



Sustainable cooling technology

Energy-efficient power cooling.
Aroma-controlled long proofing.
Consistent dough quality.

WACHTEL

*electro ovens
since 1923*



Maximum shelf life. More flavour.

We draw on extensive bakery expertise that began as far back as 1953. This expertise allows us to address all conditioning tasks required in your bakery and branch store with confidence and certainty of results. You can rely on a comprehensive range of innovative and sophisticated cooling systems featuring energy-efficient technologies. We rely on high-performance cooling technology, sophisticated air flow systems, and high-quality components

exclusively from leading European manufacturers, as well as cooling and proofing conditioning processes that can be precisely defined. These can be called up fully automatically. The elementary air conditioning parameters for air temperature, humidity and movement are controlled both optimally and individually. We know that only a balanced climate suitable for the product creates the conditions for bakery products of the best possible quality.





Ultra-modern cooling technology by WACHTEL

For the bakery

Configurable conditioning unit for deep-freeze storage, proofing retardation or fully automatic proofing of unpackaged goods

Temperature range -25 °C to +40 °C

- **COPRO VA** (fully automatic)

Temperature range -5 °C to +20 °C

- **COPRO GV** (proofing retardation unit)

Temperature range -25 °C to 0 °C

- **COPRO TL** (dough storage unit)

Configurable conditioning unit for shock freezing of unpackaged goods

Temperature range -25 °C to -35 °C

- **COSCHOCK SWIFT**
(shock freezer)
- **COSCHOCK FLASH** (high-performance shock-freezer)

Configurable conditioning unit for refrigeration and deep-freeze storage of packaged goods

Temperature range 0 °C to +10 °C

- **COOLING K** (refrigeration)

Temperature range -25 °C to -10 °C

- **COOLING TK** (freezing)

Hatch unit for deep-freeze storage and shock freezing of unpackaged goods

Temperature range -25 °C to -10 °C

- **COSERV K** (freezing)

Temperature range -25 °C to -15 °C

- **COSERV E** (freezing and shock freezing)

For the store

Plug-in, space-saving cabinet system for deep-freeze storage or fully automatic proofing of unpackaged goods (for trays or a rack)

Temperature range -25 °C to +40 °C

- **COBOX VA** (fully automatic)

Temperature range -5 °C to -25 °C

- **COBOX HLF** (high-performance freezer)

Innovative slow-dough method

For the bakery and the store

Storage on a rack

- **COOL RISING®**

Storage on stackable boards

- **COOL RISING PLUS**

Environmentally friendly solutions

For the bakery and the store

- All cooling systems available as a **CO₂ version**
- Optional: **CO₂ COOLING CONNECT** (combined system)

COBOX

At a glance

Speed-controlled
airvelocities

Exclusive evaporator
with large louvre spacing:
no premature freezing



Ergonomic,
eye-level control

COBOX VA:
Stainless steel interior

Direct freshwater
injection, self-cleaning
and no accumulated water

Lockable rotary
toggle lock

Stainless steel condensation
tray; automatic defrost

Radial fan uniform
over the entire length
of the pressure panel

Internal walls with
double stainless steel
impact protection all

Water-driven,
100% CFC-free PUR
insulating foam (80 mm)

Revolving door
with riser hinges

With ramp



COBOX

Model overview

Plug-in, space-saving cabinet system for deep-freeze storage or fully automatic proofing of unpackaged goods (for trays or a rack)

COBOX VA | fully automatic

Freezing, refrigeration and proofing

-25 °C to +40 °C

VA-6080-5:	W/D/H (mm): 780/1120/2670
Tray size:	600 x 800 mm
Number of slide rails:	20 as standard
Number of trays:	maximum 60 (spacing 30 mm)

VA-6080-5/B	W/D/H (mm): 960/1000/2290
Rack:	650 x 800 mm
Number of trays:	depends on cart

COBOX HLF | high-performance freezer

Freezing

-5 °C to -25 °C

HLF-6080-5:	W/D/H (mm): 780/1120/2670
Number of slide rails:	20 as standard
Number of trays:	maximum 60 (spacing 30 mm)

HLF-6080-5/B	W/D/H (mm): 960/1000/2290
Number of trays:	depends on cart



OPTIONS | COBOX

- Stainless steel with black linen structure
- Chiller installed separately
- COOL CONTROL remote monitoring
- High-performance freezer for trays:
Two-door design



COPRO

At a glance

Configurable conditioning unit for deep-freeze storage, proofing retardation or fully automatic proofing of unpackaged goods

10-inch **IQ COOL** touch control integrated in the door at **EYE LEVEL**

3 mm **STAINLESS STEEL FLOOR**

100% **CFC-FREE**, water-blown, PUR insulating foam (80/120/150 mm)

Stainless steel unit front with easy-care **LINEN-LOOK TEXTURE**

STAINLESS STEEL REVOLVING DOOR with lockable rotary toggle lock

HEATED DOOR FRAME

DOUBLE IMPACT PROTECTION (top/bottom) all round for inner walls

Economical **LED** lighting in the unit

EVAPORATOR EXCLUSIVELY designed for **WACHTEL**: Electric heating elements are evenly positioned along the entire length of the unit: homogeneous indoor climate

SPEED-CONTROLLED air flow, low air velocities: gentle product conditioning

Stainless steel **DE** or **DEWA AIR FLOW SYSTEMS** with indirect air flow behind the pressure panel underneath the rack: No direct air blowing on the goods means the dough pieces do not dehydrate or form a skin – ideal conditioning for ultimate product quality.

COPRO

Model overview

COPRO VA | fully automatic

Freezing, cooling and proofing

-25 °C to +40 °C | 50% to 99% rel. humidity (controlled)

Steam:	active humidification, fresh water injection
Unit front:	stainless steel linen look
Unit housing:	stainless steel interior, exterior painted white
Floor:	tray, 3 mm
Insulation thickness:	80 mm (standard)
Options:	<ul style="list-style-type: none"> • WACHTEL BLUE • Ultrasonic humidification • WATER CLEANING • 120/150 mm insulation thickness

COPRO TL | dough storage unit

Freezing

-25 °C to 0 °C

Steam:	none
Unit front:	stainless steel linen look
Unit housing:	interior painted white with stainless steel strips; exterior painted white
Floor:	panel design, 3 mm
Insulation thickness:	120 mm (standard)
Options:	<ul style="list-style-type: none"> • LWS shock corner • Quick-cool zone • Core temperature sensor • 150 mm insulation thickness • Automatic defrost function • Anti-freeze heating system

COPRO GV | proofing retardation

Cooling

-5 °C to +20 °C | approx. 70% to 85% rel. humidity controlled

Steam:	optional
Unit front:	stainless steel linen look
Unit housing:	stainless steel interior, exterior painted white
Floor:	panel design, 3 mm
Insulation thickness:	80 mm (standard)
Options:	<ul style="list-style-type: none"> • WACHTEL BLUE • Active humidification • Sub-floor ventilation • 120/150 mm insulation thickness

OPTIONS | COPRO

- Stainless steel surfaces
- Diverse door types: "Oskar door" with handle bar and integrated holding magnets, automatic sliding door (electric operation), double door, PVC swing door (mounted behind revolving door)
- External casing with easy-care linen-look texture
- Remote maintenance and control via COOL CONTROL



COSCHOCK

At a glance

Configurable conditioning unit for shock freezing of unpackaged goods

10-inch **IQ COOL** touch control integrated in the door at **EYE LEVEL**

3 mm **STAINLESS STEEL FLOOR PANEL**

100% **CFC-FREE**, water-driven, PUR insulating foam (120 mm)

Stainless steel unit front with easy-care **LINEN-LOOK TEXTURE**

STAINLESS STEEL REVOLVING DOOR with lockable rotary toggle lock

HEATED DOOR FRAME

STAINLESS STEEL inner walls with **DOUBLE IMPACT PROTECTION** (top/bottom)

Economical **LED** lighting in the unit

Powerful **STANDING EVAPORATOR** or **BLOCK EVAPORATOR** featuring great energy efficiency

OPTIONS | COSCHOCK

- Push-through model
- Continuous conveyor
- Core temperature sensor
- 150 mm insulation thickness
- Stainless steel surfaces
- Anti-freeze heating system
- Diverse door types: Automatic sliding door (electric operation), PVC swing door (mounted behind revolving door)
- Unit front with black linen-look texture
- Unit front with brushed finish
- Remote maintenance and control via **COOL CONTROL**

COSCHOCK

Model overview

COSCHOCK FLASH



COSCHOCK FLASH

High-performance shock freezer

-25 °C to -35 °C

PERFORMANCE

Shock-freezing of oven-fresh up to 80 °C hot bakery products

PRESERVATION CAPACITIES

90–480 kg/hour
(more on request)

EVAPORATOR TECHNOLOGY

High-performance standing evaporator placed directly next to the rack for maximum cooling capacity

AIR FLOW

Direct air supply

COSCHOCK SWIFT



COSCHOCK SWIFT

Shock freezers

-25 °C to -35 °C

PERFORMANCE

Shock-freezing of oven-fresh up to 30 °C hot bakery products

PRESERVATION CAPACITIES

50–210 kg/hour
(more on request)

EVAPORATOR TECHNOLOGY

High-performance block evaporator in the ceiling

AIR FLOW

LWS louver wall system enables the conditioned air to be precisely directed over every single tray

COSERV

At a glance



Ergonomic,
eye-level control

Inspection hatch

Evaporator
with large louvre
spacing; no pre-
mature freezing

Height adjustable
stainless steel legs



Spring lock with
magnetic holder

High humidity,
low air velocities

Removable hatch
system with stain-
less steel housing

Water-blown,
100% CFC-FREE
PUR insulating
foam (120 mm)

COSERV

Model overview

Hatch unit for deep-freeze storage and shock freezing of unpackaged goods

- For up to 480 trays: 400 x 800 mm, 400 x 600 mm
- 10 pairs of slide rails per hatch, adjustable in 25 mm steps
- Modular structure, easy to extend

COSERV K

Freezing

-25 °C to -10 °C

K-4	W/D/H [mm]: 1990/1110/2540
K-6	W/D/H [mm]: 2865/1110/2540
K-8	W/D/H [mm]: 3740/1110/2540
K-10	W/D/H [mm]: 4615/1110/2540

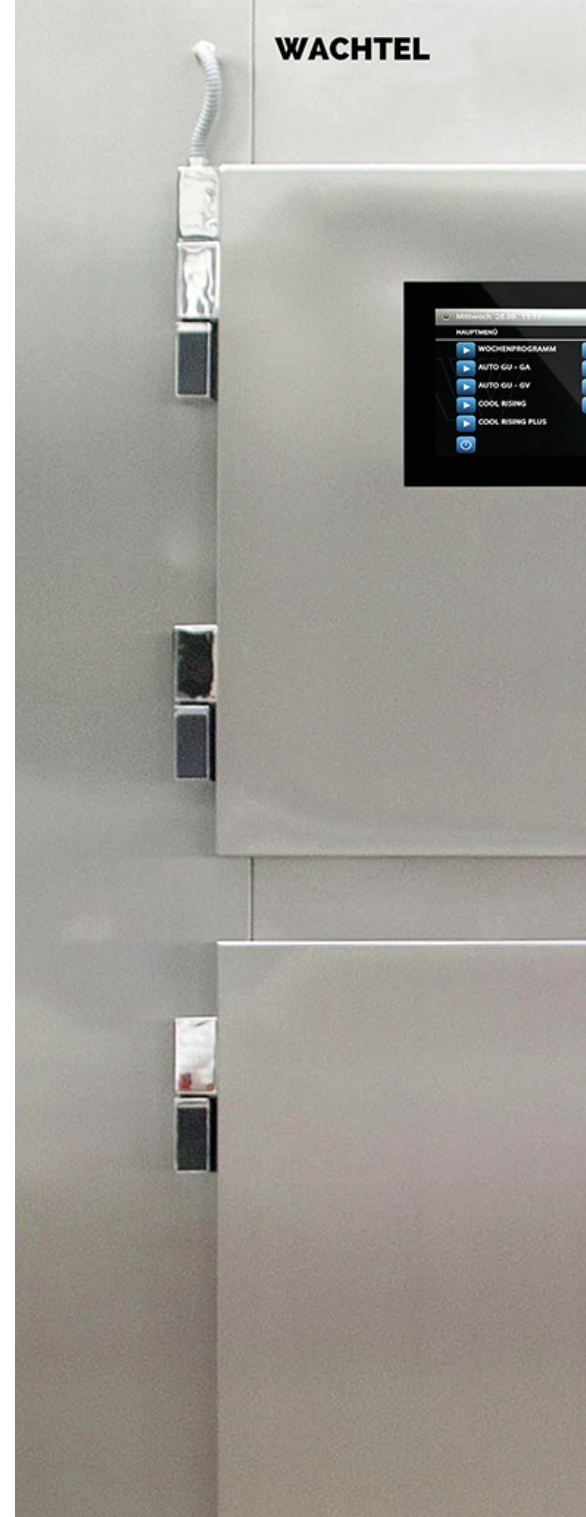
COSERV E

Freezer and shock freezer

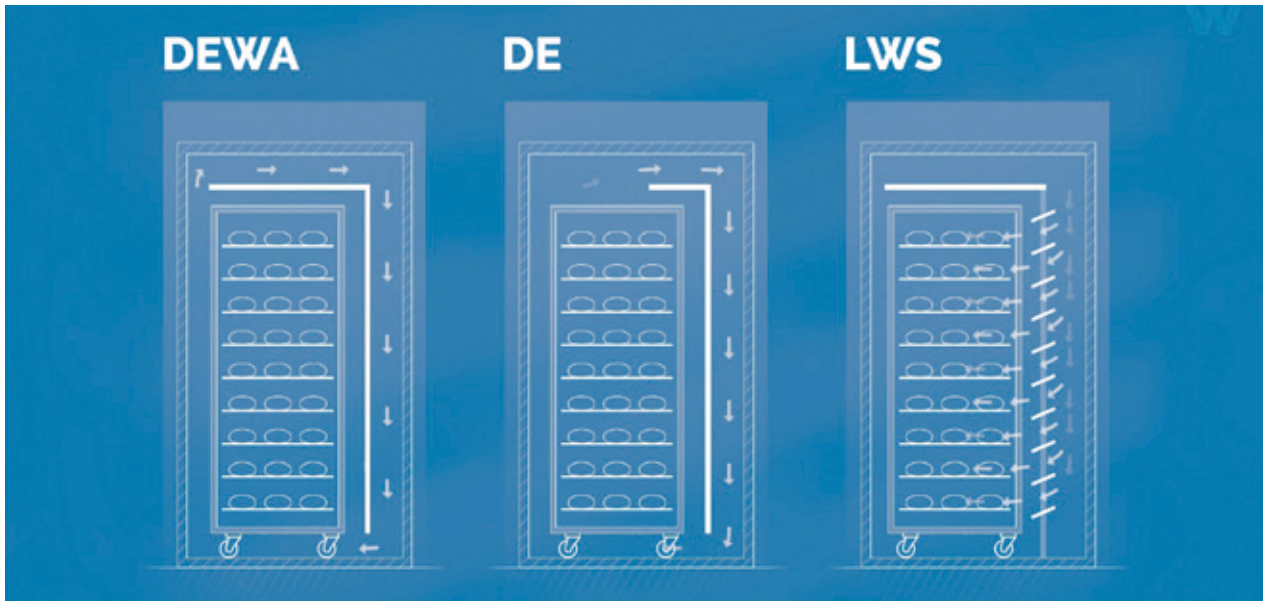
-35 °C to -5 °C

With separate shock freezer compartment used as a variable multi-functional compartment for freezing or shock freezing

E-3	W/D/H [mm]: 2165/1180/2340
E-5	W/D/H [mm]: 3040/1180/2340
E-7	W/D/H [mm]: 3915/1180 o. 1335/2340
E-9	W/D/H [mm]: 4800/1335/2340



AIR FLOW SYSTEMS



Sophisticated air flow systems "made by WACHTEL"

- Lowest air velocities individually adjustable from 0% to 100% in 1% increments in each phase
- Speed-controlled fan
- Product-preserving, homogeneous air conditioning on all shelf levels
- Reliable protection of the goods from heating up by defrosting heat
- Dough pieces prevented from dehydrating or forming a skin
- Double stainless steel impact protection rail (top/bottom)
- Stainless steel wall panels – can be removed without tools
- Easy to clean (HACCP)

DEWA & DE

After the evaporator, the conditioned air flow is routed between the unit panel and pressure panel and directed under the rack. This prevents the products from being directly blown on.

LWS & LWS AUTO

After the evaporator, the conditioned air is routed between the unit panel and stainless steel louvre wall and directed to every single tray.

DEWA

COPRO VA

Ceiling cladding made of stainless steel sheets

EN

COPRO GV, COPRO TL

Insulated ceiling featuring polyurethane hard foam insulation boards

LWS

COSCHOCK SWIFT

Ceiling cladding made of stainless steel sheets

LWS AUTO

COOL RISING PLUS

Ceiling cladding made of stainless steel sheets

Program-controlled, motorised stainless steel louvres

IQ COOL

Network-capable control system with touchscreen

Intuitive and convenient – just like your smartphone

- Large, high-resolution 10-inch touchscreen integrated in the door at eye level
- Brilliant colours, high contrast with rich black tones, clear viewing angle
- Temporary deactivation of the user interface for cleaning purposes
- Robust front made of tempered, impact-resistant safety glass
- One control system for any system type and any conditioning method

Intelligent, user-friendly and safe

- 100 automatic programs (4 COOL RISING® standard programs)
- Individually configurable parameters and automatic program sequences, programmed according to requirements
- Real-time request of process parameters and sensor readings
- HACCP data logger: recording of temperature and humidity readings
- Reading of energy consumption of individual consumers or overall energy consumption
- User interface available in at least 12 languages
- Different access rights (baker, operator, service engineer)
- Network-compatible, free software updates
- E-mail messages for special system states or events
- WACHTEL REMOTE: Remote inspection of the system (system details, error log, device operating manual, program history, humidity-temperature history [HACCP])
- COOL CONTROL: Remote maintenance and control of the system by WACHTEL customer service



COOL RISING® and COOL RISING PLUS

Fresh technology for controlled, chilled proofing

COOL RISING® and COOL RISING PLUS are processes developed by WACHTEL – it goes without saying that these can be adapted to your requirements, products, and procedures. Our high standards and programming flexibility ensure an individual solution for your business needs. We have the right solution for every product, every dough type and every special request: COOL RISING (PLUS).

COOL RISING® and COOL RISING PLUS allow controlled, chilled proofing with the smallest possible temperature differences. The prepared dough pieces are transferred to the unit at room temperature without interim proofing, where they are stored for up to 48 hours (slow-dough method). After the slow, computer-controlled proofing, the dough pieces can be removed from the system for

at least 15 hours and then baked off directly without determining the final proof. With COOL RISING® and COOL RISING PLUS, the core dough temperature remains in the plus temperature range, allowing all flavour-producing enzymes and biological cell cultures to carry on working actively in a controlled way. This increases the reproducibility and enjoyment value of the bakery products, while saving energy.

Customer enthusiasm guaranteed:

- Full of flavour
- Intense, malty flavour
- Increased moisture
- An extended shelf life
- More crispness
- Wide range of products throughout the day

COOL RISING®

- Storage on a rack
- COPRO VA; COBOX VA
- DEWA air flow system
- Freshwater injection

COOL RISING PLUS

- Storage on stackable boards
- COOL RISING PLUS unit
- LWS AUTO air flow
- Ultrasound humidification
- Active dehumidification

PRODUCTION METHODS

1. Conditioning in the bakery and baking without determining proofing in the bakery
2. Conditioning in the bakery and baking without determining proofing in the branch store
 - » Transportation of the dough pieces to the store on stackable boards
 - » Storage of the dough pieces in the store in the refrigerator

COOL RISING® and COOL RISING PLUS

At a glance



Flavour management

COOL RISING® and COOL RISING PLUS do not require long cooling phases at low sub-zero temperatures. Interruption of the proofing process is not initiated. This means that the fermentation processes that create flavour and aroma are not stopped, but continue in a controlled manner.



Working efficiently

Compared to traditional proofing processes, you will save 30–50% energy, because the energy-consuming transitional phase where the liquid water in the dough piece turns to ice does not occur. Cooling and heating are carried out in the same unit. The dough pieces do not have to be transported from a suction shock system into a frozen storage unit. This saves both time and money. This also means there is no need for additional investment in an additional shock freezer. With COOL RISING PLUS (for stacked boards), twice as many products can be stored in the same area. This means optimal use of your cooling space. A proofer is not needed in the shop. You will save investment and consumption costs as well as valuable space.



Keep cool

The special feature of COOL RISING® and COOL RISING PLUS is the slow, gradual cooling of dough pieces in up to 8 individually controllable phases. The perfect interplay of temperature and humidity stops the migration of moisture from the crumb to the surface and prevents a migration of moisture from the dough piece to the coldest point of the unit, the evaporator. Pressure in the dough piece rises slowly. The gluten structure is stressed less. The dough water expands better. The bakery product is fresher for longer.



Constantly ready for bake-off

The perfectly proofed, ready-to-bake dough pieces ensure that a fresh, wide range of bakery goods is available throughout the day. An outstanding feature of this technology is the flexibility it offers to meet fluctuations in demand. This means less pressure on sales staff. Response and lead times at the point of sale become shorter – much to the delight of your customers and staff.



The same baked quality every day of the week

The IQ COOL control in the system provides the baker with an easy-to-use tool for precise control of all parameters and for literally pre-programming the high product quality. The enjoyment value of your products will be consistently high across all shops and not subject to any staff-related fluctuations. Make it easy (for yourself)!

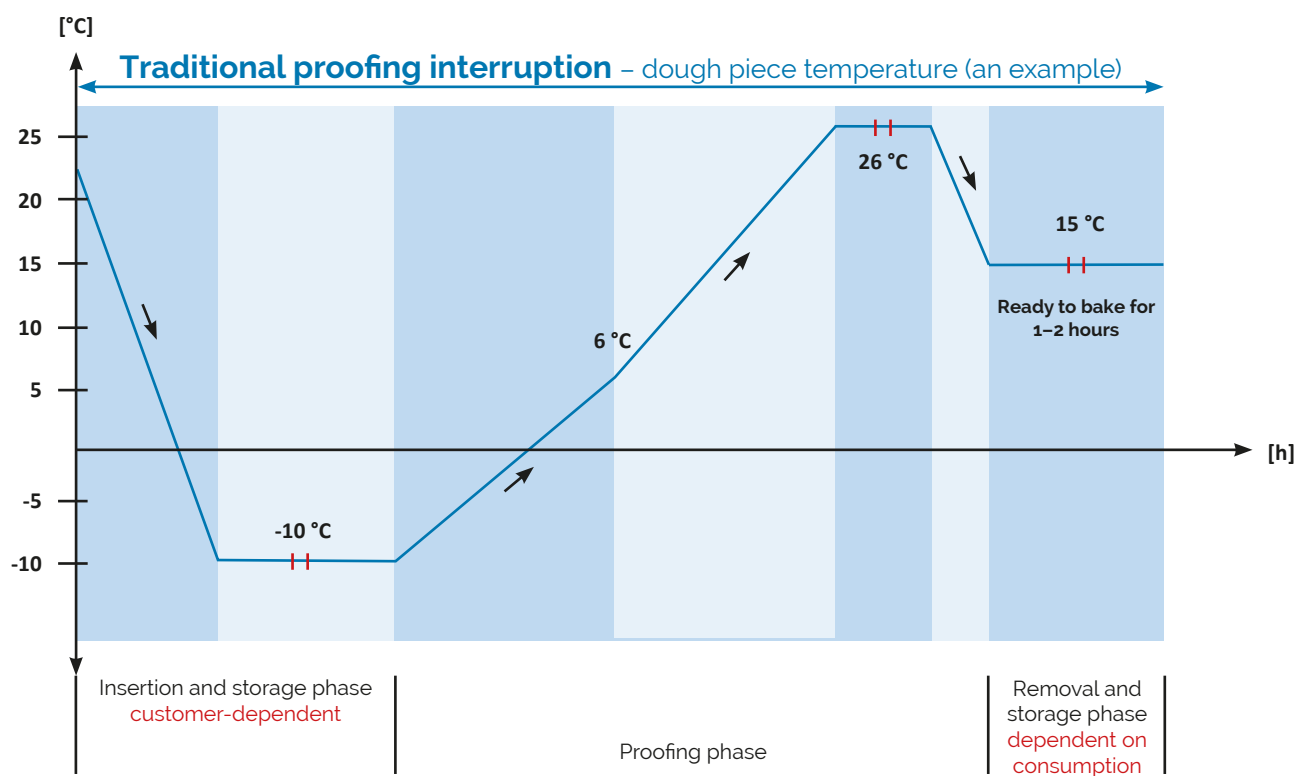
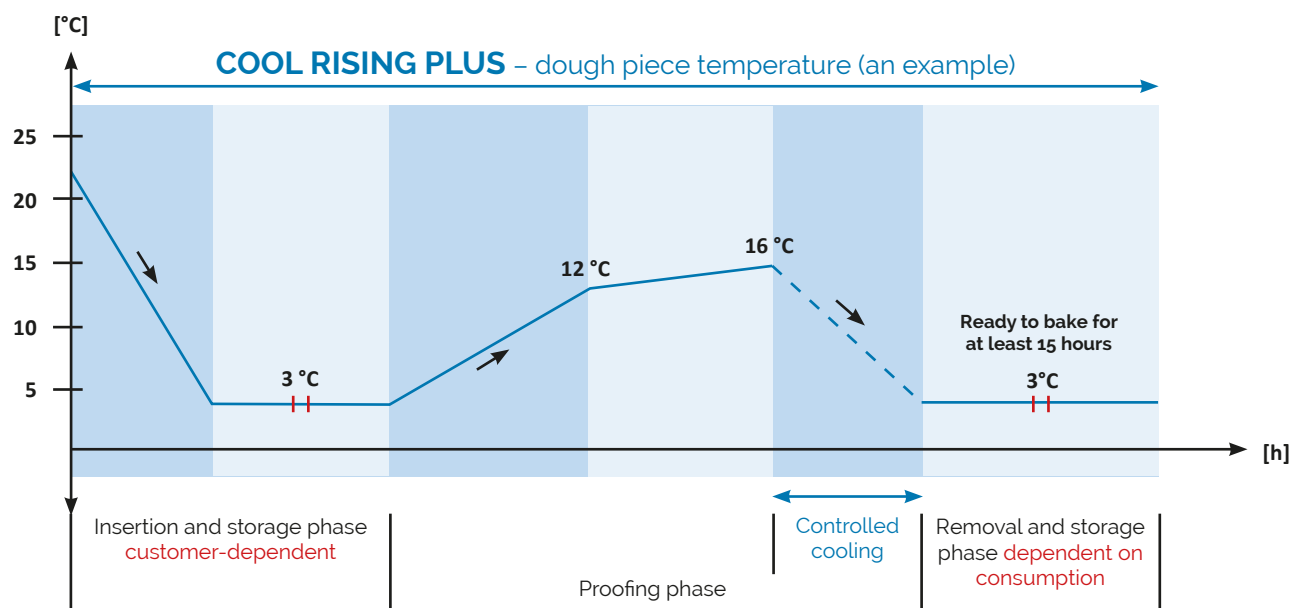
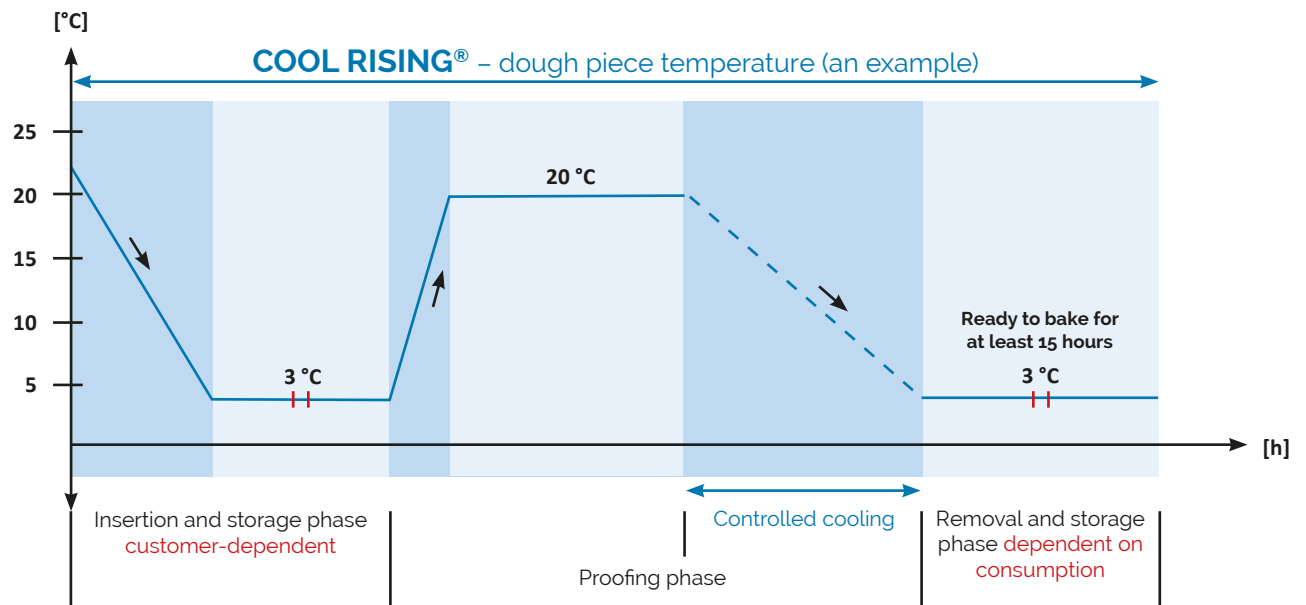
COOL RISING® and COOL RISING PLUS

Process sequence (an example)

- 1** The dough pieces (fresh or frozen) are transferred to the conditioning unit.
- 2** The temperature of the dough pieces is lowered to 3 °C, for example, over a period of several hours and maintained.
- 3** The unit can be filled with dough pieces over several hours.
- 4** The temperature in the unit is slowly raised to 20 °C, for example, and maintained.
- 5** Flavour management: The temperature of the dough pieces is gradually lowered to 3 °C, for example, and maintained. It is checked for minimal temperature differences and cold-proofed.
- 6** The perfectly proofed dough pieces can be removed from the unit over a minimum period of 15 hours at 3 °C, for example. *
- 7** The dough pieces can be baked directly without determination of final proofing. **
- 8** The dough pieces can be transported to the shops over a period of up to 2 hours without the need for further refrigeration.

* Depending on consumption and demand

** Depending on the product – with or without acclimatisation (e.g. 30 minutes)



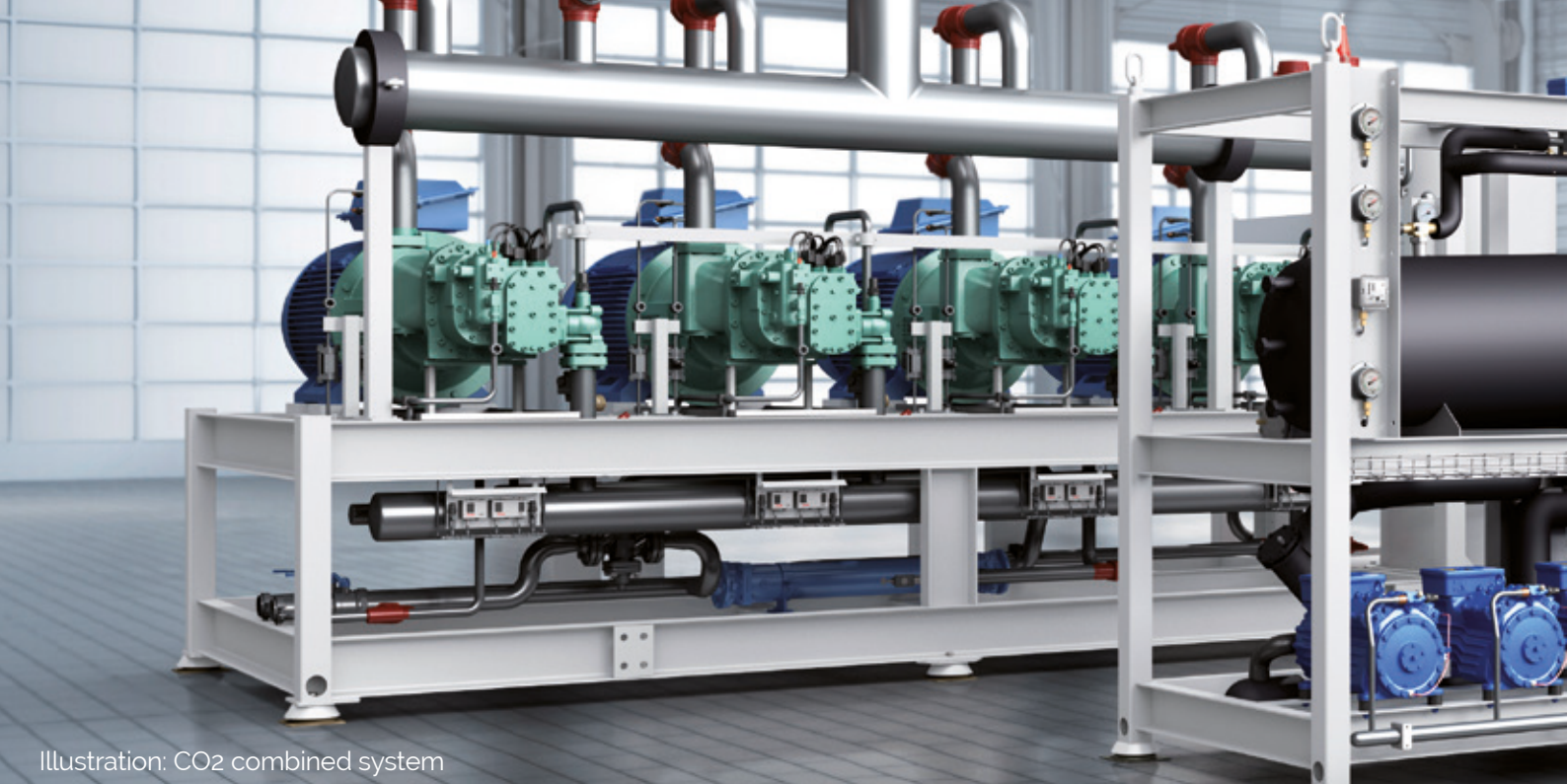


Illustration: CO2 combined system

GREEN CONCEPTS AT WACHTEL

At a glance

Cooling the natural way

Taking a responsible approach to nature and society in general matters more than ever before. This is a commitment that we share. We aim to make an active contribution to climate protection and a more sustainable world with forward-looking, natural cooling technology solutions. CO₂ (R744) is a natural refrigerant and is much more environmentally friendly than the alternatives. Its carbon neutrality with a

GWP (Global Warming Potential) rating of 1 means that there is no need for recovery and disposal. The new regulations on fluorinated gases promote the use of natural refrigerants. At WACHTEL, we specialise in CO₂-powered cooling systems in compliance with current legislation on technology, ECO design guidelines and DIN ISO 14001. Let's get started!

Advantages of CO₂ compared to other refrigerants:

- Non-flammable, non-toxic, no impact on refrigerated products
- Inexpensive
- Highly efficient and eligible for BAFA subsidies
- Can be used in direct evaporation systems
- High evaporation temperatures down to -50°C possible
- Very well suited for heat recovery
- No restrictions on use today or in the future
- CO₂ combined systems offering great cost savings

CO₂ COOLING CONNECT: Plug & Cool!

We offer a standardised concept of a compact CO₂ combined system for all bakery cooling tasks. You can rely on our many years of experience to deliver consistent quality and maximum reliability.

✓ Prewired

✓ Pre-set and functionally tested controllers

✓ Control cabinet provided (wall or surface mounted)

WACHTEL BLUE

- Ultra-efficient blue LED tubes
- Elimination of toxins and fungal spores
- Immediate full luminosity without flickering
- Pleasantly constant light
- Up to 80% electricity cost savings (A+)
- 5-year guarantee on light source
- Lead-free, mercury-free, no hazardous waste (RoHS-compliant)

Energy and quality

- V/f -controlled fan motors and compressors
- State-of-the-art ECM (electronically commutated motor) fans
- Electronic expansion valves for fine control of Delta T (T)
- Stepless power adjustment
- Economical LED lighting
- Air curtain systems, swing doors, protective curtains
- Ultra-effective insulation materials and high insulation thicknesses (80mm, 120mm, 150mm)
- High insulation/K values (up to 0.24 W/m² K)
- Innovative heat recovery systems



Illustration: Dough storage cells with large viewing window and CO₂ cooling technology

Premium baking technology since 1923

WACHTEL is the tradition and future of baking technology. We are proud of our role as a trusted partner of the bakery trade supplying our ovens, loaders and cooling systems Made in Germany since 1923. Quality and attention to detail are our aims; the art of engineering is our driving force; service to the customer is our passion.



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WACHTEL
electro ovens since 1923