

CL

Air cooled chiller and heat pump with plug fan
Capacities from 5.5 to 39.3 kW

Variable Multi Flow

R410A

VMF



- **HEAT PUMP OPTIMISED FOR HEATING: PRODUCTION OF HOT WATER UP TO 60°C**
- **HEATING OPERATION WITH EXTERNAL TEMPERATURES FROM -15°C TO 42°C**
- **INTERFACES WITH VARIABLE MULTIFLOW VMF SYSTEM**
- **EVAPORATING AND CONDENSING CONTROL STANDARD**
- **INVERTER PLUG FAN**
- **AVAILABLE VERSIONS: STANDARD WITH PUMP WITH PUMP AND BUFFER TANK DOMESTIC HOT WATER (DHW) PRODUCTION WITH EXTERNAL TEMPERATURES FROM -15°C TO 42°C**

Characteristics

- Available in 10 sizes
- Cooling only and heat pump models "H"
- Manufactured with refrigerant R410A
- Versions available:
 - **Standard**
 - **"P"** With pump, expansion tank and water filter
 - **"A"** With pump, expansion tank, water filter and buffer tank
- All versions are available for the production of chilled water down to -6°C (see unit configuration option)
- Compressors isolator and mains isolator standard on all models
- Horizontal or vertical air discharge site adjustable for all sizes
- Plastic directional air discharge hood for sizes 025 to 090
- Galvanised steel directional air discharge hood for sizes 100 to 200
- High Efficiency Scroll Compressor
- Compressor crank case heater standard
- Water filter and flow switch standard on all versions
- Plug fans with EC Inverter motors conforming to regulation EU 327/2011
Through continuous fan speed control permits operation in cooling mode with external temperatures down to -10°C and in heating mode with external temperatures up to 42°C
- Electronic controller with start timers and optimisation of defrost cycles
- High efficiency plate heat exchanger
- Plate heat exchanger anti-freeze electric heater
- "KR" standard on heat pump "H" models
- Condensate drain tray standard on heat pump "H" models
- Anti-freeze electric heater standard for the buffer tank

Accessories

- **DRE:** Electronic soft starter. Reduces starting current by about 30%. Factory fitted only.
- **KR:** Plate heat exchanger anti-freeze electric heater (only available for cooling only versions)
Factory fitted only.
- **PR3:** Simplified remote panel. Permits control of basic unit functions and alarm notification. Remote mounted with shielded cable up to 30 m distance.
- **VT:** Anti-vibration mounts.
- **MODU - 485A:** RS-485 interface for supervising systems with MODBUS protocol. (accessory mandatory for the production of domestic hot water).
- **CLPA:** Galvanised steel plenum to be installed on the condenser coil. Facilitates duct installations.
- **GPCL:** Protective grille. Protects the external condenser coil from damage.
- **KR B1/B2/B3:** Electric base heater to prevent the formation of ice (only available for heat pump versions).
- **BSKW:** External electric heater kit of various capacities with single and three phase power supplies:
 - BS4KW230M (4kW, 230V/1/50Hz)
 - BS6KW230M (6kW, 230V/1/50Hz)
 - BS6KW400T (6kW, 400V/3/50Hz)
 - BS9KW400T (9kW, 400V/3/50Hz)
- **MULTICONTROL:** can be used as a remote panel for a single unit or to simultaneously control several chillers or heat pumps (up to 4) installed in the same hydraulic system, fitted with our MODUCONTROL controller.
For complete control the following accessories are available:
 - **SPLW:** System water temperature sensor. In most cases the loose supplied sensors for each chiller/heat pump are sufficient. In cases of a common flow/return header this sensor can be used to control the common system supply water temperature for the chillers connected to the header, or it can be used for temperature monitoring.
- **SDHW:** Domestic hot water temperature sensor. Used with the storage tank to control the temperature of water produced.
- **AERWEB300:** Accessory AERWEB allows remote control of a chiller through a common PC and an ethernet connection over a common browser; 4 versions available:
 - AERWEB300-6: Web server to monitor and remote control max. 6 units in RS485 network;
 - AERWEB300-18: Web server to monitor and remote control max. 18 units in RS485 network;
 - AERWEB300-6G: Web server to monitor and remote control max. 6 units in RS485 network with integrated GPRS modem;
 - AERWEB300-18G: Web server to monitor and remote control max. 18 units in RS485 network with integrated GPRS modem;
- **COMPATIBILITY with the VMF SYSTEM**
For more information on the system refer to the manual.

Unit configurator

By suitably combining the numerous options available it is possible to configure each model in such a way as to meet the most demanding of system requirements.

Configuration fields



Code:

CL

Size:

025, 030, 040, 050, 070, 080, 090, 100, 150, 200

Model:

° - Cooling only
H - Heat pump

Execution

° - Standard
L - Low noise

Version:

° - Standard
P - With pump
A - With pump and buffer tank

Heat recovery:

° - Without heat recovery
D - With desuperheater
(for Cooling only models sizes 050 to 200)

Coil:

° - Aluminium
R - Copper
S - Tinned copper
V - Epoxy coated aluminium

Field of use:

° - Standard
Z - Low temperature leaving liquid from +4°C to 0°C
Y - Low temperature leaving liquid from 0°C to -6°C

Evaporator:

° - Standard
C - Condensing unit

Power supply:

° - 3N~ 400V 50Hz
M - 1~ 230V 50Hz (only for sizes 025 to 040)
3 - 3~ 230V 50Hz (only for sizes 090 and 200, for other sizes contact the factory)

Heat pump "H" model

not possible with:
- thermostatic expansion valve "Z" - "Y"
- condensing unit "C"
- desuperheater "D"
- low noise "L"

Heat recovery "D"

not possible with:
- thermostatic expansion valve "Z" - "Y"
- condensing unit "C"

CL		25	30	40	50	70	80	90	100	150	200
¹⁰⁰⁰ COOLING ONLY "H" HEAT PUMP	Power supply	° H	° H	° H	° H	° H	° H	° H	° H	° H	° H
(1) KRB1	All	- ✓	- -	- -	- -	- -	- -	- -	- -	- -	- -
(1) KRB2	All	- -	- ✓	- ✓	- ✓	- ✓	- ✓	- ✓	- ✓	- -	- -
(1) KRB3	All	- -	- -	- -	- -	- -	- -	- -	- ✓	- ✓	- ✓
BS4KW230M	All	- ✓	- ✓	- ✓	- -	- -	- -	- -	- -	- -	- -
BS6KW230M	All	- ✓	- ✓	- ✓	- -	- -	- -	- -	- -	- -	- -
BS6KW400T	3N~ 400V 50Hz	- ✓	- ✓	- ✓	- ✓	- ✓	- ✓	- ✓	- ✓	- ✓	- ✓
BS9KW400T	3N~ 400V 50Hz	- ✓	- ✓	- ✓	- ✓	- ✓	- ✓	- ✓	- ✓	- ✓	- ✓
(1) KR2	All	✓ Std	✓ Std	✓ Std	✓ Std	✓ Std	✓ Std	✓ Std	✓ Std	✓ Std	✓ Std
PR3	All	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓
VT	° / H / P / HP	9 9	9 9	9 9	9 9	9 9	9 9	9 9	✓ ✓	✓ ✓	✓ ✓
	A / HA	15A 15A	15A 15A	15A 15A	15A 15A	15A 15A	15A 15A	15A 15A	✓ ✓	✓ ✓	✓ ✓
MODU - 485A	All	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓
CLPA	All	1 1	2 2	2 2	2 2	2 2	2 2	2 2	3 3	3 3	3 3
DRE	3N~ 400V 50Hz	5 5	5 5	5 5	5 5	5 5	5 5	5 5	5 (x2) 5 (x2)	5 (x2) 5 (x2)	5 (x2) 5 (x2)
	1~ 230V 50Hz	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓
GPCL	All	1 1	2 2	2 2	2 2	2 2	2 2	2 2	3 3	3 3	3 3
MULTICONTROL	All	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓
SPLW	All	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓
SDHW	All	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓
AERWEB300	All	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓

Power supply 1~ 230V 50Hz is available only for sizes 025 - 030 - 040
(1) Accessory factory fitted only

Contact the factory for accessory:

- VT version ° / H / P / HP from sizes 100 to 200
- VT version A / HA from sizes 090 to 200
- DRE for power supply 1~ 230V 50Hz

✓	Available accessory
Std	Fitted as standard
-	Not available

Technical data

Model ^{nom} COOLING ONLY	Model	Power supply	Units	*025	*030	*040	050	070	080	090	100	150	*200
Cooling capacity	P/A	All	kW	5.5	6.9	9.0	12.9	16.3	18.2	19.9	25.5	31.8	39.3
				5.5	6.9	9.0	13.2	16.6	18.5	20.3	26.0	32.5	39.3
Total power input	P/A	All	kW	2.4	2.9	4.2	4.0	5.2	6.5	6.5	8.5	10.7	16.0
				2.6	3.1	4.4	4.1	5.2	6.4	6.5	8.5	10.9	17.8
Total current input	P/A	All	A	10.6	14.0	19.0	-	-	-	-	-	-	-
				4.5	5.8	9.4	8.6	10.3	12.2	13.2	17.5	21.1	27.4
	P/A	All	A	11.6	15.0	20.0	-	-	-	-	-	-	-
				5.5	6.8	10.4	10.3	12.1	14.0	15.0	18.5	22.6	30.5
Water flow rate	P/A	All	l/h	953	1182	1541	2214	2798	3123	3420	4392	5470	6766
Pressure drop (filter + pipes)	°	All	kPa	16	23	24	29	31	34	31	54	61	34
Available pump head	P/A	All	kPa	63	53	52	73	68	64	66	83	135	122
ENERGY EFFICIENCY													
EER	°	All	W/W	2.29	2.38	2.14	3.19	3.10	2.81	3.04	3.02	2.96	2.46
	°	All	W/W	2.12	2.23	2.05	3.24	3.17	2.88	3.11	3.05	2.99	2.21
ESEER	P/A	All	W/W	n.d.	n.d.	n.d.	3.73	3.63	3.29	3.56	4.64	4.55	n.d.
	P/A	All	W/W	n.d.	n.d.	n.d.	3.79	3.71	3.37	3.64	4.68	4.60	n.d.
Model ^{nom} COOLING ONLY - "L" LOW NOISE													
Cooling capacity	L	All	kW	5.5	6.9	9.0	12.4	15.7	17.5	18.4	23.6	30.6	39.3
				5.5	6.9	9.0	12.7	16.0	17.8	18.7	24.0	31.2	39.3
Total power input	LP/LA	All	kW	2.4	2.9	4.2	4.2	5.4	6.6	7.3	9.4	11.0	16.0
				2.6	3.1	4.4	4.3	5.4	6.6	7.3	9.5	11.2	17.8
Total current input	L	All	A	10.6	14.0	19.0	-	-	-	-	-	-	-
				4.5	5.8	9.4	8.5	10.3	12.4	13.0	18.0	20.9	27.4
	LP/LA	All	A	11.6	15.0	20.0	-	-	-	-	-	-	-
				5.5	6.8	10.4	10.2	12.1	14.2	14.8	19.0	22.4	30.5
Water flow rate	L	All	l/h	953	1182	1541	2134	2694	3006	3163	4058	5260	6766
Pressure drop (filter + pipes)	LP/LA	All	kPa	n.d.	n.d.	n.d.	27	29	31	26	46	56	n.d.
Available pump head	LP/LA	All	kPa	63	53	52	70	65	54	65	83	128	122
ENERGY EFFICIENCY													
EER	L	All	W/W	2.29	2.38	2.14	2.94	2.89	2.64	2.53	2.50	2.77	2.46
	LP/LA	All	W/W	2.12	2.23	2.05	2.98	2.94	2.68	2.58	2.52	2.79	2.21
ESEER	L	All	W/W	n.d.	n.d.	n.d.	3.48	3.43	3.13	3.00	3.89	4.31	n.d.
	LP/LA	All	W/W	n.d.	n.d.	n.d.	3.53	3.49	3.18	3.06	3.91	4.34	n.d.
Model "H" HEAT PUMP													
Heating capacity	H	All	kW	8.2	10.1	12.3	14.5	16.0	18.6	21.1	27.9	34.9	42.7
				8.2	10.1	12.3	14.2	15.6	18.3	20.7	27.4	34.2	42.7
Total power input	HP/HA	All	kW	2.6	3.3	4.3	3.9	4.5	5.3	6.3	7.7	10.2	14.7
				2.8	3.5	4.5	3.9	4.5	5.2	6.3	7.8	10.3	16.4
Total current input (HEATING)	H	All	A	11.9	15.2	17.2	-	-	-	-	-	-	-
				5.6	7.0	8.2	7.3	8.7	10.1	12.8	14.2	18.9	25.9
	HP/HA	All	A	12.9	16.2	18.2	-	-	-	-	-	-	-
				6.6	8.0	9.2	9.1	10.4	11.8	14.7	15.2	20.5	29.0
Water flow rate	H	All	l/h	1406	1740	2113	2489	2744	3202	3624	4798	6011	7346
Pressure drop (filter + tubes)	HP/HA	All	kPa	20	12	17	17	22	28	37	34	51	21.0
Available pump head	HP/HA	All	kPa	60	67	59	82	77	67	56	94	141	128
Cooling capacity	H	All	kW	6.4	8.0	9.6	11.9	14.0	15.5	18.9	23.9	31.2	38.3
Total power input	HP/HA	All	kW	2.7	3.5	4.5	3.9	4.6	5.4	6.5	7.8	10.4	16.0
Total current input (COOLING)	H	All	A	2.9	3.7	4.7	4.0	4.6	5.4	6.5	7.9	10.6	17.8
				12.8	16.3	19.4	-	-	-	-	-	-	-
	HP/HA	All	A	13.8	17.3	20.4	7.4	8.7	10.3	13.4	15.0	20.3	27.4
				6.8	8.4	10.2	9.2	10.5	12.1	15.2	15.9	21.9	30.5
Water flow rate	H	All	l/h	1105	1383	1657	2046	2400	2663	3253	4107	5366	6590
Pressure drop (filter + pipes)	HP/HA	All	kPa	15	9	12	14	18	22	30	27	35	14.0
Available pump head	HP/HA	All	kPa	65	70	65	89	82	76	91	103	153	-
ENERGY EFFICIENCY													
COP	H	All	W/W	3.15	3.06	2.86	3.72	3.53	3.54	3.33	3.63	3.44	2.90
	HP/HA	All	W/W	2.93	2.89	2.73	3.63	3.46	3.49	3.29	3.53	3.33	2.60
EER	H	All	W/W	2.37	2.29	2.13	3.02	3.03	2.88	2.89	3.07	2.99	2.39
	HP/HA	All	W/W	2.21	2.16	2.04	3.05	3.08	2.93	2.99	3.08	3.01	2.15
ESEER	H	All	W/W	n.d.	n.d.	n.d.	3.41	3.42	3.25	3.27	4.54	4.42	n.d.
	HP/HA	All	W/W	n.d.	n.d.	n.d.	3.44	3.47	3.31	3.38	4.55	4.45	n.d.
ELECTRICAL DATA													
Maximum current (FLA)	° - L	All	A	21.6	24.6	24.7	-	-	-	-	-	-	-
				11.1	11.6	12.6	13.7	15.4	17.0	20.4	27.4	30.8	40.8
Maximum current (FLA)	P / A / LP / LA	All	A	22.6	25.6	25.7	-	-	-	-	-	-	-
				12.1	12.6	13.6	15.6	17.3	18.9	22.3	29.3	33.8	43.8
Maximum current (FLA)	H	All	A	18.8	23.7	26.5	-	-	-	-	-	-	-
				11.0	12.0	13.3	13.5	14.7	15.2	20.4	27.0	30.3	40.8
Maximum current (FLA)	HP - HA	All	A	19.8	24.7	27.5	-	-	-	-	-	-	-
				12.0	13.0	14.3	15.5	16.6	17.1	22.3	29.0	33.4	43.8
Starting current (LRA)	° - L	All	A	66.6	87.6	117.6	-	-	-	-	-	-	-
Starting current (LRA)	P / A / LP / LA	All	A	37.6	40.6	71.6	77.2	77.2	77.2	105.2	90.9	92.6	125.6
				67.6	88.6	118.6	-	-	-	-	-	-	-
Starting current (LRA)	H	All	A	38.6	41.6	72.6	79.1	79.1	79.1	107.1	92.8	95.6	128.6
				86.1	95.5	98.6	-	-	-	-	-	-	-
Starting current (LRA)	HP - HA	All	A	44.6	44.6	58.6	64.2	74.2	94.2	105.2	77.7	109.3	125.6
				87.1	96.5	99.6	-	-	-	-	-	-	-
				45.6	45.6	59.6	66.1	76.1	96.1	107.1	79.6	112.4	128.6
SCROLL COMPRESSOR													
Quantity / circuits	All	All	n°/n°	1/1	1/1	1/1	1/1	1/1	1/1	1/1	2/1	2/1	2/1
Capacity control			%	0-100	0-100	0-100	0-100	0-100	0-100	0-100	0-50-100	0-50-100	0-50-100
PLATE HEAT EXCHANGER													
Quantity	All	All	n°	1	1	1	1	1	1	1	1	1	1
Hydraulic connections (victaulic)			Ø	1" 1/4	1" 1/4	1" 1/4	1" 1/4	1" 1/4	1" 1/4	1" 1/4	1" 1/4	1" 1/4	1" 1/4

Data in accordance with UNI EN 14511-2: 2011

*Preliminary data

n.d. = data not declared: for information contact factory

COOLING

Evaporator water outlet temperature 7 °C
Evaporator water inlet temperature 12 °C
External air temperature 35 °C

HEATING

Condenser water inlet temperature 40 °C
Condenser water outlet temperature 45 °C
External air temperature 7°C db / 6°C wb

All data refers to NOMINAL available fan static pressure

Technical data

	Model	Power supply	Units	*025	*030	*040	050	070	080	090	100	150	*200
BUFFER TANK													
Capacity	A	All	l	50	100	100	100	100	100	100	100	100	100
EXPANSION TANK													
Number / capacity	P/A	All	n°/l	1/2	1/5	1/5	1/5	1/5	1/5	1/5	1/8	1/8	1/8
PLUG FAN - EC INVERTER MOTOR													
Quantity	All	All	n°	1	1	1	1	1	1	1	2	2	2
Air flow in COOLING	° - H	All	m3/h	3400	4000	4000	6500	6500	6500	7500	10000	12000	12000
	L		m3/h	n.d.	n.d.	n.d.	4000	4000	4000	5000	6000	8500	16000
Nominal available fan static pressure		All	Pa	50	50	50	80	80	80	80	80	100	100
Maximum available fan static pressure			Pa	400	400	400	400	400	400	400	400	400	400
Sound data ^{nom} COOLING ONLY / "H" HEAT PUMP													
Radiated sound power	° - H	All	dB(A)	n.d.	n.d.	n.d.	73.0	73.0	73.0	75.7	74.4	78.7	78.7
Discharge sound power	° - H	All	dB(A)	n.d.	n.d.	n.d.	77.9	77.9	77.9	80.9	78.0	83.4	83.4
Radiated sound pressure	° - H	All	dB(A)	n.d.	n.d.	n.d.	41.0	41.0	41.0	43.7	42.4	46.7	46.7
Sound data ^{nom} "L" LOW NOISE													
Radiated sound power	L	All	dB(A)	n.d.	n.d.	n.d.	68.9	68.9	68.9	68.9	65.6	71.7	n.d.
Discharge sound power	L	All	dB(A)	n.d.	n.d.	n.d.	67.8	67.8	67.8	67.8	63.1	72.6	n.d.
Radiated sound pressure	L	All	dB(A)	n.d.	n.d.	n.d.	36.9	36.9	36.9	36.9	33.6	39.7	n.d.

Data in accordance with UNI EN 14511-2: 2011

*Preliminary data

n.d. = data not declared: for information contact factory

COOLING

Evaporator water outlet temperature	7 °C
Evaporator water inlet temperature	12 °C
External air temperature	35 °C

HEATING

Condenser water inlet temperature	40 °C
Condenser water outlet temperature	45 °C
External air temperature	7°C db / 6°C wb

All data refers to NOMINAL available fan static pressure

SOUND POWER

Sound power measured with intensity method in accordance with UNI EN ISO 9614-1, as required for Eurovent certification.

SOUND PRESSURE

Sound pressure measured in free field over a reflective plane at a distance of 10m and directivity factor of 2. In accordance with ISO 3744 standard. Power supply 400V.

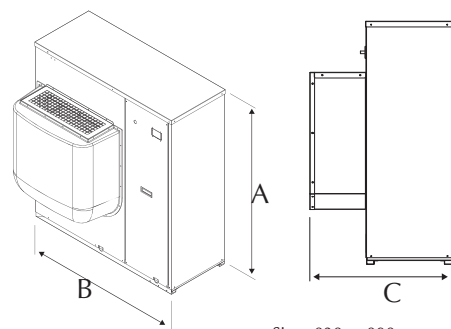
Dimensional data (mm)

DIMENSIONS - WEIGHTS without packaging - ^{nom} COOLING ONLY / "L" LOW NOISE

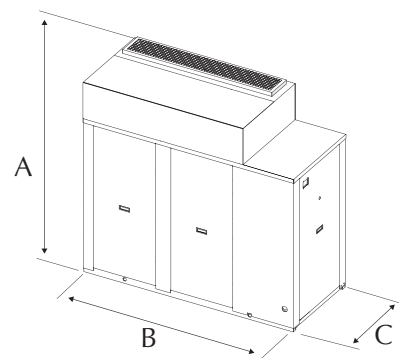
	Version	Units	025*	030*	040*	050	070	080	090	100	150	200*
Height (A)	All	mm	1028	1281	1281	1281	1281	1281	1281	1674	1674	1674
	° - P	mm	1005	1006	1006	1160	1160	1160	1160	1897	1897	1897
Width (B)	A	mm	1366	1458	1458	1610	1610	1610	1610	1897	1897	1897
	All	mm	689	739	739	798	798	798	798	801	801	801
Depth (C)	°	kg	127	160	160	208	210	210	212	469	471	475
	P	kg	133	166	166	217	225	225	221	482	487	492
Weight empty	A	kg	157	201	201	252	260	260	256	532	537	542

DIMENSIONS - WEIGHTS without packaging - "H" HEAT PUMP

	Version	Units	025*	030*	040*	050	070	080	090	100	150	200*
Height (A)	All	mm	1028	1281	1281	1281	1281	1281	1281	1674	1674	1674
	H - HP	mm	1005	1006	1006	1160	1160	1160	1160	1897	1897	1897
Width (B)	HA	mm	1366	1458	1458	1610	1610	1610	1610	1897	1897	1897
	All	mm	689	739	739	798	798	798	798	801	801	801
Depth (C)	H	kg	142	171	171	229	240	240	234	504	527	515
	HP	kg	148	177	177	239	250	250	243	517	543	531
Weight empty	HA	kg	172	213	213	274	284	284	279	567	593	581

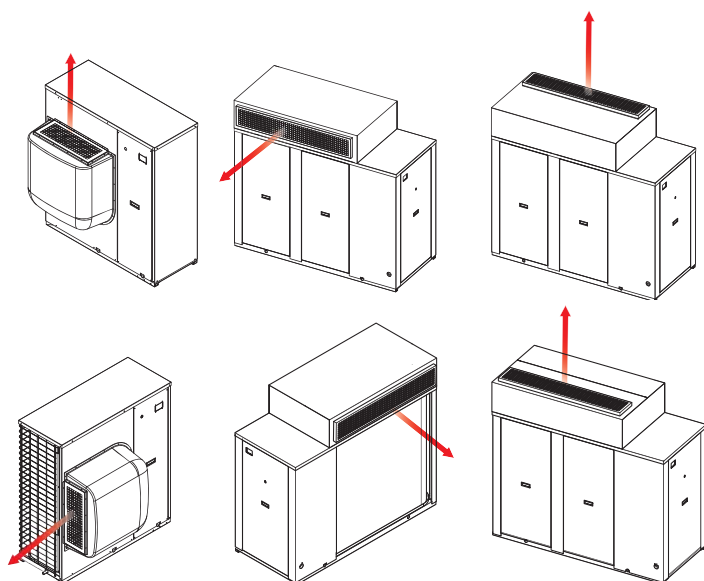


Sizes 020 to 090



Sizes 100 to 200

Discharge hood possible configurations (site modified)



I dati tecnici riportati nella presente documentazione non sono impegnativi. Aermec S.p.A. si riserva la facoltà di apportare in qualsiasi momento tutte le modifiche ritenute necessarie per il miglioramento del prodotto.

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