

ecoGEO

Ground source heat pumps



ecoGEO

Inverter ground source, the most efficient technology

The ecoGEO range is the Ecoforest range of geothermal heat pumps. These heat pumps, both domestic and high power, are compatible with any of the type of ground source collection system, even with hybrid aerothermal-geothermal collection systems and fully aerothermal collection systems. Likewise, they are also capable of offering all the services required in a HVAC system in an integrated way: DHW, Heating, Pool, Passive Cooling (or Free Cooling) 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. Thanks to the technology and control strategies developed by Ecoforest, the installation of ecoGEO heat pumps also becomes much 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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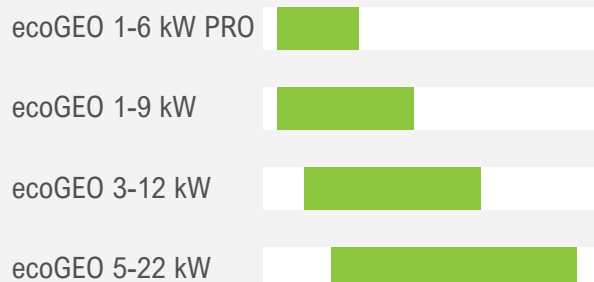
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ecoGEO Basic & Compact

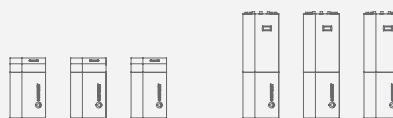
Domestic range



Power ranges



Cascade



Services



DHW



Heating



Cooling



Pool

Models

ecoGEO B1/C1

DHW
Heating
Pool

ecoGEO B2/C2

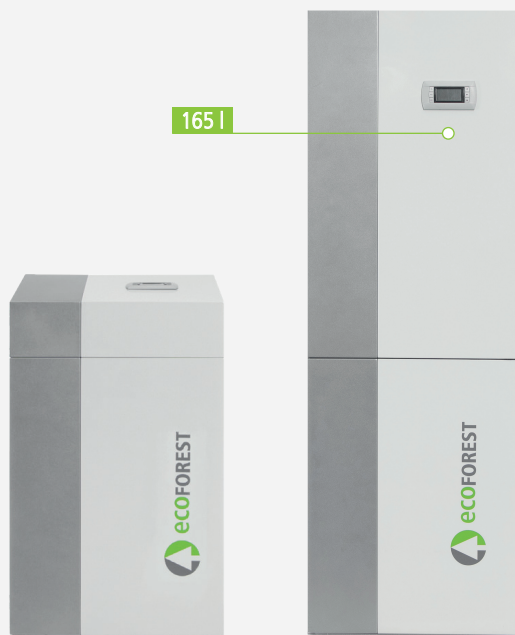
DHW
Heating
Pool
Free Cooling

ecoGEO B3/C3

DHW
Heating
Pool
Active Cooling

ecoGEO B4/C4

DHW
Heating
Pool
Free Cooling
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

Integrated passive (free) cooling production

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

Collection system



Ground



Open loop



Air



Hybrid



ecoGEO B/C 1-6 PRO

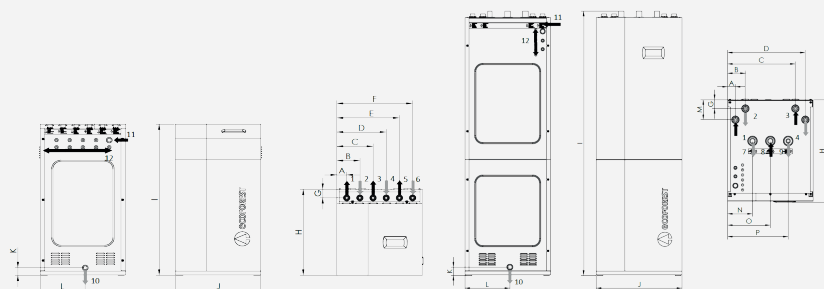
R290

- 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.
- Integrated free cooling in models 2 and 4.
- Integrated active cooling in models 3 and 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		UNITS	B1/C1	B2/C2	B3/C3	B4/C4
APPLICATION	Place of installation	-	Indoors			
	Type of brine system ¹	-	Ground source / Air source			
	DHW, Heating and Pool	-	✓	✓	✓	✓
	High Temperature Recovery (HTR) system option	-	-	-	-	-
	Integrated Active cooling	-	-	-	✓	✓
	Integrated Passive cooling	-	-	✓	-	✓
PERFORMANCE	Modulation range of the compressor	%	15 to 100			
	Heating power output ^{2, 10} , B0W35	kW	1,0 to 6,0			
	COP ^{2, 10} , B0W35	-	4,3			
	Active cooling power output ^{2, 10} , B35W7	kW	-	1,0 to 6,0		
	EER ^{2, 10} , B35W7	-	-	4,5		
	Max. DHW temperature without / with support ⁵	°C	75 / 80			
	Noise power emission level ^{6, 10}	db	33 to 44			
	Energy label / rjs / SCOP W35 average climate control	-	A+++ / 192% / 5,0			
OPERATION LIMITS	Energy label / rjs / SCOP W55 average climate control	-	A++ / 142% / 3,74			
	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			
	Volume / Max. DHW storage tank pressure (ecoGEO C)	l / bar	165 / 8			
	WORKING FLUIDS	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			
	Correction of cosine Ø	-	0,96/1			
DIMENSIONS/WEIGHT	Height x width x depth	mm	ecoGEO B: 1060x550x602 · ecoGEO C: 1804x600x720			
	Empty weight (without assembly)	kq	B 125 · C 186	B 133 · C 194	B 125 · C 186	B 133 · C 194

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 $\pm 10\%$.
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.

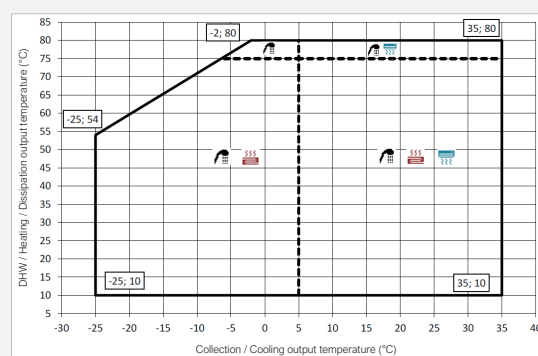
Dimensions and hydraulic connections



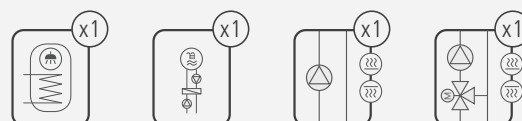
MODEL	DIMENSIONS (mm)															
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
ecoGEO Basic	63	148	233	318	403	488	60	602	1058	550	53	290	-	-	-	-
ecoGEO Compact	55	125	475	545	-	-	62	720	1851	600	58	315	140	175	300	425

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

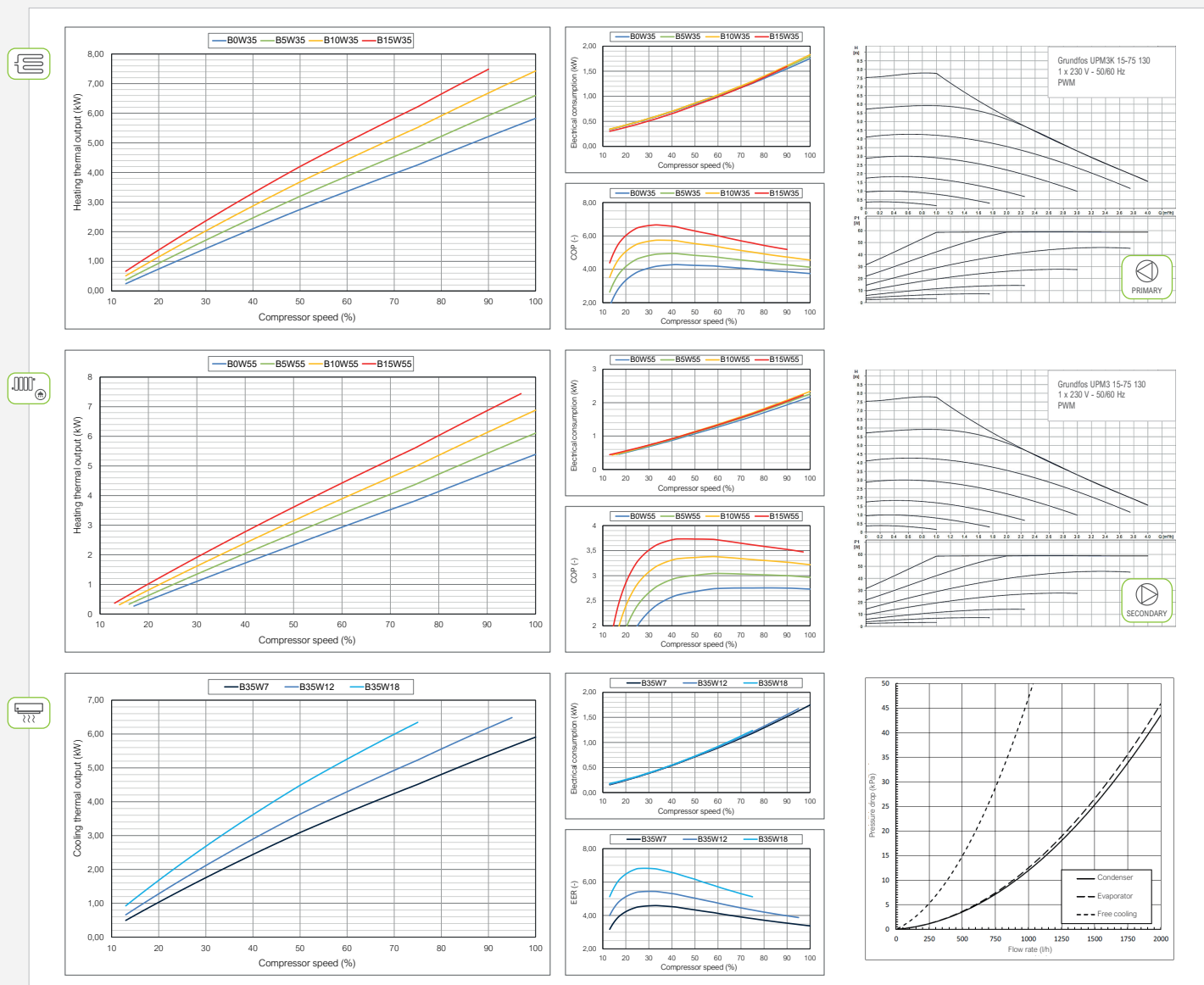
Operational chart



Installation management



Performance curves



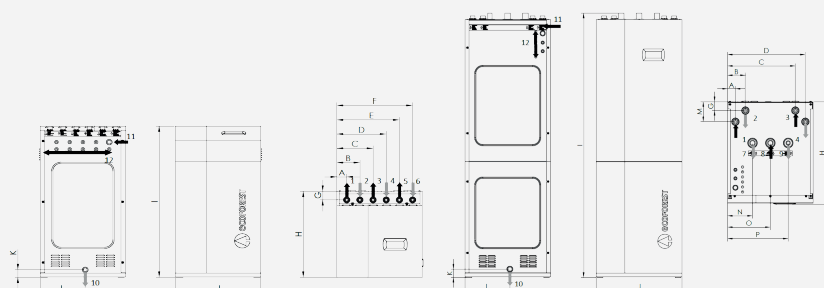
ecoGEO B/C 1-9

- 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 4 different emission temperatures, 2 buffer tanks (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 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.
- Integrated management of simultaneous cooling/heating systems according to scheme.
- Integrated free cooling in models 2 and 4.
- Integrated active cooling in models 3 and 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		UNITS	B1/C1	B2/C2	B3/C3	B4/C4
APPLICATION	Place of installation	-	Indoors			
	Type of brine system ¹	-	Ground source / Air source / Hybrid source			
	DHW, Heating and Pool	-	✓	✓	✓	✓
	High Temperature Recovery (HTR) system option	-	✓	✓	✓ by default	✓ by default
	Integrated Active cooling	-	-	-	✓	✓
	Integrated Passive cooling	-	-	✓	-	✓
PERFORMANCE	Modulation range of the compressor	%	20 to 100			
	Heating power output ² , B0W35	kW	1,3 to 11,0			
	COP ² , B0W35	-	4,5			
	Active cooling power output ² , B35W7	kW	-	1,4 to 11,0		
	EER ² , B35W7	-	-	5,2		
	Max. DHW temperature without / with support ⁵	°C	63 / 70			
	Noise power emission level ⁶	db	33 to 44			
	Energy label / rjs / SCOP W35 average climate control	-	A+++ / 186% / 4,85			
	Energy label / rjs / SCOP W55 average climate control	-	A++ / 138% / 3,65			
OPERATION LIMITS	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			
	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		
WORKING FLUIDS	Compressor oil type / load	kg	POE / 0,74			
	1/N/PE 230 V / 50-60 Hz ⁸	-	✓			
CONTROL ELECTRICAL DATA	Maximum recommended external protection ⁹	-	C10A			
	Transformer primary circuit fuse	A	0,5			
	Transformer secondary circuit fuse	A	2,5			
	1/N/PE 230 V / 50-60 Hz ⁸	-	✓			
ELECTRICAL DATA: SINGLE-PHASE	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: THREEE-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			
	Emotv weight (without assembly)	kg	B 184 · C 245	B 192 · C 253	B 184 · C 245	B 192 · C 253

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 $\pm 10\%$.
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.

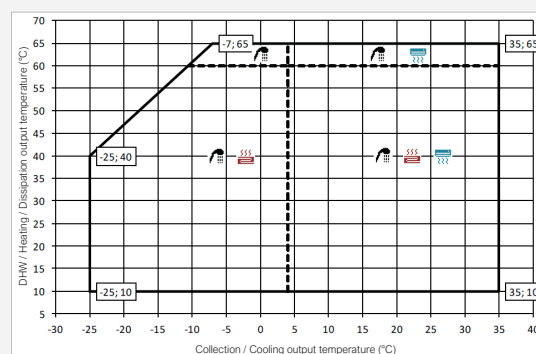
Dimensions and hydraulic connections



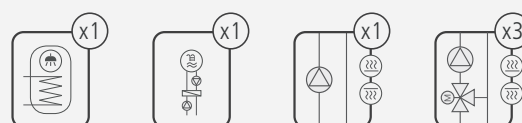
MODEL	DIMENSIONS (mm)															
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
ecoGEO Basic	55	153	251	349	447	545	70	710	1058	600	61	300	-	-	-	-
ecoGEO Compact	55	125	475	545	-	-	62	720	1851	600	58	315	140	175	300	425

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

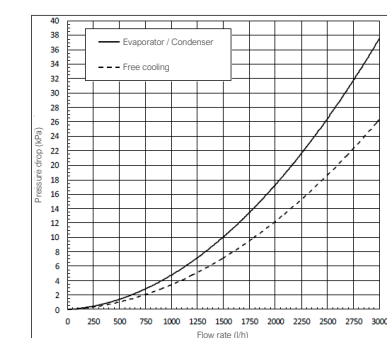
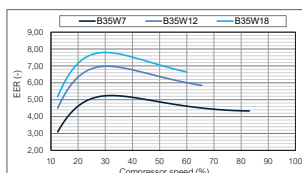
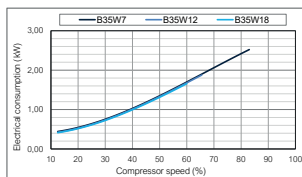
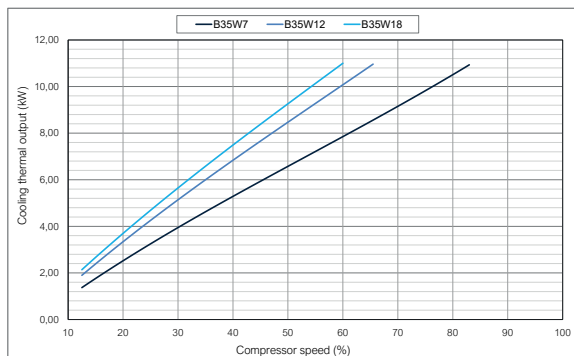
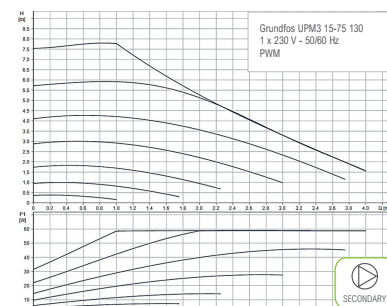
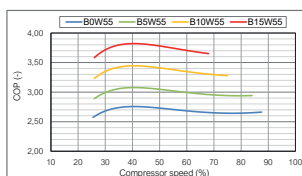
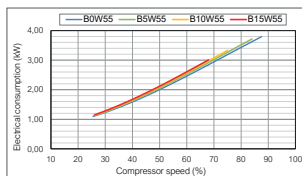
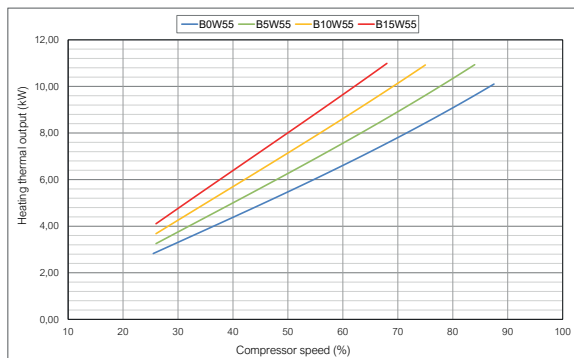
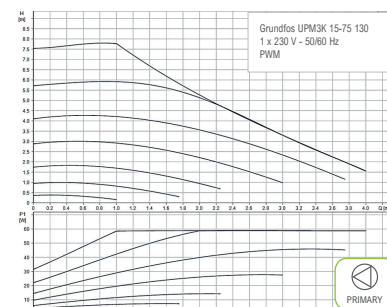
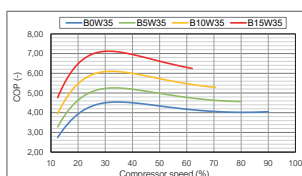
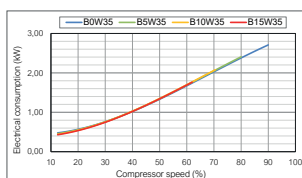
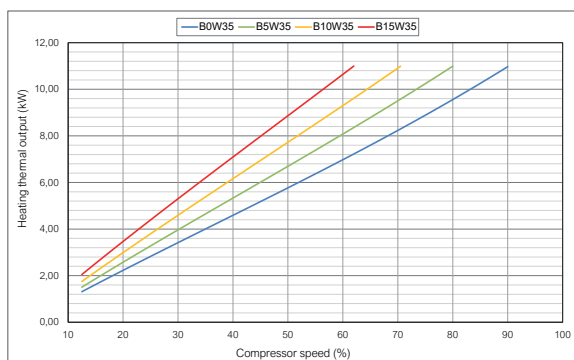
Operational chart



Installation management



Performance curves



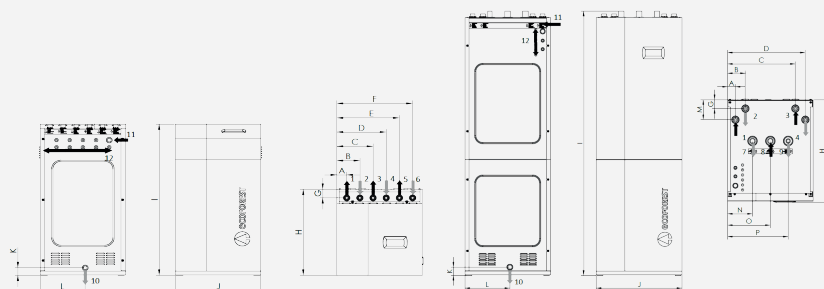
ecoGEO B/C 3-12

- 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 4 different emission temperatures, 2 buffer tanks (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 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.
- Integrated management of simultaneous cooling/heating systems according to scheme.
- Integrated free cooling in models 2 and 4.
- Integrated active cooling in models 3 and 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		UNITS	B1/C1	B2/C2	B3/C3	B4/C4
APPLICATION	Place of installation	-	Indoors			
	Type of brine system ¹	-	Ground source / Air source / Hybrid source			
	DHW, Heating and Pool	-	✓	✓	✓	✓
	High Temperature Recovery (HTR) system option	-	✓	✓	✓ by default	✓ by default
	Integrated Active cooling	-	-	-	✓	✓
	Integrated Passive cooling	-	-	✓	-	✓
PERFORMANCE	Modulation range of the compressor	%	20 to 100			
	Heating power output ² , B0W35	kW	2,5 to 16,0			
	COP ² , B0W35	-	4,6			
	Active cooling power output ² , B35W7	kW	-	-	3,1 to 15,0	
	EER ² , B35W7	-	-	-	5,2	
	Max. DHW temperature without / with support ⁵	°C	63 / 70			
	Noise power emission level ⁶	db	34 to 45			
	Energy label / rjs / SCOP W35 average climate control	-	A+++ / 194% / 5,05			
	Energy label / rjs / SCOP W55 average climate control	-	A++ / 142% / 3,75			
OPERATION LIMITS	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			
	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			
	WORKING FLUIDS	R410A Refrigerant load without HTR / with HTR	kg	0,9 / 1,0		1,0
CONTROL ELECTRICAL DATA	Compressor oil type / load	kg	POE / 0,74			
	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: THREEE-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			
	Empty weight (without assembly)	kg	B 185 · C 246	B 193 · C 254	B 185 · C 246	B 193 · C 254

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 $\pm 10\%$.
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.

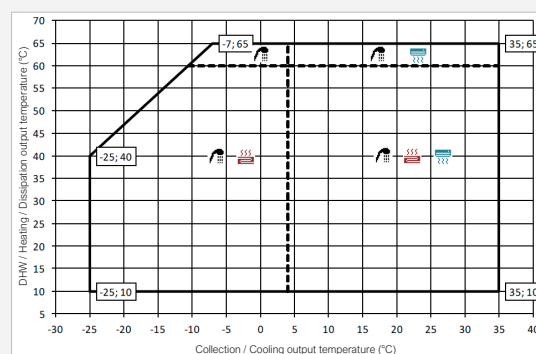
Dimensions and hydraulic connections



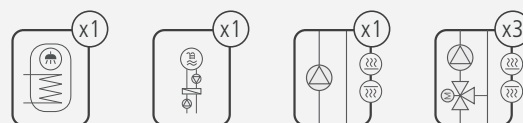
MODEL	DIMENSIONS (mm)															
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
ecoGEO Basic	55	153	251	349	447	545	70	710	1058	600	61	300	-	-	-	-
ecoGEO Compact	55	125	475	545	-	-	62	720	1851	600	58	315	140	175	300	425

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

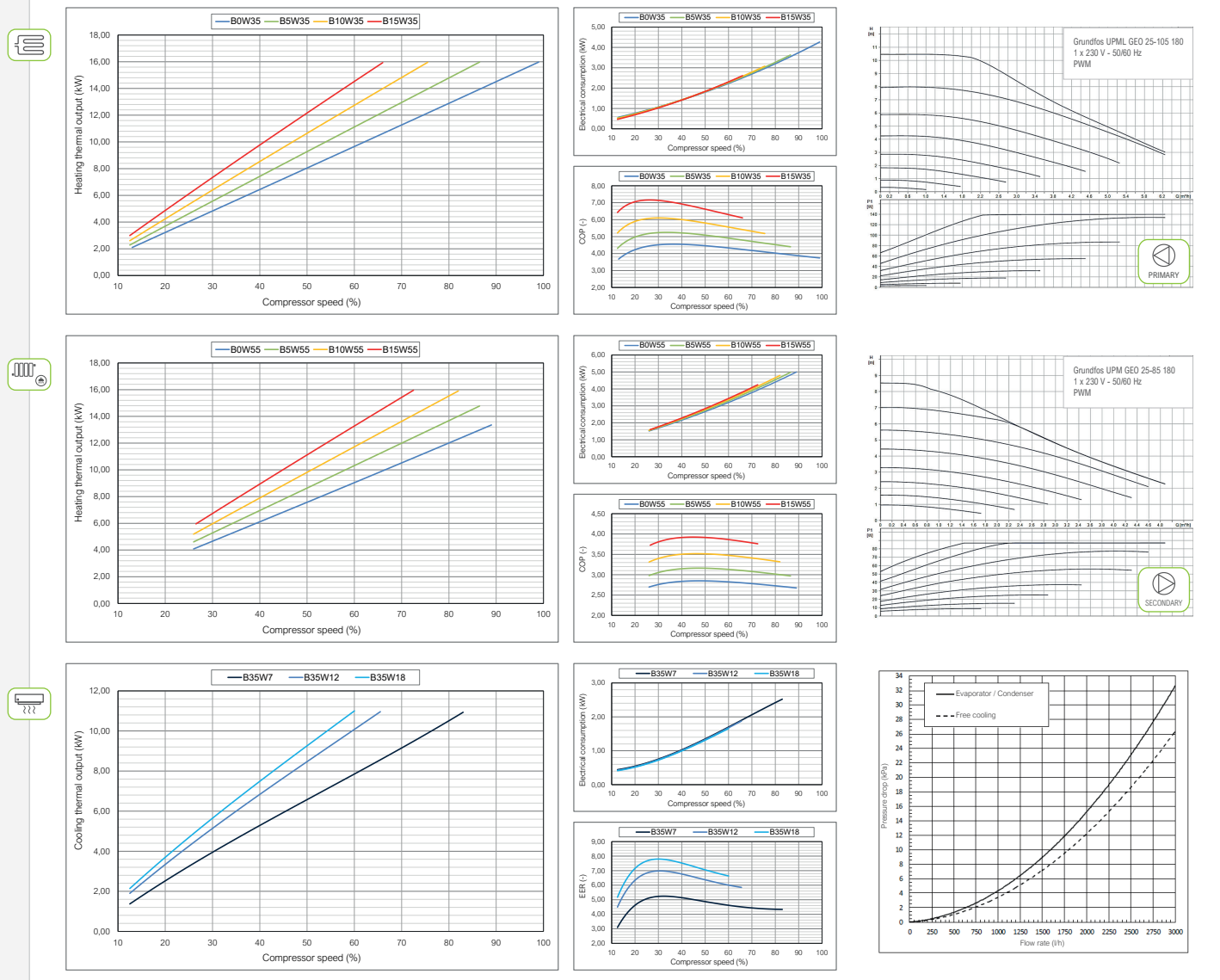
Operational chart



Installation management



Performance curves



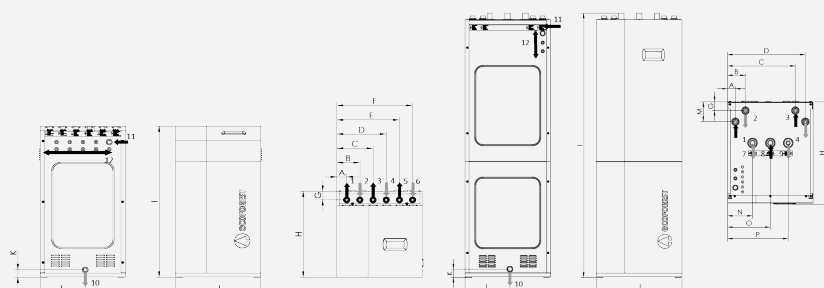
ecoGEO B/C 5-22

- 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 4 different emission temperatures, 2 buffer tanks (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 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.
- Integrated management of simultaneous cooling/heating systems according to scheme.
- Integrated free cooling in models 2 and 4.
- Integrated active cooling in models 3 and 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		UNITS	B1/C1	B2/C2	B3/C3	B4/C4
APPLICATION	Place of installation	-	Indoors			
	Type of brine system ¹	-	Ground source / Air source / Hybrid source			
	DHW, Heating and Pool	-	✓	✓	✓	✓
	High Temperature Recovery (HTR) system option	-	✓	✓	✓ by default	✓ by default
	Integrated Active cooling	-	-	-	✓	✓
	Integrated Passive cooling	-	-	✓	-	✓
PERFORMANCE	Modulation range of the compressor	%	20 to 100			
	Heating power output ² , B0W35	kW	4,0 to 22,8			
	COP ² , B0W35	-	4,9			
	Active cooling power output ² , B35W7	kW	-	4,2 to 22,0		
	EER ² , B35W7	-	-	5,4		
	Max. DHW temperature without / with support ⁵	°C	63 / 70			
	Noise power emission level ⁶	db	35 to 46			
	Energy label / rjs / SCOP W35 average climate control	-	A+++ / 184% / 4,80			
OPERATION LIMITS	Energy label / rjs / SCOP W55 average climate control	-	A++ / 146% / 3,85			
	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			
	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			
1/N/PE 230 V / 50-60 Hz ⁸		-	✓			
ELECTRICAL DATA: SINGLE-PHASE	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: THREE-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			
	Emotv weight (without assembly)	kg	B 185 · C 247	B 193 · C 255	B 185 · C 247	B 193 · C 255

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 $\pm 10\%$.
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.

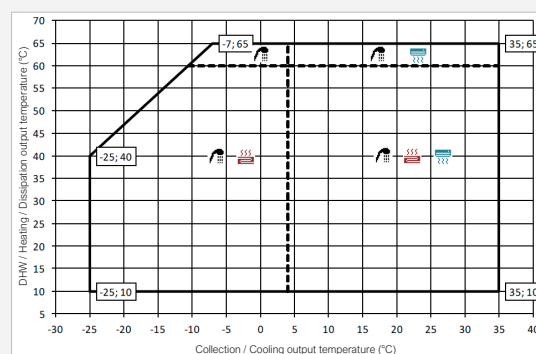
Dimensions and hydraulic connections



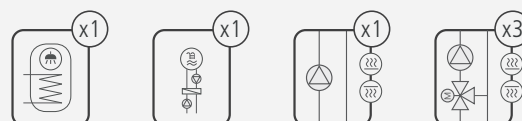
MODEL	DIMENSIONS (mm)														
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P
ecoGEO Basic	55	153	251	349	447	545	70	710	1058	600	61	300	-	-	-
ecoGEO Compact	55	125	475	545	-	-	62	720	1851	600	58	315	140	175	425

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

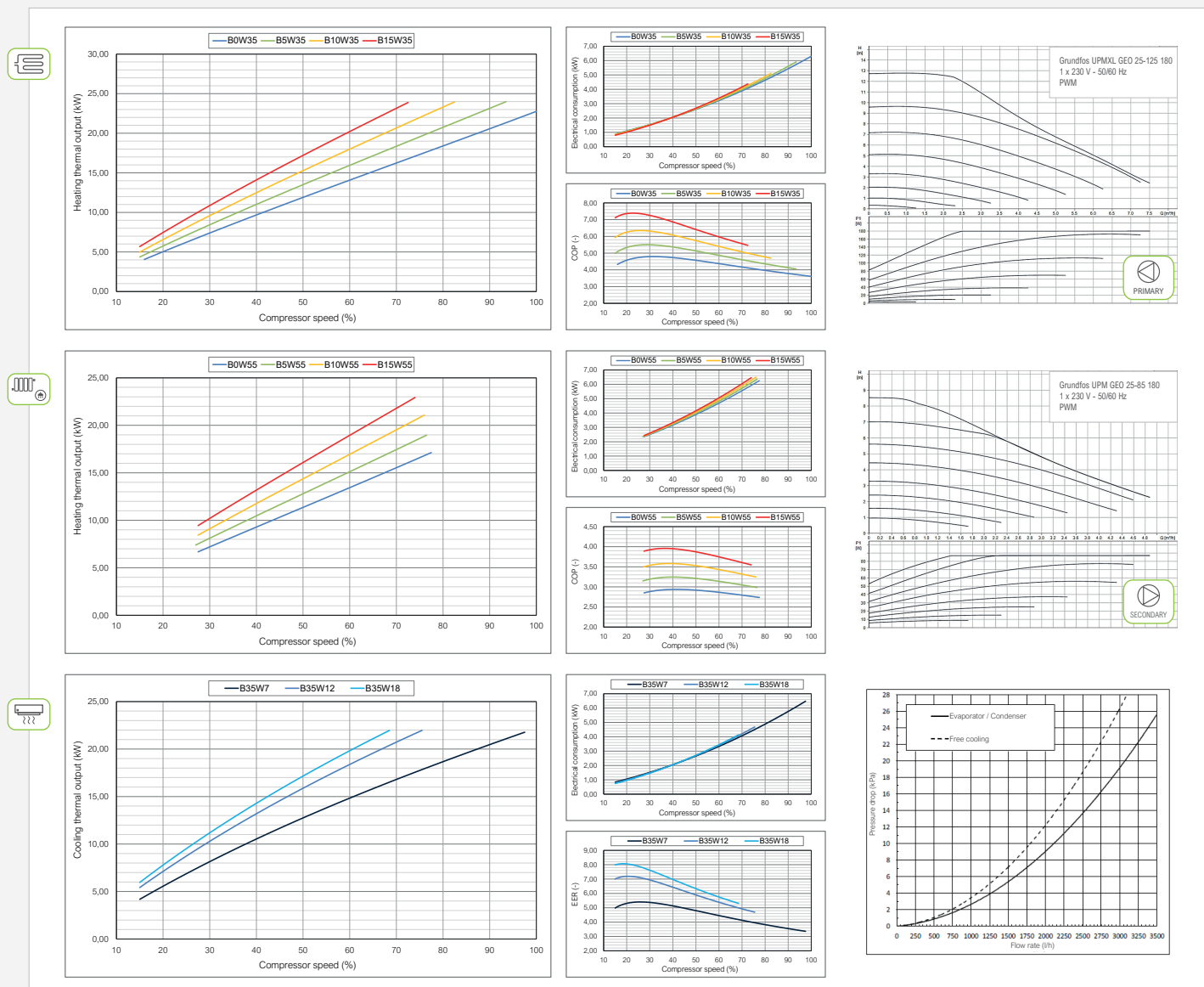
Operational chart



Installation management



Performance curves



ecoGEO HP

High Power range



Power ranges

ecoGEO 12-40 kW



ecoGEO 15-70 kW



ecoGEO 25-100 kW



Cascade



Services



DHW



Heating



Cooling



Pool

Models

ecoGEO HP1

DHW
Heating
Pool
Free Cooling *

ecoGEO HP3

DHW
Heating
Pool
Free Cooling *
Active Cooling

* External free cooling management



Inverter technology

Power ranges: 12-40 kW / 15-70 kW / 25-100 kW

Domestic hot water production

Heating and pool production

Integrated active cooling production

External passive (free) cooling production management

Internet connection through the ecoSMART Easynet

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

Simultaneous heating and cooling production

Hybrid source management through ecoSMART e-source

Cascade management up to 6 units through cascade manager ecoSMART Supervisor

Three-phase (400V) power supply

Collection system



Ground



Open loop



Air



Hybrid



ecoGEO HP 12-40

- Modulating thermal power control within a wide range (25-100%) and modulating flow rate control of both brine and production circuits (20-100%).
- Inverter technology and scroll compressor.
- Integrated management of up to 5 different emission temperatures, 2 buffer tanks (heating and cooling), 1 DHW tank, 1 pool and hourly control of DHW recirculation.
- Management of aerothermal collection modulating units, in case of air source or hybrid configurations by means of the ecoSMART e-source.
- Integrated management of external On/Off or modulating auxiliary systems, such as electrical heaters, On/Off boilers or modulating boilers.
- Management of cascade systems up to 6 units by means of the ecoSMART Supervisor.
- Integrated management of simultaneous cooling/heating systems according to scheme.
- Free cooling (Passive cooling) management.
- Integrated active cooling in models 3.
- Three-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 HP 12-40		UNITS	HP1	HP3
APPLICATION	Place of installation	-	Indoors	
	Type of brine system ¹	-	Ground source / Air source / Hybrid source	
	DHW with external tank	-	✓	✓
	Heating and Pool	-	✓	✓
	External Passive cooling management	-	✓	✓
	Integrated Active cooling	-	-	✓
PERFORMANCE	Modulation range of the compressor	%	25 to 100	
	Heating power output ¹ , B0W35	kW	10,7 to 44,6	
	COP ¹ , B0W35	-	4,6	
	Active cooling power output ¹ , B35W7	kW	-	11,3 to 45,8
	EER ¹ , B35W7	-	-	4,4
	Max. DHW temperature without / with support	°C	60 / 70	
	Noise power emission level ³	db	53 to 71	
	Energy label / r/s / SCOP W35 average climate control	-	A+++ / 175% / 4,58	
OPERATION LIMITS	Energy label / r/s / SCOP W55 average climate control	-	A++ / 136% / 3,59	
	Distribution / Set heating outlet temperature range ²	°C	10 to 60 / 20 to 60	
	Distribution / Set cooling outlet temperature range ²	°C	5 to 35 / 7 to 25	
	Brine inlet temperature range in heating applications ²	°C	-20 to 35	
	Brine inlet temperature range in cooling applications ²	°C	10 to 60	
	Minimum / Maximum refrigerant circuit pressure	bar	2 / 45	
	Production / Pre-load circuit pressure	bar	0,5 to 5,0	
	Brine / Pre-load circuit pressure	bar	0,5 to 5,0	
WORKING FLUIDS	R410A Refrigerant load	kg	4,1	4,4
	Compressor oil type / load	kg	POE / 3,3	
	Nominal primary flow rate, B0W35 ¹ (ΔT = 3 °C)	l/h	2405 to 9830	
	Nominal secondary flow rate, B0W35 ¹ (ΔT = 5 °C)	l/h	1845 to 7685	
CONTROL ELECTRICAL DATA	1/N/PE 230 V / 50-60 Hz ⁵	-	✓	
	Maximum recommended external protection ⁷	-	C1A	
	Transformer primary circuit fuse	A	0,63	
	Transformer secondary circuit fuse	A	4,0	
ELECTRICAL DATA: THREEE-PHASE	3/N/PE 400 V / 50-60Hz ⁵	-	✓	
	Maximum recommended external protection ⁷	-	C40A	
	Maximum consumption ² , B0W35	kW / A	10,9 / 17,7	
	Maximum consumption ² , B0W55	kW / A	15,5 / 24,6	
	Minimum / Maximum starting current ⁴	A	5,6 / 9,0	
	Correction of cosine Ø	-	0,96-1	
DIMENSIONS/WEIGHT	Height x width x depth	mm	1063x870x785	
	Empty weight (without assembly)	kg	280	285

1. In compliance with EN 14511, this includes the consumption of the circulation pumps and the compressor driver.

2. With variable speed circulating pumps, managed by the ecoGEO HP heat pump.

3. According to EN 12102.

4. Starting current depends on working condition of the hydraulic circuits.

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

6. Maximum consumption can vary significantly according to working conditions, or if the compressor's range of operation is restricted.

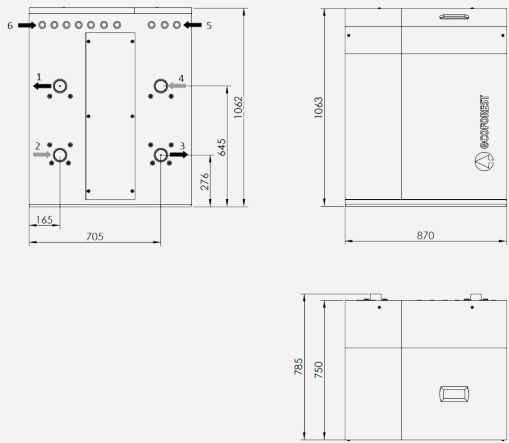
7. External protection exclusively regarding the ecoGEO heat pump controller electrical consumption. This protection should be updated in case of using the

controller single-phase electrical supply to wire other equipments depending on the features of such equipments.

8. In case of air source or hybrid source configuration, it is required to combine the ecoGEO HP heat pump with the ecoSMART e-source.

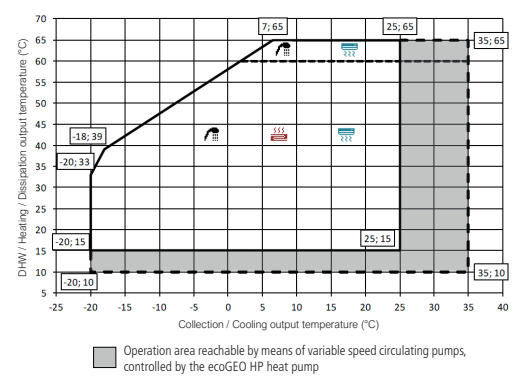
Note: primary circuit and secondary circuit circulation pumps not included.

Dimensions and hydraulic connections

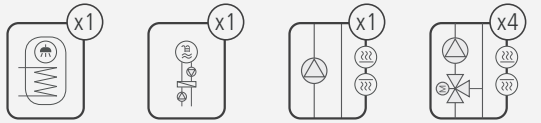


1. Secondary Outlet - 2" M
2. Secondary Inlet - 2" M
3. Primary Outlet - 2" M
4. Primary Inlet - 2" M

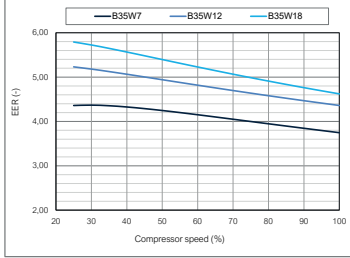
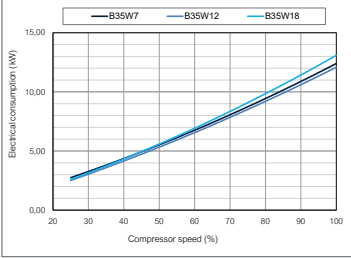
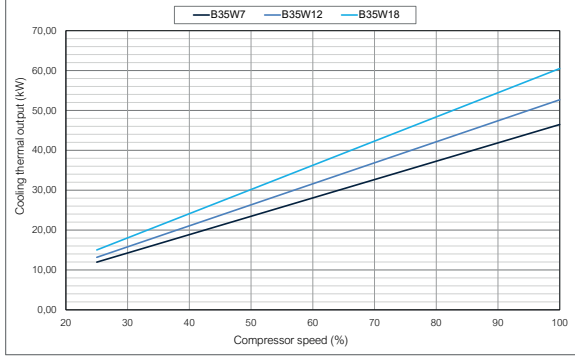
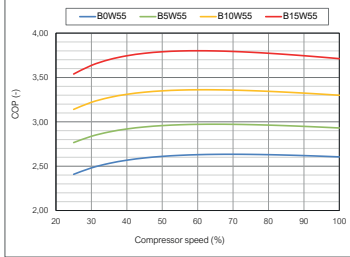
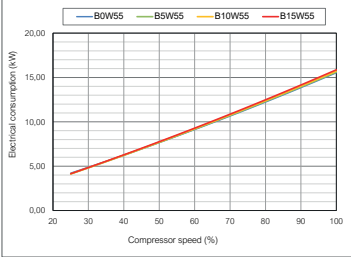
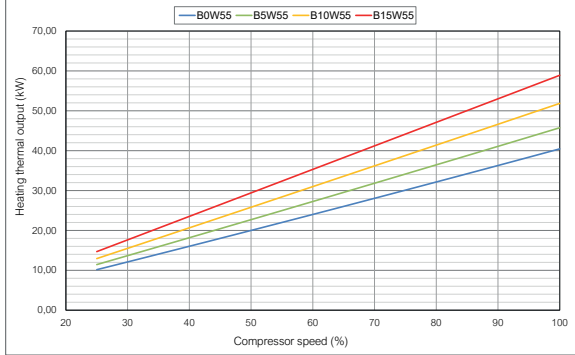
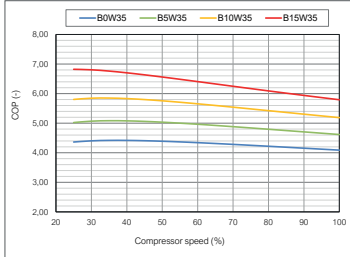
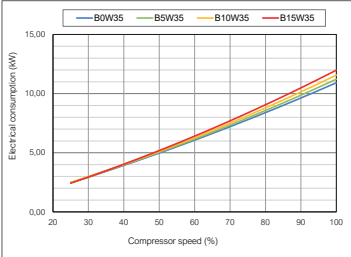
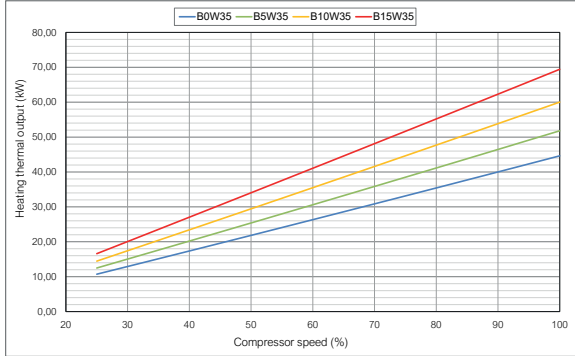
Operational chart



Installation management



Performance curves



ecoGEO HP 15-70

- Modulating thermal power control within a wide range (25-100%) and modulating flow rate control of both brine and production circuits (20-100%).
- Inverter technology and scroll compressor.
- Integrated management of up to 5 different emission temperatures, 2 buffer tanks (heating and cooling), 1 DHW tank, 1 pool and hourly control of DHW recirculation.
- Management of aerothermal collection modulating units, in case of air source or hybrid configurations by means of the ecoSMART e-source.
- Integrated management of external On/Off or modulating auxiliary systems, such as electrical heaters, On/Off boilers or modulating boilers.
- Management of cascade systems up to 6 units by means of the ecoSMART Supervisor.
- Integrated management of simultaneous cooling/heating systems according to scheme.
- Free cooling (Passive cooling) management.
- Integrated active cooling in models 3.
- Three-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 HP 15-70		UNITS	HP1	HP3
APPLICATION	Place of installation	-	Indoors	
	Type of brine system ¹	-	Ground source / Air source / Hybrid source	
	DHW with external tank	-	✓	✓
	Heating and Pool	-	✓	✓
	External Passive cooling management	-	✓	✓
	Integrated Active cooling	-	-	✓
PERFORMANCE	Modulation range of the compressor	%	25 to 100	
	Heating power output ¹ , B0W35	kW	17,1 to 59,6	
	COP ¹ , B0W35	-	4,5	
	Active cooling power output ¹ , B35W7	kW	-	15,1 to 61,5
	EER ¹ , B35W7	-	-	4,5
	Max. DHW temperature without / with support	°C	60 / 70	
	Noise power emission level ³	db	53 to 71	
	Energy label / r/s / SCOP W35 average climate control	-	A+++ / 180% / 4,71	
	Energy label / r/s / SCOP W55 average climate control	-	A++ / 139% / 3,67	
OPERATION LIMITS	Distribution / Set heating outlet temperature range ²	°C	10 to 60 / 20 to 60	
	Distribution / Set cooling outlet temperature range ²	°C	5 to 35 / 7 to 25	
	Brine inlet temperature range in heating applications ²	°C	-20 to 35	
	Brine inlet temperature range in cooling applications ²	°C	10 to 60	
	Minimum / Maximum refrigerant circuit pressure	bar	2 / 45	
	Production / Pre-load circuit pressure	bar	0,5 to 5,0	
	Brine / Pre-load circuit pressure	bar	0,5 to 5,0	
	R410A Refrigerant load	kg	4,7	5,5
WORKING FLUIDS	Compressor oil type / load	kg	POE / 3,6	
	Nominal primary flow rate, B0W35 ¹ (ΔT = 3 °C)	l/h	3230 to 13195	
	Nominal secondary flow rate, B0W35 ¹ (ΔT = 5 °C)	l/h	2465 to 10265	
	1/N/PE 230 V / 50-60 Hz ⁵	-	✓	
CONTROL ELECTRICAL DATA	Maximum recommended external protection ⁷	-	C1A	
	Transformer primary circuit fuse	A	0,63	
	Transformer secondary circuit fuse	A	4,0	
	3/N/PE 400 V / 50-60Hz ⁵	-	✓	
ELECTRICAL DATA: THREEE-PHASE	Maximum recommended external protection ⁷	-	C50A	
	Maximum consumption ² , B0W35	kW / A	14,3 / 23,2	
	Maximum consumption ² , B0W55	kW / A	20,4 / 32,3	
	Minimum / Maximum starting current ⁴	A	7,5 / 11,8	
	Correction of cosine Ø	-	0,96-1	
	Height x width x depth	mm	1063x870x785	
DIMENSIONS/WEIGHT	Empty weight (without assembly)	kg	320	325

1. In compliance with EN 14511, this includes the consumption of the circulation pumps and the compressor driver.

2. With variable speed circulating pumps, managed by the ecoGEO HP heat pump.

3. According to EN 12102.

4. Starting current depends on working condition of the hydraulic circuits.

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

6. Maximum consumption can vary significantly according to working conditions, or if the compressor's range of operation is restricted.

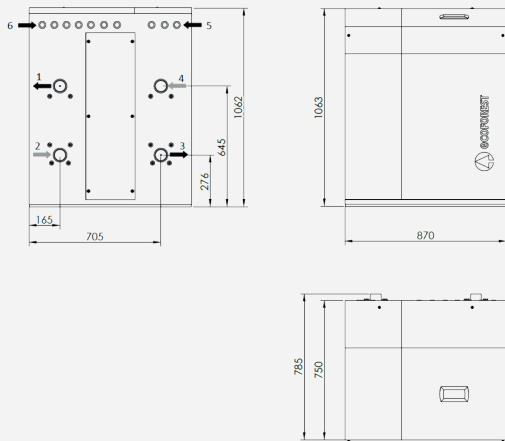
7. External protection exclusively regarding the ecoGEO heat pump controller electrical consumption. This protection should be updated in case of using the

controller single-phase electrical supply to wire other equipments depending on the features of such equipments.

8. In case of air source or hybrid source configuration, it is required to combine the ecoGEO HP heat pump with the ecoSMART e-source.

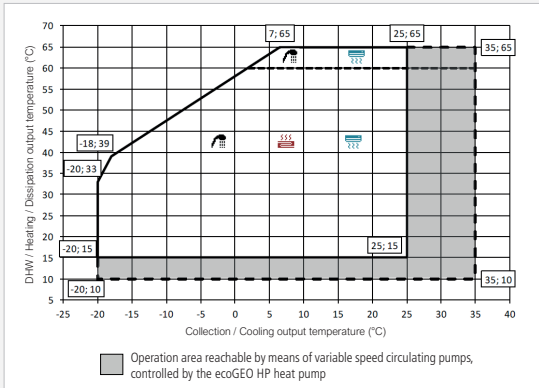
Note: primary circuit and secondary circuit circulation pumps not included.

Dimensions and hydraulic connections

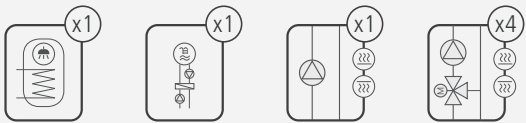


1. Secondary Outlet - 2" M
2. Secondary Inlet - 2" M
3. Primary Outlet - 2" M
4. Primary Inlet - 2" M

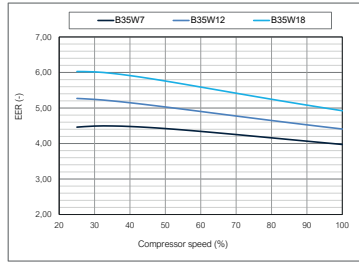
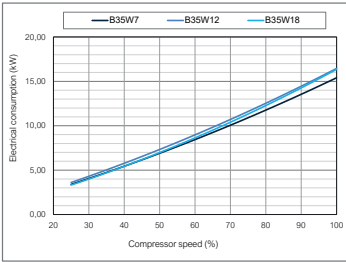
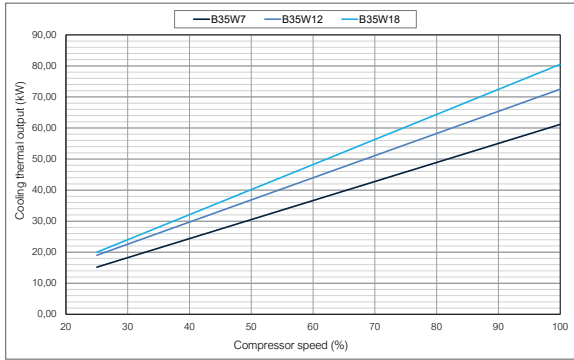
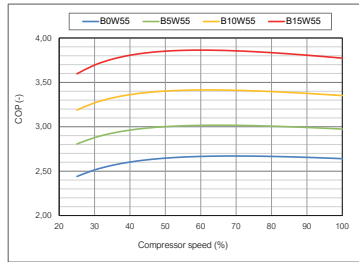
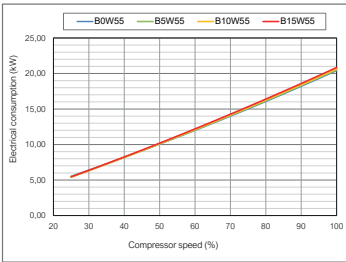
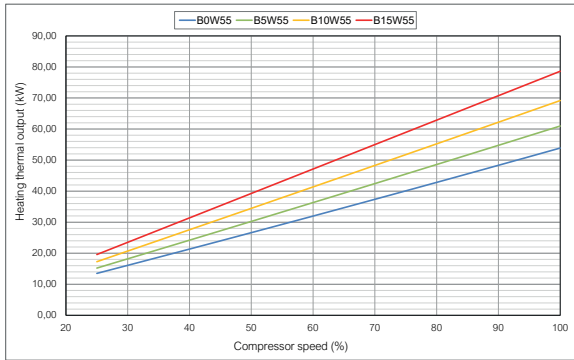
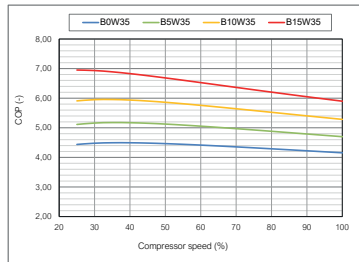
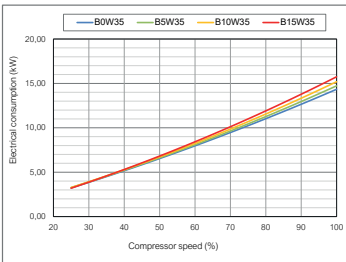
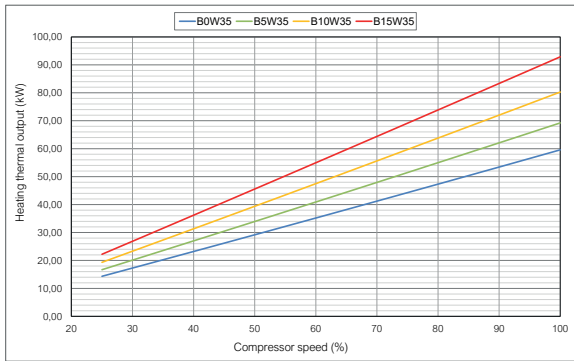
Operational chart



Installation management



Performance curves



ecoGEO HP 25-100

- Modulating thermal power control within a wide range (25-100%) and modulating flow rate control of both brine and production circuits (20-100%).
- Inverter technology and scroll compressor.
- Integrated management of up to 5 different emission temperatures, 2 buffer tanks (heating and cooling), 1 DHW tank, 1 pool and hourly control of DHW recirculation.
- Management of aerothermal collection modulating units, in case of air source or hybrid configurations by means of the ecoSMART e-source.
- Integrated management of external On/Off or modulating auxiliary systems, such as electrical heaters, On/Off boilers or modulating boilers.
- Management of cascade systems up to 6 units by means of the ecoSMART Supervisor.
- Integrated management of simultaneous cooling/heating systems according to scheme.
- Free cooling (Passive cooling) management.
- Integrated active cooling in models 3.
- Three-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 HP 25-100		UNITS	HP1	HP3
APPLICATION	Place of installation	-	Indoors	
	Type of brine system ¹	-	Ground source / Air source / Hybrid source	
	DHW with external tank	-	✓	✓
	Heating and Pool	-	✓	✓
	External Passive cooling management	-	✓	✓
	Integrated Active cooling	-	-	✓
PERFORMANCE	Modulation range of the compressor	%	25 to 100	
	Heating power output ¹ , B0W35	kW	21,1 to 86,7	
	COP ¹ , B0W35	-	4,5	
	Active cooling power output ¹ , B35W7	kW	-	22,3 to 90,3
	EER ¹ , B35W7	-	-	4,6
	Max. DHW temperature without / with support	°C	60 / 70	
	Noise power emission level ³	db	59 to 72	
	Energy label / r/s / SCOP W35 average climate control	-	A+++ / 186% / 4,84	
OPERATION LIMITS	Energy label / r/s / SCOP W55 average climate control	-	A++ / 136% / 3,61	
	Distribution / Set heating outlet temperature range ²	°C	10 to 60 / 20 to 60	
	Distribution / Set cooling outlet temperature range ²	°C	5 to 35 / 7 to 25	
	Brine inlet temperature range in heating applications ²	°C	-20 to 35	
	Brine inlet temperature range in cooling applications ²	°C	10 to 60	
	Minimum / Maximum refrigerant circuit pressure	bar	2 / 45	
	Production / Pre-load circuit pressure	bar	0,5 to 5,0	
	Brine / Pre-load circuit pressure	bar	0,5 to 5,0	
WORKING FLUIDS	R410A Refrigerant load	kg	8,5	9,1
	Compressor oil type / load	kg	POE / 6,7	
	Nominal primary flow rate, B0W35 ¹ (ΔT = 3 °C)	l/h	4765 to 19360	
	Nominal secondary flow rate, B0W35 ¹ (ΔT = 5 °C)	l/h	3625 to 14935	
CONTROL ELECTRICAL DATA	1/N/PE 230 V / 50-60 Hz ⁵	-	✓	
	Maximum recommended external protection ⁷	-	C1A	
	Transformer primary circuit fuse	A	0,63	
	Transformer secondary circuit fuse	A	4,0	
ELECTRICAL DATA: THREEE-PHASE	3/N/PE 400 V / 50-60Hz ⁵	-	✓	
	Maximum recommended external protection ⁷	-	C50A	
	Maximum consumption ² , B0W35	kW / A	20,3 / 31,8	
	Maximum consumption ² , B0W55	kW / A	29,6 / 45,1	
	Minimum / Maximum starting current ⁴	A	10,8 / 16,7	
DIMENSIONS/WEIGHT	Correction of cosine Ø	-	0,96-1	
	Height x width x depth	mm	1063x950x886	
	Empty weight (without assembly)	kg	350	355

1. In compliance with EN 14511, this includes the consumption of the circulation pumps and the compressor driver.

2. With variable speed circulating pumps, managed by the ecoGEO HP heat pump.

3. According to EN 12102.

4. Starting current depends on working condition of the hydraulic circuits.

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

6. Maximum consumption can vary significantly according to working conditions, or if the compressor's range of operation is restricted.

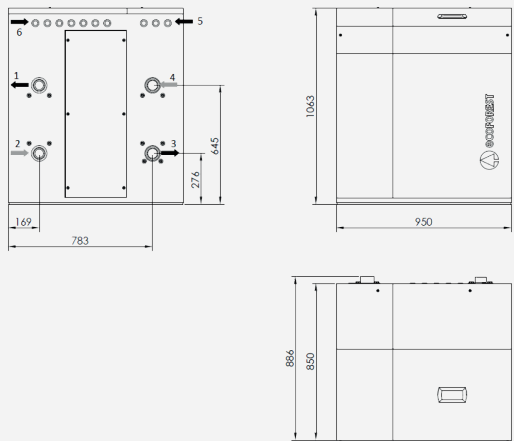
7. External protection exclusively regarding the ecoGEO heat pump controller electrical consumption. This protection should be updated in case of using the

controller single-phase electrical supply to wire other equipments depending on the features of such equipments.

8. In case of air source or hybrid source configuration, it is required to combine the ecoGEO HP heat pump with the ecoSMART e-source.

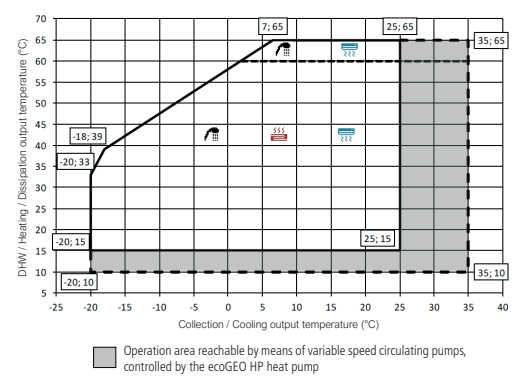
Note: primary circuit and secondary circuit circulation pumps not included.

Dimensions and hydraulic connections

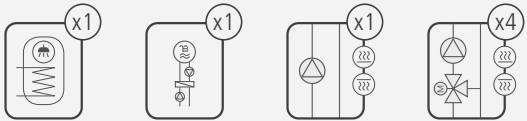


1. Secondary Outlet - 2 1/2" M
2. Secondary Inlet - 2 1/2" M
3. Primary Outlet - 2 1/2" M
4. Primary Inlet - 2 1/2" M

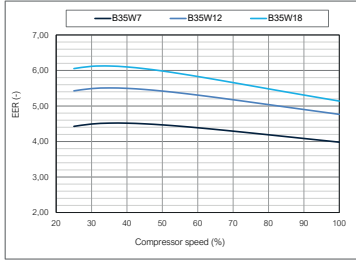
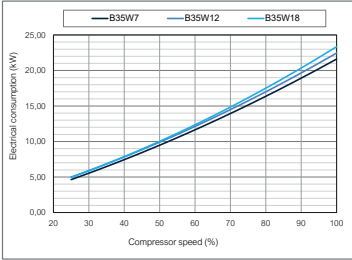
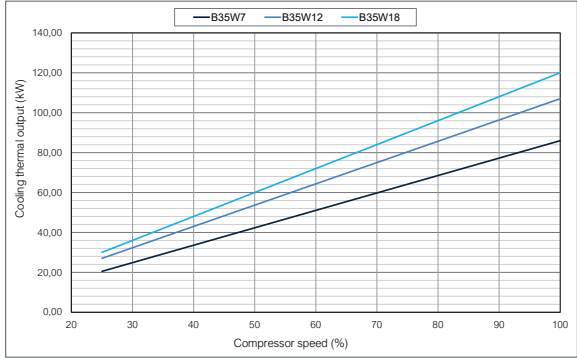
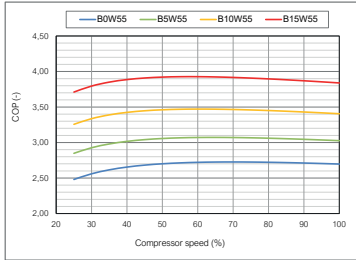
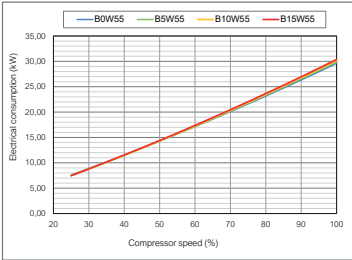
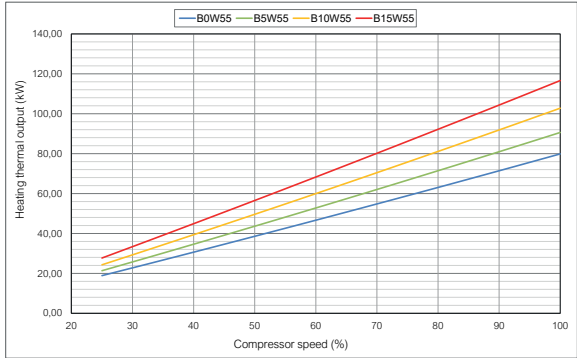
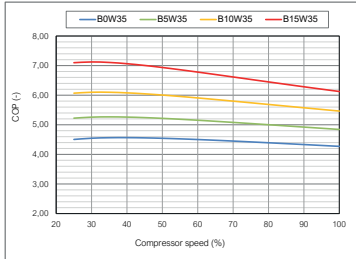
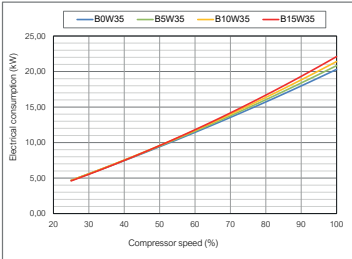
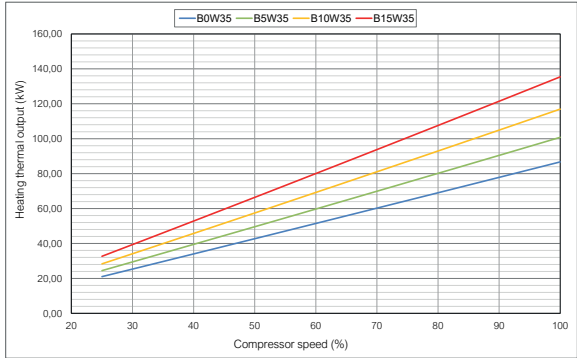
Operational chart



Installation management



Performance curves



Notes

Notes

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