ISIMEK®

Biomass Storage Silos

"Your Energy Source"

Cylindrical Modular Silos
Concrete Moving Floor Silos
Steel Moving Floor Silos

MODULAR SILOS FOR WOODCHIPS & SAWDUST STORAGE

Storage of Biomass Fuels:

Modular silos are used to store dust, generated during the wood and timber machining process.

Silos have a cylindrical and modular form. Silos can be manufactured with legs to allow trucks entry, if needed.

Sawdust silo's capacity can be expanded and carried to the desired place due to their demountable structure.

Panels can be painted with the custom color or manufactured from galvanized sheets.

Features and Specifications:

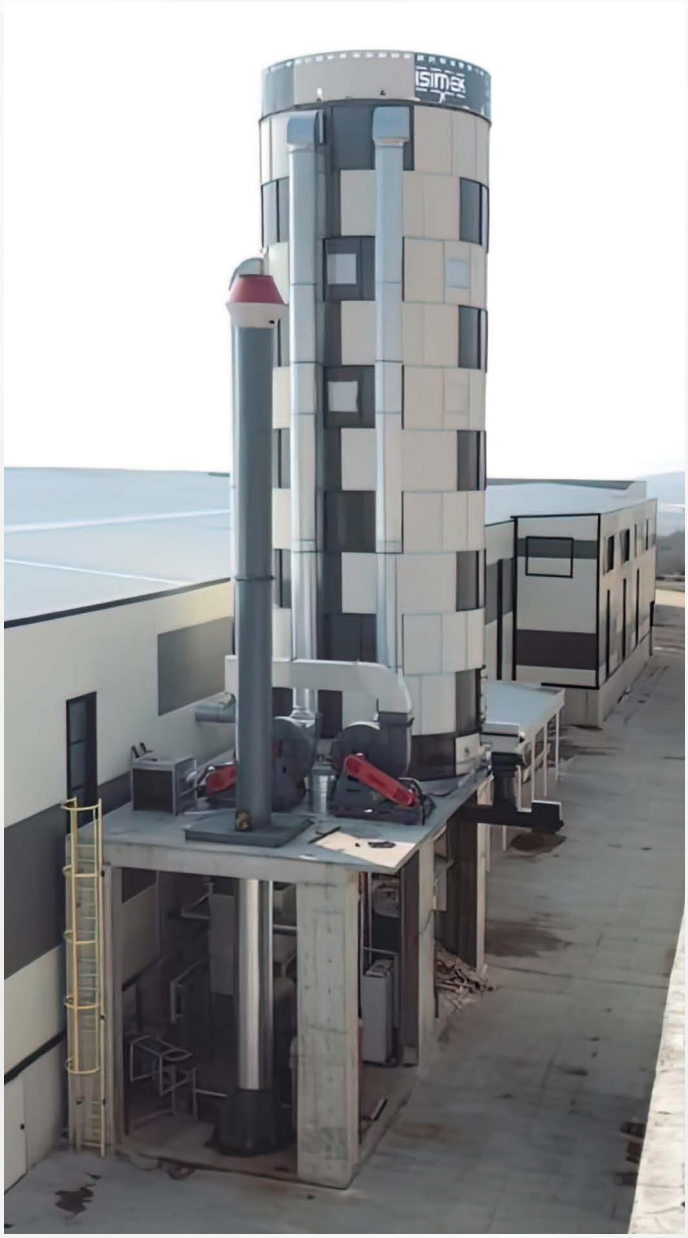
- **Paint & Finish:** Panels are painted in the desired color using a polyurethane oven-drying method. Alternatively, galvanized sheet construction is available upon demand.
- **Filtration Room:** Located at the top of the silo, the filtration room varies in size based on the silo's capacity.
- **Installation Options:** Silos can be installed directly on the ground or mounted on top of a boiler house, maximizing space utilization.
- **Chip Fan Design:** Positioned behind the silo filter, the chip fan does not come into contact with woodchips or sawdust particles. This separation ensures long-lasting performance and low maintenance requirements.
- **Dust Collection Connectivity:** The dust-collecting line can be connected to the silo at any point along its side. No additional fans are required for these connections.
- **Energy Efficiency:** The chip fan operates based on vacuum levels via a PID-controlled system. When woodworking machines are ideal, the fans shut off automatically, reducing energy consumption.

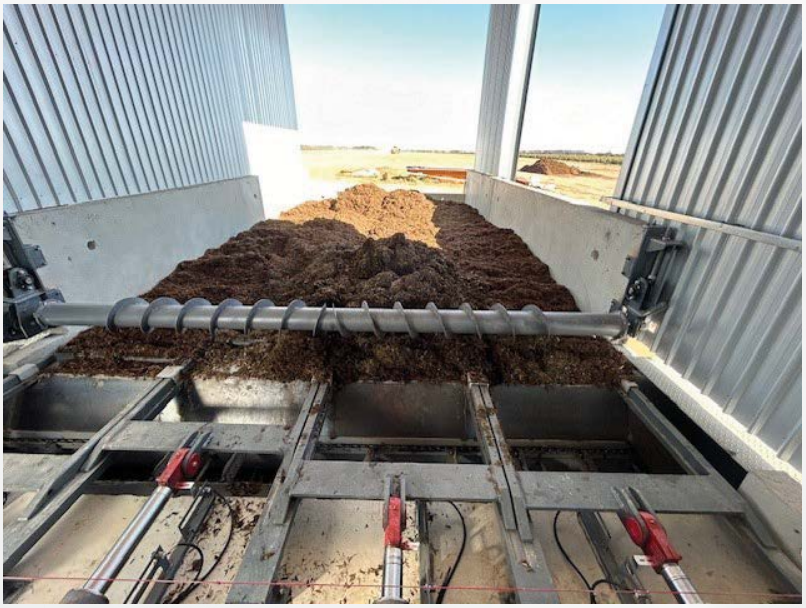
Standard Components Included:

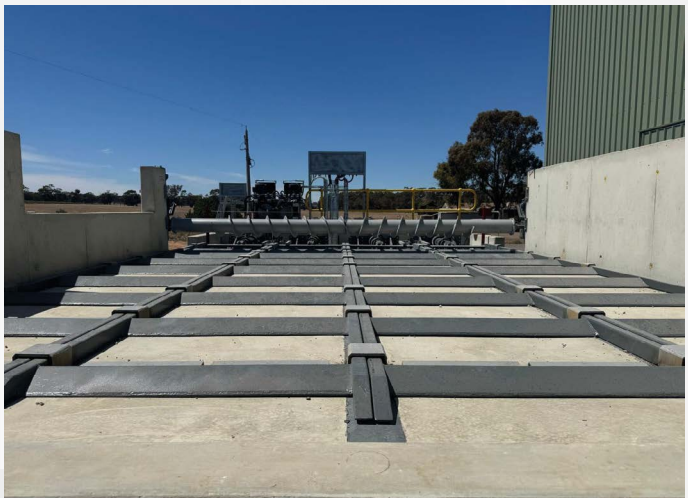
- Heat-sensitive fire detection system
- Integrated water-based fire-fighting system
- Sight glass
- Airtight maintenance and cleaning doors
- Roof railing
- Deck ladder compliant with ISO 18001 standards
- Level gauge
- Custom color options
- Explosive vent

CYLINDRICAL
MODULAR
SILOS

CONCRETE MOVING FLOOR SILOS







CONCRETE MOVING FLOOR SILO

ISIMEK Biomass storage silos are designed and engineered with variety of dimensions and capacities.

For smooth operation base support steel plates and recepirocating ladder type agitators are placed on the concrete of the moving floor silo.

The stored biomass fuel is automatically transported from concrete moving floor silo by ladders by the help of hydraulic pistons to an elevator or belt conveyor.

After reaching to the bunker the biomass is feed to the furnace by an auger mechanism or a ram feeder.

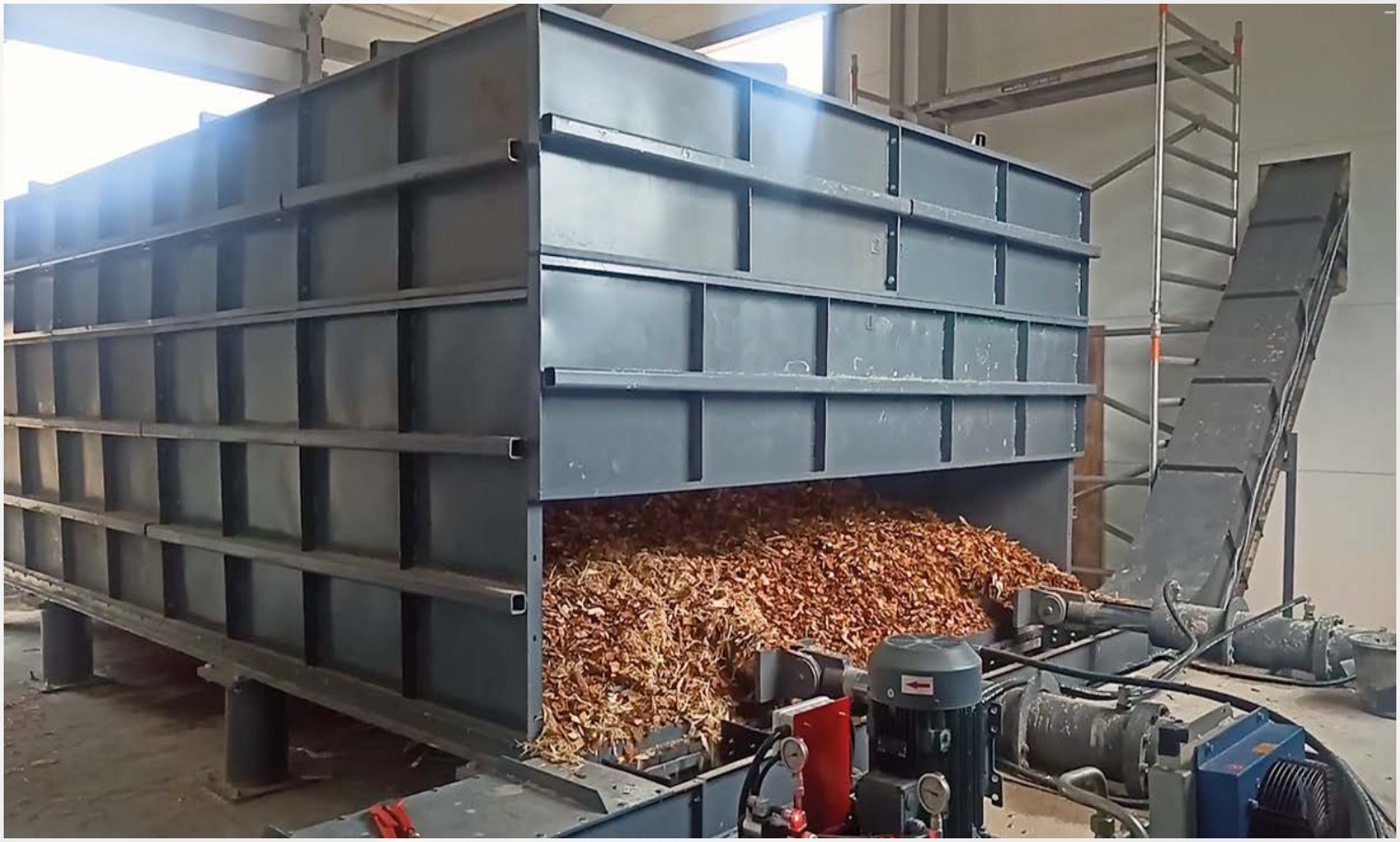
System Components

Hydraulic Agitator
Hydraulic Piston

Preferred Sizes;

- Volume: From 30m^3 to over 500 m^3
- Width: From 1,5 meters to 9 meters
- Length: Avarage of 10 meters

SILO



STEEL MOVING FLOOR SILOS

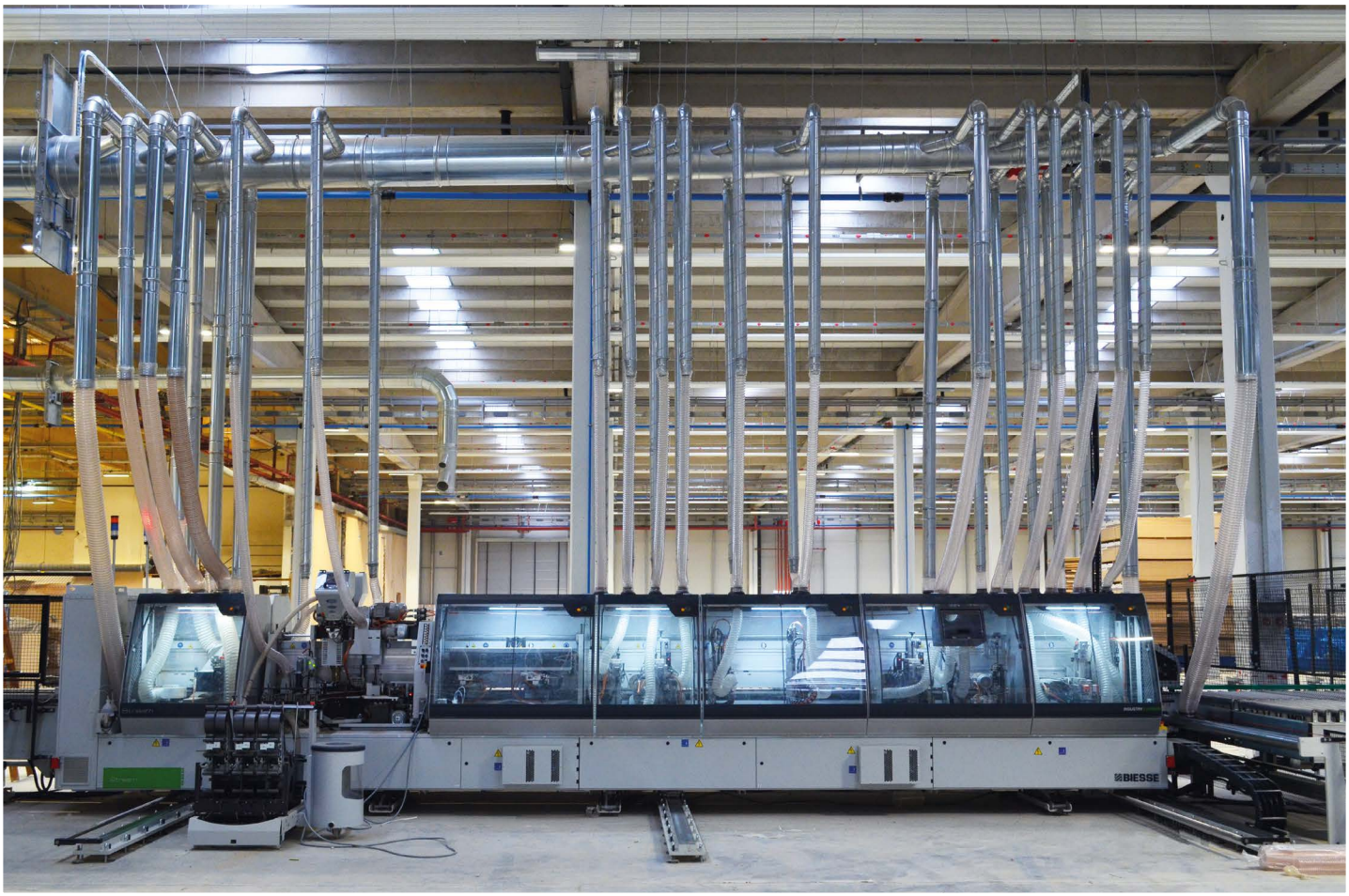
Steel silos provide pre-storage of the fuel needed by the boiler. The agitator and hydraulic pistons are placed on the floor of the area where the biomass fuel is stored.

Sawdust is transported to the boiler bunker with the help of a auger or conveyor band.

Agitator is pushed by a hydraulic piston. Steel silos are easily dismantled and removed to allow our clients to placed to where they require to assemble. Dimensions vary according to customer demands and desired capacities.

- Agitator
- Belt Conveyor / Chain Elevator
- Hydraulic Piston
- Volume: Between 50 m^3 and over 200 m^3
- Width: 1,5 - 9m
- Length: 5-10 m

STEEL MOVING FLOOR SILOS



Dust Extraction & Collecting Systems

Sawdust, woodchips, and similar materials are generated during manufacturing, and these wastes are transported to a suitable storage area by using dust collection lines. Dust extraction & collecting are used in sawmills, furniture, wood processing, and lumber factories. High-flow air suction is required in these types of facilities. ISIMEK designs and manufactures dust collection systems with an expert team in its own factory. ISIMEK completes the installation on-site with its qualified technical staff.

Dust particles emerging during the production process of furniture, chipboard, woodworking and sawmills are seperated from the work environment thanks to modular filter systems. The sucked ambient air is cleaned by a modular bag filter and returned to the factory to prevent negative pressure and excessive heat loss.

The fan is located behind the filter bags, and suction is provided by vacuuming through the pipes.

TECHNICAL INFORMATION

- Fans do not come into contact with sawdust in modular bag filter systems. For this reason, the service life of the fans will be longer and there will be no problems such as balance.
- When the process machine is not operating, the flap (valve) at the end of the ducting connected to the machine closes, changing the pressure in the ducting. The fans, which operate based on the pressure in the ducting, prevent energy loss by dimming or shutting down.
- Modular bag systems are efficient, long-lasting and cost-effective, provides a healthy and comfortable working environment.