

Screw Feeder

DSR67B 2.0 (DC Smart)

Volumetric and gravimetric

General Information

The [DSR67B](#) feeder is ideal for difficult flowing bulk ingredients that tend to compact or form bridges while it is at rest in the storage hopper.

The feeder has the following main components: a stainless steel screw trough with inspection port and agitator, a screw, a screw tube, a modular gearbox, and two 3 phase motors to independently drive the agitator and screw. Extension hoppers are available with a capacity of 100 dm³ (3.53 cuft) or 200 dm³ (7.06 cuft) for storing bulk material.

The Smartmotor is characterized by an extremely high turndown of 1:100.

For cohesive bulk solids, which tend to solidify and bridge when at rest in the hopper, a 180 dm³ (6.4 cuft) hopper with an agitator (AR) can be used.

The horizontal agitator works to consistently fill the screw and prevents hopper bridging while providing mass flow. In addition, the screw trough has a large cross-sectional area which when combined with a steep walled hopper naturally promotes ingredient flow. This results in optimal feeder accuracy and control.

The [DSR67B](#) is easily disassembled for wet or dry cleaning. All service is from the front or back.

The gravimetric version includes the [weighing systems](#) MD6 featuring a high resolution digital load cell with serial data transmission as well as MS6 with strain gauge load cell with advanced filtering technology.

The unit conforms to CE directives.



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Model Specification

Screw drive	DC-smart motor
Drive power	0.4 kW (0.54 HP)
Screw speed	282 min ⁻¹ *
Trough agitator	yes
Agitator drive	Three-phase motor
Drive power	0.12 kW (0.16 HP)
* very high turndown 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
100 dm ³ (3.53 cuft) Hopper	DSR67B 2.0 -100Q	DDW-M6-DSR67B 2.0 -100Q	DDW-M6-DSR67B 2.0 -100Q CM
200 dm ³ (7.06 cuft) Hopper	DSR67B 2.0 -200	DDW-M6-DSR67B 2.0 -200	DDW-M6-DSR67B 2.0 -200 CM
Hopper 180 dm ³ (6.4 cuft) AR	--	DDW-M6-DSR67B 2.0 -180 AR	DDW-M6-DSR67B 2.0 -180 AR 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 30/22 (TA)	320	38.0x3.0	282	192	6.8
	S 30/35 (TA)	320	38.0x3.0	282	322	11.3
	S 33/35 (TA)	350	38.0x1.5	282	450	15.9
	S 43/27 (TA)	443	48.3x2.0	282	541	19.1
	S 43/42 (TA)	443	48.3x2.0	282	905	32.0
	S 52/39 (TA)	563	60.3x2.0	282	1168	41.2
	S 52/62 (TA)	563	60.3x2.0	282	1981	70
	S 67/45	715	76.1x2.3	282	2372	83.8
	S 67/71	715	76.1x2.3	282	3909	138.0
Spiral screw (S) for granules	S 30/22	443	48.3x2.0	282	341	12.0
	S 30/35	443	48.3x2.0	282	558	19.7
	S 33/35	443	48.3x2.0	282	640	22.6
	S 43/27	563	60.3x2.0	282	762	26.9
	S 43/42	563	60.3x2.0	282	1249	44.1
	S 52/39	715	76.1x2.3	282	1744	61.6
	S 52/62	715	76.1x2.3	282	2896	102.3
Blade screw (B) Polyurethan	B 50/45 **	563	60.3x2.0	282	1135	40.1
	B 50/70 **	563	60.3x2.0	282	1821	64.3

* 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](#)

** alternatively also available as stainless steel version



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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 MD6):	1.5 kg/dm ³ (94 lb/cuft) * with hopper 100 dm ³ (3.53 cuft); 1.1 kg/dm ³ (69 lb/cuft) * with hopper 200 dm ³ (7.06 cuft) 0.9 kg/dm ³ (56.3 lb/cuft) * with hopper 180 dm ³ (6.4 cuft) AR
max. bulk density (with MS6):	1.5 kg/dm ³ (94 lb/cuft) * with hopper 100 dm ³ (3.53 cuft); 1.0 kg/dm ³ (62.4 lb/cuft) * with hopper 200 dm ³ (7.06 cuft) 0.7 kg/dm ³ (43.7 lb/cuft) * with hopper 180 dm ³ (6.4 cuft) AR
Screw trough, extension hopper, hopper lid:	1.4301 (304SS)
Screws, screw tubes, outlets:	1.4571 (316 SS), 1.4301 (304SS) or polyurethane, food-grade to LMBG*
Non-contact components:	Aluminium, plated or painted steel (RAL 7035)
Extension hopper 100 dm³ (3.53 cuft) or 200 dm³ (7.06 cuft) :	Hopper lid for automatic refilling or manual refilling
Top container 180 dm³ AR :	Container lid with agitator drive for vertical agitator
Screw drive:	0.4 kW (0.54 HP), IP65; ISO class F 0.12 kW (0.16 HP), IP55; ISO class F; TEFC; (option: frequency-controlled)
Agitator drive:	AC 230/400 V (110VAC/460VAC)- 50Hz** or 266/460 V (230/460VAC) - 60Hz
Power supply:	
Net weighing range MD6:	245 kg (540.1 lb) with hopper 100 dm ³ (3.53 cuft); 232 kg (511.5 lb) with hopper 200 dm ³ (7.06 cuft); 164 kg (361.6 lb) with hopper 180 dm ³ (6.4 cuft) AR
Net weighing range MS6:	215 kg (474 lb) with hopper 100 dm ³ (3.53 cuft); 202 kg (445.3 lb) with hopper 200 dm ³ (7.06 cuft) 134 kg (295.4 lb) with hopper 180 dm ³ (6.4 cuft) AR
* 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
- Screw extension 200 mm (7.9 inches)
- [Hopper with agitator](#)
- [DESTACO clamp fasteners](#) with safety switch
- Versions for higher or lower temperatures than standard
- Vertical outlet with [quick release](#)
- [Maintenance disconnect box](#)
- [Filter bag](#) or [JetFilter](#) for vent pipe
- [Turntable](#), [cart mounting](#), [BagDumper](#)
- Pressure compensation for the [outlet](#) and/or [feeder](#) hopper
- Cleaning and refill systems upon request

