Manure Processing Lines for Granulated Organic Fertilizer

Fermentation · drying · sterilization · ring-die granulation · 500 to 3,000 kg/h · Technical Data Sheet



Complete turnkey lines that turn **wet livestock manure and poultry droppings** into dry, sanitized **4 – 6 mm organic fertilizer granules**. Each line covers the whole process: aerobic fermentation in rotary fermenters, drying, grinding, sterilization at 70 – 80 °C, ring-die granulation, cooling, dust removal and Big-Bag packing with weighing, controlled by an integrated PLC & HMI system.

Range overview

	10 – 12 t/day	60 t/cycle	50 t/day	60 t/day
Model	DFL5X10	DFL2X60	DFL5X50	DFL5X60
Granule output	500 – 900 kg/h	1,000 – 1,500 kg/h	2,500 – 3,000 kg/h	2,500 – 3,000 kg/h
Fermenters	5 × DF-10	2 × DF-60	5 × DF-50	5 × DF-60
Hot-air boiler	KDV300 UNI	KDV600 UNI	KDV1300 UNI	KDV1300 UNI
Rotary dryer	SPB-5 UNI	SPB10 UNI	SPB30 UNI	SPB30 UNI
Hammer mill AMC-650	22/30 kW	37/45 kW	55/75 kW	55/75 kW
Pellet press (ring die)	AMP-320V 2 × 30/37 kW	AMP-420 75/95 kW	AMP-650V 2 × 75/95 kW	AMP-650V 2 × 75/95 kW
Granule diameter	4 – 6 mm	4 – 6 mm	4 – 6 mm	4 – 6 mm
SKU	LGIO-DFL5X10-500-600	LGIO-DFL2X60-1000-1500	LGIO-DFL5X50-2500-3000	LGIO-DFL5X60-2500-3000
Product page	View online	View online	View online	View online

LINE 1 OF 4 · MODEL DFL5X10 · SKU LGIO-DFL5X10-500-600

Manure Processing Line 10–12 t/day

Organic fertilizer granules 500 – 900 kg/h



Parameter	Specification
Model	DFL5X10
Raw material	Wet livestock manure and poultry droppings
Input capacity	approx. 10 – 12 t of wet material / 24 h
Granule output	500 – 900 kg/h
Granule diameter	4 – 6 mm
Fermentation	5 × DF-10 rotary aerobic fermenters, approx. 5 – 7 days
Hot-air boiler	KDV300 UNI, pellet-fuelled, with fuel bin and rotary valve feeder
Dryer	Rotary drum dryer SPB-5 UNI
Hammer mill	AMC-650 – 22/30 kW
Sterilization	Sterilizer 6 m³ – 60 min at 70 – 80 °C, with homogenization
Pellet press	AMP-320V – 2 × 30/37 kW, ring die
Cooling & cleaning	Granule cooler with vibrating dust extraction, cyclone & electrostatic separators
Packing	Bucket elevator, Big-Bag storage bin, Big-Bag filling with scale

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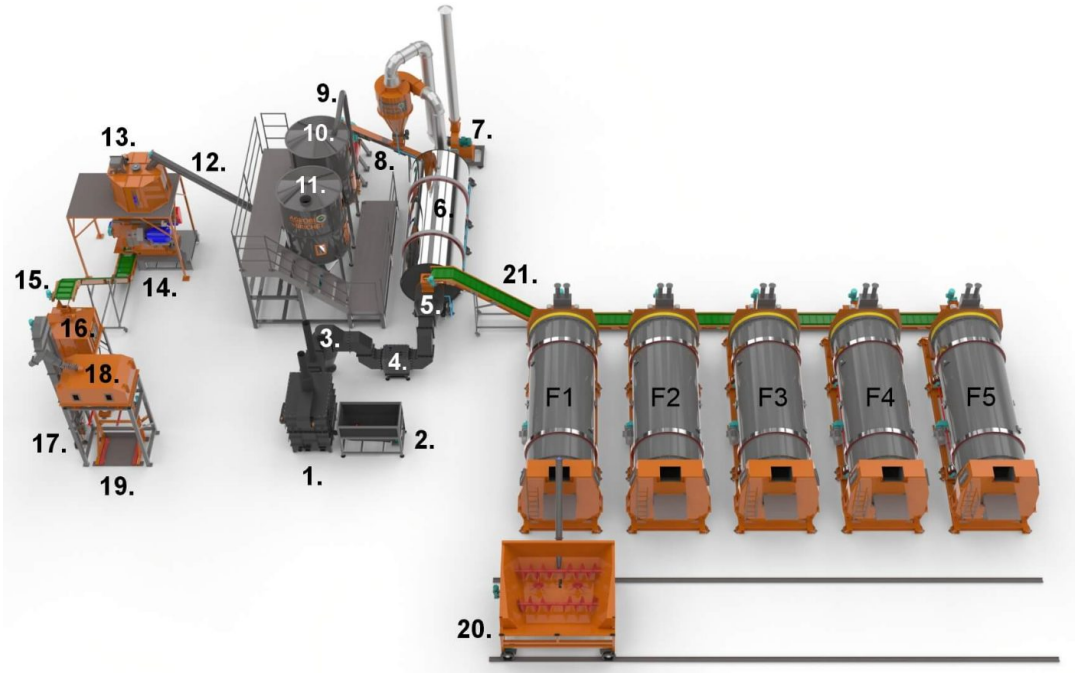
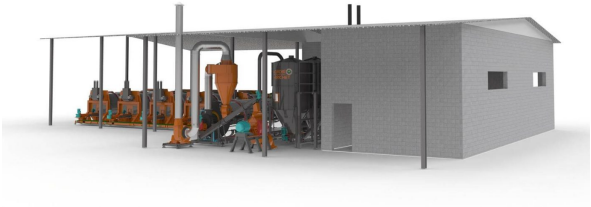
Manure Processing Line 10–12 t/day – Equipment & Process Flow



Line layout (5 × DF-10 fermenters F1–F5)



Main equipment

- Pre-crushing and manure loading system
- Rotary aerobic fermenters DF-10 (F1–F5)
- Collector belt conveyor for fermenters
- Hot-air boiler KDV300 UNI
- Pellet fuel bin with rotary valve doser
- Rotary dryer SPB-5 UNI
- Exhaust and transport fans
- Cyclone separator
- Electrostatic separator
- Hammer mill AMC-650 – 22/30 kW
- Fan feeding the sterilizer
- Sterilizer 6 m³
- Sanitized material buffer bin 6 m³
- Feed screw conveyor
- Granulator buffer bin 3.2 m³
- Pellet press AMP-320V – 2 × 30/37 kW
- Belt conveyor
- Granule cooler with vibrating dust extraction
- Bucket elevator
- Granule storage bin for Big-Bag
- Big-Bag filling system with scale

Process

Reception & pre-crushing → aerobic fermentation → drying → hammer milling → sterilization & homogenization (min. 60 min, 70 – 80 °C) → buffer storage → conditioning & ring-die granulation → cooling, screening & dust removal → Big-Bag packing with weighing.

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LINE 2 OF 4 · MODEL DFL2X60 · SKU LGIO-DFL2X60-1000-1500

Manure Processing Line 60 t/cycle

Organic fertilizer granules 1,000 – 1,500 kg/h



Parameter	Specification
Model	DFL2X60
Raw material	Wet poultry manure and livestock manure
Input capacity	up to 60 t of wet raw material per cycle (cycle approx. 5 – 7 days)
Granule output	approx. 600 – 900 kg/h (4 mm) · 1,000 – 1,500 kg/h (6 mm)
Granule diameter	4 – 6 mm
Fermentation	2 × DF-60 rotary aerobic fermenters
Hot-air boiler	KDV600 UNI with automatic ash removal, pellet fuel bunker 2.5 m³
Dryer	Rotary drum dryer SPB10 UNI – 1,000 – 1,500 kg/h; moisture approx. 40 – 45 % → 12 – 14 %
Hammer mill	AMC-650 – 37/45 kW
Sterilization	Sterilization unit 35 m³ – min. 60 min at 70 – 80 °C; homogenization silo 35 m³
Pellet press	AMP-420 – 75/95 kW, ring die
Power	Installed approx. 210 kW · indicated consumption approx. 110 kW
Packing	Big-Bag bunker with electronic scale · optional automatic 5 kg bagging
Control	PLC & HMI (2 × 10.4" screens), remote monitoring from PC / Android, data archiving

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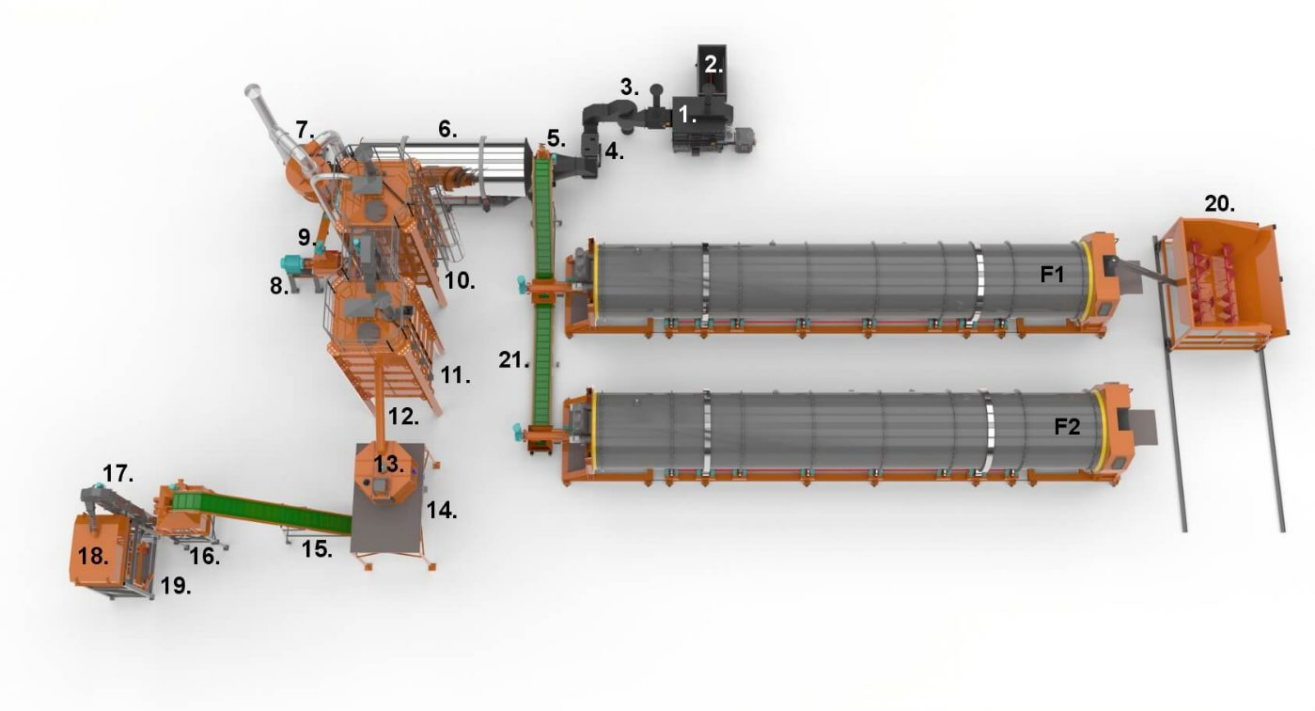
LINE 2 OF 4 · MODEL DFL2X60 · SKU LGIO-DFL2X60-1000-1500

Manure Processing Line 60 t/cycle – Equipment & Process Flow



Process flow – numbered as in the list

Main equipment

1. Rotary aerobic fermenters DF-60 (F1–F2)
2. Reception, pre-chopping and feed system 4 m³
3. Collector belt conveyor for line feed
4. Hot-air boiler KDV600 UNI with automatic ash removal
5. Pellet fuel bunker 2.5 m³
6. Rotary drum dryer SPB10 UNI
7. Cyclone separator (dust & sparks)
8. Electrostatic separator
9. Auger conveyor with star-valve doser
10. Exhaust and transport fan
11. Hammer mill AMC-650 – 37/45 kW
12. Star valve for mill feed
13. Sterilization and sanitation unit 35 m³
14. Homogenization and storage silo 35 m³
15. Granulator feed auger
16. Granulator feed bunker 3.2 m³
17. Ring-die granulator AMP-420 – 75/95 kW
18. Belt conveyor for granules
19. Granule cooler with vibrating screen and dust extraction
20. Bucket elevators
21. Big-Bag filling bunker with electronic scale
22. Electrical panel with PLC & HMI

Process

Reception & pre-crushing → aerobic fermentation → drying → hammer milling → sterilization & homogenization (min. 60 min, 70 – 80 °C) → buffer storage → conditioning & ring-die granulation → cooling, screening & dust removal → Big-Bag packing with weighing.

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LINE 3 OF 4 · MODEL DFL5X50 · SKU LGIO-DFL5X50-2500-3000

Manure Processing Line 50 t/day

Organic fertilizer granules 2,500 – 3,000 kg/h



Parameter	Specification
Model	DFL5X50
Raw material	Wet livestock manure and poultry droppings
Input capacity	up to 50 t of wet raw material / 24 h
Granule output	approx. 2,000 – 2,500 kg/h (4 mm) · 2,500 – 3,000 kg/h (6 mm)
Granule diameter	4 – 6 mm
Fermentation	5 × DF-50 rotary aerobic fermenters, approx. 3 – 5 days; fermented material silo 40 m³
Hot-air boiler	KDV1300 UNI, pellet fuel bunker 2.5 m³, automatic ash container
Dryer	Rotary drum dryer SPB30 UNI – 2,500 – 3,000 kg/h; moisture approx. 40 – 45 % → 12 – 14 %
Hammer mill	AMC-650 – 55/75 kW
Sterilization	Sterilizer with homogenization – min. 60 min at 70 – 80 °C
Pellet press	AMP-650V – 2 × 75/95 kW, ring die, with conditioner-mixer
Packing	Big-Bag system with electronic scale · optional 5 kg bags
Control	PLC & HMI (2 × 10.4" screens), remote monitoring from PC / Android, data archiving

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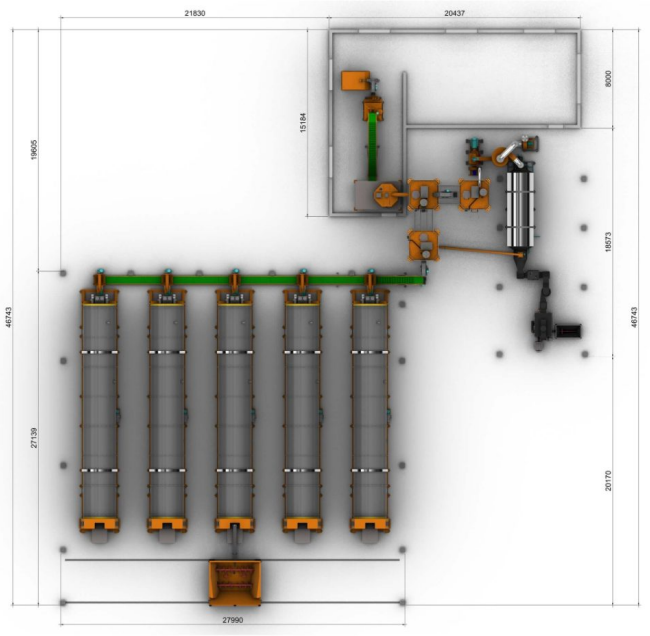
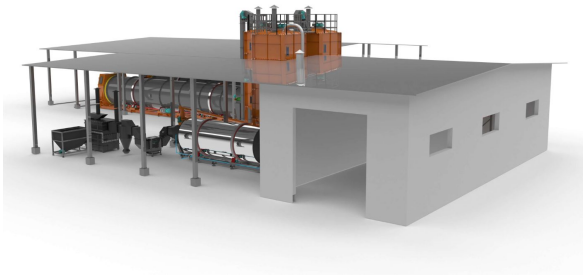
LINE 3 OF 4 · MODEL DFL5X50 · SKU LGIO-DFL5X50-2500-3000

Manure Processing Line 50 t/day – Equipment & Process Flow



Line layout with dimensions (5 fermenters F1–F5)



Main equipment

- Rotary aerobic fermenters DF-50 (F1–F5)
- Reception and pre-chopping screw 4 m³
- Collector belt conveyor
- Fermented material silo 40 m³
- Hot-air boiler KDV1300 UNI
- Pellet fuel bunker 2.5 m³
- Automatic ash container
- Cyclone separator (flue gas)
- Electrostatic separator
- Rotary drum dryer SPB30 UNI
- Hammer mill AMC-650 – 55/75 kW
- Sterilizer with homogenization
- Homogenization and storage silo
- Bucket elevator
- Pellet press bunker 3.2 m³
- Conditioner-mixer
- Pellet press AMP-650V – 2 × 75/95 kW
- Z-type belt conveyor
- Granule cooler with vibrating screen
- Dust cyclone separator
- Bucket elevator for granules
- Big-Bag bunker and filling system with scale
- Electrical panel with PLC & HMI

Process

Reception & pre-crushing → aerobic fermentation → drying → hammer milling → sterilization & homogenization (min. 60 min, 70 – 80 °C) → buffer storage → conditioning & ring-die granulation → cooling, screening & dust removal → Big-Bag packing with weighing.

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LINE 4 OF 4 · MODEL DFL5X60 · SKU LGIO-DFL5X60-2500-3000

Manure Processing Line 60 t/day

Organic fertilizer granules 2,500 – 3,000 kg/h



Parameter	Specification
Model	DFL5X60
Raw material	Wet poultry manure and livestock manure
Input capacity	up to 60 t of wet raw material / 24 h
Granule output	approx. 2,000 – 2,500 kg/h (4 mm) · 2,500 – 3,000 kg/h (6 mm)
Granule diameter	4 – 6 mm
Fermentation	5 × DF-60 rotary aerobic fermenters, approx. 3 – 5 days; fermented material silo 45 m³
Hot-air boiler	KDV1300 UNI, pellet fuel bunker 2.5 m³, automatic ash container
Dryer	Rotary drum dryer SPB30 UNI – 2,500 – 3,000 kg/h; moisture approx. 40 – 45 % → 12 – 14 %
Hammer mill	AMC-650 – 55/75 kW
Sterilization	Sterilizer with homogenization – min. 60 min at 70 – 80 °C
Pellet press	AMP-650V – 2 × 75/95 kW, ring die, with conditioner-mixer
Packing	Big-Bag filling with electronic scale · optional automatic 5 kg bagging
Control	Industry 4.0 PLC & HMI (2 × 10.4" screens), remote monitoring, data archiving

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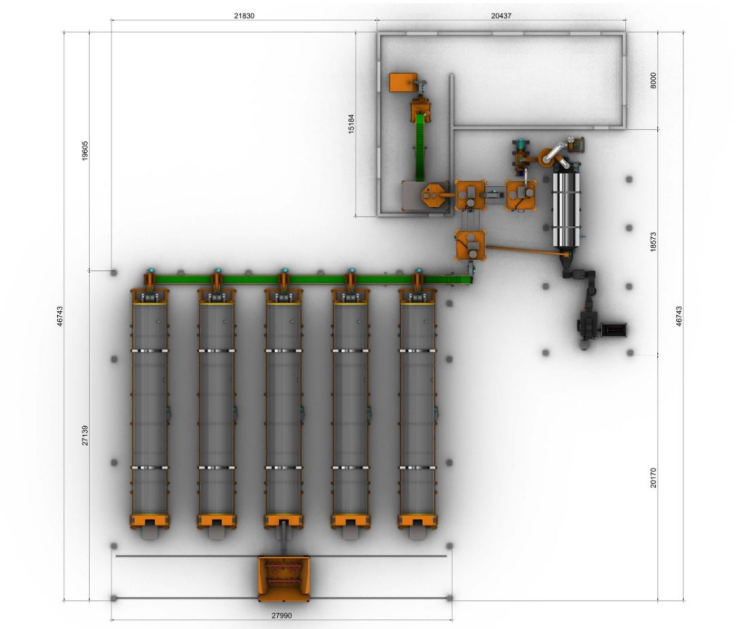
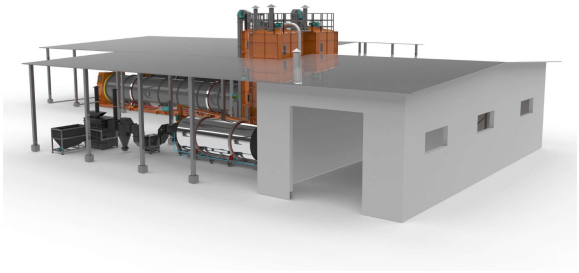
LINE 4 OF 4 · MODEL DFL5X60 · SKU LGIO-DFL5X60-2500-3000

Manure Processing Line 60 t/day – Equipment & Process Flow



Line layout with dimensions (5 × DF-60 fermenters F1–F5)



Main equipment

- Rotary aerobic fermenters DF-60 (F1–F5)
- Reception and pre-crushing screw conveyor 4 m³
- Collector belt conveyor (silo feed)
- Fermented material silo 45 m³
- Hot-air boiler KDV1300 UNI
- Pellet fuel bunker 2.5 m³
- Automatic ash container
- Cyclone separator (flue gas)
- Electrostatic separator
- Screw conveyor with rotary doser
- Rotary drum dryer SPB30 UNI
- Exhaust and transport fan
- Hammer mill AMC-650 – 55/75 kW
- Sterilizer with homogenization
- Bucket elevator
- Homogenization and storage silo
- Pellet press bunker 3.2 m³
- Pellet press AMP-650V – 2 × 75/95 kW
- Conditioner-mixer
- Z-type belt conveyor
- Granule cooler (vibrating screen, dust extraction)
- Dust cyclone
- Bucket elevator for granules
- Big-Bag filling bunker
- Big-Bag filling system with electronic scale
- Control panel PLC & HMI

Process

Reception & pre-crushing → aerobic fermentation → drying → hammer milling → sterilization & homogenization (min. 60 min, 70 – 80 °C) → buffer storage → conditioning & ring-die granulation → cooling, screening & dust removal → Big-Bag packing with weighing.

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Scope of Supply, Warranty & Service

Applies to all four lines

Included

- Installation, commissioning, operator training and technical documentation
- Line automation (PLC & HMI), service, technical support and spare parts
- Remote monitoring from PC or Android phone and production data archiving (larger lines)

Optional (at extra cost)

- Accessories: rollers, ring die, steam generator, humidification system, in-line moisture sensor, bin overload sensor
- Reactive power compensation panel with 6-step capacitor banks (cos φ 0.99)
- Automatic bagging in 5 kg bags

Warranty & support

- 24 months manufacturer warranty from commissioning of the line
- +36 months extended warranty offered by Agro Bio Brichet as dealer
- Fast intervention within 24 – 72 h · spare parts in stock · full service

Why granulate manure

- Turns a disposal problem into a sellable organic fertilizer; raw material cost is usually very low or zero
- Fermentation and sterilization at 70 – 80 °C deliver a sanitized, odour-reduced, easy-to-store product
- Uniform 4 – 6 mm granules are easy to transport, store and spread with standard equipment
- Indicative payback: 18 – 36 months, depending on organization, raw material cost and volume

Installation note

Earthing of the equipment or the complete line must comply with applicable technical regulations and standards (e.g. I7/2011, SR EN 60204-1) to ensure personnel protection and safe operation.

Request a quote

+40 765 70 10 50 · office@agrobiobrichet.ro

All organic fertilizer granulation lines: agrobiobrichet.ro/granulare-ingrasamant-organic

Images are 3D renderings of the line layout. Specifications may be adapted to the raw material and project requirements; final configuration is confirmed in the commercial offer.