

ACOND GRANDIS

Heat pump air - water

Technical data

TECHNICAL, PERFORMANCE AND ENERGY PARAMETERS

Model	GRANDIS-N	GRANDIS-R	GRANDIS-L
Compressor type	Double rotary	Double rotary	Double rotary
Supply voltage code; protection	3~N/PE/400V/50Hz; B16A (****)	3~N/PE/400V/50Hz; B20A (*****)	3~N/PE/400V/50Hz; B25A
Maximum outdoor unit current [A]	13	9	23
Start-up current [A]	< 5	< 5	< 5
Rated power input *) [kW]	0,7	1,24	2,9
Prated [kW] **)	4	10	22
Degree of protection of the outdoor unit	IP24	IP24	IP24
Degree of protection of the indoor unit	IP20	IP20	IP20
Refrigerant	R290	R290	R290
Refrigerant weight [kg]	0,65	1,32	2,6
Air temperature limits [°C]	-25 to 38	-25 to 38	-25 to 38
Water temperature limits [°C] ***)	20 to 75	20 to 75	20 to 75
Water flow [m3/h]	0,7 to 1,5	1,5 to 3,4	0,7 to 5
Seasonal energy efficiency - heating 35°C [%] **)	212	220	195
Seasonal energy efficiency - heating 55°C [%] **)	159	165	142
SCOP W35 **)	5,38	5,58	4,95
SCOP W55 **)	4,05	4,21	3,62
Energy class - heating 35°C **)	A+++	A+++	A+++
Energy class - heating 55°C **)	A+++	A+++	A++
Cooling	YES	YES	YES

*) In A7/W35 condition

**) EN 14 825

***) Tested, water temperature of 70°C can be achieved with partial load of the heat pump

****) Supply voltage code; protection for model **GRANDIS-N SP 1~N/PE/230V/50Hz; B32A**

*****) Supply voltage code; protection for model **GRANDIS-R SP 1~N/PE/230V/50Hz; B50A**

ACOUSTIC PARAMETERS

Model	GRANDIS-N	GRANDIS-R	GRANDIS-L
Acoustic performance at A7/W55 according to EN 12 102 [dB(A)]	46,1	47,7	52,5
Sound pressure 3m [dB(A)]	28,6	30,2	35
Acoustic pressure 6m [dB(A)]	22,6	24,2	29

PERFORMANCE PARAMETERS DEPENDING ON OUTDOOR TEMPERATURE AND HEATING WATER TEMPERATURE

GRANDIS-N											
W35		Outdoor temperature [°C]									
		-20	-15	-10	-7	2	7	10	12	15	20
MAX	Heating power [kW]	3,80	4,30	4,90	5,30	6,80	7,70	8,10	8,45	8,80	9,80
	COP	2,57	2,87	3,22	3,46	4,25	5,54	5,19	5,52	5,87	6,62
MIN	Heating power [kW]	1,78	1,78	1,78	1,78	1,78	1,62	1,73	1,80	1,91	2,10
	COP	2,78	3,18	3,63	3,87	4,94	5,59	5,97	6,21	6,59	7,24

W55		Outdoor temperature [°C]									
		-20	-15	-10	-7	2	7	10	12	15	20
MAX	Heating power [kW]	3,60	4,10	4,60	4,95	6,10	7,00	7,40	7,70	8,00	8,90
	COP	1,93	2,16	2,22	2,35	2,86	3,26	3,22	3,29	3,48	3,84
MIN	Heating power [kW]	1,64	1,64	1,64	1,64	1,64	1,50	1,59	1,66	1,76	1,95
	COP	2,18	2,37	2,63	2,80	3,43	3,73	3,98	4,15	4,29	4,74

Cooling parameters at A35/W7			Cooling parameters at A35/W18		
MAX	Cooling capacity [kW]	4,80	MAX	Cooling capacity [kW]	6,30
	Cooling factor [kW/kW]	3,20		Cooling factor [kW/kW]	4,20
MIN	Cooling capacity [kW]	1,80	MIN	Cooling capacity [kW]	2,50
	Cooling factor [kW/kW]	2,50		Cooling factor [kW/kW]	3,10

GRANDIS-R											
W35		Outdoor temperature [°C]									
		-20	-15	-10	-7	2	7	10	12	15	20
MAX	Heating power [kW]	8,70	10,20	11,60	12,50	15,12	17,00	17,80	18,66	19,60	21,54
	COP	2,67	3,26	3,53	3,44	4,14	5,52	4,97	5,18	5,57	6,19
MIN	Heating power [kW]	4,00	4,00	4,00	4,00	4,00	3,46	3,71	3,88	4,15	4,64
	COP	2,99	3,33	3,70	3,96	4,83	5,40	5,74	5,97	6,38	7,03

W55		Outdoor temperature [°C]									
		-20	-15	-10	-7	2	7	10	12	15	20
MAX	Heating power [kW]	8,40	9,70	11,15	11,95	14,34	16,00	16,60	17,35	18,60	20,70
	COP	1,87	2,01	2,18	2,28	2,67	3,38	3,07	3,18	3,36	3,66
MIN	Heating power [kW]	3,73	3,73	3,73	3,73	3,73	3,21	3,42	3,57	3,80	4,22
	COP	2,04	2,23	2,42	2,55	2,98	3,28	3,42	3,53	3,73	4,06

Cooling parameters at A35/W7			Cooling parameters at A35/W18		
MAX	Cooling capacity [kW]	10,90	MAX	Cooling capacity [kW]	14,30
	Cooling factor [kW/kW]	3,00		Cooling factor [kW/kW]	4,20
MIN	Cooling capacity [kW]	4,10	MIN	Cooling capacity [kW]	5,80
	Cooling factor [kW/kW]	2,50		Cooling factor [kW/kW]	3,20

GRANDIS-L

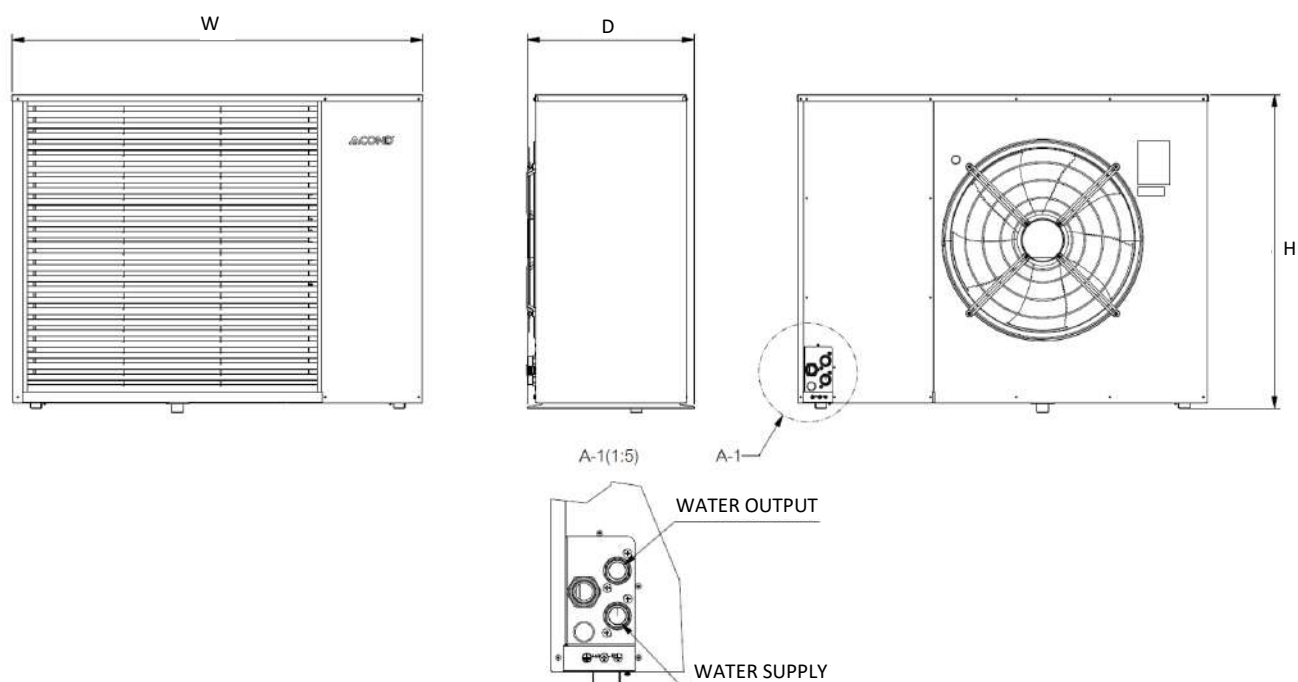
W35		Outdoor temperature [°C]									
		-20	-15	-10	-7	2	7	10	12	15	20
MAX	Heating power [kW]	15,23	17,21	19,22	20,11	23,71	25,70	26,58	27,40	28,01	30,31
	COP	2,78	2,95	3,16	3,33	3,91	4,33	4,62	4,83	5,20	5,84
MIN	Heating power [kW]	7,81	8,61	8,30	7,80	7,10	7,37	7,50	7,90	8,54	9,66
	COP	3,10	3,34	3,67	3,92	4,70	5,26	5,64	5,98	6,52	7,43

W55		Outdoor temperature [°C]									
		-20	-15	-10	-7	2	7	10	12	15	20
MAX	Heating power [kW]	13,50	15,50	17,20	19,80	24,06	26,30	27,50	28,10	29,00	30,97
	COP	2,13	2,23	2,36	2,44	2,74	2,95	3,10	3,21	3,31	3,70
MIN	Heating power [kW]	8,76	7,90	7,52	7,26	7,32	6,37	6,90	7,22	7,70	8,55
	COP	2,20	2,37	2,55	2,66	3,01	2,96	3,33	3,47	3,68	4,09

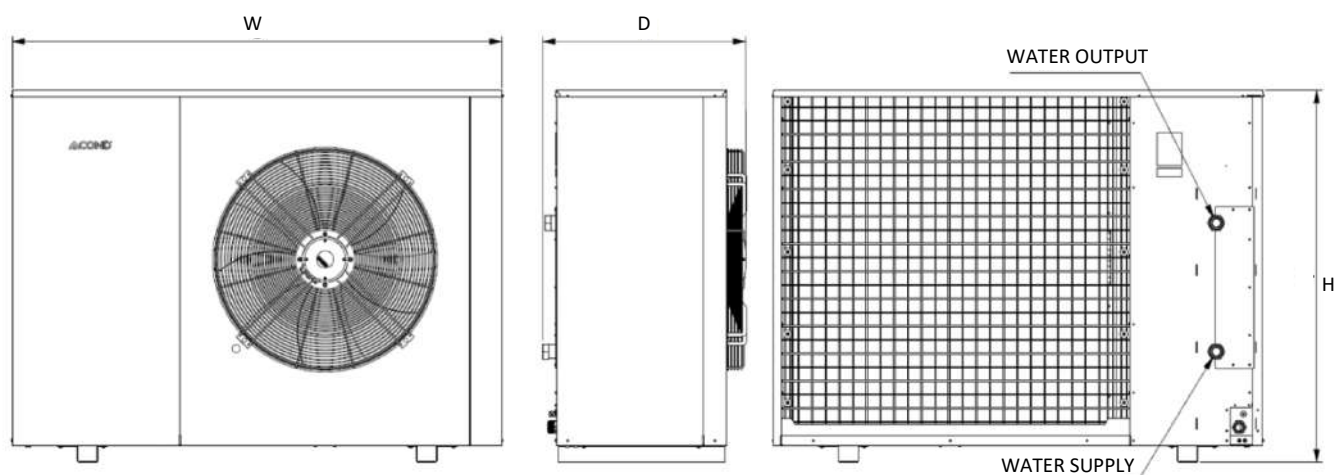
Cooling parameters at A35/W7				Cooling parameters at A35/W18			
MAX	Cooling capacity [kW]		16,30	MAX	Cooling capacity [kW]		21,00
	Cooling factor [kW/kW]		3,00		Cooling factor [kW/kW]		4,20
MIN	Cooling capacity [kW]		6,10	MIN	Cooling capacity [kW]		8,70
	Cooling factor [kW/kW]		2,50		Cooling factor [kW/kW]		3,10

DIMENSIONS OF THE HEAT PUMP

GRANDIS-N/R



GRANDIS-L



Model	GRANDIS-N	GRANDIS-R	GRANDIS-L
H [mm]	759	1089	1357
W [mm]	1128	1427	1792
D [mm]	539	581	742
Weight [kg]	110	185	283
T - Hot water	G1" DIN ISO 228	G1" DIN ISO 228	G6/4" DIN ISO 228
S - Cold water	G1" DIN ISO 228	G1" DIN ISO 228	G6/4" DIN ISO 228
Preparation for electrical connection	Guard 32mm	Guard 32mm	Guard 32mm

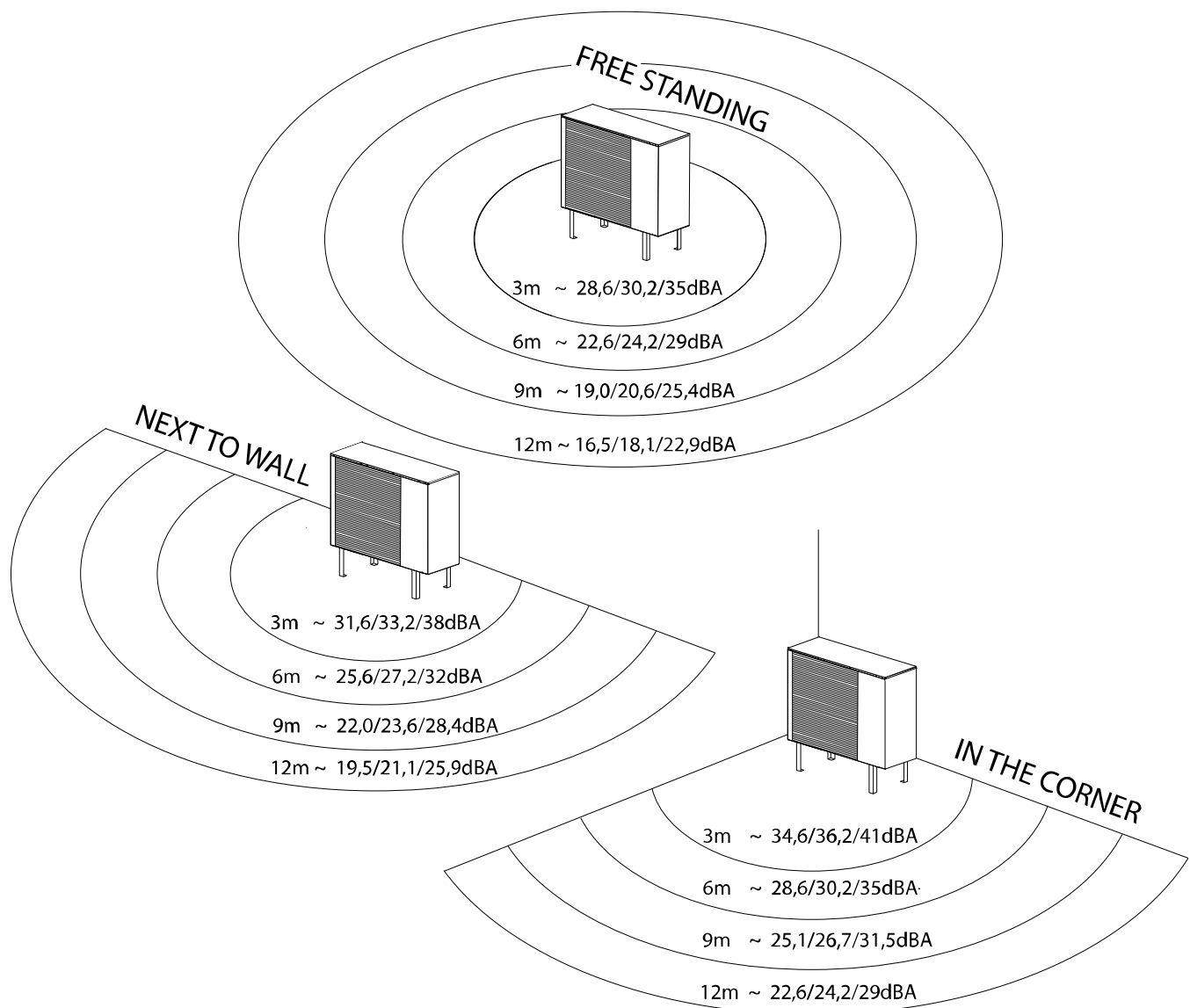
ACOUSTIC PARAMETERS

ACOND GRANDIS heat pumps are placed outdoors or in mechanical rooms complying with EN 378-3. Many factors influence the sound pressure levels, for example if the heat pump is placed next to a wall or in a corner, the structure of the wall, or at what altitude the heat pump is located. Therefore, the sound pressure values given are only indicative.

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

Model	GRANDIS-N	GRANDIS-R	GRANDIS-L
Acoustic performance at A7/W55 according to EN 12 102 [dB(A)]	46,1	47,7	52,5
Sound pressure 3m [dB(A)]	28,6	30,2	35
Acoustic pressure 6m [dB(A)]	22,6	24,2	29

The sound pressure values are written as GRANDIS-N / GRANDIS-R / GRANDIS-L

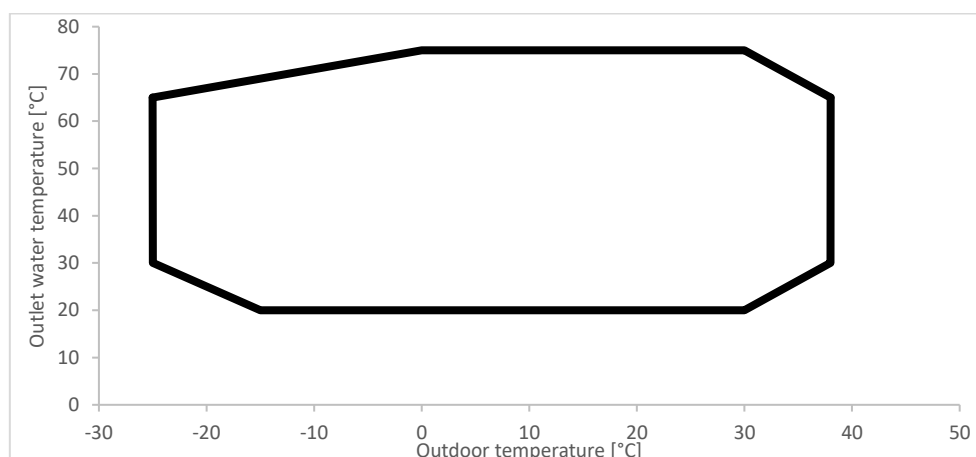


ENERGY PARAMETERS

Model		GRANDIS-N		GRANDIS-R		GRANDIS-L	
Reference water temperature [°C]		35	55	35	55	35	55
Average climate	Heating energy class	A+++	A+++	A+++	A+++	A+++	A++
	Seasonal heating energy efficiency [%]	212	159	220	165	195	142
	Annual energy consumption for heating [kWh]	1613	2040	3770	4896	8729	12543
Warmer climate	Heating energy class	A+++	A+++	A+++	A+++	A+++	A+++
	Seasonal heating energy efficiency [%]	275	198	284	204	248	188
	Annual energy consumption for heating [kWh]	768	1063	1861	2586	4468	5864
Cooler climate	Heating energy class	A++	A++	A+++	A++	A++	A++
	Seasonal heating energy efficiency [%]	173	140	178	143	170	134
	Annual energy consumption for heating [kWh]	3360	4139	8179	10157	11976	14723

WORKING AREA

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



Value tables for medium-temperature applications Grandis-N, Grandis-R, Grandis-L

Model:				Grandis-N			
Air-to-water heat pump: (yes/no)				Yes			
Brine-water heat pump: (yes/no)				No			
Water-to-water heat pump: (yes/no)				No			
Low temperature heat pump: (yes/no)				No			
Heater option: (yes/no)				No			
Combination heater with heat pump: (yes/no)				No			
Application: (low temperature/medium temperature)				mid-temperature			
Climatic conditions: (cooler/average/warmer)				average			
Item	Mark	Value	Unit	Item	Mark	Value	Unit
Rated thermal output (¹)	Prated	4	kW	Seasonal heating energy efficiency	ηs	159	%
Declared heating capacity for part load at an indoor temperature of 20°C and outdoor temperature Tj				Declared heating factor or primary energy coefficient for part load at an indoor temperature of 20°C and an outdoor temperature Tj			
Tj = -7°C	Pdh	3,5	kW	Tj = -7°C	COPd	2,5	-
Tj = +2°C	Pdh	2,2	kW	Tj = +2°C	COPd	4	-
Tj = +7°C	Pdh	1,5	kW	Tj = +7°C	COPd	5,3	-
Tj = +12°C	Pdh	1,8	kW	Tj = +12°C	COPd	7,2	-
Tj = bivalent temperature	Pdh	4	kW	Tj = bivalent temperature	COPd	2,2	-
Tj = limit operating temperature	Pdh	4	kW	Tj = limit operating temperature	COPd	2,2	-
For air-to-water heat pumps: Tj = -15°C (if TOL <-20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL <-20°C)	COPd	-	-
Bivalent temperature	Tbiv	-10	°C	For air-to-water heat pumps: limit operating temperature	TOL	-10	°C
Heating capacity in cyclic interval	Pcyc	-	kW	Heating capacity in cyclic interval	COPcyc	-	-
Energy loss coefficient (²)	Cdh	0,9	-	Limit operating temperature of heated water	WTOL	75	°C
Power consumption in modes other than active mode				Additional heater			
Off state	P _{OFF}	0,015	kW	Rated thermal output (¹)	P _{sup}	0	kW
Thermostat off status	P _{TO}	0,014	kW	Energy input	Electric		
Standby mode	P _{SB}	0,015	kW				
Compressor housing heating mode	P _{CK}	0	kW				
Other items							
Power regulation	Variable			For air-to-water heat pumps: nominal outdoor air flow	-	1600	m³/h
Sound power level indoor/outdoor	L _{WA}	-/46,1	dB	For water/brine-water heat pumps: nominal brine or water flow rate	-	-	m³/h
Emissions of nitrogen oxides	NO _x	-	mg/kWh				
For a combined heater and heat pump:							
Declared load profile	-			Energy efficiency of water heating	η _{wh}		%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}		kWh
Contact details	ACOND a.s., Štěrbobolská 1434/102a, 102 00 Prague 10 - Hostivař, Czech Republic						

Model:				Grandis-R			
Air-to-water heat pump: (yes/no)				Yes			
Brine-water heat pump: (yes/no)				No			
Water-to-water heat pump: (yes/no)				No			
Low temperature heat pump: (yes/no)				No			
Heater option: (yes/no)				No			
Combination heater with heat pump: (yes/no)				No			
Application: (low temperature/medium temperature)				mid-temperature			
Climatic conditions: (cooler/average/warmer)				average			
Item	Mark	Value	Unit	Item	Mark	Value	Unit
Rated thermal output (¹)	Prated	10	kW	Seasonal heating energy efficiency	ηs	165	%
Declared heating capacity for part load at an indoor temperature of 20°C and outdoor temperature Tj				Declared heating factor or primary energy coefficient for part load at an indoor temperature of 20°C and an outdoor temperature Tj			
Tj = -7°C	Pdh	8,8	kW	Tj = -7°C	COPd	2,7	-
Tj = +2°C	Pdh	5,4	kW	Tj = +2°C	COPd	4,1	-
Tj = +7°C	Pdh	3,8	kW	Tj = +7°C	COPd	5,4	-
Tj = +12°C	Pdh	4,5	kW	Tj = +12°C	COPd	6,8	
Tj = bivalent temperature	Pdh	10	kW	Tj = bivalent temperature	COPd	2,3	-
Tj = limit operating temperature	Pdh	10	kW	Tj = limit operating temperature	COPd	2,3	-
For air-to-water heat pumps: Tj = -15°C (if TOL <-20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL <-20°C)	COPd	-	-
Bivalent temperature	Tbiv	-10	°C	For air-to-water heat pumps: limit operating temperature	TOL	-10	°C
Heating capacity in cyclic interval	Pcych	-	kW	Heating capacity in cyclic interval	COPcyc	-	-
Energy loss coefficient (²)	Cdh	0,9	-	Limit operating temperature of heated water	WTOL	75	°C
Power consumption in modes other than active mode				Additional heater			
Off state	P _{OFF}	0,015	kW	Rated thermal output (¹)	Psup	0	kW
Thermostat off status	P _{TO}	0,014	kW	Energy input	Electric		
Standby mode	P _{SB}	0,015	kW				
Compressor housing heating mode	P _{CK}	0	kW				
Other items							
Power regulation	Variable			For air-to-water heat pumps: nominal air flow in the outdoor space	-	3400	m³/h
Sound power level indoor/outdoor	L _{WA}	-/47,7	dB	For water/brine-water heat pumps: nominal brine or water flow rate	-	-	m³/h
Emissions of nitrogen oxides	NO _x	-	mg/kWh				
For a combined heater and heat pump:							
Declared load profile	-			Energy efficiency of water heating	η _{wh}		%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}		kWh
Contact details	ACOND a.s., Štěrboholská 1434/102a, 102 00 Prague 10 - Hostivař, Czech Republic						

Model:				Grandis-L			
Air-to-water heat pump: (yes/no)				Yes			
Brine-water heat pump: (yes/no)				No			
Water-to-water heat pump: (yes/no)				No			
Low temperature heat pump: (yes/no)				No			
Heater option: (yes/no)				No			
Combination heater with heat pump: (yes/no)				No			
Application: (low temperature/medium temperature)				mid-temperature			
Climatic conditions: (cooler/average/warmer)				average			
Item	Mark	Value	Unit	Item	Mark	Value	Unit
Rated thermal output (¹)	Prated	22	kW	Seasonal heating energy efficiency	ηs	142	%
Declared heating capacity for part load at an indoor temperature of 20°C and outdoor temperature Tj				Declared heating factor or primary energy coefficient for part load at an indoor temperature of 20°C and an outdoor temperature Tj			
Tj = -7°C	Pdh	19,42	kW	Tj = -7°C	COPd	2,24	-
Tj = +2°C	Pdh	11,85	kW	Tj = +2°C	COPd	3,22	-
Tj = +7°C	Pdh	7,62	kW	Tj = +7°C	COPd	5,45	-
Tj = +12°C	Pdh	7,05	kW	Tj = +12°C	COPd	7,99	
Tj = bivalent temperature	Pdh	19,42	kW	Tj = bivalent temperature	COPd	2,24	-
Tj = limit operating temperature	Pdh	22	kW	Tj = limit operating temperature	COPd	2,07	-
For air-to-water heat pumps: Tj = -15°C (if TOL <-20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL <-20°C)	COPd	-	-
Bivalent temperature	Tbiv	-7	°C	For air-to-water heat pumps: limit operating temperature	TOL	-10	°C
Heating capacity in cyclic interval	Ppsych	-	kW	Heating capacity in cyclic interval	COPcyc	-	-
Energy loss coefficient (²)	Cdh	0,9	-	Limit operating temperature of heated water	WTOL	75	°C
Power consumption in modes other than active mode				Additional heater			
Off state	P _{OFF}	0,0124	kW	Rated thermal output (¹)	P _{sup}	2,58	kW
Thermostat off status	P _{TO}	0,0126	kW	Energy input	Electric		
Standby mode	P _{SB}	0,0124	kW				
Compressor housing heating mode	P _{CK}	0	kW				
Other items							
Power regulation	Variable			For air-to-water heat pumps: nominal outdoor air flow	-	12 916	m³/h
Indoor/outdoor sound power level	L _{WA}	-/52,5	dB	For water/brine-water heat pumps: nominal brine flow rate or water	-	-	m³/h
Emissions of nitrogen oxides	NO _x	-	mg/kWh				
For a combined heater and heat pump:							
Declared load profile	-			Energy efficiency of water heating	η _{wh}		%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}		kWh
Contact details	ACOND a.s., Štěrboholská 1434/102a, 102 00 Prague 10 - Hostivař, Czech Republic						

Tables of values for low temperature application Grandis-N, Grandis-R, Grandis-L

Model:				Grandis-N			
Air-to-water heat pump: (yes/no)				Yes			
Brine-water heat pump: (yes/no)				No			
Water-to-water heat pump: (yes/no)				No			
Low temperature heat pump: (yes/no)				No			
Heater option: (yes/no)				No			
Combination heater with heat pump: (yes/no)				No			
Application: (low temperature/medium temperature)				Low Temperature			
Climatic conditions: (cooler/average/warmer)				average			
Item	Mark	Value	Unit	Item	Mark	Value	Unit
Rated thermal output (¹)	Prated	4,2	kW	Seasonal heating energy efficiency	ηs	212	%
Declared heating capacity for part load at an indoor temperature of 20°C and outdoor temperature Tj				Declared heating factor or primary energy coefficient for part load at an indoor temperature of 20°C and an outdoor temperature Tj			
Tj = -7°C	Pdh	3,7	kW	Tj = -7°C	COPd	3,5	-
Tj = +2°C	Pdh	2,3	kW	Tj = +2°C	COPd	5,3	-
Tj = +7°C	Pdh	1,5	kW	Tj = +7°C	COPd	6,9	-
Tj = +12°C	Pdh	1,8	kW	Tj = +12°C	COPd	9,1	
Tj = bivalent temperature	Pdh	4,2	kW	Tj = bivalent temperature	COPd	3	-
Tj = limit operating temperature	Pdh	4,2	kW	Tj = limit operating temperature	COPd	3	-
For air-to-water heat pumps: Tj = -15°C (if TOL <-20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL <-20°C)	COPd	-	-
Bivalent temperature	T _{biv}	-10	°C	For air-to-water heat pumps: limit operating temperature	TOL	-10	°C
Heating capacity in cyclic interval	P _{cyc}	-	kW	Heating capacity in cyclic interval	COP _{cyc}	-	-
Energy loss coefficient (²)	Cdh	0,9	-	Limit operating temperature of heated water	WTOL	75	°C
Power consumption in modes other than active mode				Additional heater			
Off state	P _{OFF}	0,015	kW	Rated thermal output (¹)	P _{sup}	0	kW
Thermostat off status	P _{TO}	0,014	kW	Energy input	Electric		
Standby mode	P _{SB}	0,015	kW				
Compressor housing heating mode	P _{CK}	0	kW				
Other items							
Power regulation	Variable			For air-to-water heat pumps: nominal outdoor air flow	-	1600	m³/h
Indoor/outdoor sound power level	L _{WA}	-46,1	dB	For water/brine-water heat pumps: nominal brine or water flow rate	-	-	m³/h
Emissions of nitrogen oxides	NO _x	-	mg/kWh				
For a combined heater and heat pump:							
Declared load profile	-			Energy efficiency of water heating	η _{wh}		%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}		kWh
Contact details	ACOND a.s., Štěrboholská 1434/102a, 102 00 Prague 10 - Hostivař, Czech Republic						

Model:				Grandis-R			
Air-to-water heat pump: (yes/no)				Yes			
Brine-water heat pump: (yes/no)				No			
Water-to-water heat pump: (yes/no)				No			
Low temperature heat pump: (yes/no)				No			
Equipment with additional heater: (yes/no)				No			
Combination heater with heat pump: (yes/no)				No			
Application: (low temperature/medium temperature)				Low Temperature			
Climatic conditions: (cooler/average/warmer)				average			
Item	Mark	Value	Unit	Item	Mark	Value	Unit
Rated thermal output (¹)	Prated	10,2	kW	Seasonal heating energy efficiency	ηs	220	%
Declared heating capacity for part load at an indoor temperature of 20°C and outdoor temperature Tj				Declared heating factor or primary energy coefficient for part load at an indoor temperature of 20°C and an outdoor temperature Tj			
Tj = -7°C	Pdh	9	kW	Tj = -7°C	COPd	3,6	-
Tj = +2°C	Pdh	5,6	kW	Tj = +2°C	COPd	5,4	-
Tj = +7°C	Pdh	4	kW	Tj = +7°C	COPd	7,3	-
Tj = +12°C	Pdh	4,6	kW	Tj = +12°C	COPd	9	
Tj = bivalent temperature	Pdh	10,2	kW	Tj = bivalent temperature	COPd	3,3	-
Tj = limit operating temperature	Pdh	10,2	kW	Tj = limit operating temperature	COPd	3,3	-
For air-to-water heat pumps: Tj = -15°C (if TOL <-20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL <-20°C)	COPd	-	-
Bivalent temperature	Tbiv	-10	°C	For air-to-water heat pumps: limit operating temperature	TOL	-10	°C
Heating capacity in cyclic interval	PcyCh	-	kW	Heating capacity in cyclic interval	COPcyc	-	-
Energy loss coefficient (²)	Cdh	0,9	-	Limit operating temperature of heated water	WTOL	75	°C
Power consumption in modes other than active mode				Additional heater			
Off state	P _{OFF}	0,015	kW	Rated thermal output (¹)	Psup	0	kW
Thermostat off status	P _{TO}	0,014	kW	Energy input	Electric		
Standby mode	P _{SB}	0,015	kW				
Compressor housing heating mode	P _{CK}	0	kW				
Other items							
Power regulation	Variable			For air-to-water heat pumps: nominal outdoor air flow	-	3400	m³/h
Indoor/outdoor sound power level	L _{WA}	-/47,7	dB	For water/brine-water heat pumps: nominal brine or water flow rate	-	-	m³/h
Emissions of nitrogen oxides	NO _x	-	mg/kWh				
For a combined heater and heat pump:							
Declared load profile	-			Energy efficiency of water heating	η _{wh}		%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}		kWh
Contact details	ACOND a.s., Štěrboholská 1434/102a, 102 00 Prague 10 - Hostivař, Czech Republic						

Model:				Grandis-L			
Air-to-water heat pump: (yes/no)				Yes			
Brine-water heat pump: (yes/no)				No			
Water-to-water heat pump: (yes/no)				No			
Low temperature heat pump: (yes/no)				No			
Heater option: (yes/no)				No			
Combination heater with heat pump: (yes/no)				No			
Application: (low temperature/medium temperature)				Low Temperature			
Climatic conditions: (cooler/average/warmer)				average			
Item	Mark	Value	Unit	Item	Mark	Value	Unit
Rated thermal output (¹)	Prated	21	kW	Seasonal heating energy efficiency	ηs	195	%
Declared heating capacity for part load at an indoor temperature of 20°C and outdoor temperature Tj				Declared heating factor or primary energy coefficient for part load at an indoor temperature of 20°C and an outdoor temperature Tj			
Tj = -7°C	Pdh	18,5	kW	Tj = -7°C	COPd	2,74	-
Tj = +2°C	Pdh	10,5	kW	Tj = +2°C	COPd	4,6	-
Tj = +7°C	Pdh	7,38	kW	Tj = +7°C	COPd	7,59	-
Tj = +12°C	Pdh	7,14	kW	Tj = +12°C	COPd	9,6	
Tj = bivalent temperature	Pdh	18,5	kW	Tj = bivalent temperature	COPd	2,74	-
Tj = limit operating temperature	Pdh	18,5	kW	Tj = limit operating temperature	COPd	2,74	-
For air-to-water heat pumps: Tj = -15°C (if TOL <-20°C)	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C (if TOL <-20°C)	COPd	-	-
Bivalent temperature	Tbiv	-7	°C	For air-to-water heat pumps: limit operating temperature	TOL	-10	°C
Heating capacity in cyclic interval	Pcyh	-	kW	Heating capacity in cyclic interval	COPcyc	-	-
Energy loss coefficient (²)	Cdh	0,9	-	Limit operating temperature of heated water	WTOL	75	°C
Power consumption in modes other than active mode				Additional heater			
Off state	P _{OFF}	0,0124	kW	Rated thermal output (¹)	P _{sup}	2,5	kW
Thermostat off status	P _{TO}	0,0126	kW	Energy input	Electric		
Standby mode	P _{SB}	0,0124	kW				
Compressor housing heating mode	P _{CK}	0	kW				
Other items							
Power regulation	Variable			For air-to-water heat pumps: nominal outdoor air flow	-	12 916	m³/h
Indoor/outdoor sound power level	L _{WA}	-/52,5	dB	For water/brine-water heat pumps: nominal brine or water flow rate	-	-	m³/h
Emissions of nitrogen oxides	NO _x	-	mg/kWh				
For a combined heater and heat pump:							
Declared load profile	-			Energy efficiency of water heating	η _{wh}		%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}		kWh
Contact details	ACOND a.s., Štěrbobolská 1434/102a, 102 00 Prague 10 - Hostivař, Czech Republic						

(1) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design heating load Pdesign and the rated heat output of the supplementary heater Psup is equal to the supplementary heating output sup(Tj).

(2) If the energy loss coefficient Cdh is not determined by measurement, it has a default value of 0.9.