

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



EFFICIENT HEATING SOLUTIONS

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		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	4.8	kW	Seasonal space heating energy efficiency	η_s	174	%
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	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 temperature	Pdh	4.8	kW	Tj = operation limit temperature	COPd	2.40	
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 _{OFF}	0.01	kW	Rate heat output	P _{sup}	0	kW
Thermostat-off mode	P _{TO}	0.04	kW				
Standby mode	P _{SB}	0.01	kW	Type of energy input			
Crankcase heater mode	P _{CK}	0.00	kW				
Other items							
Capacity control	Variable			Rated airflow rate, outdoors	-	2082	m ³ /h
Sound power level indoors/outdoors	L _{WA}	40/61	dBA				
Annual Energy consumption	Q _{HE}	2194	kWh				
For heat pump combination heater				Water heating energy efficiency	η_{wh}	-	%
Declared load profile	-	-	-				
Daily electricity consumption	Q _{elec}	-	kWh				
Annual electricity consumption	AEC	-	kWh				

(*) 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		No
Low temperature heat pump		No
Equipped with a supplementary heater		No
Heat Pump Combination Heater		No
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	η_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 = -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 mode				Supplementary Heater			
Off Mode	P _{OFF}	0.01	kW	Rate heat output	P _{sup}	0	kW
Thermostat-off mode	P _{TO}	0.04	kW				
Standby mode	P _{SB}	0.01	kW	Type of energy input			
Crankcase heater mode	P _{CK}	0.00	kW				
Other items							
Capacity control	Variable			Rated airflow rate, outdoors	-	2082	m ³ /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	η_{wh}	-	%
Declared load profile	-	-	-				
Daily electricity consumption	Q _{elec}	-	kWh				
Annual electricity consumption	AEC	-	kWh				

(*) 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		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	7.5	kW	Seasonal space heating energy efficiency	η_s	174	%
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	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 temperature	Pdh	7.50	kW	Tj = operation limit temperature	COPd	2.35	
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 _{OFF}	0.01	kW	Rate heat output	P _{sup}	0.00	kW
Thermostat-off mode	P _{TO}	0.04	kW				
Standby mode	P _{SB}	0.01	kW	Type of energy input			
Crankcase heater mode	P _{CK}	0.00	kW				
Other items							
Capacity control	Variable			Rated airflow rate, outdoors	-	2664	m ³ /h
Sound power level indoors/outdoors	L _{WA}	44/65	dBA				
Annual Energy consumption	Q _{HE}	3318	kWh				
For heat pump combination heater				Water heating energy efficiency	η_{wh}	-	%
Declared load profile	-	-	-				
Daily electricity consumption	Q _{elec}	-	kWh				
Annual electricity consumption	AEC	-	kWh				

(*) 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		No
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	η_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 = -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 mode				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				
Standby mode	P _{SB}	0.01	kW	Type of energy input			
Crankcase heater mode	P _{CK}	0.00	kW				
Other items							
Capacity control	Variable			Rated airflow rate, outdoors	-	2664	m ³ /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	η_{wh}	-	%
Declared load profile	-	-	-				
Daily electricity consumption	Q _{elec}	-	kWh				
Annual electricity consumption	AEC	-	kWh				

(*) 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		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	η_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	11.31	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
				Heating water operating limit temperature	WTOL	60	°C
Power consumption in modes other than active mode				Supplementary Heater			
Off Mode	P _{OFF}	0.01	kW	Rate heat output	P _{sup}	0.95	kW
Thermostat-off mode	P _{TO}	0.04	kW				
Standby mode	P _{SB}	0.01	kW	Type of energy input			
Crankcase heater mode	P _{CK}	0.00	kW				
Other items							
Capacity control	Variable			Rated airflow rate, outdoors	-	4464	m ³ /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	η_{wh}	-	%
Declared load profile	-	-	-				
Daily electricity consumption	Q _{elec}	-	kWh				
Annual electricity consumption	AEC	-	kWh				

(*) 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		No
Equipped with a supplementary heater		No
Heat Pump Combination Heater		No
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	η_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 = -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 mode				Supplementary Heater			
Off Mode	P _{OFF}	0.01	kW	Rate heat output	P _{sup}	0.40	kW
Thermostat-off mode	P _{TO}	0.04	kW				
Standby mode	P _{SB}	0.01	kW	Type of energy input			
Crankcase heater mode	P _{CK}	0.00	kW				
Other items							
Capacity control	Variable			Rated airflow rate, outdoors	-	4464	m ³ /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	η_{wh}	-	%
Declared load profile	-	-	-				
Daily electricity consumption	Q _{elec}	-	kWh				
Annual electricity consumption	AEC	-	kWh				

(*) 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		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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated Heat Output (*)	Prated	4.8	kW	Seasonal space heating energy efficiency	η_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 = -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 mode				Supplementary Heater			
Off Mode	P _{OFF}	0.01	kW	Rate heat output	P _{sup}	0	kW
Thermostat-off mode	P _{TO}	0.04	kW				
Standby mode	P _{SB}	0.01	kW	Type of energy input			
Crankcase heater mode	P _{CK}	0.00	kW				
Other items							
Capacity control	Variable			Rated airflow rate, outdoors	-	2082	m ³ /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	η_{wh}	94.1	%
Declared load profile	-	XL	-	Reference Hot Water Temp		53.29	°C
Daily electricity consumption	Q _{elec}	8.23	kWh	Volume of DHW in test		199	Litres
Annual electricity consumption	AEC	3004	kWh				

(*) 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
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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated Heat Output (*)	Prated	7.5	kW	Seasonal space heating energy efficiency	η_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 = -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 mode				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				
Standby mode	P _{SB}	0.01	kW	Type of energy input			
Crankcase heater mode	P _{CK}	0.00	kW				
Other items							
Capacity control	Variable			Rated airflow rate, outdoors	-	2664	m ³ /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	η_{wh}	92.6	%
Declared load profile	-	XL	-	Reference Hot Water Temp		53.29	°C
Daily electricity consumption	Q _{elec}	8.54	kWh	Volume of DHW in test		199	Litres
Annual electricity consumption	AEC	3117	kWh				

(*) 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
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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated Heat Output (*)	Prated	11	kW	Seasonal space heating energy efficiency	η_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 = -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 mode				Supplementary Heater			
Off Mode	P _{OFF}	0.01	kW	Rate heat output	P _{sup}	0.40	kW
Thermostat-off mode	P _{TO}	0.04	kW				
Standby mode	P _{SB}	0.01	kW	Type of energy input			
Crankcase heater mode	P _{CK}	0.00	kW				
Other items							
Capacity control	Variable			Rated airflow rate, outdoors	-	4464	m ³ /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	η_{wh}	83.2	%
Declared load profile	-	XL	-	Reference Hot Water Temp		51.98	°C
Daily electricity consumption	Q _{elec}	9.32	kWh	Volume of DHW in test		200	Litres
Annual electricity consumption	AEC	3402	kWh				

(*) 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		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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated Heat Output (*)	Prated	4.8	kW	Seasonal space heating energy efficiency	η_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 = -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 mode				Supplementary Heater			
Off Mode	P _{OFF}	0.01	kW	Rate heat output	P _{sup}	0	kW
Thermostat-off mode	P _{TO}	0.04	kW				
Standby mode	P _{SB}	0.01	kW	Type of energy input			
Crankcase heater mode	P _{CK}	0.00	kW				
Other items							
Capacity control	Variable			Rated airflow rate, outdoors	-	2082	m³/h
Sound power level	L _{WA}	42/63	dBA				
indoors/outdoors							
Annual Energy consumption	Q _{HE}	2998	kWh				
For heat pump combination heater				Water heating energy efficiency			
Declared load profile	-	XL	-	Reference Hot Water Temp		52.38	°C
Daily electricity consumption	Q _{elec}	9.28	kWh	Volume of DHW in test		270	Litres
Annual electricity consumption	AEC	3387	kWh				

(*) 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		No
Heat Pump Combination Heater		Yes
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	η_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 = -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 mode				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				
Standby mode	P _{SB}	0.01	kW	Type of energy input			
Crankcase heater mode	P _{CK}	0.00	kW				
Other items							
Capacity control	Variable			Rated airflow rate, outdoors	-	2664	m³/h
Sound power level	L _{WA}	46/67	dBA				
indoors/outdoors							
Annual Energy consumption	Q _{HE}	4762	kWh				
For heat pump combination heater				Water heating energy efficiency			
Declared load profile	-	XL	-	Reference Hot Water Temp		52.648	°C
Daily electricity consumption	Q _{elec}	9.49	kWh	Volume of DHW in test		268	Litres
Annual electricity consumption	AEC	3464	kWh				

(*) 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
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

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated Heat Output (*)	Prated	11	kW	Seasonal space heating energy efficiency	η_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 = -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 mode				Supplementary Heater			
Off Mode	P _{OFF}	0.01	kW	Rate heat output	P _{sup}	0.40	kW
Thermostat-off mode	P _{TO}	0.04	kW				
Standby mode	P _{SB}	0.01	kW	Type of energy input			
Crankcase heater mode	P _{CK}	0.00	kW				
Other items							
Capacity control	Variable			Rated airflow rate, outdoors	-	4464	m ³ /h
Sound power level	L _{WA}	42/63	dBA				
indoors/outdoors							
Annual Energy consumption	Q _{HE}	6996	kWh				
For heat pump combination heater				Water heating energy efficiency			
Declared load profile	-	XL	-	Water heating energy efficiency	η_{wh}	78	%
Daily electricity consumption	Q _{elec}	9.88	kWh	Reference Hot Water Temp		51.758	°C
Annual electricity consumption	AEC	3606	kWh	Volume of DHW in test		271	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.

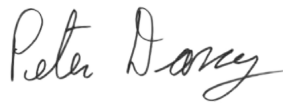
Recycling

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