

TECHNICAL DATA SHEETS

ecoGEO & AU

Water-to-water air source heat pumps



ecoGEO & AU

Inverter water-to-water air source, a unique solution

The ecoGEO range is the Ecoforest range of water-to-water heat pumps. These heat pumps, both domestic and high power, are compatible with aerothermal collection systems and even with hybrid aerothermal-geothermal collection systems. Likewise, they are also capable of offering all the services required in a HVAC system in an integrated way: DHW, Heating, Pool and Active Cooling.



All ecoGEO 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. In addition, this air source solution presents a series of considerable advantages compared to conventional aerothermal units: a lower acoustic emission level, a unique defrost system that results in higher seasonal performance, and an easier installation. Thanks to the technology and control strategies developed by Ecoforest, the installation of ecoGEO heat pumps 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.

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ecoGEO Basic/Compact & AU

Domestic range



Power ranges

ecoGEO 1-6 kW & AU6



ecoGEO 1-9 kW & AU12



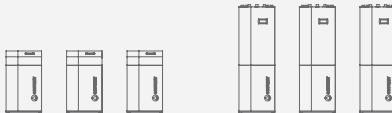
ecoGEO 3-12 kW & AU12



ecoGEO 5-22 kW & AU22



Cascade



Services



DHW



Heating



Cooling



Pool

Models

ecoGEO B2/C2 & AU

DHW
Heating
Pool

ecoGEO B4/C4 & AU

DHW
Heating
Pool
Active Cooling



Inverter technology

Power ranges: 1-6 kW / 1-9 kW / 3-12 kW / 5-22 kW

Domestic hot water production

Heating and pool production

Integrated active cooling production

Modulating speed hydraulic aerothermal unit

Internet connection through the ecoSMART Easynet

Photovoltaic hybridization through ecoSMART e-manager & e-system energy managers

HTR technology for DHW production up to 70°C and simultaneous production of several services

Natural refrigerant used in ecoGEO PRO models allowing DHW production temperature up to 75°C

Integrated cascade management up to 3 units

Single-phase (230V) or three-phase (400V) power supply

Exclusive performances



ecoGEO defrost system



Minimum sound level



Limitless layout



Greater lifespan



Outdoor aerothal units

AU6 / AU12 / AU22

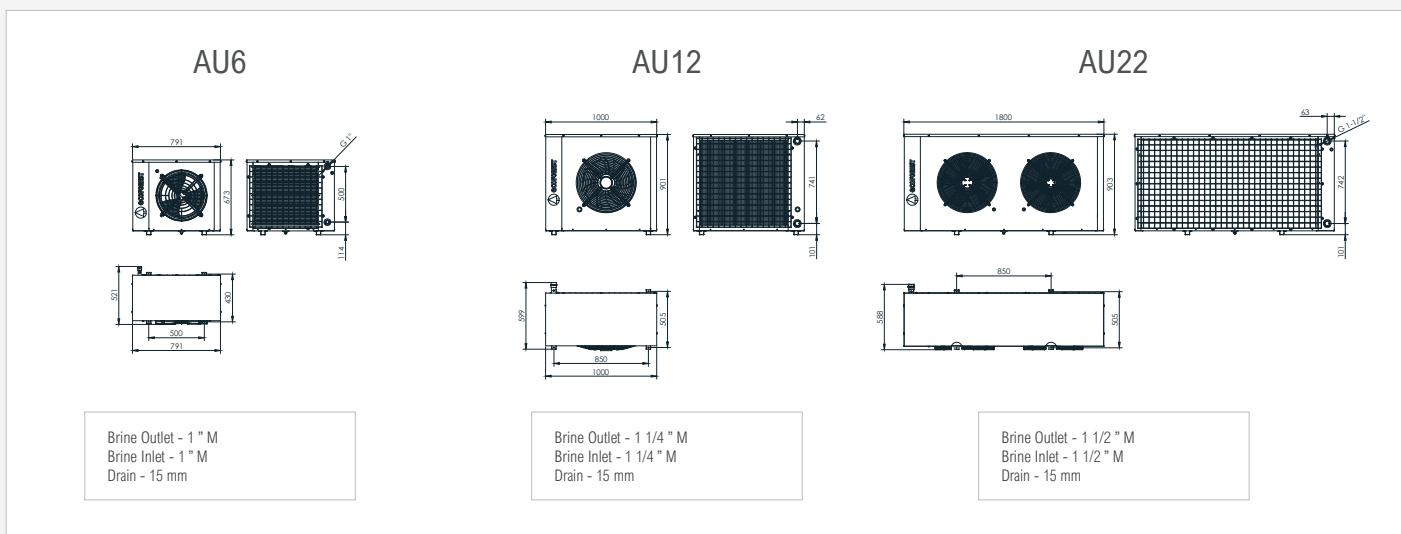
- Outdoor aerothal units.
- Compatibles with ecoGEO B2/C2/B4/C4 models.
- Modulating collection thermal power control by means of the modulation of the fan speed (25-100%) and the modulaton of the flow rate control of the brine circulation pump (20-100%).
- Exclusively hydraulic air source system allowing to replace a geothermal collection system by an aerothal or a hybrid geothermal-aerothal system.
- ecoGEO defrost system: defrosting without starting the compressor or activating electrical support systems.
- Working condition as collection system as well as dissipation system.
- Enhanced lifespan of the heat pump, which is placed indoors, compared to outdoor conventional monoblock or biblock units.
- Selection of the defrosting energy source: the ecoGEO control strategies allow to select the energy source for defrosting cycles depending of the installation features (DHW tank, heating buffer tank, pool, ...).

SPECIFICATIONS AU		UNITS	AU6	AU12	AU22
COMPATIBILITY AND DIMENSIONING	ecoGEO compatible models ¹	-	B2 / C2 / B4 / C4		
	Aerothal collection with ecoGEO 1-6 kW PRO	-	✓	-	-
	Aerothal collection with ecoGEO 1-9 kW	-	-	✓	-
	Aerothal collection with ecoGEO 3-12 kW	-	-	✓	-
	Aerothal collection with ecoGEO 5-22 kW	-	-	✓	✓
	Hybrid ground-air collection with ecoGEO 3-12 kW	-	-	✓	-
	Hybrid ground-air collection with ecoGEO 5-22 kW	-	-	✓	✓
DEFROSTING	ecoGEO defrosting system ²	-	Source selection: DHW / Heating / Pool		
	Defrosted water volume per defrosting cycle	l	3	6	12
OPERATION LIMITS	Minimum / Maximum outdoor temperature	°C	-12 / 42		
	Minimum / Maximum working fluid temperature	°C	-18 / 55		
WORKING FLUIDS	Recommended working fluid ³	-	Water-propylene glycol mixture		
	Freezing temperature ⁴	°C	-25		
	Filling volume	l	6	19	33
SOUND LEVEL	Maximum pressure	bar	6		
	Sound pressure level ⁵ (L _{PA}) - 2,5 m	dBA	50		
	Sound pressure level ⁵ (L _{PA}) - 5 m	dBA	47		
ELECTRICAL DATA: SINGLE-PHASE	Sound pressure level ⁵ (L _{PA}) - 10 m	dBA	40		
	1/N/PE 230 V / 50-60 Hz ⁶	-	✓		
	Number of fans	-	1	1	2
	Maximum consumption	W / A	140 / 1,15	163 / 1,34	326 / 2,68
HYDRAULIC CONNECTIONS	Correction of cosine Ø	-	0,96/1		
	Working fluid inlet and outlet	-	G1 " M	G1 1/4 " M	G1 1/2 " M
	Drain diameter	mm	15		
DIMENSIONS AND WEIGHT	Height x width x depth	mm	670x790x500	900x1000x600	900x1800x600
	Fan diameter	mm	400	450	450
	Nozzle diameter	mm	540		
	Empty weight (without assembly)	kg	54	92	175

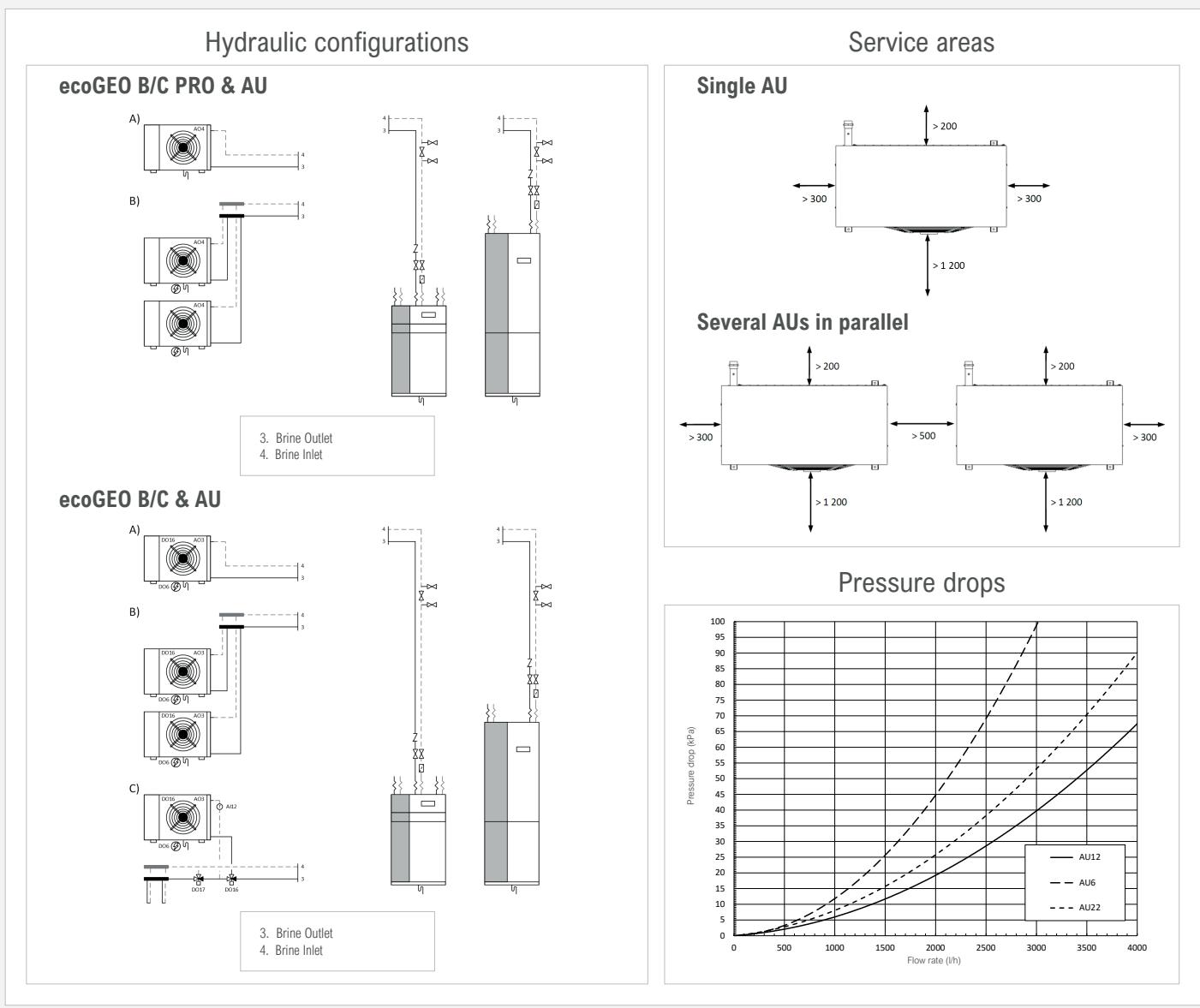
1. Air source/Hybrid source by replacing/combining the ground source circuit by/with one or more ecoGEO AU. Consult the ecoGEO AU manual for more detailed information.
2. Compressor turned off. Defrosting cycle by means of the thermal energy directly taken from the DHW tank, heating tank or pool. Compatible with the ecoGEO B2/B4/C2/C4 heat pump models.
3. Consult local regulations before selecting the antifreeze for the working fluid mixture.
4. Adapt the freezing temperature to the type of installation and the location climatic conditions and configure the corresponding protections. Prepare the antifreeze-water mixture in the right proportions depending on the required freezing temperature.
5. Sound pressure level calculated in compliance with UNE-EN-ISO 3746:2010, maximum fan speed conditions in default configuration settings.
6. Admissible voltage for the correct operation of the unit: ± 10%.

Dimensions and hydraulic connections

Outdoor unit - AU



Layout and pressure drop



ecoGEO B/C 1-6 PRO & AU6

R290

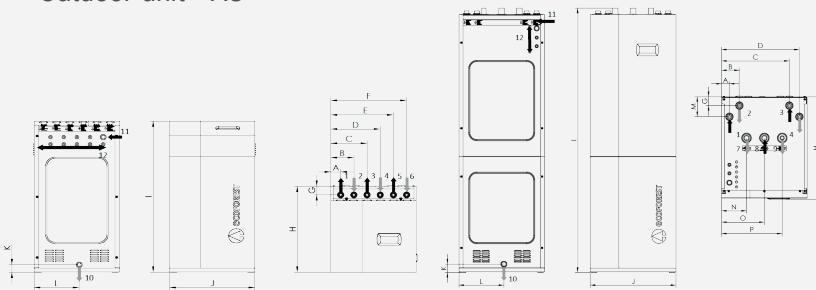
- Modulating thermal power control within a wide range (15-100%) and modulating flow rate control of both brine and production circuits (20-100%).
- Natural refrigerant R290 : GWP 3.
- Inverter technology.
- Compact design including brine and production circulation pumps, brine and production expansion vessels (8l and 12l respectively), brine and production safety valves and DHW three-way valve.
- Integrated management of up to 2 different emission temperatures, 1 buffer tank (heating and cooling), 1 DHW tank, 1 pool and hourly control of DHW recirculation.
- Integrated management of aerothermal collection modulating units, in case of air source configurations.
- Integrated management of external On/Off or modulating auxiliary systems, such as electrical heaters, On/Off boilers or modulating boilers.
- Exclusive defrosting system.
- Integrated active cooling in models 4.
- Single-phase version available.
- Compatible with ecoSMART e-manager and ecoSMART e-system.
- Integrated energy meters to measure the electrical consumption, the heating/cooling thermal power, the COP and the monthly and annual SPF.

SPECIFICATIONS ecoGEO B/C 1-6 PRO & AU6		UNITS	B2/C2	B4/C4
APPLICATION	Place of installation	-	Indoors: ecoGEO 1-6 PRO · Outdoors: AU6	
	Type of brine system ¹	-	Air source	
	DHW, Heating and Pool	-	✓	✓
	High Temperature Recovery (HTR) system option	-	-	-
	Integrated Active cooling	-	-	✓
	Integrated ecoGEO defrosting system	-	✓	✓
PERFORMANCE	Modulation range of the compressor	%	15 to 100	
	Heating power output ^{2,10} , A7W35	kW	1,0 to 5,8	
	COP ^{2,10} , A7W35	-	4,7	
	Active cooling power output ^{2,10} , A35W7	kW	-	1,0 to 5,4
	EER ^{2,10} , A35W7	-	-	3,7
	Max. DHW temperature without / with support ⁵	°C	75 / 80	
	Noise power emission level ^{6,10}	db	33 to 44	
	Energy label / η_S / SCOP W35 average climate control	-	A++ / 145% / 3,70	
OPERATION LIMITS	Energy label / η_S / SCOP W55 average climate control	-	A+ / 115% / 2,94	
	Distribution / Set heating outlet temperature range	°C	10 to 75 / 20 to 75	
	Distribution / Set cooling outlet temperature range	°C	-	4 to 35 / 7 to 25
	Brine inlet temperature range in heating applications	°C	-25 to 35	
	Brine inlet temperature range in cooling applications	°C	-	10 to 75
	Minimum / Maximum refrigerant circuit pressure	bar	0,7 / 31,5	
	Production / Pre-load circuit pressure	bar	0,5 to 3,0 / 1,5	
	Brine / Pre-load circuit pressure	bar	0,5 to 3,0 / 0,7	
WORKING FLUIDS	Volume / Max. DHW storage tank pressure (ecoGEO C)	l / bar	165 / 8	
	R290 Refrigerant load	kg	0,15	
	Compressor oil type / load	kg	PZ46M / 0,3	
CONTROL ELECTRICAL DATA	1/N/PE 230 V / 50-60 Hz ⁸	-	✓	
	Maximum recommended external protection ⁹	-	C10A	
	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 , B0W35	kW / A	1,7 / 7,6	
	Maximum consumption ² , B0W55	kW / A	0,8 / 3,2	
	Minimum / Maximum starting current ⁷	A	1,3 / 5,7	
DIMENSIONS/WEIGHT	Correction of cosine \varnothing	-	0,96/1	
	Height x width x depth	mm	ecoGEO B: 1060x550x602 · ecoGEO C: 1804x600x720 / AU6: 670x790x500	
	Empty weight (without assembly)	kg	ecoGEO B: 133 · ecoGEO C: 194 / AU6: 54	

1. Air source by replacing the ground source circuit by one or more ecoGEO AU air units. Consult the ecoGEO AU aerothermal units manual for more detailed information.
2. In compliance with EN 14511, this includes the consumption of the circulation pumps and the compressor driver.
3. Considering brine and production flow rates 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, this includes the acoustic insulation kit of the compressor.
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

Outdoor unit - AU

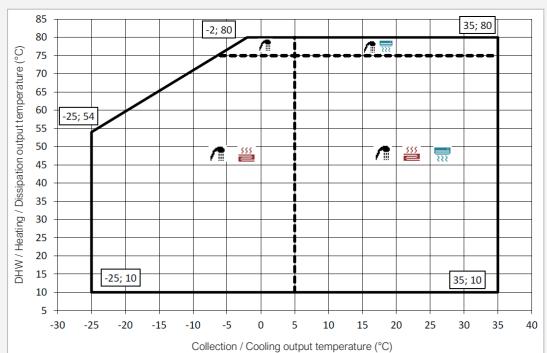


MODEL	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
ecoGEO Basic	63	148	233	318	403	488	60	602	1058	550	53	290	-	-	-	
ecoGEO Compact	55	125	475	545	-	-	62	720	1851	600	58	315	140	175	300	425

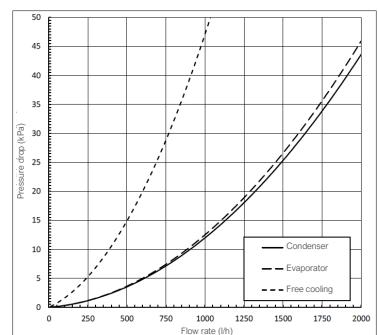
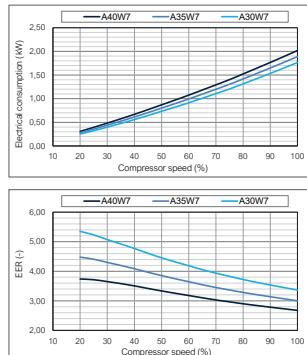
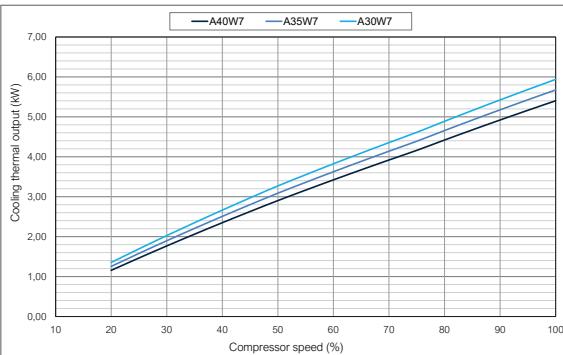
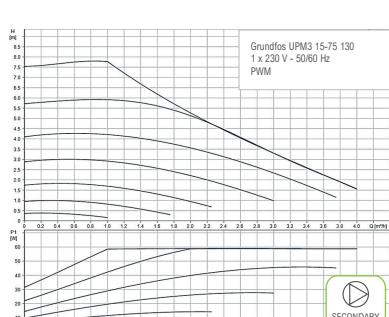
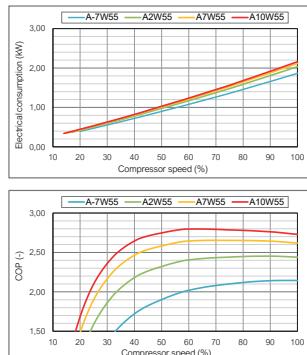
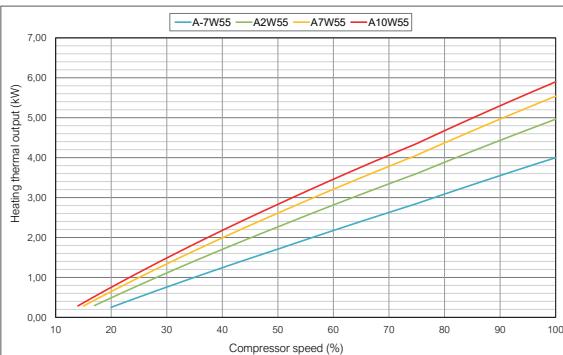
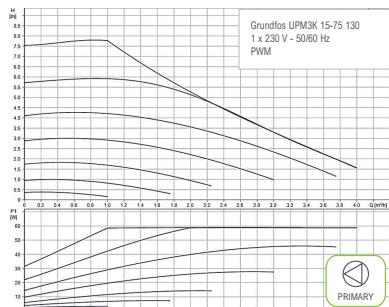
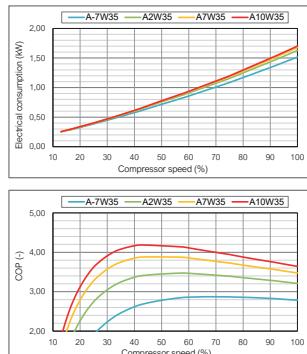
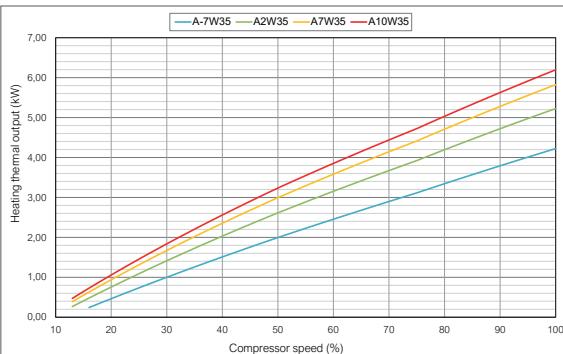
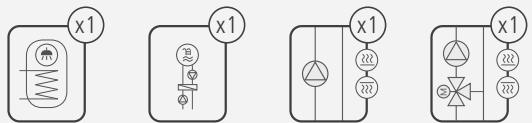
- 1. Heating/Cooling Outlet - 1" M
- 2. Heating/Cooling Inlet - 1" M
- 3. Brine Outlet - 1" M
- 4. Brine Inlet - 1" M
- 5. DHW System Outlet - 1" M
- 6. DHW System Inlet - 1" M
- 7. DCW Inlet - 1" F
- 8. DHW Outlet - 1" F
- 9. DHW Recirculation Inlet - 3/4" F
- 10. Drain - 16 mm

Performance curves

Operational chart



Installation management



ecoGEO B/C 1-9 & AU12

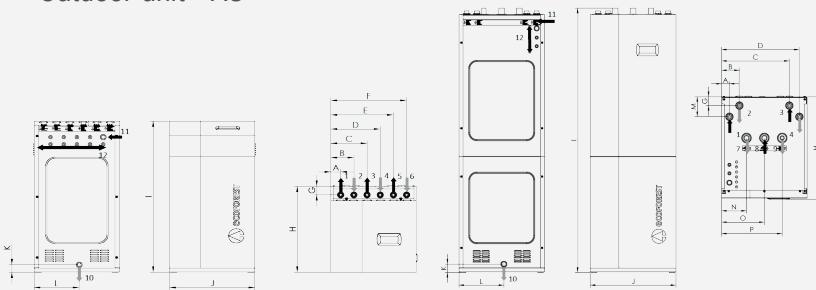
- Modulating thermal power control within a wide range (20-100%) and modulating flow rate control of both brine and production circuits (20-100%).
- Inverter technology and scroll compressor.
- Compact design including brine and production circulation pumps, brine and production expansion vessels (8l and 12l respectively), brine and production safety valves and DHW three-way valve.
- High Temperature Recovery system (HTR) for DHW production up to 70 °C without electrical support and simultaneous production of DHW and heating/cooling.
- 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 aerothal collection modulating units, in case of air source or hybrid configurations.
- Integrated management of external On/Off or modulating auxiliary systems, such as electrical heaters, On/Off boilers or modulating boilers.
- Integrated management of cascade systems up to 3 units.
- Exclusive defrosting system.
- Integrated active cooling in models 4.
- Single-phase and Three-phase versions available.
- Compatible with ecoSMART e-manager and ecoSMART e-system.
- Integrated energy meters to measure the electrical consumption, the heating/cooling thermal power, the COP and the monthly and annual SPF.

SPECIFICATIONS ecoGEO B/C 1-9 & AU12		UNITS	B2/C2	B4/C4
APPLICATION	Place of installation	-	Indoors: ecoGEO 1-9 · Outdoors: AU12	
	Type of brine system ¹	-	Air source	
	DHW, Heating and Pool	-	✓	✓
	High Temperature Recovery (HTR) system option	-	✓	✓ by default
	Integrated Active cooling	-	-	✓
	Integrated ecoGEO defrosting system	-	✓	✓
PERFORMANCE	Modulation range of the compressor	%	20 to 100	
	Heating power output ² , A7W35	kW	1,3 to 11,0	
	COP ² , A7W35	-	5,0	
	Active cooling power output ² , A35W7	kW	-	1,8 to 8,7
	Max. DHW temperature without / with support ⁵	°C	63 / 70	
	Noise power emission level ⁶	db	33 to 44	
OPERATION LIMITS	Energy label / η_S / SCOP W35 average climate control	-	A+++ / 182% / 4,63	
	Energy label / η_S / SCOP W55 average climate control	-	A++ / 143% / 3,65	
	Distribution / Set heating outlet temperature range	°C	10 to 60 / 20 to 60	
	Distribution / Set cooling outlet temperature range	°C	4 to 35 / 7 to 25	
	Brine inlet temperature range in heating applications	°C	-25 to 35	
	Brine inlet temperature range in cooling applications	°C	10 to 60	
WORKING FLUIDS	Minimum / Maximum refrigerant circuit pressure	bar	2 / 45	
	Production / Pre-load circuit pressure	bar	0,5 to 3,0 / 1,5	
	Brine / Pre-load circuit pressure	bar	0,5 to 3,0 / 0,7	
	Volume / Max. DHW storage tank pressure (ecoGEO C)	l / bar	165 / 8	
	R410A Refrigerant load without HTR / with HTR	kg	0,75 / 0,85	1,0
	Compressor oil type / load	kg	POE / 0,74	
CONTROL ELECTRICAL DATA	1/N/PE 230 V / 50-60 Hz ⁸	-	✓	
	Maximum recommended external protection ⁹	-	C10A	
	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 , B0W35	kW / A	2,7 / 11,8	
	Maximum consumption ² , B0W55	kW / A	3,8 / 16,5	
	Minimum / Maximum starting current ⁷	A	2,8 / 5,8	
	Correction of cosine Ø	-	0,96/1	
ELECTRICAL DATA: THREEEE-PHASE	3/N/PE 400 V / 50-60Hz ⁸	-	✓	
	Maximum recommended external protection ⁹	-	C10A	
	Maximum consumption ² , B0W35	kW / A	2,7 / 4,0	
	Maximum consumption ² , B0W55	kW / A	3,8 / 5,5	
	Minimum / Maximum starting current ⁷	A	0,9 / 1,9	
	Correction of cosine Ø	-	0,96-1	
DIMENSIONS/WEIGHT	Height x width x depth	mm	ecoGEO B: 1060x600x710 · ecoGEO C: 1804x600x720 / AU12: 900x1000x600	
	Empty weight (without assembly)	kg	ecoGEO B: 192 · ecoGEO C: 253 / AU12: 92	

1. Air source/Hybrid source by replacing/combining the ground source circuit by/with one or more ecoGEO AU. Consult the ecoGEO AU manual for more detailed information.
2. In compliance with EN 14511, this includes the consumption of the circulation pumps and the compressor driver.
3. Considering brine and production flow rates 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 or the HTR system. Maximum DHW temperature with the HTR system can be limited by the compressor discharge temperature.
6. In compliance with EN 12102, this includes the acoustic insulation kit of the compressor.
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

Outdoor unit - AU

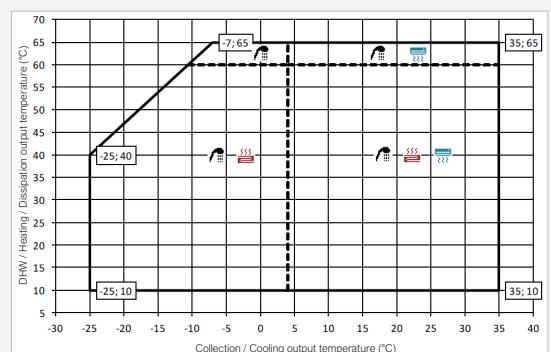


MODEL	DIMENSIONS (mm)														
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P
ecoGEO Basic	55	153	251	349	447	545	70	710	1058	600	61	300	-	-	-
ecoGEO Compact	55	125	475	545	-	-	62	720	1851	600	58	315	140	175	425

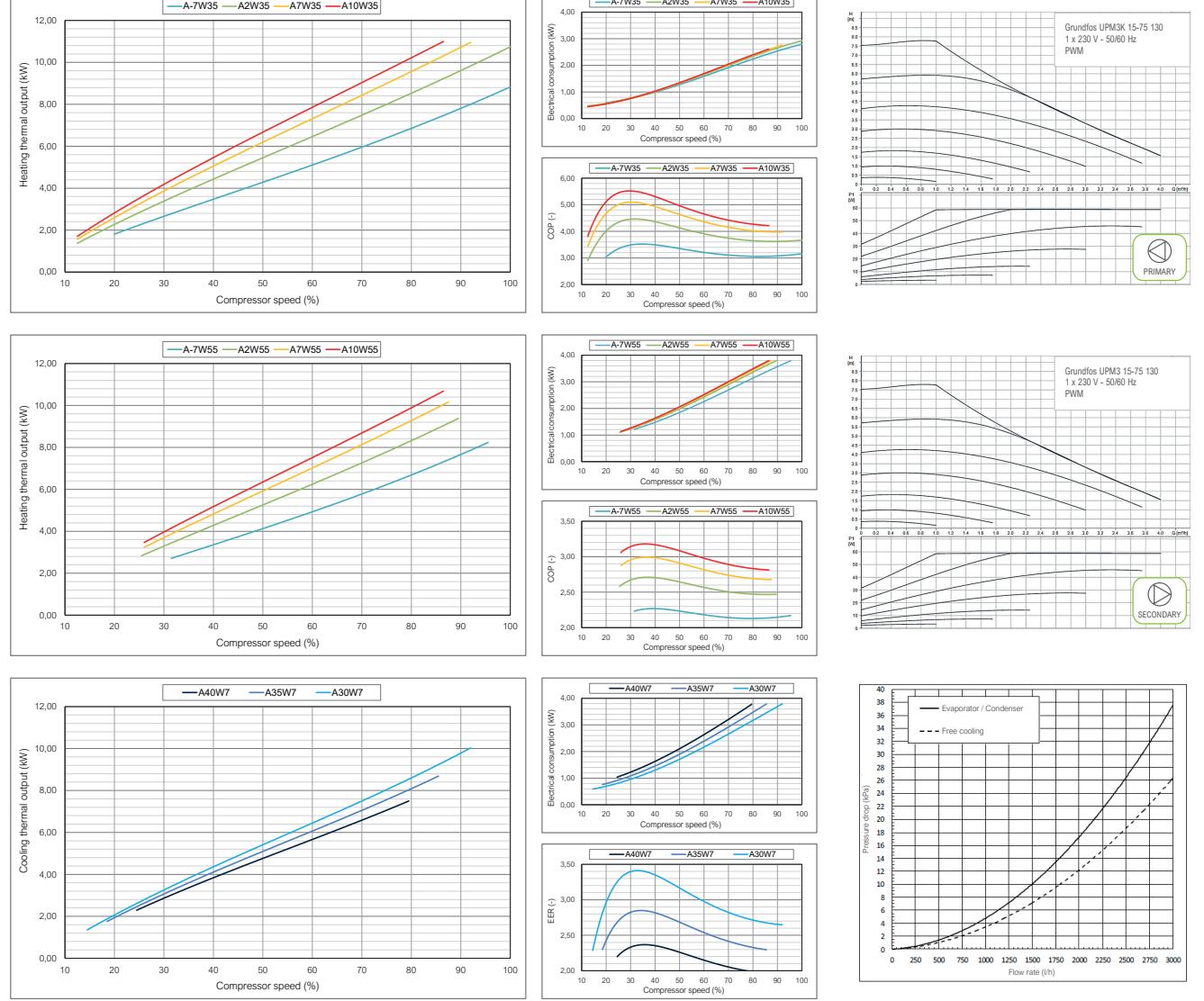
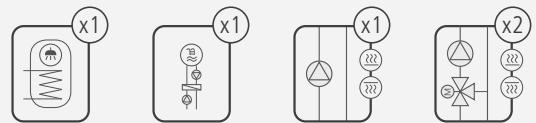
- 1. Heating/Cooling Outlet - 1" M
- 2. Heating/Cooling Inlet - 1" M
- 3. Brine Outlet - 1" M
- 4. Brine Inlet - 1" M
- 5. DHW System Outlet - 1" M
- 6. DHW System Inlet - 1" M
- 7. DCW Inlet - 1" F
- 8. DHW Outlet - 1" F
- 9. DHW Recirculation Inlet - 3/4" F
- 10. Drain - 16 mm

Performance curves

Operational chart



Installation management



ecoGEO B/C 3-12 & AU12

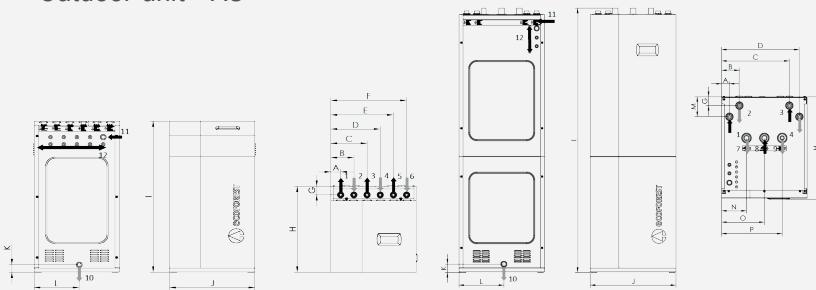
- Modulating thermal power control within a wide range (20-100%) and modulating flow rate control of both brine and production circuits (20-100%).
- Inverter technology and scroll compressor.
- Compact design including brine and production circulation pumps, brine and production expansion vessels (8l and 12l respectively), brine and production safety valves and DHW three-way valve.
- High Temperature Recovery system (HTR) for DHW production up to 70 °C without electrical support and simultaneous production of DHW and heating/cooling.
- 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 aerothal collection modulating units, in case of air source or hybrid configurations.
- Integrated management of external On/Off or modulating auxiliary systems, such as electrical heaters, On/Off boilers or modulating boilers.
- Integrated management of cascade systems up to 3 units.
- Exclusive defrosting system.
- Integrated active cooling in models 4.
- Single-phase and Three-phase versions available.
- Compatible with ecoSMART e-manager and ecoSMART e-system.
- Integrated energy meters to measure the electrical consumption, the heating/cooling thermal power, the COP and the monthly and annual SPF.

SPECIFICATIONS ecoGEO B/C 3-12 & AU12		UNITS	B2/C2	B4/C4
APPLICATION	Place of installation	-	Indoors: ecoGEO 3-12 · Outdoors: AU12	
	Type of brine system ¹	-	Air source	
	DHW, Heating and Pool	-	✓	✓
	High Temperature Recovery (HTR) system option	-	✓	✓ by default
	Integrated Active cooling	-	-	✓
	Integrated ecoGEO defrosting system	-	✓	✓
PERFORMANCE	Modulation range of the compressor	%	20 to 100	
	Heating power output ² , A7W35	kW	2,3 to 14,6	
	COP ² , A7W35	-	4,9	
	Active cooling power output ² , A35W7	kW	-	2,4 to 11,4
	Max. DHW temperature without / with support ⁵	°C	63 / 70	
	Noise power emission level ⁶	db	34 to 45	
OPERATION LIMITS	Energy label / η_S / SCOP W35 average climate control	-	A+++ / 190% / 4,83	
	Energy label / η_S / SCOP W55 average climate control	-	A++ / 143% / 3,64	
	Distribution / Set heating outlet temperature range	°C	10 to 60 / 20 to 60	
	Distribution / Set cooling outlet temperature range	°C	4 to 35 / 7 to 25	
	Brine inlet temperature range in heating applications	°C	-25 to 35	
	Brine inlet temperature range in cooling applications	°C	10 to 60	
WORKING FLUIDS	Minimum / Maximum refrigerant circuit pressure	bar	2 / 45	
	Production / Pre-load circuit pressure	bar	0,5 to 3,0 / 1,5	
	Brine / Pre-load circuit pressure	bar	0,5 to 3,0 / 0,7	
	Volume / Max. DHW storage tank pressure (ecoGEO C)	l / bar	165 / 8	
	R410A Refrigerant load without HTR / with HTR	kg	0,9 / 1,0	1,0
	Compressor oil type / load	kg	POE / 0,74	
CONTROL ELECTRICAL DATA	1/N/PE 230 V / 50-60 Hz ⁸	-	✓	
	Maximum recommended external protection ⁹	-	C16A	
	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 , B0W35	kW / A	4,2 / 18,6	
	Maximum consumption ² , B0W55	kW / A	5,0 / 21,7	
	Minimum / Maximum starting current ⁷	A	2,0 / 8,0	
	Correction of cosine Ø	-	0,96/1	
ELECTRICAL DATA: THREEEE-PHASE	3/N/PE 400 V / 50-60Hz ⁸	-	✓	
	Maximum recommended external protection ⁹	-	C16A	
	Maximum consumption ² , B0W35	kW / A	4,2 / 6,2	
	Maximum consumption ² , B0W55	kW / A	5,0 / 7,2	
	Minimum / Maximum starting current ⁷	A	0,7 / 2,6	
	Correction of cosine Ø	-	0,96-1	
DIMENSIONS/WEIGHT	Height x width x depth	mm	ecoGEO B: 1060x600x710 · ecoGEO C: 1804x600x720 / AU12: 900x1000x600	
	Empty weight (without assembly)	kg	ecoGEO B: 193 · ecoGEO C: 254 / AU12: 92	

1. Air source/Hybrid source by replacing/combining the ground source circuit by/with one or more ecoGEO AU. Consult the ecoGEO AU manual for more detailed information.
2. In compliance with EN 14511, this includes the consumption of the circulation pumps and the compressor driver.
3. Considering brine and production flow rates 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 or the HTR system. Maximum DHW temperature with the HTR system can be limited by the compressor discharge temperature.
6. In compliance with EN 12102, this includes the acoustic insulation kit of the compressor.
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

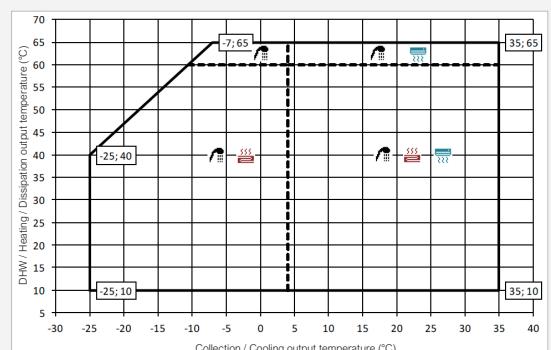
Outdoor unit - AU



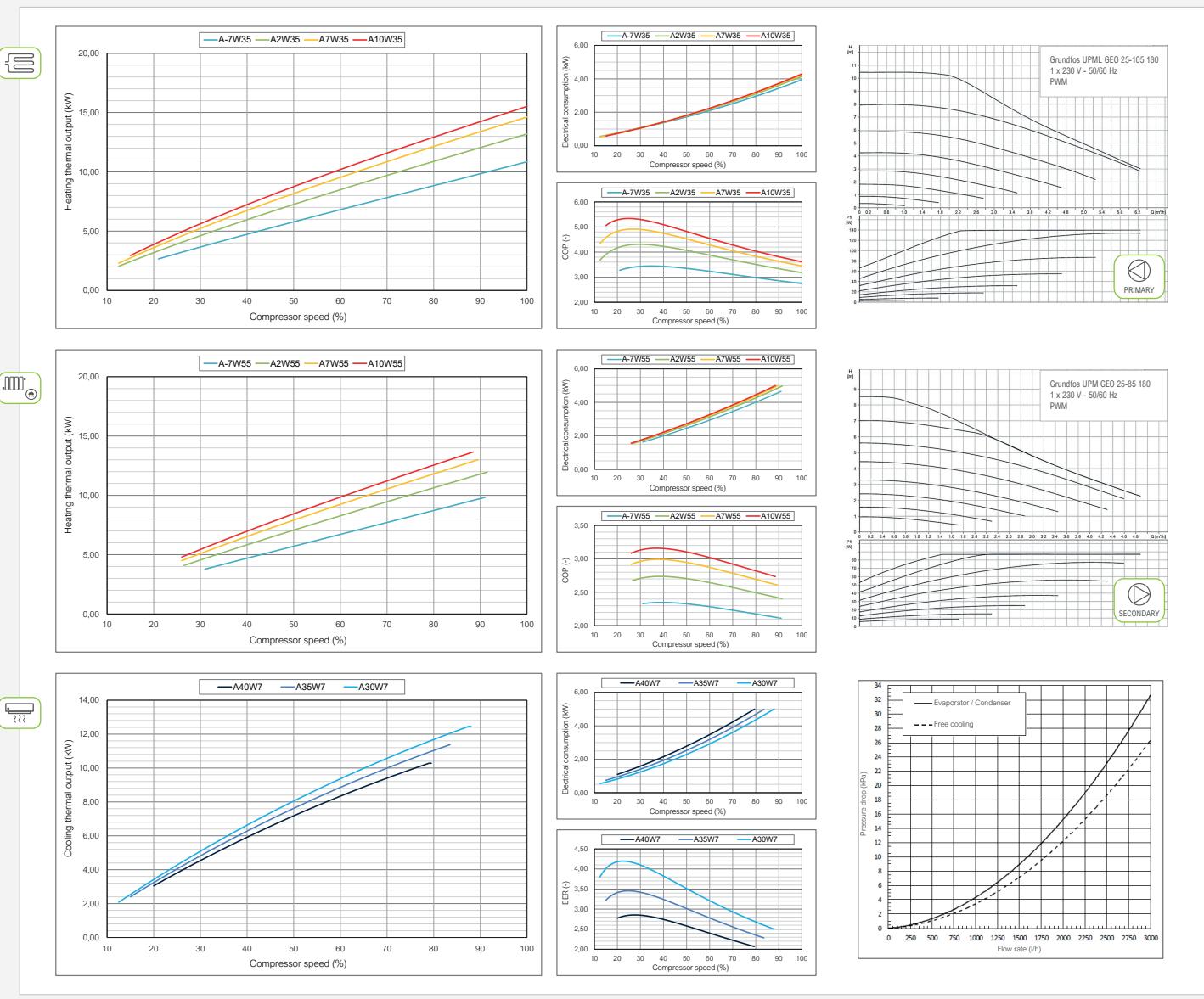
MODEL	DIMENSIONS (mm)														
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P
ecoGEO Basic	55	153	251	349	447	545	70	710	1058	600	61	300	-	-	-
ecoGEO Compact	55	125	475	545	-	-	62	720	1851	600	58	315	140	175	425

- | | |
|---------------------------------------|--------------------------------------|
| 1. Heating/Cooling Outlet - 1 1/4 " M | 6. DHW System Inlet - 1 1/4 " M |
| 2. Heating/Cooling Inlet - 1 1/4 " M | 7. DCW Inlet - 1 " F |
| 3. Brine Outlet - 1 1/4 " M | 8. DHW Outlet - 1 " F |
| 4. Brine Inlet - 1 1/4 " M | 9. DHW Recirculation Inlet - 3/4 " F |
| 5. DHW System Outlet - 1 1/4 " M | 10. Drain - 16 mm |

Operational chart



Performance curves



ecoGEO B/C 5-22 & AU12

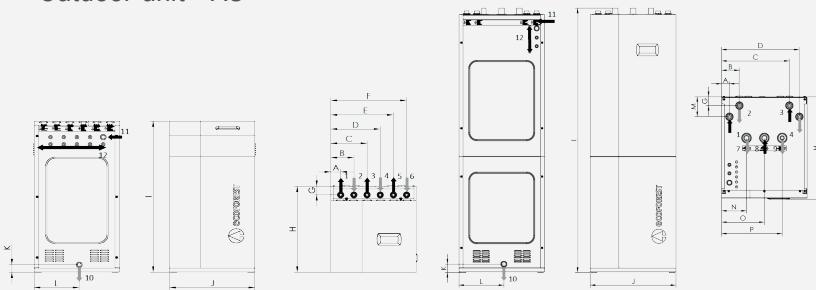
- Modulating thermal power control within a wide range (20-100%) and modulating flow rate control of both brine and production circuits (20-100%).
- Inverter technology and scroll compressor.
- Compact design including brine and production circulation pumps, brine and production expansion vessels (8l and 12l respectively), brine and production safety valves and DHW three-way valve.
- High Temperature Recovery system (HTR) for DHW production up to 70 °C without electrical support and simultaneous production of DHW and heating/cooling.
- 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 aerothal collection modulating units, in case of air source or hybrid configurations.
- Integrated management of external On/Off or modulating auxiliary systems, such as electrical heaters, On/Off boilers or modulating boilers.
- Integrated management of cascade systems up to 3 units.
- Exclusive defrosting system.
- Integrated active cooling in models 4.
- Single-phase and Three-phase versions available.
- Compatible with ecoSMART e-manager and ecoSMART e-system.
- Integrated energy meters to measure the electrical consumption, the heating/cooling thermal power, the COP and the monthly and annual SPF.

SPECIFICATIONS ecoGEO B/C 5-22 & AU12		UNITS	B2/C2	B4/C4
APPLICATION	Place of installation	-	Indoors: ecoGEO 5-22 · Outdoors: AU12	
	Type of brine system ¹	-	Air source	
	DHW, Heating and Pool	-	✓	✓
	High Temperature Recovery (HTR) system option	-	✓	✓ by default
	Integrated Active cooling	-	-	✓
	Integrated ecoGEO defrosting system	-	✓	✓
PERFORMANCE	Modulation range of the compressor	%	20 to 100	
	Heating power output ² , A7W35	kW	3,6 to 19,4	
	COP ² , A7W35	-	4,9	
	Active cooling power output ² , A35W7	kW	-	4,1 to 13,4
	Max. DHW temperature without / with support ⁵	°C	63 / 70	
	Noise power emission level ⁶	db	35 to 46	
OPERATION LIMITS	Energy label / η_S / SCOP W35 average climate control	-	A+++ / 198% / 5,03	
	Energy label / η_S / SCOP W55 average climate control	-	A++ / 143% / 3,66	
	Distribution / Set heating outlet temperature range	°C	10 to 60 / 20 to 60	
	Distribution / Set cooling outlet temperature range	°C	4 to 35 / 7 to 25	
	Brine inlet temperature range in heating applications	°C	-25 to 35	
	Brine inlet temperature range in cooling applications	°C	10 to 60	
WORKING FLUIDS	Minimum / Maximum refrigerant circuit pressure	bar	2 / 45	
	Production / Pre-load circuit pressure	bar	0,5 to 3,0 / 1,5	
	Brine / Pre-load circuit pressure	bar	0,5 to 3,0 / 0,7	
	Volume / Max. DHW storage tank pressure (ecoGEO C)	l / bar	165 / 8	
	R410A Refrigerant load without HTR / with HTR	kg	1,4	1,5
	Compressor oil type / load	kg	POE / 1,18	
CONTROL ELECTRICAL DATA	1/N/PE 230 V / 50-60 Hz ⁸	-	✓	
	Maximum recommended external protection ⁹	-	C16A	
	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 , B0W35	kW / A	5,5 / 23,9	
	Maximum consumption ² , B0W55	kW / A	5,5 / 23,9	
	Minimum / Maximum starting current ⁷	A	2,6 / 12,5	
	Correction of cosine Ø	-	0,96/1	
ELECTRICAL DATA: THREEEE-PHASE	3/N/PE 400 V / 50-60Hz ⁸	-	✓	
	Maximum recommended external protection ⁹	-	C13A	
	Maximum consumption ² , B0W35	kW / A	6,0 / 8,7	
	Maximum consumption ² , B0W55	kW / A	6,0 / 8,7	
	Minimum / Maximum starting current ⁷	A	0,9 / 4,2	
	Correction of cosine Ø	-	0,96-1	
DIMENSIONS/WEIGHT	Height x width x depth	mm	ecoGEO B: 1060x600x710 · ecoGEO C: 1804x600x720 / AU12: 900x1000x600	
	Empty weight (without assembly)	kg	ecoGEO B: 193 · ecoGEO C: 255 / AU12: 92	

1. Air source/Hybrid source by replacing/combining the ground source circuit by/with one or more ecoGEO AU. Consult the ecoGEO AU manual for more detailed information.
2. In compliance with EN 14511, this includes the consumption of the circulation pumps and the compressor driver.
3. Considering brine and production flow rates 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 or the HTR system. Maximum DHW temperature with the HTR system can be limited by the compressor discharge temperature.
6. In compliance with EN 12102, this includes the acoustic insulation kit of the compressor.
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

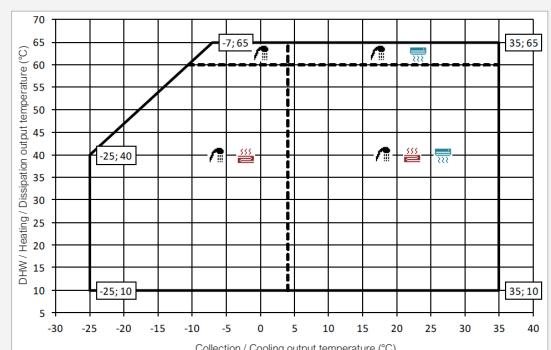
Outdoor unit - AU



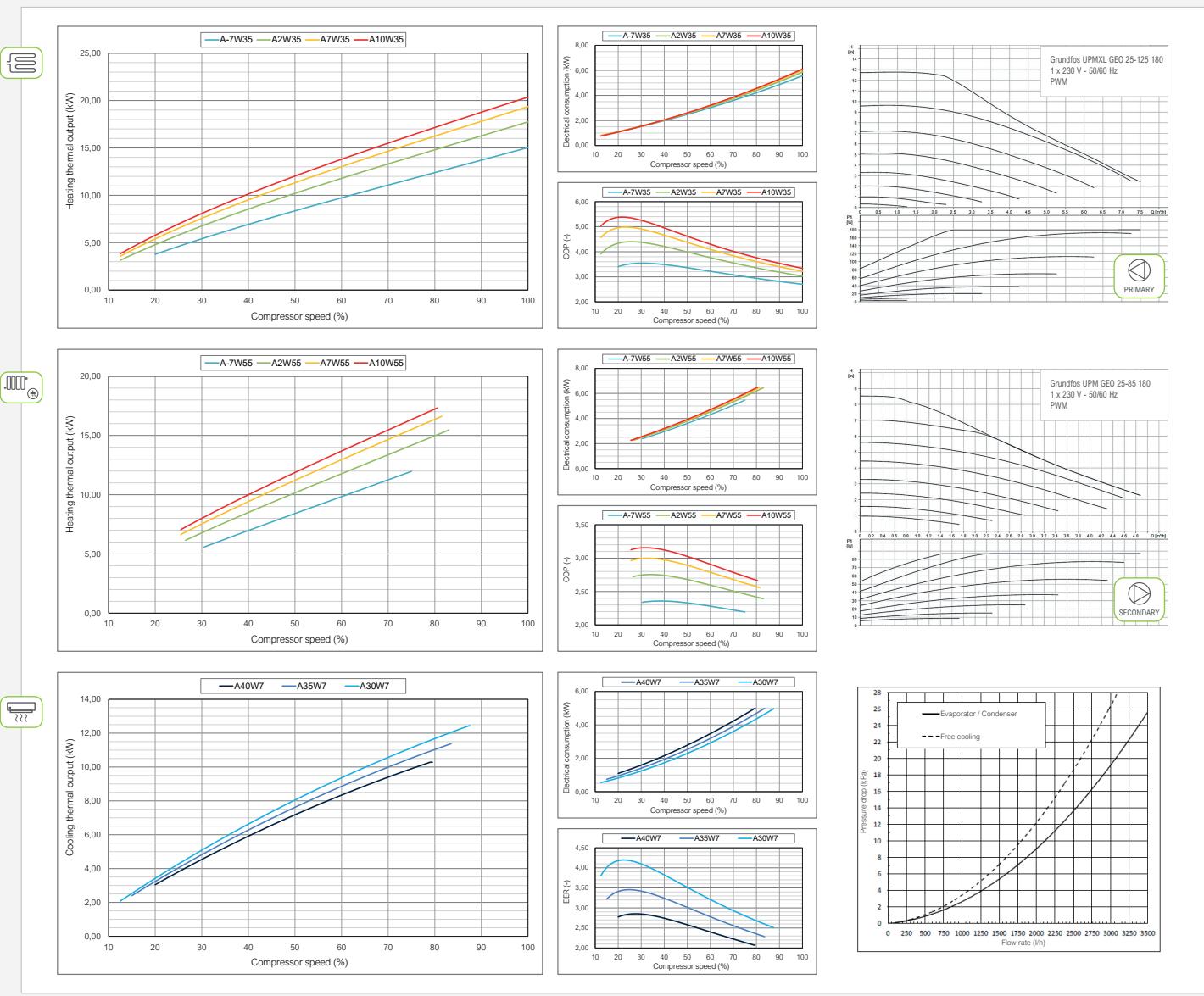
MODEL	DIMENSIONS (mm)														
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P
ecoGEO Basic	55	153	251	349	447	545	70	710	1058	600	61	300	-	-	
ecoGEO Compact	55	125	475	545	-	-	62	720	1851	600	58	315	140	300	425

- | | |
|---------------------------------------|--------------------------------------|
| 1. Heating/Cooling Outlet - 1 1/4 " M | 6. DHW System Inlet - 1 1/4 " M |
| 2. Heating/Cooling Inlet - 1 1/4 " M | 7. DCW Inlet - 1 " F |
| 3. Brine Outlet - 1 1/4 " M | 8. DHW Outlet - 1 " F |
| 4. Brine Inlet - 1 1/4 " M | 9. DHW Recirculation Inlet - 3/4 " F |
| 5. DHW System Outlet - 1 1/4 " M | 10. Drain - 16 mm |

Operational chart



Performance curves



ecoGEO B/C 5-22 & AU22

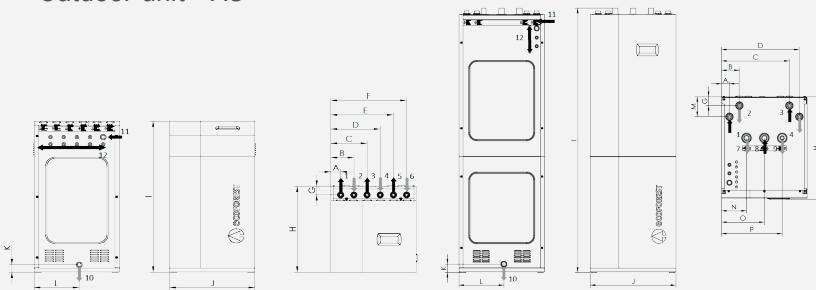
- Modulating thermal power control within a wide range (20-100%) and modulating flow rate control of both brine and production circuits (20-100%).
- Inverter technology and scroll compressor.
- Compact design including brine and production circulation pumps, brine and production expansion vessels (8l and 12l respectively), brine and production safety valves and DHW three-way valve.
- High Temperature Recovery system (HTR) for DHW production up to 70 °C without electrical support and simultaneous production of DHW and heating/cooling.
- 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 aerothal collection modulating units, in case of air source or hybrid configurations.
- Integrated management of external On/Off or modulating auxiliary systems, such as electrical heaters, On/Off boilers or modulating boilers.
- Integrated management of cascade systems up to 3 units.
- Exclusive defrosting system.
- Integrated active cooling in models 4.
- Single-phase and Three-phase versions available.
- Compatible with ecoSMART e-manager and ecoSMART e-system.
- Integrated energy meters to measure the electrical consumption, the heating/cooling thermal power, the COP and the monthly and annual SPF.

SPECIFICATIONS ecoGEO B/C 5-22 & AU22		UNITS	B2/C2	B4/C4
APPLICATION	Place of installation	-	Indoors: ecoGEO 5-22 · Outdoors: AU22	
	Type of brine system ¹	-	Air source	
	DHW, Heating and Pool	-	✓	✓
	High Temperature Recovery (HTR) system option	-	✓	✓ by default
	Integrated Active cooling	-	-	✓
	Integrated ecoGEO defrosting system	-	✓	✓
PERFORMANCE	Modulation range of the compressor	%	20 to 100	
	Heating power output ² , A7W35	kW	3,7 to 22,2	
	COP ² , A7W35	-	5,2	
	Active cooling power output ² , A35W7	kW	-	4,6 to 16,2
	Max. DHW temperature without / with support ⁵	°C	63 / 70	
	Noise power emission level ⁶	db	35 to 46	
OPERATION LIMITS	Energy label / η_S / SCOP W35 average climate control	-	A+++ / 198% / 5,03	
	Energy label / η_S / SCOP W55 average climate control	-	A++ / 143% / 3,66	
	Distribution / Set heating outlet temperature range	°C	10 to 60 / 20 to 60	
	Distribution / Set cooling outlet temperature range	°C	4 to 35 / 7 to 25	
	Brine inlet temperature range in heating applications	°C	-25 to 35	
	Brine inlet temperature range in cooling applications	°C	10 to 60	
WORKING FLUIDS	Minimum / Maximum refrigerant circuit pressure	bar	2 / 45	
	Production / Pre-load circuit pressure	bar	0,5 to 3,0 / 1,5	
	Brine / Pre-load circuit pressure	bar	0,5 to 3,0 / 0,7	
	Volume / Max. DHW storage tank pressure (ecoGEO C)	l / bar	165 / 8	
	R410A Refrigerant load without HTR / with HTR	kg	1,4	1,5
	Compressor oil type / load	kg	POE / 1,18	
CONTROL ELECTRICAL DATA	1/N/PE 230 V / 50-60 Hz ⁸	-	✓	
	Maximum recommended external protection ⁹	-	C16A	
	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 , B0W35	kW / A	5,5 / 23,9	
	Maximum consumption ² , B0W55	kW / A	5,5 / 23,9	
	Minimum / Maximum starting current ⁷	A	2,6 / 12,5	
	Correction of cosine Ø	-	0,96/1	
ELECTRICAL DATA: THREEEE-PHASE	3/N/PE 400 V / 50-60Hz ⁸	-	✓	
	Maximum recommended external protection ⁹	-	C13A	
	Maximum consumption ² , B0W35	kW / A	6,0 / 8,7	
	Maximum consumption ² , B0W55	kW / A	6,0 / 8,7	
	Minimum / Maximum starting current ⁷	A	0,9 / 4,2	
	Correction of cosine Ø	-	0,96-1	
DIMENSIONS/WEIGHT	Height x width x depth	mm	ecoGEO B: 1060x600x710 · ecoGEO C: 1804x600x720 / AU22: 900x1800x600	
	Empty weight (without assembly)	kg	ecoGEO B: 193 · ecoGEO C: 255 / AU22: 175	

1. Air source/Hybrid source by replacing/combining the ground source circuit by/with one or more ecoGEO AU. Consult the ecoGEO AU manual for more detailed information.
2. In compliance with EN 14511, this includes the consumption of the circulation pumps and the compressor driver.
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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

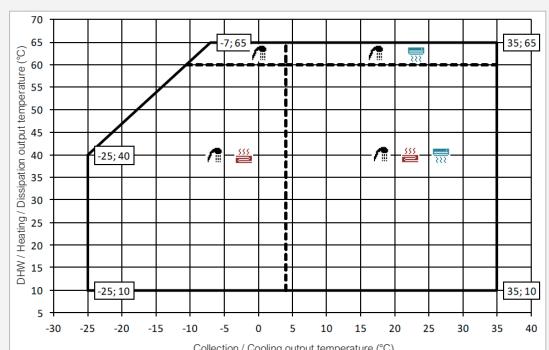
Outdoor unit - AU



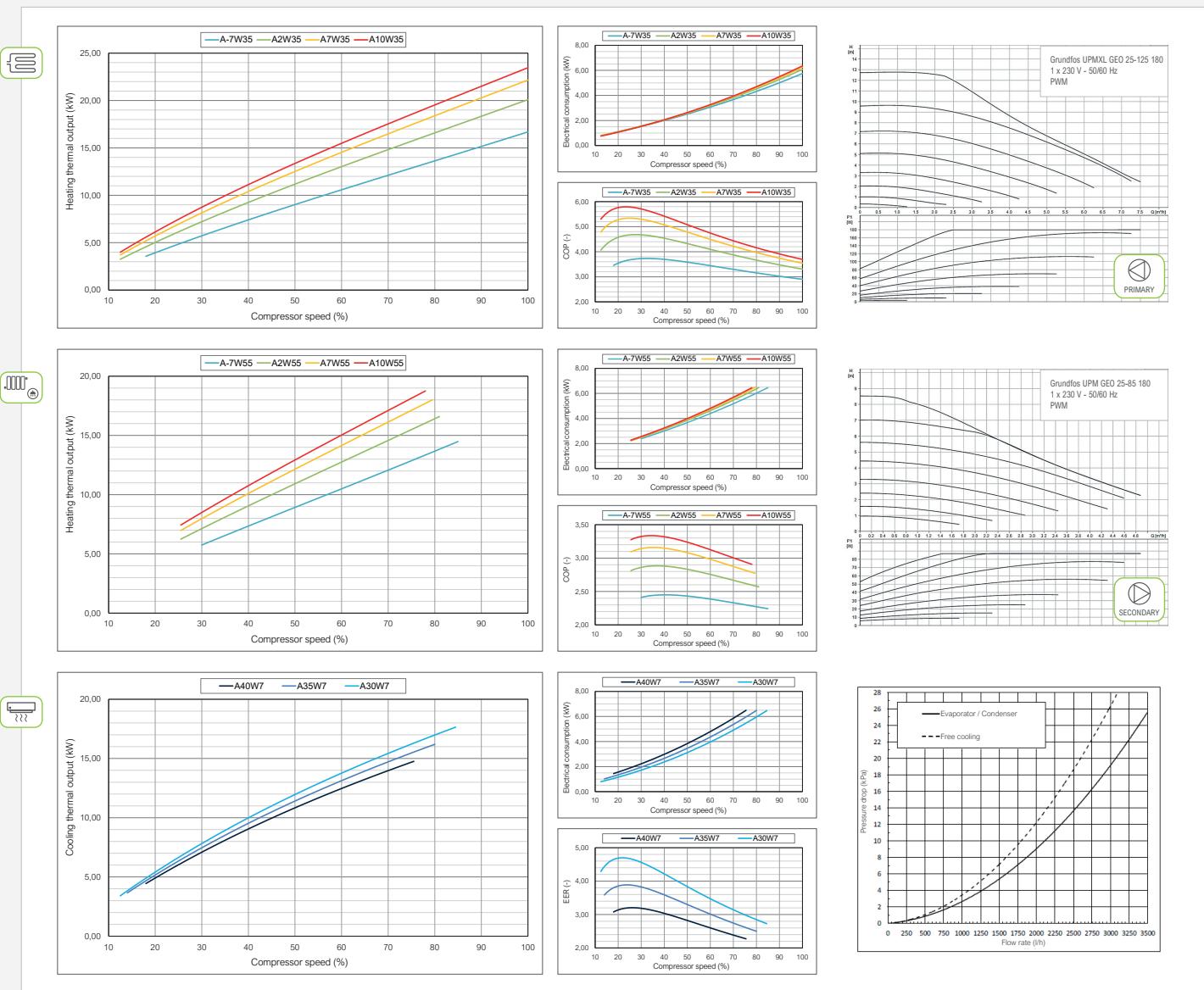
MODEL	DIMENSIONS (mm)														
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P
ecoGEO Basic	55	153	251	349	447	545	70	710	1058	600	61	300	-	-	-
ecoGEO Compact	55	125	475	545	-	-	62	720	1851	600	58	315	140	175	425

- 1. Heating/Cooling Outlet - 1 1/4 " M
- 2. Heating/Cooling Inlet - 1 1/4 " M
- 3. Brine Outlet - 1 1/4 " M
- 4. Brine Inlet - 1 1/4 " M
- 5. DHW System Outlet - 1 1/4 " M
- 6. DHW System Inlet - 1 1/4 " M
- 7. DCW Inlet - 1 " F
- 8. DHW Outlet - 1 " F
- 9. DHW Recirculation Inlet - 3/4 " F
- 10. Drain - 16 mm

Operational chart



Performance curves



Notes

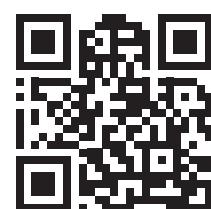
Notes

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