

Technical parameters

Model(s):		Outdoor unit: AOWD-V3-120T Indoor unit: AIWD-V3-160T	
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:	YES		
Heat pump combination heater:	NO		
Declared climate condition:	AVERAGE		
Parameters are declared for medium-temperature application.			
Heating Performance			
Item	Symbol	Value	Unit
Rated heat output (*)	Prated	12	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7 °C	Pdh	10.7	kW
Tj = 2 °C	Pdh	6.6	kW
Tj = 7 °C	Pdh	4.2	kW
Tj = 12 °C	Pdh	3.5	kW
Tj = bivalent temperature	Pdh	11.5	kW
Tj = operating limit	Pdh	10.9	kW
For air-to-water heat pumps: Tj = -15 °C	Pdh	-	kW
Bivalent temperature	T _{biv}	-9	°C
Cycling interval capacity for heating	P _{cych}	-	kW
Degradation co-efficient (**)	C _{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P _{off}	0.019	kW
Standby mode	P _{sb}	0.019	kW
Thermostat-off mode	P _{to}	0.078	kW
Crankcase heater mode	P _{ck}	0.014	kW
Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η _s	126	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7 °C	COPd	1.96	-
Tj = 2 °C	COPd	3.02	-
Tj = 7 °C	COPd	4.51	-
Tj = 12 °C	COPd	6.69	-
Tj = bivalent temperature	COPd	1.77	-
Tj = operating limit	COPd	1.67	-
For air-to-water heat pumps: Tj = -15 °C	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval efficiency	COP _{cyt}	-	-
Heating water operating limit temperature	W _{TOL}	60	°C
Supplementary heater			
Rated heat output (**)	P _{sup}	1.0	kW
Type of energy input	Electrical		
Other items			
Capacity control	variable		
Sound power level, indoors/ outdoors	L _{WA}	45 / 70	dB
Annual energy consumption	Q _{HE}	7630	kWh
For air-to-water heat pumps: Rated air flow rate, outdoors	-	6500	m ³ /h
For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m ³ /h
For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q _{elec}	-	kWh
Annual electricity consumption	AEC	-	kWh
Water heating energy efficiency	η _{wh}	-	%
Daily fuel consumption	Q _{fuel}	-	kWh
Annual fuel consumption	AFC	-	GJ
Contact details	EUROFRED S.A. Cl. Marqués de Sentmenat, 97 - 08029 Barcelona - Spain MADE IN P.R.C		

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Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	YES
Heat pump combination heater:	NO
Declared climate condition:	COLDER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	12	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7 °C	Pdh	7.4	kW
Tj = 2 °C	Pdh	4.5	kW
Tj = 7 °C	Pdh	2.9	kW
Tj = 12 °C	Pdh	2.4	kW
Tj = bivalent temperature	Pdh	9.8	kW
Tj = operating limit	Pdh	7.0	kW
For air-to-water heat pumps: Tj = -15 °C	Pdh	-	kW
Bivalent temperature	T _{biv}	-15	°C
Cycling interval capacity for heating	P _{cy} ch	-	kW
Degradation co-efficient (**)	C _{dh}	0.9	--
Power consumption in modes other than active mode			
Off mode	P _{off}	0.019	kW
Standby mode	P _{sb}	0.019	kW
Thermostat-off mode	P _{to}	0.078	kW
Crankcase heater mode	P _{ck}	0.014	kW

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L _{WA}	-	dB
Annual energy consumption	Q _{HE}	11507	kWh

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η _s	100	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7 °C	COP _d	2.15	-
Tj = 2 °C	COP _d	2.92	-
Tj = 7 °C	COP _d	4.08	-
Tj = 12 °C	COP _d	6.00	-
Tj = bivalent temperature	COP _d	1.78	-
Tj = operating limit	COP _d	1.28	-
For air-to-water heat pumps: Tj = -15 °C	COP _d	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	-20	°C
Cycling interval efficiency	COP _{cy}	-	-
Heating water operating limit temperature	W _{TOL}	60	°C
Supplementary heater			
Rated heat output (**)	P _{sup}	12.0	kW
Type of energy input	Electrical		

For air-to-water heat pumps: Rated air flow rate, outdoors	-	6500	m ³ /h
For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m ³ /h

For heat pump combination heater:							
Declared load profile	-			Water heating energy efficiency	η _{wh}	-	%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ

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(*) 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).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

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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:	YES
Heat pump combination heater:	NO
Declared climate condition:	WARMER

Parameters are declared for medium-temperature application.

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	12	kW	Seasonal space heating energy efficiency	η_s	169	%
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	P _{dh}	-	kW	T _j = -7 °C	COP _d	-	-
T _j = 2 °C	P _{dh}	12.1	kW	T _j = 2 °C	COP _d	2.35	-
T _j = 7 °C	P _{dh}	7.9	kW	T _j = 7 °C	COP _d	3.50	-
T _j = 12 °C	P _{dh}	5.3	kW	T _j = 12 °C	COP _d	6.33	-
T _j = bivalent temperature	P _{dh}	12.1	kW	T _j = bivalent temperature	COP _d	2.35	-
T _j = operating limit	P _{dh}	12.1	kW	T _j = operating limit	COP _d	2.35	-
For air-to-water heat pumps: T _j = -15 °C	P _{dh}	-	kW	For air-to-water heat pumps: T _j = -15 °C	COP _d	-	-
Bivalent temperature	T _{biv}	2	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	P _{cych}	-	kW	Cycling interval efficiency	COP _{eyc}	-	-
Degradation co-efficient (**)	C _{dh}	0.9	--	Heating water operating limit temperature	W _{TOL}	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{off}	0.019	kW	Rated heat output (**)	P _{sup}	0	kW
Standby mode	P _{sb}	0.019	kW	Type of energy input	Electrical		
Thermostat-off mode	P _{to}	0.078	kW				
Crankcase heater mode	P _{ck}	0.014	kW				

Other items			
Capacity control	variable		
Sound power level, indoors/ outdoors	L _{WA}	-	dB
Annual energy consumption	Q _{HE}	3190	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	6500	m ³ /h
For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m ³ /h

For heat pump combination heater:							
Declared load profile	-			Water heating energy efficiency	η_{wh}	-	%
Daily electricity consumption	Q _{elec}	-	kWh	Daily fuel consumption	Q _{fuel}	-	kWh
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ

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(*) 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).

(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.