EN

WALTER Roller GERMANY

Extra flat air cooler for gentle cooling and demanding processes

KBKT

HFC | CO_2 | 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...

...for your refrigeration requirements

WALTER Roller GERMANY

Quality Made in Germany

Your partner for more than 75 years

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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.

COMPANY DEVELOPMENT

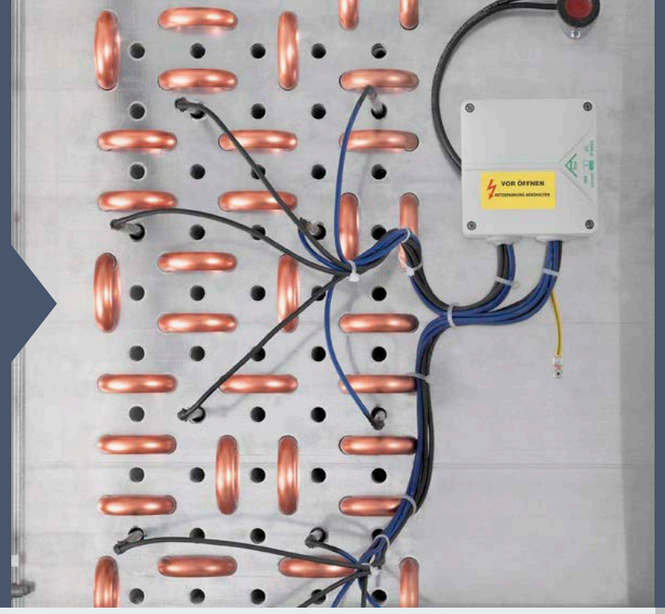
- **2022** — Plant III goes into operation
- **2021** — Optimized fin system for CO_2 deep-freeze applications
- **2020** — Expansion of production capacity at Plant II
- **2015** — Own foothold in Asia
- **2008** — New warehouse and logistics centre opened
- **2006** — Upgrade to EC ventilator technology
- **1998** — Increased performance due to inner finned tubes
- **1996** — CO_2 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

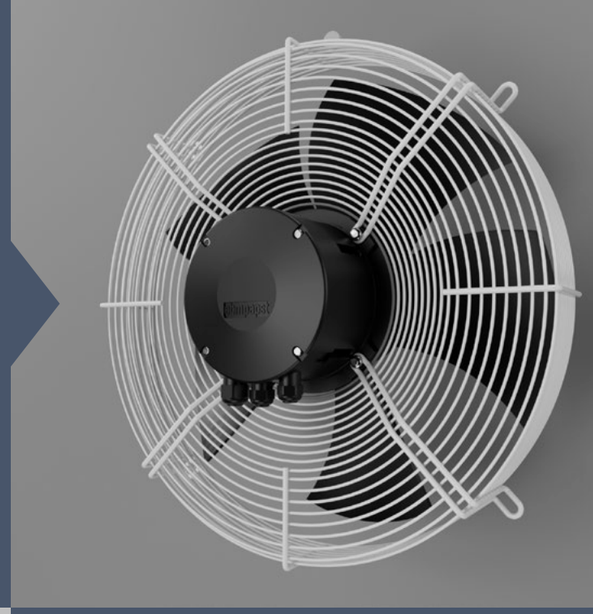
Optimal heating rod placement

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



EC fans

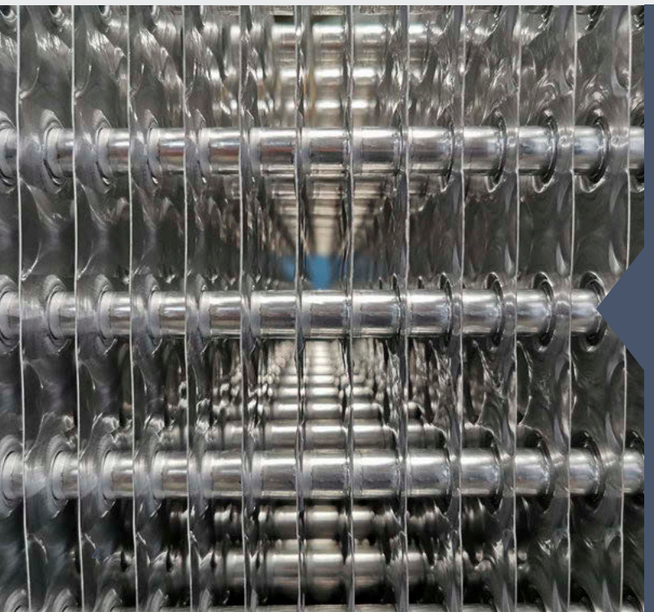
for energy-efficient, quiet operation as standard.



What makes the Roller air cooler so unique?

High efficiency heat exchanger

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



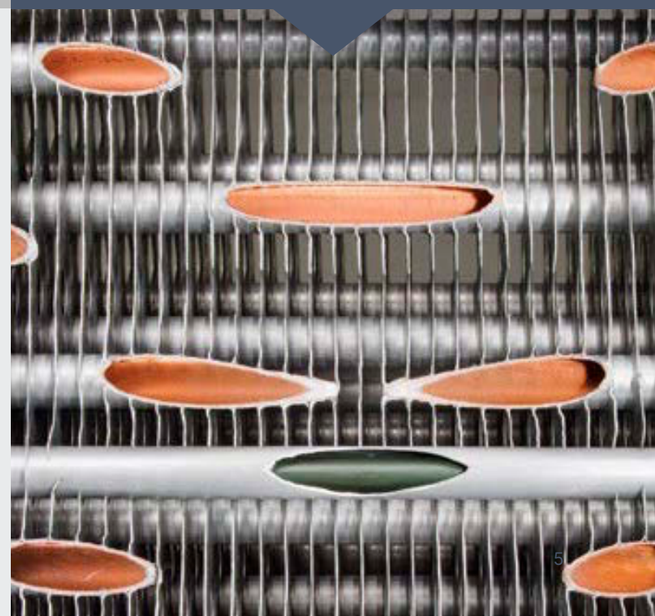
Aligned pipe system for increased frost storage and less defrosting

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-ressistant 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

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

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

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 precise room conditioning

Minimal temperature differences are an important aspect in guaranteeing consistently high product quality. When air is cooled via a heat exchanger, humidity condenses on the cold fins of the air cooler. This is removed via the condensate drain. The cooled air can then be reheated using the optional air conditioning heater. This enables targeted dehumidification and keeps the conditions in the room at a defined operating point.

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 °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 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

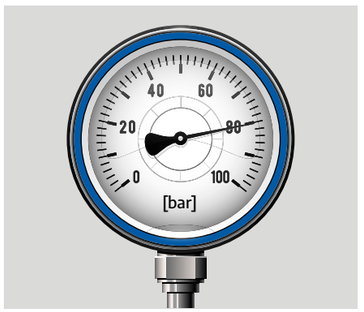
For better accessibility and optimized cleaning of the heat exchanger. (Optional)

MINIMUM DEHUMIDIFICATION

The 8 rows of pipes in depth by 10 in height ensure a large heat exchanger surface area for minimal 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_2/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 heating elements are wired at the factory.

AIR CONDITIONING HEATING

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

	Material / Protection	Alu fins	Cupper tube	Tin-plated core tube	Housing powder coating	Bend sides, fins and connections powder coating
Standard	Alu	⊘	⊘	✓	⊘	✓
Corro O	PET	⊘	⊘		⊘	⊘
Corro P	PET	⊘	⊘	⊘	⊘	⊘

⊘ standard ✓ optional

For detailed information on corrosion protection, see:

www.walterroller.de/en/technology/corrosion-protection

Technology at a glance

POWER RANGE

HFC	1 – 28 kW	Brine	1 – 50 kW
CO_2	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_2	✓	✓
Brine	✓	✓

Brine

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

CO_2

CO_2 has become the most important natural refrigerant in refrigeration technology for the food retail trade. The KBKT offers you the use of CO_2 up to PS 80 bar.

*on request ✓ standard ✓ optional

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.

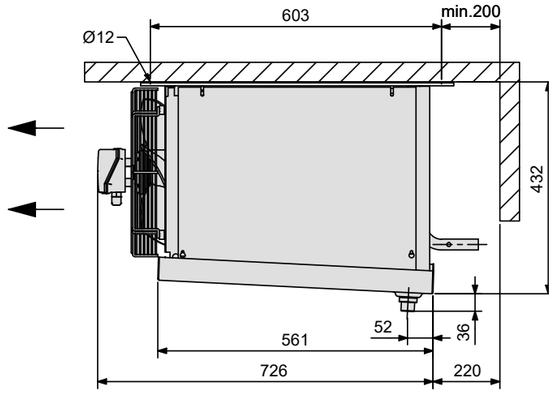
TEXTILE HOSE CONNECTION

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

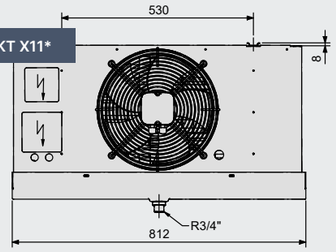
REPAIR/SERVICE SWITCH

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)

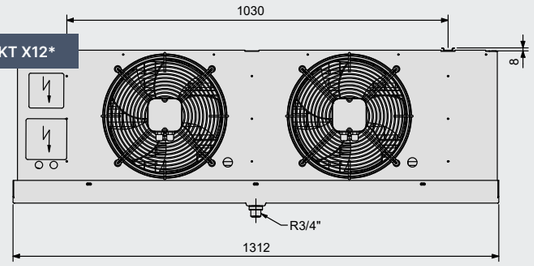
Capacities, dimensions & weights



KBKT X11*



KBKT X12*



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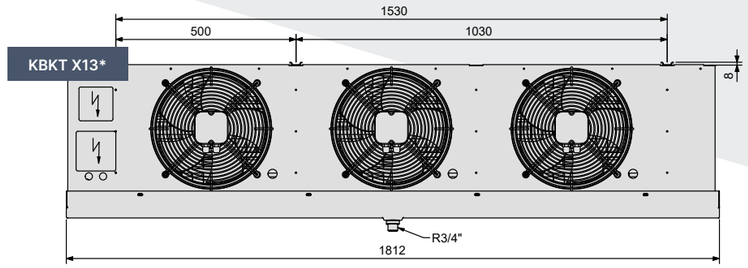

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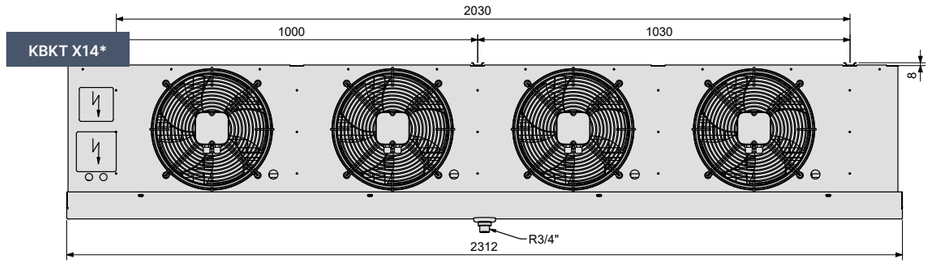
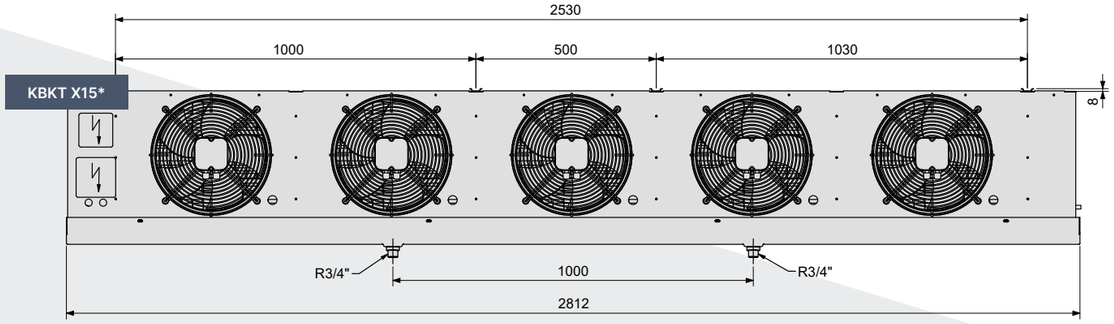


KBKT X15*



*Dimensions in mm

Model	Capacity Q_0 R404A		Capacity Q_0 R744		Capacity Q_0 H_2O*	Capacity Q_0 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_o = -8 °C DT1 = 8 K (SC2)	t_o = -25 °C DT1 = 7 K (SC3)	t_o = -8 °C DT1 = 8 K (SC2)	t_o = -25 °C DT1 = 7 K (SC2)	t_{in} /t_{out} 2/8 °C tr = 15 °C 74 % r.F. max. 50 kPa	t_{in} /t_{out} -5/0 °C tr = 5 °C 85% r.F. max. 75 kPa	HFC Brine	COI					No.	Fan Ø	Power input	Air throw		HFC Brine	COI	HFC		COI	
																				4	7	4	7
KBK/T...EC	kW	kW	kW	kW	kW	kW	m²	m²	m³/h					mm	W	m	dB(A)	dm³	dm³	kg	kg	kg	kg
411 - 415	**Fin spacing: 4.5 mm**																						
411	3.10	2.65	4.03	3.27	5.43	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	12.59	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	18.77	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	25.4	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	32.90	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	4.48	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	10.85	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	15.54	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	21.80	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	27.25	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.
*Depending on the operating point, these values can be precisely recalculated in our EasySelect software

**Average sound pressure level at 3 m distance

More Service.
More Performance.
More Partnership.

MADE IN GERMANY

... 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 EASY SELECT

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

Future-safe.

AIR COOLERS FOR FLAMMABLE REFRIGERANTS **A2L/A3**

Producing and installing future-safe products is a particular challenge for manufacturers, plant engineers and operators against the background of rapidly changing market situations and legislation. For low-hazard operation of air coolers with flammable low-GWP refrigerants of class A2L and A3 (flammable), additional modifications must be made in addition to the high standards for HFO series units.

Roller air coolers today already meet the high requirements in terms of safety for use with flammable refrigerants:

- Special heating elements with reduced specific heat capacity
- Revised defrosting concept for block and tray to maintain max. permitted surface temperatures
- Optimized and tested heater placement for consistent defrost reliability
- Single leak test
- Improved grounding concept against electrostatic charging of the housing
- Design tested for potential ignition sources and conforming to standards

Application

- Air coolers for commercial refrigeration applications
- Use in normal and deep-freeze rooms possible

Benefits

- Corrosion protection approved and independently tested
- Same dimensions as standard units, same installation as usual

Fans

- High-efficiency EC fans
- Switchable in several stages depending on load

Heat exchanger

- Compact pipe system with low internal volume
- Fin spacing with 4 and 6/7 mm

Options

- Extensive and proven corrosion protection variants
- Built-in overheating controller EVD-ice

AIR COOLERS ALSO WITH ELECTRIC DEFROST (T-VERSION)

DLK/DLKT

FHV/FHVT

FKN/FKNT

Corrosion protection more important than ever:
When flammable refrigerants are used, the permanent tightness of all system components becomes even more important. For this reason, various types of corrosion protection are optionally available to withstand the chemical stresses caused by substances in the ambient air and subsequently prevent refrigerant loss.

AIR COOLERS WITHOUT DEFROST HEATER, FOR CONVECTION DEFROSTING

DHN

For detailed information on corrosion protection, see:
www.walterroller.de/en/corrosion-protection

UT/FK/GS/V

VM/VW/VD

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