



KORNFEIL



*For maximum
baking performance
and top quality*



ThermoStar computer



THERMOOIL DECK OVENS

Thermooil deck ovens Thermostar are designed for baking first class, porous, workmanlike character bread, maximum baking performance. Ovens are used in modern technical, medium and large sized bakeries. The advantages of bread and bakery product baking in deck ovens are widely known to the general baking public, dough charring directly on hot ceramic plates, perfect fermenting on the enclosed deck and creation of a unique baking atmosphere for rising to the proper volume and rising of very thin dough.

Thermooil deck oven, baking by soft radiating heat, are characterized by ideal baking equality, good temperature stability and well-baked crust.

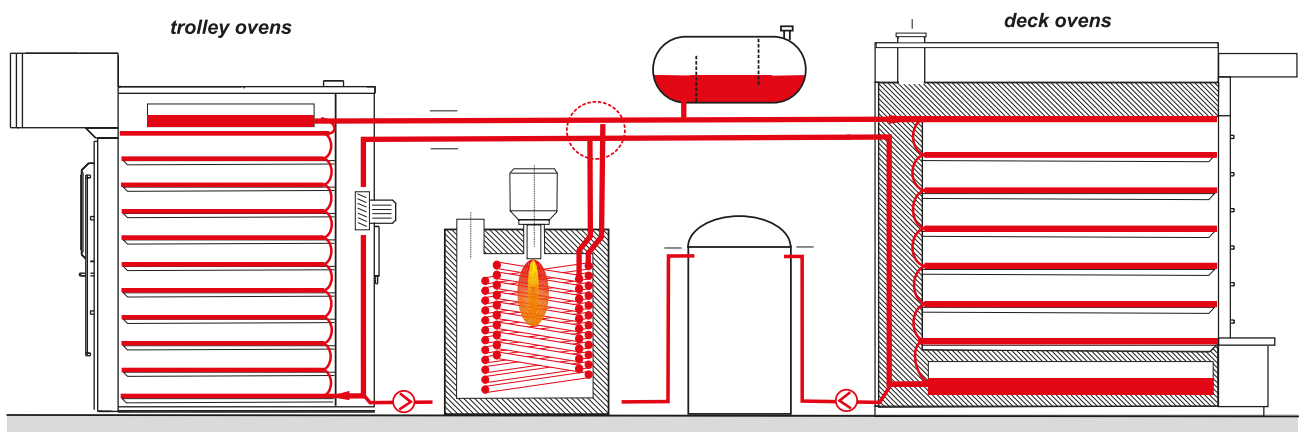


For full deck oven servicing are used ASISTENT charging units, KORNFEIL has manufacturing for many years. The ever increasing market requirements for the quality of sold bread have an indirect impact on the bakery equipment structure and the requirement to install complete sets of deck ovens with the least labour consumption keeping the traditional advantages of deck ovens. For servicing of higher number of ovens, KORNFEIL developed a central control system named K-VAR, which allows to install and service up to 5 deck ovens in full automatic lines.

What is thermooil?

Thermooil serves as heat conductor for energy transfer between a boiler and bakery oven. Thermooil ensures heat energy transfer and serves as good heat accumulator. Thermooil at temperature 290°C flows in heating units similar to hydrothermal heating. Because there is minimal temperature difference between Thermooil temperature and baking chamber temperature, approximately 10°C to 20°C , we can bake by radiating heat like steam ovens.

THERMOOIL OVEN PRINCIPLE



Advantages:

- **Fast temperature rise**
- **Baking equality**
- **Soft radiating heat**
- **Economical baking**
- **Good temperature stability**
- **Temperature difference in deck +/- 1 °C**
- **Well – baked crust**

For effective input energy use is good to tap exhaust and waste steam to EKOblock.

TECHNICAL DESIGN:

Technical design and control system are logical acme of baking process automation with maintained quality of bread and bakery products baking in deck ovens.



Heating medium – BASIC GAS ■ FURNACE OIL ■ ELECTRIC

- As the source of energy serves thermooil boiler including primary circuit of powerfull low- pressure pump. Each connected oven has own secondary circuit with powerfull pump and throttle valve, which is continually managed by computer of oven on the basis of selected baking program. KORNFEIL offers deck ovens Thermostar in 1, 2 or 3 circuit design. In each circuit – in a group of decks is possible baking several types of bread with independent baked temperature- time curve. One of the advantages thermooil deck ovens is possibility to connect several ovens to one boiler, which must be out of bakery. It is important to respect appropriate specification for installation thermooil boiler during the bakery projection.

EXTRA – TURBO AND STEAMER FOR PROOFER

- TURBO belongs to special equipment of deck ovens. In final phase of baking ensures micro- circulation in oven, to achieve optimal crust and colour of products. TURBO can be used during the beginning of baking, also for warming baked or forheated products.

Thermooil deck ovens can be supplied with different sizes of baking surface, number of decks and service comfort.

Using of high-quality components and material is guaranted. Most important elements of system are pumps with magnetic clutch, throttle servovalve and control computer HITACHI with touch screen.

Oven inner chamber included oil distribution is completely welded. Isolation of ovens and stainless sheating are constructed in bakery.

All o important parts and maintenance components are available from front and back side of oven. The isolation is only in side walls. Ovens can be located side by side for optimal utilization of space the bakery, back side of oven needs servicing access to the technique of thermooil, cca 600–800 mm.

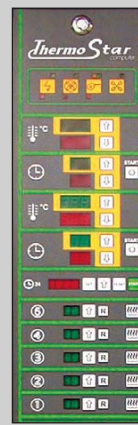
CONTROL PANEL FOR THERMOSTAR DECK OVENS



H1 Digital control panel for deck ovens with foil keyboard, well-arranged control buttons, ease of maintenance, humidity and dust resistant, individual electronic regulating instrument for temperature and time, mono-circuit and dual circuit concept.

FUNCTIONS:

- basic activation
- temperature adjustment
- heating curve adjustment
- time adjustment
- programmable steam dose (pneumatic control must be installed)
- exhaust control with signaling (pneumatic control must be installed)



H2 Digital control panel for deck ovens with foil keyboard, well-arranged control buttons, ease of maintenance, humidity and dust resistant, mono-circuit and dual-circuit concept, hand – railing for deck doors and exhaust.

FUNCTIONS:

- basic activation
- temperature adjustment
- heating curve adjustment
- time adjustment
- program steam dose with display
- automatic start preset



H4 Deck oven programmable control panel with touch screen and foil buttons for main functions with 99 preset baking programs, mono – circuit and dual – circuit concept.

H4 – THERMOSTAR computer

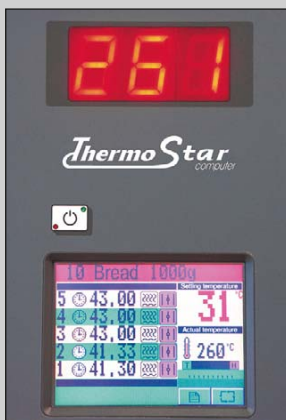
By request oven is supplied with computer technological unit ThermoStar computer which manages and controls all requisite functions of ovens for certainly baking and safety in service. Bakery products are baked by selected programmable baking programs. Basic operating element is touch screen which displays data instant process in oven and herewith the attendance of bakery can set and control baking programs in the unit.

Servicing of control is very easy

Computer unit is connected with personal computer in the bakery office, especially for purpose of programming individual recipes. Main controls articles of baking process are archived directly in the personal computer.

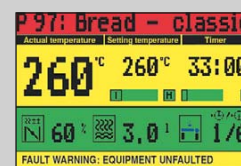
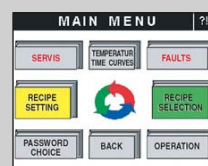
You are always in the picture

Programming recipes can be provided directly on the control panel or in the computer. Installed recipes can be transferred from one oven to other oven. Software enables setting and saving for up to 99 baking programs. Access to the system of oven depends on enter right password, which obtains only authorized persons. Other servicing functions are put on individual group according to level of licence.



PROGRAMMABLE FUNCTIONS:

- Basic activation
- Temperature adjustment
- Heating curve adjustment
- Time adjustment
- Steam dose and exhaust
- Steam intensity
- Fan and hood actions
- Service intervals
- PC data transfer and visualization
- TURBO – time in program
- TURBO – intensity 0–99%
- characteristic of product-crust



K-VAR The unique K-VAR software developed by KONFEIL for baking in deck ovens and central control of all peripheral equipment. It takes into account all specific characteristics of thermooil ovens, this equipment includes PID regulation for optimal temperature-time curve. The software makes possible balanced operation of burners, heat boiler, particular heating circuits of ovens and control of all functions for the maximum duality of bakery products.

PROGRAMMABLE FUNCTIONS:

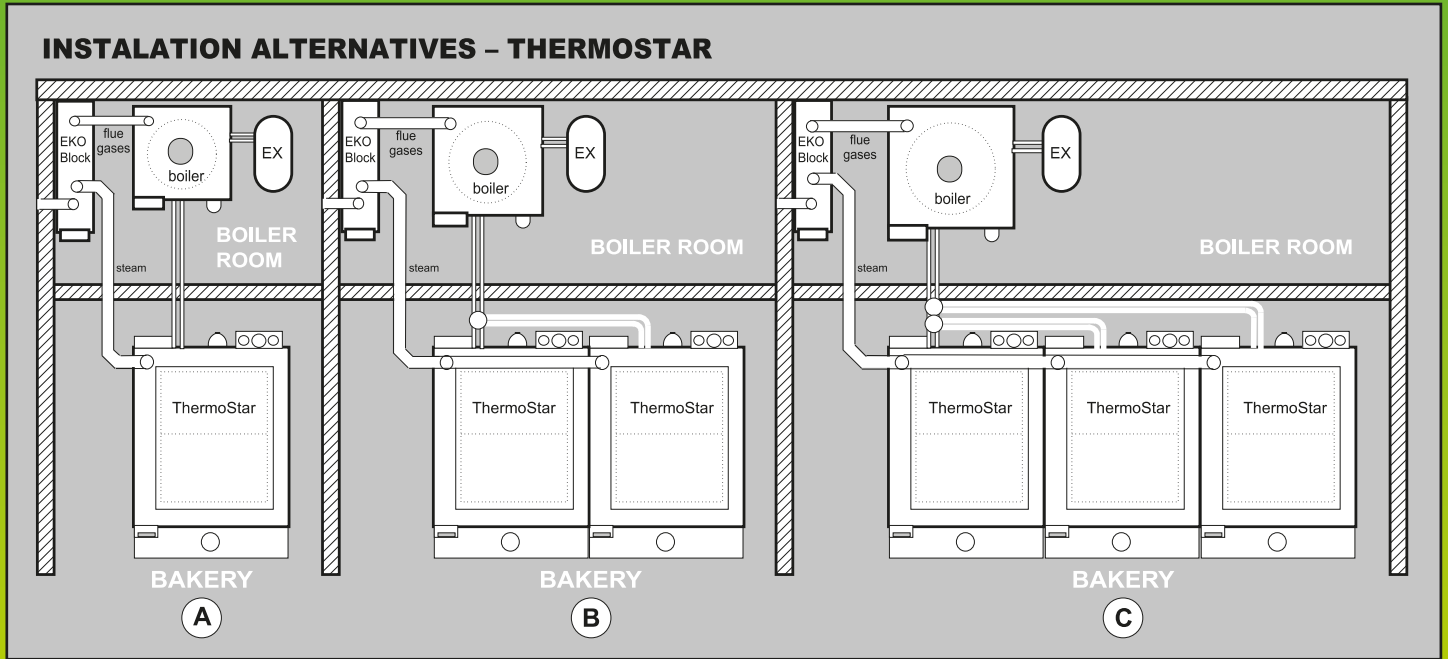
- baking time
- baking temperature
- baking curve
- steam dose
- steam time
- steam flap opening and closing
- automatic deck-door opening and closing
- ventilation of space in front of decks
- automatic dough charching
- automatic produkt take-off
- selection of deck for charching and take-off
- dough dampening before take-off
- bred dampening after take-off
- belt conveyer operation
- rotating take-off table operation
- take-off belt operation
- charching table AS01 operation
- take-off table AS02
- box or continuous proofbox function
- automatic deck sucking
- moistening table functions
- TURBO – time in program
- TURBO – intensity 0–99%
- characteristic of product-crust



Possibilities of waste energy

Even thermoil ovens produces waste energy in the form of retraction steam and flue gases at temperature 300–330°C from boiler. This energy represents approximately 20–25% from input which you have to pay.

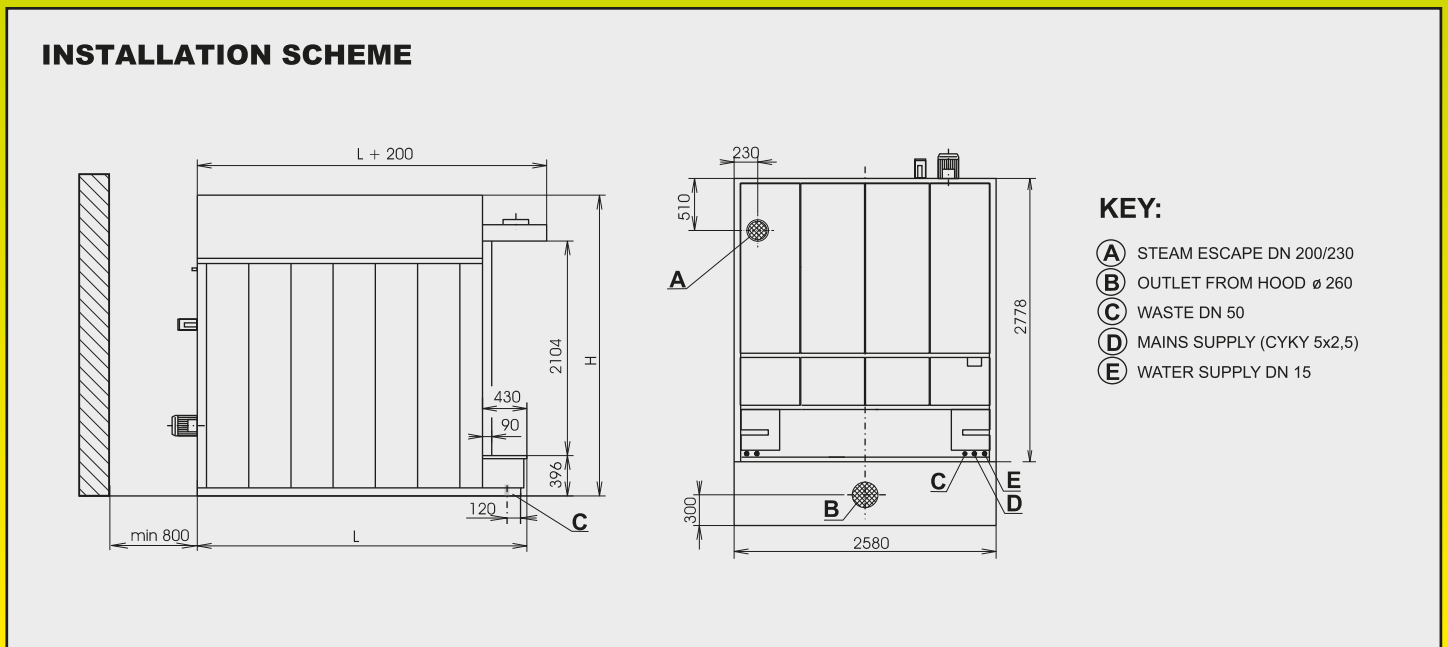
For using waste power from gas ovens has KORNFEIL company several technical solution. Heat exchangers and EKO Blocks are using waste power in form hot water and using it for proofboxes and central heating. For having a free proofbox working in combination with EKO Blocks is possible to use steam device in THERMOSTAR oven. Projecting department of our company will propose to you complex solution of maximum outlet energy using and combination with THERMOSTAR ovens.



Servicing and technical secure:

For servicing and technical purpose H4 – computer and K-VAR central enables net connection with KORNFEIL company by **ON-LINE SERVIS**. Customer doesn't need watch technical inspection terms, everything is watched by **Computer THERMOSTAR**.

By means of easy connection from manufacturer to „BRAIN“ of oven ensures easy and fast help. Oven has minimal requirements for servicing.





Technical data	THERMOSTAR 15/4	THERMOSTAR 18/5	THERMOSTAR 22/6	THERMOSTAR 26/6	THERMOSTAR 26/7	THERMOSTAR 31/7
Baking surface	15	18	22	26	26	31
Decks number	4	5	6	6	7	7
Dimensions of baking surface						
- Width (mm)	1 800	1 800	1 800	1 800	1 800	1 800
- Length (mm)	2 000	2 000	2 000	2 400	2 000	2 400
Workmanship						
- TURBO	4x	5x	6x	6x	7x	7x
- one - circuit	•	•	•	•	•	•
- dual - circuit	•	•	•	•	•	•
Height of decks						
200 mm	4x	5x	6x	6x	7x	7x
230 mm	4x	5x	6x	6x	7x	7x
Dimensions of oven						
- Width (mm)	2 580	2 580	2 580	2 580	2 580	2 580
- Length (mm)	3 460	3 460	3 460	3 860	3 460	3 860
- Height (mm)	2 340	2 500	2 700	2 700	2 950	2 950
Connections to the mains	3 x 400V/50Hz	3 x 400V/50Hz	3 x 400V/50Hz	3 x 400V/50Hz	3 x 400V/50Hz	3 x 400V/50Hz
Supply mains						
- one - circuit (kW)	4	4	4	4	4	4
- dual - circuit (kW)	6,2	6,2	6,2	6,2	6,2	6,2
Heat input (kW)	120	130	155	180	180	220
Max. baking temperature (°C)	290	290	290	290	290	290
Control panel types						
- H1 – manual	•	•	•	•	–	–
- H2 – digital	•	•	•	•	–	–
- H4 – computer Thermostar	•	•	•	•	•	•
- K-VAR central COMPUTER	•	•	•	•	•	•
Rack door and steam flap handling systém						
- Manual	•	•	•	•	–	–
- Pneumatic	•	•	•	•	•	•
Rack door						
- glas	•	•	•	•	•	•
- metal sheet	•	•	•	•	•	•



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