



# COLUMBUS

Maximum of performance  
with minimal footprint

**wachtel**



BACKÖFEN\_KÄLTETECHNIK

Wachtel





The Classic. Produced by Wachtel. In Germany. A minimum of space required for a maximum of baking surface: The oil or gas heated COLUMBUS deck oven. All COLUMBUS models can be built around on three sides so that easy access to all components for maintenance purposes is assured. Benefit: Savings in space, time and money! The already proverbial ergonomic arrangement of the COLUMBUS operating elements makes your daily work with the oven easy and comfortable. The stainless steel outside panelling provides for fulfilment of hygienic standards and a long service life. The original parallel heating element assures ideal heat distribution throughout the baking chamber. Due to the compact size of the oven there are enough space reserves in the bakery, for instance for installation of a larger proofer or commissioning of more baking surface or simply for moving around.



COLUMBUS Eco. Simply for baking. Maximum of baking surface, full performance, simple operation. Low investment costs due to use of standardized and technically robust components. Of course with parallel heating elements and the successfully used COLUMBUS heating gas system. Excellent price/performance ratio. The narrowest of all competitors (width 1520/2120mm). Sturdy low-maintenance technique. Allows continuous baking just like any other COLUMBUS oven.



COLUMBUS ECO

Model	Baking surface m <sup>2</sup>	Number of decks	Deck height mm	Deck width mm	Deck length mm	Oven width mm	Oven length mm
C 516/96 ECO	9,6	5	165	1200	1600	1520	2380
C 520/120 ECO	12,0	5	165	1200	2000	1520	2780
E 516/144 ECO	14,4	5	165	1800	1600	2120	2380
E 520/180 ECO	18,0	5	165	1800	2000	2120	2780

O-Models. Design variations for 5 and 6 deck COLUMBUS ovens with 12 to 26 m<sup>2</sup> baking surface. An ingenious solution developed by Winkler already 20 years ago. Burner channel on top of the baking decks in combination with the ideal parallel heating elements. This is the way to build baking ovens with a maximum of baking surface and ergonomic charging heights on a minimum of space. Available as MONO or VARIOMAT type. Can be built in on three sides like all our COLUMBUS ovens. Service fittings are easily accessible from the front.



COLUMBUS O

Model	Baking surface m <sup>2</sup>	Number of decks	Deck height mm	Deck width mm	Deck length mm	Oven width mm	Oven length mm
CO 516/96 V A2	9,6	5	165	1200	1600	1620	2780
CO 520/120 V A2	12,0	5	165	1200	2000	1620	3180
CO 616/115 M A1	11,5	6	165	1200	1600	1620	2780
CO 620/144 M A1	14,4	6	165	1200	2000	1620	3180
EO 616/173 M A1	17,3	6	165	1800	1600	2220	2780
EO 620/216 M A1	21,6	6	165	1800	2000	2220	3180
CO 616/115 V A1	11,5	6	165	1200	1600	1620	2780
CO 620/144 V A1	14,4	6	165	1200	2000	1620	3180
EO 616/173 V A1	17,3	6	165	1800	1600	2220	2780
EO 620/216 V A1	21,6	6	165	1800	2000	2220	3180
CO 616/115 M H Comfort	11,5	6	230	1200	1600	1670	2780
CO 620/144 M H Comfort	14,4	6	230	1200	2000	1670	3180
EO 616/173 M H Comfort	17,3	6	230	1800	1600	2270	2780
EO 620/216 M H Comfort	21,6	6	230	1800	2000	2270	3180

COLUMBUS MONO. One temperature for all decks. Shown is the COLUMBUS C516/96 with easy to operate foil keyboard control, automatic steaming system and digital set/actual value display. Optionally equipped with OX computer control. The large-capacity steaming system, the burner unit and the robust circulation fan are installed in a protruding front. Each deck is equipped with steam exhaust, steam damper and stone deck plates.



COLUMBUS MONO

Model	Baking surface m <sup>2</sup>	Number of decks	Deck height mm	Deck width mm	Deck length mm	Oven width mm	Oven length mm
<b>MONO</b>							
C 416/77 M H	7,7	4	205	1200	1600	1620	2380
C 420/96 M H	9,6	4	205	1200	2000	1620	2780
C 516/96 M	9,6	5	165	1200	1600	1620	2380
C 520/120 M	12,0	5	165	1200	2000	1620	2780
E 416/115 M H	11,5	4	205	1800	1600	2220	2380
E 420/144 M H	14,4	4	205	1800	2000	2220	2780
E 516/144 M	14,4	5	165	1800	1600	2220	2380
E 520/180 M	18,0	5	165	1800	2000	2220	2780
C 416/77 M H Stein	7,7	4	215	1200	1600	1620	2380
C 420/96 M H Stein	9,6	4	215	1200	2000	1620	2780
E 416/115 M H Stein	11,5	4	215	1800	1600	2220	2380
E 420/144 M H Stein	14,4	4	215	1800	2000	2220	2780

COLUMBUS VARIOMAT. Our line with two independently operating heating systems and two deck groups to be controlled separately. Flexibility guaranteed: Operate all decks with the same temperature or two groups of decks, each with a different temperatures, or switch off one deck group. The power consumption is automatically adapted to the number of decks in use. To save time and energy!



COLUMBUS VARIOMAT

Model	Baking surface m <sup>2</sup>	Number of decks	Deck height mm	Deck width mm	Deck length mm	Oven width mm	Oven length mm
<b>VARIOMAT</b>							
C 516/96 V	9,6	5	165	1200	1600	1620	2380
C 520/120 V	12,0	5	165	1200	2000	1620	2780
E 516/144 V	14,4	5	165	1800	1600	2220	2380
E 520/180 V	18,0	5	165	1800	2000	2220	2780

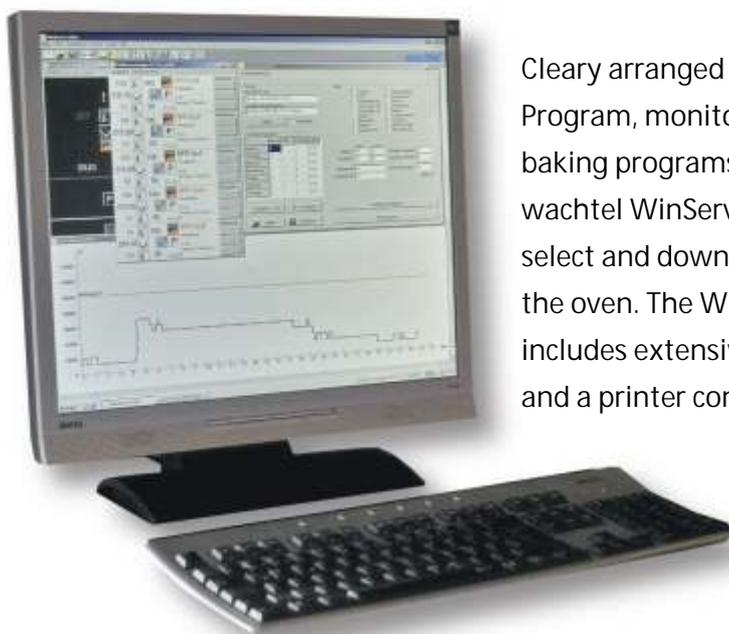
# COLUMBUS control options



The OX-C computer control makes your daily work easier and safer by means of programmed baking processes. The large display screen clearly shows all relevant program data. Comfortable data input at the scroll wheel or touch screen. The OX C control can be linked to a network as any PC so that your oven becomes Internet compatible. NEW: Self-optimizing energy management for economical use of energy.

The OX-M foil keyboard is standard equipment of all COLUMBUS, MONO and VARIOMAT models. Visually identical with the OX-M, but without program memory and energy management system. Easy operation and perfect function!

Enduring. Safe. Simple.  
The well-proven COLUMBUS  
ECO control – reduced to the  
really important and  
necessary pushbuttons

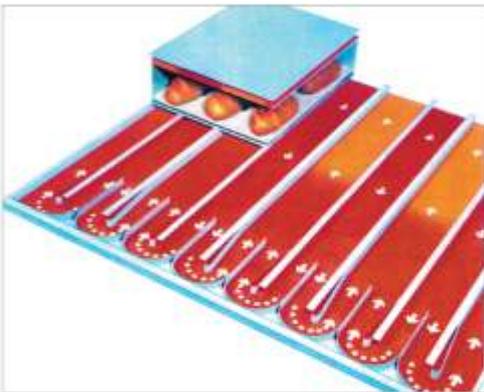


Clearly arranged and comfortable. Program, monitor and control your baking programs with the help of the wachtel WinServer software. Simply select and download the program at the oven. The WinServer software includes extensive control functions and a printer connection as an option.

# Columbus key features



- ? The Wachtel parallel heating radiators- a prerequisite for even baking results through ideal distribution of heat.
- ? Minimal space requirements with maximal baking area, e.g. 17 m<sup>2</sup> baking surface with 1620 mm deck width. More is not feasible.
- ? All COLUMBUS models can be built in on three sides to allow optimum use of space in your bakery.
- ? All service aggregates are accessible from the front. For easier and faster working and less maintenance costs!
- ? Sufficient amount of steam at any time to allow continuous baking batch by batch! The steam generator with thick-walled 10 mm steel pipes is installed directly at the burner.
- ? Outside paneling completely in stainless steel as standard, important for long service life and fulfillment of hygienic requirements.
- ? All key components of our COLUMBUS ovens are welded leak-tight for utmost safety. No screwed or bolted joints subject to wear.
- ? Logically built-up COLUMBUS line of models: ECO - large baking surface at a good price; MONO – comfortable control, foil keyboard and touch screen; VARIOMAT – flexible baking service and energy saving.
- ? Intelligent and easy to operate computer controls to be linked with other deck ovens and/or rack ovens.
- ? STIR baking technology available as an option for all COLUMBUS ovens. Gives you a head start in terms of quality and time!



COLUMBUS parallel heating radiators: Successfully used for over 40 years, they guarantee consistent heat distribution so that conditions for baking are ideal. For all bakery products at any time.



One tool for everything! Use the joystick to enter:  
- program start/stop  
- steaming  
- steam exhaust: open, half open or closed.



Why make it difficult when you can go easy! All service aggregates accessible from the front. Save time and costs and gain safety.

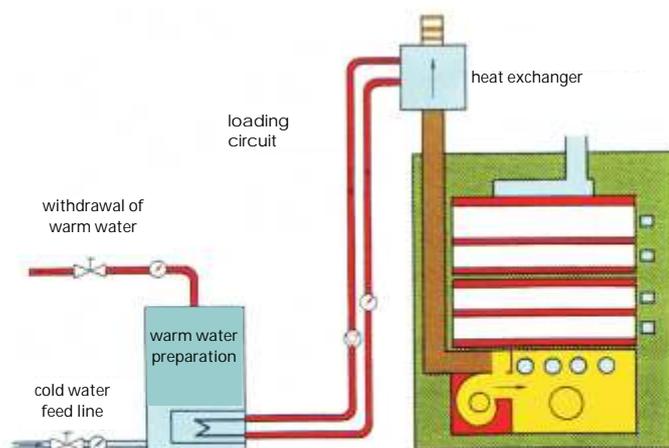


**The wachtel energy concept.** With the ever-increasing costs of electrical power, gas and oil the determined exploitation of all potentials for energy savings has become a major issue. About 40% of the total energy consumed in average bakery are attributable to the baking ovens. Wachtel has developed its own concept of energy conservation:

## Energy recovery

with the “wachtel ENERGIEHAMSTER” Gas and oil heated baking ovens produce flue gas with temperatures of 200 to 300°C, which is discharged via the chimney. A part of the thermal energy of the hot exhaust gas can be recovered and used to heat process water. The wachtel Energiehamster is a heat exchanger to be installed in the flue gas ducts between boiler and chimney. Water flowing through the heat exchanger absorbs a major amount of the thermal energy stored in the heating gas and releases it again when flowing through the process water tank in a closed circuit. An Energiehamster connected to a COLUMBUS deck oven with 10m<sup>2</sup> baking surface recovers ca. 30 kWh in thermal energy during 9 hours of operation and burner run time of 4 hours. This amount of energy is sufficient to heat 263 liters of water to 80°C. Example: With 5000 liters of heating oil consumed per year at an exhaust gas temperature of 300°C 570 liters of oil can be saved per year equal to 11.4%!

- ? Save energy
- ? Save money
- ? Spare the environment



# Wachtel Energy Management by computer control

“Ready-to-bake” clock: It is not the baker who determines the oven start time but the oven control. The baker enters the actual ready-to-operate time and the oven control takes over all remaining steps. The decks or groups of decks are automatically heated in such a way that the required baking temperature is achieved about 10 minutes before the set time observing all relevant parameters. Savings in energy and money between 3 and 5% can be achieved.

Self-optimizing computer control By automatically recording all operating data the intelligent OX-C computer control recognizes at what point in time which deck must be ready for baking. The control operates under the assumption that the baking capacities are utilized differently depending upon the time and day. For instance, on Saturdays more baking surface is needed than on workdays. For each new week, the self-optimizing control saves the baking surface required according to the preceding week's history and automatically turns on or off the baking decks. If the “historical” operating times suggest that baking capacity is required, the oven is again ready to operate within 10 minutes.

Advantage: Automatic switch-on function assures complete readiness for baking at adapted and reduced power rate. Saving potential: 7 – 10%. Of course, it is the baker who finally determines how he wants to operate his oven. Independent of the system, he can select the control mode according to his wishes. How much energy is actually saved depends upon the extent of use of the system and the baking capacity. Make use of the wachtel energy management system for your benefit.

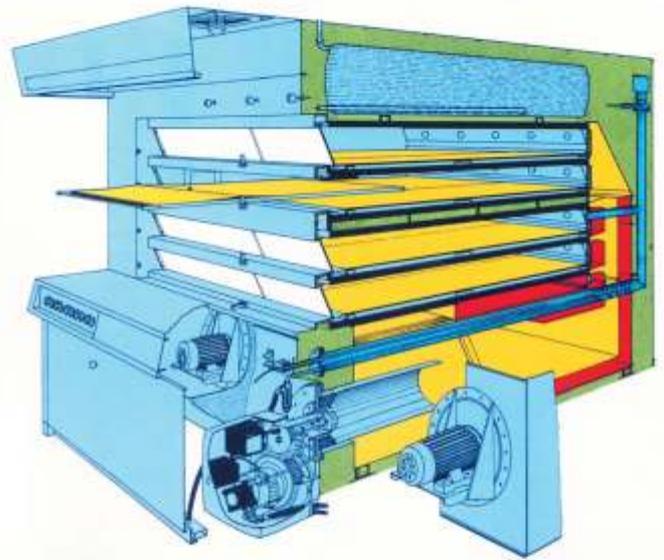
Stand-by ECO button. All new OX-C computer controls feature the ECO button, our answer to the reality that the complete baking capacity is not always fully utilized in daily practice. By pressing the ECO button decks or groups of decks are put in stand-by mode while the desired “ready to bake” time can be entered at a display window. The temperature or temperatures are automatically reduced to a level that assures that the required baking temperatures are definitely reached at the desired time.

Advantage: Automatic reduction of the temperature in decks presently not required while assuring quick readiness of baking.  
Significant energy saving potential of ca. 6 – 10%.

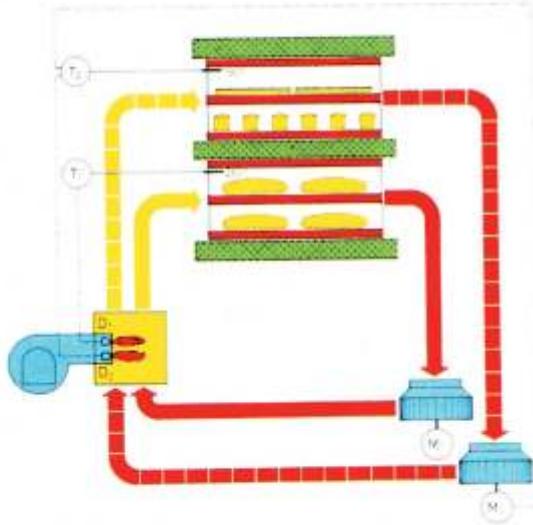


## Wachtel Energy Concept to reduce costs

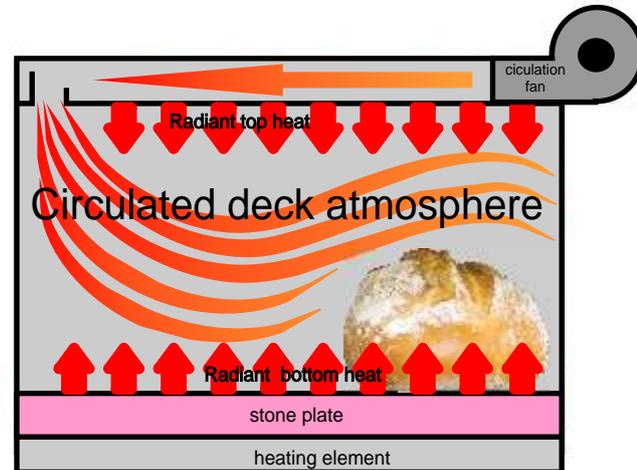
The VARIOMAT system. The original. The extra bit of flexibility. COLUMBUS VARIOMAT: always with 2-stage burner and 2-stage circulation fan . Different types of product ready at the same time. Switch off function for part of the available baking surface.



Construction of a COLUMBUS VARIOMAT with two independent heating systems.



Option: Wachtel Turbulence. It has been known for a long time that many products develop better in an atmosphere where rest times are combined with timely coordinated periods of circulation. Crispness and freshness are the prominent characteristics that contribute to a very distinct taste. A Turbo deck oven produces quality products that give you an edge over competitors. The consistently developed crust all around the roll enhances crispness lasting for hours longer. Bread dough forms a thicker crust while staying moist inside. An unbeatable advantage in combination with the STIR system.

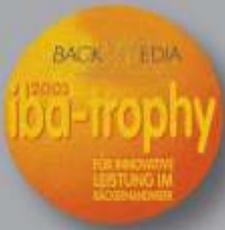


The original: Patents expire at a certain time but the associated know how does not get lost. Introduced by Winkler back in 1974, the VARIOMAT system has been continuously developed by wachtel, e.g. by the option to freely select deck groups.



- Always up - to - date
- Flexible
- Saving energy





## STIR:

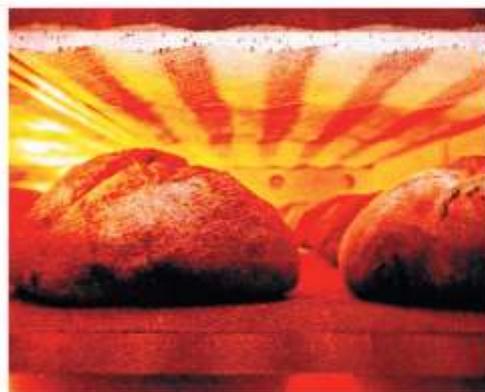
### For bakers wanting more.

Bakers who want to keep their market share long term know that only the superior quality of their bakery products distinguishes them from aggressive competitors only relying on sales prices. If many are good then you must be better. Wachtel baking ovens equipped with the STIR technology help you not only to be good but be better.

Bakers wanting to produce high quality day by day appreciate the advantages of this technology. In Columbus deck ovens equipped with the STIR system, a specific coating transforms convection heat to infrared which enters the dough piece clearly faster and easier so that the crumb structure and the crust are formed earlier. The product requires less baking time and binds significantly more moisture – the result is a fresher product of higher quality.



The Philosopher's Stone. Nutrition based upon food stuffs produced in the traditional ways is enjoying increasing popularity. These requirements that are best fulfilled by the Columbus Stone. Genuine stone oven bread coming from the stone baking chamber is unique in taste and appearance. The typically heavier crust stores aromas and assures longer shelf life. Made possible by the special stOne cladding of the baking chamber. Form and type of material play an important part. Thermal energy is stored for a long time so that reheating for baking is not required. Up to date control technology and a proven heating system are prerequisites for economic operation.



Heart of the COLUMBUS STONE oven: The stOne baking chamber



The ever-changing demands and wishes of our customers have been the driving forces for our product and technological developments since the founding of wachtel in 1923. We have organized ourselves to meet these varied demands quickly and comprehensively. As a result, we can offer our customers from a single source the complete range of machines and equipment for the bakery industry: oil, gas or electrically heated baking ovens, cooling concepts and equipment and oven loading devices. In order to assure the greatest flexibility, our sales engineers and service teams are posted in three Service Centers and 16 locations in Germany. Our international customers are quickly and reliably served by our foreign local service support partners.

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