



ENERG
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METROSAVER MB F12



55 °C

35 °C



A⁺⁺

A⁺⁺



44 dB



dB

12
12
12
kW

12
12
12
kW



2015

811/2013



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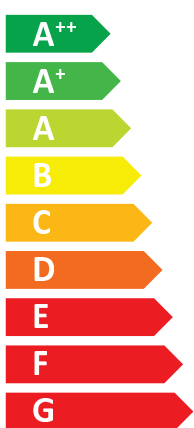
METROSAVER MB F12



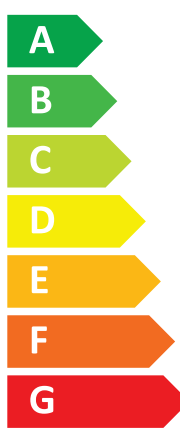
55 °C



XL



A++



A



44 dB



dB



■ 12 kW
■ 12 kW
■ 12 kW

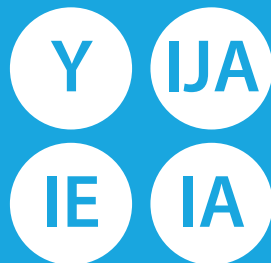
2015

811/2013



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METROSAVER MB F12



A⁺⁺

A⁺⁺⁺

A⁺⁺⁺

A⁺⁺

A⁺

A

B

C

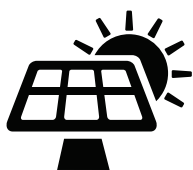
D

E

F

G

+



+



+



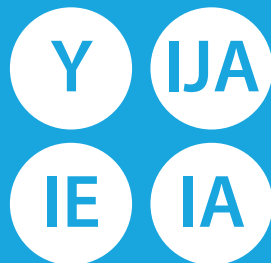
+





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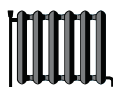
METROSAVER MB F12



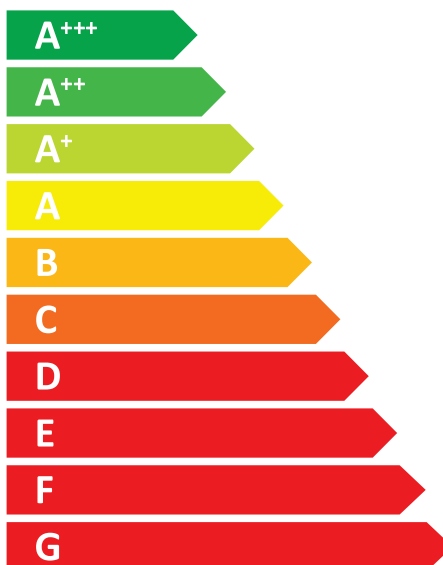
A⁺⁺



A

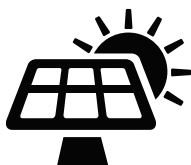


55 °C



A⁺⁺⁺

+



+



+



+



A

Supplier's name:	METRO THERM A/S		
Model:	Metrosaver MB F12		
Temperature application	35	55	°C
Declared load profile for water heating	XL		
Seasonal space heating energy efficiency class, average climate:	A++	A++	
Water heating energy efficiency class, average climate:	A		
Rated heat output, average climate:	12	12	kW
Annual energy consumption for space heating, average climate	4582	6213	kWh
Annual electricity consumption for water heating, average climate	1709		kWh
Seasonal space heating energy efficiency, average climate:	201	157	%
Water heating energy efficiency, average climate:	98		%
Sound power level LWA indoors	44		dB
Rated heat output, cold climate:	12	12	kW
Rated heat output, warm climate:	12	12	kW
Annual energy consumption for space heating, cold climate	5292	7173	kWh
Annual electricity consumption for water heating, cold climate	1709		kWh
Annual energy consumption for space heating, warm climate	2928	3999	kWh
Annual electricity consumption for water heating, warm climate	1709		kWh
Seasonal space heating energy efficiency, cold climate:	208	162	%
Water heating energy efficiency, cold climate:	98		%
Seasonal space heating energy efficiency, warm climate:	204	158	%
Water heating energy efficiency, warm climate:	98		%
Sound power level LWA outdoors	-		dB

Data for package fiche

Controller class	VII		
Controller contribution to efficiency	4		%
Seasonal space heating energy efficiency of package, average climate:	205	161	%
Seasonal space heating energy efficiency class for package, average climate:	A+++	A+++	%
Seasonal space heating energy efficiency of package, cold climate:	212	166	%
Seasonal space heating energy efficiency of package, warm climate:	208	162	%

Model(s):				Metrosaver MB F12				 METRO THERM			
Type of heat source/sink:				Brine-to-water							
Low-temperature heat pump:				No							
Equipped with supplementary heater:				Yes							
Heat pump combination heater:				Yes							
Climate condition:				Average							
Temperature application:				Medium temperature (55 °C)							
Applied standards: EN14825 and EN16147											
Rated heat output			Prated	12,4	kW	Seasonal space heating energy efficiency			η _s	157	%
<i>Declared capacity for part load at outdoor temperature T_j</i>						<i>Declared coefficient of performance for part load at outdoor temperature T_j</i>					
T _j = -7 °C			P _{dh}	11,1	kW	T _j = -7 °C			COP _d	3,18	-
T _j = +2 °C			P _{dh}	6,8	kW	T _j = +2 °C			COP _d	4,12	-
T _j = +7 °C			P _{dh}	4,4	kW	T _j = +7 °C			COP _d	4,67	-
T _j = +12 °C			P _{dh}	2,6	kW	T _j = +12 °C			COP _d	5,06	-
T _j = biv			P _{dh}	12,3	kW	T _j = biv			COP _d	2,91	-
T _j = TOL			P _{dh}	12,3	kW	T _j = TOL			COP _d	2,91	-
T _j = -15 °C (if TOL < -20 °C)			P _{dh}		kW	T _j = -15 °C (if TOL < -20 °C)			COP _d		-
Bivalent temperature			T _{biv}	-10	°C	Operation limit temperature			TOL	-10	°C
Cycling interval capacity for heating			P _{cych}		kW	Cycling interval efficiency			COP _{cyc}		-
Degradation co-efficient			C _{dh}	0,99	-	temperature			WTOL	65	°C
<i>Power consumption in modes other than active mode</i>						<i>Supplementary heater</i>					
Off mode			P _{OFF}	0,005	kW	Rated heat output			P _{sup}	0,1	kW
Thermostat-off mode			P _{TO}	0,015	kW						
Standby mode			P _{SB}	0,007	kW	Type of energy input			Electric		
Crankcase heater mode			P _{CK}	0	kW						
<i>Other items</i>											
Capacity control			variable			Rated air flow rate, outdoors					m³/h
Sound power level, indoors/outdoors			L _{WA}	44/-	dB						
Annual energy consumption			Q _{HE}	6213	kWh	Rated brine or water flow rate, outdoor heat exchanger			1,46		m³/h
<i>For heat pump combination heater:</i>											
Declared load profile			XL			Water heating energy efficiency			η _{wh}	98	%
Daily electricity consumption			Q _{elec}	7,78	kWh	Daily fuel consumption			Q _{fuel}		kWh
Annual electricity consumption			AEC	1709	kWh	Annual fuel consumption			AFC		GJ
Approved by:											
Contact details			METRO THERM A/S Rudinsvej 55 DK-3220 Helsingør www.metrotherm.dk								