

# 1 GAHP A

Figure 1.1

Table 8  
COMMISSION DELEGATED REGULATION (EU) No 811/2013

Technical parameters for heat pump space heaters and heat pump combination heaters

Model(s):				GAHP A HT			
Air-to-water heat pump:				yes			
Water-to-water heat pump:				no			
Brine-to-water heat pump:				no			
Low-temperature heat pump:				no			
Equipped with a supplementary heater:				no			
Heat pump combination heater:				no			
Parameters shall be declared for medium-temperature application.							
Parameters shall be declared for average, colder and warmer climate conditions.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
AVERAGE CLIMATE CONDITIONS							
<b>Rated heat output (*)</b>	<i>Prated</i>	29,6	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	111	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7 °C	<i>Pdh</i>	26,1	kW	Tj = -7 °C	<i>PERd</i>	96	%
Tj = +2 °C	<i>Pdh</i>	16,0	kW	Tj = +2 °C	<i>PERd</i>	120	%
Tj = +7 °C	<i>Pdh</i>	10,4	kW	Tj = +7 °C	<i>PERd</i>	117	%
Tj = +12 °C	<i>Pdh</i>	4,4	kW	Tj = +12 °C	<i>PERd</i>	111	%
Tj = bivalent temperature	<i>Pdh</i>	-	kW	Tj = bivalent temperature	<i>PERd</i>	-	%
Annual energy consumption	<i>Q<sub>HE</sub></i>	198	GJ				
COLDER CLIMATE CONDITIONS							
<b>Rated heat output (*)</b>	<i>Prated</i>	29,4	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	107	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7 °C	<i>Pdh</i>	17,9	kW	Tj = -7 °C	<i>PERd</i>	109	%
Tj = +2 °C	<i>Pdh</i>	10,9	kW	Tj = +2 °C	<i>PERd</i>	117	%
Tj = +7 °C	<i>Pdh</i>	7,1	kW	Tj = +7 °C	<i>PERd</i>	112	%
Tj = +12 °C	<i>Pdh</i>	3,2	kW	Tj = +12 °C	<i>PERd</i>	111	%
Tj = bivalent temperature	<i>Pdh</i>	-	kW	Tj = bivalent temperature	<i>PERd</i>	-	%
Tj = operation limit temperature	<i>Pdh</i>	29,4	kW	Tj = operation limit temperature	<i>PERd</i>	87	%
For air-to-water heat pumps: Tj = -15 °C (if TOL < -20 °C)	<i>Pdh</i>	24,1	kW	For air-to-water heat pumps: Tj = -15 °C (if TOL < -20 °C)	<i>PERd</i>	90	%
Annual energy consumption	<i>Q<sub>HE</sub></i>	244	GJ				
WARMER CLIMATE CONDITIONS							
<b>Rated heat output (*)</b>	<i>Prated</i>	36,4	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	116	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = +2 °C	<i>Pdh</i>	36,4	kW	Tj = +2 °C	<i>PERd</i>	119	%
Tj = +7 °C	<i>Pdh</i>	23,3	kW	Tj = +7 °C	<i>PERd</i>	122	%
Tj = +12 °C	<i>Pdh</i>	10,6	kW	Tj = +12 °C	<i>PERd</i>	116	%
Tj = bivalent temperature	<i>Pdh</i>	-	kW	Tj = bivalent temperature	<i>PERd</i>	-	%
Annual energy consumption	<i>Q<sub>HE</sub></i>	151	GJ				
Bivalent temperature	<i>T<sub>biv</sub></i>	TOL < T <sub>designh</sub>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	-22	°C
Power consumption in modes other than active mode				Heating water operating limit temperature			
Off mode	<i>P<sub>OFF</sub></i>	0,000	kW	Supplementary heater			
Thermostat-off mode	<i>P<sub>TO</sub></i>	0,021	kW	Rated heat output	<i>P<sub>sup</sub></i>	-	kW
Standby mode	<i>P<sub>SB</sub></i>	0,005	kW	Type of energy input	monovalent		
Crankcase heater mode	<i>P<sub>CK</sub></i>	-	kW				
Other items				For air-to-water heat pumps: Rated air flow rate, outdoors			
Capacity control	variable					11000	m <sup>3</sup> /h
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	- / 80	dB	For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger		-	m <sup>3</sup> /h
Contact details	Robur SPA, Via Parigi 4/6, I-24040 Zingonia (BG)						

(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output *Prated* is equal to the design load for heating *Pdesignh*, and the rated heat output of a supplementary heater *Psup* is equal to the supplementary capacity for heating *sup(Tj)*.

Additional information required by COMMISSION REGULATION (EU) No 813/2013, Table 2:

Emissions of nitrogen oxides:  $NO_x$ 

40
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 mg/kWh

## 2 GAHP A S1

Figure 2.1

Table 8  
COMMISSION DELEGATED REGULATION (EU) No 811/2013

### Technical parameters for heat pump space heaters and heat pump combination heaters

Model(s):	GAHP A HT S1						
Air-to-water heat pump:	yes						
Water-to-water heat pump:	no						
Brine-to-water heat pump:	no						
Low-temperature heat pump:	no						
Equipped with a supplementary heater:	no						
Heat pump combination heater:	no						
Parameters shall be declared for medium-temperature application.							
Parameters shall be declared for average, colder and warmer climate conditions.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
AVERAGE CLIMATE CONDITIONS							
<b>Rated heat output (*)</b>	<i>Prated</i>	29,6	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	113	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature $T_j$				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature $T_j$			
$T_j = -7$ °C	<i>Pdh</i>	26,1	kW	$T_j = -7$ °C	<i>PERd</i>	97	%
$T_j = +2$ °C	<i>Pdh</i>	16,0	kW	$T_j = +2$ °C	<i>PERd</i>	122	%
$T_j = +7$ °C	<i>Pdh</i>	10,4	kW	$T_j = +7$ °C	<i>PERd</i>	119	%
$T_j = +12$ °C	<i>Pdh</i>	4,4	kW	$T_j = +12$ °C	<i>PERd</i>	113	%
$T_j =$ bivalent temperature	<i>Pdh</i>	-	kW	$T_j =$ bivalent temperature	<i>PERd</i>	-	%
Annual energy consumption	<i>Q<sub>HE</sub></i>	195	GJ				
COLDER CLIMATE CONDITIONS							
<b>Rated heat output (*)</b>	<i>Prated</i>	29,4	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	109	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature $T_j$				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature $T_j$			
$T_j = -7$ °C	<i>Pdh</i>	17,9	kW	$T_j = -7$ °C	<i>PERd</i>	110	%
$T_j = +2$ °C	<i>Pdh</i>	10,9	kW	$T_j = +2$ °C	<i>PERd</i>	119	%
$T_j = +7$ °C	<i>Pdh</i>	7,1	kW	$T_j = +7$ °C	<i>PERd</i>	114	%
$T_j = +12$ °C	<i>Pdh</i>	3,2	kW	$T_j = +12$ °C	<i>PERd</i>	113	%
$T_j =$ bivalent temperature	<i>Pdh</i>	-	kW	$T_j =$ bivalent temperature	<i>PERd</i>	-	%
$T_j =$ operation limit temperature	<i>Pdh</i>	29,4	kW	$T_j =$ operation limit temperature	<i>PERd</i>	88	%
For air-to-water heat pumps: $T_j = -15$ °C (if TOL < -20 °C)	<i>Pdh</i>	24,1	kW	For air-to-water heat pumps: $T_j = -15$ °C (if TOL < -20 °C)	<i>PERd</i>	91	%
Annual energy consumption	<i>Q<sub>HE</sub></i>	239	GJ				
WARMER CLIMATE CONDITIONS							
<b>Rated heat output (*)</b>	<i>Prated</i>	36,4	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	117	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature $T_j$				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature $T_j$			
$T_j = +2$ °C	<i>Pdh</i>	36,4	kW	$T_j = +2$ °C	<i>PERd</i>	120	%
$T_j = +7$ °C	<i>Pdh</i>	23,3	kW	$T_j = +7$ °C	<i>PERd</i>	123	%
$T_j = +12$ °C	<i>Pdh</i>	10,6	kW	$T_j = +12$ °C	<i>PERd</i>	118	%
$T_j =$ bivalent temperature	<i>Pdh</i>	-	kW	$T_j =$ bivalent temperature	<i>PERd</i>	-	%
Annual energy consumption	<i>Q<sub>HE</sub></i>	150	GJ				
Bivalent temperature	<i>T<sub>bv</sub></i>	TOL < <i>T<sub>designh</sub></i>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	-22	°C
				Heating water operating limit temperature	<i>WTOL</i>	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P<sub>OFF</sub></i>	0,000	kW	Rated heat output	<i>P<sub>sup</sub></i>	-	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	0,021	kW	Type of energy input	monovalent		
Standby mode	<i>P<sub>SB</sub></i>	0,005	kW				
Crankcase heater mode	<i>P<sub>CK</sub></i>	-	kW				
Other items							
Capacity control		variable		For air-to-water heat pumps: Rated air flow rate, outdoors		11000	m <sup>3</sup> /h
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	- / 74	dB	For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger		-	m <sup>3</sup> /h
Contact details	Robur SPA, Via Parigi 4/6, I-24040 Zingonia (BG)						

(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output *Prated* is equal to the design load for heating *Pdesignh*, and the rated heat output of a supplementary heater *Psup* is equal to the supplementary capacity for heating *sup(Tj)*.

Additional information required by COMMISSION REGULATION (EU) No 813/2013, Table 2:

Emissions of nitrogen oxides:  $NO_x$  40 mg/kWh

### 3 GAHP A INDOOR

Figure 3.1

Table 8  
COMMISSION DELEGATED REGULATION (EU) No 811/2013

Technical parameters for heat pump space heaters and heat pump combination heaters							
Model(s):		GAHP A Indoor					
Air-to-water heat pump:		yes					
Water-to-water heat pump:		no					
Brine-to-water heat pump:		no					
Low-temperature heat pump:		no					
Equipped with a supplementary heater:		no					
Heat pump combination heater:		no					
Parameters shall be declared for medium-temperature application.							
Parameters shall be declared for average, colder and warmer climate conditions.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
AVERAGE CLIMATE CONDITIONS							
<b>Rated heat output (*)</b>	<i>Prated</i>	30,1	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	112	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7 °C	<i>Pdh</i>	26,5	kW	Tj = -7 °C	<i>PERd</i>	96	%
Tj = +2 °C	<i>Pdh</i>	16,3	kW	Tj = +2 °C	<i>PERd</i>	121	%
Tj = +7 °C	<i>Pdh</i>	10,5	kW	Tj = +7 °C	<i>PERd</i>	117	%
Tj = +12 °C	<i>Pdh</i>	4,5	kW	Tj = +12 °C	<i>PERd</i>	111	%
Tj = bivalent temperature	<i>Pdh</i>	-	kW	Tj = bivalent temperature	<i>PERd</i>	-	%
Annual energy consumption	<i>Q<sub>HE</sub></i>	200	GJ				
COLDER CLIMATE CONDITIONS							
<b>Rated heat output (*)</b>	<i>Prated</i>	29,8	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	108	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7 °C	<i>Pdh</i>	18,2	kW	Tj = -7 °C	<i>PERd</i>	109	%
Tj = +2 °C	<i>Pdh</i>	11,0	kW	Tj = +2 °C	<i>PERd</i>	118	%
Tj = +7 °C	<i>Pdh</i>	7,2	kW	Tj = +7 °C	<i>PERd</i>	113	%
Tj = +12 °C	<i>Pdh</i>	3,3	kW	Tj = +12 °C	<i>PERd</i>	111	%
Tj = bivalent temperature	<i>Pdh</i>	-	kW	Tj = bivalent temperature	<i>PERd</i>	-	%
Tj = operation limit temperature	<i>Pdh</i>	29,8	kW	Tj = operation limit temperature	<i>PERd</i>	87	%
For air-to-water heat pumps: Tj = -15 °C (if TOL < -20 °C)	<i>Pdh</i>	24,4	kW	For air-to-water heat pumps: Tj = -15 °C (if TOL < -20 °C)	<i>PERd</i>	90	%
Annual energy consumption	<i>Q<sub>HE</sub></i>	245	GJ				
WARMER CLIMATE CONDITIONS							
<b>Rated heat output (*)</b>	<i>Prated</i>	36,6	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	116	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = +2 °C	<i>Pdh</i>	36,6	kW	Tj = +2 °C	<i>PERd</i>	119	%
Tj = +7 °C	<i>Pdh</i>	23,4	kW	Tj = +7 °C	<i>PERd</i>	122	%
Tj = +12 °C	<i>Pdh</i>	10,6	kW	Tj = +12 °C	<i>PERd</i>	117	%
Tj = bivalent temperature	<i>Pdh</i>	-	kW	Tj = bivalent temperature	<i>PERd</i>	-	%
Annual energy consumption	<i>Q<sub>HE</sub></i>	152	GJ				
Bivalent temperature	<i>T<sub>biv</sub></i>	TOL < T <sub>designh</sub>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	-22	°C
				Heating water operating limit temperature	<i>WTOL</i>	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P<sub>OFF</sub></i>	0,000	kW	Rated heat output	<i>P<sub>sup</sub></i>	-	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	0,021	kW	Type of energy input	monovalent		
Standby mode	<i>P<sub>SB</sub></i>	0,005	kW				
Crankcase heater mode	<i>P<sub>CK</sub></i>	-	kW				
Other items				For air-to-water heat pumps: Rated air flow rate, outdoors			
Capacity control	variable					11000	m <sup>3</sup> /h
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	- / 74	dB	For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger		-	m <sup>3</sup> /h
Contact details	Robur SPA, Via Parigi 4/6, I-24040 Zingonia (BG)						

(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output *Prated* is equal to the design load for heating *Pdesignh*, and the rated heat output of a supplementary heater *Psup* is equal to the supplementary capacity for heating *sup(Tj)*.

Additional information required by COMMISSION REGULATION (EU) No 813/2013, Table 2:

Emissions of nitrogen oxides: *NO<sub>x</sub>* 40 mg/kWh

## 4 GAHP-AR

Figure 4.1

Table 8  
COMMISSION DELEGATED REGULATION (EU) No 811/2013

### Technical parameters for heat pump space heaters and heat pump combination heaters

Model(s):	GAHP-AR						
Air-to-water heat pump:	yes						
Water-to-water heat pump:	no						
Brine-to-water heat pump:	no						
Low-temperature heat pump:	no						
Equipped with a supplementary heater:	no						
Heat pump combination heater:	no						
Parameters shall be declared for medium-temperature application.							
Parameters shall be declared for average, colder and warmer climate conditions.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
AVERAGE CLIMATE CONDITIONS							
<b>Rated heat output (*)</b>	<i>Prated</i>	28,4	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	110	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature $T_j$				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature $T_j$			
$T_j = -7$ °C	<i>Pdh</i>	25,0	kW	$T_j = -7$ °C	<i>PERd</i>	93	%
$T_j = +2$ °C	<i>Pdh</i>	15,3	kW	$T_j = +2$ °C	<i>PERd</i>	118	%
$T_j = +7$ °C	<i>Pdh</i>	9,9	kW	$T_j = +7$ °C	<i>PERd</i>	116	%
$T_j = +12$ °C	<i>Pdh</i>	4,3	kW	$T_j = +12$ °C	<i>PERd</i>	118	%
$T_j =$ bivalent temperature	<i>Pdh</i>	-	kW	$T_j =$ bivalent temperature	<i>PERd</i>	-	%
Annual energy consumption	<i>Q<sub>HE</sub></i>	207	GJ				
COLDER CLIMATE CONDITIONS							
<b>Rated heat output (*)</b>	<i>Prated</i>	26,7	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	105	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature $T_j$				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature $T_j$			
$T_j = -7$ °C	<i>Pdh</i>	16,3	kW	$T_j = -7$ °C	<i>PERd</i>	103	%
$T_j = +2$ °C	<i>Pdh</i>	9,9	kW	$T_j = +2$ °C	<i>PERd</i>	116	%
$T_j = +7$ °C	<i>Pdh</i>	6,4	kW	$T_j = +7$ °C	<i>PERd</i>	114	%
$T_j = +12$ °C	<i>Pdh</i>	2,9	kW	$T_j = +12$ °C	<i>PERd</i>	112	%
$T_j =$ bivalent temperature	<i>Pdh</i>	-	kW	$T_j =$ bivalent temperature	<i>PERd</i>	-	%
$T_j =$ operation limit temperature	<i>Pdh</i>	26,7	kW	$T_j =$ operation limit temperature	<i>PERd</i>	89	%
For air-to-water heat pumps: $T_j = -15$ °C (if TOL < -20 °C)	<i>Pdh</i>	21,9	kW	For air-to-water heat pumps: $T_j = -15$ °C (if TOL < -20 °C)	<i>PERd</i>	92	%
Annual energy consumption	<i>Q<sub>HE</sub></i>	242	GJ				
WARMER CLIMATE CONDITIONS							
<b>Rated heat output (*)</b>	<i>Prated</i>	32,6	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	120	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature $T_j$				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature $T_j$			
$T_j = +2$ °C	<i>Pdh</i>	32,6	kW	$T_j = +2$ °C	<i>PERd</i>	121	%
$T_j = +7$ °C	<i>Pdh</i>	20,9	kW	$T_j = +7$ °C	<i>PERd</i>	128	%
$T_j = +12$ °C	<i>Pdh</i>	9,5	kW	$T_j = +12$ °C	<i>PERd</i>	111	%
$T_j =$ bivalent temperature	<i>Pdh</i>	-	kW	$T_j =$ bivalent temperature	<i>PERd</i>	-	%
Annual energy consumption	<i>Q<sub>HE</sub></i>	141	GJ				
Bivalent temperature	<i>T<sub>bv</sub></i>	TOL < <i>T<sub>designh</sub></i>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	-22	°C
				Heating water operating limit temperature	<i>WTOL</i>	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P<sub>OFF</sub></i>	0,000	kW	Rated heat output	<i>P<sub>sup</sub></i>	-	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	0,023	kW	Type of energy input	monovalent		
Standby mode	<i>P<sub>SB</sub></i>	0,007	kW				
Crankcase heater mode	<i>P<sub>CK</sub></i>	-	kW				
Other items							
Capacity control		fixed		For air-to-water heat pumps: Rated air flow rate, outdoors		11000	m <sup>3</sup> /h
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	- / 80	dB	For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger		-	m <sup>3</sup> /h
Contact details	Robur SPA, Via Parigi 4/6, I-24040 Zingonia (BG)						

(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output *Prated* is equal to the design load for heating *Pdesignh*, and the rated heat output of a supplementary heater *Psup* is equal to the supplementary capacity for heating *sup(Tj)*.

Additional information required by COMMISSION REGULATION (EU) No 813/2013, Table 2:

Emissions of nitrogen oxides:  $NO_x$  48 mg/kWh

## 5 GAHP-AR S

Figure 5.1

Table 8  
COMMISSION DELEGATED REGULATION (EU) No 811/2013

Technical parameters for heat pump space heaters and heat pump combination heaters

Model(s):				GAHP-AR S			
Air-to-water heat pump:				yes			
Water-to-water heat pump:				no			
Brine-to-water heat pump:				no			
Low-temperature heat pump:				no			
Equipped with a supplementary heater:				no			
Heat pump combination heater:				no			
Parameters shall be declared for medium-temperature application.							
Parameters shall be declared for average, colder and warmer climate conditions.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
AVERAGE CLIMATE CONDITIONS							
<b>Rated heat output (*)</b>	<i>Prated</i>	28,4	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	111	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature $T_j$				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature $T_j$			
$T_j = -7\text{ °C}$	<i>Pdh</i>	25,0	kW	$T_j = -7\text{ °C}$	<i>PERd</i>	94	%
$T_j = +2\text{ °C}$	<i>Pdh</i>	15,3	kW	$T_j = +2\text{ °C}$	<i>PERd</i>	119	%
$T_j = +7\text{ °C}$	<i>Pdh</i>	9,9	kW	$T_j = +7\text{ °C}$	<i>PERd</i>	118	%
$T_j = +12\text{ °C}$	<i>Pdh</i>	4,3	kW	$T_j = +12\text{ °C}$	<i>PERd</i>	121	%
$T_j = \text{bivalent temperature}$	<i>Pdh</i>	-	kW	$T_j = \text{bivalent temperature}$	<i>PERd</i>	-	%
Annual energy consumption	<i>Q<sub>HE</sub></i>	207	GJ				
COLDER CLIMATE CONDITIONS							
<b>Rated heat output (*)</b>	<i>Prated</i>	26,7	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	105	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature $T_j$				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature $T_j$			
$T_j = -7\text{ °C}$	<i>Pdh</i>	16,3	kW	$T_j = -7\text{ °C}$	<i>PERd</i>	103	%
$T_j = +2\text{ °C}$	<i>Pdh</i>	9,9	kW	$T_j = +2\text{ °C}$	<i>PERd</i>	116	%
$T_j = +7\text{ °C}$	<i>Pdh</i>	6,4	kW	$T_j = +7\text{ °C}$	<i>PERd</i>	114	%
$T_j = +12\text{ °C}$	<i>Pdh</i>	2,9	kW	$T_j = +12\text{ °C}$	<i>PERd</i>	112	%
$T_j = \text{bivalent temperature}$	<i>Pdh</i>	-	kW	$T_j = \text{bivalent temperature}$	<i>PERd</i>	-	%
$T_j = \text{operation limit temperature}$	<i>Pdh</i>	26,7	kW	$T_j = \text{operation limit temperature}$	<i>PERd</i>	89	%
For air-to-water heat pumps: $T_j = -15\text{ °C}$ (if TOL < -20 °C)	<i>Pdh</i>	21,9	kW	For air-to-water heat pumps: $T_j = -15\text{ °C}$ (if TOL < -20 °C)	<i>PERd</i>	92	%
Annual energy consumption	<i>Q<sub>HE</sub></i>	242	GJ				
WARMER CLIMATE CONDITIONS							
<b>Rated heat output (*)</b>	<i>Prated</i>	32,6	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	120	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature $T_j$				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature $T_j$			
$T_j = +2\text{ °C}$	<i>Pdh</i>	32,6	kW	$T_j = +2\text{ °C}$	<i>PERd</i>	121	%
$T_j = +7\text{ °C}$	<i>Pdh</i>	20,9	kW	$T_j = +7\text{ °C}$	<i>PERd</i>	120	%
$T_j = +12\text{ °C}$	<i>Pdh</i>	9,5	kW	$T_j = +12\text{ °C}$	<i>PERd</i>	113	%
$T_j = \text{bivalent temperature}$	<i>Pdh</i>	-	kW	$T_j = \text{bivalent temperature}$	<i>PERd</i>	-	%
Annual energy consumption	<i>Q<sub>HE</sub></i>	141	GJ				
Bivalent temperature	<i>T<sub>biv</sub></i>	TOL < <i>T<sub>designh</sub></i>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	-22	°C
				Heating water operating limit temperature	<i>WTOL</i>	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P<sub>OFF</sub></i>	0,000	kW	Rated heat output	<i>P<sub>sup</sub></i>	-	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	0,023	kW	Type of energy input	monovalent		
Standby mode	<i>P<sub>SB</sub></i>	0,007	kW				
Crankcase heater mode	<i>P<sub>CK</sub></i>	-	kW				
Other items							
Capacity control		fixed		For air-to-water heat pumps: Rated air flow rate, outdoors		11000	m <sup>3</sup> /h
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	- / 75	dB	For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger		-	m <sup>3</sup> /h
Contact details	Robur SPA, Via Parigi 4/6, I-24040 Zingonia (BG)						

(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output *Prated* is equal to the design load for heating *Pdesignh*, and the rated heat output of a supplementary heater *Psup* is equal to the supplementary capacity for heating *sup(Tj)*.

Additional information required by COMMISSION REGULATION (EU) No 813/2013, Table 2:

Emissions of nitrogen oxides:  $NO_x$  48 mg/kWh

## 6 GAHP GS

Figure 6.1

Table 8  
COMMISSION DELEGATED REGULATION (EU) No 811/2013

### Technical parameters for heat pump space heaters and heat pump combination heaters

Model(s):	GAHP GS HT						
Air-to-water heat pump:	no						
Water-to-water heat pump:	no						
Brine-to-water heat pump:	yes						
Low-temperature heat pump:	no						
Equipped with a supplementary heater:	no						
Heat pump combination heater:	no						
Parameters shall be declared for medium-temperature application.							
Parameters shall be declared for average, colder and warmer climate conditions.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
AVERAGE CLIMATE CONDITIONS							
<b>Rated heat output (*)</b>	<i>Prated</i>	37,4	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	125	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature $T_j$				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature $T_j$			
$T_j = -7$ °C	<i>Pdh</i>	32,9	kW	$T_j = -7$ °C	<i>PERd</i>	128	%
$T_j = +2$ °C	<i>Pdh</i>	20,2	kW	$T_j = +2$ °C	<i>PERd</i>	130	%
$T_j = +7$ °C	<i>Pdh</i>	13,1	kW	$T_j = +7$ °C	<i>PERd</i>	128	%
$T_j = +12$ °C	<i>Pdh</i>	5,6	kW	$T_j = +12$ °C	<i>PERd</i>	123	%
$T_j =$ bivalent temperature	<i>Pdh</i>	-	kW	$T_j =$ bivalent temperature	<i>PERd</i>	-	%
Annual energy consumption	<i>Q<sub>HE</sub></i>	223	GJ				
COLDER CLIMATE CONDITIONS							
<b>Rated heat output (*)</b>	<i>Prated</i>	37,4	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	124	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature $T_j$				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature $T_j$			
$T_j = -7$ °C	<i>Pdh</i>	22,8	kW	$T_j = -7$ °C	<i>PERd</i>	129	%
$T_j = +2$ °C	<i>Pdh</i>	13,8	kW	$T_j = +2$ °C	<i>PERd</i>	128	%
$T_j = +7$ °C	<i>Pdh</i>	9,0	kW	$T_j = +7$ °C	<i>PERd</i>	126	%
$T_j = +12$ °C	<i>Pdh</i>	4,1	kW	$T_j = +12$ °C	<i>PERd</i>	122	%
$T_j =$ bivalent temperature	<i>Pdh</i>	-	kW	$T_j =$ bivalent temperature	<i>PERd</i>	-	%
$T_j =$ operation limit temperature	<i>Pdh</i>	37,4	kW	$T_j =$ operation limit temperature	<i>PERd</i>	128	%
For air-to-water heat pumps: $T_j = -15$ °C (if TOL < -20 °C)	<i>Pdh</i>	30,7	kW	For air-to-water heat pumps: $T_j = -15$ °C (if TOL < -20 °C)	<i>PERd</i>	128	%
Annual energy consumption	<i>Q<sub>HE</sub></i>	268	GJ				
WARMER CLIMATE CONDITIONS							
<b>Rated heat output (*)</b>	<i>Prated</i>	37,4	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	124	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature $T_j$				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature $T_j$			
$T_j = +2$ °C	<i>Pdh</i>	37,4	kW	$T_j = +2$ °C	<i>PERd</i>	128	%
$T_j = +7$ °C	<i>Pdh</i>	23,9	kW	$T_j = +7$ °C	<i>PERd</i>	129	%
$T_j = +12$ °C	<i>Pdh</i>	10,9	kW	$T_j = +12$ °C	<i>PERd</i>	127	%
$T_j =$ bivalent temperature	<i>Pdh</i>	-	kW	$T_j =$ bivalent temperature	<i>PERd</i>	-	%
Annual energy consumption	<i>Q<sub>HE</sub></i>	145	GJ				
Bivalent temperature	<i>T<sub>bv</sub></i>	TOL < <i>T<sub>designh</sub></i>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	-	°C
				Heating water operating limit temperature	<i>WTOL</i>	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P<sub>OFF</sub></i>	0,000	kW	Rated heat output	<i>P<sub>sup</sub></i>	-	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	0,019	kW	Type of energy input	monovalent		
Standby mode	<i>P<sub>SB</sub></i>	0,005	kW				
Crankcase heater mode	<i>P<sub>CK</sub></i>	-	kW				
Other items							
Capacity control		variable		For air-to-water heat pumps: Rated air flow rate, outdoors		-	m <sup>3</sup> /h
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	- / 66	dB	For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger		3,0	m <sup>3</sup> /h
Contact details	Robur SPA, Via Parigi 4/6, I-24040 Zingonia (BG)						

(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output *Prated* is equal to the design load for heating *Pdesignh*, and the rated heat output of a supplementary heater *Psup* is equal to the supplementary capacity for heating *sup(Tj)*.

Additional information required by COMMISSION REGULATION (EU) No 813/2013, Table 2:

Emissions of nitrogen oxides:  $NO_x$  40 mg/kWh

## 7 GAHP WS

Figure 7.1

Table 8  
COMMISSION DELEGATED REGULATION (EU) No 811/2013

Technical parameters for heat pump space heaters and heat pump combination heaters

Model(s):	GAHP WS						
Air-to-water heat pump:	no						
Water-to-water heat pump:	yes						
Brine-to-water heat pump:	no						
Low-temperature heat pump:	no						
Equipped with a supplementary heater:	no						
Heat pump combination heater:	no						
Parameters shall be declared for medium-temperature application.							
Parameters shall be declared for average, colder and warmer climate conditions.							
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
AVERAGE CLIMATE CONDITIONS							
<b>Rated heat output (*)</b>	<i>Prated</i>	41,5	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	127	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7 °C	<i>Pdh</i>	36,5	kW	Tj = -7 °C	<i>PERd</i>	139	%
Tj = +2 °C	<i>Pdh</i>	22,4	kW	Tj = +2 °C	<i>PERd</i>	135	%
Tj = +7 °C	<i>Pdh</i>	14,5	kW	Tj = +7 °C	<i>PERd</i>	127	%
Tj = +12 °C	<i>Pdh</i>	6,2	kW	Tj = +12 °C	<i>PERd</i>	121	%
Tj = bivalent temperature	<i>Pdh</i>	-	kW	Tj = bivalent temperature	<i>PERd</i>	-	%
Annual energy consumption	<i>Q<sub>HE</sub></i>	243	GJ				
COLDER CLIMATE CONDITIONS							
<b>Rated heat output (*)</b>	<i>Prated</i>	41,5	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	125	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7 °C	<i>Pdh</i>	25,3	kW	Tj = -7 °C	<i>PERd</i>	135	%
Tj = +2 °C	<i>Pdh</i>	15,4	kW	Tj = +2 °C	<i>PERd</i>	128	%
Tj = +7 °C	<i>Pdh</i>	10,0	kW	Tj = +7 °C	<i>PERd</i>	124	%
Tj = +12 °C	<i>Pdh</i>	4,6	kW	Tj = +12 °C	<i>PERd</i>	119	%
Tj = bivalent temperature	<i>Pdh</i>	-	kW	Tj = bivalent temperature	<i>PERd</i>	-	%
Tj = operation limit temperature	<i>Pdh</i>	41,5	kW	Tj = operation limit temperature	<i>PERd</i>	142	%
For air-to-water heat pumps: Tj = -15 °C (if TOL < -20 °C)	<i>Pdh</i>	34,0	kW	For air-to-water heat pumps: Tj = -15 °C (if TOL < -20 °C)	<i>PERd</i>	138	%
Annual energy consumption	<i>Q<sub>HE</sub></i>	294	GJ				
WARMER CLIMATE CONDITIONS							
<b>Rated heat output (*)</b>	<i>Prated</i>	41,5	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	126	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = +2 °C	<i>Pdh</i>	41,5	kW	Tj = +2 °C	<i>PERd</i>	142	%
Tj = +7 °C	<i>Pdh</i>	26,6	kW	Tj = +7 °C	<i>PERd</i>	136	%
Tj = +12 °C	<i>Pdh</i>	12,0	kW	Tj = +12 °C	<i>PERd</i>	125	%
Tj = bivalent temperature	<i>Pdh</i>	-	kW	Tj = bivalent temperature	<i>PERd</i>	-	%
Annual energy consumption	<i>Q<sub>HE</sub></i>	158	GJ				
Bivalent temperature	<i>T<sub>biv</sub></i>	TOL < T <sub>designh</sub>	°C	For air-to-water heat pumps: Operation limit temperature	<i>TOL</i>	-	°C
				Heating water operating limit temperature	<i>WTOL</i>	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	<i>P<sub>OFF</sub></i>	0,000	kW	Rated heat output	<i>P<sub>sup</sub></i>	-	kW
Thermostat-off mode	<i>P<sub>TO</sub></i>	0,019	kW	Type of energy input	monovalent		
Standby mode	<i>P<sub>SB</sub></i>	0,005	kW				
Crankcase heater mode	<i>P<sub>CK</sub></i>	-	kW				
Other items							
Capacity control		variable		For air-to-water heat pumps: Rated air flow rate, outdoors		-	m <sup>3</sup> /h
Sound power level, indoors/outdoors	<i>L<sub>WA</sub></i>	- / 66	dB	For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger		2,9	m <sup>3</sup> /h
Contact details	Robur SPA, Via Parigi 4/6, I-24040 Zingonia (BG)						

(\*) For heat pump space heaters and heat pump combination heaters, the rated heat output *Prated* is equal to the design load for heating *Pdesignh*, and the rated heat output of a supplementary heater *Psup* is equal to the supplementary capacity for heating *sup(Tj)*.

Additional information required by COMMISSION REGULATION (EU) No 813/2013, Table 2:

Emissions of nitrogen oxides:  $NO_x$  40 mg/kWh

## 8 AY 35

Figure 8.1

Table 7  
COMMISSION DELEGATED REGULATION (EU) No 811/2013

### Technical parameters for boiler space heaters, boiler combination heaters and cogeneration space heaters

Model(s):	AY 35						
Condensing boiler:	yes						
Low-temperature (**) boiler:	yes						
B11 boiler:	no						
Cogeneration space heater:	no	If yes, equipped with a supplementary heater: no					
Combination heater:	no						
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
<b>Rated heat output</b>	$P_{rated}$	33,4	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	92,7	%
For boiler space heaters and boiler combination heaters: Useful heat output				For boiler space heaters and boiler combination heaters: Useful efficiency			
At rated heat output and high-temperature regime (*)	$P_4$	33,4	kW	At rated heat output and high-temperature regime (*)	$\eta_4$	88,3	%
At 30 % of rated heat output and low-temperature regime (**)	$P_1$	10,0	kW	At 30 % of rated heat output and low-temperature regime (**)	$\eta_1$	97,8	%
Auxiliary electricity consumption				Other items			
At full load	$el_{max}$	0,088	kW	Standby heat loss	$P_{stby}$	0,059	kW
At part load	$el_{min}$	0,017	kW	Ignition burner power consumption	$P_{ign}$	0	kW
In standby mode	$P_{SB}$	0,004	kW	Annual energy consumption	$Q_{HE}$	266,8	GJ
				Sound power level, indoors/outdoors	$L_{WA}$	- / 52,4	dB

(\*) High-temperature regime means 60 °C return temperature at heater inlet and 80 °C feed temperature at heater outlet.

(\*\*) Low temperature means for condensing boilers 30 °C, for low-temperature boilers 37 °C and for other heaters 50 °C return temperature (at heater inlet).

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Additional information required by COMMISSION REGULATION (EU) No 813/2013, Table 1:

Emissions of nitrogen oxides:  $NO_x$  49 mg/kWh



**9 AY 50**

Figure 9.1

Table 7  
COMMISSION DELEGATED REGULATION (EU) No 811/2013

**Technical parameters for boiler space heaters, boiler combination heaters and cogeneration space heaters**

Model(s):				AY 50			
Condensing boiler:				yes			
Low-temperature (**) boiler:				yes			
B11 boiler:				no			
Cogeneration space heater:				no	If yes, equipped with a supplementary heater:		no
Combination heater:				no			
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
<b>Rated heat output</b>	$P_{rated}$	49,2	kW	<b>Seasonal space heating energy efficiency</b>	$\eta_s$	93	%
For boiler space heaters and boiler combination heaters: Useful heat output				For boiler space heaters and boiler combination heaters: Useful efficiency			
At rated heat output and high-temperature regime (*)	$P_4$	49,2	kW	At rated heat output and high-temperature regime (*)	$\eta_4$	88,1	%
At 30 % of rated heat output and low-temperature regime (**)	$P_1$	14,8	kW	At 30 % of rated heat output and low-temperature regime (**)	$\eta_1$	98,0	%
Auxiliary electricity consumption				Other items			
At full load	$el_{max}$	0,113	kW	Standby heat loss	$P_{siby}$	0,059	kW
At part load	$el_{min}$	0,017	kW	Ignition burner power consumption	$P_{ign}$	0	kW
In standby mode	$P_{SB}$	0,004	kW	Annual energy consumption	$Q_{HE}$	393,1	GJ
				Sound power level, indoors/outdoors	$L_{WA}$	- / 52,4	dB

(\*) High-temperature regime means 60 °C return temperature at heater inlet and 80 °C feed temperature at heater outlet.

(\*\*) Low temperature means for condensing boilers 30 °C, for low-temperature boilers 37 °C and for other heaters 50 °C return temperature (at heater inlet).

Contact details	Robur SPA, Via Parigi 4/6, I-24040 Zingonia (BG)
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Additional information required by COMMISSION REGULATION (EU) No 813/2013, Table 1:

Emissions of nitrogen oxides:  $NO_x$  46 mg/kWh

## 10 AY 100

Figure 10.1

Table 7  
COMMISSION DELEGATED REGULATION (EU) No 811/2013

### Technical parameters for boiler space heaters, boiler combination heaters and cogeneration space heaters

Model(s):	AY 100		
Condensing boiler:	yes		
Low-temperature (***) boiler:	yes		
B11 boiler:	no		
Cogeneration space heater:	no	If yes, equipped with a supplementary heater:	no
Combination heater:	no		
Item	Symbol	Value	Unit
<b>Rated heat output</b>	$P_{rated}$	98,4	kW
For boiler space heaters and boiler combination heaters: Useful heat output			
At rated heat output and high-temperature regime (*)	$P_4$	98,4	kW
At 30 % of rated heat output and low-temperature regime (**)	$P_I$	30,0	kW
Auxiliary electricity consumption			
At full load	$el_{max}$	0,225	kW
At part load	$el_{min}$	0,023	kW
In standby mode	$P_{SB}$	0,004	kW
Item	Symbol	Value	Unit
<b>Seasonal space heating energy efficiency</b>	$\eta_s$	93,1	%
For boiler space heaters and boiler combination heaters: Useful efficiency			
At rated heat output and high-temperature regime (*)	$\eta_4$	88,1	%
At 30 % of rated heat output and low-temperature regime (**)	$\eta_I$	98,0	%
Other items			
Standby heat loss	$P_{stby}$	0,100	kW
Ignition burner power consumption	$P_{ign}$	0	kW
Annual energy consumption	$Q_{HE}$	785,3	GJ
Sound power level, indoors/outdoors	$L_{WA}$	- / 52,0	dB

(\*) High-temperature regime means 60 °C return temperature at heater inlet and 80 °C feed temperature at heater outlet.

(\*\*) Low temperature means for condensing boilers 30 °C, for low-temperature boilers 37 °C and for other heaters 50 °C return temperature (at heater inlet).

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Additional information required by COMMISSION REGULATION (EU) No 813/2013, Table 1:

Emissions of nitrogen oxides:  $NO_x$   mg/kWh

## 11 DDC PANEL

IT : REGOLAMENTO DELEGATO (UE) N. 811/2013 DELLA COMMISSIONE	DISPOSITIVI DI CONTROLLO DELLA TEMPERATURA
EN : COMMISSION DELEGATED REGULATION (EU) No 811/2013	TEMPERATURE CONTROLS
FR : RÈGLEMENT DÉLÉGUÉ (UE) N o 811/2013 DE LA COMMISSION	RÉGULATEURS DE TEMPÉRATURE
DE : DELEGIERTE VERORDNUNG (EU) Nr. 811/2013 DER KOMMISSION	TEMPERATURREGLER
NL : GEDELEGEERDE VERORDENING (EU) Nr. 811/2013 VAN DE COMMISSIE	TEMPERATUURREGELAARS
CS : NAŘÍZENÍ KOMISE V PŘENESENÉ PRAVOMOCI (EU) č. 811/2013	REGULÁTORY TEPLoty
PL : ROZPORZĄDZENIE DELEGOWANE KOMISJI (UE) NR 811/2013	REGULATORY TEMPERATURY

IT	Il nome o marchio del fornitore	L'identificativo del modello del fornitore	La classe del dispositivo di controllo della temperatura	Il contributo del dispositivo di controllo della temperatura all'efficienza energetica stagionale di riscaldamento d'ambiente in %, arrotondata alla cifra intera più vicina
EN	Supplier's name or trade mark	Supplier's model identifier	The class of the temperature control	The contribution of the temperature control to seasonal space heating energy efficiency in %, rounded to one decimal place
FR	Le nom du fournisseur ou la marque commerciale	La référence du modèle donnée par le fournisseur	La classe du régulateur de température	La contribution du régulateur de température à l'efficacité énergétique saisonnière pour le chauffage des locaux, en %, arrondie à la première décimale
DE	Name oder Warenzeichen des Lieferanten	Modellkennung des Lieferanten	Die Klasse des Temperaturreglers	Beitrag des Temperaturreglers zur jahreszeitbedingten Raumheizungs-Energieeffizienz in Prozent, auf eine Dezimalstelle gerundet
NL	De naam van de leverancier of het handelsmerk	De typeaanduiding van de leverancier	De klasse van de temperatuurregelaar	De bijdrage van de temperatuurregelaar aan de seizoensgebonden energie-efficiëntie voor ruimteverwarming in %, afgerond tot op één decimaal
CS	Název nebo ochranná známka dodavatele	Identifikační značka modelu používaná dodavatelem	Třída regulátoru teploty	Přínos regulátoru teploty k sezónní energetické účinnosti vytápění, vyjádřený v % a zaokrouhlený na jedno desetinné místo
PL	Nazwa dostawcy lub jego znak towarowy	Identyfikator modelu dostawcy	Klasa regulatora temperatury	Udział regulatora temperatury w sezonowej efektywności energetycznej ogrzewania pomieszczeń w %, w zaokrągleniu do jednego miejsca po przecinku

<b>Robur</b>	<b>DDC</b>	<b>III</b>	<b>2%</b>
<b>Robur</b>	<b>DDC+OSND007</b>	<b>VI (AY) VII (GAHP/GA)</b>	<b>4%</b>

## 12 CCI PANEL

IT : REGOLAMENTO DELEGATO (UE) N. 811/2013 DELLA COMMISSIONE	DISPOSITIVI DI CONTROLLO DELLA TEMPERATURA
EN : COMMISSION DELEGATED REGULATION (EU) No 811/2013	TEMPERATURE CONTROLS
FR : RÈGLEMENT DÉLÉGUÉ (UE) N o 811/2013 DE LA COMMISSION	RÉGULATEURS DE TEMPÉRATURE
DE : DELEGIERTE VERORDNUNG (EU) Nr. 811/2013 DER KOMMISSION	TEMPERATURREGLER
NL : GEDELEGEERDE VERORDENING (EU) Nr. 811/2013 VAN DE COMMISSIE	TEMPERATUURREGELAARS
CS : NAŘÍZENÍ KOMISE V PŘENESENÉ PRAVOMOCI (EU) č. 811/2013	REGULÁTORY TEPLoty
PL : ROZPORZĄDZENIE DELEGOWANE KOMISJI (UE) NR 811/2013	REGULATORY TEMPERATURY

IT	Il nome o marchio del fornitore	L'identificativo del modello del fornitore	La classe del dispositivo di controllo della temperatura	Il contributo del dispositivo di controllo della temperatura all'efficienza energetica stagionale di riscaldamento d'ambiente in %, arrotondata alla cifra intera più vicina
EN	Supplier's name or trade mark	Supplier's model identifier	The class of the temperature control	The contribution of the temperature control to seasonal space heating energy efficiency in %, rounded to one decimal place
FR	Le nom du fournisseur ou la marque commerciale	La référence du modèle donnée par le fournisseur	La classe du régulateur de température	La contribution du régulateur de température à l'efficacité énergétique saisonnière pour le chauffage des locaux, en %, arrondie à la première décimale
DE	Name oder Warenzeichen des Lieferanten	Modellkennung des Lieferanten	Die Klasse des Temperaturreglers	Beitrag des Temperaturreglers zur jahreszeitbedingten Raumheizungs-Energieeffizienz in Prozent, auf eine Dezimalstelle gerundet
NL	De naam van de leverancier of het handelsmerk	De typeaanduiding van de leverancier	De klasse van de temperatuurregelaar	De bijdrage van de temperatuurregelaar aan de seizoensgebonden energie-efficiëntie voor ruimteverwarming in %, afgerond tot op één decimaal
CS	Název nebo ochranná známka dodavatele	Identifikační značka modelu používaná dodavatelem	Třída regulátoru teploty	Přínos regulátoru teploty k sezónní energetické účinnosti vytápění, vyjádřený v % a zaokrouhlený na jedno desetinné místo
PL	Nazwa dostawcy lub jego znak towarowy	Identyfikator modelu dostawcy	Klasa regulatora temperatury	Udział regulatora temperatury w sezonowej efektywności energetycznej ogrzewania pomieszczeń w %, w zaokrągleniu do jednego miejsca po przecinku

<b>Robur</b>	<b>CCI</b>	<b>III</b>	<b>2%</b>
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## 13 BUFFER TANKS AND DHW BUFFER TANKS

**Table 13.1** Buffer tanks and DHW buffer tanks technical data sheets

Item code	Description	Loss (W)	Loss (kWh/24h)	Specific loss (W/K)	Volume (l)	Energy efficiency class
OSRB000	300-litre thermal tank	90	2,24	2,07	270	C
OSRB001	500-litre thermal tank	126	3,02	2,79	476	D
OSRB004	300-litre DHW buffer tank	85	2,03	1,88	263	C
OSRB005	500-litre DHW buffer tank	130	3,13	2,90	470	D
OSRB006	500-litre DHW buffer tank with integrated coil	130	3,13	2,90	470	D