



Screw Feeder

DSR103 (-MS)

Volumetric and Gravimetric



General Information

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

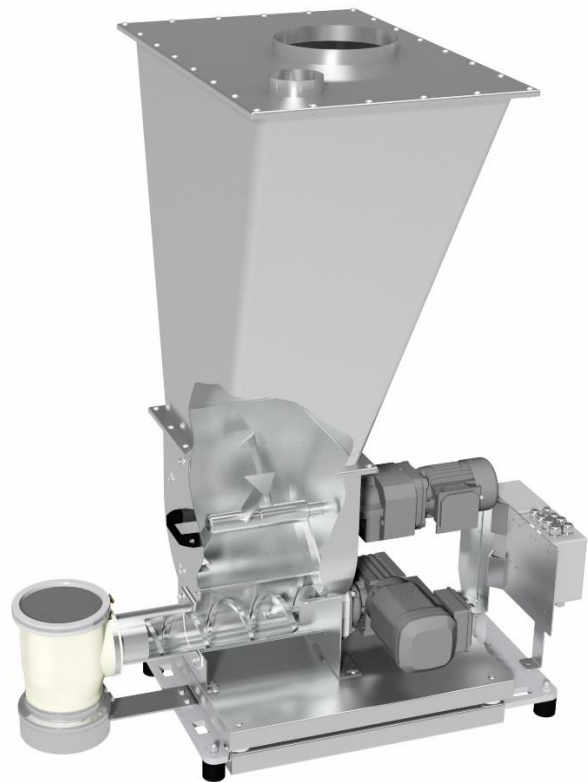
The feeder has the following main components: a stainless steel screw trough, an agitator in the screw trough, a 3 phase motor as agitator drive, a screw, a 3 phase motor as screw drive, a screw tube, an extension hopper with volumes of 200 dm³ (7.06 cuft) or 300 dm³ (10.59 cuft).

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

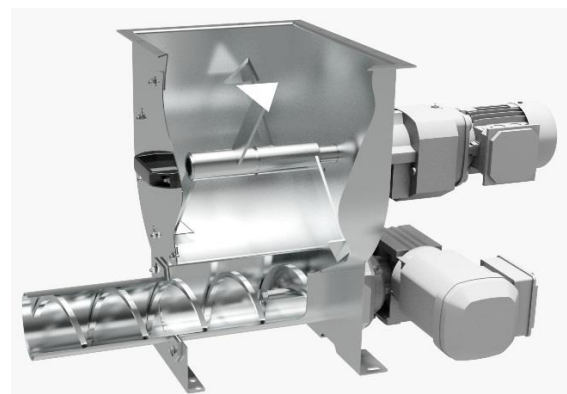
The [weighing system MS](#) is available as gravimetric version with four high-resolution load cells with advanced filtering technology.

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-MS-DSR103-200	DDW-MS-DSR103-200 CM
300 dm ³ (10.5 cuft) Hopper	DSR103-300	DDW-MS-DSR103-300	DDW-MS-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 MS:	1.5 kg/dm ³ (94 lb/cuft) * with hopper 200 dm ³ (7 cuft) 1.5 kg/dm ³ (94 lb/cuft) * with hopper 300 dm ³ (10.5 cuft)
Screw trough, extension hopper, hopper lid:	1.4301 (304SS)
Screws, screw tubes, outlets:	1.4571 (316 SS), 1.4301 (304SS) or polyurethane, food-proof acc. to LMBG*
Non-contact components:	Aluminium, plated or painted steel (RAL 7035)
Extension hopper 200 dm ³ or 300 dm ³ :	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; (option: frequency-controlled)
Power supply:	AC 230/400 V (110VAC/460VAC) - 50Hz** or 266/460 V (230/460VAC) - 60Hz
Net weighing range MS:	707 kg (1559 lb) with hopper 200 dm ³ (7.06 cuft) 696 kg (1534 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