

JESMA LOSS IN WEIGHT SOLUTIONS FOR EXTRUDERS/PELLET MILLS

Capacity Range: 200 – 26,000 kg/hr

5 Standard Configurations

Jesma Loss In Weight

Typical Extruder Plant Application

Pre-bin: Size 1.5 – 2 x size of LIW bin

Electro-pneumatic operated gate or screw conveyor: Refill capacity: 5-8 times nominal max. capacity of LIW system

Jesma LIW solution: Capacity range:

200 – 26,000 kg/hr (up to 57.8 m³/hr)

Designed for poor and difficult flowing meals

Extruder pre-conditioner

Extruder barrel

Comparison

Volumetric or Gravimetric Dosing

Subject	Volumetric	Gravimetric
Dosing accuracy	+/- 1.0 – 15.0%	+/- 0.5 – 1.0%*)
Process safety and down time losses	Stop of flow: May not be discovered > Down time losses	Weighing signal: Fast response
Speed losses	Fluctuations in density: Reduced capacity	Always possible to run close to maximum
Quality losses	Result from uneven flow caused by density variations	First time right and according specifications **)
Food safety	Uneven dosing of additives (Steam, liquids, slurries, powders)	Accurate dosing/ full documentation

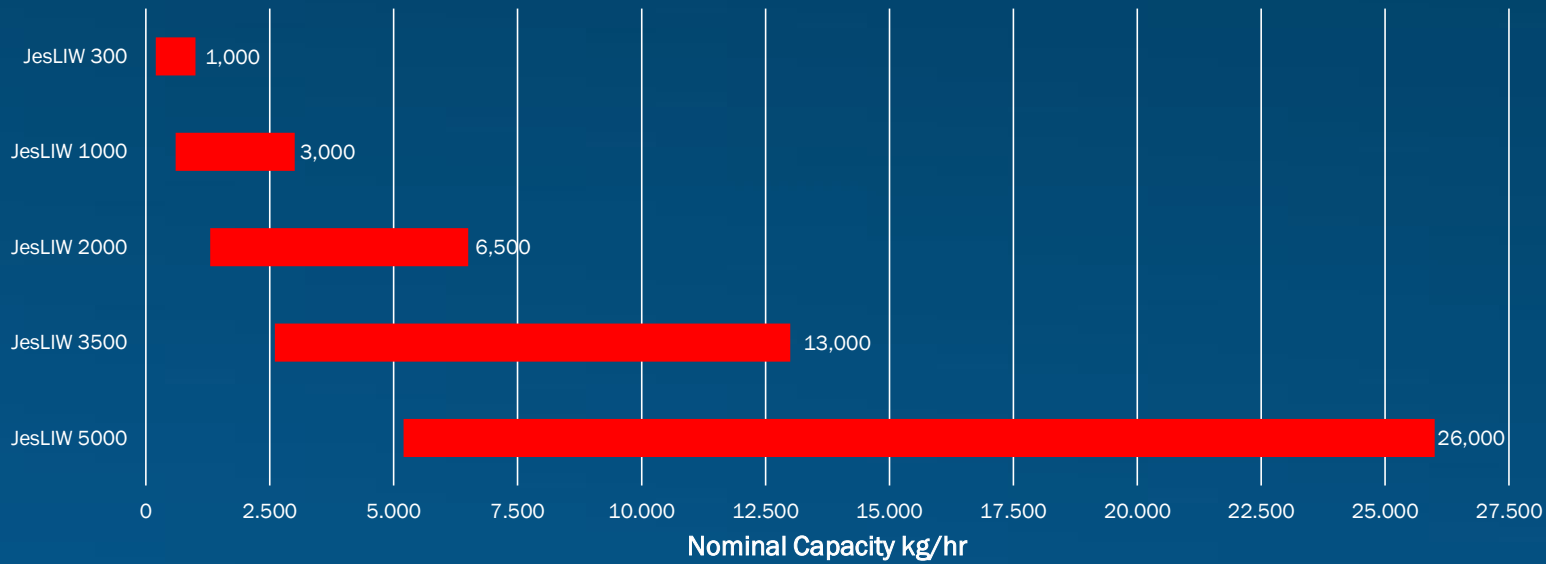
*) : Measured in 20 min. in capacity range 20 – 100 %

**): Aqua feed/pet food: Product density very important

Jesma JesLIW

Wide Capacity Range

Capacity Range JesLIW



Jesma JesLIW

5 Capacity Configurations

Type and model	Capacity range Nominal capacity	Size of LIW bin*) (GV: Gross volume)	LIW bin dimension Scraber bottom dimension	Dosing screw dimension Dosing screw length
JesLIW 300	200 – 1,000 kg/hr (Max. 2.2 m ³)	~ 165 kg GV 300 lt	Ø 700 mm – H ~ 800 mm Ø 700 mm	TS 100 L: 1,050 mm
JesLIW 1000	600 – 3,000 kg/hr (Max. 6.7 m ³)	~ 550 kg GV 1,000 lt	Ø 1,000 mm – H ~ 1,300 mm Ø 1,000 mm	TS 160 L: 1,500 mm
JesLIW 2000	1,300 – 6,500 kg/hr (Max. 14.4 m ³)	~ 1,100 kg GV 2,000 Lt	Ø 1,200 mm – H ~ 2,100 mm Ø 1,000 mm	TS 200 L: 1,500 mm
JesLIW 3500	2,600 – 13,000 kg/hr (Max. 28.9 m ³)	1,925 kg GV 3,500 lt	Ø 1,400 mm – H ~ 2,500 mm Ø 1,000 mm	TS 300 L: 1,500 mm
JesLIW 5000	5,200 – 26,000 kg/hr (Max. 57.8 m ³)	2,750 kg GV 5,000 lt	Ø 1,400 mm – H ~ 3,400 mm Ø 1,200 mm	TS 350 L: 1,800 mm

Bulk density variations: 0.45 – 0.65 kg/lt.

Dosing screw length $CC_{BIN} - CC_{OUTLET} \sim 1.5 * \text{scraber bottom diameter}$

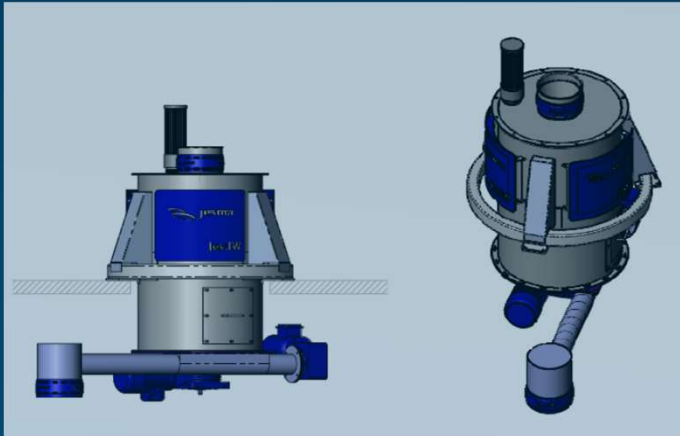
LIW bin height: Inlet flange to outlet flange (ie. inlet dosing screw)

Refilling capacity: 5 – 8 times nominal capacity

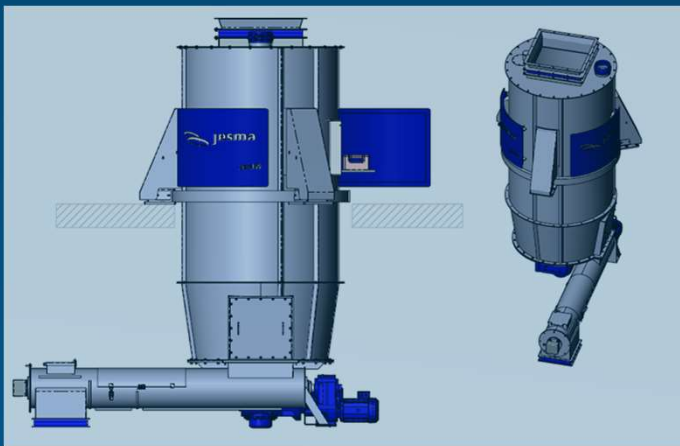
*) Applied density 0.55 kg/lt

JesLIW Hardware

Mechanical parts



Model JesLIW 300, 1000



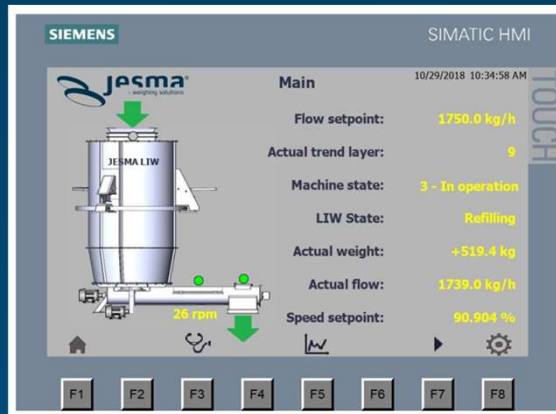
Model JesLIW 2000, 3500, 5000

- ▶ Improved hygienic and maintenance friendly design
- ▶ Live bin with agitator and dosing screw (standard)
- ▶ All parts SS 304 externally glass bead blasted, internally surface pickled (standard)
- ▶ Weighing frame w 3 load cells (standard)
- ▶ Calibration platforms (standard) built into enclosed hinged cover
- ▶ Connection for bin aspiration including counter flange and flexible (standard)
- ▶ Service hatch dosing screw on JesLiw 2000, 3500, 5000 (standard)
- ▶ Bolted inspection hatch in LIW bin (standard)
- ▶ Transportation legs for shipment purposes only (standard)
- ▶ **OPTIONS:**
 - ▶ Mild steel st. 37.2 construction (Painted)
 - ▶ Pre bin w. slide gate or dosing screw
 - ▶ Extended length: Dosing screw
 - ▶ Support construction
 - ▶ Aspiration flange: Dosing screw
 - ▶ Inspection glass in LIW bin

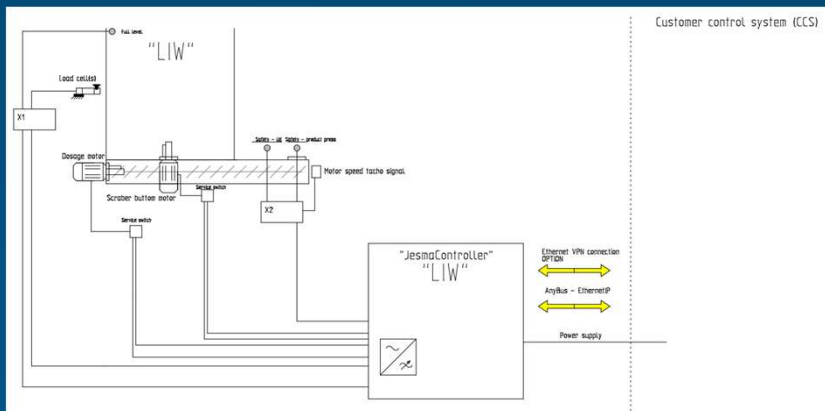
JesLIW Controls

Siemens 1200 Hardware incl. frequency converter

Jesma Software



- ▶ Standard communication protocol ProfiNet (standard)
- ▶ Communication via VPN link (Site to Jesma connection possible for easy troubleshooting) (Standard)
- ▶ Control panel incl. MCC, mild steel IP54 rating for scraper and dosing motor (standard)
- ▶ Incl. Siemens frequency converter for dosing screw (standard)
- ▶ Encoder for dosing screw (standard)
- ▶ Safety switch on dosing screw service hatch on JesLIW 2000, 3500 and 5000 (standard)
- ▶ Overflow switch on dosing screw on JesLIW 2000, 3500 and 5000 (Standard)
- ▶ NORD gear IP54 (Standard)
- ▶ 9" HMI screen (Standard)
- ▶ Emergency stop in front of electrical cabinet (standard)
- ▶ ATEX: Inside LIW bin: Zone 21. Outside unclassified (Standard)
- ▶ **OPTIONS:**
 - ▶ Rittal cabinet in stainless steel
 - ▶ Interface to other protocols AnyBUS (ex.EtherNet/IP)
 - ▶ Rockwell/Allen-Bradley PLC Hardware/Software
 - ▶ IP65 rating
 - ▶ Nonstandard motors (SEW, others)
 - ▶ Higher ATEX ratings
 - ▶ Level alarm high/full in LIW bin
 - ▶ Open/closed switch on inspection hatch for LIW bin



Jesma JesLIW

Summery

- ▶ Updated hygienic design and features
- ▶ Competitive
- ▶ Designed for poor and difficult flowing meals
- ▶ Large capacity range 200 – 26,000 kg/hr
- ▶ Proven and tested technology
- ▶ Many options
- ▶ Tailormade to fit extruders and pellet mills



NEXT ACTIONS