

PRODUCT FICHE – MONOBLOC 3D

Trade mark		AQUATERMIC			
Model		MONOBLOC 3D 18	MONOBLOC 3D 24	MONOBLOC 3D 36	MONOBLOC 3D 45
Seasonal space heating energy efficiency class		A ⁺	A ⁺	A ⁺	A ⁺
Rated heat output	<i>under average climate conditions</i>	5 kW	8 kW	9 kW	10 kW
	<i>under colder climate conditions</i>	4 kW	8 kW	9 kW	10 kW
	<i>under warmer climate conditions</i>	4 kW	7 kW	10 kW	10 kW
Seasonal space heating energy efficiency	<i>under average climate conditions</i>	107 %	102 %	101 %	100 %
	<i>under colder climate conditions</i>	94 %	92 %	87 %	85 %
	<i>under warmer climate conditions</i>	119 %	114 %	118 %	113 %
Annual energy consumption	<i>under average climate conditions</i>	3393 kWh	6320 kWh	7403 kWh	8410 kWh
	<i>under colder climate conditions</i>	4556 kWh	8628 kWh	9917 kWh	11796 kWh
	<i>under warmer climate conditions</i>	1915 kWh	3385 kWh	3915 kWh	4815 kWh
Annual energy consumption in terms of final energy	<i>under average climate conditions</i>	8720 kWh	16264 kWh	19054 kWh	21656 kWh
	<i>under colder climate conditions</i>	11754 kWh	22271 kWh	25644 kWh	30538 kWh
	<i>under warmer climate conditions</i>	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		<i>Read precautions for installation and maintenance at specific chapters on user's and installation's manual.</i>			

Technical parameters for heat pump space heaters

Model	MONOBLOC 3D 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°C)	P_{dh}		kW
Bivalent temperature	T_{biv}	-7	°C
Cycling interval capacity for heating	P_{cych}	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°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 3D 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_{cych}	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 3D 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°C)	P_{dh}	-	kW
Bivalent temperature	T_{biv}	-7	°C
Cycling interval capacity for heating	P_{cych}	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°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 3D 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_{cych}	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