



WALTER
Roller
GERMANY

Highly efficient, modular air coolers
with a modular design

FHV/FHVT

HFC | CO₂ | A2L | 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 CO₂ 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 | CO₂ 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

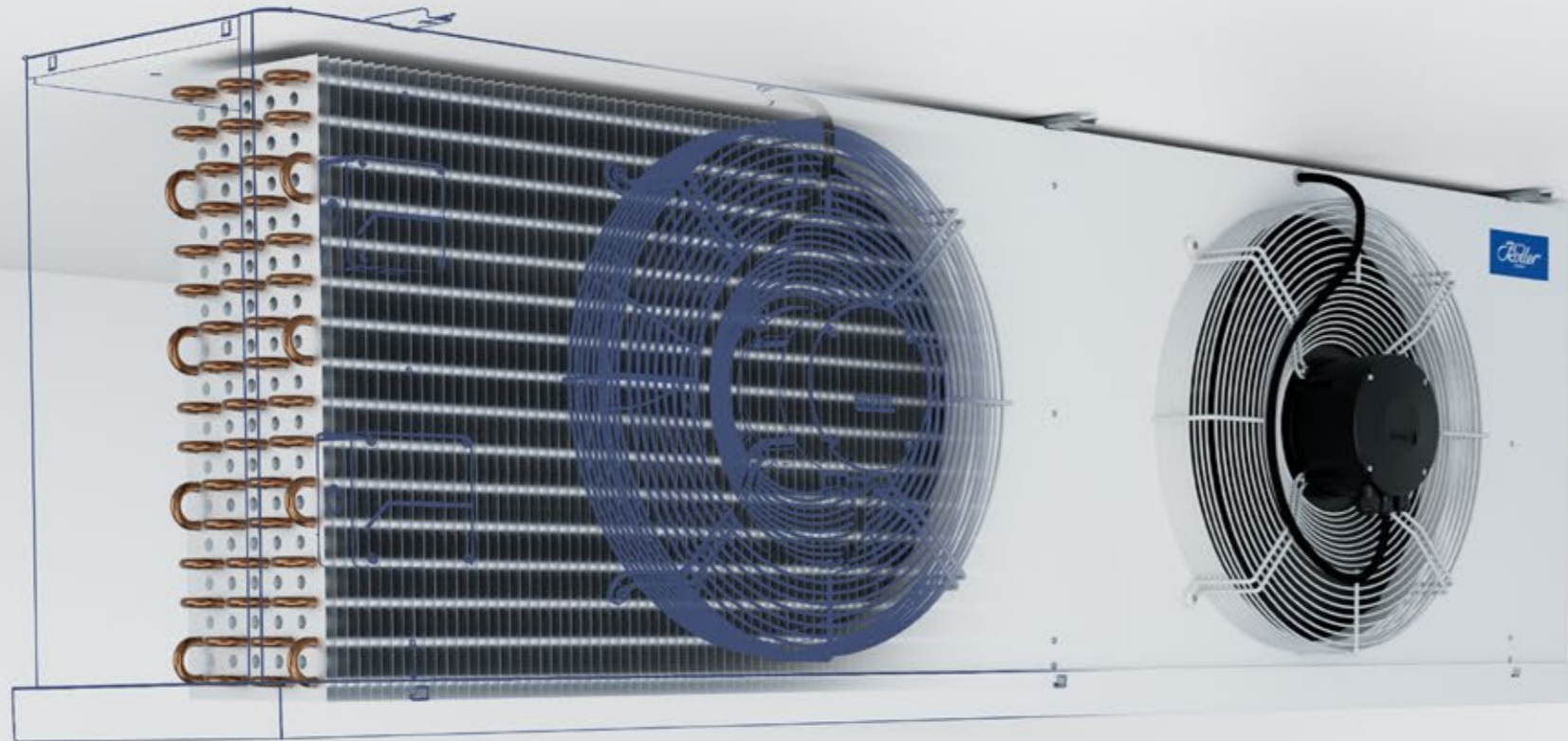


Offshore



Heat recovery





FHV/FHVT

The FHV high-performance air cooler is particularly suitable for cooling and deep freezing requirements in the field of commercial cooling.

Its particularly compact design together with the wide range of accessories and options, its efficient defrosting process and its compatibility with the coolant CO₂ make it ideal for use in a wide range of commercial applications.

Simply the best basic scope

Housing

- Corrosion-resistant aluminium casing, powder coated
- Edge-enclosing powder coating
- Double pan construction to prevent outside condensate formation
- Flat stainless steel mounting rail

Installation & Maintenance

- Big side compartments
- Simple to access, easy cleanable
- Hinged drain pan: Drain pan and bottom plate
- Housing corners and drip tray with large rounded edges for better cleaning

Fans

- Energy-saving EC fans
- Air cooler energy efficiency up to class "A"
- ERP compliant fans

High efficient heat exchanger

- Thick fins (0.3 mm) for great stability during cleaning
- Optimized, in-line tube configuration with plain fins guarantee low air side pressure loss and provide high air volume
- Fin spacing: 4, 6, 7, 12 mm

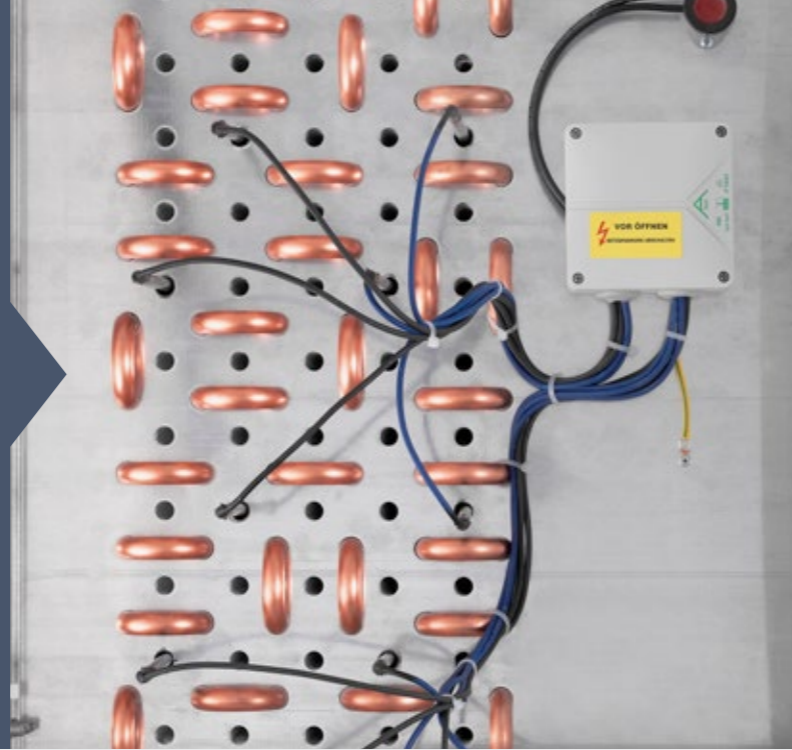
Defrosting

- Large heat exchanger surfaces lead to less dehumidification and less defrost cycles
- Heater rods made of stainless steel sleeve tube with special vulcanization
- Heater rods inside the coil block for reliable defrost, inserted into aluminium sleeve tubes to avoid steam formation
- Intermediate sheet to avoid condensation at the housing



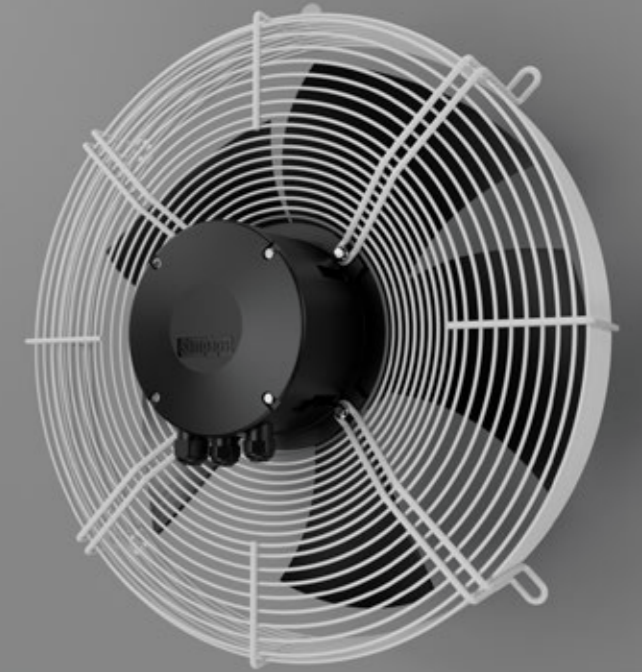
Optimal heating rod placement

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

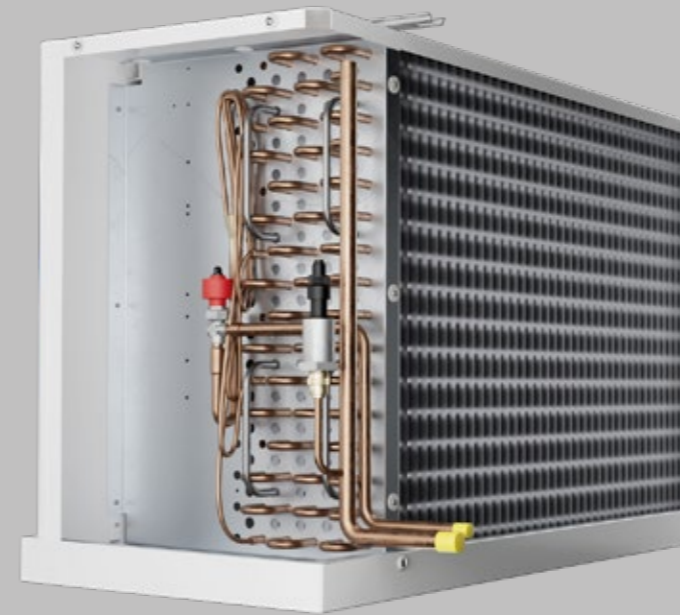


EC fans

for energy-efficient, quiet operation as standard.



What makes the FHV/T unique?

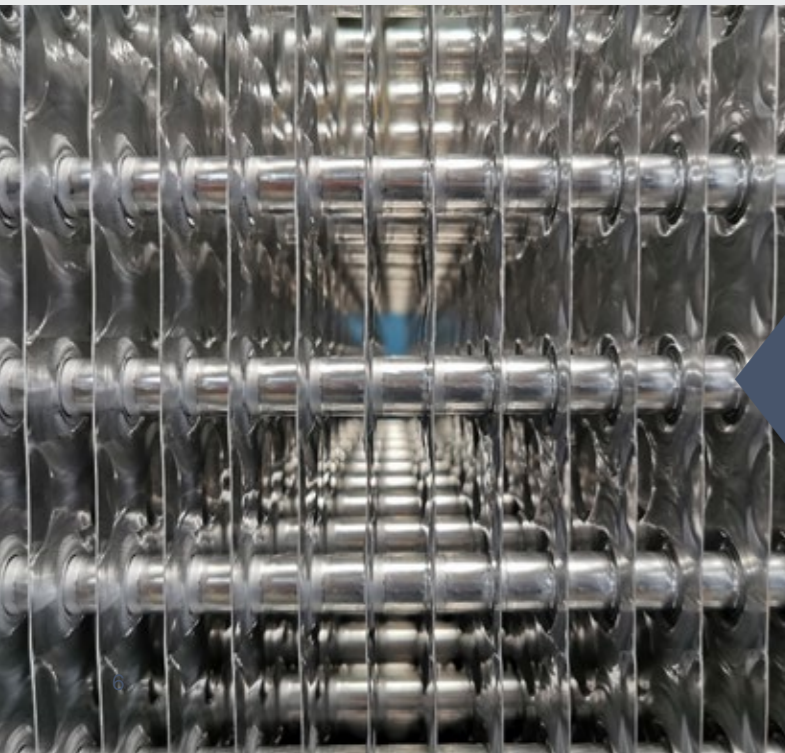


High efficiency heat exchanger

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

Aligned pipe system for increased frost storage and less defrosting

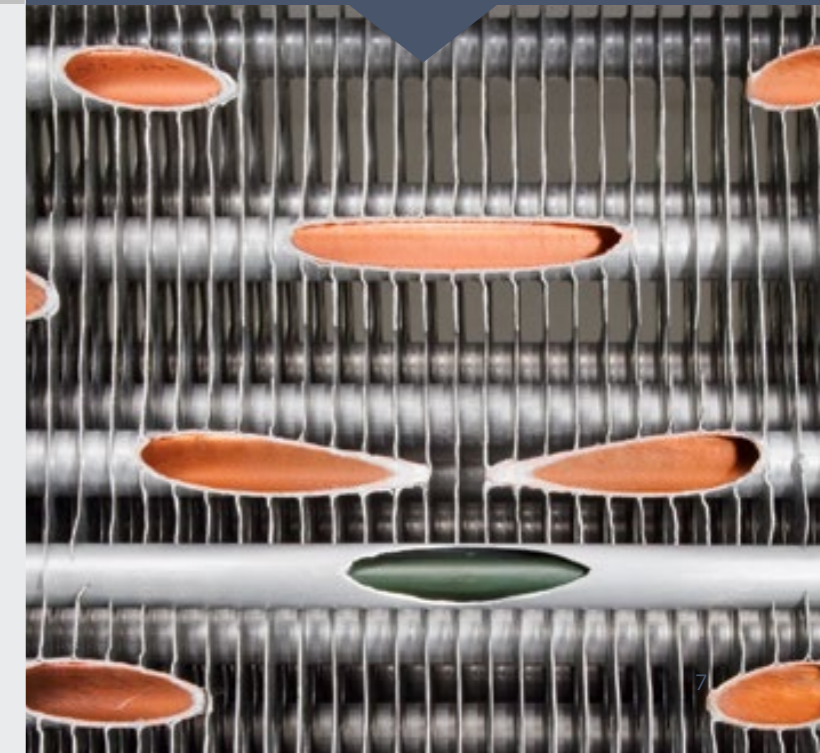
The aligned high-performance pipe system can hold more maturity in the block with less pressure loss on the air side.



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.



BUILT-IN Electronic E-Valve

BUILT-IN ELECTRONIC EXPANSION VALVE AND EVD-ice SUPER-HEAT CONTROLLER FOR QUICK AND EASY START-UP ON SITE

Selecting, installing and parameterising a suitable expansion valve for a refrigeration system is a challenge that costs a lot of time and money in consideration of the different system parameters. Roller offers you a pre-installed, electronic expansion valve with superheat control for commercial refrigeration evaporators, regardless of the refrigerant used. And that for 40 pre-parameterised refrigerants, incl. CO₂!

Increased energy efficiency through

- Precise control of the refrigerant flow
- Reduced compressor running times
- Sliding suction pressures
- Minimum room temperature differences
- Short defrosting times due to reduced ice formation
- Stable operation even under deep-freeze conditions

Pre-parameterised for 40 refrigerants

Among others for the following refrigerants:

- R134a, R404A, R407A, R407C, R407F
- R449, R452A, R513A
- R744 (CO₂)
- Free, variable space for future refrigerants

Application range

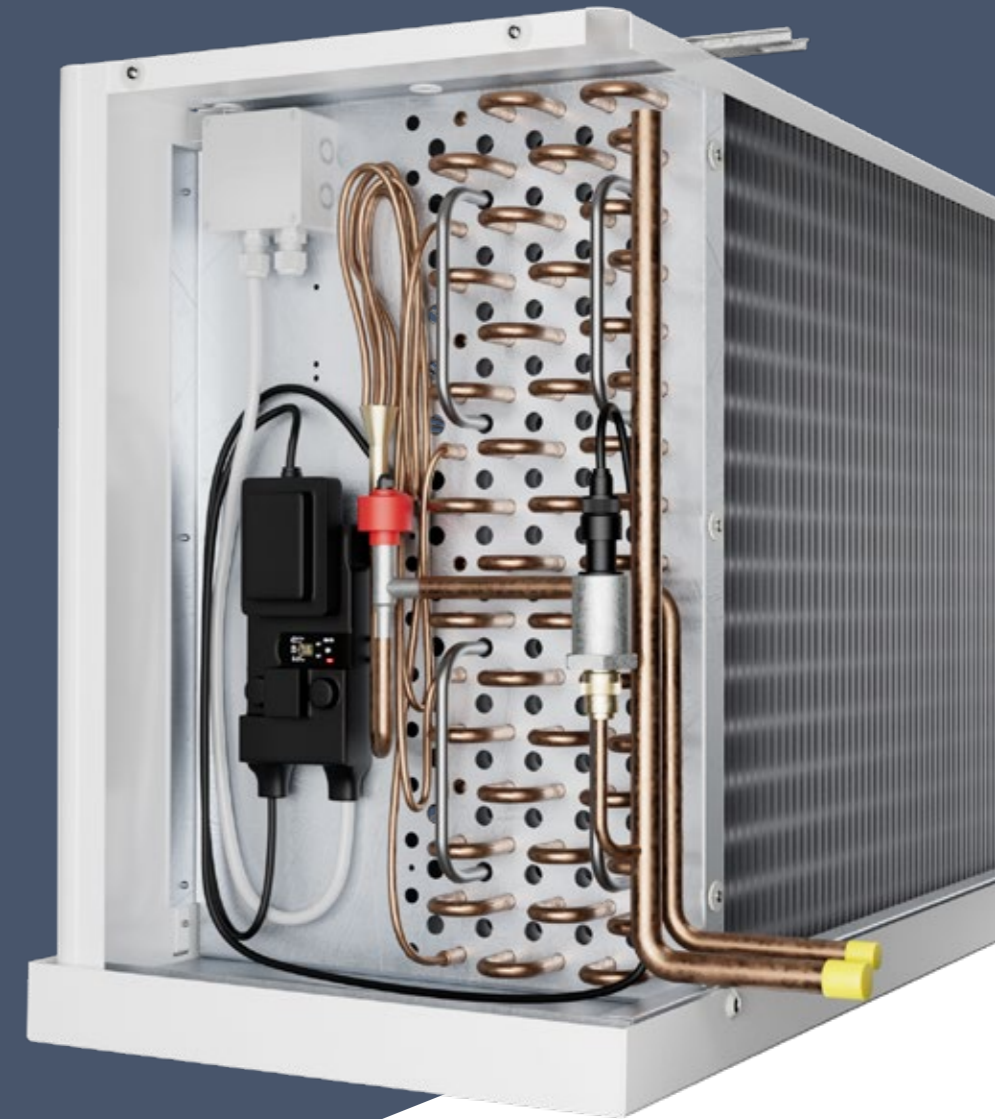
- Operating conditions: -30°C to 40°C
- IP65 protection class due to fully encapsulated housing of EDV-ice and Ultracap
- Integration into a monitoring system

Simple and quick start-up on site

- Pre-assembled controller, valve and sensors ex works
- Ready-to-use presetting of the control according to the unit size, evaporator capacity and refrigerant
- Fast start-up with only three parameter settings on site (type of refrigerant, operating mode of the cold room, desired superheat)
- RS485 interface for monitoring (Modbus protocol) to monitor operating conditions (real-time operating conditions, alarms, messages)
- Pressure and leak test of the control components together with the evaporator are already done in the factory
- Power supply: 230V

EXACT VALVE SIZING

—
WHATEVER THE
REFRIGERANT



Selected by mouse click

Reliably pre-assembled

Fast start-up

Energy-efficient in operation

Delivery scope

- Carel E2V expansion valve
- EVD-ice superheat controller
- Pressure sensor
- Ultracap module (optional)

Raise defrosting efficiency

REDUCE ENERGY COSTS FOR DEFROSTING

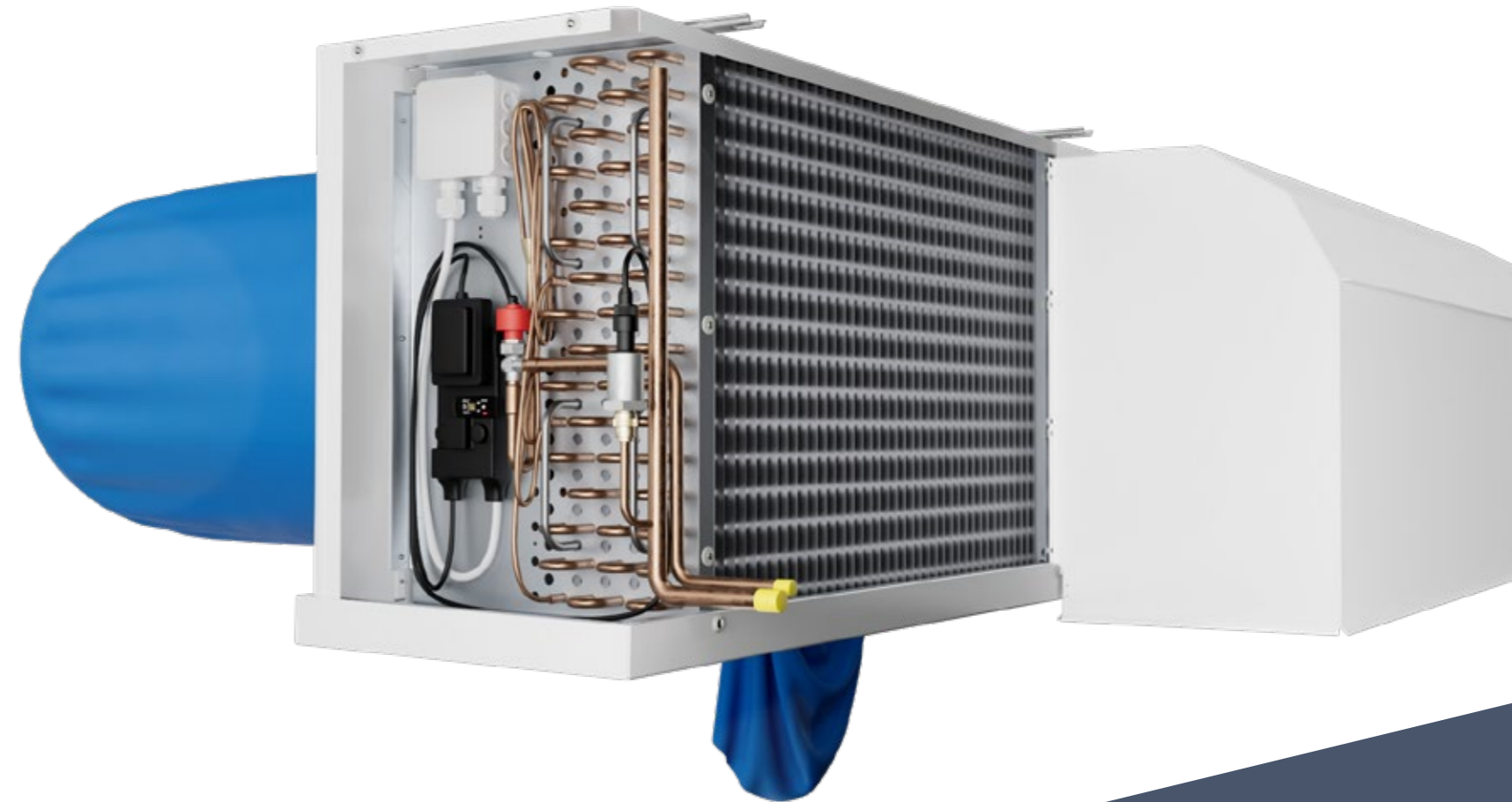
Energy-efficient and reliable operation is essential when using air coolers in refrigeration applications. Electric defrosting, which is common in refrigeration, incurs energy costs that can be reduced by up to 75% with an optimized defrosting system.

This energy-efficient defrosting concept is the result of various individual measures, which can only achieve its full savings potential when all components interact.



For detailed information on defrosting, see:

www.walterroller.de/en/technology/defrost-efficiency



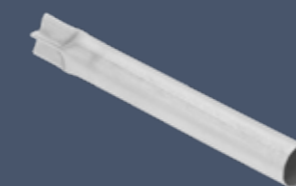
Shut up keeps the defrost heat inside the air cooler

The textile hose closes the fan opening during defrosting and thus keeps the heat in the unit.



Defrost Dome accumulates heat and increases defrosting efficiency

For less room load due to defrosting heat and optimization of the defrosting process.



Sensor sleeve

Sensor sleeve pressed firmly into the block for exact placement of the defrost sensor.



Large fin spacing for maximum frost absorption

The 12 mm fin spacing allows more frost to be absorbed, which can lead to fewer defrost cycles.



Aligned pipe system for increased frost storage

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

Options & accessories for high defrost and control efficiency



LARGE FIN SPACING FOR MAXIMUM FROST ABSORPTION

The 12 mm fin spacing allows more frost to be absorbed, which can lead to fewer defrost cycles.



DEFROSTING BY BRINE CIRCUIT

Very efficient defrosting method due to the high energy density of the defrost medium.



MS HEATING RODS

For flexible defrosting at temperatures around freezing point – retrofittable!



DEFROST SAFETY THERMOSTAT (AST)

Interrupts electric defrosting if the defrost control system malfunctions



CONDENSATE DRAIN PIPE HEATING (SI)

Ensures the drainage of the condensate in the external condensate drain pipe from the cold room.



SHUT UP KEEPS THE DEFROST HEAT INSIDE THE AIR COOLER (DD)

The textile hose closes the fan opening during defrosting and thus keeps the heat in the unit.



DEFROST DOME ACCUMULATES HEAT AND INCREASES DEFROSTING EFFICIENCY (DD)

For less room load due to defrosting heat and optimization of the defrosting process.



HEATED DRIP TRAY

Double tray construction consisting of inner heating plate with heating rod and embossing for melt water drainage and outer tray with condensate drain connection.



INSULATED DRIP TRAY

The electric heating in the drip tray is supported, by the double-walled design of the drip tray, i.e. with an additional insulation layer.



FRAME HEATING OF THE FAN RING (ZH)

For electrical heating of the wall ring and avoidance of ice bridges during defrosting.

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 "C"

The protection variant consists of a combination of **copper core tube** and **coated fin package**. The block, which is completely coated with 2-component lacquer, offers reliable corrosion protection against aggressive substances such as organic acids, amines, and cleaning chemicals.



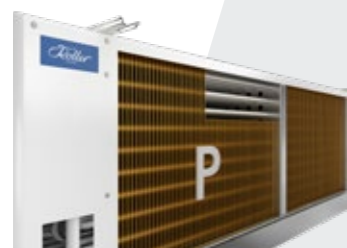
Corrosion protection - Variant "D"

For applications in a more aggressive atmosphere, where the copper tube must also be additionally protected, the corrosion protection variant "D" is recommended. It consists of a **copper core tube** with **additional tin coating** and a **fin package coated with 2-component lacquer**.



Corrosion protection - Variant "O"

PET coated fins are used wherever corrosion protection against atmospheres containing ammonia or acetic acid and cleaning chemicals must be guaranteed. The corrosion protection variant "O" forms a combination of **copper core tube** and **PET coated aluminium fin**.



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

CORROSION PROTECTION

Material/Protection	Alu fins	Copper tube	Tin-plated core tube	Housing powder coating	Stainless steel (V2A) housing	Bend sides and connections powder coating
Standard	Alu	☉	☉	☉	✓	✓
Corro C	2-c-lacquer	☉	☉	☉	✓	☉
Corro D	2-c-lacquer	☉	☉	☉	✓	☉
Corro O	PET	☉	☉	☉	✓	✓
Corro P	PET	☉	☉	☉	✓	☉
Corro E	Copper	Cu	☉	☉	✓	✓

☉ standard ✓ optional



For detailed information on corrosion protection, see:

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

Technology at a glance



POWER RANGE

HFC	1 – 18 kW	A2L / A3	2 – 28 kW
CO ₂	1 – 28 kW	Brine	1 – 14 kW

FANS

EC-Technology	✓	
Fixed speed	✓	
Variable speed	✓	
Silent design	✓	
Diameter	250 / 300 / 450	
Number	1 / 2 / 3 / 4 / 6	

HEAT EXCHANGER

Tube system	Aligned	
Tubes	Internally grooved	
Fin spacing	4 / 6 / 7 / (12) mm	

DEFROSTING

	Block	Drain pan	
Electrical	✓	✓	
Hot gas	✓	✓	
Brine	✓		

READY FOR USE WITH ALL REFRIGERANTS / MEDIA

HFC

The FHV / FHVT can be designed for all relevant HFCs and has been in proven use.

Brine

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

A2L / A3

Through the use of electric heating rods with reduced heating power the safety-relevant surface temperatures are kept when A2L / A3 is used, even in the deep-freezing are maintained.

CO₂

CO₂ has become the most important natural refrigerant in refrigeration technology for the food retail trade. The FHV / FHVT offers you the use of CO₂ up to PS 80bar.

Options & Accessories



SWIVELLING FANS

For better accessibility for more thorough cleaning of the of the heat exchanger.



STREAMER (NL)

To increase the air throw in spacious cold storages. Avoids thermal short circuits by aligning the airflow.



EC FAN TECHNOLOGY WITH REDUCED ENERGY INPUT

250 mm ESM+, 2 speed
300 mm EC, 2 speed
450 mm EC, stepless 0–10 V



TEXTILE HOSE ADAPTER (TA)

The connection of textile hoses or defrosting aids (defrost damper)



MOUNTING BRACKETS

Made of galvanised sheet steel, white powder-coated, static load per bracket max. 20kg.

Model	Capacity Q _o R404A		Capacity Q _o R744		Capacity Q _o A2L (R454C)		Capacity Q _o H ₂ O		Capacity Q _o Brine(25%) Propylene glycol		Energy efficiency class	Surface	Air flow	Tube volumes	per fan (Operating values at 230V, 50/60Hz)				Sound pressure level*
	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 _o = -8 °C DT1 = 8 K (SC2)	t _o = -25 °C DT1 = 7 K (SC3)	t _{in} /t _{out} 6/12 °C tr = 27 °C 47% r. F.	t _{in} /t _{out} -5/0 °C tr = 5 °C 85% r. F.	No.	Fan Ø mm					Fan type	Air throw			
FHV/T...EC	kW	kW	kW	kW	kW	kW	kW	kW				m ²	m ³ /h	dm ³		Ø mm		m	dB(A)

401 - 4263 Fin spacing: 4 mm

401	1,7	1,2	1,8	1,5	2,0	1,5	4,5	1,2		A	7,4	960	1,8	1	254	EC	4	43
411	2,3	1,6	2,9	2,3	2,8	2,0	7,2	1,9		B	9,9	1580	2,4	1	300	EC	8	49
402	3,2	2,3	3,8	3,1	3,9	2,8	9,5	2,1		A	14,9	1920	3,2	2	254	EC	6	45
4102			4,5	3,6						A	20,4	1920	3,4	2	254	EC	6	45
412	4,7	3,3	5,8	4,7	5,7	4,1	14,5	3,3		B	19,8	3160	4,3	2	300	EC	9	52
403	4,7	3,3	6,0	4,8	5,7	4,1	13,5	4,1		A	22,3	2790	3,7	3	254	EC	7	47
404	6,3	4,4	8,0	6,5	7,7	5,6	19,3	3,9		A	29,8	3840	6,1	4	254	EC	8	47
4241	6,3	4,4	8,0	6,5	7,7	5,6	17,6	3,4		C	26,6	4260	5,5	1	450	EC	15	52
4261	8,0	5,7	9,6	7,8	9,8	7,1	25,5	6,1		C	39,8	3950	8,1	1	450	EC	15	52
4103			6,8	5,5						A	30,7	2880	4,9	3	254	EC	8	47
413	7,0	5,0	8,8	7,1	8,6	6,2	21,1	3,8		B	29,8	4740	6,2	3	300	EC	10	53
414	9,6	6,8	11,7	9,4	11,7	8,5	29,3	5,1		B	39,7	6320	8,2	4	300	EC	11	54
406	9,6	6,8	11,9	9,6	11,7	8,5	28,9	5,0		A	44,7	5760	8,7	6	254	EC	11	49
4242	12,8	9,1	16,1	13,0	15,7	11,4	40,9	6,8		C	53,2	8520	10,5	2	450	EC	17	55
4262	16,4	11,6	19,3	15,6	20,1	14,5	48,9	10,2		B	79,8	7900	13,1	2	450	EC	17	55
416	13,9	9,9	15,9	12,8	17,1	12,3	43,9	7,5		B	59,6	9480	11,6	6	300	EC	12	56
4243	18,1	12,8	24,1	19,5	22,2	16,0	58,9	10,0		C	79,8	12780	15,5	3	450	EC	19	57
4263	23,1	16,4	28,9	23,4	28,4	20,5	73,2	14,2		B	119,7	11850	18,1	3	450	EC	19	57

601 - 616 Fin spacing: 6 mm

601	1,4	1,0	1,5	1,2	1,7	1,2	3,6	1,1		A	5,2	1020	1,8	1	254	EC	4	42
611	1,9	1,4	2,3	1,9	2,4	1,7	5,7	1,6		B	6,9	1630	2,4	1	300	EC	8	49
602	2,7	1,9	3,1	2,5	3,3	2,4	8,3	1,9		A	10,3	2040	3,2	2	254	EC	6	45
6102			3,6	2,9						A	14,0	2040	3,4	2	254	EC	6	45
612	3,9	2,8	4,7	3,8	4,8	3,5	12,0	1,8		B	13,8	3260	4,3	2	300	EC	9	52
603	3,9	2,8	4,8	3,8	4,8	3,5	12,4	2,8		A	15,5	3060	4,7	3	254	EC	7	47
604	5,3	3,7	6,4	5,2	6,4	4,7	15,6	3,5		A	20,7	4080	6,1	4	254	EC	8	47
6103			5,4	4,4						A	20,7	3060	4,9	3	254	EC	7	47
613	5,9	4,2	7,1	5,7	7,3	5,2	17,1	3,9		B	20,7	4890	6,2	3	300	EC	10	53
614	8,0	5,7	9,3	7,5	9,8	7,1	24,1	3,5		B	27,6	6520	8,2	4	300	EC	11	54
606	8,0	5,7	9,5	7,7	9,8	7,1	25,1	4,0		A	31,0	6120	8,7	6	254	EC	11	49
616	11,7	8,3	12,7	10,3	14,4	10,4	37,1	5,3		B	41,4	9780	11,6	6	300	EC	12	56

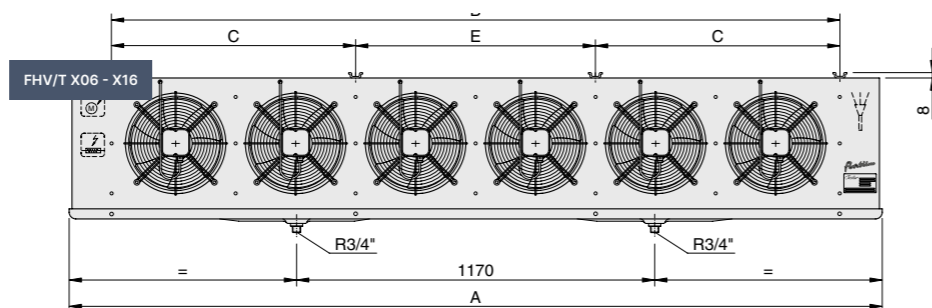
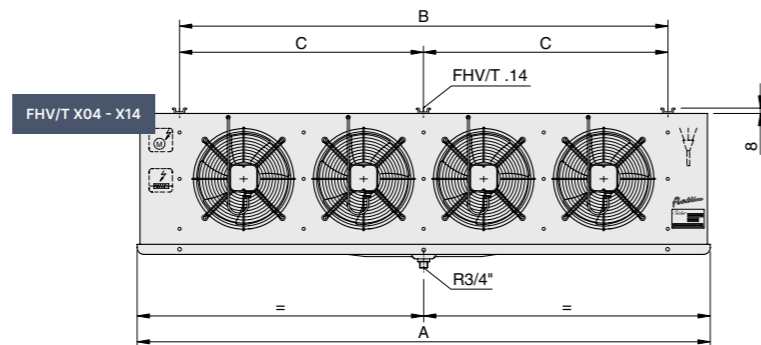
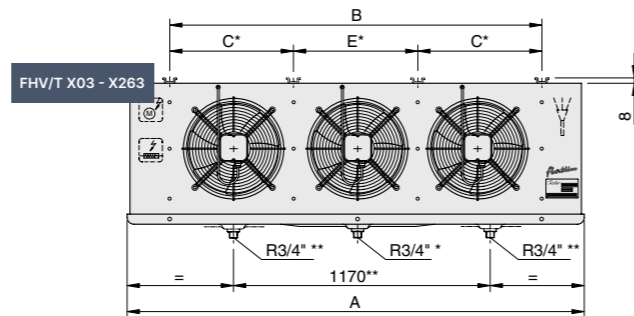
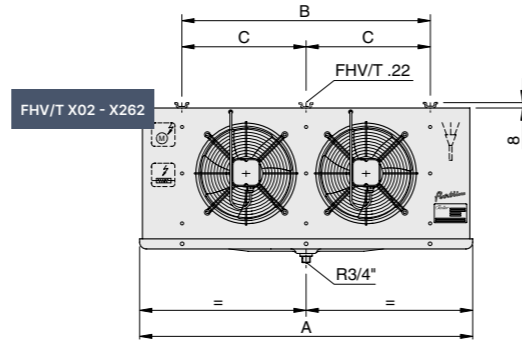
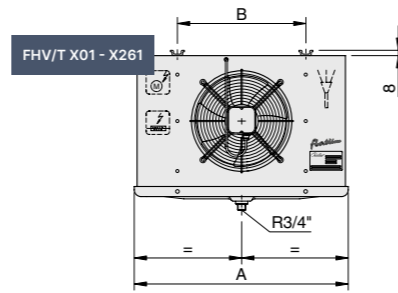
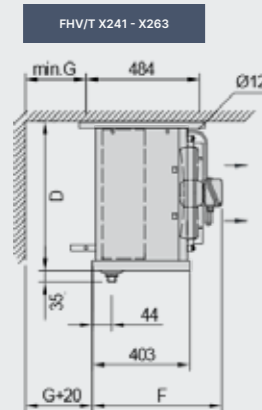
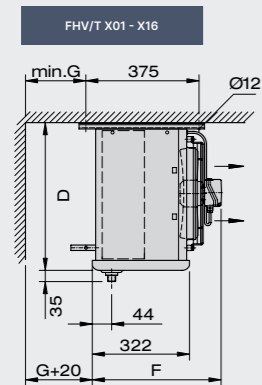
701 - 7263 Fin spacing: 7mm

701	1,3	0,9	1,4	1,1	1,6	1,1	3,3	1,0		A	4,5	1050	1,8	1	254	EC	4	42
711	1,8	1,3	2,2	1,8	2,2	1,6	5,2	1,5		B	6,0	1680	2,4	1	300	EC	8	49
702	2,5	1,8	2,9	2,4	3,1	2,2	7,6	1,8		A	9,0	2100	3,2	2	254	EC	6	45
7102			3,5	2,8						A	12,2	2100	3,4	2	254	EC	6	45
712	3,7	2,6	4,5	3,6	4,5	3,2	11,0	2,7		B	12,0	3360	4,3	2	300	EC	9	52
703	3,7	2,6	4,6	3,7	4,5	3,2	11,4	1,7		A	13,5	3150	4,7	3	254	EC	7	47
704	4,9	3,4	6,2	5,0	6,0	4,3	14,3	2,3		A	18,0	4200	6,1	4	254	EC	8	47
7241	4,9	3,4	6,2	5,0	6,0	4,3	14,7	3,3		C	16,0	4480	5,5	1	450	EC	15	52
7261	6,2	4,4	7,4	6,0	7,6	5,5	19,7	6,0		B	24,0	4150	8,1	1	450	EC	15	52
7103			5,2	4,2						A	18,3	3150	4,9	3	254	EC	7	47
713	5,5	3,9	6,8	5,5	6,7	4,9	16,9	2,3		B	18,0	5040	6,2	3	300	EC	10	53
714	7,5	5,3	9,0	7,3	9,1	6,6	22,1	3,1		B	24,1	5720	8,2	4	300	EC	11	54
706	7,5	5,3	9,2	7,4	9,1	6,6	23,0	3,5		A	27,1	6300	8,7	6	254	EC	11	49
7242	10,0	7,1	12,4	10,0	12,3	8,9	29,4	5,7		C	32,1	8960	10,5	2	450	EC	17	55
7262	12,8	9,1	14,8	12,0	15,7	11,4	39,7	6,1		B	48,1	8300	13,1	2	450	EC	17	55
716	10,9	7,7	12,2	9,9	13,4	9,6	34,0	4,6		B	36,1	10080	11,6	6	300	EC	12	56
7243	14,1	10,0	18,6	15,0	17,3	12,5	42,2	6,2		C	48,1	1340	15,5	3	450	EC	19	57
7263	18,1	12,8	22,3	18,0	22,2	16,0	56,5	9,2		C	72,2	12450	18,1	3	450	EC	19	57

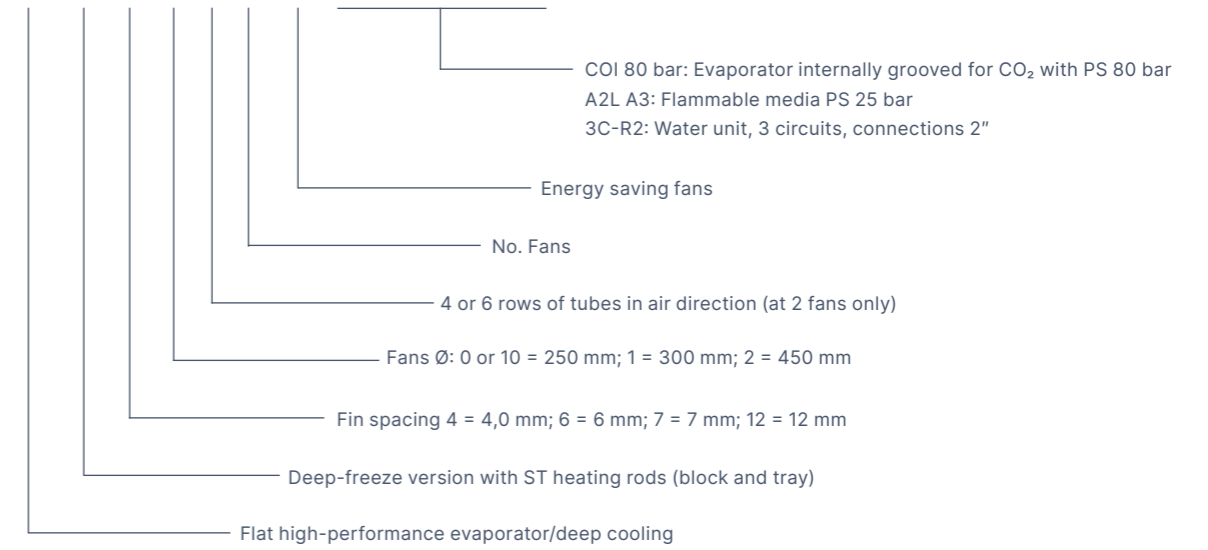
Dimensions

Weights

Type code



FHV/T 12 2 × 2 EC COI 80 bar



Model	Dimensions in mm							Weights			
	A	B	C	D	E	F	G	FHV		FHVT	
FHV/ FHVT (COI)								4..	6../7..	4..	6../7..
								kg	kg	Kg	kg
x01 EC	702	420	-	350	-	430	200	14	14	16	14
x11 EC	702	420	-	460	-	430	200	19	18	21	18
x02 EC	1094	812	-	350	-	430	200	25	23	28	24
x102 EC	1094	812	-	460	-	430	200	28	26	30	27
x12 EC	1094	812	-	460	-	430	200	32	30	34	31
x03 EC	1486	1204	-	350	-	430	200	34	32	37	34
x04 EC	1878	1596	-	350	-	430	200	47	43	50	46
x241 EC	1092	812	-	615	-	570	400	41	37	44	40
x261 EC	1092	812	-	615	-	570	400	49	45	52	48
x103 EC	1486	1204	-	460	-	430	250	37	35	41	37
x13 EC	1486	1204	-	460	-	430	250	43	41	46	43
x14 EC	1878	1596	798	460	-	430	250	59	56	62	59
x06 EC	2662	2380	798	350	784	430	250	67	63	69	68
x242 EC	1876	1596	798	615	-	570	400	80	71	83	77
x262 EC	1876	1596	798	615	-	570	400	96	87	99	93
x16 EC	2662	2380	798	460	784	430	300	86	83	90	86
x243 EC	2662	2380	798	615	784	570	400	121	110	124	117
x263 EC	2662	2380	798	615	784	570	400	145	134	148	141

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



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