



Screw Feeder

DSR103 (-H33)

Volumetric and gravimetric



General Information

The [DSR103](#) feeder is ideal for poor or difficult flowing bulk ingredients at high feed rates.

The feeder has the following main components: a stainless steel screw trough, an agitator in the screw trough, a 3 phase motor as agitator drive, a screw, a 3 phase motor as screw drive, a screw tube and an extension hopper with volumes of 200 dm³ (7.06 cuft) or 300 dm³ (10.59 cuft) for product storage.

These components work together to provide consistent screw filling and mass flow, as the agitator prevents bridging and permits an optimum bulk ingredient flow into the screw.

The [DSR103](#) is easily disassembled for wet or dry cleaning. All service is from the front or rear.

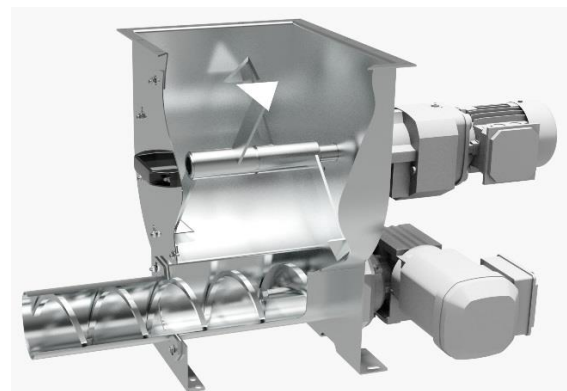
The gravimetric version includes the hybrid [weighing system H33](#) featuring a high resolution digital load cell with 300 kg (661 lb) or 600 kg (1323 lb) weighing range with serial data transmission with advanced filtering technology.

The unit conforms to CE directives.



Model Specification

Screw drive	Three-phase motor
Drive power	0.55 kW (0.74 HP)
Screw speed	140 min ⁻¹
Trough agitator	yes
Agitator drive	Three-phase motor
Drive power	0.12 kW (0.16 HP)



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
200 dm ³ (7 cuft) Hopper	DSR103-200	DDW-H33-DSR103-200	DDW-H33-DSR103-200 CM
300 dm ³ (10.5 cuft) Hopper	DSR103-300	DDW-H33-DSR103-300	DDW-H33-DSR103-300 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 52/39 (TA)	563	60.3x2.0	140 / 100Hz	580	20.5
	S 52/62 (TA)	563	60.3x2.0	140 / 100Hz	984	34.8
	S 79/45 (TA)	843	88.9x2.3	140 / 100Hz	1667	58.9
	S 79/82 (TA)	843	88.9x2.3	140 / 100Hz	3182	112.4
	S 103/66	1091	114.3x2.6	140 / 100Hz	4368	154.3
	S 103/105	1091	114.3x2.6	140 / 100Hz	7088	250.3
Spiral screw (S) for granules	S 52/39	715	76.1x2.3	140 / 100Hz	866	30.6
	S 52/62	715	76.1x2.3	140 / 100Hz	1437	50.8
	S 79/45	1091	114.3x2.6	140 / 100Hz	2440	86.2
	S 79/82	1091	114.3x2.6	140 / 100Hz	4591	162.1
Blade Screw (B)	B 50/45	563	60.3x2.0	140 / 100Hz	564	20
	B 50/70	563	60.3x2.0	140 / 100Hz	904	32
	B 79/50	843	88.9x2.3	140 / 100Hz	1612	57
	B 79/88	843	88.9x2.3	140 / 100Hz	2965	104.7
	B 103/66	1091	114.3x2.6	140 / 100Hz	4026	142.2
	B 103/105	1091	114.3x2.6	140 / 100Hz	6511	230

* 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 ³ * (94 lb/cuft)
max. bulk density with H33, 300 kg:	0.9 kg/dm ³ (56 lb/cuft) * with hopper 200 dm ³ (7.06 cuft)
	0.6 kg/dm ³ (37 lb/cuft) * with hopper 300 dm ³ (10.59 cuft)
max. bulk density with H33, 600 kg:	1.5 kg/dm ³ (94 lb/cuft) * with hopper 200 dm ³ (7.06 cuft)
	1.5 kg/dm ³ (94 lb/cuft) * with hopper 300 dm ³ (10.59 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:	Aluminum, plated or painted steel (RAL 7035)
Extension hopper 200 dm ³ (7.06 cuft) or 300 dm ³ (10.59 cuft):	Hopper lid for automatic refilling
Screw drive:	0.55 kW (0.74 HP), IP65; ISO class F; TEFC; frequency-controlled
Agitator drive:	0.12 kW (0.16 HP), IP55; 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 H33, 300 kg (661 lb):	167 kg (368 lb) with hopper 200 dm ³ (7.06 cuft); 156 kg (344 lb) with hopper 300 dm ³ (10.59 cuft)
Net weighing range H33, 600 kg (1323 lb):	467 kg (1029.6 lb) with hopper 200 dm ³ (7.06 cuft); 456 kg (1005.3 lb) with hopper 300 dm ³ (10.59 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 tubes
- [Hopper with horizontal 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