.5 (1.5) [0.8]
	S 28/22	320	38.0x3.0	268 (112) [58] / 100Hz	187 (79) [40]	6.6 (2.8) [1.4]
	S 28/35	320	38.0x3.0	268 (112) [58] / 100Hz	314 (131) [68]	11.1 (4.6) [2.4]
Spiral screw (S) for granules	S 13/10	210	25.0x2.0	268 (112) [58] / 100Hz	32 (13) [6]	1.1 (0.5) [0.2]
	S 13/15	210	25.0x2.0	268 (112) [58] / 100Hz	50 (26) [13]	1.8 (0.9) [0.5]
	S 20/15	320	38.0x3.0	268 (112) [58] / 100Hz	108 (42) [22]	3.8 (1.5) [0.8]
	S 20/19	320	38.0x3.0	268 (112) [58] / 100Hz	142 (56) [29]	5 (2) [1]
	S 20/24	320	38.0x3.0	268 (112) [58] / 100Hz	184 (74) [39]	6.5 (2.6) [1.4]
	S 24/35	320	38.0x3.0	268 (112) [58] / 100Hz	319 (131) [68]	11.3 (4.6) [2.4]

* 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 +40°C (32°F to 104°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); 1.2 kg/dm ³ (75 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); 1.3 kg/dm ³ (81 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); 1.2 kg/dm ³ (75 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 (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); 0.12 kW (0.16 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:	12.5 kg (27.6 lb) with hopper 5 dm ³ (0.18 cuft); 11.5 kg (2.2 lb) with hopper 10 dm ³ (0.35 cuft)
Net weighing range MD3:	26.5 kg (58.4 lb) with hopper 10 dm ³ (0.35 cuft); 23 kg (50 lb) with hopper 20 dm ³ (0.71 cuft)
Net weighing range MS2:	12.5 kg (27.6 lb) with hopper 5 dm ³ (0.18 cuft); 11.5 kg (2.2 lb) with hopper 10 dm ³ (0.35 cuft)
Net weighing range MS3:	31.5 kg (69.4 lb) with hopper 10 dm ³ (0.35 cuft); 28 kg (61.7 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 tube
- [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 stub
- [Inertia base](#), [turntable](#) or [cart mounting](#)
- [Pressure compensation](#) for the outlet
- Cleaning and refill systems upon request