

# Product fiche concerning the COMMISSION DELEGATED REGULATIONS

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**Air Source Heat Pumps**

**Grant Engineering (UK) Ltd**  
Hopton House, Hopton Industrial Estate, Devizes, Wiltshire, SN10 2EU  
t: +44 (0)1380 736920 f: +44 (0)1380 736991  
e: [info@grantuk.com](mailto:info@grantuk.com) w: [www.grantuk.com](http://www.grantuk.com)



Models:	Outdoor Unit:	Aerona <sup>3</sup> HPID16
	Indoor Unit:	None
Air-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		low-temperature applications
Parameters shall be declared for		Average Climate Conditions

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated Heat Output (*)	Prated	12.75	kW	Seasonal space heating energy efficiency	$\eta_s$	167	%

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 = -10°C	Pdh	11.8	kW	Tj = -10°C	COPd	2.30	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = -7°C	Pdh	11.31	kW	Tj = -7°C	COPd	2.73	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = +2°C	Pdh	6.81	kW	Tj = +2°C	COPd	4.21	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = +7°C	Pdh	4.61	kW	Tj = +7°C	COPd	5.73	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = +12°C	Pdh	4.80	kW	Tj = +12°C	COPd	6.30	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = bivalent temperature	Pdh	11.8	kW	Tj = bivalent temperature	COPd	2.30	
Tj = operation limit temperature	Pdh	11.8	kW	Tj = operation limit temperature	COPd	2.30	
Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	Tj = -15°C (if TOL < -20°C)	COPd	-	
Bivalent temperature	Tbiv	-10		Operation limit temperature	TOL	-10	°C
				Heating water operating limit temperature	WTOL	60	°C

Power consumption in modes other than active mode				Supplementary Heater			
Off Mode	P <sub>OFF</sub>	0.01	kW	Rate heat output	P <sub>sup</sub>	0.95	kW
Thermostat-off mode	P <sub>TO</sub>	0.04	kW				
Standby mode	P <sub>SB</sub>	0.01	kW	Type of energy input			
Crankcase heater mode	P <sub>CK</sub>	0.00	kW				
Other items							
Capacity control	Variable			Rated airflow rate, outdoors	-	4464	m <sup>3</sup> /h
Sound power level indoors/outdoors	L <sub>WA</sub>	40/61	dBA				
Annual Energy consumption	Q <sub>HE</sub>	6058	kWh				
For heat pump combination heater				Water heating energy efficiency	$\eta_{wh}$	-	%
Declared load profile	-	-	-				
Daily electricity consumption	Q <sub>elec</sub>	-	kWh				
Annual electricity consumption	AEC	-	kWh				

### Contact Details:

Grant Engineering (UK) Ltd, Hopton House, Devizes, SN10 2EU

(\*) For heat pumps 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 P<sub>sup</sub> is equal to the supplementary capacity for heating sup(T<sub>j</sub>).  
 (\*\*) If C<sub>dh</sub> is not determined by measurement then the default degradation coefficient is C<sub>dh</sub> = 0.9.

<b>Models:</b>	<b>Outdoor Unit:</b>	<b>Aerona<sup>3</sup> HPID16</b>
	<b>Indoor Unit:</b>	<b>None</b>
<b>Air-to-water heat pump</b>		<b>Yes</b>
<b>Brine-to-water heat pump</b>		<b>No</b>
<b>Low temperature heat pump</b>		<b>No</b>
<b>Equipped with a supplementary heater</b>		<b>No</b>
<b>Heat Pump Combination Heater</b>		<b>No</b>
<b>Parameters shall be declared for</b>		<b>Medium-temperature applications</b>
<b>Parameters shall be declared for</b>		<b>Average Climate Conditions</b>

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated Heat Output (*)	Prated	11	kW	Seasonal space heating energy efficiency	η <sub>s</sub>	126	%

Declared capacity for heating for part load at indoor Temperature 20°C and outdoor temperature T<sub>j</sub>

Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20°C and outdoor temperature T<sub>j</sub>

T <sub>j</sub> = -10°C	P <sub>dh</sub>	11.0	kW	T <sub>j</sub> = -10°C	COP <sub>d</sub>	1.60	
Degradation co-efficient (**)	C <sub>dh</sub>	0.99	-				
T <sub>j</sub> = -7°C	P <sub>dh</sub>	9.05	kW	T <sub>j</sub> = -7°C	COP <sub>d</sub>	1.81	
Degradation co-efficient (**)	C <sub>dh</sub>	0.99	-				
T <sub>j</sub> = +2°C	P <sub>dh</sub>	6.05	kW	T <sub>j</sub> = +2°C	COP <sub>d</sub>	3.26	
Degradation co-efficient (**)	C <sub>dh</sub>	0.99	-				
T <sub>j</sub> = +7°C	P <sub>dh</sub>	3.9	kW	T <sub>j</sub> = +7°C	COP <sub>d</sub>	4.58	
Degradation co-efficient (**)	C <sub>dh</sub>	0.99	-				
T <sub>j</sub> = +12°C	P <sub>dh</sub>	4.50	kW	T <sub>j</sub> = +12°C	COP <sub>d</sub>	5.70	
Degradation co-efficient (**)	C <sub>dh</sub>	0.99	-				
T <sub>j</sub> = bivalent temperature	P <sub>dh</sub>	11.0	kW	T <sub>j</sub> = bivalent temperature	COP <sub>d</sub>	1.60	
T <sub>j</sub> = operation limit temperature	P <sub>dh</sub>	11.0	kW	T <sub>j</sub> = operation limit temperature	COP <sub>d</sub>	1.60	
T <sub>j</sub> = -15°C (if TOL < -20°C)	P <sub>dh</sub>	-	kW	T <sub>j</sub> = -15°C (if TOL < -20°C)	COP <sub>d</sub>	-	
Bivalent temperature	T <sub>biv</sub>	-10	°C	Operation limit temperature	TOL	-10	°C
				Heating water operating limit temperature	WTOL	60	°C

Power consumption in modes other than active mode				Supplementary Heater			
Off Mode	P <sub>OFF</sub>	0.01	kW	Rate heat output	P <sub>sup</sub>	0.40	kW
Thermostat-off mode	P <sub>TO</sub>	0.04	kW				
Standby mode	P <sub>SB</sub>	0.01	kW	Type of energy input			
Crankcase heater mode	P <sub>CK</sub>	0.00	kW				
Other items							
Capacity control	Variable			Rated airflow rate, outdoors	-	4464	m <sup>3</sup> /h
Sound power level indoors/outdoors	L <sub>WA</sub>	42/63	dBA				
Annual Energy consumption	Q <sub>HE</sub>	6996	kWh				
For heat pump combination heater				Water heating energy efficiency	η <sub>wh</sub>	-	%
Declared load profile	-	-	-				
Daily electricity consumption	Q <sub>elec</sub>	-	kWh				
Annual electricity consumption	AEC	-	kWh				

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(\*) For heat pumps space heaters and heat pump combination heaters, the rated heat output  $P_{rated}$  is equal to the design load for heating  $P_{designh}$ , and the rated heat output of a supplementary heater  $P_{sup}$  is equal to the supplementary capacity for heating  $sup(T_j)$ .  
(\*\*) If  $C_{dh}$  is not determined by measurement then the default degradation coefficient is  $C_{dh} = 0.9$ .

## End of Life Information – Air Source Heat Pumps

### General

Grant air source heat pumps incorporate components manufactured from a variety of different materials. However, most of these materials cannot be recycled as they are contaminated by the refrigerant and oil used in the heat pump.

### Disassembly

**This product may only be disassembled by a suitably qualified (F-gas) refrigeration engineer.**

**Under no circumstances should the refrigerant be released into the atmosphere.**

### Recycling

In order for the heat pump to be recycled or disposed of it must be taken to a suitably licensed waste facility. You will need to contact a qualified refrigeration engineer to do this for you.

### Disposal

The refrigerant will be removed and returned to the refrigerant manufacturer for recycling or disposal.

The complete heat pump unit, including the compressor and the oil contained within it, must be disposed of at a licensed waste facility, as it still remains contaminated by the refrigerant.



Neil Sawers  
Technical Manager