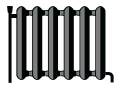




**ENERG** Y IJA  
 енергия · ενεργεια IE IA



METROSAVER MB F12



55 °C

35 °C



**A++**

**A++**



**44** dB



dB

12  
**12**  
 12  
 kW

12  
**12**  
 12  
 kW



2015

811/2013



**ENERG**  
енергия · ενέργεια

Y IJA  
IE IA



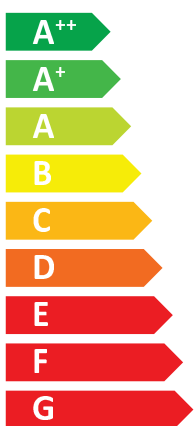
METROSAVER MB F12



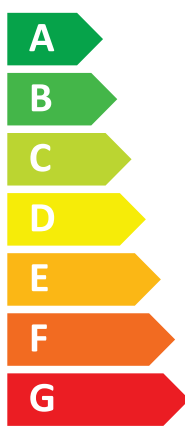
55 °C



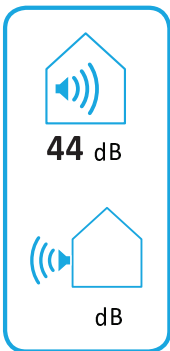
XL



A++



A



2015

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IA



## METROSAVER MB F12

 35 °C



A<sup>++</sup>

A<sup>+++</sup>

A<sup>+++</sup>

A<sup>++</sup>

A<sup>+</sup>

A

B

C

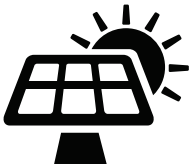
D

E

F

G

+



+



+



+





# ENERG

енергия · ενέργεια

Y

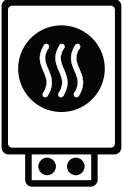




IJA

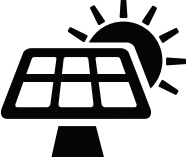
IE


IA





## METROSAVER MB F12

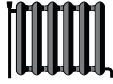






+ 






+ 

+ 

+ 




55 °C

Supplier's name:	<b>METRO THERM A/S</b>		
Model:	<b>Metrosaver MB F12</b>		
Temperature application	35	55	°C
Declared load profile for water heating	<b>XL</b>		
Seasonal space heating energy efficiency class, average climate:	<b>A++</b>	<b>A++</b>	
Water heating energy efficiency class, average climate:	<b>A</b>		
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:	<b>A+++</b>	<b>A+++</b>	%
Seasonal space heating energy efficiency of package, cold climate:	212	166	%
Seasonal space heating energy efficiency of package, warm climate:	208	162	%

<b>Model(s):</b>		<b>Metrosaver MB F12</b>							
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									
<b>Rated heat output</b>		Prated	12,4	kW	<b>Seasonal space heating energy efficiency</b>		$\eta_s$	157	%
<i>Declared capacity for part load at outdoor temperature Tj</i>				<i>Declared coefficient of performance for part load at outdoor temperature Tj</i>					
Tj = -7 °C	Pdh	11,1	kW	Tj = -7 °C	COPd	3,18	-		
Tj = +2 °C	Pdh	6,8	kW	Tj = +2 °C	COPd	4,12	-		
Tj = +7 °C	Pdh	4,4	kW	Tj = +7 °C	COPd	4,67	-		
Tj = +12 °C	Pdh	2,6	kW	Tj = +12 °C	COPd	5,06	-		
Tj = biv	Pdh	12,3	kW	Tj = biv	COPd	2,91	-		
Tj = TOL	Pdh	12,3	kW	Tj = TOL	COPd	2,91	-		
Tj = -15 °C (if TOL < -20 °C)	Pdh		kW	Tj = -15 °C (if TOL < -20 °C)	COPd		-		
Bivalent temperature		T <sub>biv</sub>	-10	°C	Operation limit temperature		TOL	-10	°C
Cycling interval capacity for heating		P <sub>cyh</sub>		kW	Cycling interval efficiency		COP <sub>cyh</sub>		-
Degradation co-efficient		Cdh	0,99	-	temperature		WTOL	65	°C
<i>Power consumption in modes other than active mode</i>				<i>Supplementary heater</i>					
Off mode	P <sub>OFF</sub>	0,005	kW	Rated heat output		P <sub>sup</sub>	0,1	kW	
Thermostat-off mode	P <sub>TO</sub>	0,015	kW	Type of energy input		Electric			
Standby mode	P <sub>SB</sub>	0,007	kW						
Crankcase heater mode	P <sub>CK</sub>	0	kW						
<i>Other items</i>									
Capacity control		variable		Rated air flow rate, outdoors				m <sup>3</sup> /h	
Sound power level, indoors/outdoors		L <sub>WA</sub>	44/-	dB	Rated brine or water flow rate, outdoor heat exchanger			1,46	m <sup>3</sup> /h
Annual energy consumption		Q <sub>HE</sub>	6213	kWh					
<i>For heat pump combination heater:</i>									
<b>Declared load profile</b>		<b>XL</b>		<b>Water heating energy efficiency</b>		$\eta_{wh}$	98	%	
Daily electricity consumption		Q <sub>elec</sub>	7,78	kWh	Daily fuel consumption		Q <sub>fuel</sub>		kWh
Annual electricity consumption		AEC	1709	kWh	Annual fuel consumption		AFC		GJ
<b>Approved by:</b>									
<b>Contact details</b>		<b>METRO THERM A/S Rudinsvej 55 DK-3220 Helsingø www.metrotherm.dk</b>							