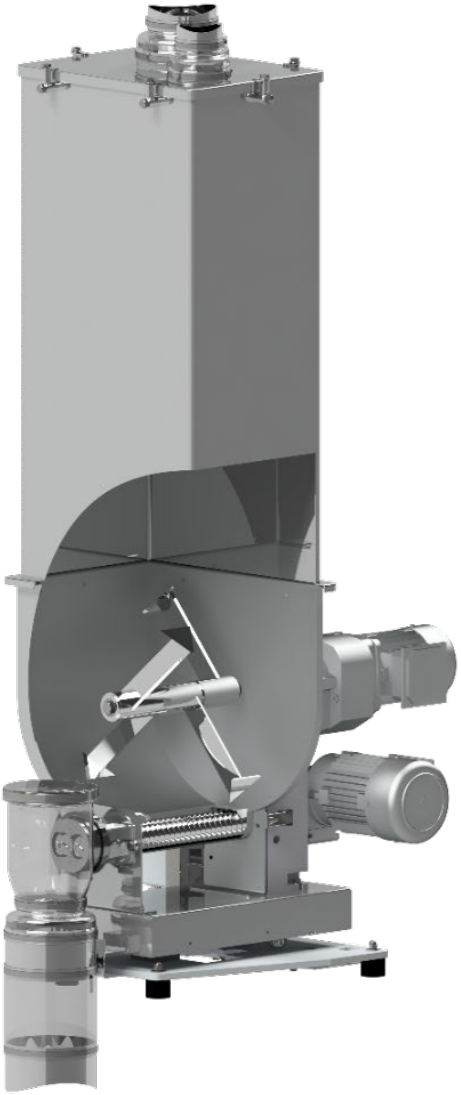
Screw Feeder
DDSR40B 2.0 (AC)

Volumetric and gravimetric

General Information

DE I EN



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.
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	Three-phase motor
Drive power	0.37 kW (0.5 HP) (0.25 kW (0.34 HP) at 142 min^{-1})
Screw speed	374 min^{-1}
Optional Screw speed	282 min^{-1} / 142 min^{-1}
Trough agitator	Yes
Agitator drive	Three-phase motor
Drive power	0.12 kW (0.16 HP)

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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 200 dm³ (7.1 cuft) hopper	DDSR40B 2.0 -100Q DDSR40B 2.0 -200	DDW-M6-DDSR40B 2.0 -100Q DDW-M6-DDSR40B 2.0 -200	DDW-M6-DDSR40B 2.0 -100Q CM 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 * [dm^3/h]	Max. feed rate* [cuft/hr]
Double Spiral Screw (SS)	SS 33/22	419	48,3x3,2	374 (282/142) / 100Hz	777 (586/295)	27.4 (20.7/10.4)
	SS 33/22	470	53,0x3,0	374 (282/142) / 100Hz	1173 (885/446)	41.4 (31.3/15.8)
	SS 33/35	419	48,3x3,2	374 (282/142) / 100Hz	1274 (960/484)	45 (33.9/17.1)
	SS 33/35	470	53,0x3,0	374 (282/142) / 100Hz	1904 (1436/723)	67.2 (50.7/25.5)
Twin-spiral Screw (TS)	TS 40/27	419	48,3x3,2	374 (282/142) / 100Hz	1344 (1014/510)	47.5 (35.8/18)
	TS 40/27	470	53,0x3,0	374 (282/142) / 100Hz	1623 (1224/616)	57.3 (43.2/21.8)
	TS 40/42	419	48,3x3,2	374 (282/142) / 100Hz	2183 (1646/829)	77.1 (58.1/29.3)
	TS 40/42	470	53,0x3,0	374 (282/142) / 100Hz	2616 (1973/993)	92.4 (69.7/35.1)
Twin-blade Screw (TB)	TB 40/28	419	48,3x3,2	374 (282/142) / 100Hz	1108 (836/421)	39.1 (29.5/14.9)
	TB 40/43	419	48,3x3,2	374 (282/142) / 100Hz	1800 (1357/683)	65 (47.9/24.1)
Twin-concave Screw (TC)	TC 40/12	419	48,3x3,2	374 (282/142) / 100Hz	146 (110/55)	5.2 (3.9/1.9)
	TC 40/23	419	48,3x3,2	374 (282/142) / 100Hz	280 (211/106)	9.9 (7.5/3.7)
	TC 40/27	470	53,0x3,0	374 (282/142) / 100Hz	666 (502/253)	23.5 (17.7/8.9)
	TC 40/50	470	53,0x3,0	374 (282/142) / 100Hz	1558 (1175/592)	55 (41.5/20.9)

* 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 +40°C (32°F to 104°F)
Humidity of the air: max. vacuum/pressure: Product temperature:	up to 85% without condensation 3 hPa (3 mbar) (1.2 Inches of water) 0°C to +60°C (32°F to 140°F)
max. bulk density (volumetric):	1.5 kg/dm³ (96 lb/cuft)
max. bulk density (with MD6):	1.5 kg/dm³ (96 lb/cuft)* with hopper 100 dm³ (3.5 cuft); 1.1 kg/dm³ (68.6 lb/cuft)* with hopper 200 dm³ (7.1 cuft) 0.8 kg/dm³ (49.9 lb/ cuft) * with hopper 180 dm³ (6.4 cuft) AR
max. bulk density (with MS6):	1.5 kg/dm³ (96 lb/cuft)* with hopper 100 dm³ (3.5 cuft); 1.0 kg/dm³ (2.2 cuft) * with hopper 200 dm³ (7.1 cuft) 0.7 kg/dm³ (43.7 lb/cuft) * with hopper 180 dm³ (6.4 cuft) AR
Screw trough, extension hopper, hopper lid:	1.4301 (304 SS)
Screws, screw tubes, outlets: Non-contact components:	1.4571 (316 SS), 1.4301 (304 SS) or polyurethane, food-proof acc. to LMBG* Aluminum, plated or painted steel (RAL 7035)
Hopper 100 dm³ (3.5 cuft), bzw. 200 dm³ (7.1 cuft): Hopper lid 180 dm³ (6.4 cuft) AR: Screw drive:	Hopper lid for automatic refilling or manual refilling Hopper lid with agitator drive for homogenizing agitator 0.37 kW (0.5 HP), IP65; ISO class F; TEFC; frequency-controlled
Agitator drive: Power supply:	0.12 kW (0.16 HP), IP55; ISO-class F; TEFC; (optional frequency-controlled) AC 230/400 V - 50Hz** bzw. 266/460 V - 60Hz
Net weighing range MD6:	235 kg (518.1 lb) with hopper 100 dm³ (3.5 cuft); 222 kg (489.4 lb) with hopper 200 dm³ (7.1 cuft); 154 kg (339.5 lb) with hopper 180 dm³ (6.4 cuft) AR
Net weighing range MS6:	205 kg * with hopper 100 dm³ (3.5 cuft) ; 192 kg (423.3 lb) with hopper 200 dm³ (7.1 cuft); 124 kg (273.4 lb) with hopper 180 dm³ (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
- 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
- Turntable, cart mounting, BagDumper
- Pressure compensation for the outlet and/or feeder hopper
- Cleaning and refill systems upon request