HEATCRAFT
Worldwide Refrigeration

Axial fan condenser

EUROVENT CERTIFIED PERFORMANCE
www.eurovent-certification.com

E Solutions
Efficiency • Environment

with microchannel coil technology
MXW range

- A range designed to minimize unit footprint.
- High power density for an optimized energy consumption.
- Micro channel technology allowing a significant reduction of refrigerant charge.
- State of the art design with hidden fans for a perfect architectural integration.

Energy efficiency
Low noise level
Environment

130 _ 1670 kW

FRIGA-BOHN

HK® REFRIGERATION

MXW - Condenser with microchannel coil technology

Market segments

FSM Hard Discount - Supermarkets - Hypermarkets
FCS Refrigerated storage and transit stocking - Dispatch centres - Food processing - Canteen kitchens

Description

Casing

- Casing made of galvanised steel sheet metal painted with a white RAL 9002 powdered polyester paint.
- Lateral anti-intrusive grilles painted with aesthetic design offering a protection against external impacts. (Option)
- Unit with attractive design and low height (< 2m) for a perfect integration into the surrounding environment.

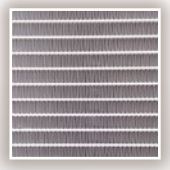
Coil

- The MXW range is equipped with aluminum micro channel heat exchanger offering reliability and robustness (high mechanical fin resistance) and high corrosion resistance.
- This technology has proven its value in the automobile sector and is now used for its numerous advantages in the refrigeration sector and air conditionning sectors.
- These coils offer greater efficiency than traditional coils (copper tubes/aluminum fins). They are significantly lighter and the reduced weight renders them easier to handle. As the coil is brazed in a single operation, the risk of leakage is considerably reduced and the quality inspections are stringent: 100% of the products are tested.
- Special coating for the coils are available to ensure an improved corrosion resistance for aggressive atmospheres.

Micro channel technology

Aluminium micro channel heat exchanger with enhanced alloy system

Copper/aluminium connection with strengthened system



Protection guard

Aesthetic design and easily removable grilles offering protection against external impact

Smart construction

Elevated coils to fill properly the liquid receiver in case of installation on the floor

Ventilation

- The MXW range is equipped with high reliability external rotor fans.
- Fan guards are compliant with safety standard.

EC motors

- High reliability electronic switching fan motors (EC) enable optimized operation of your installation.
  - Ø 800 mm: EC1 (EC oversized motor) = up to 1020 rpm.
  - Ø 800 mm: EC2 = up to 730 rpm.
- This motor offers a reduction in energy consumption for a given power rating: a detailed comparison of the energy balance may be carried out for each project. (please consult us).
- The motor fan units are wired as standard and factory connected.

AC motors (option)

- Ø 800 mm : 06P (D/Y) heavy-duty motor = 910/730 rpm.
- Ø 800 mm : 06P (D/Y) = 885/685 rpm.
- Ø 800 mm : 08P (D/Y) = 660/485 rpm.
- Ø 800 mm : 12P (D/Y) = 435/340 rpm.
- Ø 800 mm : 16P (Y) = 255 rpm.

- These enclosed motors are 400V/3/50Hz, IP54, with 2-speed (star or delta connections), class F, compliant with standard EN 60529, permanently lubricated.
  Please contact us when the temperature exceeds 60°C.

Options

Kit	Factory	
		Ventilation
	CMU	Motors factory wired (AC motors).
	SCM	Without EC motorfan wiring.
	C2V	2-speed factory wired in the switching box.
	IRP	Rotary proximity switch(es).
	MTH	Motors equipped with a protection thermostat. Recommended with frequent start sequences (more than 30 start sequences per hour).
		Coil
	MCI	Multi-circuits.
	BOE	Lenguard™ coil protection.
	BXT	Blygold Polual XT coil protection (please contact us).
		Casing
	ACR	SilenTop (photo 1).
	G2F	Protection guard (2 faces).
		Protection and control enclosure
	CMP	Motor protection cabinet (AC fans).
	RP2	CMP + condensation pressure control with speed variation (voltage).
	RP3	CMP + condensation pressure control with speed variation (frequency).
	CSC	Signal comparator. (Multi-circuits configuration).
		Other options
PAV		Anti vibration pads.
	CON	Packing for container shipping.

Designation

MXW EC1(1) 8(4) P18(5)

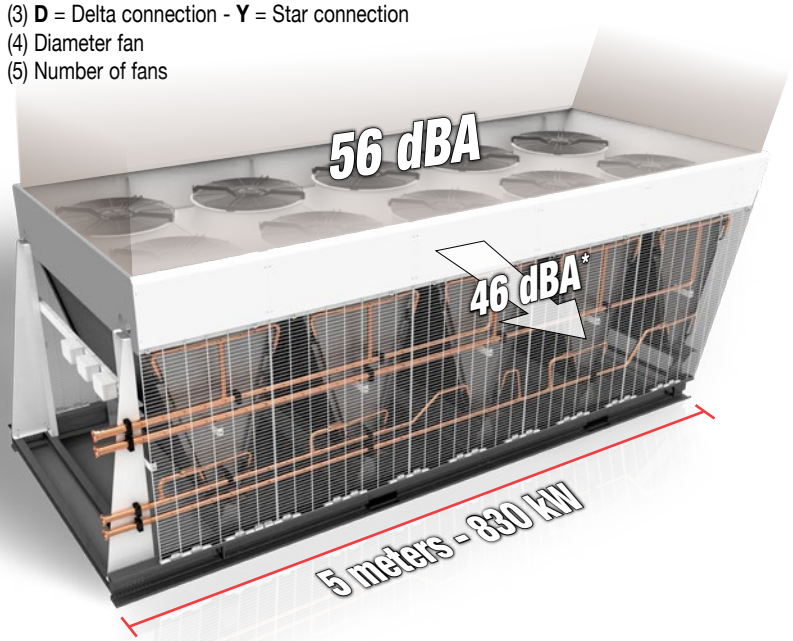
EC motors

(1) **EC1** (oversized motor) = up to 1020 rpm
EC2 = up to 730 rpm

MXW 06(2) D(3) 8(4) P18(5)

AC motors

(2) Number of poles
(3) **D** = Delta connection - **Y** = Star connection
(4) Diameter fan
(5) Number of fans



Certifications

Advantages

Installation

Optimisation of installation costs:
The modular construction allows each module to be connected independently offering autonomous regulation of discharges of several compressorised racks. The user may use one single condenser that reduces the space requirement and installation time. In addition, the reduced charge refrigerant ensures a reduced costs.

Minimized Footprint:
The MXW ranged is optimized to minimize floor space required for installation by the combination of original design and innovative technology: The condenser is indeed built as modules around W-shaped micro-channels coils for easy installation in confined spaces.

Ideal for use is an urban environment:
Various ventilation solutions offered allowing significantly reduce noise level as low as 19 dB(A) at 10m per module. In addition, **SilenTop** hides fans and acts as acoustic enclosure.

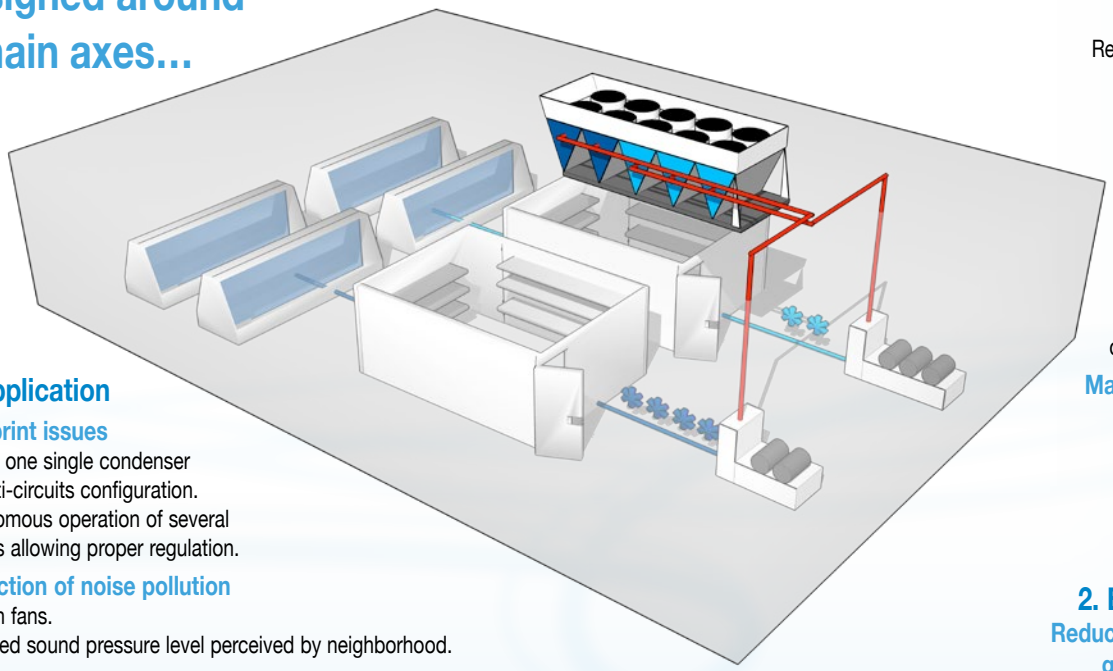
Servicing

Use of high pressure cleaners for easy coil servicing.

Maintenance

Easy access to the coil rendering maintenance easier.
The modules are composed of two coils easily removable for easy maintenance.

An innovative conception designed around 3 main axes...



1. Total cost of ownership

Installation costs reduced
Reduced total refrigerant charge up to -30%.
Reduced structural frame needs.

Installation time reduced
Factory pre-mounted components (options).
One single craning required (multi-circuits configuration).

Energy consumption reduced
High power density.
Reduced air pressure drop optimizing energy comsuption.

Maintenance costs reduced:
Easy access to the coil.
Unitarily replaceable coils.

2. Environmental impact

Reduction of direct and indirect greenhouse gas emissions

Actual and forthcoming legislative constraints
Tax on the refrigerant amount of refrigeration systems (depending on the country).
European directive F-Gas.

3. Application

Footprint issues
Use of one single condenser in multi-circuits configuration.
Autonomous operation of several circuits allowing proper regulation.

Reduction of noise pollution
Hidden fans.
Reduced sound pressure level perceived by neighborhood.

Architectural integration
Sleek design for a proper architectural integration.
Very low height (<2m).

Easy handling
Reduced unit weight up to -30%.

* *Sound pressure level in dB(A) measured at 10 m, at fan height, in direct line of sight on a reflective surface.*

MXW EC1 ... (EC motors)

1,020/800/500/400/200 rpm.

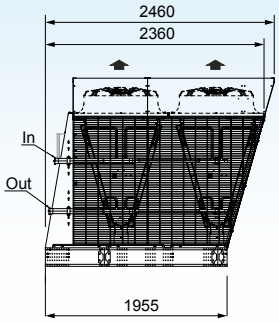
		MXW ...	EC1 8P04	EC1 8P06	EC1 8P08	EC1 8P10	EC1 8P12	EC1 8P14	EC1 8P16	EC1 8P18	EC1 8P20
1,020 rpm.	Capacity R404A (1)	kW	**334,7**	**502,1**	**669,5**	**836,8**	**1004,2**	**1171,6**	**1339,0**	**1506,3**	**1673,7**
	Input power	kW	8,49	12,74	16,98	21,23	25,48	29,72	33,97	38,21	42,46
	Air flow	m^3/h	93360	140040	186720	233400	280080	326760	373440	420120	466800
	Energy efficiency class		D	D	D	D	D	D	D	D	D
	Acoustic **Lw** (2)	dB(A)	95	97	98	99	100	100	101	102	102
	Acoustic **Lp** (3)	dB(A)	63	65	66	67	68	68	69	70	70
800 rpm.	Capacity R404A (1)	kW	**289,7**	**434,6**	**579,4**	**724,3**	**869,1**	**1014,0**	**1158,8**	**1303,7**	**1448,6**
	Input power	kW	4,26	6,39	8,52	10,65	12,78	14,91	17,04	19,17	21,30
	Air flow	m^3/h	71880	107820	143770	179710	215650	251590	287530	323470	359420
	Energy efficiency class		C	C	C	C	C	C	C	C	C
	Acoustic **Lw** (2)	dB(A)	89	91	92	93	94	94	95	96	96
	Acoustic **Lp** (3)	dB(A)	57	59	60	61	62	62	63	64	64
500 rpm.	Capacity R404A (1)	kW	**189,7**	**284,6**	**379,4**	**474,3**	**569,2**	**664,0**	**758,9**	**853,7**	**948,6**
	Input power	kW	1,16	1,74	2,32	2,90	3,48	4,06	4,64	5,22	5,80
	Air flow	m^3/h	41380	62070	82760	103450	124140	144830	165520	186210	206900
	Energy efficiency class		A	A	A	A	A	A	A	A	A
	Acoustic **Lw** (2)	dB(A)	73	75	76	77	78	78	79	80	80
	Acoustic **Lp** (3)	dB(A)	41	43	44	45	46	46	47	48	48
400 rpm.	Capacity R404A (1)	kW	**160,4**	**240,6**	**320,8**	**401,0**	**481,2**	**561,4**	**641,6**	**721,8**	**802,0**
	Input power	kW	0,65	0,98	1,30	1,62	1,95	2,28	2,60	2,92	3,25
	Air flow	m^3/h	31740	47610	63470	79340	95210	111080	126950	142820	158680
	Energy efficiency class		A	A	A	A	A	A	A	A	A
	Acoustic **Lw** (2)	dB(A)	66	68	69	70	71	71	72	73	73
	Acoustic **Lp** (3)	dB(A)	34	36	37	38	39	39	40	41	41
200 rpm.	Capacity R404A (1)	kW	**127,4**	**191,1**	**254,8**	**318,5**	**382,2**	**445,9**	**509,6**	**573,3**	**637,0**
	Input power	kW	0,17	0,26	0,34	0,43	0,52	0,60	0,69	0,77	0,86
	Air flow	m^3/h	14450	21680	28900	36130	43360	50580	57810	65030	72260
	Energy efficiency class		A	A	A	A	A	A	A	A	A
	Acoustic **Lw** (2)	dB(A)	48	50	51	52	53	53	54	55	55
	Acoustic **Lp** (3)	dB(A)	16	18	19	20	21	21	22	23	23

		MXW ...	EC1 8P04	EC1 8P06	EC1 8P08	EC1 8P10	EC1 8P12	EC1 8P14	EC1 8P16	EC1 8P18	EC1 8P20
Circuit volume		dm^3	22,5	36,1	50,7	70,7	87,4	102,0	121,7	131,8	141,3
		Nb	4	6	8	10	12	14	16	18	20
Fan	400V/3	**W** max	9600	14400	19200	24000	28800	33600	38400	43200	48000
	50-60 Hz	**A** max	15,2	22,8	30,4	38,0	45,6	53,2	60,8	68,4	76,0
Net weight		kg	575	846	1117	1388	1659	1930	2201	2472	2743
Inlet	**In 1**	Ø	2"1/8	2"5/8	2"5/8	2''5/8	2''5/8	2''5/8	2''5/8	2''5/8	2''5/8
	In 2	Ø	-	-	-	2"1/8	2"5/8	2"5/8	2"5/8	2"5/8	2"5/8
	In 3	Ø	-	-	-	-	-	-	-	1''3/8	2''1/8
Outlet	**Out 1**	Ø	2''1/8	2''1/8	2''5/8	2''1/8	2''1/8	2''5/8	2''5/8	2''5/8	2''5/8
	Out 2	Ø	-	-	-	2''1/8	2''1/8	2''1/8	2''5/8	2''5/8	2''5/8
	Out 3	Ø	-	-	-	-	-	-	-	1'' 3/8	2'' 1/8

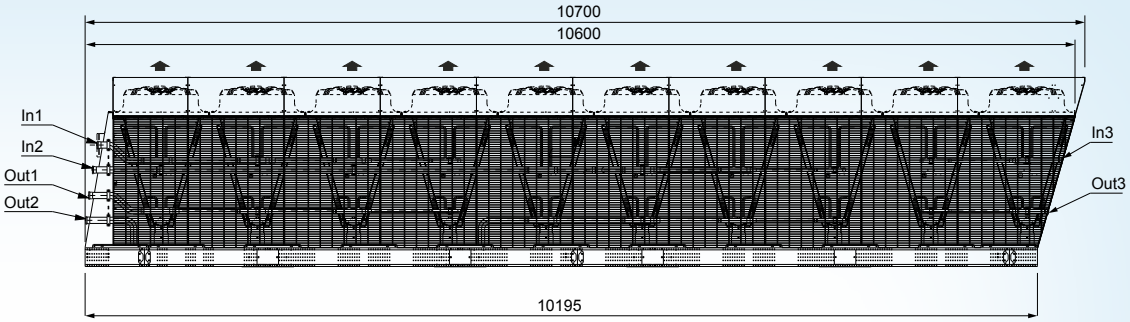
(1) Capacities are expressed in kW for R404A with DT1 = 15 K. They are equal to the capacities measured in accordance with standard CEN EN 327.
"DT1" represents the difference between the ambient air temperature and the condensation temperature considered equal at an equivalent condenser inlet pressure.
(2) Sound pressure level in dB(A), obtained in compliance with standard NF EN 13487 (parallelepiped reference surface).
(3) Sound pressure level in dB(A) measured at 10 m, line of sight, on a reflective parallelepiped measurement surface, given for information only.
Values measured under nominal operating conditions with clean coils and rated voltage.

MAC*	CMU	SCM	C2V	IRP	MTH	MCI	BOE	BXT	ACR	G2F	CMP	RP2	RP3	PAV	CON
O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O

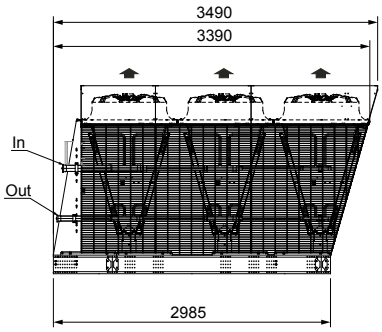
** AC motors*



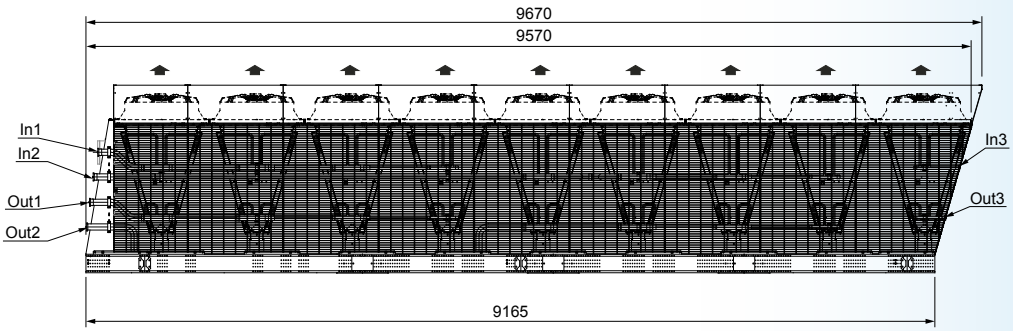
MXW EC1 8P04



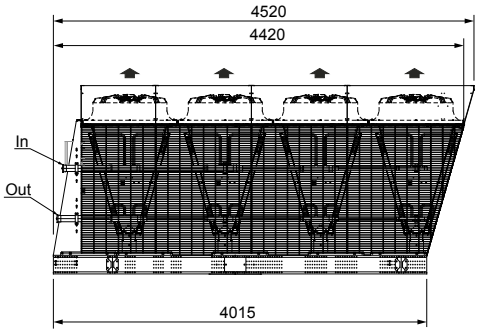
MXW EC1 8P20



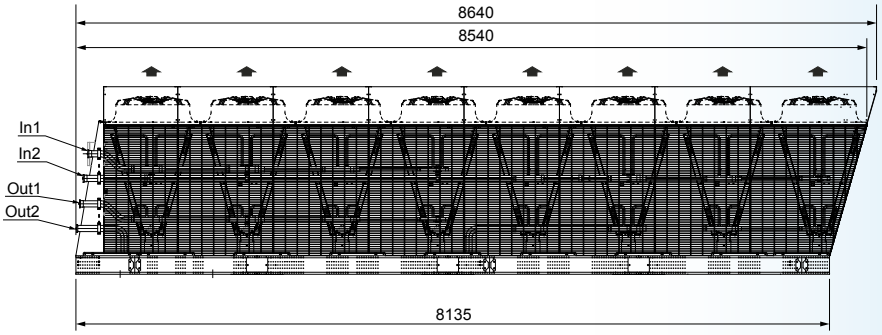
MXW EC1 8P06



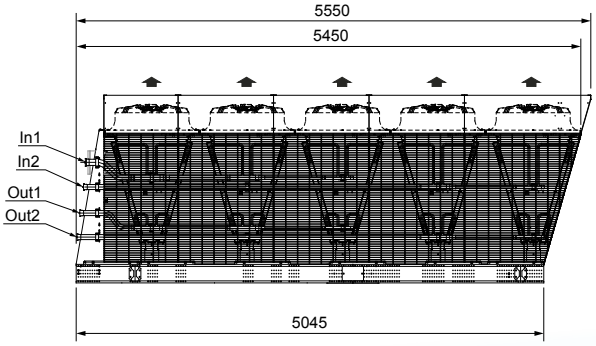
MXW EC1 8P18



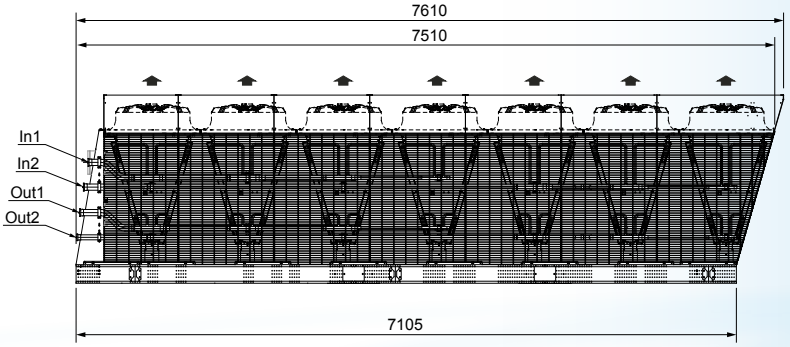
MXW EC1 8P08



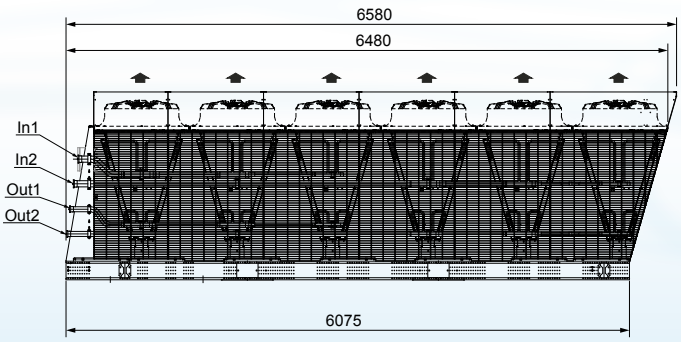
MXW EC1 8P16



MXW EC1 8P10



MXW EC1 8P14



MXW EC1 8P12