Product fiche concerning the COMMISSION DELEGATED REGULATIONS

(EU)No 811/2013 of 18 February 2013

(EU)No 813/2013 of 2 August 2013

Air Source Heat Pumps

Space Heating Test Standard: EN14825

DHW Test Standard: EN16147

GRANT IRL

Model				Outdoor unit:			Aerona HPR290i40
				Indoor unit:			None
Air to Water Heat Pump				Yes			
Brine to Water Heat Pump				No			
Low Temperature Heat Pump				No			
Equipped with Supplementary Heater				Yes			
Heat Pump Combination Heater				Yes			
Parameters shall be declared for				Medium Temperature Applications (55°C)			
Parameters shall be declared for				Average Climate Conditions			

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated Heat Output (*)	Prated	4.44	kW	Seasonal space heating energy efficiency	ηs	141	%
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	Pdh	3.93	kW	Tj = -7°C	COPd	2.48	-
Degradation co-efficient (**)	Cdh	0.97	-				
Tj = +2°C	Pdh	2.34	kW	Tj = +2°C	COPd	3.73	-
Degradation co-efficient (**)	Cdh	0.92	-				
Tj = +7°C	Pdh	1.92	kW	Tj = +7°C	COPd	4.69	-
Degradation co-efficient (**)	Cdh	0.95	-				
Tj = +12°C	Pdh	1.25	kW	Tj = +12°C	COPd	6.06	-
Degradation co-efficient (**)	Cdh	0.90	-				
Tj = bivalent temperature	Pdh	3.93	kW	Tj = bivalent temperature	COPd	2.48	-
Tj = operation limit temperature	Pdh	3.80	kW	Tj = operation limit temperature	COPd	2.21	-
Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	Tj = -15°C (if TOL < -20°C)	COPd	-	
Bivalent temperature	Tbiv	-7	°C	Operation limit temperature	TOL	-10	°C
				Heating water operating limit temperature	WTOL	75	°C

Power consumption in modes other than active mode				Supplementary Heater			
Off Mode	POFF	0.007	kW	Rate heat output	Psup	3.00	kW
Thermostat-off mode	PTO	0.021	kW				
Standby mode	PSB	0.007	kW	Type of energy input	Electric		
Crankcase heater mode	PCK	0.020	kW				

Other items							
Capacity control	Variable			Rated airflow rate, outdoors	-	2300	m³/h
Sound power level indoors/outdoors	LWA	32/53	dBA				
Annual Energy consumption	QHE	2543	kWh				

For heat pump combination heater				Water heating energy efficiency	ηwh	132.1	%
Declared load profile		L		Reference Hot Water Temperature	θ'WH	54.98	°C
Daily electricity consumption	Qelec	3.75	kWh	Actual Volume of cylinder under test		206.8	Litres
Annual electricity consumption	AEC	774.8	kWh/a	Standby Cylinder Heat Loss		1.79	kWh

Contact Details:

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(*) 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 Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9.

Model				Outdoor unit:		Aerona HPR290i40	
				Indoor unit:		None	
Air to Water Heat Pump				Yes			
Brine to Water Heat Pump				No			
Low Temperature Heat Pump				No			
Equipped with Supplementary Heater				Yes			
Heat Pump Combination Heater				Yes			
Parameters shall be declared for				Low Temperature Applications (35°C)			
Parameters shall be declared for				Average Climate Conditions			

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated Heat Output (*)	Prated	4.27	kW	Seasonal space heating energy efficiency	ηs	190	%
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	Pdh	3.78	kW	Tj = -7°C	COPd	3.57	-
Degradation co-efficient (**)	Cdh	0.95	-				
Tj = +2°C	Pdh	2.40	kW	Tj = +2°C	COPd	5.19	-
Degradation co-efficient (**)	Cdh	0.89	-				
Tj = +7°C	Pdh	1.70	kW	Tj = +7°C	COPd	6.47	-
Degradation co-efficient (**)	Cdh	0.92	-				
Tj = +12°C	Pdh	1.35	kW	Tj = +12°C	COPd	6.23	-
Degradation co-efficient (**)	Cdh	0.90	-				
Tj = bivalent temperature	Pdh	3.78	kW	Tj = bivalent temperature	COPd	3.57	-
Tj = operation limit temperature	Pdh	3.77	kW	Tj = operation limit temperature	COPd	3.05	-
Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	Tj = -15°C (if TOL < -20°C)	COPd	-	
Bivalent temperature	$Tbiv$	-7	°C	Operation limit temperature	TOL	-10	°C
				Heating water operating limit temperature	WTOL	75	°C

Power consumption in modes other than active mode				Supplementary Heater			
Off Mode	P_{OFF}	0.007	kW	Rate heat output	P_sup	3.00	kW
Thermostat-off mode	P_{TO}	0.021	kW				
Standby mode	P_{SB}	0.007	kW	Type of energy input	Electric		
Crankcase heater mode	P_{CK}	0.020	kW				

Other items							
Capacity control	Variable			Rated airflow rate, outdoors	-	2300	m³/h
Sound power level indoors/outdoors	L_{WA}	32/53	dBA				
Annual Energy consumption	Q_{HE}	1831	kWh				

For heat pump combination heater				Water heating energy efficiency	$η_{wh}$		%
Declared load profile							
Daily electricity consumption	$Qelec$		kW/h				
Annual electricity consumption	AEC		kW/h				

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(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9.

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Model				Outdoor unit:		Aerona HPR290i40	
				Indoor unit:		None	
Air to Water Heat Pump				Yes			
Brine to Water Heat Pump				No			
Low Temperature Heat Pump				No			
Equipped with Supplementary Heater				Yes			
Heat Pump Combination Heater				Yes			
Parameters shall be declared for				Medium Temperature Applications (55°C)			
Parameters shall be declared for				Colder Climate Conditions			

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated Heat Output (*)	Prated	4.10	kW	Seasonal space heating energy efficiency	ηs	134	%

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

	Symbol	Value	Unit		Symbol	Value	Unit
Tj = -7°C	P_{dh}	2.74	kW	Tj = -7°C	COP_d	2.93	-
Degradation co-efficient (**)	C_{dh}	0.95	-				
Tj = +2°C	P_{dh}	1.73	kW	Tj = +2°C	COP_d	4.21	-
Degradation co-efficient (**)	C_{dh}	0.89	-				
Tj = +7°C	P_{dh}	1.00	kW	Tj = +7°C	COP_d	5.16	-
Degradation co-efficient (**)	C_{dh}	0.92	-				
Tj = +12°C	P_{dh}	1.35	kW	Tj = +12°C	COP_d	8.20	-
Degradation co-efficient (**)	C_{dh}	0.90	-				
Tj = bivalent temperature	P_{dh}	2.77	kW	Tj = bivalent temperature	COP_d	2.93	-
Tj = operation limit temperature	P_{dh}	2.85	kW	Tj = operation limit temperature	COP_d	1.61	-
Tj = -15°C (if TOL < -20°C)	P_{dh}	-	kW	Tj = -15°C (if TOL < -20°C)	COP_d	-	
Bivalent temperature	T_{biv}	-15	°C	Operation limit temperature	TOL	-22	°C
				Heating water operating limit temperature	WTOL	60	°C

Power consumption in modes other than active mode				Supplementary Heater			
Off Mode	P_{OFF}	0.007	kW	Rate heat output	P_{sup}	3.00	kW
Thermostat-off mode	P_{TO}	0.021	kW				
Standby mode	P_{SB}	0.007	kW	Type of energy input	Electric		
Crankcase heater mode	P_{CK}	0.020	kW				

Other items							
Capacity control	Variable			Rated airflow rate, outdoors	-	2300	m³/h
Sound power level indoors/outdoors	L_{WA}	32/53	dBA				
Annual Energy consumption	Q_{HE}	3017	kWh				

For heat pump combination heater				Water heating energy efficiency	$η_{wh}$		%
Declared load profile							
Daily electricity consumption	Q_{elec}		kW/h				
Annual electricity consumption	AEC		kW/h				

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(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9.

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Model				Outdoor unit:		Aerona HPR290i40	
				Indoor unit:		None	
Air to Water Heat Pump				Yes			
Brine to Water Heat Pump				No			
Low Temperature Heat Pump				No			
Equipped with Supplementary Heater				Yes			
Heat Pump Combination Heater				Yes			
Parameters shall be declared for				Medium Temperature Applications (55°C)			
Parameters shall be declared for				Warmer Climate Conditions			

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated Heat Output (*)	Prated	4.30	kW	Seasonal space heating energy efficiency	ηs	185	%
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	Pdh	-	kW	Tj = -7°C	COPd	-	-
Degradation co-efficient (**)	Cdh	-	-				
Tj = +2°C	Pdh	4.10	kW	Tj = +2°C	COPd	3.01	-
Degradation co-efficient (**)	Cdh	0.89	-				
Tj = +7°C	Pdh	2.80	kW	Tj = +7°C	COPd	4.12	-
Degradation co-efficient (**)	Cdh	0.92	-				
Tj = +12°C	Pdh	1.20	kW	Tj = +12°C	COPd	6.15	-
Degradation co-efficient (**)	Cdh	0.90	-				
Tj = bivalent temperature	Pdh	2.80	kW	Tj = bivalent temperature	COPd	4.12	-
Tj = operation limit temperature	Pdh	4.10	kW	Tj = operation limit temperature	COPd	3.01	-
Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	Tj = -15°C (if TOL < -20°C)	COPd	-	
Bivalent temperature	Tbiv	7	°C	Operation limit temperature	TOL	7	°C
				Heating water operating limit temperature	WTOL	75	°C

Power consumption in modes other than active mode				Supplementary Heater			
Off Mode	P_OFF	0.007	kW	Rate heat output	P_sup	3.00	kW
Thermostat-off mode	P_TO	0.021	kW				
Standby mode	P_SB	0.007	kW	Type of energy input	Electric		
Crankcase heater mode	P_CK	0.020	kW				

Other items							
Capacity control	Variable			Rated airflow rate, outdoors	-	2300	m³/h
Sound power level indoors/outdoors	L_WA	32/53	dBA				
Annual Energy consumption	Q_HE	1240	kWh				

For heat pump combination heater				Water heating energy efficiency	ηwh		%
Declared load profile			L	Reference Hot Water Temperature	θ'_WH		°C
Daily electricity consumption	Qelec		kWh	Actual Volume of cylinder under test			Litres
Annual electricity consumption	AEC		kWh/a	Standby Cylinder Heat Loss			kWh

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(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0.9.

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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 remains contaminated by the refrigerant.

Authorized by:

Grant heat pump fiche: