Product fiche concerning the COMMISSION DELEGATED REGULATIONS

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Air Source Heat Pumps

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Grant Engineering (IRELAND) ULC Crinkle, Birr, Ireland R42 D788

t: +353 (0) 57 91 20089 f: +353 (0) 57 91 21060

e: info@grantengineering.ie w: www.grantengineering.ie



Models:	Outdoor Unit:	Aerona ³ HPID6
	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		<u>No</u>
Parameters shall be declared for		low-temperature applications
Parameters shall be declared for		Average Climate Conditions
Equipped with a supplementary heater Heat Pump Combination Heater Parameters shall be declared for		No No low-temperature applications

		T	T				
ltem	Symbol	Value	Unit	Item	Symbol	Value	Unit
				Seasonal space heating			
Rated Heat Output (*)	Prated	4.8	kW		ηѕ	174	%
				energy efficiency			
	Declared capacity for heating for part load at indoor			Declared coefficient of performance			
Temperature 20°C and outdoor	•			part load at indoor temperature 20			e Tj
Tj = -10°C	Pdh	4.8	kW	Tj = -10°C	COPd	2.40	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = -7°C	Pdh	4.23	kW	Tj = -7°C	COPd	2.60	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = +2°C	Pdh	2.70	kW	Tj = +2°C	COPd	4.40	
Degradation co-efficient (**)	Cdh	0.98	-				
Tj = +7°C	Pdh	1.92	kW	Tj = +7°C	COPd	6.10	
Degradation co-efficient (**)	Cdh	0.97	-				
Tj = +12°C	Pdh	2.30	kW	Tj = +12°C	COPd	7.98	
Degradation co-efficient (**)	Cdh	0.97	-				
Tj = bivalent temperature	Pdh	4.8	kW	Tj = bivalent temperature	COPd	2.40	
Tj = operation limit	Pdh	4.8	kW	Tj = operation limit temperature	COPd	2.40	
temperature		4.0		, ,		2.40	
Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	Tj = -15 $^{\circ}$ C (if TOL < -20 $^{\circ}$ C)	COPd	-	
Bivalent temperature	Tbiv	-10		Operation limit temperature	TOL	-10	°C
				Heating water operating limit	WTOL	60	°C
				temperature	WIOL	00	
Power consumption in modes		1	7	Supplementary Heater			
Off Mode	Poff	0.01	kW	Rate heat output	P _{sup}	0	kW
Thermostat-off mode	Рто	0.04	kW				
Standby mode	P _{SB}	0.01	kW	Type of energy input			
Crankcase heater mode	Рск	0.00	kW				
Other items							
Capacity control	Variable	1	ID A	Rated airflow rate, outdoors	-	2082	m³/h
Sound power level indoors/outdoors	L _{WA}	40/61	dBA				
Annual Energy consumption	Q _{HE}	2194	kWh	-			
Annual Energy Consumption	WHE	∠ 13 4	VAAII				
For heat pump combination heater				Water heating energy efficiency	ηwh	-	%
Declared load profile	-	-	-		1 1200		
Daily electricity consumption	Qelec	-	kW/h				
Annual electricity consumption	AEC	-	kW/h				

^(*) 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.



Models:	Outdoor Unit:	Aerona ³ HPID6
	Indoor Unit:	None
Air-to-water heat pump		Yes
Brine-to-water heat pump		<u>No</u>
Low temperature heat pump		<u>No</u>
Equipped with a supplementary heater		<u>No</u>
Heat Pump Combination Heater		<u>No</u>
Parameters shall be declared for		Medium-temperature applications
Parameters shall be declared for		Average Climate Conditions

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated Heat Output (*)	Prated	4.8	kW	Seasonal space heating energy efficiency	ηѕ	126	%
	Declared capacity for heating for part load at indoor Temperature 20°C and outdoor temperature Tj			Declared coefficient of performanc part load at indoor temperature 20			
Tj = -10°C	Pdh	4.8	kW	Tj = -10°C	COPd	1.61	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = -7°C	Pdh	4.22	kW	Tj = -7°C	COPd	1.91	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = +2°C	Pdh	2.61	kW	Tj = +2°C	COPd	3.35	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = +7°C	Pdh	1.87	kW	Tj = +7°C	COPd	4.10	
Degradation co-efficient (**)	Cdh	0.98	-				
Tj = +12°C	Pdh	2.20	kW	Tj = +12°C	COPd	5.10	
Degradation co-efficient (**)	Cdh	0.98	-				
Tj = bivalent temperature	Pdh	4.8	kW	Tj = bivalent temperature	COPd	1.61	
Tj = operation limit temperature	Pdh	4.8	kW	Tj = operation limit temperature	COPd	1.61	
Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	Tj = -15°C (if TOL < -20°C)	COPd	-	
Bivalent temperature	Tbiv	-10	°C	Operation limit temperature	TOL	-10	°C
			•	Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes	other than	active mo	de	Supplementary Heater			
Off Mode	Poff	0.01	kW	Rate heat output	P _{sup}	0	kW
Thermostat-off mode	Рто	0.04	kW				
Standby mode	P _{SB}	0.01	kW	Type of energy input			
Crankcase heater mode	Рск	0.00	kW				
Other items							
Capacity control	Variable			Rated airflow rate, outdoors	-	2082	m³/h
Sound power level indoors/outdoors	L _{WA}	42/63	dBA				
Annual Energy consumption	Q_{HE}	2998	kWh				
For heat pump combination heater				Water heating energy efficiency	ŋwh	-	%
Declared load profile	-	-	-		1 1		
Daily electricity consumption	Qelec	-	kW/h				
Annual electricity consumption	AEC	-	kW/h				

^(*) 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.



Outdoor Unit:	Aerona ³ HPID10
Indoor Unit:	None None
	Yes
	<u>No</u>
	<u>No</u>
	<u>No</u>
	No
	low-temperature applications
	Average Climate Conditions

ltem	Symbol	Value	Unit	Item	Symbol	Value	Unit
				Seasonal space heating			
Rated Heat Output (*)	Prated	7.5	kW	energy efficiency	ηѕ	174	%
				,			
Declared capacity for heating for part load at indoor				Declared coefficient of performance			
Temperature 20°C and outdoor		•		part load at indoor temperature 20		· · · · · · · · · · · · · · · · · · ·	e Ij
Tj = -10°C	Pdh	7.5	kW	Tj = -10°C	COPd	2.35	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = -7°C	Pdh	6.74	kW	Tj = -7°C	COPd	2.65	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = +2°C	Pdh	4.15	kW	Tj = +2°C	COPd	4.52	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = +7°C	Pdh	3.02	kW	Tj = +7°C	COPd	5.89	
Degradation co-efficient (**)	Cdh	0.98	-				
Tj = +12°C	Pdh	4.70	kW	Tj = +12°C	COPd	6.35	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = bivalent temperature	Pdh	7.50	kW	Tj = bivalent temperature	COPd	2.35	
Tj = operation limit	Pdh	7.50	kW	Tj = operation limit temperature	COPd	2.35	
temperature		7.50		, ,		2.33	
Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	Tj = -15 $^{\circ}$ C (if TOL < -20 $^{\circ}$ C)	COPd	-	
Bivalent temperature	Tbiv	-10		Operation limit temperature	TOL	-10	°C
				Heating water operating limit	WTOL	60	°C
				temperature	WIOL	00	
				T			
Power consumption in modes	other than	1	7	Supplementary Heater			
Off Mode	Poff	0.01	kW	Rate heat output	P _{sup}	0.00	kW
Thermostat-off mode	Рто	0.04	kW				
Standby mode	P _{SB}	0.01	kW	Type of energy input			
Crankcase heater mode	Рск	0.00	kW				
Other items							
Capacity control	Variable	1	ID A	Rated airflow rate, outdoors	-	2664	m³/h
Sound power level	L _{WA}	44/65	dBA				
indoors/outdoors Annual Energy consumption	Q _{HE}	3318	kWh				
Aimai Lifergy Consumption	WHE	JJ 10	KVVII				
For heat pump combination heater				Water heating energy efficiency	ŋwh	-	%
Declared load profile	-	-	-	22	1 1		
Daily electricity consumption	Qelec	-	kW/h				
Annual electricity consumption	AEC	-	kW/h				

^(*) 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.



Models:	Outdoor Unit:	Aerona ³ HPID10
	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		<u>No</u>
Parameters shall be declared for		Medium-temperature applications
Parameters shall be declared for		Average Climate Conditions

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
5				Seasonal space heating		400	0.4
Rated Heat Output (*)	Prated	7.5	kW	energy efficiency	ης	126	%
Declared capacity for heating fo	r part load at	indoor		Declared coefficient of performanc	e or primary e	nergy ratio fo	r
Temperature 20°C and outdoor temperature Tj				part load at indoor temperature 20	°C and outdoo	r temperatur	e Tj
Tj = -10°C	Pdh	6.9	kW	Tj = -10°C	COPd	1.63	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = -7°C	Pdh	6.68	kW	Tj = -7°C	COPd	1.91	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = +2°C	Pdh	4.01	kW	Tj = +2°C	COPd	3.09	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = +7°C	Pdh	2.80	kW	Tj = +7°C	COPd	4.51	
Degradation co-efficient (**)	Cdh	0.98	-				
Tj = +12°C	Pdh	4.30	kW	Tj = +12°C	COPd	6.71	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = bivalent temperature	Pdh	6.68	kW	Tj = bivalent temperature	COPd	1.91	
Tj = operation limit temperature	Pdh	6.90	kW	Tj = operation limit temperature	COPd	1.63	
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	60	°C
Power consumption in modes	other than	active mo	de	Supplementary Heater			
Off Mode	Poff	0.01	kW	Rate heat output	P _{sup}	0.6	kW
Thermostat-off mode	Рто	0.04	kW	rate near earpar	i sup	1 0.0	1111
Standby mode	PsB	0.01	kW	Type of energy input			
Crankcase heater mode	Рск	0.00	kW	Type of energy input	<u> </u>		
Granicaes neater meas	1 010	0.00	1				
Other items							
Capacity control	Variable			Rated airflow rate, outdoors	-	2664	m³/h
Sound power level indoors/outdoors	L _{WA}	46/67	dBA				
Annual Energy consumption	Q _{HE}	4762	kWh				
		•					
For heat pump combination heater	1	1	1	Water heating energy efficiency	ηwh	-	%
Declared load profile	-	-	-				
Daily electricity consumption	Qelec AEC	-	kW/h kW/h				
Annual electricity consumption	AEC	1 -	KVV/II				

^(*) 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.



Models:	Outdoor Unit:	Aerona ³ HPID16
	Indoor Unit:	None
Air-to-water heat pump		Yes
Brine-to-water heat pump		No
Low temperature heat pump		<u>No</u>
Equipped with a supplementary heater		<u>No</u>
Heat Pump Combination Heater		<u>No</u>
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	ηѕ	167	%
	Declared capacity for heating for part load at indoor Temperature 20°C and outdoor temperature Tj			Declared coefficient of performance part load at indoor temperature 20			
Ti = -10°C	Pdh	11.8	kW	Tj = -10°C	COPd	2.30	
Degradation co-efficient (**)	Cdh	0.99	-				
Ti = -7°C	Pdh	11.31	kW	Tj = -7°C	COPd	2.73	
Degradation co-efficient (**)	Cdh	0.99	-				
Ti = +2°C	Pdh	6.81	kW	Tj = +2°C	COPd	4.21	
Degradation co-efficient (**)	Cdh	0.99	-				
Ti = +7°C	Pdh	4.61	kW	Tj = +7°C	COPd	5.73	
Degradation co-efficient (**)	Cdh	0.99	-	, , , ,			
Ti = +12°C	Pdh	4.80	kW	Tj = +12°C	COPd	6.30	
Degradation co-efficient (**)	Cdh	0.99	-	., 0	33. 4		
Tj = bivalent temperature	Pdh	11.31	kW	Tj = bivalent temperature	COPd	2.73	
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	-7		Operation limit temperature	TOL	-10	°C
	1	1 -	ı	Heating water operating limit temperature	WTOL	60	°C
Daniel de la constant	- 11 11		-1-	0			
Power consumption in modes				Supplementary Heater	T 5	1005	1
Off Mode	Poff	0.01	kW	Rate heat output	P _{sup}	0.95	kW
Thermostat-off mode	Рто	0.04	kW				
Standby mode	P _{SB}	0.01	kW	Type of energy input			
Crankcase heater mode	Рск	0.00	kW				
Other items							
Capacity control	Variable			Rated airflow rate, outdoors	-	4464	m³/h
Sound power level indoors/outdoors	L _{WA}	40/61	dBA				
Annual Energy consumption	Q _{HE}	6058	kWh				
For heat pump combination heater				Water heating energy efficiency	ηwh	-	%
Declared load profile	-	-	-	Jan Garage			
Daily electricity consumption	Qelec	-	kW/h				
Annual electricity consumption	AEC	-	kW/h				

^(*) 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.



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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated Heat Output (*)	Prated	11	kW	Seasonal space heating energy efficiency	ηѕ	126	%
Declared capacity for heating fo Temperature 20°C and outdoor				Declared coefficient of performanc part load at indoor temperature 20			
Tj = -10°C	Pdh	11.0	kW	Tj = -10°C	COPd	1.60	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = -7°C	Pdh	9.05	kW	Tj = -7°C	COPd	1.81	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = +2°C	Pdh	6.05	kW	Tj = +2°C	COPd	3.26	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = +7°C	Pdh	3.9	kW	Tj = +7°C	COPd	4.58	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = +12°C	Pdh	4.50	kW	Tj = +12°C	COPd	5.70	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = bivalent temperature	Pdh	11.0	kW	Tj = bivalent temperature	COPd	1.60	
Tj = operation limit temperature	Pdh	11.0	kW	Tj = operation limit temperature	COPd	1.60	
Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	Tj = -15°C (if TOL < -20°C)	COPd	-	
Bivalent temperature	Tbiv	-10	°C	Operation limit temperature	TOL	-10	°C
				Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes	other than	active mo	de	Supplementary Heater			
Off Mode	Poff	0.01	kW	Rate heat output	P _{sup}	0.40	kW
Thermostat-off mode	Рто	0.04	kW				
Standby mode	P _{SB}	0.01	kW	Type of energy input			
Crankcase heater mode	Pck	0.00	kW				
Other items							
Capacity control	Variable			Rated airflow rate, outdoors	-	4464	m³/h
Sound power level indoors/outdoors	L _{WA}	42/63	dBA				
Annual Energy consumption	Q_{HE}	6996	kWh				
For heat pump combination heater				Water heating energy efficiency	ŋwh	-	%
Declared load profile	-	-	-	, , , , , , , , , , , , , , , , , , , ,			
Daily electricity consumption	Qelec	-	kW/h				
Annual electricity consumption	AEC	-	kW/h				

^(*) 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.



Models:	Outdoor Unit:	Aerona ³ HPID6 & HPMONOA/IND200
	Indoor Unit:	None
Air-to-water heat pump		<u>Yes</u>
Brine-to-water heat pump		<u>No</u>
Low temperature heat pump		<u>No</u>
Equipped with a supplementary heater		<u>No</u>
Heat Pump Combination Heater		<u>Yes</u>
Parameters shall be declared for		Medium-temperature applications
Parameters shall be declared for		Average Climate Conditions

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
				Seasonal space heating			
Rated Heat Output (*)	Prated	4.8	kW	energy efficiency	ηѕ	126	%
Declared capacity for heating for				Declared coefficient of performance			
Temperature 20°C and outdoor to	emperature 1	- j	ŗ	oart load at indoor temperature 20°0	and outdoor	temperature	Tj
Tj = -10°C	Pdh	4.8	kW	Tj = -10°C	COPd	1.61	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = -7°C	Pdh	4.22	kW	Tj = -7°C	COPd	1.91	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = +2°C	Pdh	2.61	kW	Tj = +2°C	COPd	3.35	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = +7°C	Pdh	1.87	kW	Tj = +7°C	COPd	4.10	
Degradation co-efficient (**)	Cdh	0.98	-				
Tj = +12°C	Pdh	2.20	kW	Tj = +12°C	COPd	5.10	
Degradation co-efficient (**)	Cdh	0.98	-				
Tj = bivalent temperature	Pdh	4.8	kW	Tj = bivalent temperature	COPd	1.61	
Tj = operation limit temperature	Pdh	4.8	kW	Tj = operation limit temperature	COPd	1.61	
Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	Tj = -15°C (if TOL < -20°C)	COPd	-	
Bivalent temperature	Tbiv	-10	°C	Operation limit temperature	TOL	-10	°C
·			•	Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes	other than	active mo	de	Supplementary Heater			
Off Mode	Poff	0.01	kW	Rate heat output	P _{sup}	0	kW
Thermostat-off mode	Рто	0.04	kW	·	·		
Standby mode	P _{SB}	0.01	kW	Type of energy input			
Crankcase heater mode	Рск	0.00	kW				
Other items							
Capacity control	Variable			Rated airflow rate, outdoors	-	2082	m³/h
Sound power level indoors/outdoors	L_{WA}	42/63	dBA				
Annual Energy consumption	Q_{HE}	2998	kWh				
For heat pump combination heater				Water heating energy efficiency	ηwh	94.1	%
Declared load profile	_	XL	-	Reference Hot Water Temp		53.29	°C
Daily electricity consumption	Qelec	8.23	kW/h	Volume of DHW in test		199	Litres
Annual electricity consumption	AEC	3004	kW/h				

^(*) 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.



Models:	Outdoor Unit:	Aerona ³ HPID10 & HPMONOA/IND200
	Indoor Unit:	None None
Air-to-water heat pump		<u>Yes</u>
Brine-to-water heat pump		<u>No</u>
Low temperature heat pump		<u>No</u>
Equipped with a supplementary heater		<u>No</u>
Heat Pump Combination Heater		<u>Yes</u>
Parameters shall be declared for		Medium-temperature applications
Parameters shall be declared for		Average Climate Conditions

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated Heat Output (*)	Prated	7.5	kW	Seasonal space heating energy efficiency	ης	126	%
Declared capacity for heating for Temperature 20°C and outdoor to				Declared coefficient of performance part load at indoor temperature 20°C			Tj
Tj = -10°C	Pdh	6.9	kW	Tj = -10°C	COPd	1.63	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = -7°C	Pdh	6.68	kW	Tj = -7°C	COPd	1.91	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = +2°C	Pdh	4.01	kW	Tj = +2°C	COPd	3.09	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = +7°C	Pdh	2.80	kW	Tj = +7°C	COPd	4.51	
Degradation co-efficient (**)	Cdh	0.98	-				
Tj = +12°C	Pdh	4.30	kW	Tj = +12°C	COPd	6.71	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = bivalent temperature	Pdh	6.68	kW	Tj = bivalent temperature	COPd	1.91	
Tj = operation limit temperature	Pdh	6.90	kW	Tj = operation limit temperature	COPd	1.63	
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	60	°C
Power consumption in modes	other than	active mo	de	Supplementary Heater			
Off Mode	Poff	0.01	kW	Rate heat output	P _{sup}	0.6	kW
Thermostat-off mode	Рто	0.04	kW				
Standby mode	P _{SB}	0.01	kW	Type of energy input			
Crankcase heater mode	Pck	0.00	kW				
Other items							
Capacity control	Variable			Rated airflow rate, outdoors	-	2664	m³/h
Sound power level indoors/outdoors	L _{WA}	46/67	dBA				
Annual Energy consumption	Q _{HE}	4762	kWh				
For head warms a such in all a				NA/-t		00.0	0/
For heat pump combination heater		XL		Water heating energy efficiency	ηwh	92.6 53.29	%
Declared load profile Daily electricity consumption	- Qelec	8.54	- kW/h	Reference Hot Water Temp Volume of DHW in test		199	°C Litres
Annual electricity consumption	AEC	3117	kW/h	VOIGINE OF DELVY III LEST		ושש	LILICO
7 thindar electricity consumption	, LO	0117	13.0 0/11				

^(*) 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.



Models:	Outdoor Unit:	Aerona ³ HPID16 & HPMONOA/IND200
	Indoor Unit:	None None
Air-to-water heat pump		<u>Yes</u>
Brine-to-water heat pump		<u>No</u>
Low temperature heat pump		No
Equipped with a supplementary heater		No
Heat Pump Combination Heater		<u>Yes</u>
Parameters shall be declared for		Medium-temperature applications
Parameters shall be declared for	<u>-</u>	Average Climate Conditions

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated Heat Output (*)	Prated	11	kW	Seasonal space heating energy efficiency	ης	126	%
Declared capacity for heating for Temperature 20°C and outdoor to				Declared coefficient of performance part load at indoor temperature 20°C			Tj
Tj = -10°C	Pdh	11.0	kW	Tj = -10°C	COPd	1.60	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = -7°C	Pdh	9.05	kW	Tj = -7°C	COPd	1.81	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = +2°C	Pdh	6.05	kW	Tj = +2°C	COPd	3.26	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = +7°C	Pdh	3.9	kW	Tj = +7°C	COPd	4.58	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = +12°C	Pdh	4.50	kW	Tj = +12°C	COPd	5.70	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = bivalent temperature	Pdh	11.0	kW	Tj = bivalent temperature	COPd	1.60	
Tj = operation limit temperature	Pdh	11.0	kW	Tj = operation limit temperature	COPd	1.60	
Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	Tj = -15°C (if TOL < -20°C)	COPd	-	
Bivalent temperature	Tbiv	-10	°C	Operation limit temperature	TOL	-10	°C
				Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes	other than	active mo	de	Supplementary Heater			
Off Mode	Poff	0.01	kW	Rate heat output	P _{sup}	0.40	kW
Thermostat-off mode	Рто	0.04	kW		·		
Standby mode	P _{SB}	0.01	kW	Type of energy input			
Crankcase heater mode	Рск	0.00	kW				
Other items							
Capacity control	Variable			Rated airflow rate, outdoors	-	4464	m³/h
Sound power level indoors/outdoors	L _{WA}	42/63	dBA				
Annual Energy consumption	Q _{HE}	6996	kWh				
	<u> </u>						
For heat pump combination heater	,			Water heating energy efficiency	ηwh	83.2	%
Declared load profile	- Oalas	XL	- LAA///-	Reference Hot Water Temp		51.98	°C
Daily electricity consumption	Qelec AEC	9.32 3402	kW/h kW/h	Volume of DHW in test		200	Litres
Annual electricity consumption	AEU	3402	KVV/[]				

^(*) 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.



Models:	Outdoor Unit:	Aerona ³ HPID6 & HPMONO/IND300
	Indoor Unit:	None
Air-to-water heat pump		Yes
Brine-to-water heat pump		No
Low temperature heat pump		<u>No</u>
Equipped with a supplementary heater		<u>No</u>
Heat Pump Combination Heater		<u>Yes</u>
Parameters shall be declared for		Medium-temperature applications
Parameters shall be declared for		Average Climate Conditions

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit	
Rated Heat Output (*)	Prated	4.8	kW	Seasonal space heating energy efficiency	ηѕ	126	%	
Declared capacity for heating for Temperature 20°C and outdoor				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20°C and outdoor temperature Tj				
Tj = -10°C	Pdh	4.8	kW	Tj = -10°C	COPd	1.61		
Degradation co-efficient (**)	Cdh	0.99	-					
Tj = -7°C	Pdh	4.22	kW	Tj = -7°C	COPd	1.91		
Degradation co-efficient (**)	Cdh	0.99	-					
Tj = +2°C	Pdh	2.61	kW	Tj = +2°C	COPd	3.35		
Degradation co-efficient (**)	Cdh	0.99	-					
Tj = +7°C	Pdh	1.87	kW	Tj = +7°C	COPd	4.10		
Degradation co-efficient (**)	Cdh	0.98	-					
Tj = +12°C	Pdh	2.20	kW	Tj = +12°C	COPd	5.10		
Degradation co-efficient (**)	Cdh	0.98	-					
Tj = bivalent temperature	Pdh	4.8	kW	Tj = bivalent temperature	COPd	1.61		
Tj = operation limit temperature	Pdh	4.8	kW	Tj = operation limit temperature	COPd	1.61		
Tj = -15°C (if TOL < -20°C)	Pdh	-	kW	Tj = -15°C (if TOL < -20°C)	COPd	-		
Bivalent temperature	Tbiv	-10	°C	Operation limit temperature	TOL	-10	°C	
·		•	•	Heating water operating limit temperature	WTOL	60	°C	
Power consumption in modes	other than	active mo	de	Supplementary Heater				
Off Mode	P _{OFF}	0.01	kW	Rate heat output	P _{sup}	0	kW	
Thermostat-off mode	P _{TO}	0.04	kW		1 000			
Standby mode	P _{SB}	0.01	kW	Type of energy input				
Crankcase heater mode	Pck	0.00	kW	, , , , , , , , , , , , , , , , , , ,				
		u.						
Other items								
Capacity control	Variable			Rated airflow rate, outdoors	-	2082	m³/h	
Sound power level indoors/outdoors	L _{WA}	42/63	dBA					
Annual Energy consumption	Q _{HE}	2998	kWh					
For heat pump combination heater		I 3/1		Water heating energy efficiency	ηwh	82.8	%	
Declared load profile	- Oalaa	XL	- Id\A//b	Reference Hot Water Temp		52.38	°C	
Daily electricity consumption Annual electricity consumption	Qelec AEC	9.28 3387	kW/h kW/h	Volume of DHW in test		270	Litres	
Annual electricity consumption	AEC	3307	NVV/II					

^(*) 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.





Models:	Outdoor Unit:	Aerona ³ HPID10 & HPMONO/IND300
	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		<u>No</u>
Heat Pump Combination Heater		<u>Yes</u>
Parameters shall be declared for		Medium-temperature applications
Parameters shall be declared for		Average Climate Conditions

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated Heat Output (*)	Prated	7.5	kW	Seasonal space heating energy efficiency	ηѕ	126	%
Declared capacity for heating for Temperature 20°C and outdoor				Declared coefficient of performance part load at indoor temperature 20			
Tj = -10°C	Pdh	6.9	kW	Tj = -10°C	COPd	1.63	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = -7°C	Pdh	6.68	kW	Tj = -7°C	COPd	1.91	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = +2°C	Pdh	4.01	kW	Tj = +2°C	COPd	3.09	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = +7°C	Pdh	2.80	kW	Tj = +7°C	COPd	4.51	
Degradation co-efficient (**)	Cdh	0.98	-				
Tj = +12°C	Pdh	4.30	kW	Tj = +12°C	COPd	6.71	
Degradation co-efficient (**)	Cdh	0.99	-				
Tj = bivalent temperature	Pdh	6.68	kW	Tj = bivalent temperature	COPd	1.91	
Tj = operation limit temperature	Pdh	6.90	kW	Tj = operation limit temperature	COPd	1.63	
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	60	°C
Power consumption in modes	other than	active mo	de	Supplementary Heater			
Off Mode	P _{OFF}	0.01	kW	Rate heat output	P _{sup}	0.6	kW
Thermostat-off mode	P _{TO}	0.04	kW		1 000	•	
Standby mode	P _{SB}	0.01	kW	Type of energy input			
Crankcase heater mode	Рск	0.00	kW	J. J.			
		•					
Other items							
Capacity control	Variable			Rated airflow rate, outdoors	-	2664	m³/h
Sound power level indoors/outdoors	L _{WA}	46/67	dBA				
Annual Energy consumption	Q _{HE}	4762	kWh				
For heat pump combination heater				Water heating energy efficiency	ηwh	81.6	%
		1 37	1	0 0, ,	.,,,,,,	52.648	°C
i Deciared load brollie	-	I XL	-	I Reference Hot Water Lemp		1 32.040	
Declared load profile Daily electricity consumption	- Qelec	XL 9.49	kW/h	Reference Hot Water Temp Volume of DHW in test		268	Litres

^(*) 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.



Models:	Outdoor Unit:	Aerona ³ HPID16 & HPMONO/IND300
	Indoor Unit:	None 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		Yes
Parameters shall be declared for		Medium-temperature applications
Parameters shall be declared for		Average Climate Conditions

Rated Heat Output (+)	Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Declared capacity for heating for part load at indoor Temperature 20°C and outdoor temperature Tj	Dated Hast Outsut ()	Dueted	4.4	LAAZ	Seasonal space heating		100	0/
Temperature 20°C and outdoor temperature Tj	Rated Heat Output (*)	Prated	' '	KVV	energy efficiency	ης	120	%
Tj = -10°C								
Degradation co-efficient (**)	Temperature 20°C and outdoor temperature Tj				part load at indoor temperature 20	°C and outdoo	r temperatur	e Tj
Tj = -7°C	Tj = -10°C	Pdh	11.0	kW	Tj = -10°C	COPd	1.60	
Degradation co-efficient (**) Cdh 0.99 - Pdh 6.05 kW Tj = +2°C COPd 3.26 Degradation co-efficient (**) Cdh 0.99 - -				-				
Tj = +2°C		Pdh		kW	Tj = -7°C	COPd	1.81	
Degradation co-efficient (**)	Degradation co-efficient (**)	Cdh	0.99	-				
Tj = +7°C	·	Pdh	6.05	kW	Tj = +2°C	COPd	3.26	
Degradation co-efficient (**) Cdh 0.99 - Pdh 4.50 kW Tj = +12°C COPd 5.70				-				
Tj = +12°C		Pdh	3.9	kW	Tj = +7°C	COPd	4.58	
Degradation co-efficient (**) Cdh 0.99 -	Degradation co-efficient (**)	Cdh		-				
Tj = bivalent temperature Tj = operation limit temperature Pdh 11.0 kW Tj = operation limit temperature Tj = operation limit temperature Pdh 11.0 kW Tj = operation limit temperature COPd 1.60 Tj = -15°C (if TOL < -20°C) Pdh - kW Tj = -15°C (if TOL < -20°C) Power consumption in modes other than active mode Power consumption in modes other than active mode WTOL Power consumption in modes other than active mode Supplementary Heater Off Mode Poyre Poyre Thermostat-off mode Poyre Poyre Power consumption in modes other than active mode Supplementary Heater Off Mode Poyre P	- ,	Pdh	4.50	kW	Tj = +12°C	COPd	5.70	
Tj = operation limit temperature Tj = -15°C (if TOL < -20°C) Pdh - kW Tj = -15°C (if TOL < -20°C) COPd - Bivalent temperature Tbiv -10 °C Operation limit temperature ToL -10 °C Operation limit temperature Power consumption in modes other than active mode For heat pump combination heater Path Agriculture Physic Power consumption in modes other than active mode Supplementary Heater Supplementary Heater Supplementary Heater Supplementary Heater Pour Porr O.01 kW Rate heat output Psup 0.40 kW Type of energy input Rated airflow rate, outdoors - 4464 m³/h Annual Energy consumption Por Neat pump combination heater Declared load profile - XL - Reference Hot Water Temp Daily electricity consumption Qelec 9.88 kW/h Volume of DHW in test 271 Litres	Degradation co-efficient (**)	Cdh	0.99	-				
temperature Tj = -15°C (if TOL < -20°C) Pdh - kW Tj = -15°C (if TOL < -20°C) COPd - Bivalent temperature Tolu -10 °C Operation limit temperature Tolu -10 °C Heating water operating limit temperature Power consumption in modes other than active mode Off Mode Poff 0.01 kW Rate heat output Psup 0.40 kW Thermostat-off mode Poff 0.01 kW Type of energy input Crankcase heater mode Poff 0.00 kW Crankcase heater mode Poff 0.00 kW Other items Capacity control Variable Rated airflow rate, outdoors - 4464 m³/h Sound power level indoors/outdoors Annual Energy consumption QHE 6996 kWh For heat pump combination heater Water Temp 51.758 °C Daily electricity consumption Qelec 9.88 kW/h Volume of DHW in test 271 Litres	Tj = bivalent temperature	Pdh	11.0	kW	Tj = bivalent temperature	COPd	1.60	
temperature Tj = -15°C (if TOL < -20°C) Pdh - kW Tj = -15°C (if TOL < -20°C) COPd - Bivalent temperature Tbiv -10 °C Operation limit temperature TOL -10 °C Power consumption in modes other than active mode Heating water operating limit temperature WTOL 60 °C Power consumption in modes other than active mode Off Mode Poff 0.01 kW Rate heat output Psup 0.40 kW Thermostat-off mode Pro 0.04 kW Standby mode PsB 0.01 kW Type of energy input Crankcase heater mode Pck 0.00 kW Other items Capacity control Variable Rated airflow rate, outdoors - 4464 m³/h Sound power level indoors/outdoors Annual Energy consumption QhE 6996 kWh For heat pump combination heater Water Temp 51.758 °C Daily electricity consumption Qelec 9.88 kW/h Volume of DHW in test 271 Litres	Tj = operation limit	Ddb	11.0	IAA/	Ti = aparation limit tamperature	COD4	1.60	
Bivalent temperature Tbiv -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 Poff 0.01 kW Rate heat output Psup 0.40 kW Thermostat-off mode Pfo 0.04 kW Standby mode PsB 0.01 kW Type of energy input Crankcase heater mode Pok 0.00 kW Other items Capacity control Variable Rated airflow rate, outdoors - 4464 m³/h Sound power level indoors/outdoors Annual Energy consumption QHE 6996 kWh For heat pump combination heater Water heating energy efficiency Nwh 78 % Declared load profile - XL - Reference Hot Water Temp 51.758 °C Daily electricity consumption Qelec 9.88 kW/h Volume of DHW in test 271 Litres	temperature	Pull	11.0	KVV	, ,	COPu	1.00	
Heating water operating limit temperature WTOL 60 °C	$Tj = -15^{\circ}C \text{ (if TOL } < -20^{\circ}C)$	Pdh	-		Tj = -15 $^{\circ}$ C (if TOL < -20 $^{\circ}$ C)		-	
Power consumption in modes other than active mode Off Mode Poff Off Off Mode Poff Off Off Off Off Off Off Off Off Off	Bivalent temperature	Tbiv	-10	°C	Operation limit temperature	TOL	-10	°C
Off Mode						WTOL	60	°C
Off Mode	Power consumption in modes other than active mode				Sunnlementary Heater			
Thermostat-off mode						Р	0.40	k\\\/
Standby mode					Rate fleat output	sup	1 0.40	IVVV
Crankcase heater mode					Type of energy input			
Other items Capacity control Variable Rated airflow rate, outdoors - 4464 m³/h Sound power level indoors/outdoors Annual Energy consumption QHE 6996 kWh For heat pump combination heater Water heating energy efficiency nwh 78 % Declared load profile - XL - Reference Hot Water Temp 51.758 °C Daily electricity consumption Qelec 9.88 kW/h Volume of DHW in test 271 Litres	,				Type or energy input			
Capacity control Variable Rated airflow rate, outdoors - 4464 m³/h Sound power level LWA 42/63 dBA indoors/outdoors Annual Energy consumption QHE 6996 kWh For heat pump combination heater Water heating energy efficiency nwh 78 % Declared load profile - XL - Reference Hot Water Temp 51.758 °C Daily electricity consumption Qelec 9.88 kW/h Volume of DHW in test 271 Litres	Crankcase neater mode	FCK	0.00	LVV				
Sound power level indoors/outdoors Annual Energy consumption Q _{HE} 6996 kWh For heat pump combination heater Water heating energy efficiency nwh 78 % Declared load profile - XL - Reference Hot Water Temp 51.758 °C Daily electricity consumption Qelec 9.88 kW/h Volume of DHW in test 271 Litres	Other items							
indoors/outdoors 42/63 Annual Energy consumption Q _{HE} 6996 kWh For heat pump combination heater Water heating energy efficiency ηwh 78 % Declared load profile - XL - Reference Hot Water Temp 51.758 °C Daily electricity consumption Qelec 9.88 kW/h Volume of DHW in test 271 Litres	Capacity control	Variable			Rated airflow rate, outdoors	-	4464	m³/h
Annual Energy consumption Q _{HE} 6996 kWh For heat pump combination heater Declared load profile - XL - Reference Hot Water Temp 51.758 °C Daily electricity consumption Qelec 9.88 kW/h Volume of DHW in test 271 Litres	Sound power level	L _{WA}	12/62	dBA			1	
For heat pump combination heater Water heating energy efficiency nwh 78 % Declared load profile - XL - Reference Hot Water Temp 51.758 °C Daily electricity consumption Qelec 9.88 kW/h Volume of DHW in test 271 Litres								
Declared load profile - XL - Reference Hot Water Temp 51.758 °C Daily electricity consumption Qelec 9.88 kW/h Volume of DHW in test 271 Litres	Annual Energy consumption	Q _{HE}	6996	kWh				
Declared load profile - XL - Reference Hot Water Temp 51.758 °C Daily electricity consumption Qelec 9.88 kW/h Volume of DHW in test 271 Litres	For head assessment and the state of the sta				\\\		1 70	1 0/
Daily electricity consumption Qelec 9.88 kW/h Volume of DHW in test 271 Litres		1	VI	1	,	ηwn	_	
		- Oelec		- k\///h				
ADDUAL EJECTRICITY CONSUMPTION LAFC. L3606 LKVV/N L	Annual electricity consumption	AEC	3606	kW/h	volume of DHW in test	1	2/1	Litres

^(*) 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.



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.

Peter Darcy R & D Manager

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