

Screw Feeder

DDSR40B 2.0 (DC-Smart)

Volumetric and gravimetric

General Information

The [DDSR40B](#) feeder is ideal for difficult flowing, sticky, 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 opening, a modular gear block, a two-part agitator in the screw trough, a three-phase motor to drive the agitator, a double screw, a three-phase motor for driving the screw, a screw tube, an extension hopper with a capacity of 100 dm³ (3.5 cuft) or 200 dm³ (7.1 cuft) for storing bulk material.

The [smart motor](#) is characterized by an extremely high turndown of 1:100. For caking 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. This results in optimal feeder accuracy and control. In addition, the twin screw is characterized by a particularly large feed area which, in conjunction with a steep-walled hopper, ensures reliable mass flow even with bulk materials that normally require an additional agitator in the hopper.

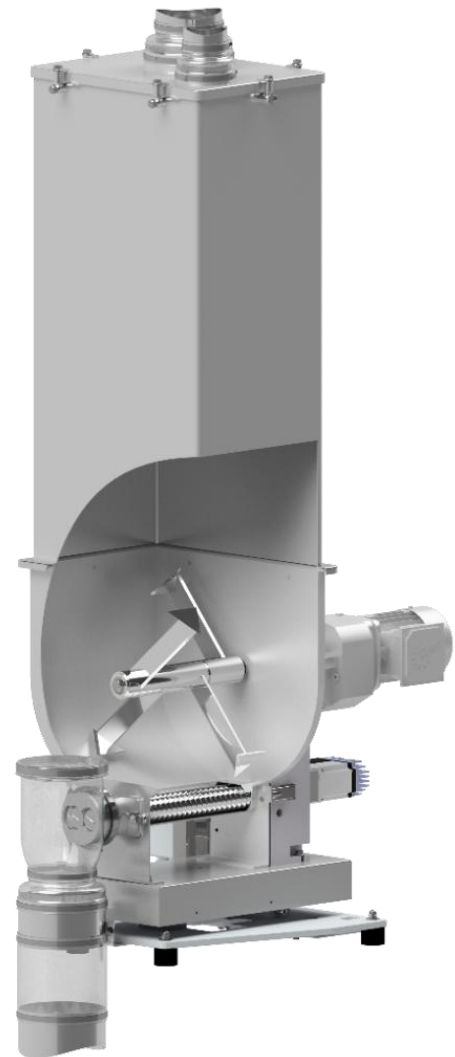
The DDSR40B is easily disassembled for wet or dry cleaning. All service is from the front or back.

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.

Model Specification

Screw drive	DC-Smartmotor
Drive power	0.4 kW (0.54 HP)
Screw speed	350 min ⁻¹ *
Trough agitator	Yes
Agitator drive	Three-phase motor
Drive power	0.12 kW (0.16 HP)
* very high turndown of 1:100	



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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 feeder	Gravimetric feeder	
		Control module CB	Control Module CM
100 dm³ (3.5 cuft) hopper	DDSR40B 2.0 -100Q	DDW-M6-DDSR40B 2.0 -100Q	DDW-M6-DDSR40B 2.0 -100Q CM
200 dm³ (7.1 cuft) hopper	DDSR40B 2.0 -200	DDW-M6-DDSR40B 2.0 -200	DDW-M6-DDSR40B 2.0 -200 CM
180 dm³ (6.4 cuft) hopper AR	--	DDW-M6-DDSR40B 2.0 -180 AR	DDW-M6-DDSR40B 2.0 -180 AR CM

Screw Sizes and Feed Rates

Screw type	Designation Ø / p [mm]	Tube designation	Tube dia. [mm]	Max. speed [min ⁻¹]	Max. feed rate * [dm³/h]	Max. feed rate* [cuft/hr]
Double Spiral Screw (SS)	SS 33/22	419	48,3x3,2	350	727	25.7
	SS 33/22	470	53,0x3,0	350	1098	38.8
	SS 33/35	419	48,3x3,2	350	1192	42.1
	SS 33/35	470	53,0x3,0	350	1781	62.9
Twin-spiral Screw (TS)	TS 40/27	419	48,3x3,2	350	1258	44.4
	TS 40/27	470	53,0x3,0	350	1519	53.6
	TS 40/42	419	48,3x3,2	350	2043	72.1
	TS 40/42	470	53,0x3,0	350	2448	86.5
Twin-blade Screw (TB)	TB 40/28	419	48,3x3,2	350	1037	36.6
	TB 40/43	419	48,3x3,2	350	1684	59.5
Twin-concave Screw (TC)	TC 40/12	419	48,3x3,2	350	137	4.8
	TC 40/23	419	48,3x3,2	350	262	9.3
	TC 40/27	470	53,0x3,0	350	623	22.0
	TC 40/50	470	53,0x3,0	350	1458	51.5

* 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)
Product temperature:	0°C to +60°C (32°F to 140°F)
max. bulk density (volumetric):	1,5 kg/dm ³ *(96 lb/cuft)
max. bulk density (with MD6):	1.5 kg/dm ³ (96 lb/cuft)* with hopper 100 dm ³ (3.5 cuft); 1.1 kg/dm ³ (68.6 lb/cuft)* with hopper 200 dm ³ (7.1 cuft) 0.9 kg/dm ³ (56.2 lb/cuft) * with hopper 180 dm ³ (6.4 cuft) AR
max. bulk density (with MS6):	1.5 kg/dm ³ (96 lb/cuft)* with hopper 100 dm ³ (3.5 cuft); 1.0 kg/dm ³ (2.2 cuft) with hopper 200 dm ³ (7.1 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
Screws, screw tubes, outlets:	1.4571, 1.4301 bzw. Polyurethan, lebensmittelecht gemäß LMBG*
Non-contact components:	Aluminum, plated or painted steel (RAL 7035)
Hopper 100 dm³ (3.5 cuft) , bzw. 200 dm³ (7.1 cuft) :	Hopper lid for automatic refilling or manual refilling
Hopper lid 180 dm³ (6.4 cuft) AR :	Hopper lid with agitator drive for homogenizing agitator
Screw drive:	0.4 kW (0.54 HP), IP65, ISO class F; TEFC; frequency-controlled 0.12 kW (0.16 HP), IP55; ISO-class F; TEFC; (optional frequency-controlled)
Agitator drive:	
Power supply:	AC 230/400 V - 50Hz** bzw. 266/460 V - 60Hz
Net weighing range MD6:	242 kg (522.5 lb) with hopper 100 dm ³ (3.5 cuft) ; 229 kg (505 lb) with hopper 200 dm ³ (7.1 cuft); 160 kg (352.7 lb) with hopper 180 dm ³ (6.4 cuft) AR
Net weighing range MS6:	212 kg (467.4 lb) with hopper 100 dm ³ (3.5 cuft); 199 kg (438.7 lb) with hopper 200 dm ³ (7.1 cuft); 130 kg (286.6 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
- [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

