

PRODUCT FICHE – MONOBLOC 2D

Trade mark		AQUATERMIC			
Model		MONOBLOC 2D 18	MONOBLOC 2D 24	MONOBLOC 2D 36	MONOBLOC 2D 45
Seasonal space heating energy efficiency class		A ⁺	A ⁺	A ⁺	A ⁺
Rated heat output	under average climate conditions	5 kW	8 kW	9 kW	10 kW
	under colder climate conditions	4 kW	8 kW	9 kW	10 kW
	under warmer climate conditions	4 kW	7 kW	10 kW	10 kW
Seasonal space heating energy efficiency	under average climate conditions	107 %	102 %	101 %	100 %
	under colder climate conditions	94 %	92 %	87 %	85 %
	under warmer climate conditions	119 %	114 %	118 %	113 %
Annual energy consumption	under average climate conditions	3393 kWh	6320 kWh	7403 kWh	8410 kWh
	under colder climate conditions	4556 kWh	8628 kWh	9917 kWh	11796 kWh
	under warmer climate conditions	1915 kWh	3385 kWh	3915 kWh	4815 kWh
Annual energy consumption in terms of final energy	under average climate conditions	8720 kWh	16264 kWh	19054 kWh	21656 kWh
	under colder climate conditions	11754 kWh	22271 kWh	25644 kWh	30538 kWh
	under warmer climate conditions	4908 kWh	8685 kWh	10035 kWh	12357 kWh
Sound power level, indoors L _{WA}		-	-	-	-
Sound power level, outdoors L _{WA}		61 dB(A)	64 dB(A)	66 dB(A)	66 dB(A)
Precautions for installation and maintenance		Read precautions for installation and maintenance at specific chapters on user's and installation's manual.			

Technical parameters for heat pump space heaters

Model	MONOBLOC 2D 18
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:	No
Heat pump combination heater:	No
Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low-temperature heat pumps, parameters shall be declared for low-temperature application.	
Parameters shall be declared for average climate condition.	

Item	Symbol	Value	Unit
Rated heat pump	P_{rated}	5	kW
Declared capacity for heating for part load at indoor temperature 20°C and outdoor temperature T_j			
$T_j = -7^{\circ}\text{C}$	P_{dh}	4,0	kW
$T_j = +2^{\circ}\text{C}$	P_{dh}	4,4	kW
$T_j = +7^{\circ}\text{C}$	P_{dh}	5,2	kW
$T_j = +12^{\circ}\text{C}$	P_{dh}	5,3	kW
$T_j = \text{bivalent temperature}$	P_{dh}	4,0	kW
$T_j = \text{operation limit temperature}$	P_{dh}	3,6	kW
For air-to-water heat pumps: $T_j = -15^{\circ}\text{C}$ (if $TOL < -20^{\circ}\text{C}$)	P_{dh}		kW
Bivalent temperature	T_{biv}	-7	°C
Cycling interval capacity for heating	P_{cyc}	2,5	kW
Degradation co-efficient	C_{dh}	1,0	-
Power consumption in modes other than active mode			
Off mode	P_{off}	0,000	kW
Thermostat-off mode	P_{To}	0,011	kW
Standby mode	P_{SB}	0,011	kW
Crankcase heater mode	P_{CK}	0,000	kW
Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	- / 61	dB(A)
Annual energy consumption	Q_{HE}	3393	kWh

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η_s	107	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20°C and outdoor temperature T_j			
$T_j = -7^{\circ}\text{C}$	COP_d	2,21	
$T_j = +2^{\circ}\text{C}$	COP_d	2,46	
$T_j = +7^{\circ}\text{C}$	COP_d	2,71	
$T_j = +12^{\circ}\text{C}$	COP_d	2,94	
$T_j = \text{bivalent temperature}$	COP_d	2,21	
$T_j = \text{operation limit temperature}$	COP_d	2,00	
For air-to-water heat pumps: $T_j = -15^{\circ}\text{C}$ (if $TOL < -20^{\circ}\text{C}$)	COP_d	-	
For air-to-water heat pumps: Operation limit temperature	TOL	-15	°C
Cycling interval efficiency	COP_{cyc}	3,22	
Heating water operating limit temperature	WTOL	58	°C
Supplementary heater			
Rated heat output	P_{sup}	-	kW
Type of energy input	-		
For air-to-water heat pumps: Rated air flow rate, outdoors	-	3888	m^3/h
For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

Technical parameters for heat pump space heaters

Model	MONOBLOC 2D 24
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:	No
Heat pump combination heater:	No
Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low-temperature heat pumps, parameters shall be declared for low-temperature application.	
Parameters shall be declared for average climate condition.	

Item	Symbol	Value	Unit
Rated heat pump	P_{rated}	8	kW
Declared capacity for heating for part load at indoor temperature 20°C and outdoor temperature T_j			
$T_j = -7^\circ\text{C}$	P_{dh}	7,1	kW
$T_j = +2^\circ\text{C}$	P_{dh}	7,4	kW
$T_j = +7^\circ\text{C}$	P_{dh}	8,5	kW
$T_j = +12^\circ\text{C}$	P_{dh}	8,6	kW
$T_j = \text{bivalent temperature}$	P_{dh}	7,1	kW
$T_j = \text{operation limit temperature}$	P_{dh}	6,8	kW
For air-to-water heat pumps: $T_j = -15^\circ\text{C}$ (if TOL < -20°C)	P_{dh}	-	kW
Bivalent temperature	T_{biv}	-7	°C
Cycling interval capacity for heating	P_{cyc}	4,4	kW
Degradation co-efficient	C_{dh}	1,0	-
Power consumption in modes other than active mode			
Off mode	P_{off}	0,000	kW
Thermostat-off mode	P_{To}	0,011	kW
Standby mode	P_{SB}	0,011	kW
Crankcase heater mode	P_{CK}	0,000	kW
Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	- / 64	dB(A)
Annual energy consumption	Q_{HE}	6320	kWh

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η_s	102	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20°C and outdoor temperature T_j			
$T_j = -7^\circ\text{C}$	COP_d	2,10	
$T_j = +2^\circ\text{C}$	COP_d	2,38	
$T_j = +7^\circ\text{C}$	COP_d	2,64	
$T_j = +12^\circ\text{C}$	COP_d	2,89	
$T_j = \text{bivalent temperature}$	COP_d	2,10	
$T_j = \text{operation limit temperature}$	COP_d	1,99	
For air-to-water heat pumps: $T_j = -15^\circ\text{C}$ (if TOL < -20°C)	COP_d	-	
For air-to-water heat pumps: Operation limit temperature	TOL	-15	°C
Cycling interval efficiency	COP_{cyc}	2,99	
Heating water operating limit temperature	WTOL	58	°C
Supplementary heater			
Rated heat output	P_{sup}	-	kW
Type of energy input	-		
For air-to-water heat pumps: Rated air flow rate, outdoors	-	5868	m ³ /h
For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m ³ /h

Technical parameters for heat pump space heaters

Model	MONOBLOC 2D 36
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:	No
Heat pump combination heater:	No
Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low-temperature heat pumps, parameters shall be declared for low-temperature application.	
Parameters shall be declared for average climate condition.	

Item	Symbol	Value	Unit
Rated heat pump	P_{rated}	9	kW
Declared capacity for heating for part load at indoor temperature 20°C and outdoor temperature T_j			
$T_j = -7^\circ\text{C}$	P_{dh}	8,3	kW
$T_j = +2^\circ\text{C}$	P_{dh}	8,9	kW
$T_j = +7^\circ\text{C}$	P_{dh}	10,9	kW
$T_j = +12^\circ\text{C}$	P_{dh}	11,1	kW
$T_j = \text{bivalent temperature}$	P_{dh}	7,4	kW
$T_j = \text{operation limit temperature}$	P_{dh}	7,4	kW
For air-to-water heat pumps: $T_j = -15^\circ\text{C}$ (if $TOL < -20^\circ\text{C}$)	P_{dh}	-	kW
Bivalent temperature	T_{biv}	-7	°C
Cycling interval capacity for heating	P_{cyc}	4,8	kW
Degradation co-efficient	C_{dh}	1,0	-
Power consumption in modes other than active mode			
Off mode	P_{off}	0,000	kW
Thermostat-off mode	P_{To}	0,011	kW
Standby mode	P_{SB}	0,011	kW
Crankcase heater mode	P_{CK}	0,000	kW
Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	- / 66	dB(A)
Annual energy consumption	Q_{HE}	7402	kWh

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η_s	101	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20°C and outdoor temperature T_j			
$T_j = -7^\circ\text{C}$	COP_d	1,93	
$T_j = +2^\circ\text{C}$	COP_d	2,32	
$T_j = +7^\circ\text{C}$	COP_d	2,64	
$T_j = +12^\circ\text{C}$	COP_d	2,94	
$T_j = \text{bivalent temperature}$	COP_d	1,69	
$T_j = \text{operation limit temperature}$	COP_d	1,69	
For air-to-water heat pumps: $T_j = -15^\circ\text{C}$ (if $TOL < -20^\circ\text{C}$)	COP_d	-	
For air-to-water heat pumps: Operation limit temperature	TOL	-15	°C
Cycling interval efficiency	COP_{cyc}	3,13	
Heating water operating limit temperature	$WTOL$	58	°C
Supplementary heater			
Rated heat output	P_{sup}	-	kW
Type of energy input	-		
For air-to-water heat pumps: Rated air flow rate, outdoors	-	5868	m^3/h
For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

Technical parameters for heat pump space heaters

Model	MONOBLOC 2D 45
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:	No
Heat pump combination heater:	No
Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low-temperature heat pumps, parameters shall be declared for low-temperature application.	
Parameters shall be declared for average climate condition.	

Item	Symbol	Value	Unit
Rated heat pump	P_{rated}	10	kW
Declared capacity for heating for part load at indoor temperature 20°C and outdoor temperature T_j			
$T_j = -7^\circ\text{C}$	P_{dh}	9,3	kW
$T_j = +2^\circ\text{C}$	P_{dh}	10,5	kW
$T_j = +7^\circ\text{C}$	P_{dh}	12,8	kW
$T_j = +12^\circ\text{C}$	P_{dh}	13,0	kW
$T_j = \text{bivalent temperature}$	P_{dh}	9,3	kW
$T_j = \text{operation limit temperature}$	P_{dh}	8,5	kW
For air-to-water heat pumps: $T_j = -15^\circ\text{C}$ (if TOL < -20°C)	P_{dh}	-	kW
Bivalent temperature	T_{biv}	-7	°C
Cycling interval capacity for heating	P_{cyc}	6,1	kW
Degradation co-efficient	C_{dh}	1,0	-
Power consumption in modes other than active mode			
Off mode	P_{off}	0,000	kW
Thermostat-off mode	P_{To}	0,011	kW
Standby mode	P_{SB}	0,011	kW
Crankcase heater mode	P_{CK}	0,000	kW
Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	- / 66	dB(A)
Annual energy consumption	Q_{HE}	8410	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 T_j			
$T_j = -7^\circ\text{C}$	COP_d	1,78	
$T_j = +2^\circ\text{C}$	COP_d	2,18	
$T_j = +7^\circ\text{C}$	COP_d	2,49	
$T_j = +12^\circ\text{C}$	COP_d	2,80	
$T_j = \text{bivalent temperature}$	COP_d	1,78	
$T_j = \text{operation limit temperature}$	COP_d	1,55	
For air-to-water heat pumps: $T_j = -15^\circ\text{C}$ (if TOL < -20°C)	COP_d	-	
For air-to-water heat pumps: Operation limit temperature	TOL	-15	°C
Cycling interval efficiency	COP_{cyc}	3,09	
Heating water operating limit temperature	WTOL	58	°C
Supplementary heater			
Rated heat output	P_{sup}	-	kW
Type of energy input	-		
For air-to-water heat pumps: Rated air flow rate, outdoors	-	9324	m ³ /h
For water- or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m ³ /h