



WALTER  
*Roller*  
GERMANY

Extra flat air cooler for gentle cooling  
and demanding processes

# KBKT

HFC | CO<sub>2</sub> | Water | Brine



AIR COOLERS, AIR CONDITIONERS AND  
HEAT EXCHANGERS OF THE HIGHEST QUALITY

## OUR PRODUCTS



**High-performance air cooler** for cooling and deep-freezing requirements in commercial and industrial refrigeration



Customized **heat exchangers** for your system-specific requirements



**Fan coils** for tailored and demanding air conditioning solutions in building engineering

Customized solutions...

Quality Made in Germany

## LOCATIONS

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## ABOUT ROLLER

We develop and produce at the locations in Gerlingen our innovative air coolers. We can develop solutions for individual applications with you.

Either as standard or customized as a system solution.

Walter Roller offers with its broad product range of heat exchangers and air coolers for a wide performance range and every application in refrigeration technology the optimal solution.

...for your refrigeration requirements

Your partner for more than 75 years

## COMPANY DEVELOPMENT

- 2022 | Plant III goes into operation
- 2021 | Optimized fin system for CO<sub>2</sub> deep-freeze applications
- 2020 | Expansion of production capacity at Plant II
- 2015 | Own foothold in Asia
- 2008 | New warehouse and logistics centre opened
- 2006 | Upgrade to EC ventilator technology
- 1998 | Increased performance due to inner finned tubes
- 1996 | CO<sub>2</sub> evaporator for Supermarket refrigeration
- 1968 | Development of air conditioning units
- 1958 | Manufacture of the first high-performance evaporator
- 1946 | Walter Roller founds the company

## OUR MARKETS



HVAC



Refrigeration



Logistics



IT



Process



Energy



Marine



Offshore



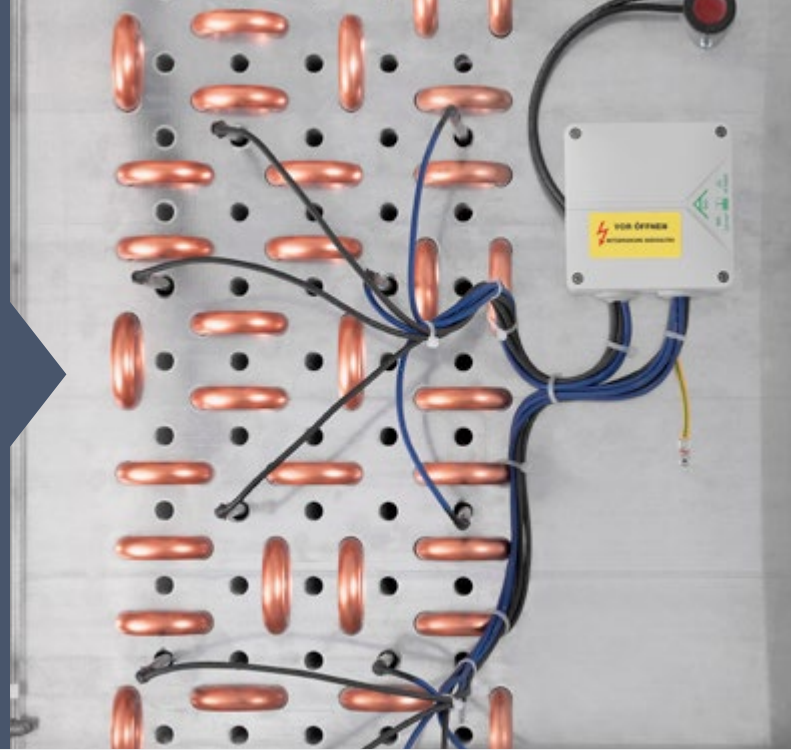
Heat recovery





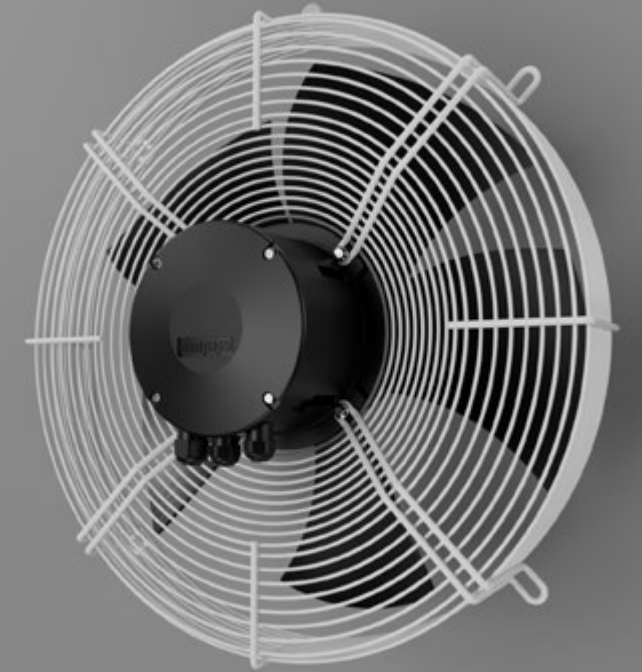
## Optimal heating rod placement

Heating rods arranged to achieve the best possible heat distribution and reliable defrosting, in aluminium housing to prevent vapours.



## EC fans

for energy-efficient, quiet operation as standard.



# What makes the Roller air cooler so unique?



## High efficiency heat exchanger

CuDHP tube, in-line; with flat, thick aluminium high efficiency fins.

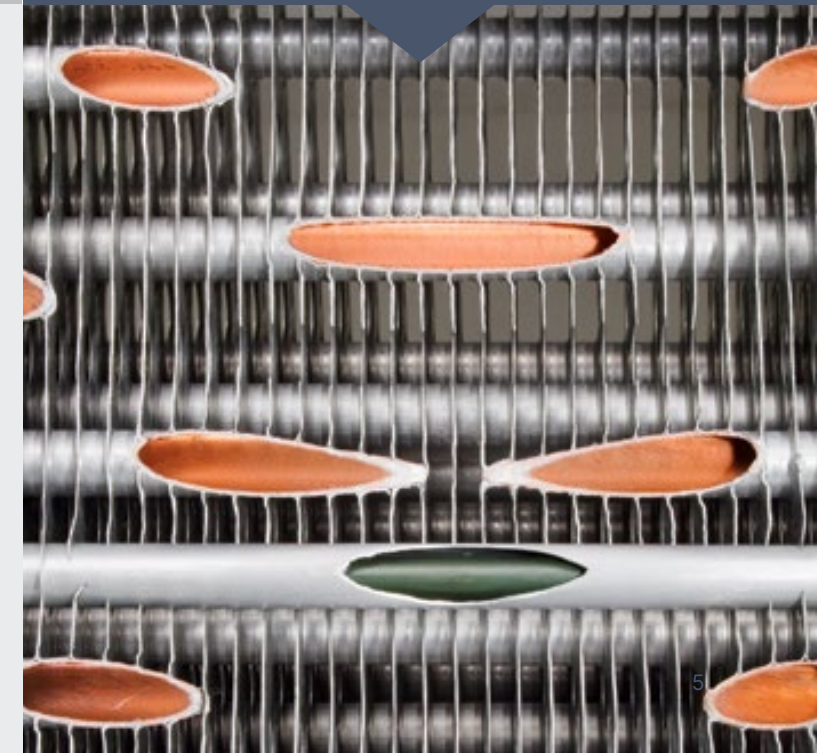
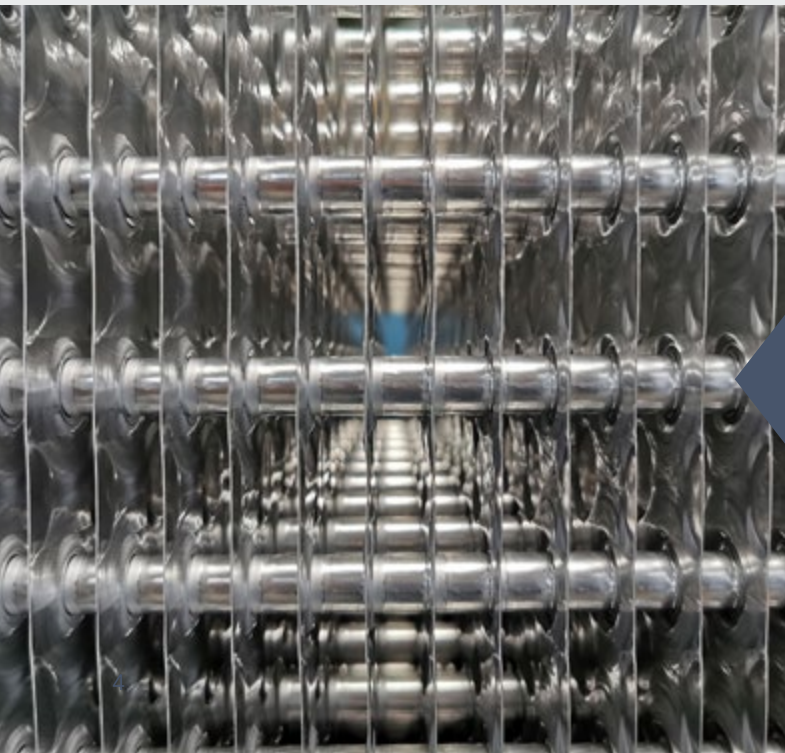
## Aligned pipe system for increased frost storage and less defrosting

The aligned high-performance pipe system can hold more maturity in the block with less pressure loss on the air side.

## Large housing side spaces

Large spaces on the side of the housing allow easy installation of pipes and valves.

Easy access via side doors, completely removable.







## Simply the best basic scope

### Housing

- Corrosion-resistant aluminium casing, powder coated
- Edge-enclosing, cratch-resistant powder coating
- Flat mounted CrNi suspension rails
- Inside drip tray additionally powder coated over the entire surface

### High efficient heat exchanger

- Thick fins (0.3 mm) for great stability during cleaning
- Optimized, in-line tube configuration with planar fins guarantee low air side pressure loss and provide high air volume
- Fin spacing: 4.5 and 7 mm

### Fans

- Powerful EC fans as standard
- Fans swivel for easy cleaning
- Fan speed/air volume load-dependent controllable
- ErP compliant fans

### Energy efficiency

- Roller tube system for high efficiency
- Air volume controlled process-dependently via 0 - 10V signal
- Air cooler energy efficiency up to class „A“
- Heating elements inserted in aluminum jacket tubes to avoid steam vapors

### Defrosting

- Large heat exchanger surfaces dehumidify the air less and maintain the freshness of the refrigerated goods longer
- Due to low dehumidification, fewer defrosts are required
- Heated drip tray
- Heater rods made of stainless steel sleeve tube with special vulcanisation
- Heater rods inside the coil block for reliable defrost, inserted into aluminium sleeve tubes to avoid steam formation
- Drip tray to prevent condensation on the housing

### Installation & Maintenance

- Generous unit side spaces for valve placement
- Good accessibility due to removable side panels
- Heaters and fans wired to junction box
- Junction box placed on front panel for easy installation

# KBKT

The KBKT high performance air cooler is suitable for applications with sensitive cooling and deep-freezing requirements.

Its particularly low overall height coupled with the large heat exchanger surface area enables the air cooler to be used for especially sensitive cooling processes where gentle conditioning is a must. This includes e.g. maintaining exact conditions in complex ripening processes, freezing sensitive dough pieces in bakery refrigeration without loss of quality, or maintaining the freshness of open fruit as well as the demanding long-term storage of harvested produce.



# The KBKT is the ideal air cooler for the bakery technology

THAT'S WHAT MAKES KBKT SO UNIQUE!

- Small temperature differences against dry-out of dough pieces
- Fast freezing for keeping the quality of the chilled product
- Gentle storage for long-lasting product quality
- Energy-efficient, powerful EC fan technology
- Reduced unit height for more workspace



## Minimum dehumidification

The cooling of sensitive goods requires special challenges for the air coolers. To preserve the best possible quality of the food, the smallest possible temperature differences and low dehumidification are required. To ensure this, an air cooler needs a large evaporator surface. The KBKT was designed to meet precisely these requirements and impresses with very low dehumidification levels.



## Climate heating for optimal humidity control

Minimal temperature differences are an equally important aspect for guaranteed consistently high product quality. When air is cooled by an air cooler, the humidity condenses on the cold fins of the air cooler. This is discharged via the condensate drain. The dehumidified air can then be reheated by the air-conditioning heater to keep the temperature difference low. This makes it possible to dehumidify and keep the temperature in the room at a defined temperature operating point.

432 mm  
only



## Reduced unit height for optimum room usage and air circulation

Due to its particularly flat design, coupled with its large heat exchanger surface with 8 rows of tubes in the direction of the air, the KBKT high-performance air cooler is particularly suitable for gentle air conditioning of sensitive refrigerated goods, e.g. baked goods and dough pieces, as well as for interrupting fermentation.



# The KBKT's range of application in bakery technology

## Careful storage of dough pieces

In the production of baked goods, the right cooling conditions for the sensitive dough pieces are particularly important. To prevent the surface of the dough pieces from drying out too quickly, gentle storage is required to ensure optimum temperature, humidity and air circulation of the goods, which are usually stored on the oven racks.



## Quality preservation through interruption of fermentation

When fermentation is interrupted, the chilled product is cooled so quickly that it retains its quality without, for example, being subjected to further fermentation processes. Blast freezing is also used for already pre-baked or pre-cooked products. In this process, a core temperature of  $-7\text{ }^{\circ}\text{C}$  is reached in the product as quickly as possible using a very low temperature with a high air volume. Due to its high cooling capacity coupled with a high air output, the KBKT can also be used as a blast freezer.



## Sliding performance requirements

In the processing of refrigerated goods, different refrigeration capacities are required depending on the process. While high capacities are required for storage or freezing, these are much lower for storage conditioning. In defrosting processes, high fan outputs are usually required for powerful air circulation. With the infinitely variable EC fans, not only the correct temperature in the room but also a gentle air flow can be guaranteed. This ensures a consistent quality of the dough products.



## Controlled fermentation delay or interruption

Proper rising of the dough is critical to the quality of the baked goods. To achieve the best results at the desired time, a controlled proofing delay or interruption is necessary, which is created by the controlled ambient temperature and moisture content. The large heat exchanger surface of the KBK ensures gentle cooling of the dough pieces.



# What makes the KBKT so unique?



## ONLY 432 MM OVERALL HEIGHT

High cooling capacity with very low overall height of only 432 mm (excluding drain connection).



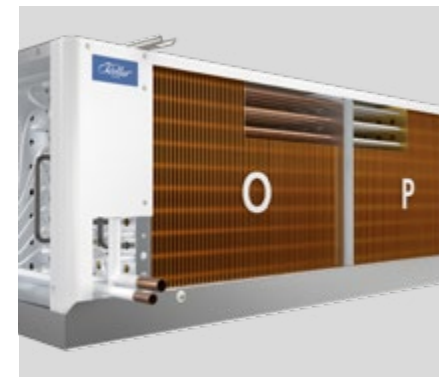
## SWIVEL FANS

For better accessibility and easy cleaning of the heat exchanger. (Optional)



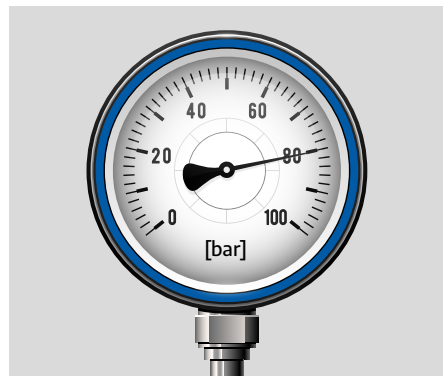
## MINIMUM DEHUMIDIFICATION

The 8 rows of pipes in depth by 10 in height ensure a minimum dehumidification of the air in the room.



## OPTIMAL CORROSION PROTECTION

Roller offers you effective corrosion protection for all applications, enabling you to operate the air coolers safely and, above all, tightly over their entire life cycle.



## VERSION WITH 80 BAR

For use with the high-pressure refrigerant CO<sub>2</sub>/R744, the air coolers are available for operating pressures up to 80 bar.



## REPAIR/SERVICE SWITCH

The switch makes it easy to switch off the power to the entire appliance. This means that safe service work can be carried out without any additional time expenditure. (Optional)



## EXTERNAL JUNCTION BOXES

For quick and easy accessibility of the air cooler for maintenance and repair work, the fans and heating elements are wired at the factory.



## AIR CONDITIONING HEATING

Downstream electric heating rods (between register registers and fans) ensure efficient dehumidification operation. (Optional)



# Optimal corrosion protection

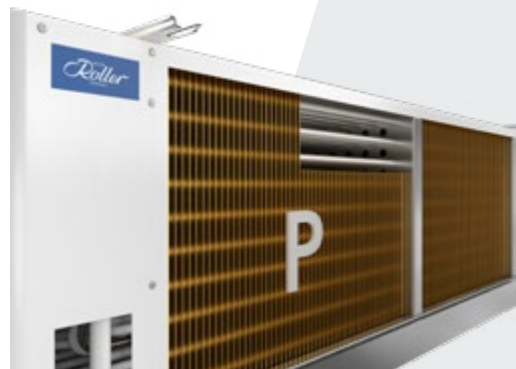
## CORROSION PROTECTION FOR ALL REFRIGERATION APPLICATIONS

There are hardly any applications where there is no corrosive influence on the refrigeration components. In cold rooms alone, heat exchangers are often exposed to a variety of different substances that influence their lifetime. Be it salt, vinegar, smoke or even cleaning substances - it is important to know the effect of these influences on corrosion. Roller offers you effective corrosion protection for all applications with which you can operate the heat exchangers safely and, above all, tightly over their entire life cycle.



### Corrosion protection - Variant "O"

PET-coated plate-fin heat exchangers are used wherever corrosion protection is required against atmospheres containing acetic acid (low concentration) and cleaning agents. The corrosion protection variant "O" is a combination of **copper core tube** and **PET-coated aluminum fins**.



### Corrosion protection - Variant "P"

The corrosion protection variant "P" combines the properties of variant "O" and is supplemented by additional protection of the copper tube against ammonia.

Here, the copper core tube is additionally equipped with a **tin coating** and offers itself as a **sacrificial anode**.



### Protection of the connection system

The exposed pipe bends outside the fin pack on the connection side and on the return side are flooded in a special process so that maximum coating takes place all around them. This 2-component coating also covers the connecting pipes from the media inlet and outlet.



## CORROSION PROTECTION

Standard

Corro O

Corro P

Material / Protection

Alu fins

Copper tube

Tin-plated core tube

Housing powder coating

Bend sides, fins and connections powder coating

Alu

☑

☑

✓

☑

✓

PET

☑

☑

☑

☑

☑

PET

☑

☑

☑

☑

☑

☑ standard ✓ optional



For detailed information on corrosion protection, see:

[www.walterroller.de/en/technology/corrosion-protection](http://www.walterroller.de/en/technology/corrosion-protection)




# Technology at a glance

## POWER RANGE

HFC	1 – 28 kW	Brine	1 – 50 kW
CO <sub>2</sub>	1 – 27 kW		

## FANS


EC-Technology	✓	
Fixed speed	✓	
Variable speed	✓	
AC-Technology	✓	
Quiet version	✓	
Diameter	300	
Number	1 / 2 / 3 / 4 / 5	



## HEAT EXCHANGER

Tube system	Aligned	
Tubes	R744: internally grooved HFC: internally grooved	
Fin spacing	4.5 / 7	

## DEFROSTING

	Block	Drain pan	
Electrical	✓	✓	
Hot gas			
Brine	✓		

## READY FOR USE WITH ALL REFRIGERANTS / MEDIA

HFC

The KBKT can be designed for all relevant HFCs and has been in proven use.

	Normal cooling	Deep freezing
HFC	✓	✓
CO <sub>2</sub>	✓	✓
Brine	✓	✓
	❄️	❄️❄️❄️

Brine

The KBKT can be operated very efficiently in cooling mode as well as in defrosting with common brine operated.

CO<sub>2</sub>

CO<sub>2</sub> has become the most important natural refrigerant in refrigeration technology for the food retail trade. The KBKT offers you the use of CO<sub>2</sub> up to PS 80 bar.

# Options & Accessories



## SWIVEL FANS

For better accessibility and easy cleaning of the heat exchanger. (Optional)



## POTENTIOMETER

For adjusting the air volume flow by stepless speed control of the fan. (Optional)



## OPTIMAL CORROSION PROTECTION

Roller offers you effective corrosion protection for all applications, allowing you to operate the air coolers safely and, above all, tightly throughout their entire life cycle.



## TEXTILE HOSE CONNECTION

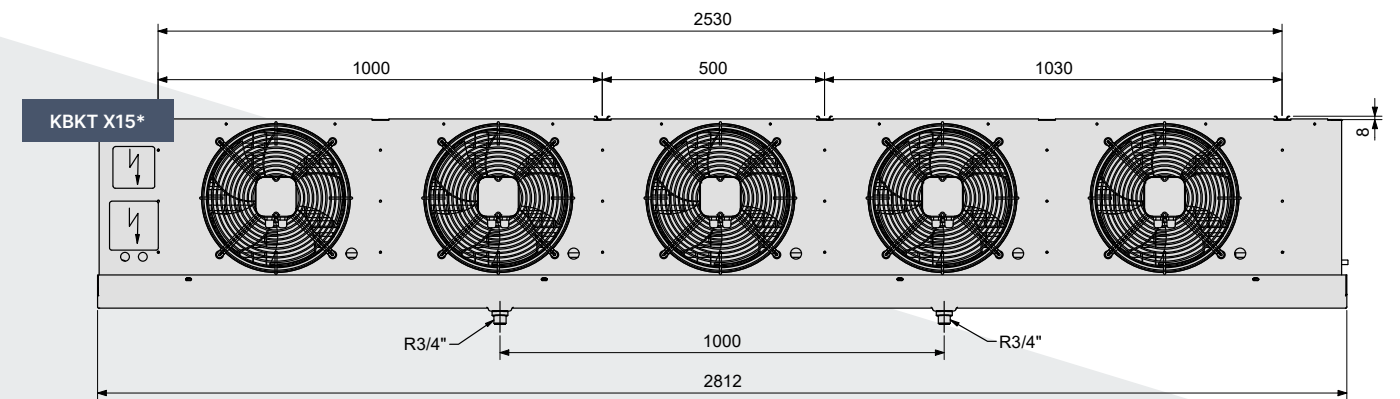
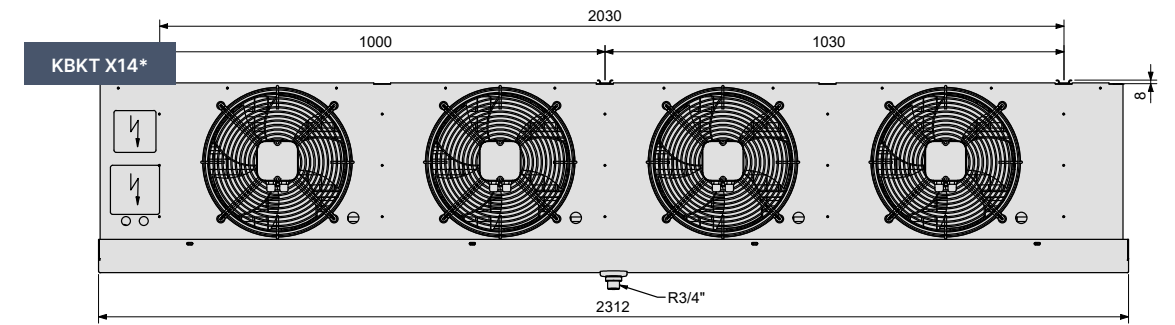
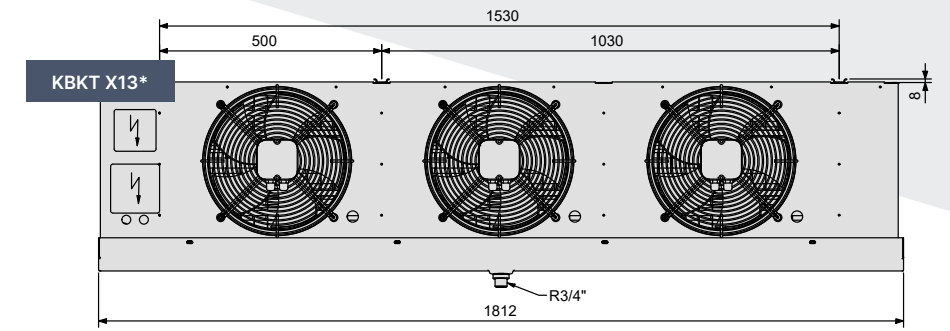
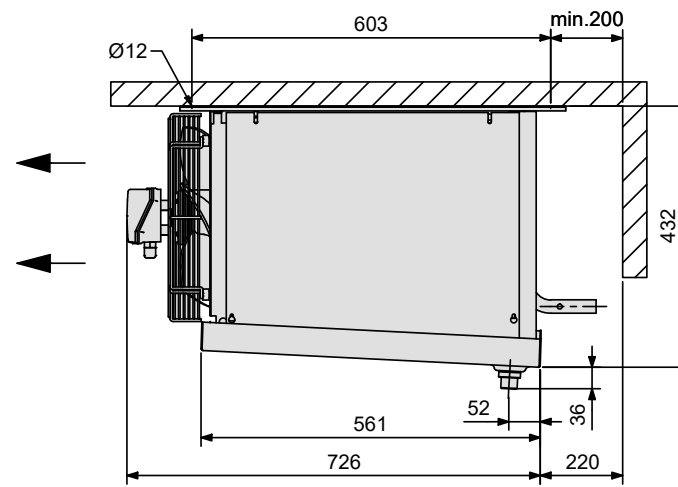
For connecting textile hoses or defrosting aids (Defrost Damper/Shut Up).



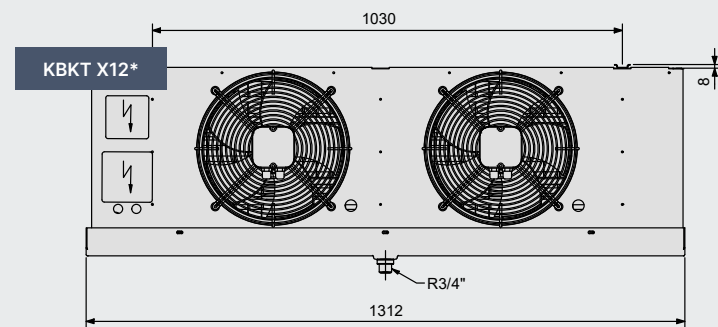
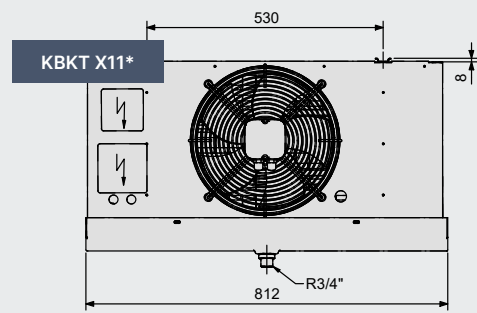
## REPAIR/SERVICE SWITCH

The switch makes it easy to switch off the power to the entire appliance. This means that safe service work can be carried out without any additional time expenditure. (Optional)

# Capacities, dimensions & weights



\*Dimensions in mm



Model	Capacity Q <sub>o</sub> R404A		Capacity Q <sub>o</sub> R744		Capacity Q <sub>o</sub> H <sub>2</sub> O	Capacity Q <sub>o</sub> Brine (25%) Propylene glycol		Surface		Air flow	Energy efficiency class R404A	Energy efficiency class R744	per fan (operating values at 230V, 50/60Hz)				Sound pressure level**	Tube volumes		Weights			
	t <sub>o</sub> = -8 °C DT1 = 8 K (SC2)	t <sub>o</sub> = -25 °C DT1 = 7 K (SC3)	t <sub>o</sub> = -8 °C DT1 = 8 K (SC2)	t <sub>o</sub> = -25 °C DT1 = 7 K (SC2)		t <sub>in</sub> / t <sub>out</sub> 6/12 °C tr = 27 °C 47% r.F. max. 75 kPa	t <sub>in</sub> / t <sub>out</sub> -5/0 °C tr = 5 °C 85% r.F. max. 75 kPa	HFC	COI				No.	Fan Ø	Power input	Air throw		HFC	COI	HFC		COI	
KBK/T...EC	kW	kW	kW	kW	kW	kW	m <sup>2</sup>	m <sup>2</sup>	m <sup>3</sup> /h				mm	W	m	dB(A)	dm <sup>3</sup>	dm <sup>3</sup>	kg		kg		

### 411 - 415 Fin spacing: 4,5 mm

411	3,10	2,65	4,03	3,27	10,32	3,09	19,2	19,7	1480	B	B	1	300	85	4	48	4,9	2,6	29	26	32	29
412	6,22	5,33	8,34	6,51	20,72	5,39	38,4	39,4	2960	B	A	2	300	85	5	50	9,2	4,8	48	43	54	48
413	10,15	8,37	11,85	9,48	33,01	9,75	57,6	59	4440	B	B	3	300	85	6	52	13,5	7	68	60	76	67
414	14,32	11,18	16,42	12,83	44,33	9,26	76,8	78,7	5920	B	A	4	300	85	7	53	17,5	9,2	88	77	98	86
415	16,06	13,79	19,95	16,11	51,59	18,16	96	98,4	7400	B	B	5	300	85	10	54	22,1	11,5	110	96	122	108

### 711 - 715 Fin spacing: 7 mm

711	2,57	2,20	3,34	2,78	8,76	2,74	12,9	13,1	1550	B	A	1	300	85	4	48	4,9	2,6	29	26	32	29
712	5,15	4,43	7,10	5,71	18,89	4,85	25,8	26,2	3100	B	A	2	300	85	5	50	9,2	4,8	48	43	54	48
713	8,33	7,10	11,85	8,24	28,08	6,95	38,7	39,3	4650	B	A	3	300	85	6	52	13,5	7	68	60	76	67
714	12,12	9,84	13,91	11,21	37,90	8,44	51,6	52,4	6200	B	A	4	300	85	7	53	17,5	9,2	88	77	98	86
715	13,91	11,98	16,66	13,80	43,80	10,55	64,5	65,5	7750	B	A	5	300	85	10	54	22,1	11,5	110	96	122	108

The data in the above table are based on measurements with refrigerant R404A and operation of the fans at 50/60 Hz.

\*\* Average sound pressure level at 3 m distance



More Service.  
More Performance.  
More Partnership.



#### ... IS NOT ONLY A PROMISE OF QUALITY FOR US

- Use of the highest quality materials from primarily German brand manufacturers
- Robust products with maximum energy efficiency and durability
- Fast processing times for shortest delivery times
- Quality manufacturer with unusual flexibility
- Reliable spare parts supply at short notice
- 75 years of strong relationships with our customers

#### SHORT LEAD TIME GUARANTEED!

- The Roller Logistics Center stocks constantly air coolers for you!
- 2000 units in stock for you
- 3-5 days lead time on stock units
- 24 / 7 online stock information
- Well sorted spare parts store

Roller  
EASYSELECT



#### SELECTION SOFTWARE

- Thermodynamic calculation of the performance data
- Free calculation, without registration and password
- Web-based program with permanent data up-to-dateness
- Precise design for your application
- 5+ languages to select from
- Large range of F-gas compliant refrigerants as well as refrigerant media
- Input of manual fluid data for calculation with own coolants possible
- Selection of different designs, materials, options and types of corrosion protection
- Price and delivery time for calculated air coolers
- Complete documentation for the selected unit
- Quick calculation with just a few clicks
- Multiple filter function
- Optimised also for mobile devices, incl. optional app installation directly from the browser
- Clear and intuitive user interface



Roller EasySelect  
can be found at:

[www.WalterRoller.de/en](http://www.WalterRoller.de/en)



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