

**IBIS**<sup>®</sup>



**THERMAL OIL OVENS**

# 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 applied heating technology 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 spirals (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 CIRCULATION 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 into the oven by using a pump. In the baking process, the difference between the temperature of the heating medium and the baking temperature is very important.

This temperature difference is only 25°C in Ibis thermal oil ovens 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.

## The most economical ovens available on the baking market

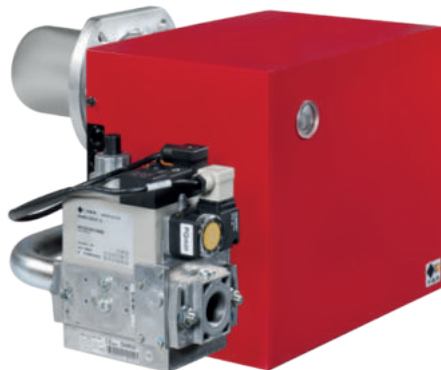
### THERMAL OIL OVENS

- **trolley ovens**

baking surface  
from 8 up to 18 m<sup>2</sup>

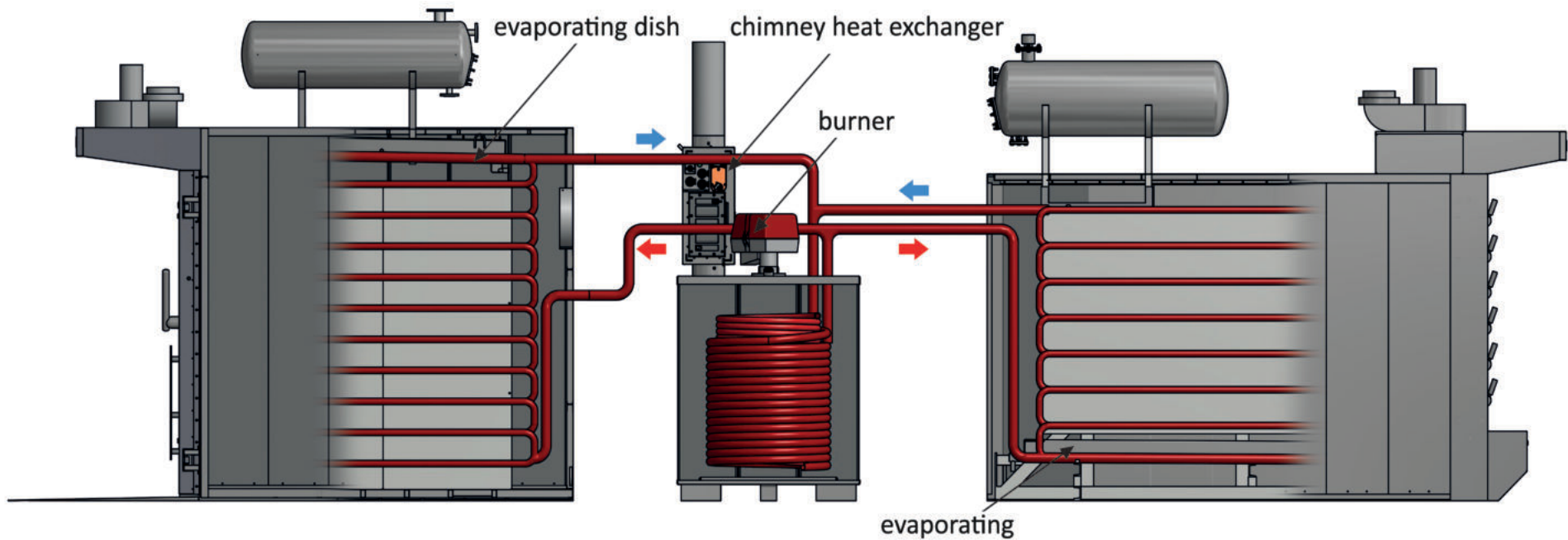
- **deck ovens**

baking surface  
from 8 up to 40 m<sup>2</sup>



**GAS**  
**OIL**  
**PELLET**

**BURNER**



Thermal oil technology enables combination of several ovens with one boiler fired by: gas, oil or pellet burner. 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 18m<sup>2</sup> + boiler 160kW
- two thermal-oil trolley ovens PW82.9 + boiler 160kW
- two thermal-oil deck ovens 27m<sup>2</sup> + boiler 290kW
- thermal-oil deck oven 22m<sup>2</sup> + thermal-oil trolley oven PW103.9 + boiler 290kW

# THERMAL OIL DECK OVENS

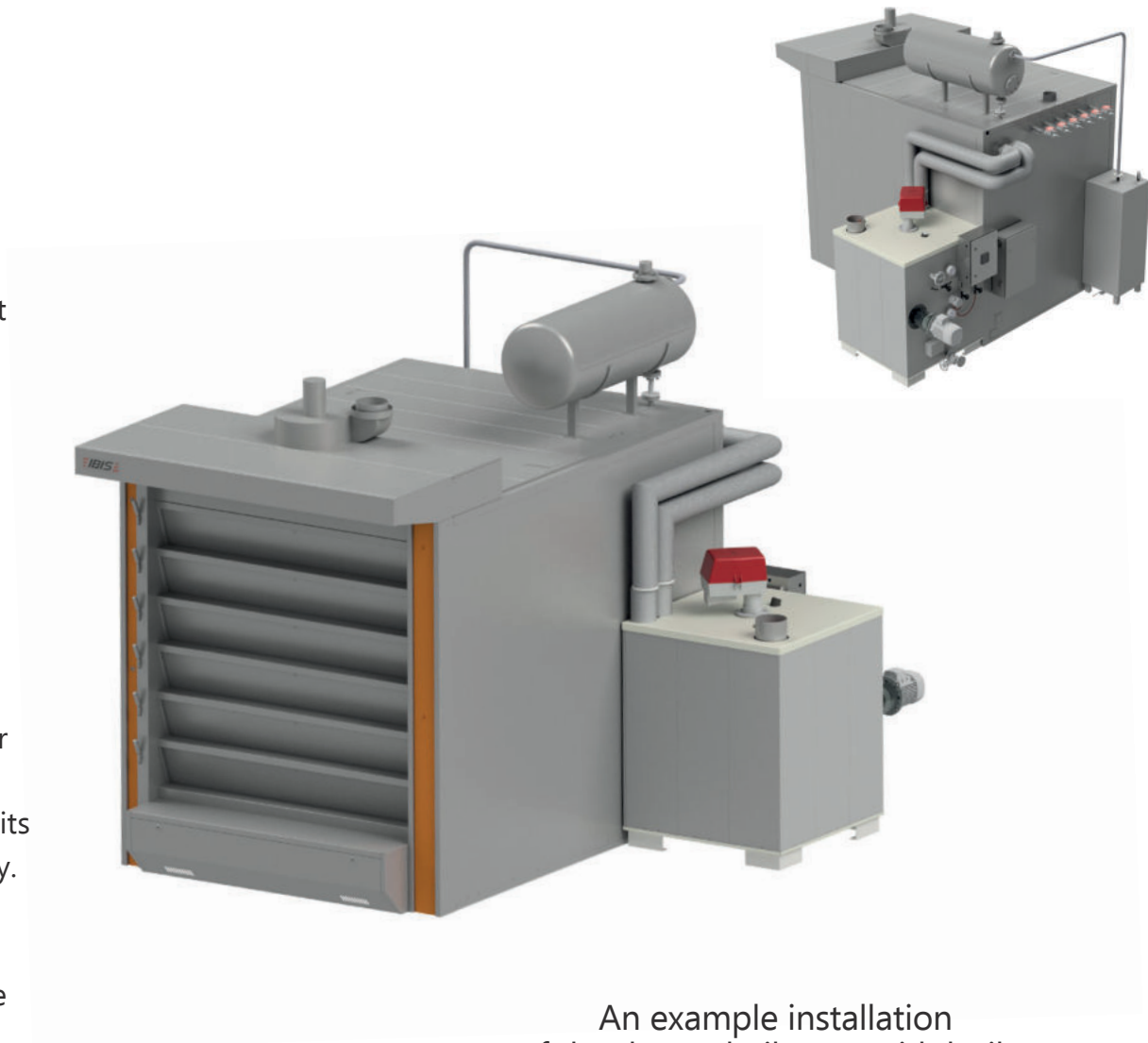
Thermal oil deck ovens are suitable for baking a wide range of bakery and confectionery products due to the perfect uniformity and quality of baking as well as temperature stability.

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<sup>2</sup> 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

**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<sup>2</sup> 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**









# SYSTEM MONO-DUO

Thermal oil deck oven can be built on the basis of two sections, based on the principle of the thermal oil double circulation system. The solution is ideal for bakeries with a diversified production profile in terms of quantity and type of bread. System mono-duo makes it possible to simultaneously bake various assortments in two different temperatures for example in the lower segment.

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**. Additionally if necessary you can completely turn off the upper oil circulation and bake on the lower segment reducing fuel consumption at the same time.



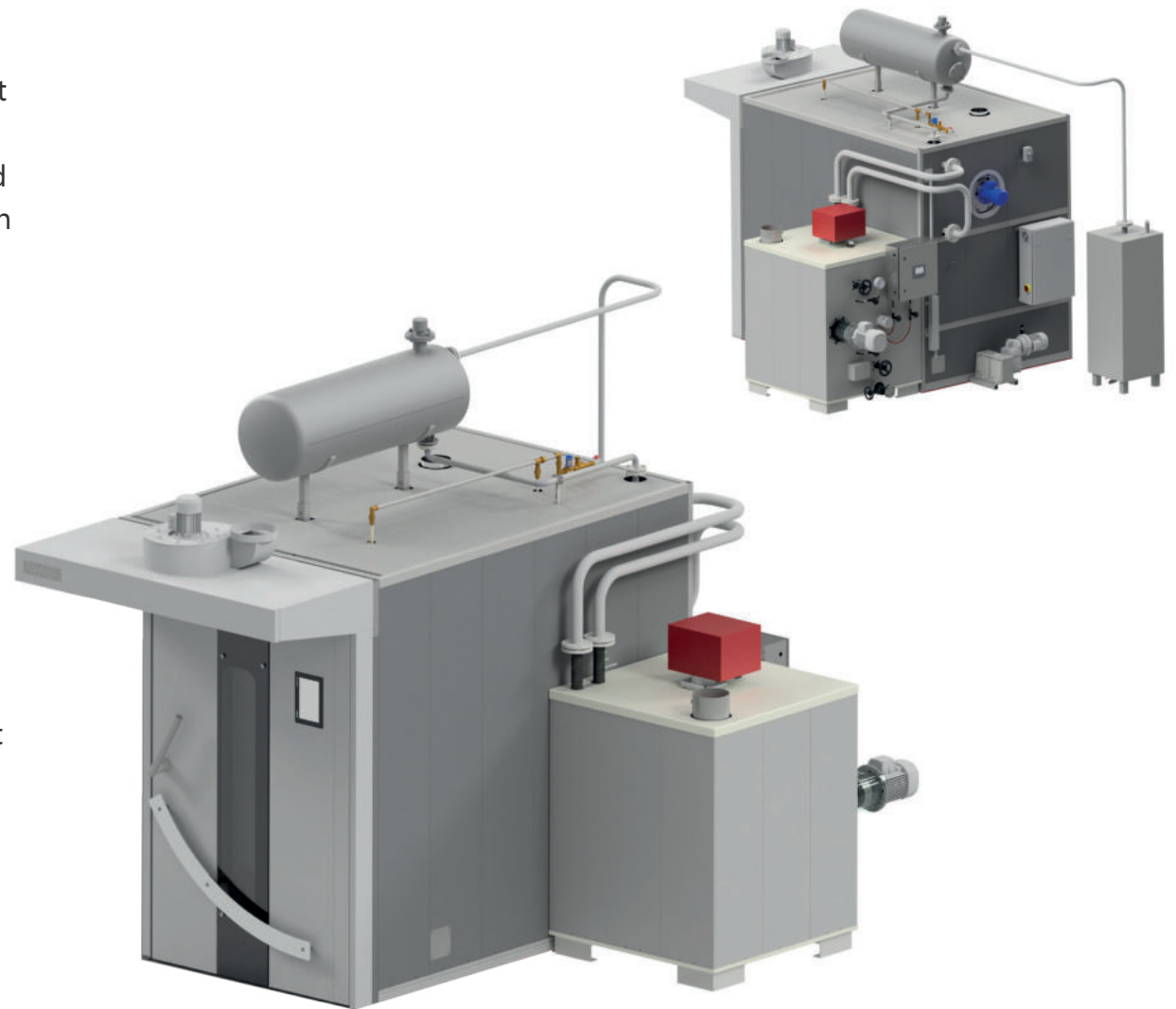
# TROLLEY THERMAL OIL OVENS

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<sup>2</sup> 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









# TECHNICAL PARAMETERS



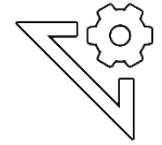
## HEATING BOILERS

Model		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	1050	1150	1250	1150	1350
Length	mm	1050	1150	1364	1150	1350
Height	mm	1300	1375	1375	1610	1710

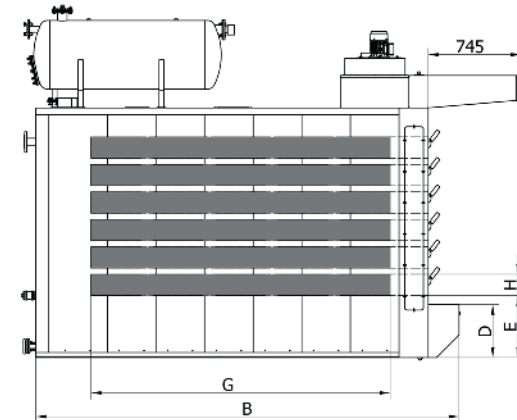
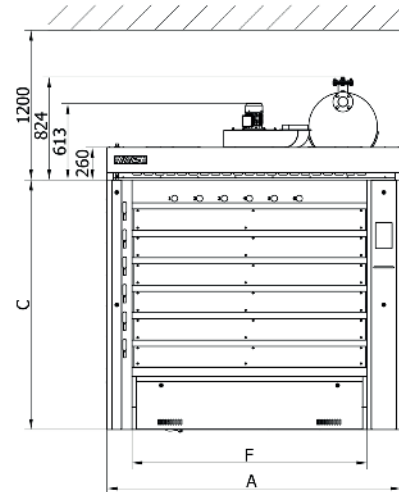
**HORIZONTAL HEATING  
BOILER  
ADAPTED FOR  
MOUNTING OF  
PELLET  
BURNERS**



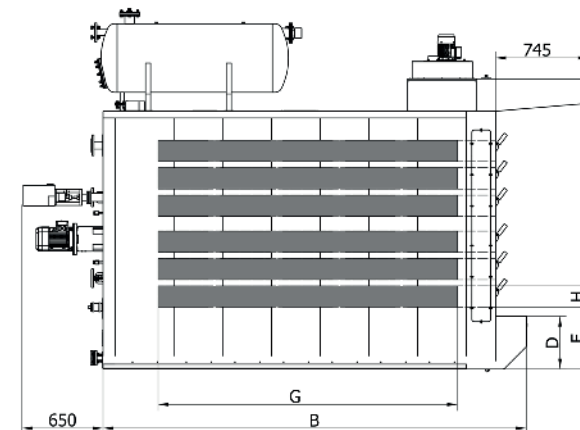
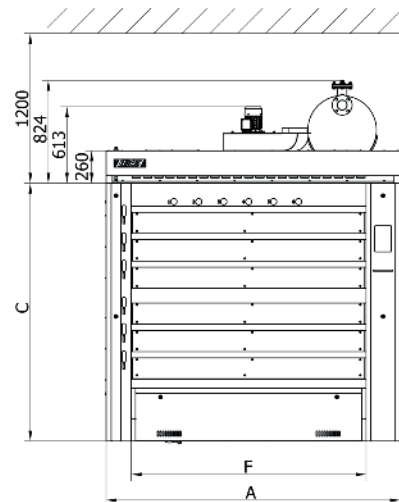
# TECHNICAL PARAMETERS



## THERMAL OIL DECK OVENS



## THERMAL OIL DECK OVENS MONO-DUO

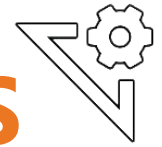




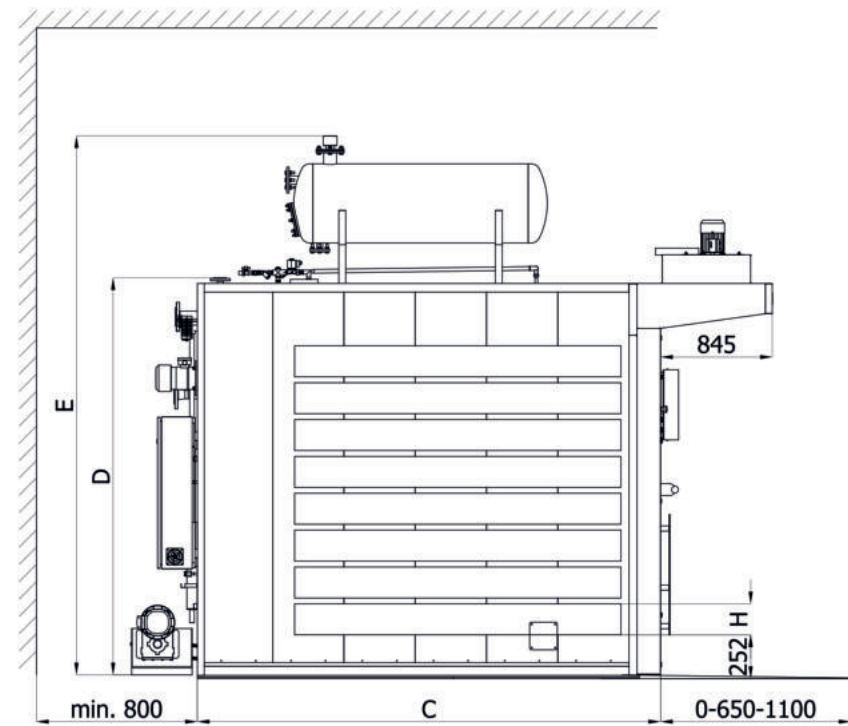
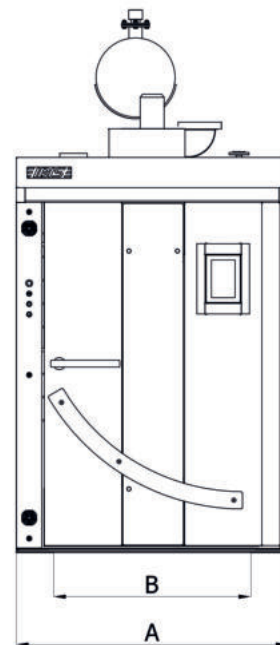
<b>MODEL</b>	<b>Baking surface</b>	<b>N° of chambers</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>
<b>PKT 4.080</b>	8 m <sup>2</sup>	4	1795	2600	1780 or 2000)	535	717	1240	1600	170
<b>PKT 4.100</b>	10 m <sup>2</sup>	4	1795	3000	1780 or 2000	535	717	1240	2000	170
<b>PKT 5.100</b>	10 m <sup>2</sup>	5	1795	2600	2000	535	717	1240	1600	170
<b>PKT 4.120</b>	12 m <sup>2</sup>	4	2360	2600	1780 or 2000	535	717	1860	1600	170
<b>PKT 4.120</b>	12 m <sup>2</sup>	4	1795	3400	1780 or 2000)	535	717	1240	2400	170
<b>PKT 5.120</b>	12 m <sup>2</sup>	5	1795	3000	2000	535	717	1240	2000	170
<b>PKT 6.120</b>	12 m <sup>2</sup>	6	1795	2600	2000	535	497	1240	1600	170
<b>PKT 6.120 MONO-DUO</b>	12 m <sup>2</sup>	6	1795	2840+650	2070	425	497	1240	1600	170
<b>PKT 6.140</b>	14 m <sup>2</sup>	6	1795	3000	2000	425	497	1240	2000	170
<b>PKT 6.140 MONO-DUO</b>	14 m <sup>2</sup>	6	1795	3240+650	2070	425	497	1240	2000	170
<b>PKT 5.150</b>	15 m <sup>2</sup>	5	2360	2600	2000	535	717	1860	1600	170
<b>PKT 4.150</b>	15 m <sup>2</sup>	4	2360	3000	1780 or 2000	535	717	1860	2000	170
<b>PKT 5.150</b>	15 m <sup>2</sup>	5	1795	3400	2000	535	717	1240	2400	170
<b>PKT 6.180</b>	18 m <sup>2</sup>	6	2360	2360	2600	425	497	1860	1600	170
<b>PKT 6.180 MONO-DUO</b>	18 m <sup>2</sup>	6	2360	2840+650	2070	425	497	1860	1600	170
<b>PKT 4.180</b>	18 m <sup>2</sup>	6	2360	3400	1780 or 2000	535	717	1860	2400	170
<b>PKT 5.180</b>	18 m <sup>2</sup>	5	2360	3000	2000	535	717	1860	2000	170
<b>PKT 6.180</b>	18 m <sup>2</sup>	6	1795	3400	2000	425	497	1240	2000	170
<b>PKT 6.180 MONO-DUO</b>	18 m <sup>2</sup>	6	2360	3640+650	2070	425	497	1240	2400	170
<b>PKT 5.220</b>	22 m <sup>2</sup>	5	2360	3400	2000	535	717	1860	2000	170
<b>PKT 6.220</b>	22 m <sup>2</sup>	6	2360	3000	2000	425	497	1860	2000	170
<b>PKT 6.220 MONO-DUO</b>	22 m <sup>2</sup>	6	2360	3240+650	2070	425	497	1860	2400	170
<b>PKT 6.270</b>	27 m <sup>2</sup>	6	2360	3400	2000	425	497	1860	2400	170
<b>PKT 6.270 MONO-DUO</b>	27 m <sup>2</sup>	6	2360	3640+650	2070	425	497	1860	2400	170



# TECHNICAL PARAMETERS



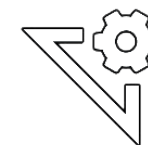
## TROLLEY THERMAL OIL OVENS



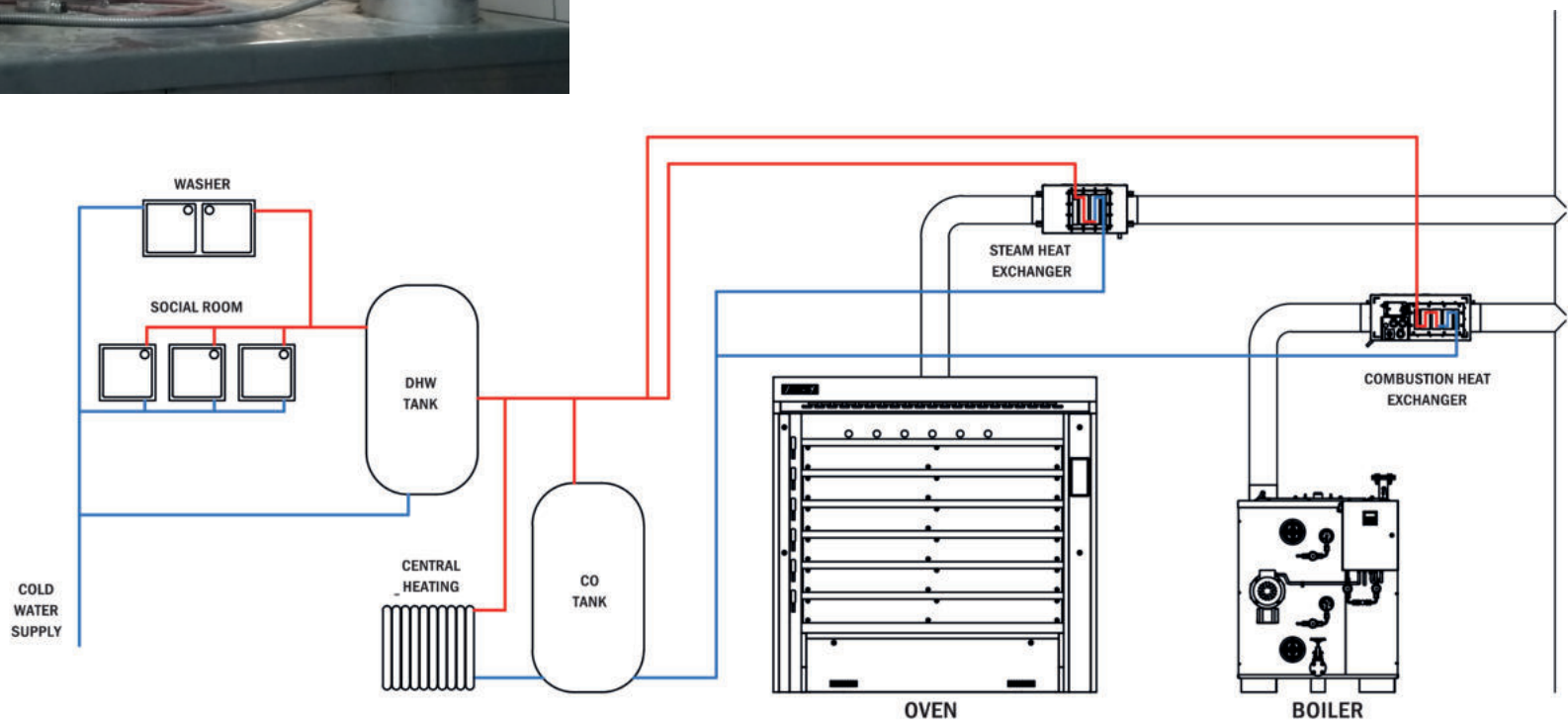
<b>MODEL</b>	<b>Number of trolleys</b>	<b>Tray Dimensions (cm)</b>	<b>Deck Nb</b>	<b>Baking surface (trays)</b>	<b>Baking surface (slabs)</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>H</b>
<b>PW 103.10</b>	3	58 x 98 60 x 100	10	18	18,5	1570	1140	2676	2512	3336	156
<b>PW 103.9</b>			9	16,2	16,7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



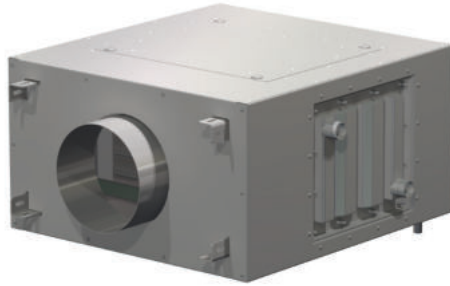
# TECHNICAL PARAMETERS



Model		W30	W30P
Baking area	m <sup>2</sup>	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



# CHIMNEY HEAT EXCHANGER



Steam heat exchanger W30P

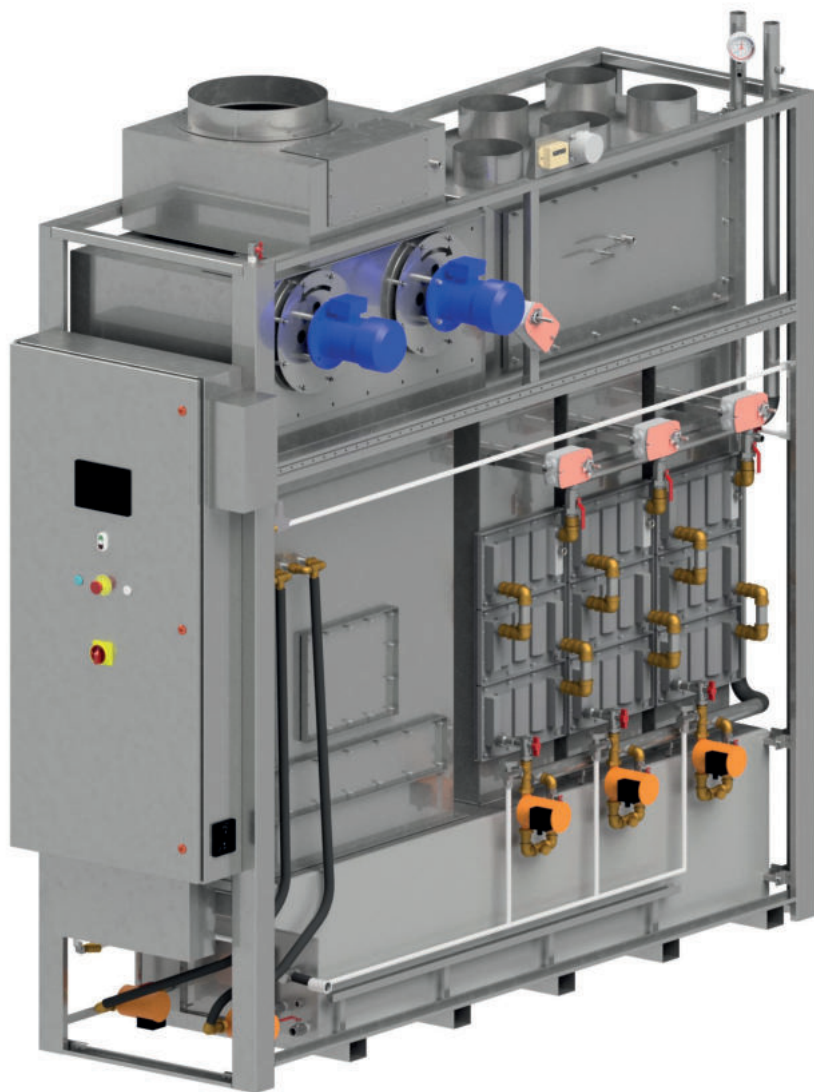
Heat recovery means the consistent use of heat energy from a baking oven. In every bakery oven and thermal oil boiler, normal operation produces flue gas at a temperature of about **300°C**. These exhaust gases along with the heat energy are sent through the chimney to the atmosphere. A way to stop irretrievably 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 bakery oven
- ◇ Simple automation ensuring failure-free operation
- ◇ The possibility of obtaining hot water without incurring any costs
- ◇ Insulated stainless steel housing
- ◇ Simple assembly without complicated modifications
- ◇ Possibility of connecting central heating



Combustion heat exchanger W30





### Advantages of the exchanger:

- simple automation ensuring trouble-free operation,
- free heating of utility and technological water,
- possibility of connecting central heating,
- saving electricity when hot water is connected to the washer,
- simple assembly without complicated modifications,
- quick return on installation costs,
- very good effect on the chimney draft,
- construction of only one chimney from the bakery.

## TECHNICAL PARAMETERS

Model		ECOBX 4	ECOBX 6
Maximum oven power	kW	450	750
Minimum capacity of buffer tanks	litry	4000	5000
Exhaust gas temperature at the outlet	°C	50-60 °C	50-60 °C
Maximum exhaust temperature	°C	340	340

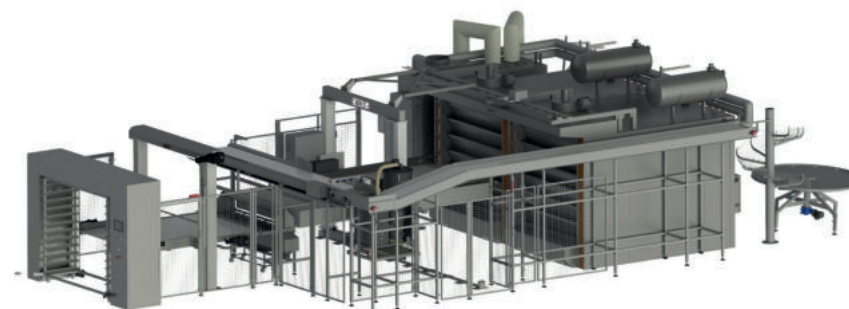
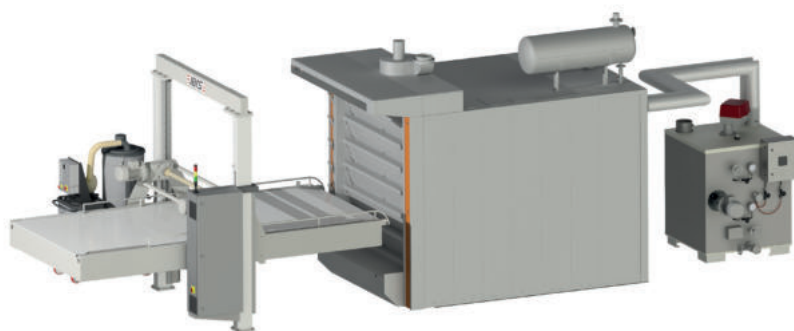
# HEAT EXCHANGER – ECOBOX

## 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 CO<sup>2</sup>
- 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





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