

Drum dryer SPB



About us

Dear customers,

STRAZAR PELLET s. r. o. company is a constantly developing family business delivering technological equipment in the field of agricultural and woodworking industry for many years. We are committed to designing and production of machines and equipment designated to process agricultural commodities and biomass. Designed and produced technologies delivered from our company are guaranteed to solve complex solutions in the given field and are characterized by quality and reliability.

Our priority is your satisfaction.



Sincerely

A handwritten signature in blue ink, appearing to read 'J. Janak'.

Jaroslav Janak
CEO

Machines & Equipment

Commodities used for Drum dryer SPB

Drum dryers SPB are designed and designated for drying of biomass and agricultural commodities such as:



Wood chips



Wood sawdust



Cereal grains



Grass crops



Corn



Sunflower

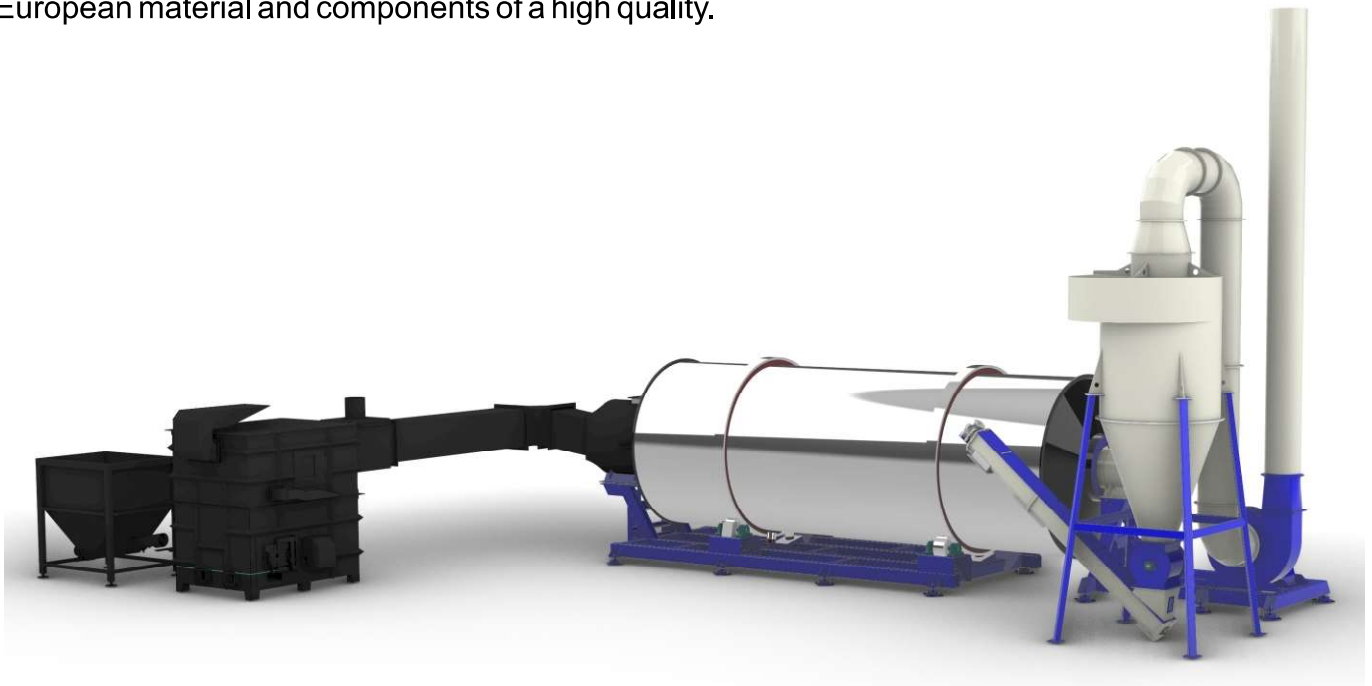


Alfalfa

Drum dryers SPB

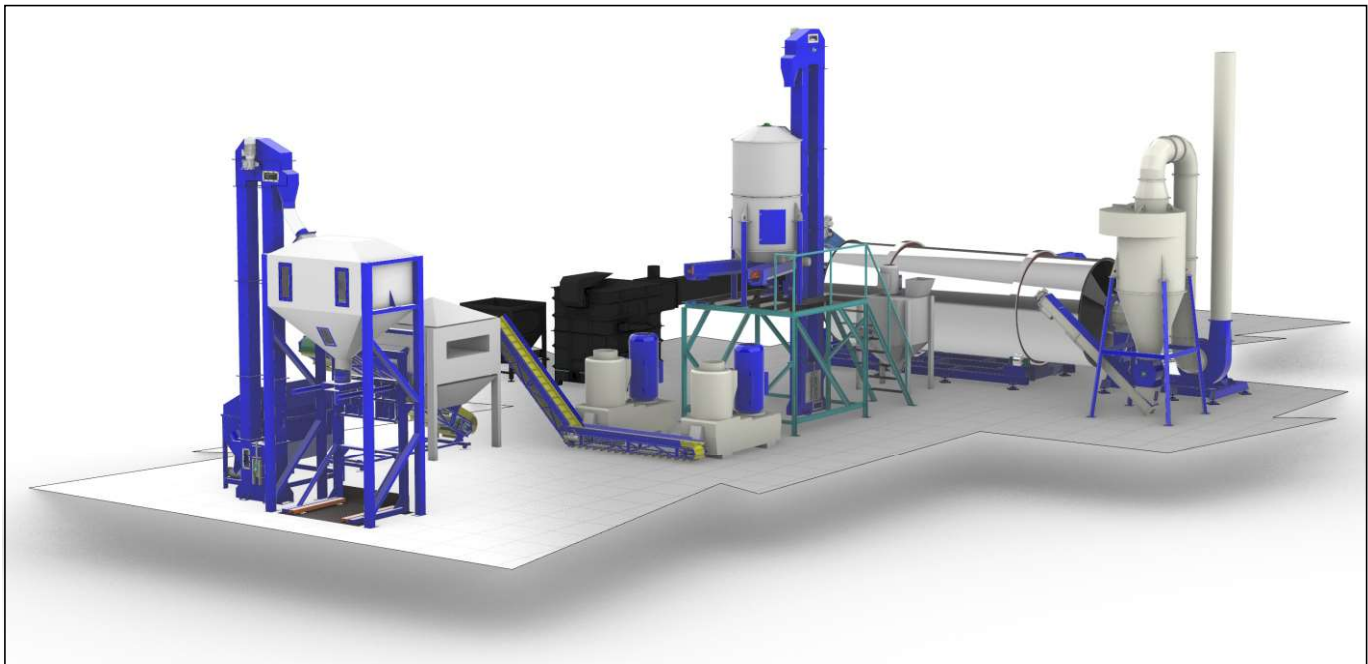
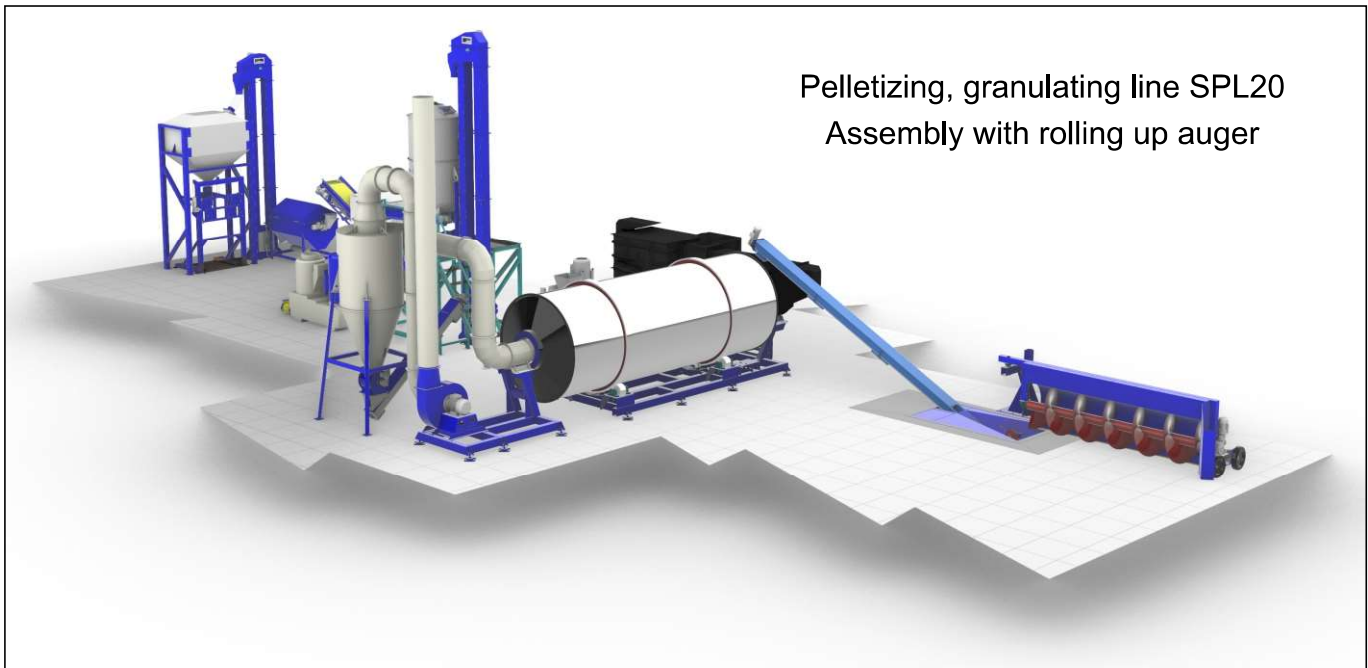
Machines and equipment for processing of biomass, agro material, agricultural commodities, cereals, hops etc.

Our company deals with design, production, and sale of technological equipment for processing of biomass, agro material, wood waste etc. Our company also designs and produces machines and equipment for preparation of raw materials designated for further processing such are drying, granulation-pellets making and briquetting. We produce and deliver belt and drum dryers of wood sawdust, wood chips, biomass, cereals, hops, hemp, plastic pulp for processing of plastic waste and other types of operation requiring drying of loose raw material. Another related production program of our company is production and delivery of augers, transport fans, loose material dispensers, separators – cyclone of loose material. In cooperation with domestic and foreign partners we participate in delivery of small and large capacity pelleting and briquetting lines. Our company is situated in our own administrative and production facility in which are these types of technological equipment designed, produced and then shipped to customers. Technological equipment delivered by our company are produced by our employees and made of domestic and European material and components of a high quality.



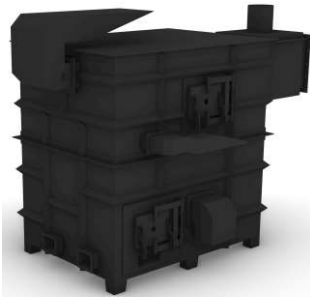
Machines & Equipment

Pelletizing, granulating lines SPB

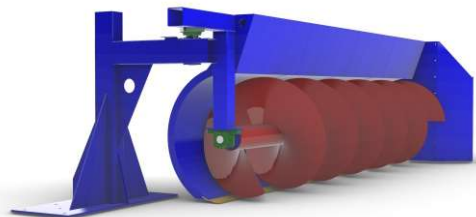


Parts and components of the pelletizing line

Hot – air boilers 300 kW – 1,5 MW



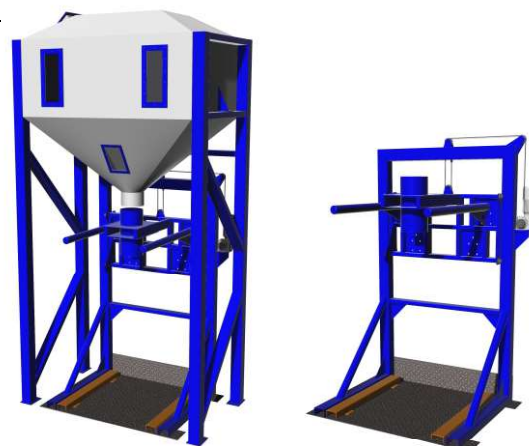
Rolling up augers



Transport and delivery ventilators
2,2 kW – 22 kW / 1200 – 18 500 m³ /hour



Fillers of large – volume bags with scale



Rotary dispensers



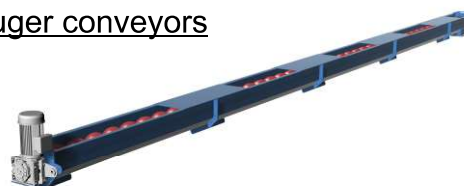
Bucket conveyors



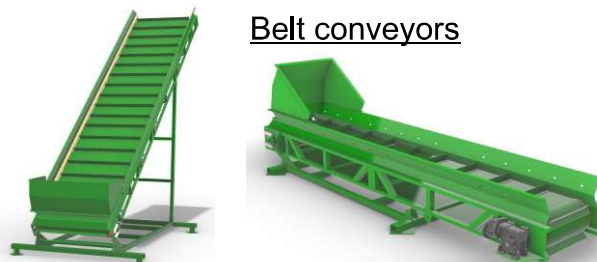
Stationary mixers



Auger conveyors

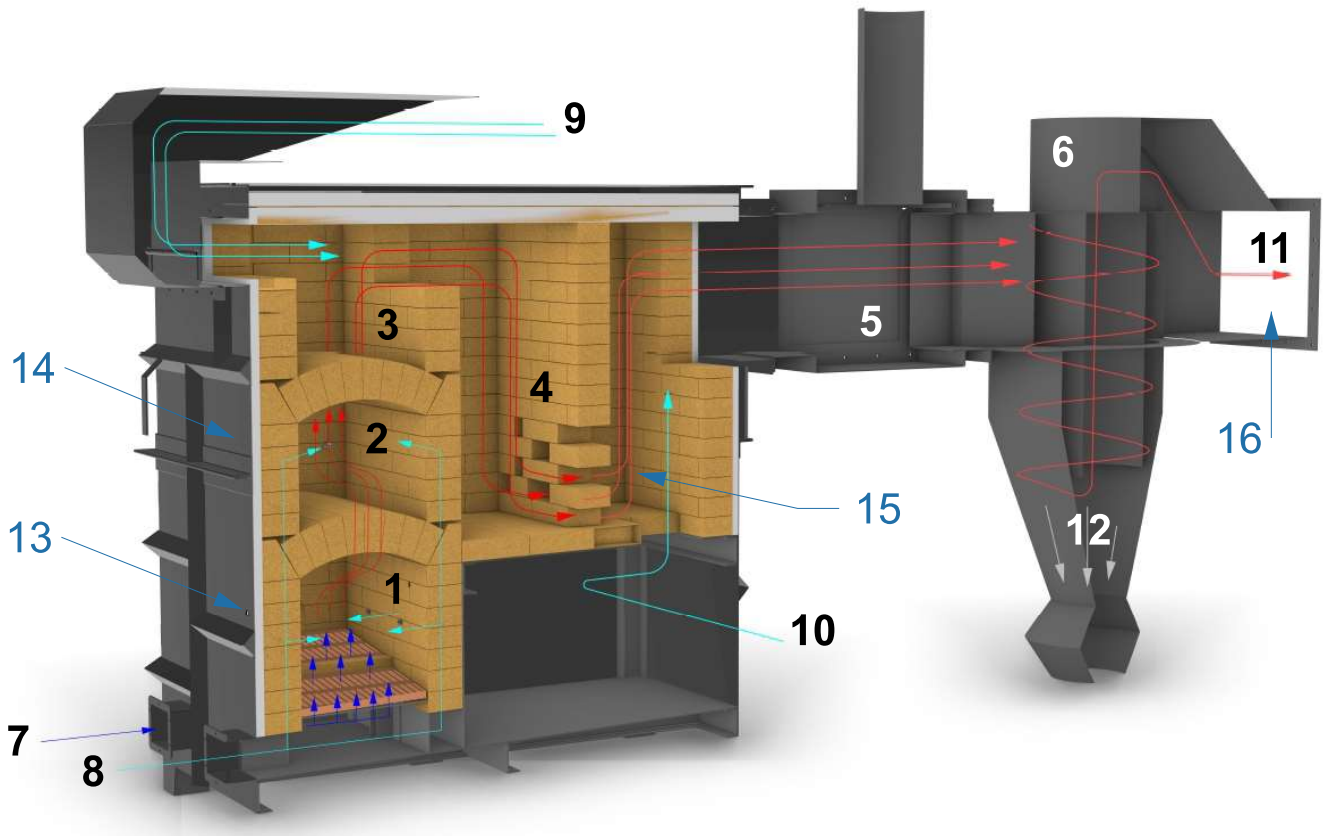


Belt conveyors



Hot - air boiler of drum dryers

Description of hot – air boiler



1. Furnace, fuel - wood chips, wood pellets, agro pellets
2. Combustion chamber
3. Mixing chamber
4. Finishing drying chamber
5. Emergency chimney flap
6. Sparks and dust separator
7. Primary air inlet under the grate (fan)
8. Secondary air inlet of the furnace and combustion chamber (fan)
9. Air inlet to the mixing chamber - regulated with servo drive
10. Air inlet for temperature control
11. Drying air outlet to the cylinder 50 – 350 ° C
12. Discharge of dust and sparks
13. Thermocouple of temperature of furnace 1200 ° C
14. Thermocouple of temperature of combustion chamber 1600 ° C
15. Thermocouple for regulating the required drying temperature of 600 ° C
16. Thermocouple of input drying temperature 600 ° C

Description of drum dryer SPB

Technology of drum dryer, hot air boiler and piping connection are designed as one functional unit. Material in the drum is moved by rotation and pushed towards to a suction chamber with sliding vanes. Dry sawdust is then sucked from the cylinder into the separator with discharge fan and subsequently into the reservoir for dry material or presser reservoir with auger conveyor. The solid particle separator – cyclone with the discharge fan ensures exhaust of steam and dust from the drying drum and then steam is led through air-technical pipeline from the separator out of the system. The dryer is equipped with electro motors with gearboxes in the way to minimize the demand for input energy and thus the system works in a very energy saving mode.

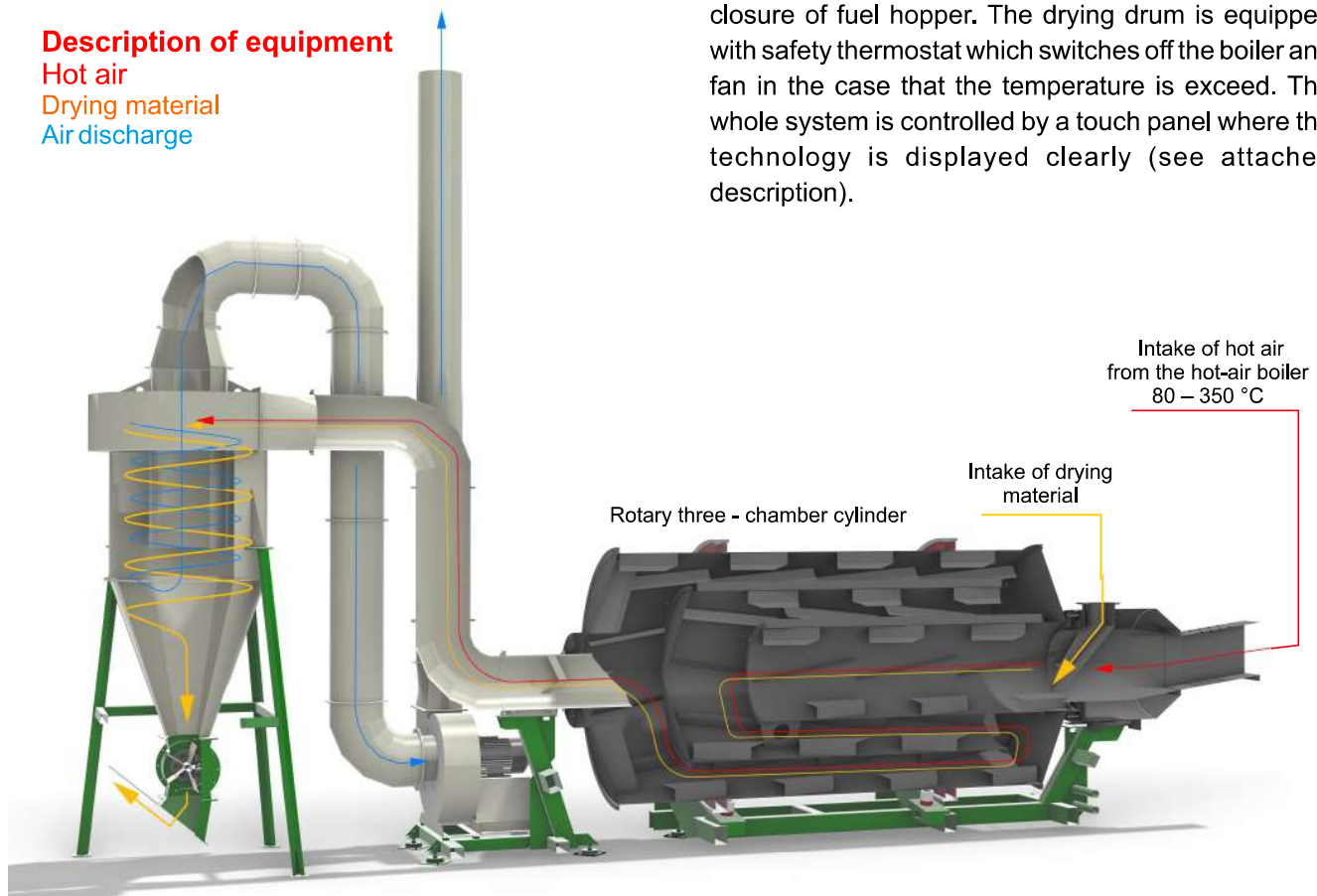
The dryer is heated by boiler of its own construction designed only for this purpose; the boiler is fully automated. Wood chips, pellets or sawdust can be used as fuel. The dryer can work in the manual mode with the assistance of operators or can be automatically regulated by a control system. The operation of the dryer is dependent on types of dryer and consists in supervision over the proper run of individual devices, setting required parameters of input and output temperature regulators, feeding material into the fuel reservoir, monitoring the material level in hoppers of the dryer and basic maintenance. The set of devices is equipped with safety components such are e.g., safety thermostat of output temperature, temperature sensor of fuel feeder and sensor of cover closure of fuel hopper. The drying drum is equipped with safety thermostat which switches off the boiler and fan in the case that the temperature is exceed. The whole system is controlled by a touch panel where the technology is displayed clearly (see attached description).

Description of equipment

Hot air

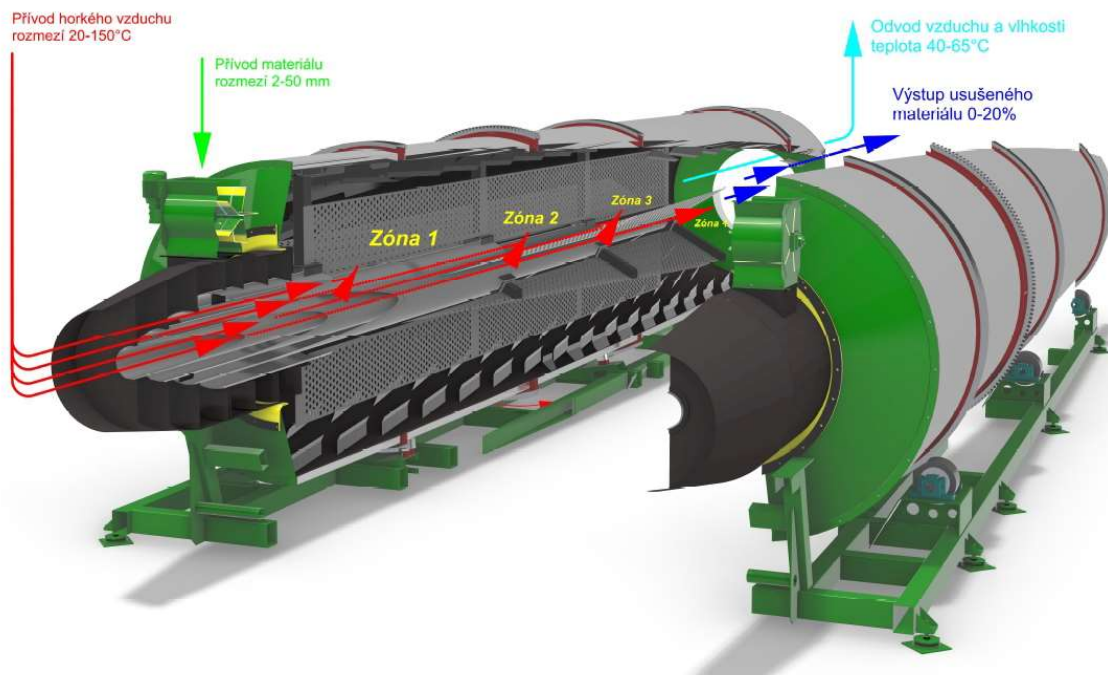
Drying material

Air discharge



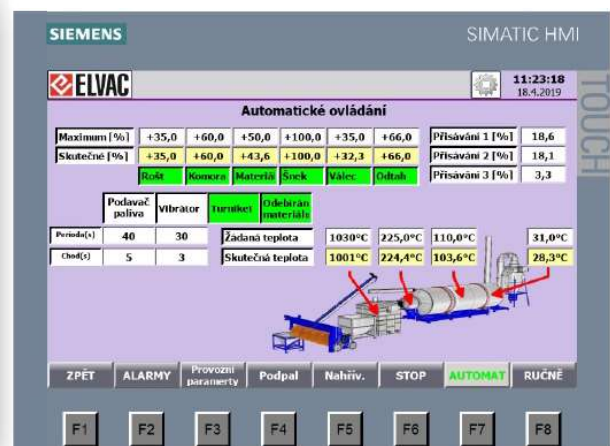
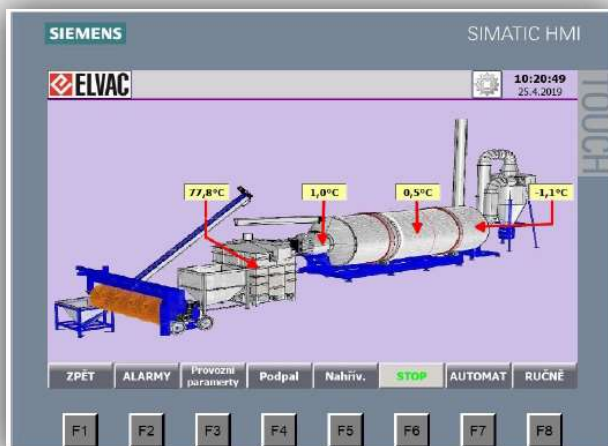
Drum dryer SPB30 AGRO

The **single-chamber cylinder** system is designed for drying material of mainly vegetable origin and for drying up to 120 ° C. The material is poured in the cylinder by **rotation** the cylinder and moved by sliding vanes along the entire length of the cylinder. Drying air from the boiler is supplied to the drying cylinder by means of **transport ventilators**. Hot air is supplied by ventilators which are parts of the boiler and are regulated by the temperature and volume requirements for each zone separately through the central pipe. The temperature can be set separately for each zone. Excess air is then extracted from the cylinder by the **exhaust ventilator** to the centrifugal **separator**. The system is designed for drying material with input moisture of up to 90% and a size of up to 50 mm to output moisture of up to 0%. It is possible to dry commodities such as alfalfa, hops, hemp, forage stalks, corn and other cereals. With the modification of the boiler, the dryer is also suitable for drying wood chips.



Control system and safety of equipment

The set of devices is equipped with safety components for instance safety thermostat of output temperature, temperature sensor in the drum, temperature sensor of fuel feeder, sensor of cover closure of the fuel hopper, temperature sensores in boiler chambers and chimney flap for leading heat out of the system. The set of devices is connected to pressure water supply in case that material burns in the drum. Drying drum is equipped with safety thermostat which switches off the boiler and ventilator in the case that the temperature is exceed, closes the heat intake into the system, and extinguishing process is started with the help of servo valve and pressure water in the case of burning. The whole system is controlled by touch panel where the technology is clearly and graphically displayed and also state of all components during the process of drying with needed data. In the case of defect, the operators are visually warned by red light and acoustic siren. Possible defects are then also described on the display.



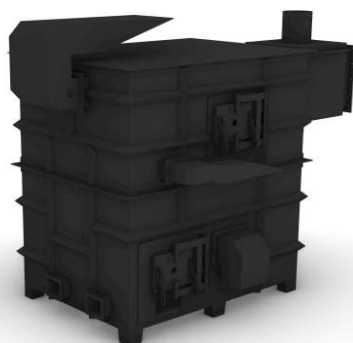
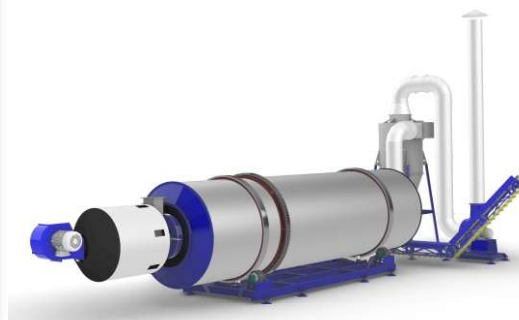
Machines & Equipment

Technical data

Modelová řada SPB	Množství výstupní suroviny při vlhkosti 8–12 %	Množství vstupní suroviny při vlhkosti 35–45 %	Tepelný výkon kotle palivo	Požadovaný elektrický příkon sestavy
SPB5	max. 500 kg/hod.	cca 800 kg/hod	300 kW štěpka 30 %	18 kW
SPB10	max. 1 000 kg/hod.	cca 1 600 kg/hod	800 kW štěpka 30 %	32 kW
SPB20	max. 1 800 kg/hod.	cca 2 800 kg/hod	1,2 MW štěpka 30 %	44 kW
SPB30	max. 3 000 kg/hod.	cca 4 500 kg/hod	1,5 MW štěpka 30 %	63 kW

Technická data SPB30

Dryer model		Drum dryer of sawdust and biomass SPB30
Possible material to be dried		Wood material – sawdust, woodchips, agro material, fermented manure, biological waste and other material of vegetable origin
Size of drying material	mm	50x30x30
Moisture of input material	%	Min. 20% - Max. 85% moisture
Moisture of output material	%	Od 0% do 20% moisture
Input temperature of drying	°C	150 - 360
Output temperature	°C	40 - 85
Maximum quantity of processed input material at the average moisture (45%)	kg/hour	4.500
Maximum quantity of dried material to the average required moisture of 10%	kg/hour	3.150
Evaporative heat	MJ	3.450
Volume flow of air and flue gases through the set of devices	m ³ /hour	19.200
Diameter of drying cylinder	mm	2.250
Length of drying cylinder	mm	7.500
Maximum input power	KW	35
Voltage	V/Hz	3x400/50 for EU (possibly other – USA,CAN)
Number of operators		1
Controlling		Controlled by PLC, manually or automatically



Type of equipment		Hot air boiler SPBK 1500
Rated boiler output	KW	1,5 MW
Possible fuel to be burnt		Wood material, woodchips, sawdust, pellets, wood residuals
Maximum size of burnt material	mm	50x30x30
Moisture of fuel in order to reach rated output	%	Max. 35
Regulation of burning and combustion		Continuous according to PLC and requirement of drying cylinder
Regulation of output in continual operation		30% min. output up to 100% rated output
Volume of fuel reservoir	m ³	2,5
Volume flow of air through boiler	m ³ /hour	19.200
Maximum temperature in the fireplace	°C	1.300
Control of air sucking		Automatically by servo motors
Voltage	V/Hz	3x400/50 for EU (possibly other – USA,CAN)
Maximum input electric power	kW	2,3
Flue pipe diameter for chimney flap	mm	200
The total weight	kg	6.150
Fuel consumption (woodchips at moisture within 30%)	kg/hour	165

Realisation & Installation



Machines & Equipment



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