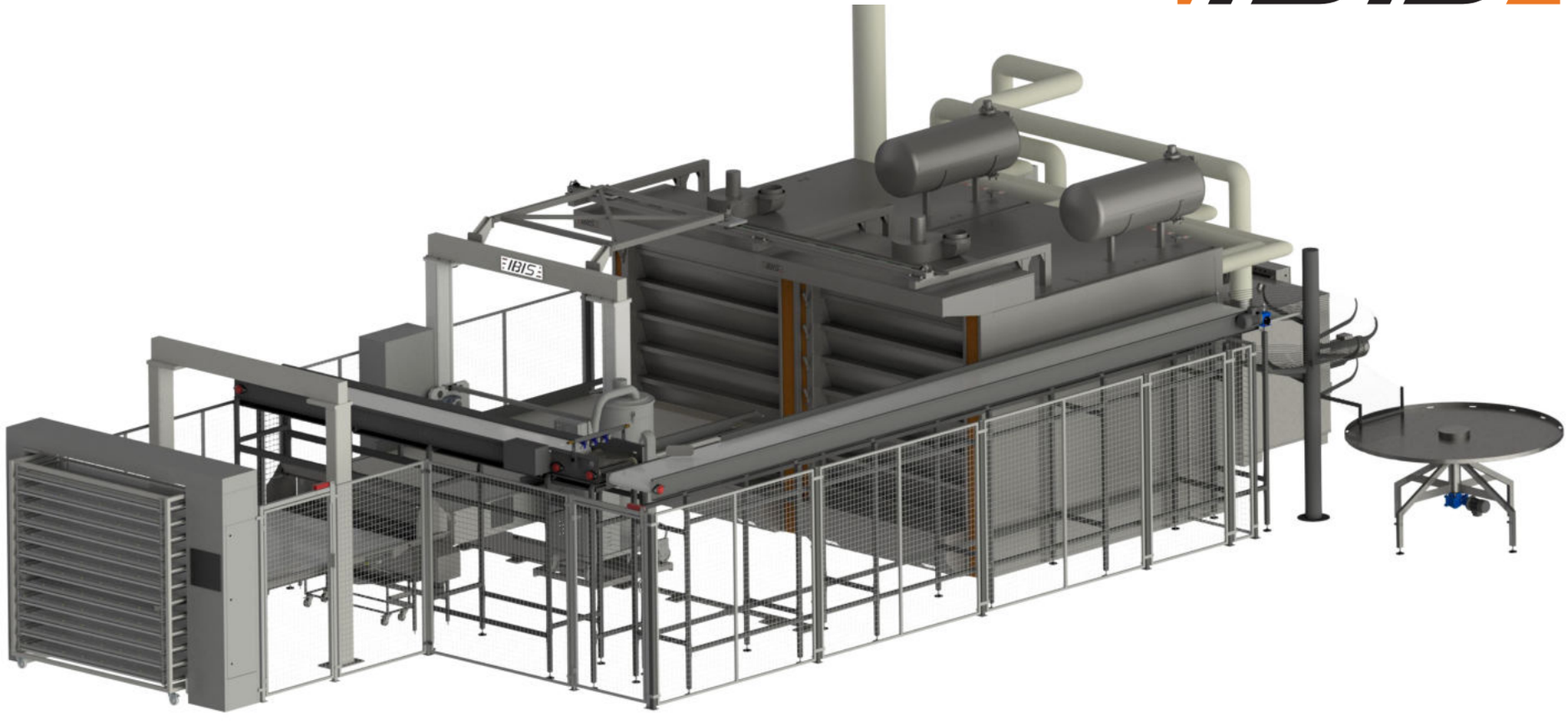


THERMAL OIL OVENS
SYSTEM OF LOADING AND UNLOADING

THERMAL OIL OVENS

Thermal oil ovens designed to intensive use are an ideal solution for craft, large and industrial bakeries. They are dedicated to bakers requiring the highest quality baking. The production technology and the highest quality materials ensure their long service life, while generating significant energy savings. Ovens occupy a small area in a bakery in relation to their baking area. The oven construction ensures an even temperature distribution in the heating plates, because the thermal oil (heat carrier) is constantly pressed by the pump with a magnetic seal.

The heating technology used and the oven's construction guarantee even baking and ensures repeatability of baking for the baker. Thermal oil ovens are equipped with a modern computer-based control system that constantly monitors the proper operation of the devices.

The principle of heating is similar to the central heating system used in residential construction (central boiler with a network of pipes and radiators), with the difference that the heat transfer fluid (heating medium) is not water, but synthetic oil with high heat capacity.

The boiler is a complete unit, consisting of a heat exchanger, burner, circulation pump, electrical control and all sensors and regulators necessary for operation and safety. The heating surface of the boiler consists of pipes resistant to high temperatures, arranged in two cylindrical coils. The tube bundle is arranged in such a way that optimal combustion conditions can be achieved with a minimum load on the heating surface.

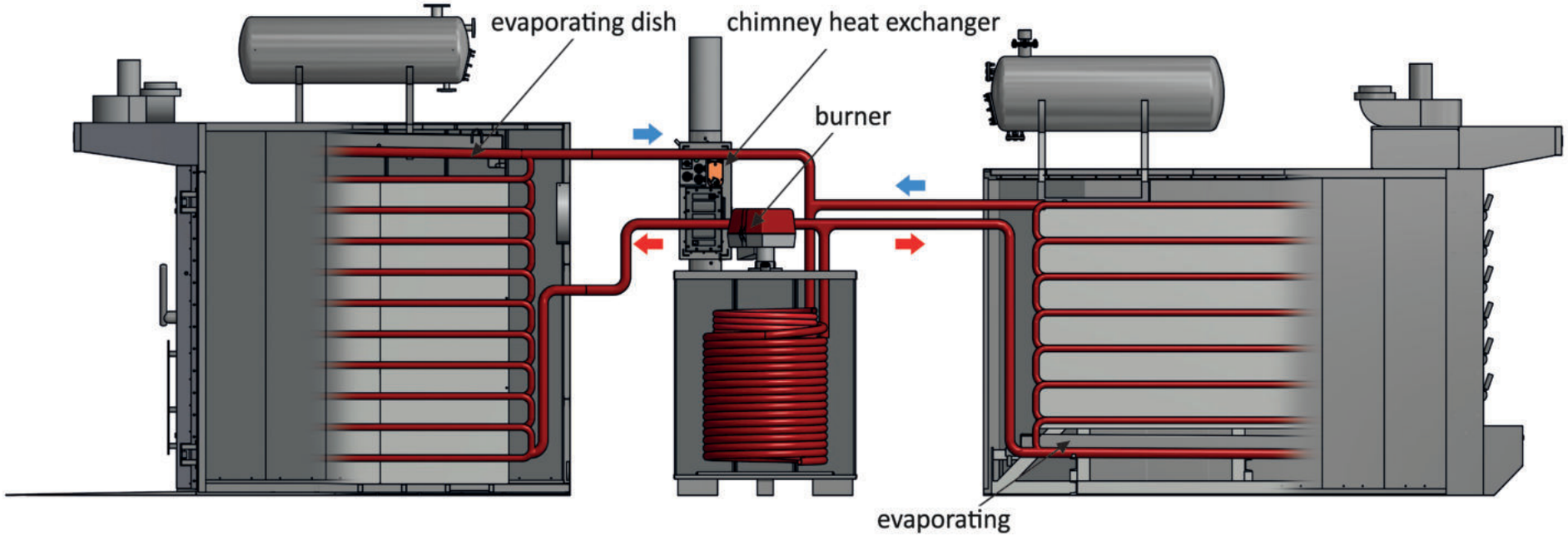
STANDARD EQUIPMENT:

MAGNETIC PUMP

SYNTHETIC OIL

The energy generated during combustion at the burner level is transferred to the heat carrier in the coil (located in the center of the boiler) and then pumped to the oven. In the baking process, the difference between the temperature of the heating medium and the baking temperature is very important.

In IBIS deck thermal oil ovens it is only 25°C. The temperature is always stable – there is no decrease in the thermal effect. Excellent baking results are achieved thanks to the high accumulation and excellent heat transfer.



Thermal oil technology enables combination of several ovens with one gas, oil or pellet fired boiler. The boiler can be placed in the basement, warehouse or garage, just where the space is.
Additionally, due to the use of only one burner in the thermal oil system, only one flue gas chimney is required in the bakery.

Sample of the oven's combinations:
- two thermal-oil deck ovens 18m² + boiler 160kW
- two thermal-oil trolley ovens PW110 + boiler 160kW
- two thermal-oil deck ovens 27m² + boiler 290kW
- thermal-oil deck oven 22m² + thermal-oil trolley oven PW160 + boiler 290kW

Model kotła		KG120	KG160	KG160 PELLET	KG200	KG290
Power	kW	120	160	160	200	290
Electrical power	kW	2,5	3,5	3,5	3,5	4
Width	mm	960	1150	1250	1150	1350
Length	mm	960	1150	1364	1150	1350
Height	mm	1300	1375	1375	1610	1710

HORIZONTAL HEATING BOILER ADAPTED FOR MOUNTING PELLET BURNERS

THERMAL OIL DECK OVENS

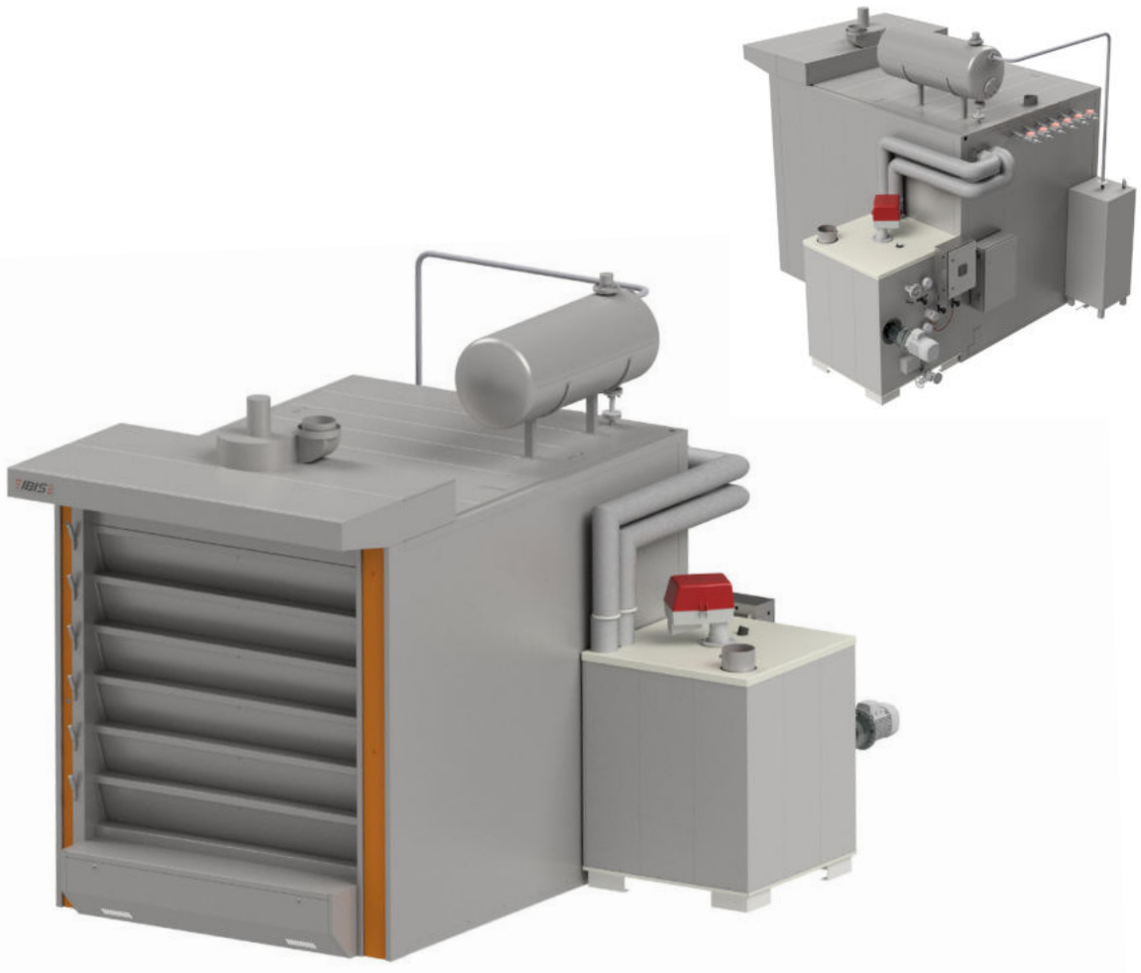
Thermal oil deck ovens are suitable for baking a wide range of bakery and confectionery products due to the perfect uniformity and quality of baking as well as temperature stability.

Thermal oil systems manufactured by IBIS are characterized by a short time of readiness to operation. The heating-up time for the oven with a baking surface of 27m^2 from the temperature of 25°C to 250°C does not exceed 30 minutes.

The properties of synthetic oil and the applied thick thermal insulation allow for the accumulation of large amounts of energy. This feature contributes to the fact that thermal oil ovens lose their temperature very slowly after baking.

The temperature drop with the oven off is <10°C per hour of standstill. Extremely short heating time allows for quick baking of products batch by batch and excellent baking quality. The construction of the oven guarantees its longevity, but most of all allows it to work 24 hours a day.

Thermal oil ovens are famous for their very efficient steamers with a unique design, which are able to provide up to 15kg of steam on board per hour of operation, i.e. up to 7.5kg per one chamber per baking.



An example installation
of the thermal oil oven with boiler


FILTR OLEJU


FILTR OLEJU

THE MOST ECONOMICAL AND EFFICIENT OVENS AVAILABLE ON THE BAKERY MARKET	MAXIMUM BAKING SURFACE ON THE MINIMUM PLANT AREA
FROM 4 TO 9 SHELVES AND FROM 10 TO 40 M^2 BAKING SPACE	IBIS IS THE ONLY PRODUCER OF THERMAL OIL OVENS IN POLAND
HIGH PERFORMANCE EVAPORATION SYSTEM	THE HIGHEST QUALITY AND EVEN BAKING
LOW GAS, OIL OR PELLET CONSUMPTION DUE TO HIGH HEAT ACCUMULATION AND QUICK HEATING OF THE OVEN	IDEAL OVENS FOR AUTOMATIC LOADING SYSTEMS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MONO-DUO SYSTEM

Thermal oil deck oven can be built on the basis of two sections, based on the principle of the thermal oil double circulation system. In practice, this makes it possible to simultaneously bake various assortments in one oven.

In a six-chamber oven divided into two segments, in the lower segment (3 decks), you can bake bread at a temperature of, for example, **250°C**, and in the three upper chambers, rolls at a temperature of, for example, **215°C**.


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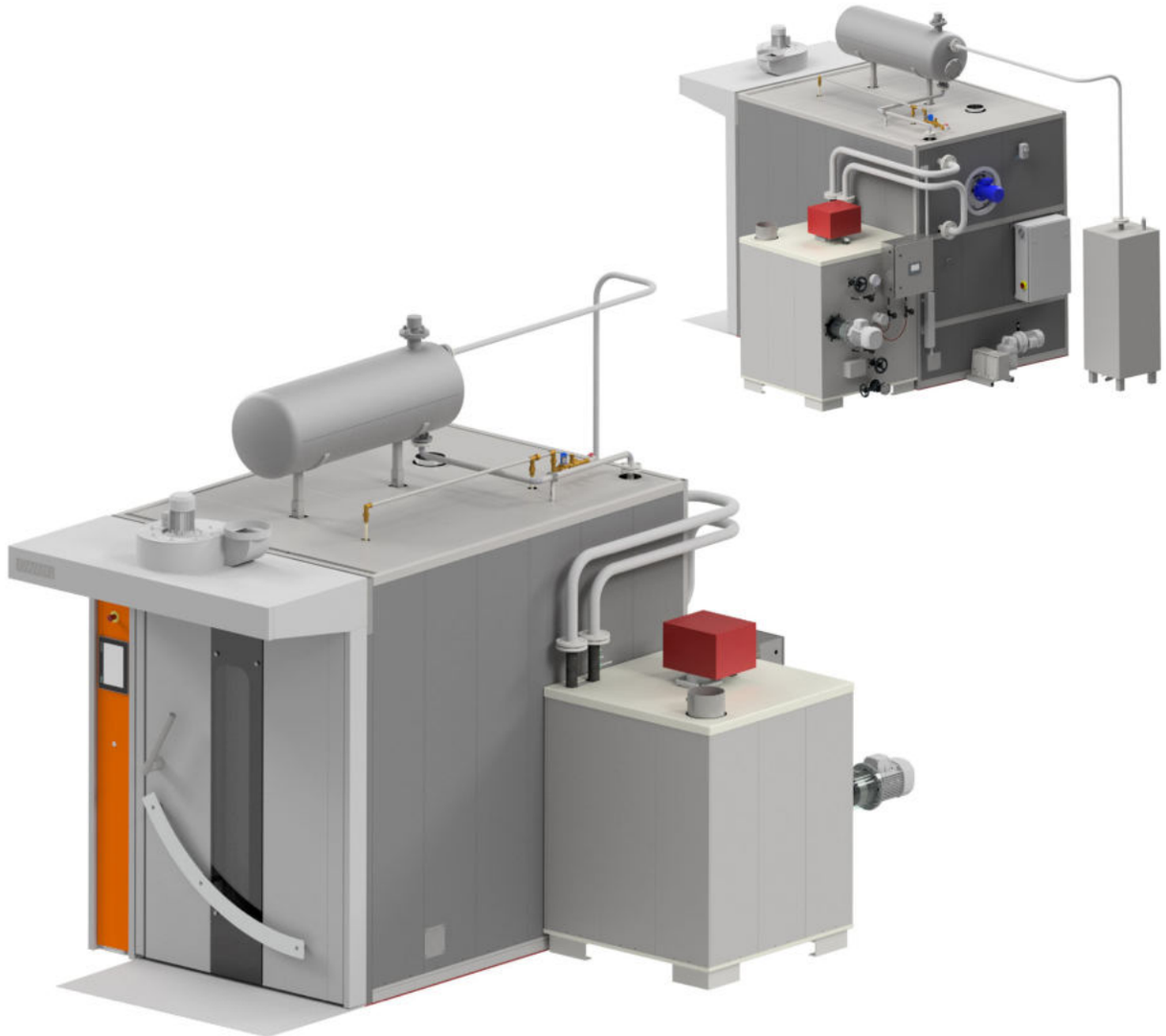
TROLLEY THERMAL OIL OVENS

IBIS PW trolley thermal oil ovens are extremely efficient and versatile in their use, combining the advantages of rotary ovens with classic deck ovens. They are convenient in loading and unloading, as this process involves the entry and exit of trolleys. In 3-trolley ovens, the entry and exit process is additionally supported mechanically, which significantly improves and speeds up service.

Carrying out traditional baking of the assortment on hearth plates and baking with the use of tray or baking mold trolleys in one oven is not a problem, because the set can be equipped with trolleys with hearth plates and special loading and unloading trolleys.

It is a technical solution that combines the tradition of deck ovens with modernity, as only about one minute of time is needed to fill a baking area of 16m^2 by an experienced person. Gentle heat radiation, the use of hot air and a very efficient steam system ensure excellent baking quality.

The ovens have many different functions and retrofitting options, which are selected according to the individual needs of customers.



An example installation
of the thermal oil oven with boiler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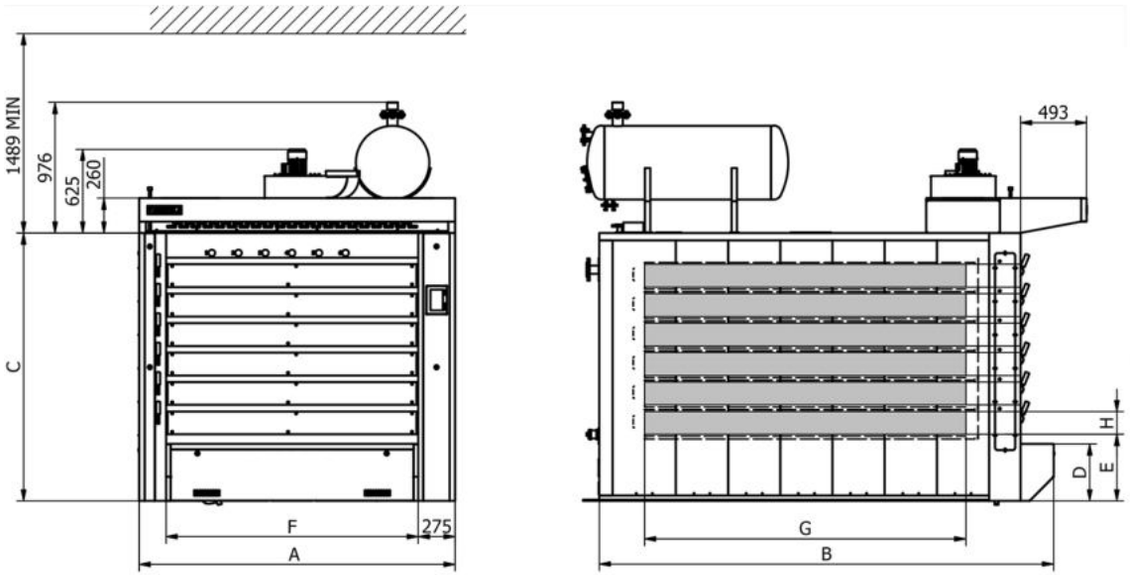
TECHNICAL PARAMETERS

THERMAL OIL DECK OVENS
from 10 to 40 m²



SYSTEM
MONO-DUO

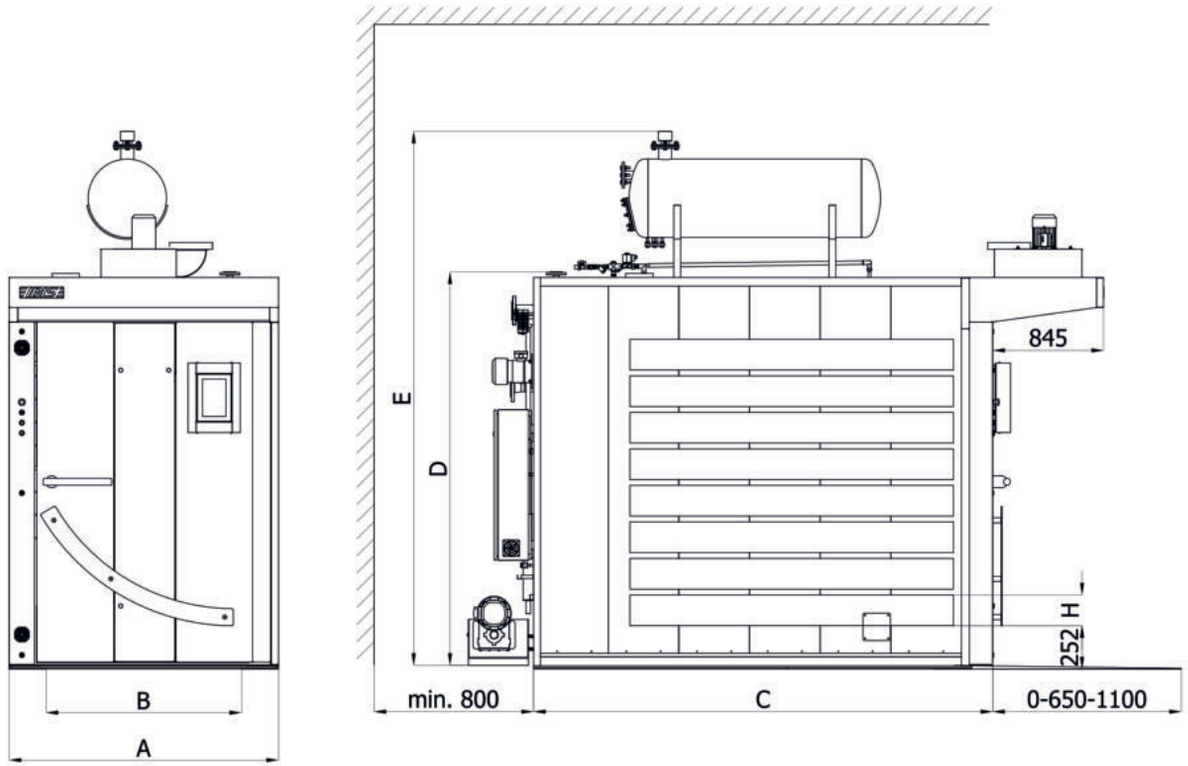
AUTOMATIC OPENING OF
CHIMNEY DAMPERS

LOADING SYSTEM

MODEL	Baking surface	Number of chambers	A	B	C	D	E	F	G	H
PKT 5.100	10 m²	5	1795	2600	2000	535	717	1240	1600	170
PKT 4.120	12 m²	4	1795	3400	1780	535	717	1240	2400	170
PKT 5.120	12 m²	5	1795	3000	2000	535	717	1240	2000	170
PKT 4.150	15 m²	4	2360	3000	1780	535	717	1860	2000	170
PKT 5.150	15 m²	5	1795	3400	2000	535	717	1240	2400	170
PKT 4.180	18 m²	4	2360	3400	1780	535	717	1860	2400	170
PKT 5.180	18 m²	5	2360	3000	2000	535	717	1860	2000	170
PKT 6.180	18 m²	6	1795	3400	2000	425	497	1240	2400	170
PKT 6.180 MONO-DUO	18 m²	6	1795	3640+600	2070	425	497	1240	2400	170
PKT 5.220	22 m²	5	2360	3400	2000	535	717	1860	2400	170
PKT 6.220	22 m²	6	2360	3000	2000	425	497	1860	2000	170
PKT 6.220 MONO-DUO	22 m²	6	2360	3240+600	2070	425	497	1860	2000	170
PKT 6.220 LOADING SYSTEM	22 m²	6	2360	3000+450	2390	425	497	1860	2000	225
PKT 6.270	27 m²	6	2360	3400	2000	425	497	1860	2400	170
PKT 6.270 MONO-DUO	27 m²	6	2360	3640+600	2070	425	497	1860	2400	170
PKT 6.270 LOADING SYSTEM	27 m²	6	2360	3400+450	2480	425	497	1860	2400	225
PKT 7.315 LOADING SYSTEM	31,5 m²	7	2360	3400+450	2780	425	497	1860	2400	225
PKT 8.290 LOADING SYSTEM	29 m²	8	2360	3000+450	3100	425	497	1860	2000	225
PKT 9.9330 LOADING SYSTEM	33 m²	9	2360	3000+450	3385	425	497	1860	2000	225
PKT 8.360 LOADING SYSTEM	36 m²	8	2360	3400+450	3300	425	497	1860	2400	225
PKT 9.400 LOADING SYSTEM	40 m²	9	2360	3400+450	3600	425	497	1860	2400	225

TECHNICAL PARAMETERS

TROLLEY THERMAL OIL OVENS



MODEL	Number of trolleys	Tray Dimensions (cm)	Deck Nb	Baking surface (trays)	Baking surface (slabs)	A	B	C	D	E	H
PW 103.10	3	58 x 98 60 x 100	10	18	18,5	1570	1140	2676	2512	3336	156
PW 103.9			9	16,2	16,7	1570	1140	2676	2312	3136	156
PW 103.8			8	14,4	14,8	1570	1140	2676	2312	3136	180
PW 83.10		60 x 80	10	14,4	14,8	1370	940	2676	2512	3336	156
PW 83.9			9	13	13,3	1370	940	2676	2312	3136	156
PW 83.8			8	11,5	11,8	1370	940	2676	2312	3136	180
PW 102.10	2	58 x 98 60 x 100	10	12	12,7	1570	1140	2026	2512	3336	156
PW 102.9			9	10,8	11,5	1570	1140	2026	2312	3136	156
PW 102.8			8	9,6	10,2	1570	1140	2026	2312	3136	180
PW 82.10		60 x 80	10	9,6	10,2	1370	940	2026	2512	3336	156
PW 82.9			9	8,6	9,1	1370	940	2026	2312	3136	156
PW 82.8			8	7,7	8,1	1370	940	2026	2312	3136	180

SYSTEM OF LOADING AND UNLOADING

ATLAS – a modern system for loading and unloading bakery ovens

The ATLAS loading and unloading system and IBIS thermal oil ovens guarantee the economy of production, while maintaining the highest quality and even baking results. Owners of artisanal bakery face the problems of „missing hands to work", the need to reduce costs and constantly raise labor standards. The quality of the bread and the efficiency of the production remain also key factors. The answer to all these issues on the part of the Polish manufacturer of bakery machines and ovens - IBIS - is the ATLAS loading and unloading system designed to fit a modern bakery. It should be borne in mind that automation of a bakery does not mean abandoning the artisanal production.

No more carrying heavy setters and unloading with shovels

Manual loading requires physical brawn. The constant lifting of setters can cause back pain and other injuries resulting from overloads of the musculoskeletal system. The ATLAS loading and unloading system takes over the hardest physical work and at the same time relieves the employees.

For the operation of the set consisting of two PKT 6.270 ovens with a total baking area of 54 m2 and the ATLAS system, only one operator is required who is responsible for timely placing the trolleys with side setters in the docking station.

Loading and unloading is automatic and takes a very short time, with an accuracy of one second. Only the Thermal oil ovens (due to their construction) allow baking batch after batch for 24 hours while maintaining a unique baking atmosphere and equal baking.

Fast loading and unloading guarantees less cooling of the ovens, while in continuous production, it reduces the production time of bread by up to 20%.

Siemens automation guarantees reliability and continuity of work. The strength of IBIS ATLAS system are servo drives with outstanding performance and reliability in operation. They are used wherever positioning, dynamics of movement and the need for precise control are the key elements.

CONTROL AND SERVO DRIVES

SIEMENS

ZŁOTY MEDAL 2022

Automation of loading and unloading.

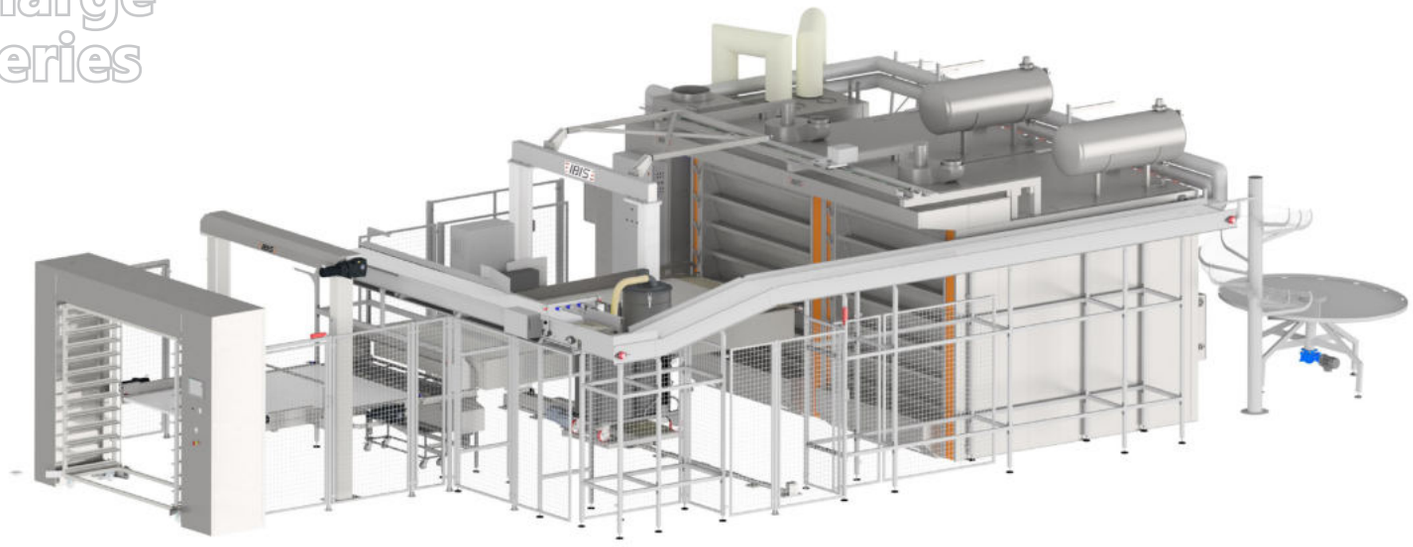
There are several ways to load dough onto the loader belt:

- manual removal of dough from proofing baskets directly onto the belt,
- manual unloading of side setters directly onto the belt,
- automatic picking up of the dough from the setters to the feeding table. The trolley with the cameras is placed in the docking station. The ovens and ATLAS system are controlled from the control panel located in the docking station.

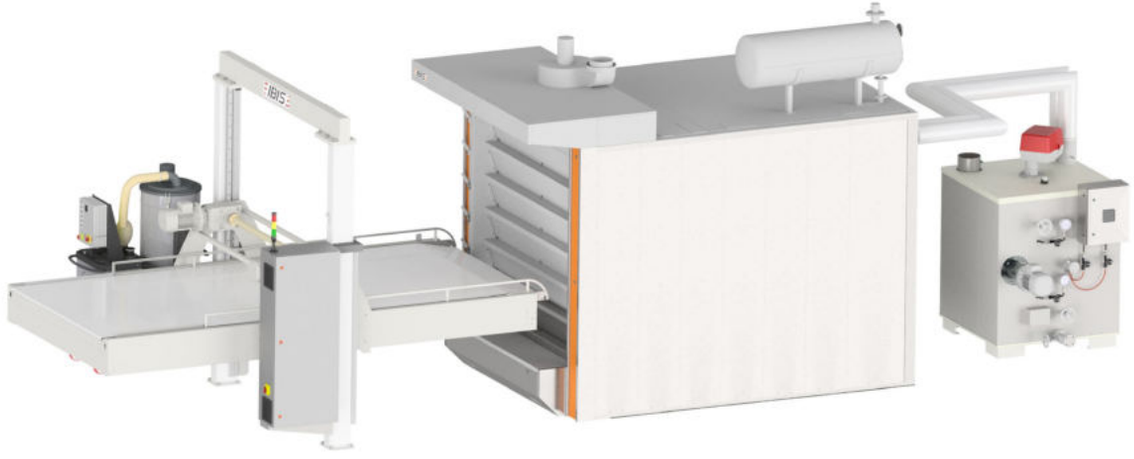
There are various variants availbale for unloading of the ovens:

- manual removal of products from the belt and putting them on trolleys to cool,
- automatic unloading of products onto trolleys to cool,
- unloading onto the conveyor belt transporting the products to the warehouse. The tape ends with a slide and a rotating receiving table.

ATLAS system for large and industrial bakeries

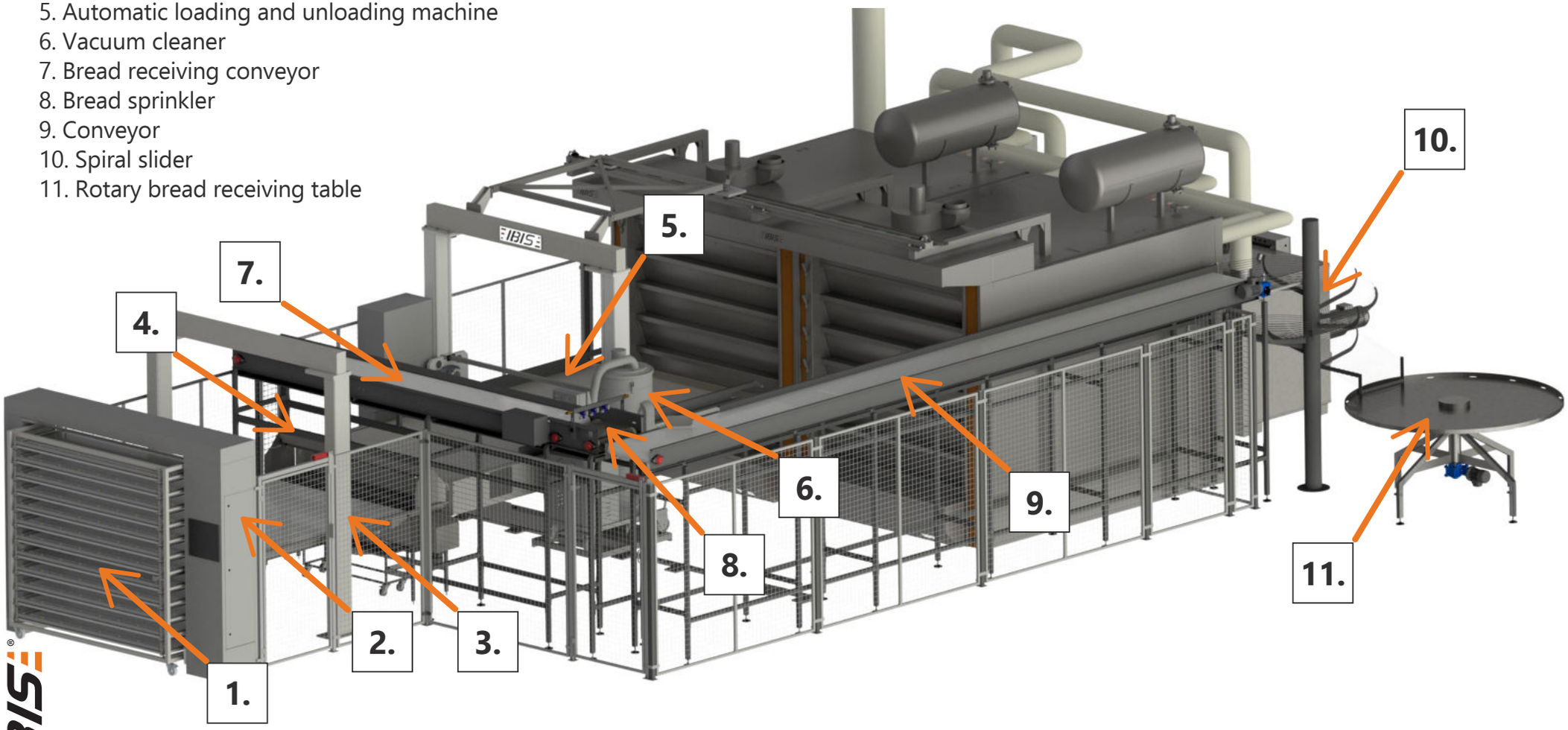


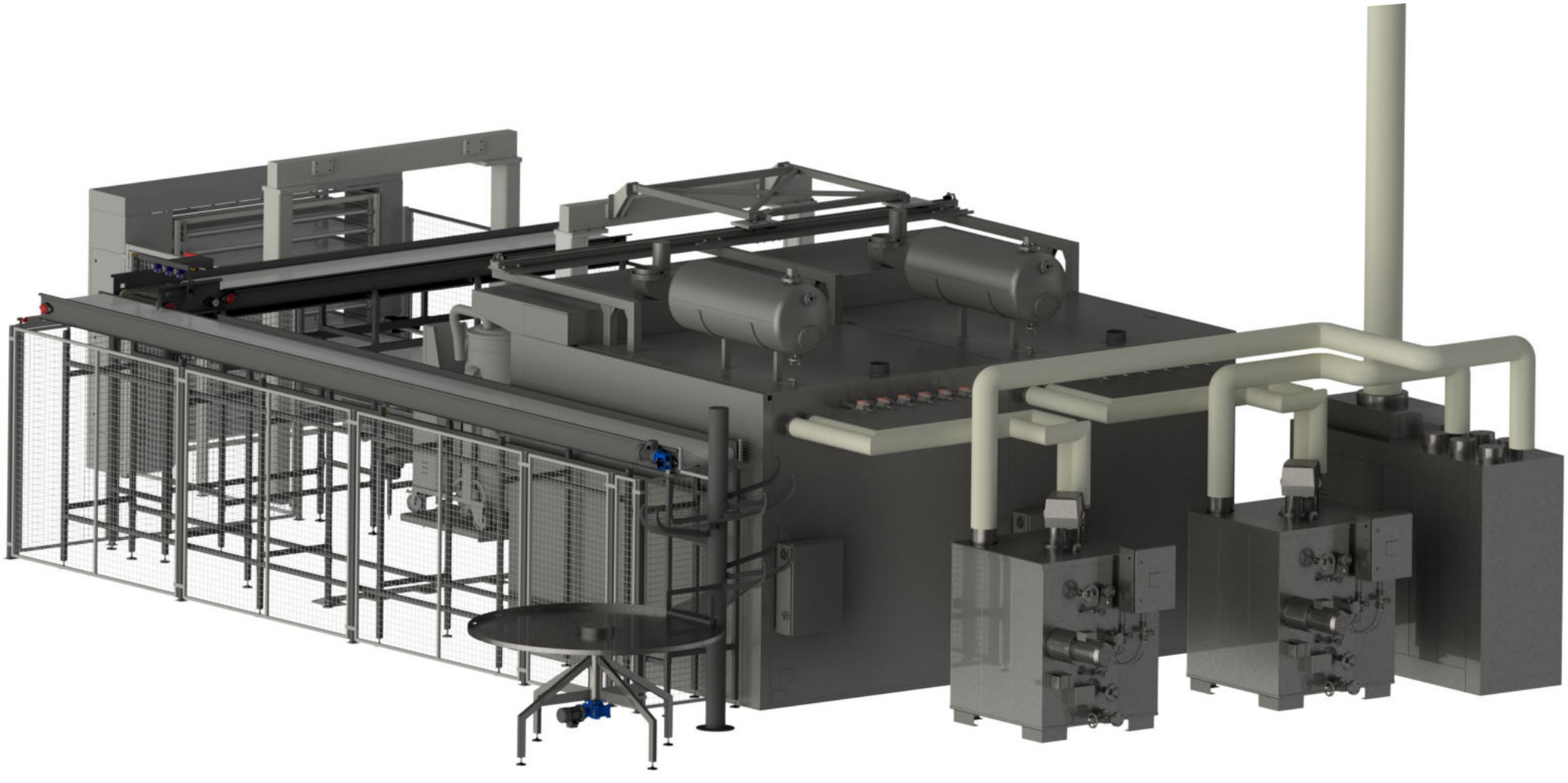
ATLAS loading system for small and artisan bakeries



Three thermal oil deck ovens PKT 6.270 with automatic system of loading and unloading and bread transport system to the packing station.

1. Trolley with side loading setters
2. Docking station for trolleys with loading setters
3. Feeding table
4. Dough sprinkler
5. Automatic loading and unloading machine
6. Vacuum cleaner
7. Bread receiving conveyor
8. Bread sprinkler
9. Conveyor
10. Spiral slider
11. Rotary bread receiving table



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CHIMNEY HEAT EXCHANGER

W30P

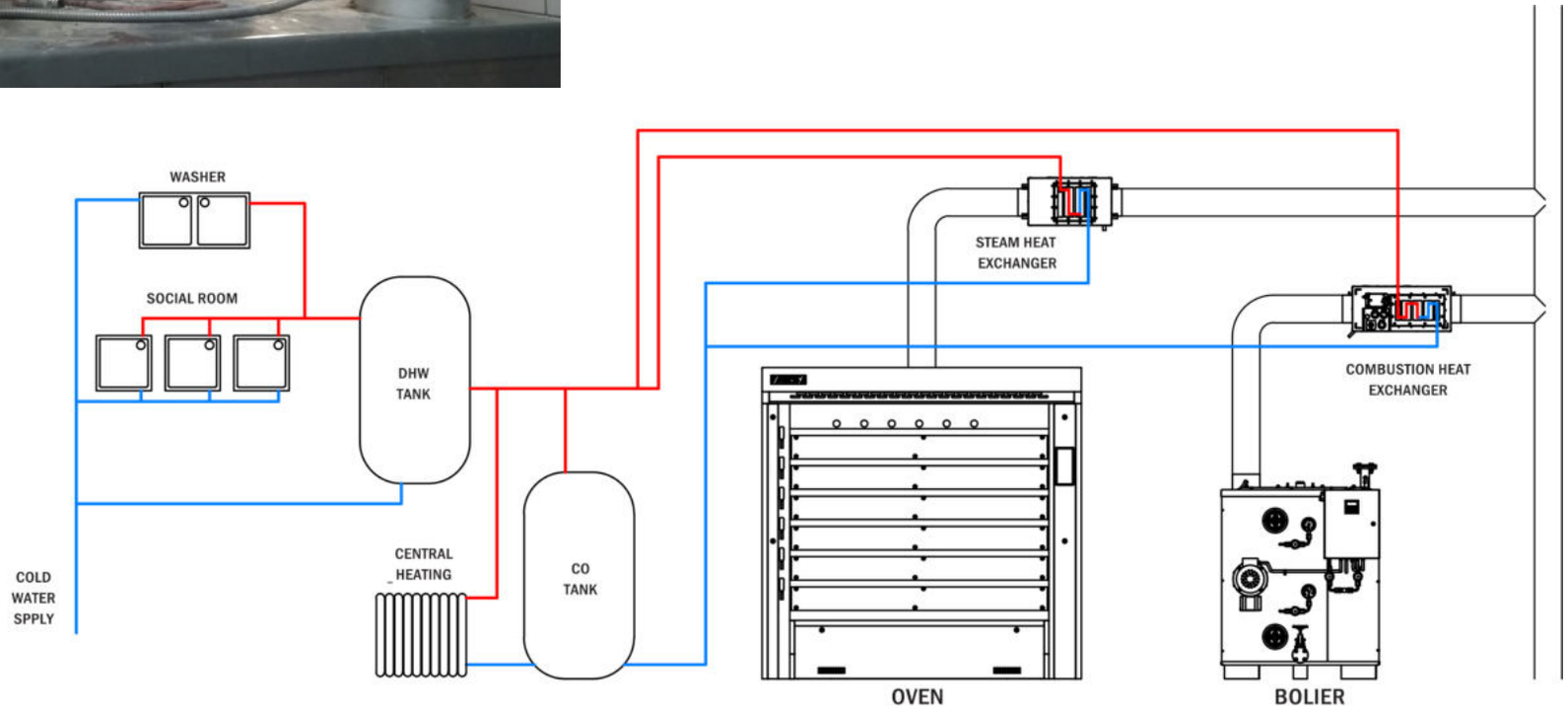
Heat recovery means the consistent use of heat energy from a baking oven. In every bakery oven and thermal oil boiler, normal operation produces flue gas at a temperature of about **300°C**. These exhaust gases along with the heat energy are sent through the chimney to the atmosphere. A way to stop irretrievably lost heat and energy is to install a heat exchanger in the chimney flue of the oven. Thanks to this device, we are able to recover most of the lost heat of exhaust gases and steam from the hood, which is then transferred to the bakery's heating system to assist in heating usable water or central heating.

- Can be installed on any gas or oil oven
- The possibility of obtaining hot water without incurring any costs
- Simple assembly without complicated modifications
- Simple assembly without complicated modifications
- Insulated stainless steel housing
- Possibility of connecting central heating

W30

TECHNICAL PARAMETERS

Model		W30	W30P
Baking are	m^2	12 - 27	12 - 27
Heating power	kW	30	20
Water connection	cal	1″	1″
Width	mm	750	590
Length	mm	880	750
Height	mm	330	330

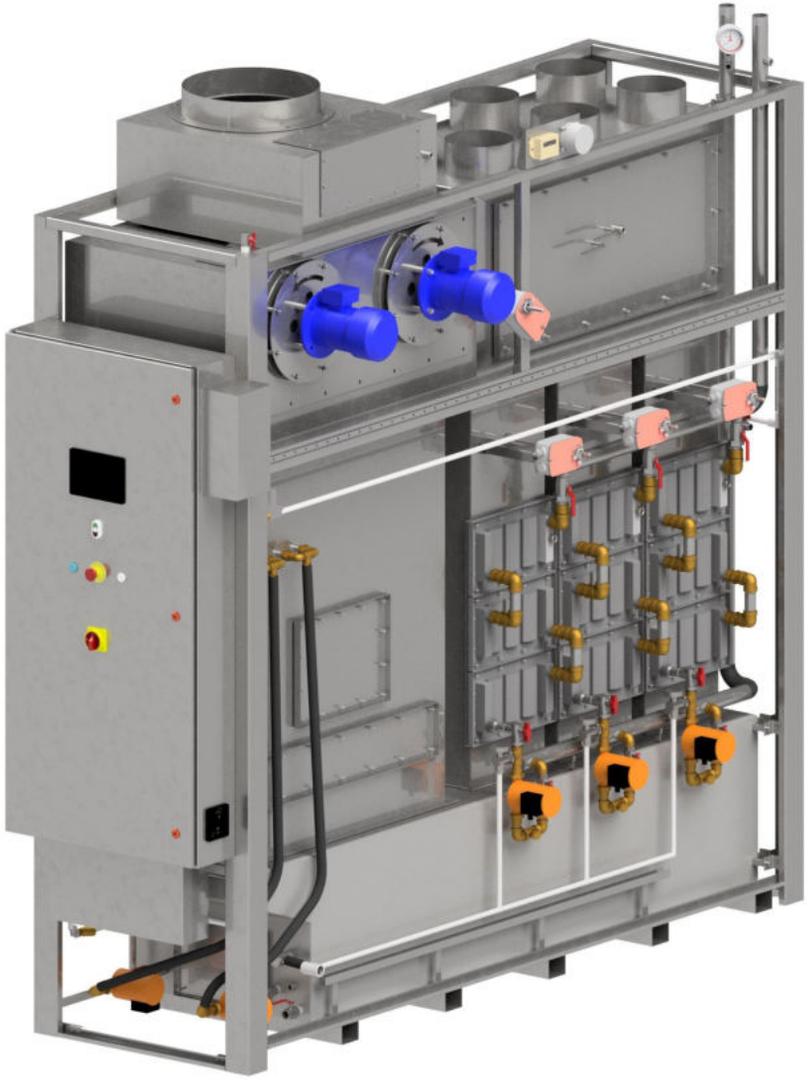


HEAT EXCHANGER – ECOBOX

ENERGY FOR HEATING PURPOSES :

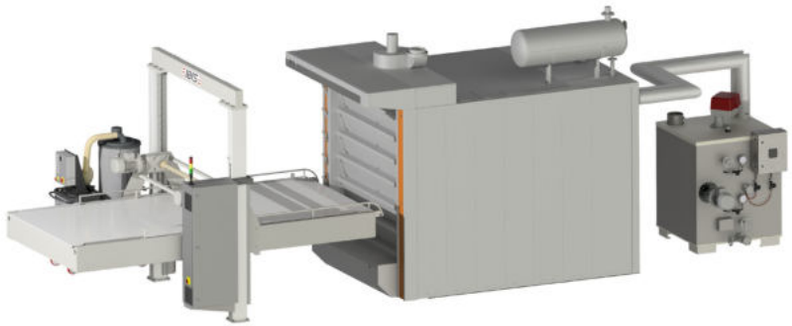
1. Heating of utility and technological water
2. Heating of bakery premises
3. Heating of proofers
4. Supporting the work of washers

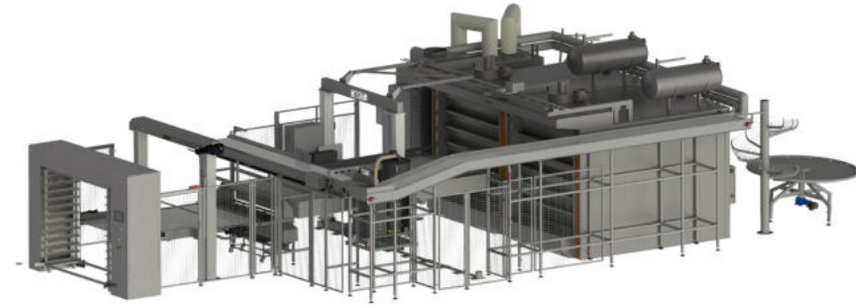
- BYPASS function (the possibility of directing exhaust gases directly to the chimney)
- Significant emissions reduction of sulfur oxide and CO2 ENVIRONMENTALLY FRIENDLY BAKERY
- Savings in energy consumption range from 25 to 30%
- One outlet pipe from the bakery – all exhaust and steam pipes are connected directly to the heat exchanger



TECHNICAL PARAMETERS

Model		ECOBOX 4	ECOBOX 6
Maximum oven power	kW	450	750
Minimum capacity of heat buffers	litry	4000	6000
Exhaust gas temperature at the outlet	°C	50-60 °C	50-60 °C
Maximum exhaust temperature	°C	340	340





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2023

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