

## Technical parameters of the Acond Grandis heat pump

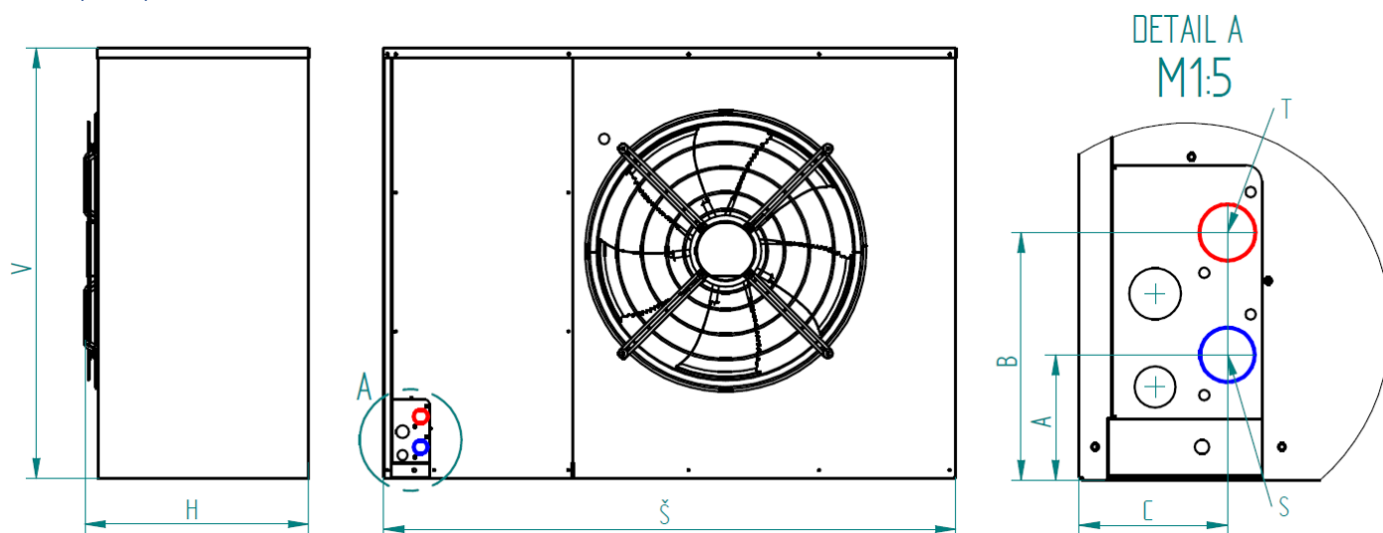
A compact monoblock heat pump that uses a variable speed twin rotatory compressor with an ecologic refrigerant. The heat pump consist from outdoor unit and indoor functional assemblies such as electric distributor or hydromodul. The product also includes an indoor thermostat placed in reference room.

Model	GRANDIS-N	GRANDIS-R SP
Feeding voltage code; circuit breaker	3~N/PE/400V/50Hz; B16A	X
Feeding voltage code; circuit breaker	1~N/PE/230V/50Hz; B40A	1~N/PE/230V/50Hz; B50A
Compressor type	Twin Rotatory	Twin Rotatory
Maximum current of outdoor unit [A]	13	9
Starting current [A]	5	5
Stable current [A]	3.97	2.71
Protection class	IP24	IP24
Refrigerant	R290	R290
Refrigerant weight [kg]	0.75	1.4
Air temperature limit range [°C]*	-25 to 38	-25 to 38
Water temperature limit range [°C]**	20 to 75	20 to 75
Water flow range [m <sup>3</sup> /h]	0.5 to 3	0.5 to 3

\* Verified by the testing laboratory at lower heat pump load

\*\* Verified by the testing laboratory, a water temperature of 75°C can be achieved at a lower load of the heat pump

### Heat pump dimensions



Model	GRANDIS-N	GRANDIS-R SP
V [mm]	740	1070
S [mm]	1130	1430
H [mm]	500	560
A [mm]	107	78
B [mm]	183	154
C [mm]	82	92
Weight [kg]	115	195
T – hot water [mm]	G1" DIN ISO 228	G1" DIN ISO 228
S – cold water [mm]	G1" DIN ISO 228	G1" DIN ISO 228

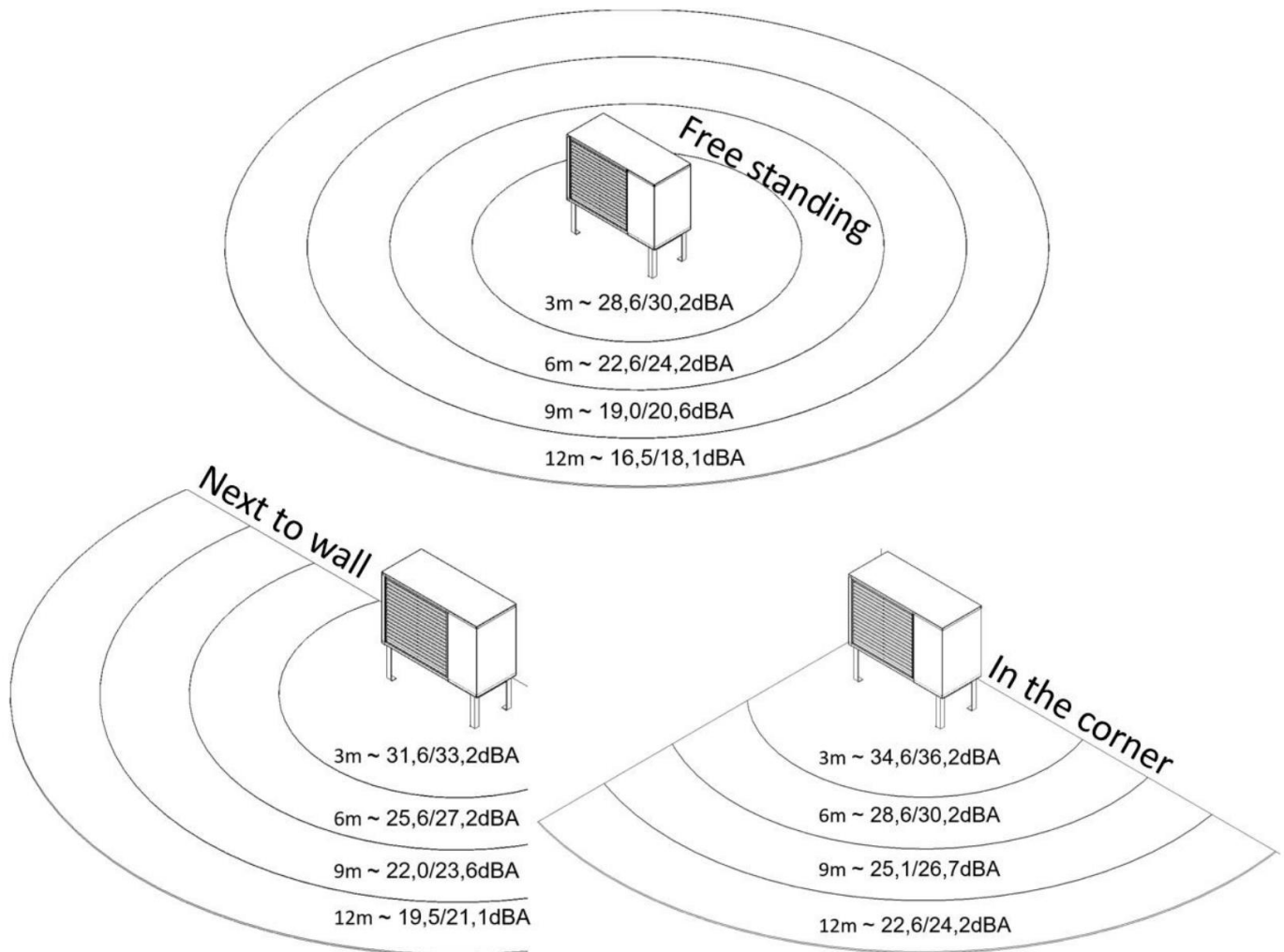
## Acoustic parameters

The Acond Grandis heat pumps are being place outdoor environment or inside machine room that comply with EN 378-3. The acoustic pressure level may change with many factors for example if the heat pump is placed next to wall, in the corner, wall structure or height above the sea level. This means the acoustic pressure values stated below are just orientational.

The sound power level was measured at partial capacity under condition A7/W55 according to EN 12 102.

Model	GRANDIS-N	GRANDIS-R SP
Acoustic pressure at 3m [dB(A)]	28.6	30.2
Acoustic pressure at 6m [dB(A)]	22.6	24.2
Acoustic power $L_{WA}$ [dB(A)]	46.1	47.7

The values of acoustic pressure are stated as follows - GRANDIS-N /GRANDIS-R SP.



## Performance parameters

Model	GRANDIS-N	GRANDIS-R SP
Maximum building's heat losses at -15°C – underfloor heating [kW]*	7	15,5
Maximum building's heat losses at -15°C and 55°C - radiators [kW]*	7	15
Performance parameters at nominal conditions according to EN 14 511		
Heating capacity x COP at A7/W35 [kW x 1]	3.05 x 5.54	6.98 x 5.52
Heating capacity x COP at A7/W55 [kW x 1]	3.3 x 3.26	6.94 x 3.38
Regulated performance parameters, Equithermal regulation, reference water temperature 35°C according to EN 14 825		
Heating capacity x COP at A12/W27 [kW x 1]	1.81 x 9.14	4.63 x 9
Heating capacity x COP at A7/W27 [kW x 1]	1.52 x 6.81	4.03 x 7.26
Heating capacity x COP at A2/W30 [kW x 1]	2.26 x 5.25	5.58 x 5.42
Heating capacity x COP at A-7/W34 [kW x 1]	3.72 x 3.51	8.97 x 3.57
Regulated performance parameters, Equithermal regulation, reference water temperature 55°C according to EN 14 825		
Heating capacity x COP at A12/W35 [kW x 1]	1.75 x 7.16	4.46 x 6.81
Heating capacity x COP at A7/W36 [kW x 1]	1.45 x 5.29	3.82 x 5.39
Heating capacity x COP at A2/W42 [kW x 1]	2.15 x 3.98	5.37 x 4.1
Heating capacity x COP at A-7/W52 [kW x 1]	3.54 x 2.45	8.8 x 2.67
Parameters for average climate, Equithermal regulation		
P <sub>design</sub> x SCOP W35 [kW x 1]	4.2 x 5.38	10.19 x 5.58
P <sub>design</sub> x SCOP W55 [kW x 1]	4 x 4.05	9.97 x 4.21

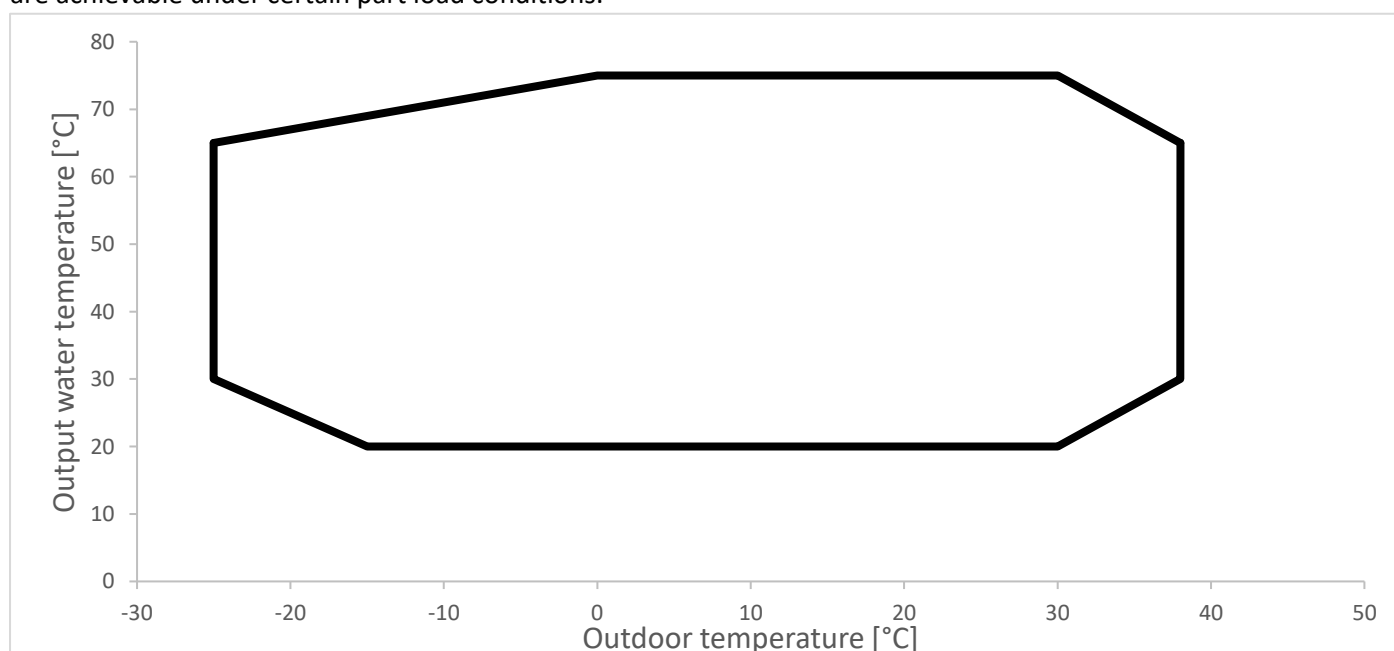
\* For the heating of the building at the mentioned heat losses, auxiliary heating by an electric heating rod is also included. The outside temperature at which the heating rod switches on depends on the losses of the object and the required indoor temperature and will be informed, indicatively, by our sales representative.

## Energy parameters

Model		GRANDIS-N		GRANDIS-R SP	
Reference water temperature [°C]		35	55	35	55
Average climate	Energy class	A+++	A+++	A+++	A+++
	Seasonal heating energy efficiency [%]	212,1	159	220,1	165,3
	Annual heating power consumption [kWh]	1613	2040	3772	4892

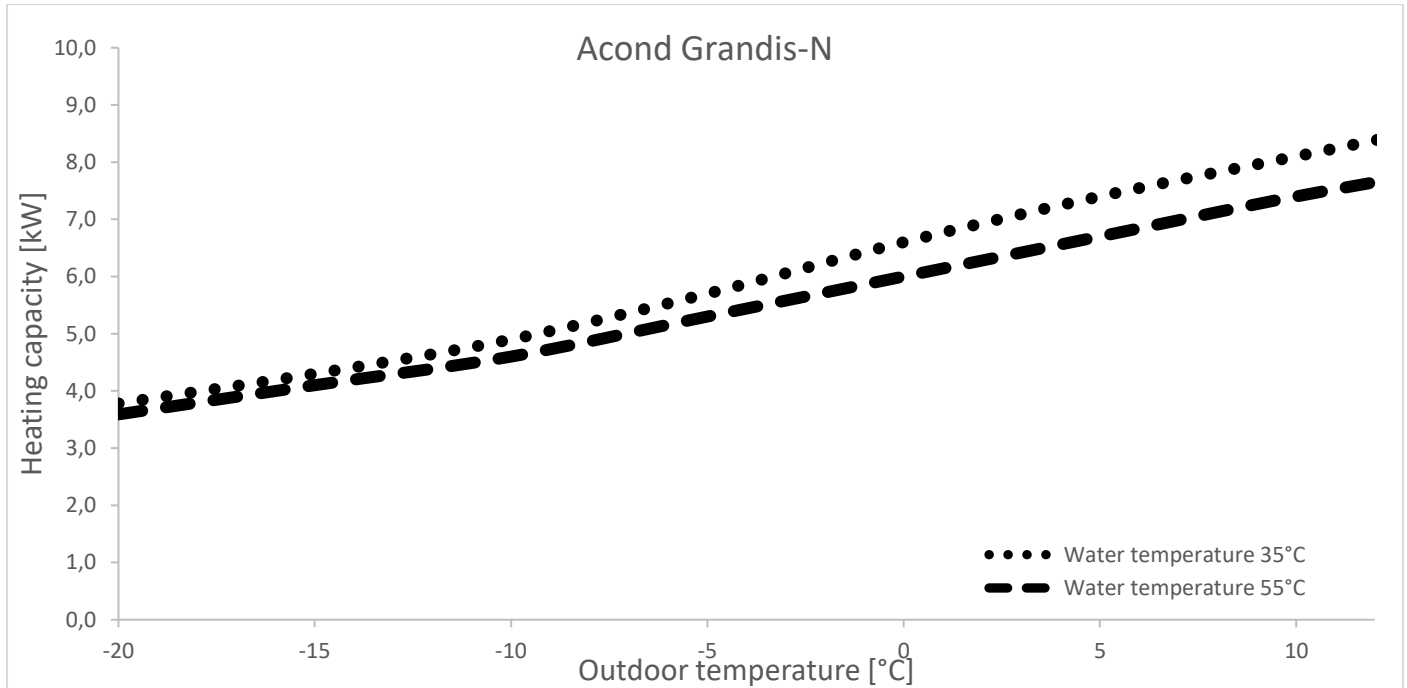
## Working area

The working area is verified by the testing laboratory, it meets the requirements of EN 14511-4. Outlet temperatures are achievable under certain part load conditions.

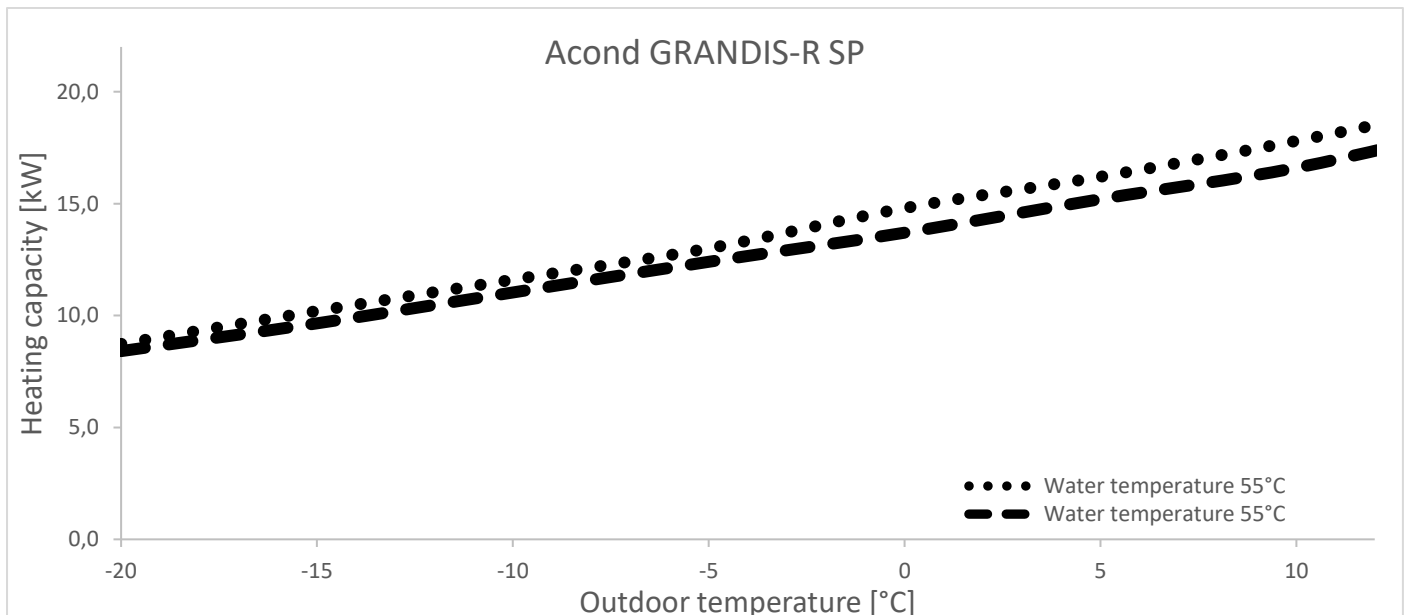


## Heating capacity limits in dependence on outdoor and water temperature

The following values are measured at continuous operation.



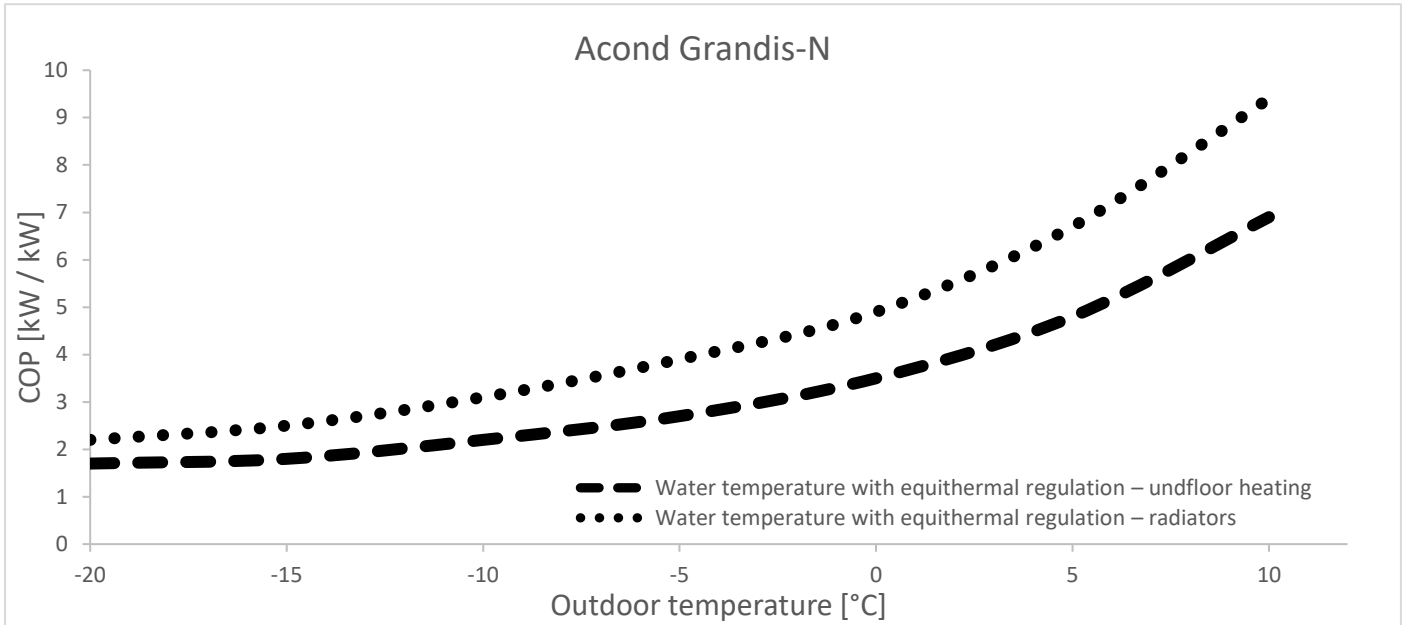
Acond Grandis-N								
Outdoor temperature [°C]	-20	-15	-10	-5	0	5	10	15
Maximum heating capacity at 35°C [kW]	3.8	4.3	4.9	5.7	6.6	7.4	8.1	8.8
Maximum heating capacity at 55°C [kW]	3.6	4.1	4.6	5.3	6	6.7	7.4	8



Acond Grandis-N								
Outdoor temperature [°C]	-20	-15	-10	-5	0	5	10	15
Maximum heating capacity at 35°C [kW]	8.7	10.2	11.6	13	14.8	16.2	17.8	19.6
Maximum heating capacity at 55°C [kW]	8.4	9.7	11	12.4	13.7	15.2	16.6	18.6

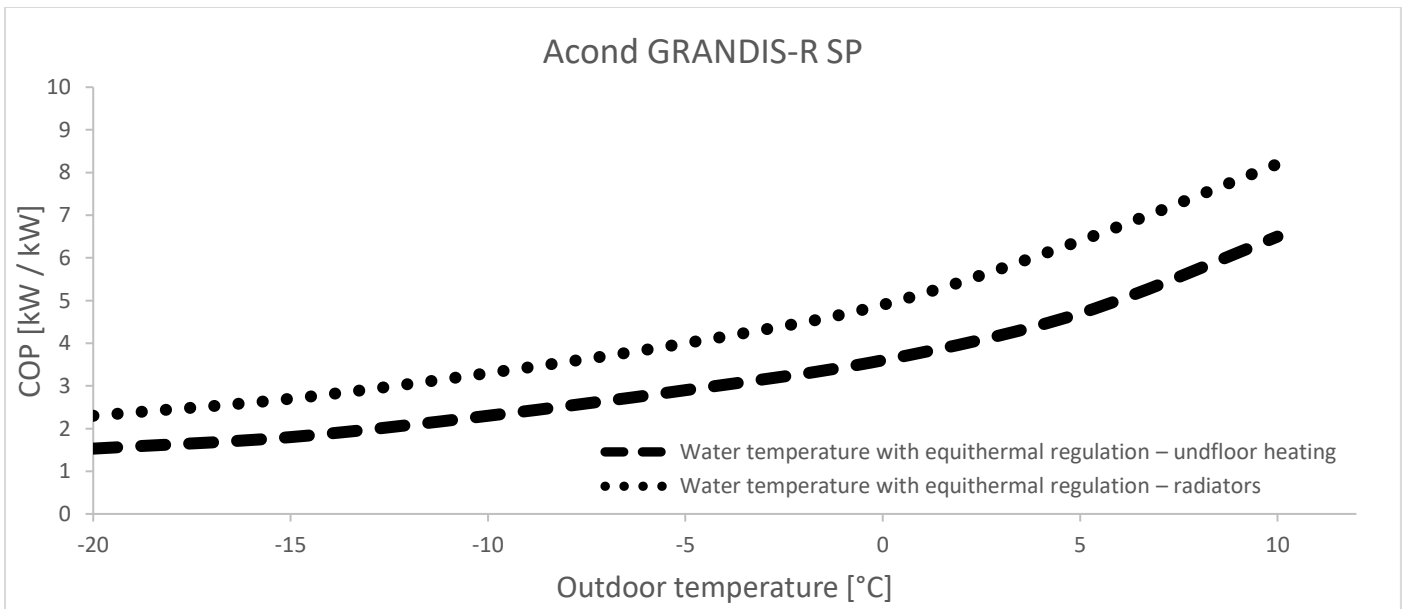
Maximum coefficient of performance in dependence on outdoor and water temperature

The following values are measured at continuous operation and water temperature regulated by the equithermal curve.



Outdoor temperature [°C]	-20	-15	-10	-5	0	5	10
Water temperature with equithermal regulation – undfloor heating [°C]	38	37	35	33	31	28	25
Maximum COP [kW / kW]	2.2	2.5	3.1	3.9	4.9	6.7	9.4

Outdoor temperature [°C]	-20	-15	-10	-5	0	5	10
Water temperature with equithermal regulation – radiators [°C]	65	60	55	50	44	38	32
Maximum COP [kW / kW]	1.7	1.8	2.2	2.7	3.5	4.8	6.9



Outdoor temperature [°C]	-20	-15	-10	-5	0	5	10
Water temperature with equithermal regulation – radiators [°C]	65	60	55	50	44	38	32
Maximum COP [kW / kW]	1.5	1.8	2.3	2.9	3.6	4.7	6.5

Outdoor temperature [°C]	-20	-15	-10	-5	0	5	10
Water temperature with equithermal regulation – radiators [°C]	65	60	55	50	44	38	32
Maximum COP [kW / kW]	1.5	1.8	2.3	2.9	3.6	4.7	6.5