TECHNICAL DATA SHEETS

Heat pumps

ecoAIR+

ecoFOREST

Ecoforest heat pumps

Technology for a sustainable world

Ecoforest is committed to innovation in order to achieve a sustainable future based on the use of renewable energy. This commitment has led Ecoforest to become a technological leader in the field of Inverter heat pumps, being the only manufacturer whose product range presents such modulating technology in all its models, both geothermal and aerothermal.

Ecoforest heat pumps allow to cover in an integrated way all the thermal needs of current buildings, as well domestic as industrial. Ecoforest offers three types of solutions depending on the energy source used by the equipment: eco-GEO+ water-to-water geothermal heat pumps, ecoGEO+ & AU water-to-water aerothermal heat pumps, and ecoAIR+ aerothermal air-water monobloc heat pumps. All the models in these three ranges make use of Inverter technology to obtain the best performances and thus guarantee comfort and efficiency together with a commitment to make the best use of renewable resources.

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ecoAIR+

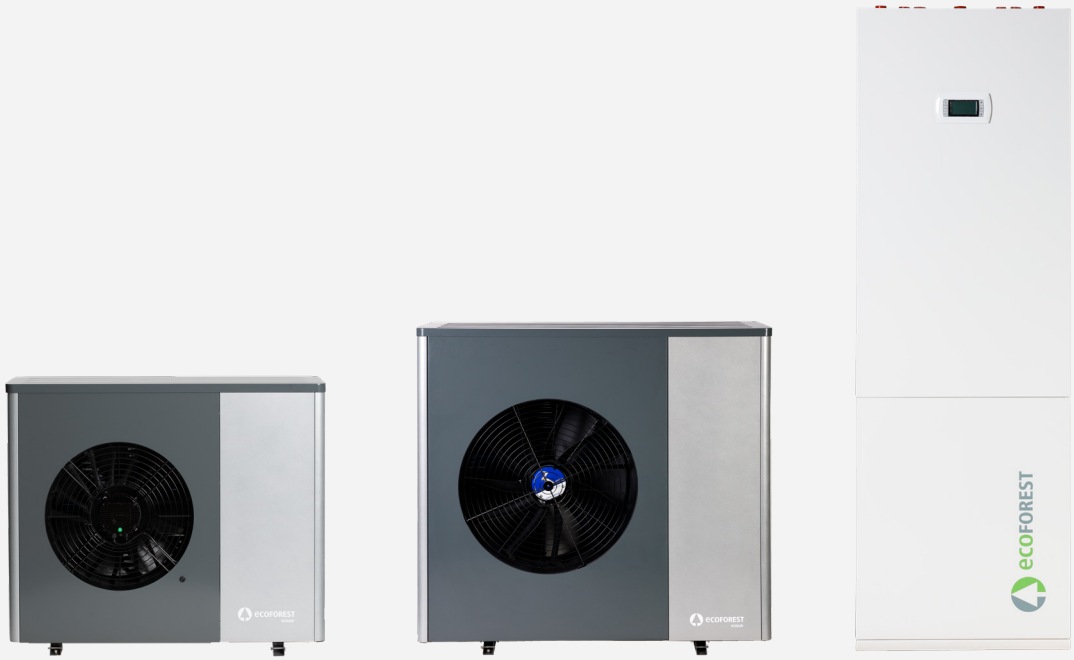
Monobloc air source heat pumps

ecoFOREST

ecoAIR+

Monobloc Inverter air source

The ecoAIR+ range is the Ecoforest range of air-to-water heat pumps. These heat pumps use Inverter technology and are also capable of offering all the services required in a HVAC system in an integrated way: DHW, Heating, Pool and Cooling.



All ecoAIR+ heat pumps make use of Inverter technology, which allows them to modulate their power in order to adapt to the thermal demands of the installation with the highest efficiency. This translates into a very considerable reduction in electrical consumption and great savings. The ecoAIR+ EVI heat pumps make a unique use of EVI technology to guarantee unique performances in any operating condition, and the ecoAIR+ PRO heat pumps use a natural refrigerant, being the only propane monobloc aerothermal heat pumps that have modulation ranges greater than 80%. Thanks to the technology and control strategies developed by Ecoforest, the installation of ecoAIR+ heat pumps in combination with the HK and HK-Compact indoor units also becomes simpler, more compact and cheaper than those of other heat pumps on the market, since it allows to dispense with certain components that would be necessary in traditional heat pump installations.

ecoAIR+ PRO

Residential range

Power ranges

ecoAIR+ 1-7 PRO

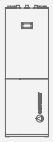
ecoAIR+ 1-9 PRO

ecoAIR+ 3-12 PRO

ecoAIR+ 3-18 PRO

Monobloc heat pump

Outdoor unit
ecoAIR+ PRO



Indoor unit
CM / HK HK-Compact

Services

DHW

Heating

Cooling

Pool

Indoor units

CM

Controller
Display

HK-EH

Controller
Display
Filling kit & filter
DHW 3-way valve
Support electrical heater

HK-EH-S

Controller
Display
Filling kit & filter
DHW 3-way valve
Support electrical heater
Heat exchanger & circulation pump

HK-Compact-EH

Controller
Display
Filling kit & filter
DHW 3-way valve
Support electrical heater
165l stainless steel DHW tank

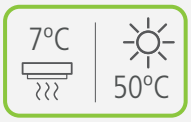
HK-Compact-EH-S

Controller
Display
Filling kit & filter
DHW 3-way valve
Support electrical heater
Heat exchanger & circulation pump
165l stainless steel DHW tank
Expansion vessel & safety valve

- Inverter technology
- Power ranges: 1-7 kW / 1-9 kW / 3-12 kW / 3-18 kW
- Natural refrigerant: R290
- Hot water production temperatures up to 75ºC
- Domestic hot water production
- Heating and pool production
- Integrated active cooling production
- Modulating speed fan
- Internet connection through the ecoSMART Easynet
- Integrated photovoltaic hybridisation
- Single-phase (230V) or three-phase (400V) power supply

Unique performances

DHW production and Heating



Cooling

Indoor units
CM / HK / HK-Compact

- Indoor hydraulic units to be used in combination with ecoAIR+ PRO monobloc aerothermal heat pumps.
- CM, HK & HK-Compact: including the electrical box that allows to control the heat pump.
- HK & HK-Compact: including the main hydraulic components of the installation in several combinations.
- HK-Compact: integrating a 165l stainless steel DHW tank.
- Plug&play compact units that make the hydraulic system simpler and the installation easier.
- Single-phase control electrical box.
- Single-phase or Three-phase optional support electrical heater.

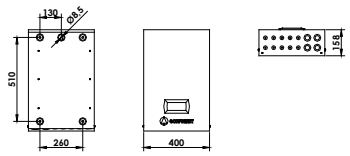
SPECIFICATIONS ecoAIR+ PRO INDOOR UNITS		UNITS	CM	HK		HK-Compact	
				HK-EH	HK-EH-S	HK-Compact-EH	HK-Compact-EH-S
APPLICATION	Place of installation	-	Indoors				
	DHW	-	✓	✓	✓	✓	✓
	Heating and Pool	-	✓	✓	✓	✓	✓
	Cooling	-	✓	✓	✓	✓	✓
INTEGRATED HYRAULIC COMPONENTS	Filling kit and filter	-	-	✓	✓	✓	✓
	DHW three-way valve	-	-	✓	✓	✓	✓
	Support electrical heater	-	-	✓	✓	✓	✓
	Separation plate heat exchanger	-	-	-	✓	-	✓
	Secondary circuit circulation pump	-	-	-	✓	-	✓
	Stainless steel DHW tank	-	-	-	-	✓	✓
	Primary / Secondary expansion vessel	-	-	-	-	✓(12l)	✓(8l) / ✓(12l)
OPERATION LIMITS	Production circuit pressure	bar	-	0,5 - 3,0			
	DHW tank volume	l	-	-	-	165	
	DHW tank maximum pressure	bar	-	-	-	8,0	
	DHW tank maximum temperature	°C	-	-	-	80	
CONTROL ELECTRICAL DATA	1/N/PE 230 V / 50-60 Hz [1]	-	✓				
	Recommended external protection	-	C16A				
	Transformer primary circuit fuse	A	0,5				
	Transformer secondary circuit fuse	A	2,5				
ELECTRICAL DATA: INTEGRATED SUPPORT ELECTRICAL HEATER	Supply: 1/N/PE 230Vac / 50-60 Hz [1]	-	-	✓			
	Number of elements	-	-	1 [2] / 1-2-3			
	Recommended external protection 1-2-3	-	-	C16A [2] / C10A-C16A-C20A			
	Maximum power consumption 1-2-3	kW	-	2,0 [2] / 1,3-2,7-4,0			
	Maximum current consumption 1-2-3	A	-	10,0 [2] / 6,3-12,6-18,9			
	Supply: 3/N/PE 400Vac / 50-60 Hz [1]	-	-	✓			
	Recommended external protection	-	-	C10A			
	Maximum power consumption	kW	-	4,0			
	Maximum current consumption	A	-	6,3			
	Correction of cosine Ø	-	-	0,96 / 1			
DIMENSIONS/WEIGHT	Height x width x depth	mm	600x400x158	713x525x304		1773x600x679	
	Empty weight (without assembly)	kg	15	41 [2] / 40	43 [2] / 47	130	145

1. The admissible voltage range for proper operation of the heat pump is ±10%.
2. Data to be considered in case of HK-EH or HK-Compact-EH for ecoAIR+ 1-7kW PRO models.

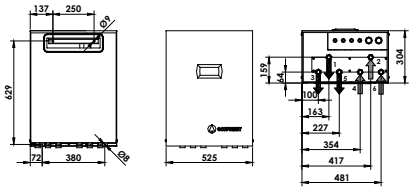
Dimensions and hydraulic connections

Indoor Units

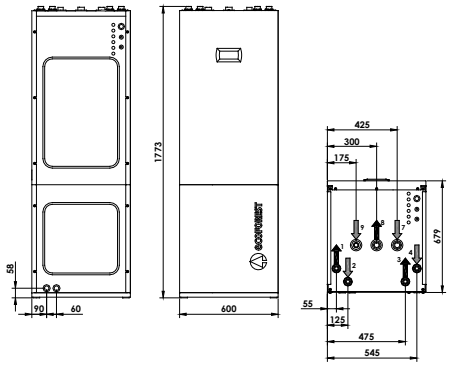
CM



HK



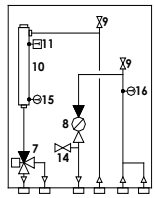
HK-Compact



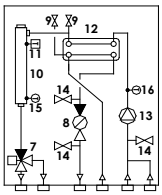
1. Outlet towards ecoAIR+ outdoor unit - 1 ” M
2. Inlet from ecoAIR+ outdoor unit - 1 ” M
3. Heating/Cooling outlet - 1 ” M
4. Heating/Cooling inlet - 1 ” M
5. DHW System outlet - 1 ” M
6. DHW System outlet - 1 ” M
7. CW Inlet - 1 ” F
8. DCW outlet - 1 ” F
9. DHW Recirculation inlet - 3/4 ” F

Hydraulic characteristics

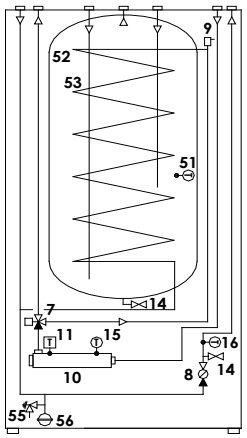
Hydraulic layouts



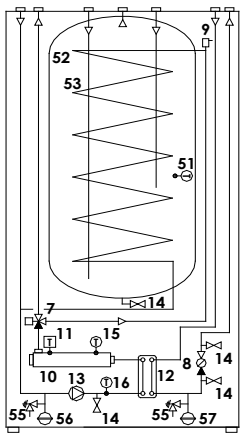
HK-EH



HK-EH-S



HK-Compact-EH

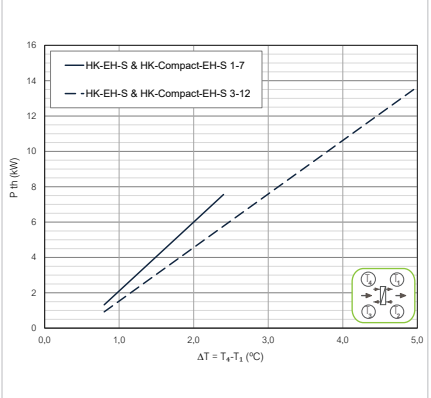


HK-Compact-EH-S

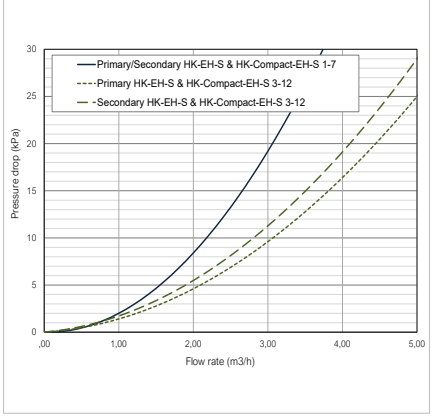
7.	DHW three-way valve
8.	Filterball
9.	Manual air vent
10.	Outlet support electrical heater
11.	Safety thermostat
12.	Separator plate heat exchanger
13.	Secondary circuit circulation pump
14.	Filling / Emptying valve
52.	165l stainless steel DHW tank
53.	Stainless steel tank coil
55.	Safety valve
56.	12l expansion vessel
57.	8l expansion vessel

Models including hydraulic separation : HK-EH-S / HK-Compact-EH-S

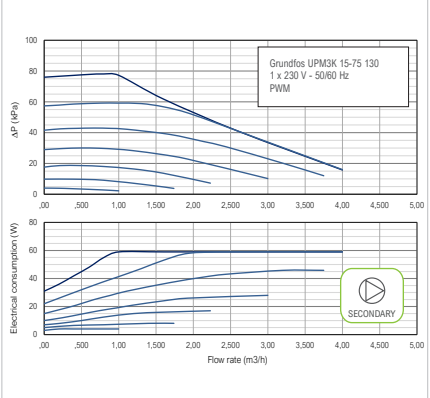
Separation plate heat exchanger
Thermal power



Separation plate heat exchanger
Pressure drop



Secondary circuit circulation pump
Pressure drop, thermal power and flow rate



ecoAIR+ 1-7 PRO

- **Modulating thermal power control** within a wide range (12,5-100%) and modulating flow rate control of the production circuit (20-100%).
- **Natural refrigerant R290 : GWP 3.**
- **Inverter technology and scroll compressor.**
- **Compact design including the production circulation pump in the outdoor unit.** Hydraulic connection within the outdoor unit and the indoor unit.
- **Integrated management of up to 3 different emission temperatures, 2 buffer tanks** (heating and cooling), **1 DHW tank, 1 pool and hourly control of DHW recirculation.**
- **Integrated management of simultaneous heating/cooling emission**, according to scheme.
- **Integrated management of external On/Off or modulating auxiliary systems**, such as electrical heaters, On/Off boilers or modulating boilers.
- **Integrated active cooling.**
- **Selection of the indoor unit** depending on the installation needs.
- **Single-phase version available.**
- **Integrated photovoltaic hybridisation.**
- **Integrated energy meters** to measure the electrical consumption, the heating/cooling thermal power, the COP and the monthly and annual SPF.

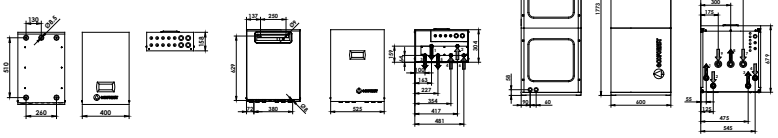
SPECIFICATIONS ecoAIR+ 1-7 PRO		UNITS	
APPLICATION	Place of installation	-	Outdoors
	Type of brine system [1]	-	Air source
	DHW, Heating and Pool	-	✓
	Integrated Active cooling	-	✓
PERFORMANCE	Modulation range of the compressor	%	12,5 to 100
	Heating power output [2], A7W35	kW	1,0 to 7,0
	COP [2], A7W35	-	5,2
	Heating power output [2], A7W55	kW	1,0 to 6,5
	COP [2,] A7W55	-	3,3
	Active cooling power output [2], A35W7	kW	1,0 to 5,6
	EER [2], A35W7	-	5,5
	Max. DHW temperature without / with support [5]	°C	75 / 80
	Noise power emission level [6]	db	58
	Energy label / ηs / SCOP W35 average climate control	-	A+++ / 179% / 4,45
	Energy label / ηs / SCOP W55 average climate control	-	A++ / 139% / 3,45
OPERATION LIMITS	Distribution / Set heating outlet temperature range	°C	10 to 75 / 20 to 75
	Distribution / Set cooling outlet temperature range	°C	5 to 30 / 7 to 30
	Outdoor temperature range	°C	-22 to 50
	Minimum / Maximum refrigerant circuit pressure	bar	0,5 / 31,5
	Production circuit pressure	bar	0,5 to 3,0
WORKING FLUIDS	R290 Refrigerant load	kg	0,75
	Compressor oil type / load	kg	PZ46M / 0,3
	Air flow (60% fan)	m^3/h	2385
CONTROL ELECTRICAL DATA	1/N/PE 230 V / 50-60 Hz [8]	-	✓
	Maximum recommended external protection [9]	-	C5A
	Transformer primary circuit fuse	A	0,5
	Transformer secondary circuit fuse	A	2,5
ELECTRICAL DATA: SINGLE-PHASE	1/N/PE 230 V / 50-60 Hz [8]	-	✓
	Maximum recommended external protection [9]	-	C16A
	Maximum consumption [2], A7W35	kW / A	1,5 / 7,6
	Maximum consumption [2], A7W55	kW / A	2,0 / 9,8
	Minimum / Maximum starting current [7]	A	1,1 / 1,3
	Correction of cosine Ø	-	0,96 / 1
DIMENSIONS/WEIGHT	Height x width x depth	mm	823x1050x435
	Empty weight (without assembly)	kg	115

1. Outdoor air-to-water monobloc unit.
2. In compliance with EN 14511, this includes the consumption of the circulation pumps and the compressor driver.
3. Considering production flow rate in compliance with EN 14511.
4. Considering a heat slope from 20°C to 50°C in absence of consumption.
5. Considering support provided by the emergency electrical heater.
6. In compliance with EN 12102.
7. Starting current depends on the working conditions of the hydraulic circuits.
8. The admissible voltage range for proper operation of the heat pump is ±10%.
9. Maximum consumption can vary significantly according to working conditions, or if the compressor's operation range is restricted. Consult the technical service manual for more detailed information.
10. Certification in process.

Dimensions and hydraulic connections

Indoor units

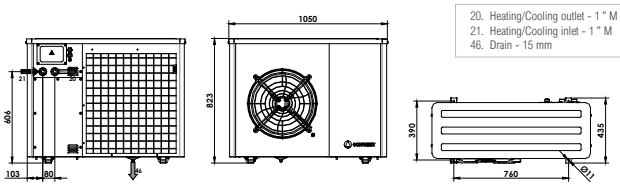
1. Outlet towards ecoAIR+ outdoor unit - 1 " M
2. Inlet towards ecoAIR+ outdoor unit - 1 " M
3. Heating/Cooling outlet - 1 " M
4. Heating/Cooling inlet - 1 " M
5. DHW System outlet - 1 " M
6. DHW System inlet - 1 " M
7. CW Inlet - 1 " F
8. DHW outlet - 1 " F
9. DHW Recirculation inlet - 3/4 " F



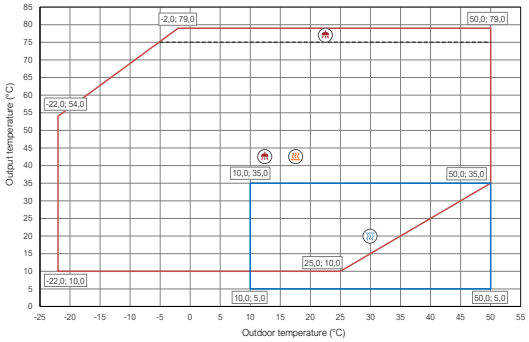
CM Hidrokit Hidrokit Compact

Outdoor unit - ecoAIR+

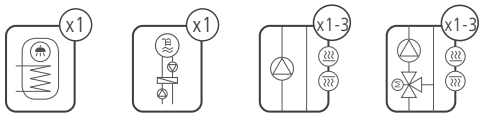
20. Heating/Cooling outlet - 1 " M
21. Heating/Cooling inlet - 1 " M
46. Drain - 15 mm



Operational chart

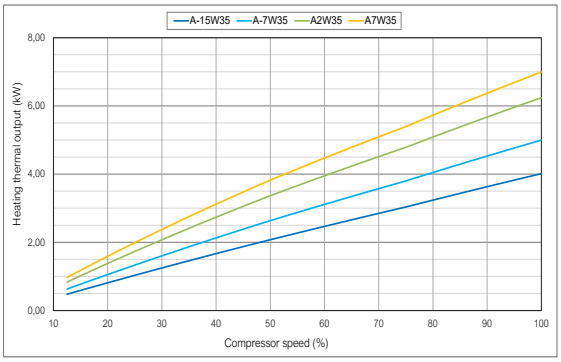


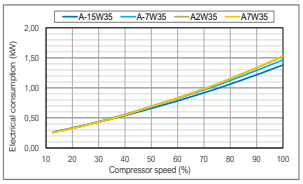
Installation management

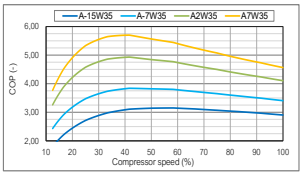


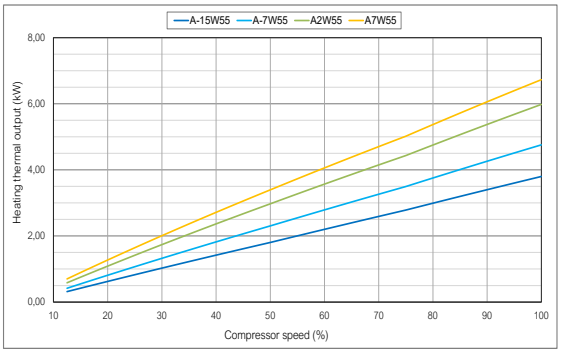
Performance curves

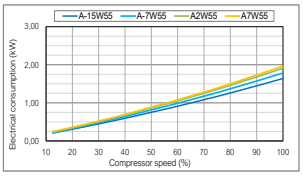
Thermal performance

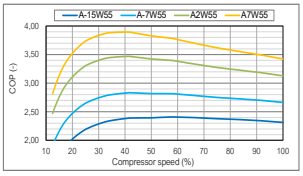


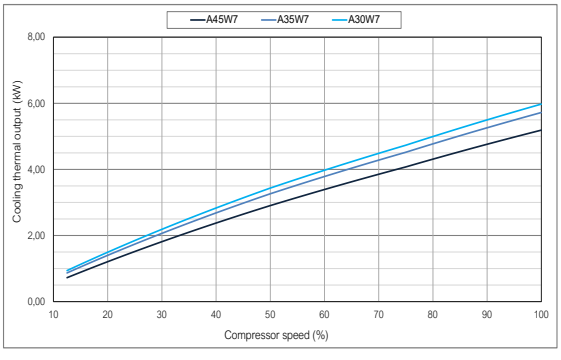


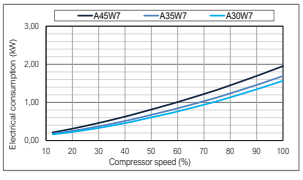


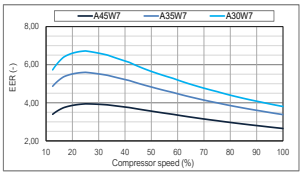




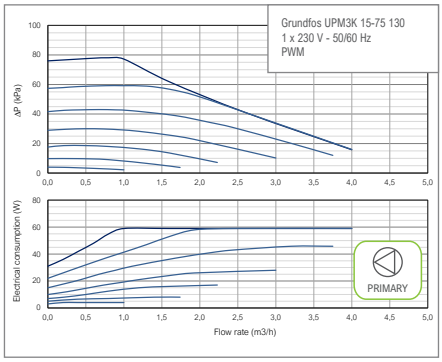


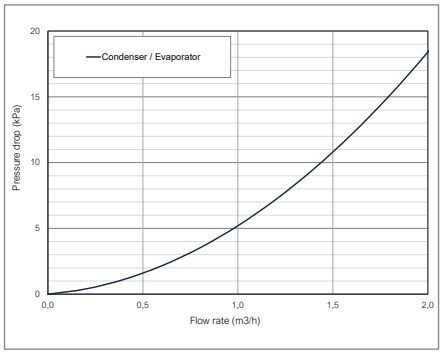






Hydraulic performance





ecoAIR+ 1-9 PRO

- **Modulating thermal power control** within a wide range (17-100%) and modulating flow rate control of the production circuit (20-100%).
- **Natural refrigerant R290 : GWP 3.**
- **Inverter technology and scroll compressor.**
- **Compact design including the production circulation pump in the outdoor unit.** Hydraulic connection within the outdoor unit and the indoor unit.
- **Integrated management of up to 3 different emission temperatures, 2 buffer tanks** (heating and cooling), **1 DHW tank, 1 pool and hourly control of DHW recirculation.**
- **Integrated management of simultaneous heating/cooling emission**, according to scheme.
- **Integrated management of external On/Off or modulating auxiliary systems**, such as electrical heaters, On/Off boilers or modulating boilers.
- **Integrated active cooling.**
- **Selection of the indoor unit** depending on the installation needs.
- **Single-phase version available.**
- **Integrated photovoltaic hybridisation.**
- **Integrated energy meters** to measure the electrical consumption, the heating/cooling thermal power, the COP and the monthly and annual SPF.

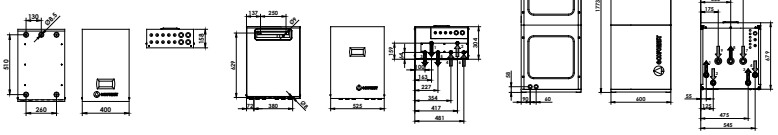
SPECIFICATIONS ecoAIR+ 1-9 PRO		UNITS	
APPLICATION	Place of installation	-	Outdoors
	Type of brine system [1]	-	Air source
	DHW, Heating and Pool	-	✓
	Integrated Active cooling	-	✓
PERFORMANCE	Modulation range of the compressor	%	17 to 100
	Heating power output [2], A7W35	kW	1,7 to 8,7
	COP [2], A7W35	-	5,0
	Heating power output [2], A7W55	kW	2,1 to 8,0
	COP [2], A7W55	-	3,2
	Active cooling power output [2], A35W7	kW	1,1 to 7,1
	EER [2], A35W7	-	4,0
	Max. DHW temperature without / with support [5]	°C	70 / 80
	Noise power emission level [6]	db	57
	Energy label / ηs / SCOP W35 average climate control	-	A+++ / 184% / 4,57
	Energy label / ηs / SCOP W55 average climate control	-	A++ / 146% / 3,63
OPERATION LIMITS	Distribution / Set heating outlet temperature range	°C	10 to 70 / 20 to 70
	Distribution / Set cooling outlet temperature range	°C	5 to 30 / 7 to 30
	Outdoor temperature range	°C	-22 to 50
	Minimum / Maximum refrigerant circuit pressure	bar	0,5 / 27,5
	Production circuit pressure	bar	0,5 to 3,0
WORKING FLUIDS	R290 Refrigerant load	kg	0,85
	Compressor oil type / load	kg	HXL4467 / 0,74
	Air flow (60% fan)	m³/h	3510
CONTROL ELECTRICAL DATA	1/N/PE 230 V / 50-60 Hz [8]	-	✓
	Maximum recommended external protection [9]	-	C5A
	Transformer primary circuit fuse	A	0,5
	Transformer secondary circuit fuse	A	2,5
ELECTRICAL DATA: SINGLE-PHASE	1/N/PE 230 V / 50-60 Hz [8]	-	✓
	Maximum recommended external protection [9]	-	C16A
	Maximum consumption [2], A7W35	kW / A	1,9 / 9,5
	Maximum consumption [2], A7W55	kW / A	2,6 / 13,0
	Minimum / Maximum starting current [7]	A	3,3 / 4,4
	Correction of cosine Ø	-	0,97 / 1
DIMENSIONS/WEIGHT	Height x width x depth	mm	973x1150x475
	Empty weight (without assembly)	kg	134

1. Outdoor air-to-water monobloc unit.
2. In compliance with EN 14511, this includes the consumption of the circulation pumps and the compressor driver.
3. Considering production flow rate in compliance with EN 14511.
4. Considering a heat slope from 20°C to 50°C in absence of consumption.
5. Considering support provided by the emergency electrical heater.
6. In compliance with EN 12102.
7. Starting current depends on the working conditions of the hydraulic circuits.
8. The admissible voltage range for proper operation of the heat pump is ±10%.
9. Maximum consumption can vary significantly according to working conditions, or if the compressor's operation range is restricted. Consult the technical service manual for more detailed information.
10. Certification in process.

Dimensions and hydraulic connections

Indoor units

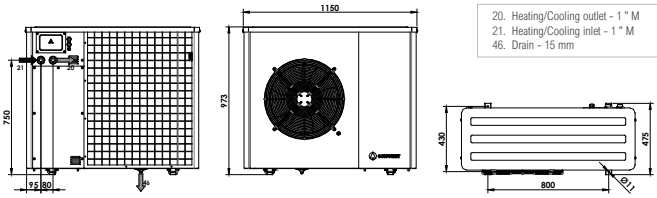
1. Outlet towards ecoAIR+ outdoor unit - 1 " M
2. Inlet towards ecoAIR+ outdoor unit - 1 " M
3. Heating/Cooling outlet - 1 " M
4. Heating/Cooling inlet - 1 " M
5. DHW System outlet - 1 " M
6. DHW System inlet - 1 " M
7. CW Inlet - 1 " F
8. DHW outlet - 1 " F
9. DHW Recirculation inlet - 3/4 " F



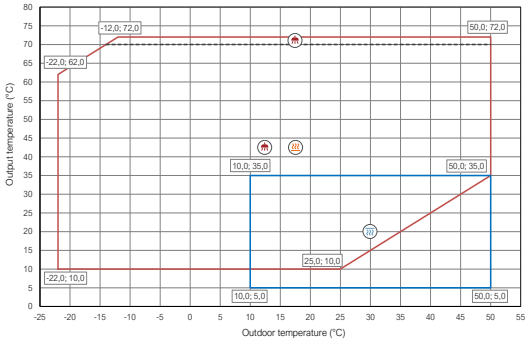
CM Hidrokit Hidrokit Compact

Outdoor unit - ecoAIR+

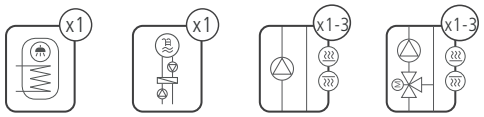
20. Heating/Cooling outlet - 1 " M
21. Heating/Cooling inlet - 1 " M
46. Drain - 15 mm



Operational chart



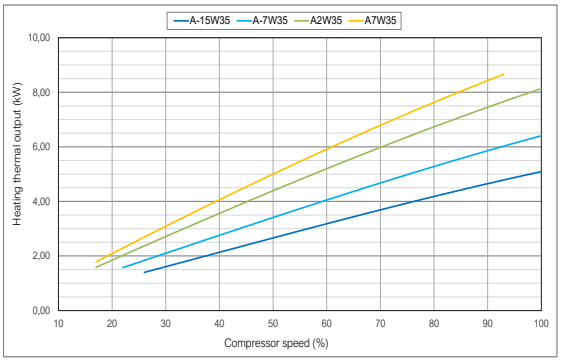
Installation management

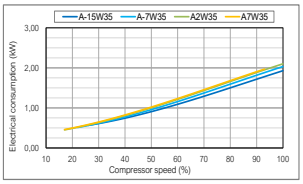


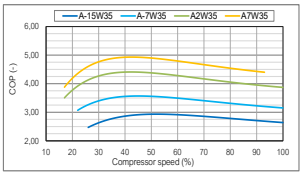
Performance curves

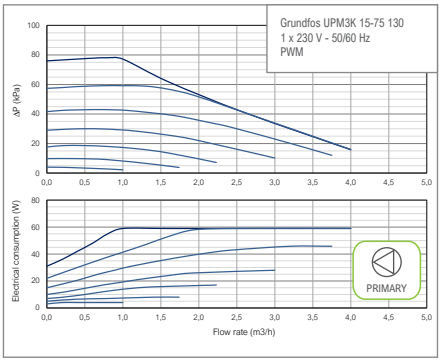
Thermal performance

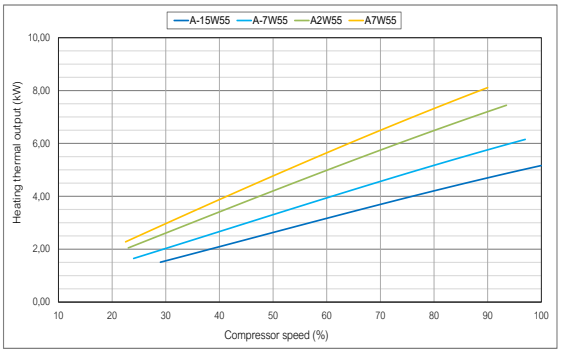
Hydraulic performance

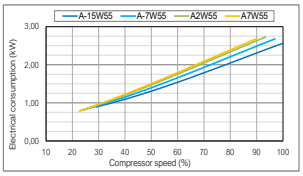


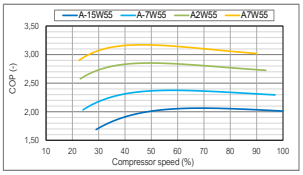


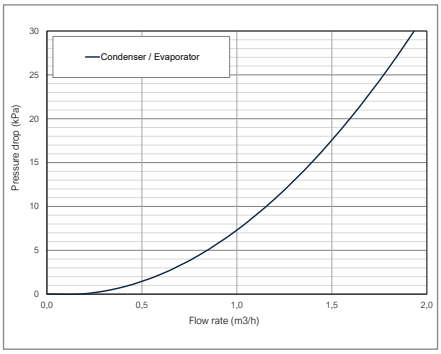


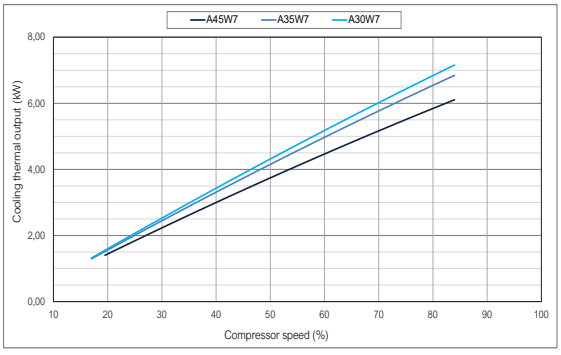


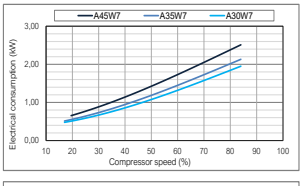


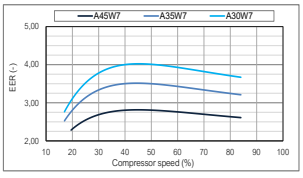












ecoAIR+ 3-12 PRO

- **Modulating thermal power control** within a wide range (17-100%) and modulating flow rate control of the production circuit (20-100%).
- **Natural refrigerant R290 : GWP 3.**
- **Inverter technology and scroll compressor.**
- **Compact design including the production circulation pump in the outdoor unit.** Hydraulic connection within the outdoor unit and the indoor unit.
- **Integrated management of up to 3 different emission temperatures, 2 buffer tanks** (heating and cooling), **1 DHW tank, 1 pool and hourly control of DHW recirculation.**
- **Integrated management of simultaneous heating/cooling emission**, according to scheme.
- **Integrated management of external On/Off or modulating auxiliary systems**, such as electrical heaters, On/Off boilers or modulating boilers.
- **Integrated active cooling.**
- **Selection of the indoor unit** depending on the installation needs.
- **Single-phase and Three-phase versions available.**
- **Integrated photovoltaic hybridisation.**
- **Integrated energy meters** to measure the electrical consumption, the heating/cooling thermal power, the COP and the monthly and annual SPF.

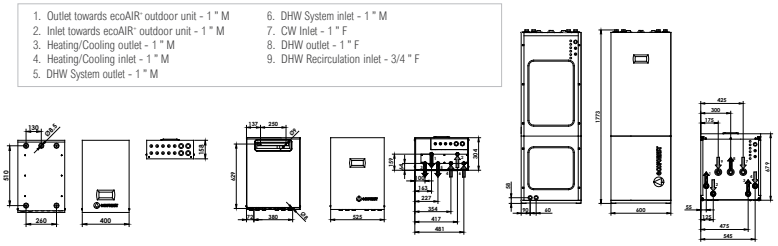
SPECIFICATIONS ecoAIR+ 3-12 PRO		UNITS	
APPLICATION	Place of installation	-	Outdoors
	Type of brine system [1]	-	Air source
	DHW, Heating and Pool	-	✓
	Integrated Active cooling	-	✓
PERFORMANCE	Modulation range of the compressor	%	17 to 100
	Heating power output [2], A7W35	kW	3,0 to 11,0
	COP [2], A7W35	-	4,8
	Heating power output [2], A7W55	kW	3,0 to 10,0
	COP [2], A7W55	-	3,0
	Active cooling power output [2], A35W7	kW	1,8 to 8,6
	EER [2], A35W7	-	3,1
	Max. DHW temperature without / with support [5]	°C	70 / 80
	Noise power emission level [6]	db	57
	Energy label / ηs / SCOP W35 average climate control	-	A++ / 158% / 3,93
	Energy label / ηs / SCOP W55 average climate control	-	A++ / 129% / 3,21
OPERATION LIMITS	Distribution / Set heating outlet temperature range	°C	10 to 70 / 20 to 70
	Distribution / Set cooling outlet temperature range	°C	5 to 30 / 7 to 30
	Outdoor temperature range	°C	-22 to 50
	Minimum / Maximum refrigerant circuit pressure	bar	0,5 / 25,5
	Production circuit pressure	bar	0,5 to 3,0
WORKING FLUIDS	R290 Refrigerant load	kg	0,85
	Compressor oil type / load	kg	HXL4467 / 0,74
	Air flow (75% fan)	m³/h	3510
CONTROL ELECTRICAL DATA	1/N/PE 230 V / 50-60 Hz [8]	-	✓
	Maximum recommended external protection [9]	-	C5A
	Transformer primary circuit fuse	A	0,5
	Transformer secondary circuit fuse	A	2,5
ELECTRICAL DATA: SINGLE-PHASE	1/N/PE 230 V / 50-60 Hz [8]	-	✓
	Maximum recommended external protection [9]	-	C25A
	Maximum consumption [2], A7W35	kW / A	2,8 / 13,8
	Maximum consumption [2], A7W55	kW / A	3,5 / 17,7
	Minimum / Maximum starting current [7]	A	4,5 / 5,4
	Correction of cosine Ø	-	0,93 / 1
ELECTRICAL DATA: THREE-PHASE	3/N/PE 400 V / 50-60Hz [8]	-	✓
	Maximum recommended external protection [9]	-	C16A
	Maximum consumption [2], A7W35	kW / A	2,8 / 4,6
	Maximum consumption [2], A7W55	kW / A	3,5 / 5,9
	Minimum / Maximum starting current [7]	A	1,5 / 1,8
	Correction of cosine Ø	-	0,93 / 1
DIMENSIONS/WEIGHT	Height x width x depth	mm	973x1150x475
	Empty weight (without assembly)	kg	134

1. Outdoor air-to-water monobloc unit.
2. In compliance with EN 14511, this includes the consumption of the circulation pumps and the compressor driver.
3. Considering production flow rate in compliance with EN 14511.
4. Considering a heat slope from 20°C to 50°C in absence of consumption.
5. Considering support provided by the emergency electrical heater.
6. In compliance with EN 12102.
7. Starting current depends on the working conditions of the hydraulic circuits.
8. The admissible voltage range for proper operation of the heat pump is ±10%.
9. Maximum consumption can vary significantly according to working conditions, or if the compressor's operation range is restricted. Consult the technical service manual for more detailed information.
10. Certification in process.

Dimensions and hydraulic connections

Indoor units

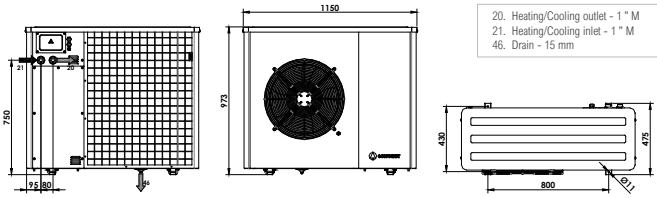
1. Outlet towards ecoAIR+ outdoor unit - 1 " M
2. Inlet towards ecoAIR+ outdoor unit - 1 " M
3. Heating/Cooling outlet - 1 " M
4. Heating/Cooling inlet - 1 " M
5. DHW System outlet - 1 " M
6. DHW System inlet - 1 " M
7. CW Inlet - 1 " F
8. DHW outlet - 1 " F
9. DHW Recirculation inlet - 3/4 " F



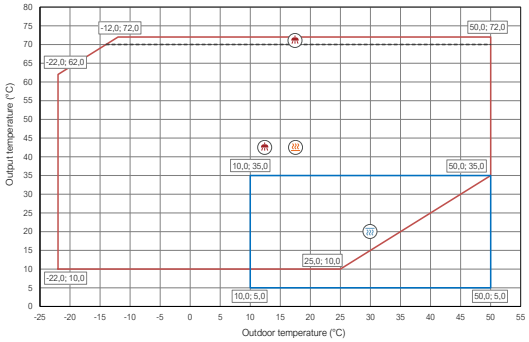
CM Hidrokit Hidrokit Compact

Outdoor unit - ecoAIR+

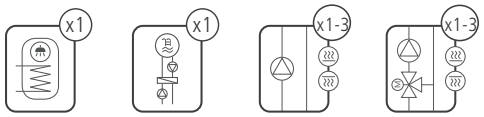
20. Heating/Cooling outlet - 1 " M
21. Heating/Cooling inlet - 1 " M
46. Drain - 15 mm



Operational chart

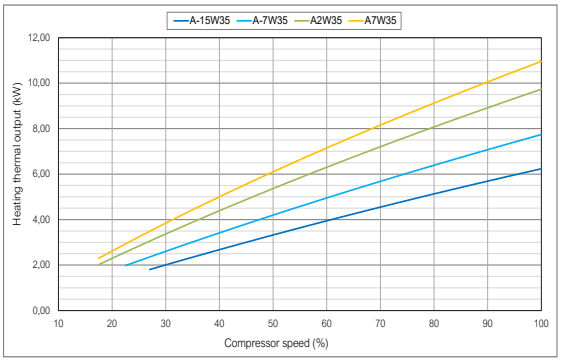


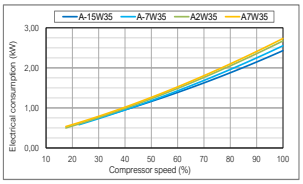
Installation management

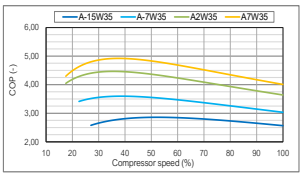


Performance curves

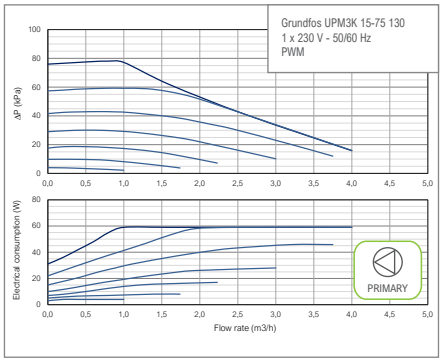
Thermal performance

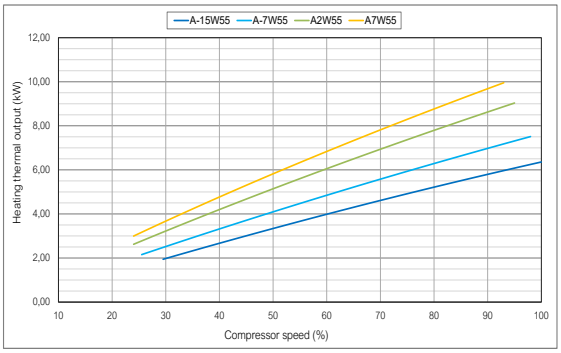


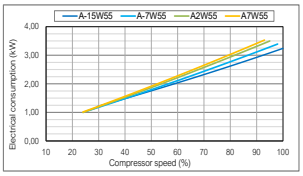


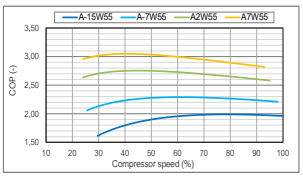


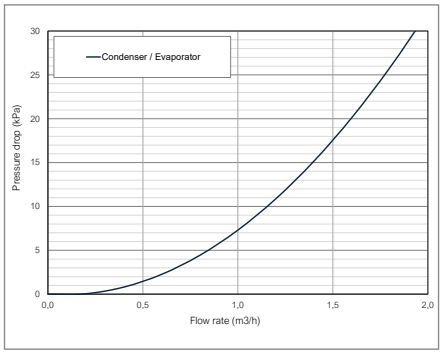
Hydraulic performance

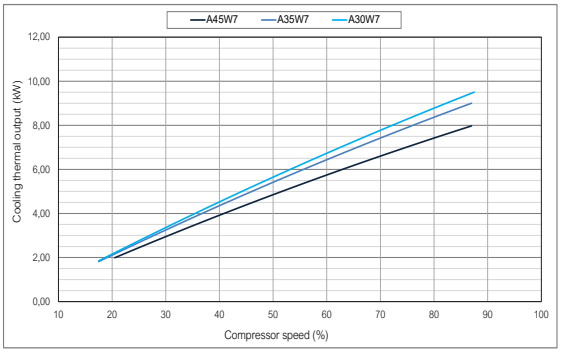


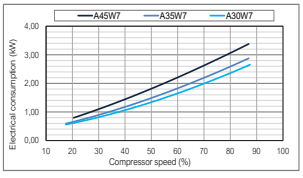


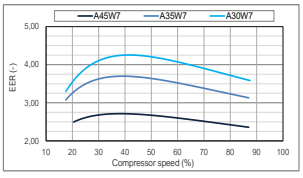












ecoAIR+ 3-18 PRO

- **Modulating thermal power control** within a wide range (17-100%) and modulating flow rate control of the production circuit (20-100%).
- **Natural refrigerant R290 : GWP 3.**
- **Inverter technology and scroll compressor.**
- **Compact design including the production circulation pump in the outdoor unit.** Hydraulic connection within the outdoor unit and the indoor unit.
- **Integrated management of up to 3 different emission temperatures, 2 buffer tanks** (heating and cooling), **1 DHW tank, 1 pool and hourly control of DHW recirculation.**
- **Integrated management of simultaneous heating/cooling emission**, according to scheme.
- **Integrated management of external On/Off or modulating auxiliary systems**, such as electrical heaters, On/Off boilers or modulating boilers.
- **Integrated active cooling.**
- **Selection of the indoor unit** depending on the installation needs.
- **Single-phase and Three-phase versions available.**
- **Integrated photovoltaic hybridisation.**
- **Integrated energy meters** to measure the electrical consumption, the heating/cooling thermal power, the COP and the monthly and annual SPF.

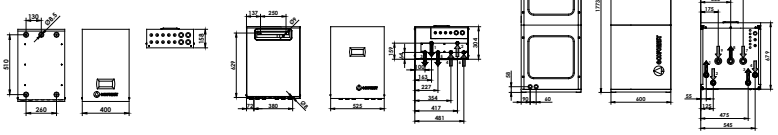
SPECIFICATIONS ecoAIR+ 3-18 PRO		UNITS	
APPLICATION	Place of installation	-	Outdoors
	Type of brine system [1]	-	Air source
	DHW, Heating and Pool	-	✓
	Integrated Active cooling	-	✓
PERFORMANCE	Modulation range of the compressor	%	17 to 100
	Heating power output [2], A7W35	kW	3,5 to 18,0
	COP [2], A7W35	-	5,1
	Heating power output [2], A7W55	kW	4,7 to 15,9
	COP [2], A7W55	-	3,4
	Active cooling power output [2], A35W7	kW	2,8 to 13,6
	EER [2], A35W7	-	4,0
	Max. DHW temperature without / with support [5]	°C	70 / 80
	Noise power emission level [6]	db	57
	Energy label / ηs / SCOP W35 average climate control	-	A+++ / 179 % / 4,46
	Energy label / ηs / SCOP W55 average climate control	-	A++ / 142 % / 3,53
OPERATION LIMITS	Distribution / Set heating outlet temperature range	°C	10 to 70 / 20 to 70
	Distribution / Set cooling outlet temperature range	°C	5 to 30 / 7 to 30
	Outdoor temperature range	°C	-22 to 50
	Minimum / Maximum refrigerant circuit pressure	bar	0,5 / 25,5
	Production circuit pressure	bar	0,5 to 3,0
WORKING FLUIDS	R290 Refrigerant load	kg	1,37
	Compressor oil type / load	kg	HXL4467 / 0,74
	Air flow (75% fan)	m³/h	6771
CONTROL ELECTRICAL DATA	1/N/PE 230 V / 50-60 Hz [8]	-	✓
	Maximum recommended external protection [9]	-	C5A
	Transformer primary circuit fuse	A	0,5
	Transformer secondary circuit fuse	A	2,5
ELECTRICAL DATA: SINGLE-PHASE	1/N/PE 230 V / 50-60 Hz [8]	-	✓
	Maximum recommended external protection [9]	-	C32A
	Maximum consumption [2], A7W35	kW / A	4,2 / 18,3
	Maximum consumption [2], A7W55	kW / A	5,3 / 23,2
	Minimum / Maximum starting current [7]	A	8,8
	Correction of cosine Ø	-	0,94 / 1
ELECTRICAL DATA: THREE-PHASE	3/N/PE 400 V / 50-60Hz [8]	-	✓
	Maximum recommended external protection [9]	-	C16A
	Maximum consumption [2], A7W35	kW / A	4,2 / 6,7
	Maximum consumption [2], A7W55	kW / A	5,4 / 8,5
	Minimum / Maximum starting current [7]	A	2,7 / 3,5
	Correction of cosine Ø	-	0,94 / 1
DIMENSIONS/WEIGHT	Height x width x depth	mm	1254x1350x625
	Empty weight (without assembly)	kg	175

1. Outdoor air-to-water monobloc unit.
2. In compliance with EN 14511, this includes the consumption of the circulation pumps and the compressor driver.
3. Considering production flow rate in compliance with EN 14511.
4. Considering a heat slope from 20°C to 50°C in absence of consumption.
5. Considering support provided by the emergency electrical heater.
6. In compliance with EN 12102.
7. Starting current depends on the working conditions of the hydraulic circuits.
8. The admissible voltage range for proper operation of the heat pump is ±10%.
9. Maximum consumption can vary significantly according to working conditions, or if the compressor's operation range is restricted. Consult the technical service manual for more detailed information.
10. Certification in process.

Dimensions and hydraulic connections

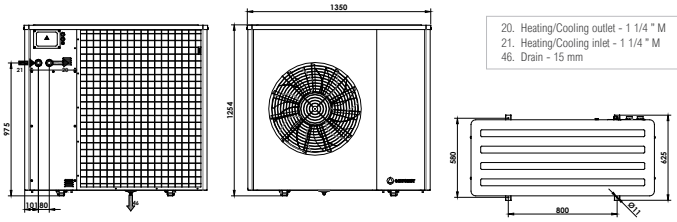
Indoor units

1. Outlet towards ecoAIR+ outdoor unit - 1 1/4" M
2. Inlet towards ecoAIR+ outdoor unit - 1 1/4" M
3. Heating/Cooling outlet - 1 1/4" M
4. Heating/Cooling inlet - 1 1/4" M
5. DHW System outlet - 1 1/4" M
6. DHW System inlet - 1 1/4" M
7. CW Inlet - 1 1/4" F
8. DHW outlet - 1 1/4" F
9. DHW Recirculation inlet - 3/4 " F



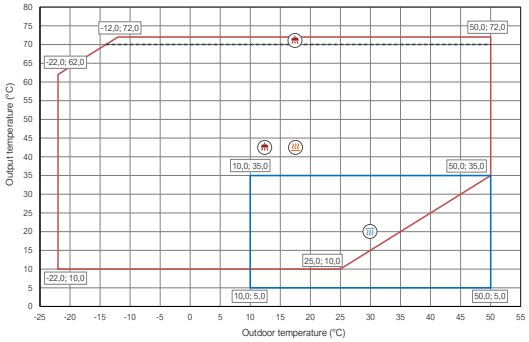
CM | Hidrokit | Hidrokit Compact

Outdoor unit - ecoAIR+

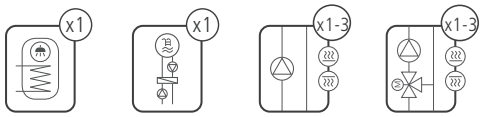


20. Heating/Cooling outlet - 1 1/4 " M
21. Heating/Cooling inlet - 1 1/4 " M
46. Drain - 15 mm

Operational chart

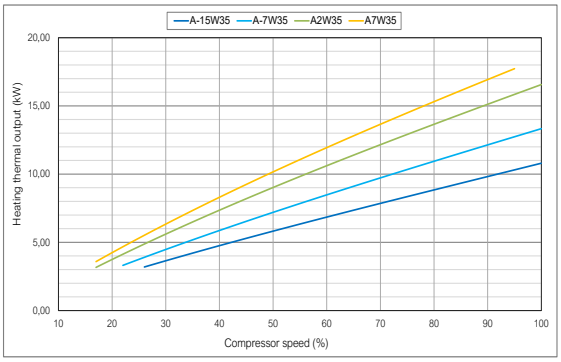


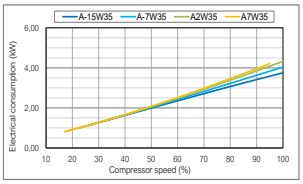
Installation management

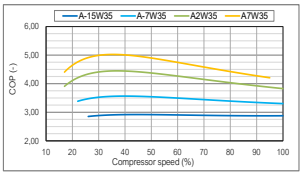


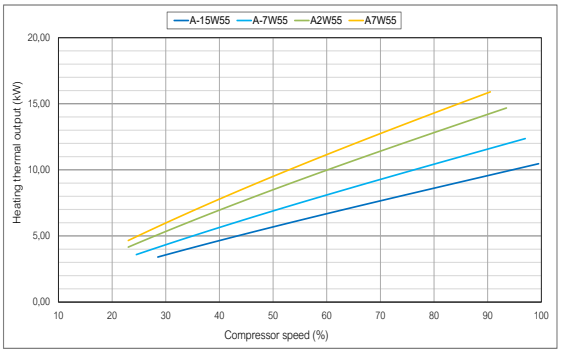
Performance curves

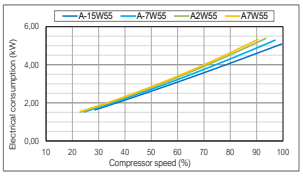
Thermal performance

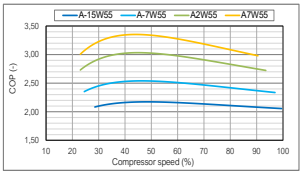


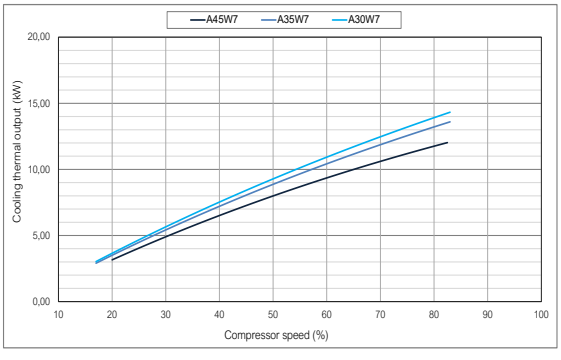


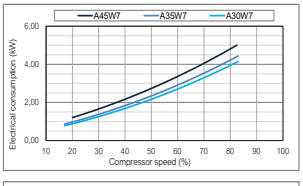


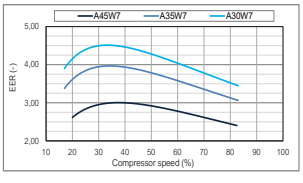




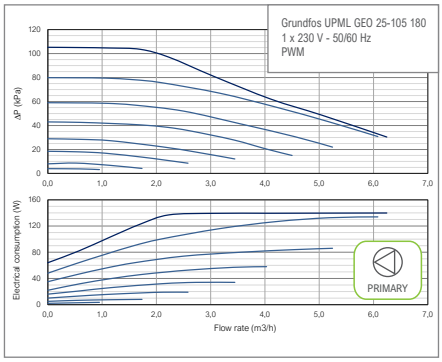


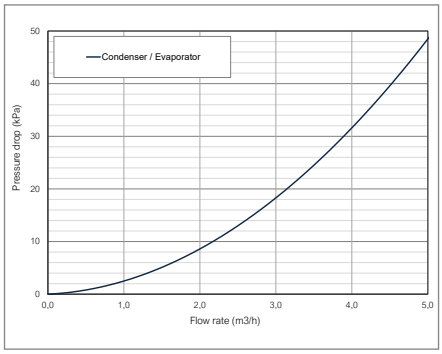






Hydraulic performance





ecoAIR+ EVI

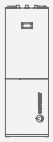
Residential range

Power ranges

ecoAIR+ EVI 4-20

Monobloc heat pump

Outdoor unit
ecoAIR+ EVI



Indoor unit
CM / HK HK-Compact

Services

DHW

Heating

Cooling

Pool

Indoor units

CM

Controller
Display

HK-EH

Controller
Display
Filling kit & filter
DHW 3-way valve
Support electrical heater

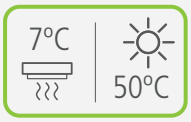
HK-Compact-EH

Controller
Display
Filling kit & filter
DHW 3-way valve
Support electrical heater
165l stainless steel DHW tank
Expansion vessel & safety valve

- Inverter technology
- Power ranges: 4-20 kW
- Unique EVI technology by means of the Flash Tank system allowing to offer the best performances even in the most unfavourable conditions
- Hot water production temperatures up to 65ºC
- Domestic hot water production
- Heating and pool production
- Integrated active cooling production
- Modulating speed fan
- Internet connection through the ecoSMART Easynet
- Integrated photovoltaic hybridisation
- Single-phase (230V) or three-phase (400V) power supply

Unique performances

DHW production and Heating



Cooling

Indoor units

CM / HK / HK-Compact

- Indoor hydraulic units to be used in combination with ecoAIR+ EVI monobloc aerothermal heat pumps.
- CM, HK & HK-Compact: including the electrical box that allows to control the heat pump.
- HK & HK-Compact: including the main hydraulic components of the installation in several combinations.
- HK-Compact: integrating a 165l stainless steel DHW tank.
- Plug&play compact units that make the hydraulic system simpler and the installation easier.
- Single-phase control electrical box.
- Single-phase or Three-phase optional support electrical heater.

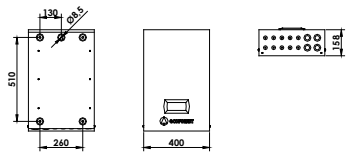
SPECIFICATIONS ecoAIR+ EVI INDOOR UNITS		UNITS	CM	HK	HK-Compact
				HK-EH	HK-Compact-EH
APPLICATION	Place of installation	-	Indoors		
	DHW	-	✓	✓	✓
	Heating and Pool	-	✓	✓	✓
	Cooling	-	✓	✓	✓
INTEGRATED HYRAULIC COMPONENTS	Filling kit and filter	-	-	✓	✓
	DHW three-way valve	-	-	✓	✓
	Support electrical heater	-	-	✓	✓
	Separation plate heat exchanger	-	-	-	-
	Secondary circuit circulation pump	-	-	-	-
	Stainless steel DHW tank	-	-	-	✓
	Primary / Secondary expansion vessel	-	-	-	✓(12l)
OPERATION LIMITS	Production circuit pressure	bar	-	0,5 - 3,0	
	DHW tank volume	l	-	-	165
	DHW tank maximum pressure	bar	-	-	8,0
	DHW tank maximum temperature	°C	-	-	80
CONTROL ELECTRICAL DATA	1/N/PE 230 V / 50-60 Hz [1]	-	✓		
	Recommended external protection	-	C16A		
	Transformer primary circuit fuse	A	0,5		
	Transformer secondary circuit fuse	A	2,5		
ELECTRICAL DATA: INTEGRATED SUPPORT ELECTRICAL HEATER	Supply: 1/N/PE 230Vac / 50-60 Hz [1]	-	-	✓	
	Number of elements	-	-	1-2-3	
	Recommended external protection 1-2-3	-	-	C10A-C16A-C20A	
	Maximum power consumption 1-2-3	kW	-	1,3-2,7-4,0	
	Maximum current consumption 1-2-3	A	-	6,3-12,6-18,9	
	Supply: 3/N/PE 400Vac / 50-60 Hz [1]	-	-	✓	
	Recommended external protection	-	-	C10A	
	Maximum power consumption	kW	-	4,0	
	Maximum current consumption	A	-	6,3	
	Correction of cosine Ø	-	-	0,96 / 1	
DIMENSIONS/WEIGHT	Height x width x depth	mm	600x400x158	713x525x304	1773x600x679
	Empty weight (without assembly)	kg	15	40	130

1. The admissible voltage range for proper operation of the heat pump is ±10%.

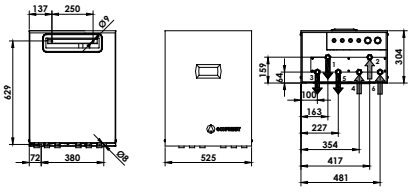
Dimensions and hydraulic connections

Indoor units

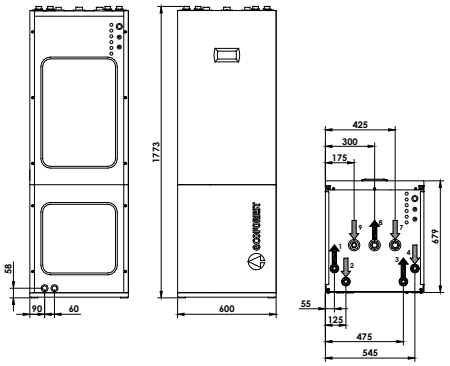
CM



HK



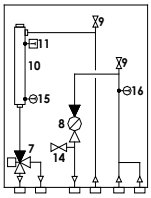
HK-Compact



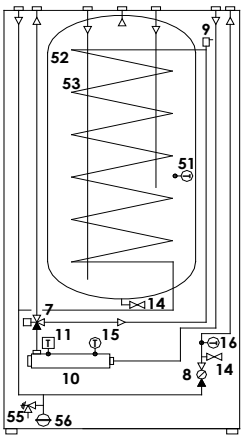
1. Outlet towards ecoAIR+ outdoor unit
2. Inlet from ecoAIR+ outdoor unit
3. Heating/Cooling outlet
4. Heating/Cooling inlet
5. DHW System outlet
6. DHW System inlet
7. CW Inlet
8. DHW outlet
9. DHW Recirculation inlet

Hydraulic characteristics

Hydraulic layouts



HK-EH



HK-Compact-EH

7. DHW three-way valve
8. Filterball
9. Manual air vent
10. Outlet support electrical heater
11. Safety thermostat
12. Separator plate heat exchanger
13. Secondary circuit circulation pump
14. Filling / Emptying valve
15. Production inlet temperature probe
16. Productin outlet temperature probe
52. 165l stainless steel DHW tank
53. Stainless steel tank coil
55. Safety valve
56. 12l expansion vessel
57. 8l expansion vessel

ecoAIR+ EVI 4-20

- **Modulating thermal power control** within a wide range (17-100%) and modulating flow rate control of the production circuit (20-100%).
- **EVI technology by means of Flash Tank system.**
- **Inverter technology and scroll compressor.**
- **Compact design including the production circulation pump in the outdoor unit.** Hydraulic connection within the outdoor unit and the indoor unit.
- **Integrated management of up to 3 different emission temperatures, 2 buffer tanks** (heating and cooling), **1 DHW tank, 1 pool and hourly control of DHW recirculation.**
- **Integrated management of simultaneous heating/cooling emission**, according to scheme.
- **Integrated management of external On/Off or modulating auxiliary systems**, such as electrical heaters, On/Off boilers or modulating boilers.
- **Integrated active cooling.**
- **Selection of the indoor unit** depending on the installation needs.
- **Single-phase and Three-phase versions available.**
- **Integrated photovoltaic hybridisation.**
- **Integrated energy meters** to measure the electrical consumption, the heating/cooling thermal power, the COP and the monthly and annual SPF.

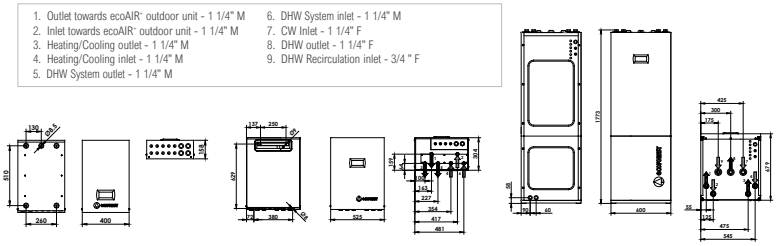
SPECIFICATIONS ecoAIR+ EVI 4-20		UNITS	
APPLICATION	Place of installation	-	Outdoors
	Type of brine system [1]	-	Air source
	DHW, Heating and Pool	-	✓
	Integrated Active cooling	-	✓
PERFORMANCE	Modulation range of the compressor	%	17 to 100
	Heating power output [2], A7W35	kW	4,0 to 20,5
	COP [2], A7W35	-	5,0
	Heating power output [2], A7W55	kW	8,8 to 20,8
	COP [2], A7W55	-	3,3
	Active cooling power output [2], A35W7	kW	4,0 to 14,8
	EER [2], A35W7	-	3,3
	Max. DHW temperature without / with support [5]	°C	63 / 80
	Noise power emission level [6]	db	63
	Energy label / ηs / SCOP W35 average climate control	-	A+++ / 184% / 4,57
	Energy label / ηs / SCOP W55 average climate control	-	A+++ / 155% / 3,84
OPERATION LIMITS	Distribution / Set heating outlet temperature range	°C	10 to 63 / 20 to 60
	Distribution / Set cooling outlet temperature range	°C	5 to 30 / 7 to 30
	Outdoor temperature range	°C	-22 to 50
	Minimum / Maximum refrigerant circuit pressure	bar	2,0 / 45,0
	Production circuit pressure	bar	0,5 to 3,0
WORKING FLUIDS	R410A Refrigerant load	kg	3,5
	Compressor oil type / load	kg	POE / 1,18
	Air Flow (75% fan)	m³/h	6771
CONTROL ELECTRICAL DATA	1/N/PE 230 V / 50-60 Hz [8]	-	✓
	Maximum recommended external protection [9]	-	C5A
	Transformer primary circuit fuse	A	0,5
	Transformer secondary circuit fuse	A	2,5
ELECTRICAL DATA: SINGLE-PHASE	1/N/PE 230 V / 50-60 Hz [8]	-	✓
	Maximum recommended external protection [9]	-	C40A
	Maximum consumption [2], A7W35	kW / A	5,3 / 23,0
	Maximum consumption [2], A7W55	kW / A	7,8 / 34,1
	Minimum / Maximum starting current [7]	A	10,8
	Correction of cosine Ø	-	0,87 / 1
ELECTRICAL DATA: THREE-PHASE	3/N/PE 400 V / 50-60Hz [8]	-	✓
	Maximum recommended external protection [9]	-	C16A
	Maximum consumption [2], A7W35	kW / A	5,3 / 7,7
	Maximum consumption [2], A7W55	kW / A	7,8 / 11,4
	Minimum / Maximum starting current [7]	A	3,6
	Correction of cosine Ø	-	0,87 / 1
DIMENSIONS/WEIGHT	Height x width x depth	mm	1254x1350x625
	Empty weight (without assembly)	kg	177

1. Outdoor air-to-water monobloc unit.
2. In compliance with EN 14511, this includes the consumption of the circulation pumps and the compressor driver.
3. Considering production flow rate in compliance with EN 14511.
4. Considering a heat slope from 20°C to 50°C in absence of consumption.
5. Considering support provided by the emergency electrical heater.
6. In compliance with EN 12102.
7. Starting current depends on the working conditions of the hydraulic circuits.
8. The admissible voltage range for proper operation of the heat pump is ±10%.
9. Maximum consumption can vary significantly according to working conditions, or if the compressor's operation range is restricted. Consult the technical service manual for more detailed information.
10. Certification in process.

Dimensions and hydraulic connections

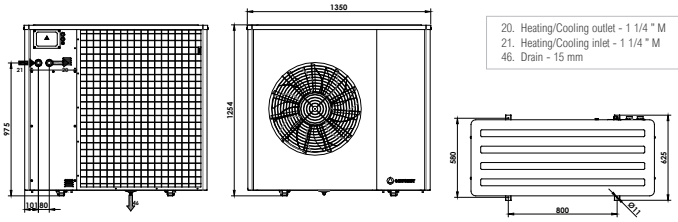
Indoor units

1. Outlet towards ecoAIR+ outdoor unit - 1 1/4" M
2. Inlet towards ecoAIR+ outdoor unit - 1 1/4" M
3. Heating/Cooling outlet - 1 1/4" M
4. Heating/Cooling inlet - 1 1/4" M
5. DHW System outlet - 1 1/4" M
6. DHW System inlet - 1 1/4" M
7. CW Inlet - 1 1/4" F
8. DHW outlet - 1 1/4" F
9. DHW Recirculation inlet - 3/4 " F



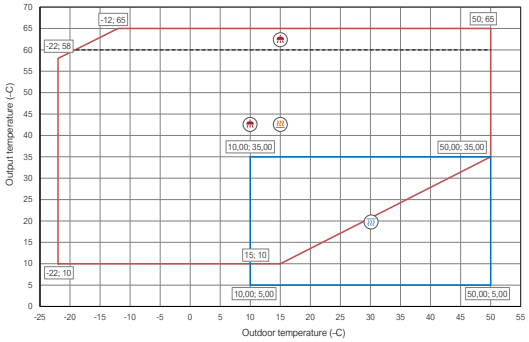
CM | Hidrokit | Hidrokit Compact

Outdoor unit - ecoAIR+

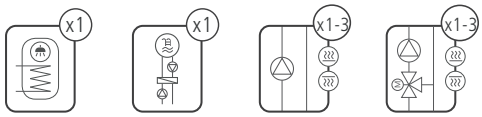


20. Heating/Cooling outlet - 1 1/4 " M
21. Heating/Cooling inlet - 1 1/4 " M
46. Drain - 15 mm

Operational chart

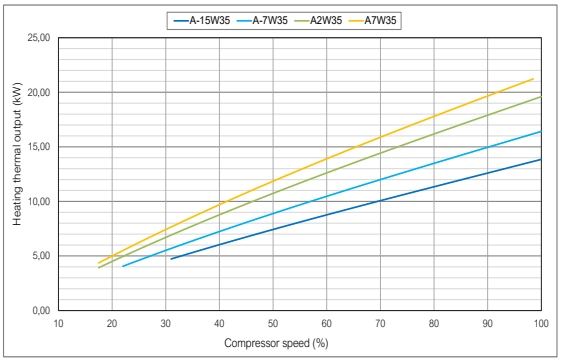


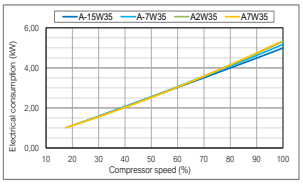
Installation management

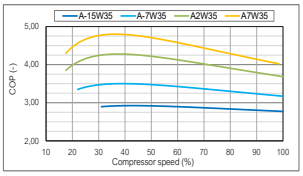


Performance curves

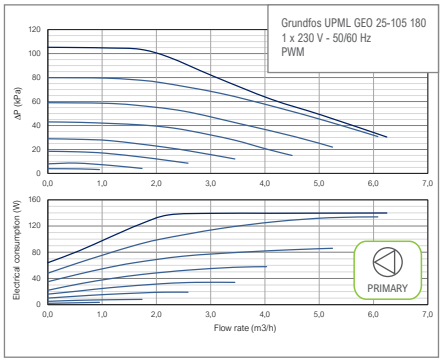
Thermal performance

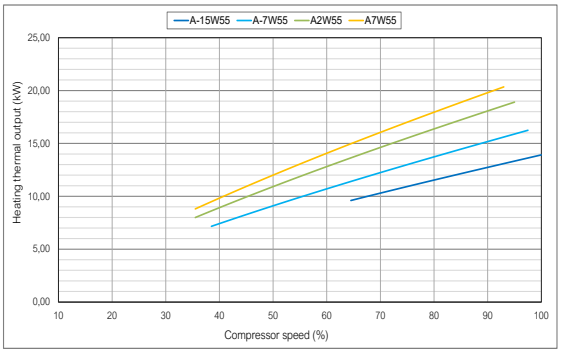


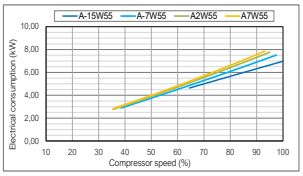


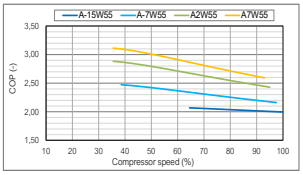


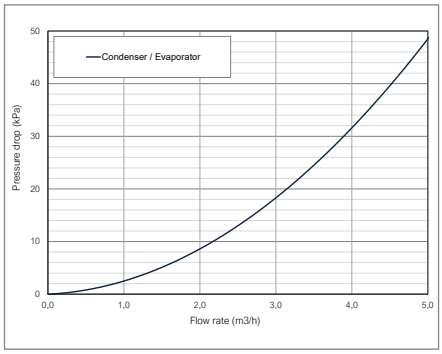
Hydraulic performance

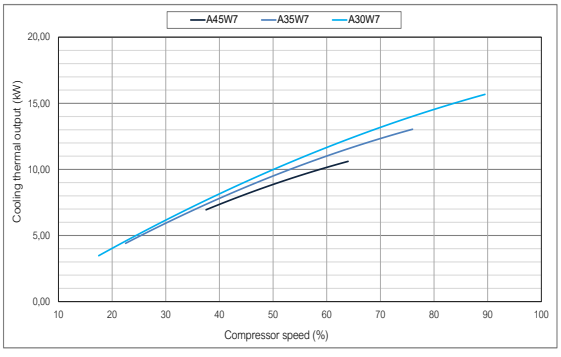


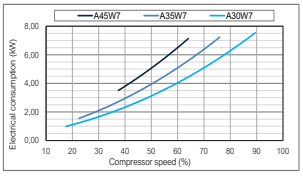


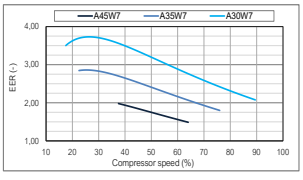












Notes

Notes

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