EN

TECHNICAL DATA MANUAL

01 | 16-06-2022

HEAT PUMPS
SPLIT OUTDOOR UNITS

YUKON SERIES

S-THERM | sinclair HEAT PUMPS

IMPORTANT NOTE:

Read this manual carefully before installing or operating your new air conditioning unit. Make sure to save this manual for future reference.

Product fiche

Energy labelling regulation: (EU)811/2013

Ecodesign regulation: (EU)813/2013

Heat pump combination heater		Outdoor	MSH-40EBB	MSH-40EBB	MSH-60EBB	MSH-60EBB	MSH-80EBB	MSH-80EBB	MSH-100EBB
		Indoor	MSH-190TB/3	MSH-240TBL/3	MSH-190TB/3	MSH-240TBL/3	MSH-190TB-3/9	MSH-240TBL/3	MSH-190TB-3/9
Indoor unit sound power(*)		dB	38	38	38	38	40	40	40
Outdoor unit sound power(*)		dB	56	56	58	58	59	59	60
Water heating	Declared load profile	-	L	XL	L	XL	L	XL	L
	Energy efficiency class	-	A+	A+	A+	A+	A+	A+	A+
Space heating	Energy efficiency class at 55℃ (High temp. app.)	-	A++	A++	A++	A++	A++	A++	A++
Average climate									
Water heating	Water heating energy efficiency (η_{wh})	[%]	127	136	127	136	125	137	125
	Annual electricity consumption (AEC)	[kWh]	801	1229	801	1229	820	1218	820
Space heating	P_{rated} (declared heating capacity)@-10℃	[kW]	4.4	4.4	5.7	5.7	6.6	6.6	7.7
	Seasonal space heating efficiency(η_s)	[%]	129.5	129.5	137.9	137.9	131.5	131.5	136.6
	Annual energy consumption	[kWh]	2744	2744	3345	3345	4056	4056	4539
Off-peak operation function integrated in heat pump		Y/N	Y	Y	Y	Y	Y	Y	Y
Colder climate									
Water heating	Water heating energy efficiency (η_{wh})	[%]	102	107	102	107	107	111	107
	Annual energy consumption	[kWh]	998	1561	998	1561	950	1508	950
Space heating	P_{rated} (declared heating capacity)@-22℃	[kW]	3.36	3.36	4.26	4.26	5.77	5.77	6.71
	Seasonal space heating efficiency(η_s)	[%]	102.1	102.1	111.1	111.1	112.0	112.0	116.4
	Annual energy consumption	[kWh]	3159	3159	3681	3681	4950	4950	5540
Warmer climate									
Water heating	Water heating energy efficiency (η_{wh})	[%]	157	174	157	174	151	171	151
	Annual energy consumption	[kWh]	649	963	649	963	675	977	675
Space heating	P_{rated} (declared heating capacity)@2℃	[kW]	5.01	5.01	5.14	5.14	8.37	8.37	8.63
	Seasonal space heating efficiency(η_s)	[%]	162.4	162.4	164.7	164.7	176.9	176.9	180.3
	Annual energy consumption	[kWh]	1621	1621	1640	1640	2485	2485	2516
Ecodesign technical data									
Product description	Air-to-water heat pump	Y/N	Y	Y	Y	Y	Y	Y	Y
	Water-to-water heat pump	Y/N	N	N	N	N	N	N	N
	Brine-to-water heat pump	Y/N	N	N	N	N	N	N	N
	Low-temperature heat pump	Y/N	N	N	N	N	N	N	N
	Equipped with a supplementary heater	Y/N	Y	Y	Y	Y	Y	Y	Y
	Heat pump combination heater	Y/N	Y	Y	Y	Y	Y	Y	Y
Air-to-water unit	Rated airflow (outdoor)	[m^3/h]	2770	2770	2770	2770	4030	4030	4030
Brine/water-to-water heat pump	Rated brine/water flow (outdoor H/E)	[m^3/h]	-	-	-	-	-	-	-

Heat pump combination heater		Outdoor	MSH-100EBB	MSH-120EBB	MSH-120EB-3B	MSH-140EBB	MSH-140EB-3B	MSH-160EBB	MSH-160EB-3B
		Indoor	MSH-240TBL/3	MSH-240TB/3	MSH-240TB-3/9	MSH-240TB/3	MSH-240TB-3/9	MSH-240TB/3	MSH-240TB-3/9
Indoor unit sound power(*)		dB	40	42	42	44	44	44	44
Outdoor unit sound power(*)		dB	60	64	64	65	65	68	68
Water heating	Declared load profile	-	XL	XL	XL	XL	XL	XL	XL
	Energy efficiency class	-	A+	A+	A+	A+	A+	A+	A+
Space heating	Energy efficiency class at 55℃ (High temp. app.)	-	A++	A++	A++	A++	A++	A++	A++
Average climate									
Water heating	Water heating energy efficiency (η_{wh})	[%]	137	123	123	123	123	123	123
	Annual electricity consumption (AEC)	[kWh]	1218	1360	1360	1360	1360	1360	1360
Space heating	P_{rated} (declared heating capacity)@-10℃	[kW]	7.7	11.6	11.6	12.1	12.1	13.0	13.0
	Seasonal space heating efficiency(η_s)	[%]	136.6	135.1	135.1	135.6	135.6	133.3	133.2
	Annual energy consumption	[kWh]	4539	6927	6928	7202	7203	7895	7896
Off-peak operation function integrated in heat pump		Y/N	Y	Y	Y	Y	Y	Y	Y
Colder climate									
Water heating	Water heating energy efficiency (η_{wh})	[%]	111	92	92	92	92	92	92
	Annual energy consumption	[kWh]	1508	1822	1822	1822	1822	1822	1822
Space heating	P_{rated} (declared heating capacity)@-22℃	[kW]	6.71	10.31	10.3	10.96	11	11.8	11.8
	Seasonal space heating efficiency(η_s)	[%]	116.4	117.8	117.7	118.9	118.9	121.8	121.8
	Annual energy consumption	[kWh]	5540	8419	8420	8866	8867	9309	9310
Warmer climate									
Water heating	Water heating energy efficiency (η_{wh})	[%]	171	153	153	153	153	153	153
	Annual energy consumption	[kWh]	977	1088	1088	1088	1088	1088	1088
Space heating	P_{rated} (declared heating capacity)@2℃	[kW]	8.63	12.5	12.5	14.17	14.17	14.17	14.17
	Seasonal space heating efficiency(η_s)	[%]	180.3	174.0	173.8	174.9	174.7	176.0	175.8
	Annual energy consumption	[kWh]	2516	3776	3780	4258	4262	4231	4236
Ecodesign technical data									
Product description	Air-to-water heat pump	Y/N	Y	Y	Y	Y	Y	Y	Y
	Water-to-water heat pump	Y/N	N	N	N	N	N	N	N
	Brine-to-water heat pump	Y/N	N	N	N	N	N	N	N
	Low-temperature heat pump	Y/N	N	N	N	N	N	N	N
	Equipped with a supplementary heater	Y/N	Y	Y	Y	Y	Y	Y	Y
	Heat pump combination heater	Y/N	Y	Y	Y	Y	Y	Y	Y
Air-to-water unit	Rated airflow (outdoor)	[m^3/h]	4030	4060	4060	4060	4060	4650	4650
Brine/water-to-water heat pump	Rated brine/water flow (outdoor H/E)	[m^3/h]	-	-	-	-	-	-	-

Heat pump combination heater		Outdoor	MSH-40EBB	MSH-40EBB	MSH-60EBB	MSH-60EBB	MSH-80EBB	MSH-80EBB	MSH-100EBB
		Indoor	MSH-190TB/3	MSH-240TB/3	MSH-190TB/3	MSH-240TBL/3	MSH-190TB-3/9	MSH-240TBL/3	MSH-190TB-3/9
Other	Capacity control	-	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	P_{off} (Power consumption Off mode)	[kW]	0.014	0.014	0.014	0.014	0.014	0.014	0.014
	P_{to} (Power consumption Thermostat off mode)	[kW]	0.024	0.024	0.024	0.024	0.024	0.024	0.024
	P_{sb} (Power consumption standby mode)	[kW]	0.014	0.014	0.014	0.014	0.014	0.014	0.014
	P_{CK} (Power crankcase heater model)	[kW]	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Q_{elec} (Daily electricity consumption)	[kWh]	3.66	5.71	3.66	5.71	3.78	5.67	3.78
	Q_{fuel} (Daily fuel consumption)	[kWh]	-	-	-	-	-	-	-
Part load conditions space heating average climate									
(A) condition (-7℃)	P_{dh} (declared heating capacity)	[kW]	3.89	3.89	5.04	5.04	5.84	5.84	6.78
	COP_d (declared COP)	-	2.17	2.17	2.17	2.17	2.16	2.16	2.24
	Cdh (declaradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90
(B) condition (2℃)	P_{dh} (declared heating capacity)	[kW]	2.38	2.38	3.12	3.12	3.76	3.76	4.28
	COP_d (declared COP)	-	3.30	3.30	3.51	3.51	3.30	3.30	3.42
	Cdh (declaradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90
(C) condition (7℃)	P_{dh} (declared heating capacity)	[kW]	2.94	2.94	2.08	2.08	2.43	2.43	2.77
	COP_d (declared COP)	-	4.41	4.41	4.54	4.54	4.34	4.34	4.52
	Cdh (declaradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90
(D) condition (12℃)	P_{dh} (declared heating capacity)	[kW]	1.32	1.32	1.28	1.28	1.39	1.39	1.58
	COP_d (declared COP)	-	5.66	5.66	5.59	5.59	5.33	5.33	5.68
	Cdh (declaradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90
(E) Tol (Temperature Operating Limit)	Tol (Temperature Operating Limit)	[℃]	-10	-10	-10	-10	-10	-10	-10
	P_{dh} (declared heating capacity)	[kW]	3.42	3.42	4.52	4.52	4.91	4.91	5.38
	COP_d (declared COP)	-	1.91	1.91	1.91	1.91	1.84	1.84	1.83
	WTOL(Heating water Operation Limit)	[℃]	65	65	65	65	65	65	65
(F) Tbivalent Temperature	T_{biv}	[℃]	-7	-7	-7	-7	-7	-7	-7
	P_{dh} (declared heating capacity)	[kW]	3.89	3.89	5.04	5.04	5.84	5.84	6.78
	COP_d (declared COP)	-	2.17	2.17	2.17	2.17	2.16	2.16	2.24
Capacity of the back-up heater integrated in the unit	P_{sup} back-up heater (@ Tdesignh: -10℃)	[kW]	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9
Supplementary capacity at P_design	P_{sup} (@ Tdesignh: -10℃)	[kW]	0.98	0.98	1.18	1.18	1.69	1.69	2.28

Heat pump combination heater		Outdoor	MSH-100EBB	MSH-120EBB	MSH-120EB-3B	MSH-140EBB	MSH-140EB-3B	MSH-160EBB	MSH-160EB-3B
		Indoor	MSH-240TBL/3	MSH-240TB/3	MSH-240TB-3/9	MSH-240TB/3	MSH-240TB-3/9	MSH-240TB/3	MSH-240TB-3/9
Other	Capacity control	-	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	P_{off} (Power consumption Off mode)	[kW]	0.014	0.014	0.020	0.014	0.020	0.014	0.020
	P_{to} (Power consumption Thermostat off mode)	[kW]	0.024	0.024	0.030	0.024	0.030	0.024	0.030
	P_{sb} (Power consumption standby mode)	[kW]	0.014	0.014	0.020	0.014	0.020	0.014	0.020
	P_{CK} (Power crankcase heater model)	[kW]	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Q_{elec} (Daily electricity consumption)	[kWh]	5.67	6.35	6.35	6.35	6.35	6.35	6.35
	Q_{fuel} (Daily fuel consumption)	[kWh]	-	-	-	-	-	-	-
Part load conditions space heating average climate									
(A) condition (-7℃)	P_{dh} (declared heating capacity)	[kW]	6.78	10.24	10.24	10.68	10.68	11.52	11.52
	COP_d (declared COP)	-	2.24	2.01	2.01	2.01	2.01	1.99	1.99
	Cdh (declaradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90
(B) condition (2℃)	P_{dh} (declared heating capacity)	[kW]	4.28	6.52	6.52	6.86	6.86	7.18	7.18
	COP_d (declared COP)	-	3.42	3.44	3.44	3.43	3.43	3.34	3.34
	Cdh (declaradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90
(C) condition (7℃)	P_{dh} (declared heating capacity)	[kW]	2.77	4.36	4.36	4.63	4.63	4.67	4.67
	COP_d (declared COP)	-	4.52	4.59	4.59	4.66	4.66	4.61	4.61
	Cdh (declaradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90
(D) condition (12℃)	P_{dh} (declared heating capacity)	[kW]	1.58	3.29	3.29	3.31	3.31	3.32	3.32
	COP_d (declared COP)	-	5.68	6.05	6.05	6.13	6.13	6.07	6.07
	Cdh (declaradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90
(E) Tol (Temperature Operating Limit)	Tol (Temperature Operating Limit)	[℃]	-10	-10	-10	-10	-10	-10	-10
	P_{dh} (declared heating capacity)	[kW]	5.38	9.1	9.1	9.19	9.19	10.33	10.33
	COP_d (declared COP)	-	1.83	1.79	1.79	1.76	1.76	1.80	1.80
	WTOL(Heating water Operation Limit)	[℃]	65	65	65	65	65	65	65
(F) Tbivalent Temperature	T_{biv}	[℃]	-7	-7	-7	-7	-7	-7	-7
	P_{dh} (declared heating capacity)	[kW]	6.78	10.27	10.27	10.68	10.68	11.52	11.52
	COP_d (declared COP)	-	2.24	2.01	2.01	2.01	2.01	1.99	1.99
Capacity of the back-up heater integrated in the unit	P_{sup} back-up heater (@ Tdesignh: -10℃)	[kW]	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9
Supplementary capacity at P_design	P_{sup} (@ Tdesignh: -10℃)	[kW]	2.28	2.5	2.5	2.91	2.91	2.67	2.67

Indoor unit type explanation:

1.includes the following type :

MSH-190TB/3 : 190L tank with 3kW back-up heater and 1-Phase Source.

MSH-190TB/6 : 190L tank with 6kW back-up heater and 1-Phase Source.

MSH-190TB-3/9 : 190L tank with 9kW back-up heater and 3-Phase Source.

2.includes the following type :

MSH-240TB(L)/3 : 240L tank with 3kW back-up heater and 1-Phase Source.

MSH-240TB/6 : 240L tank with 6kW back-up heater and 1-Phase Source.

MSH-240TB-3/9 : 240L tank with 9kW back-up heater and 3-Phase Source.

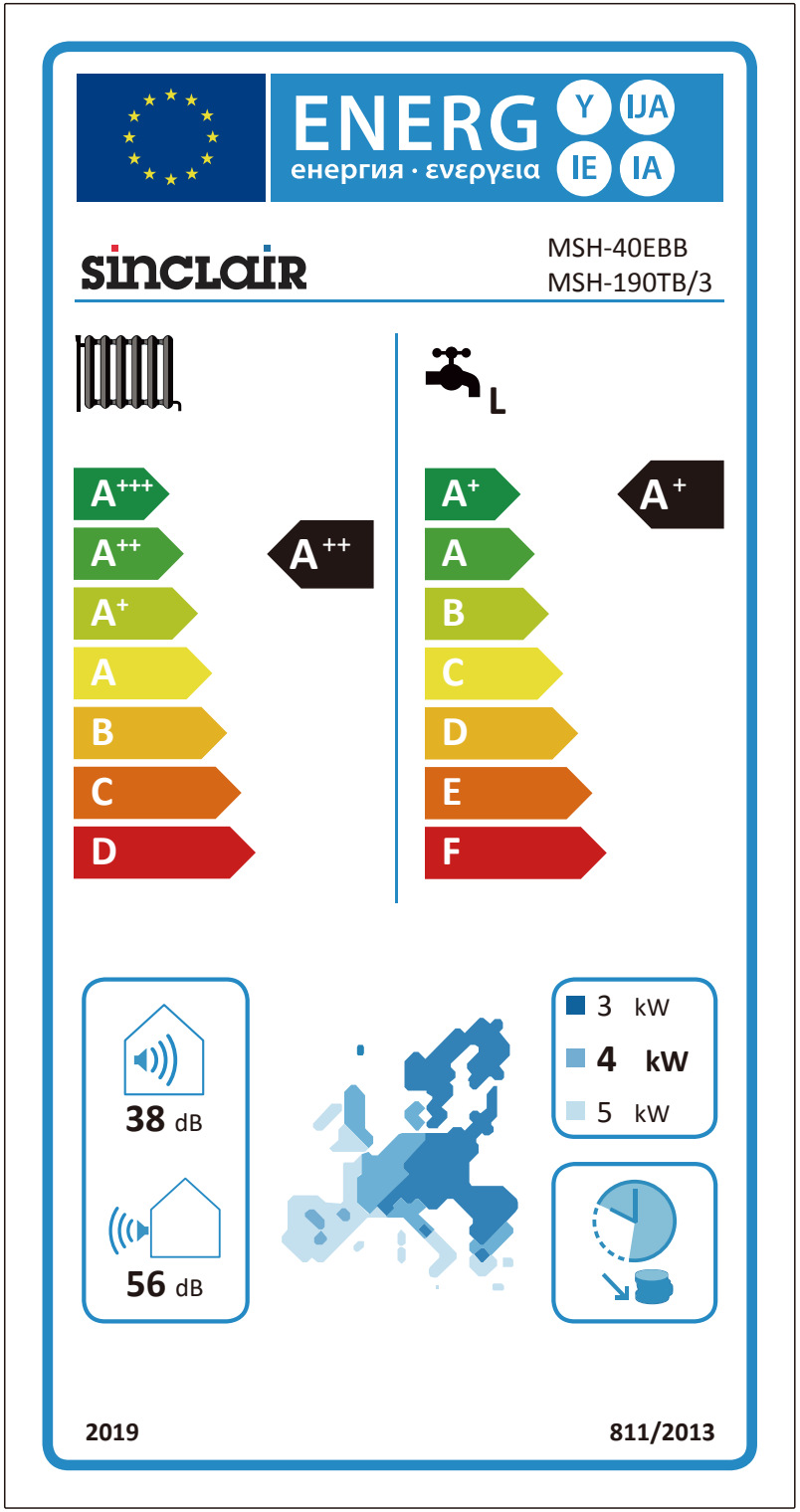
Note :

Details and precautions on installation, maintaenance and assembly can be found in the installation and or operation manuals.

(*)Sound power in heating mode, measured according to the EN 12102 under conditions of the EN 14825.

This data is for comparison of Energy efficiencies according to Energy label directive 2010/30/EU, for correct selection of products for your application, contact your dealer.

Depending on your application and the product selected an additional supplementary heater may have to be installed.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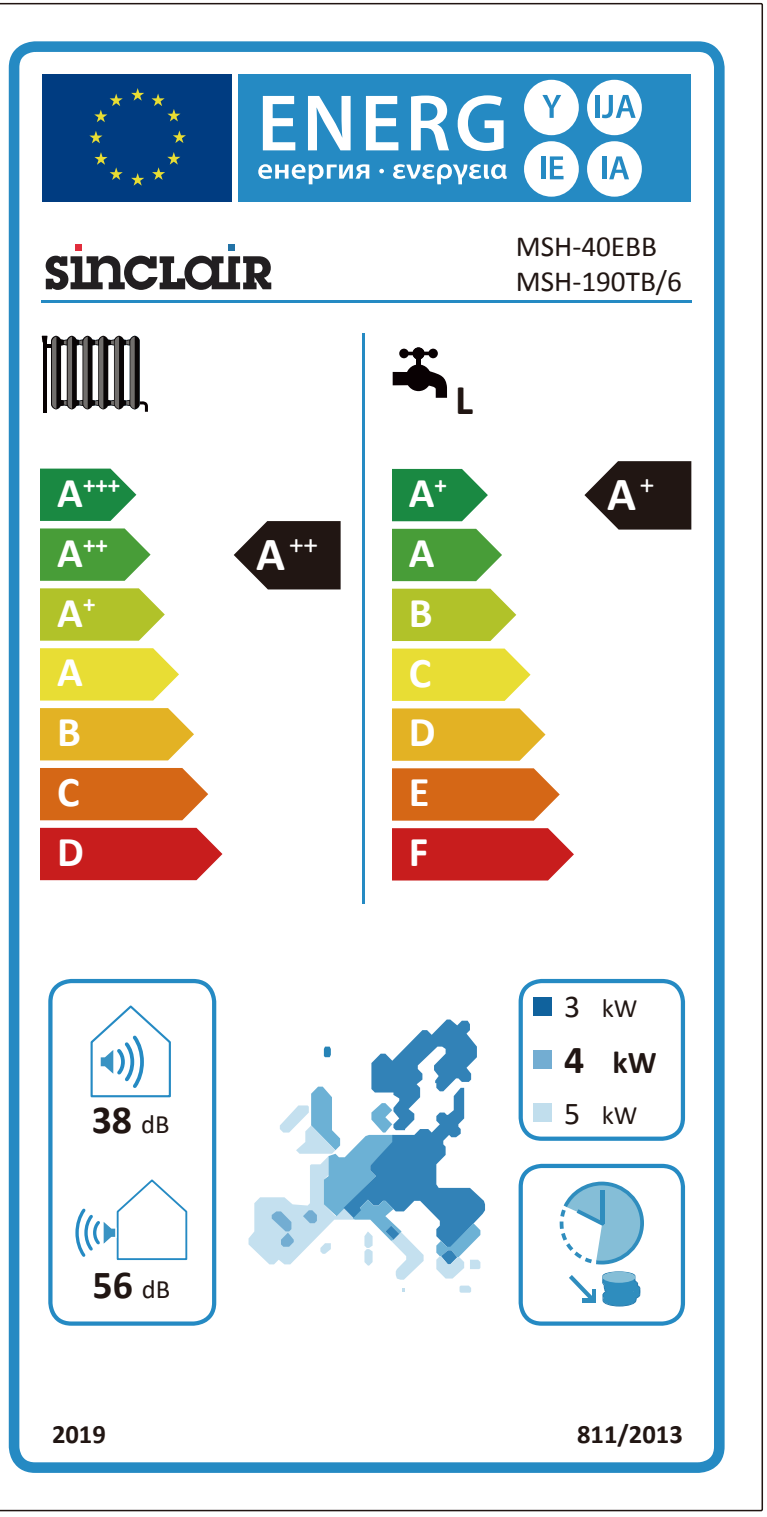
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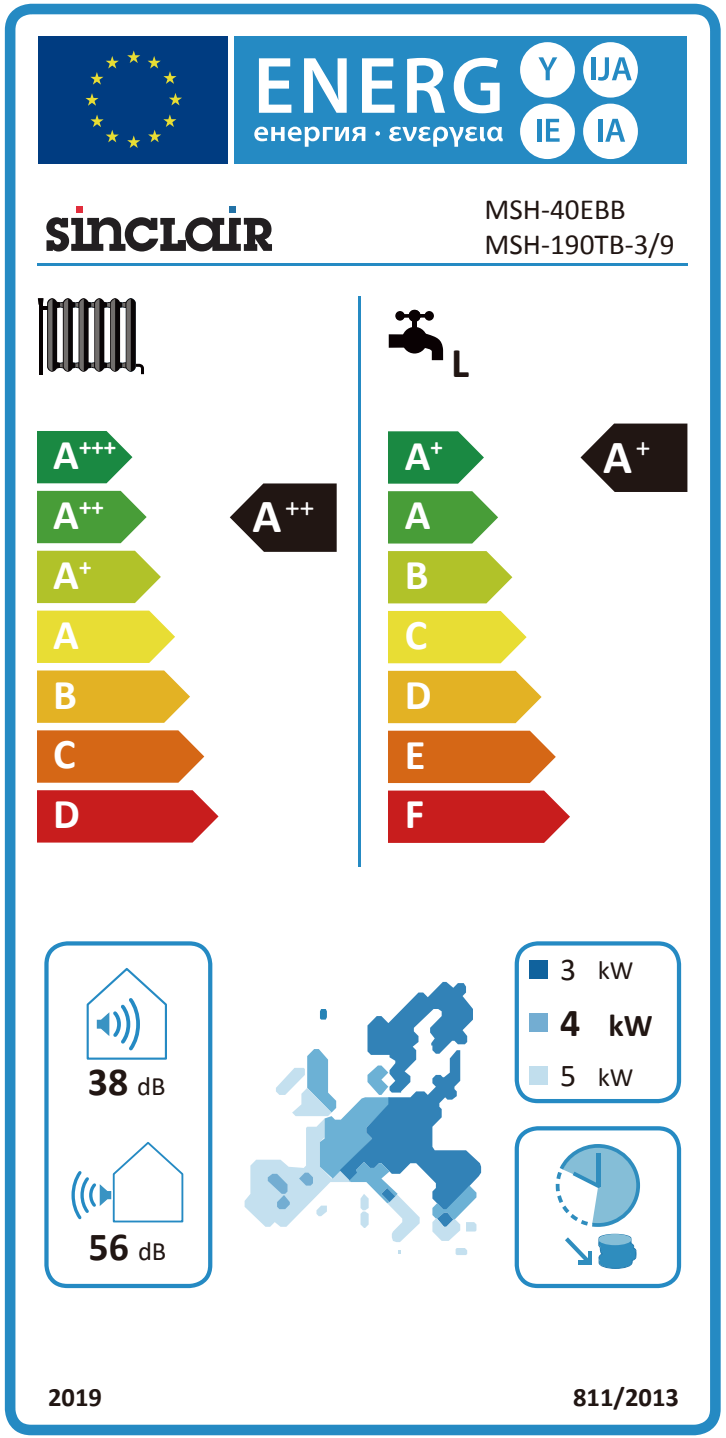
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3 kW
4 kW
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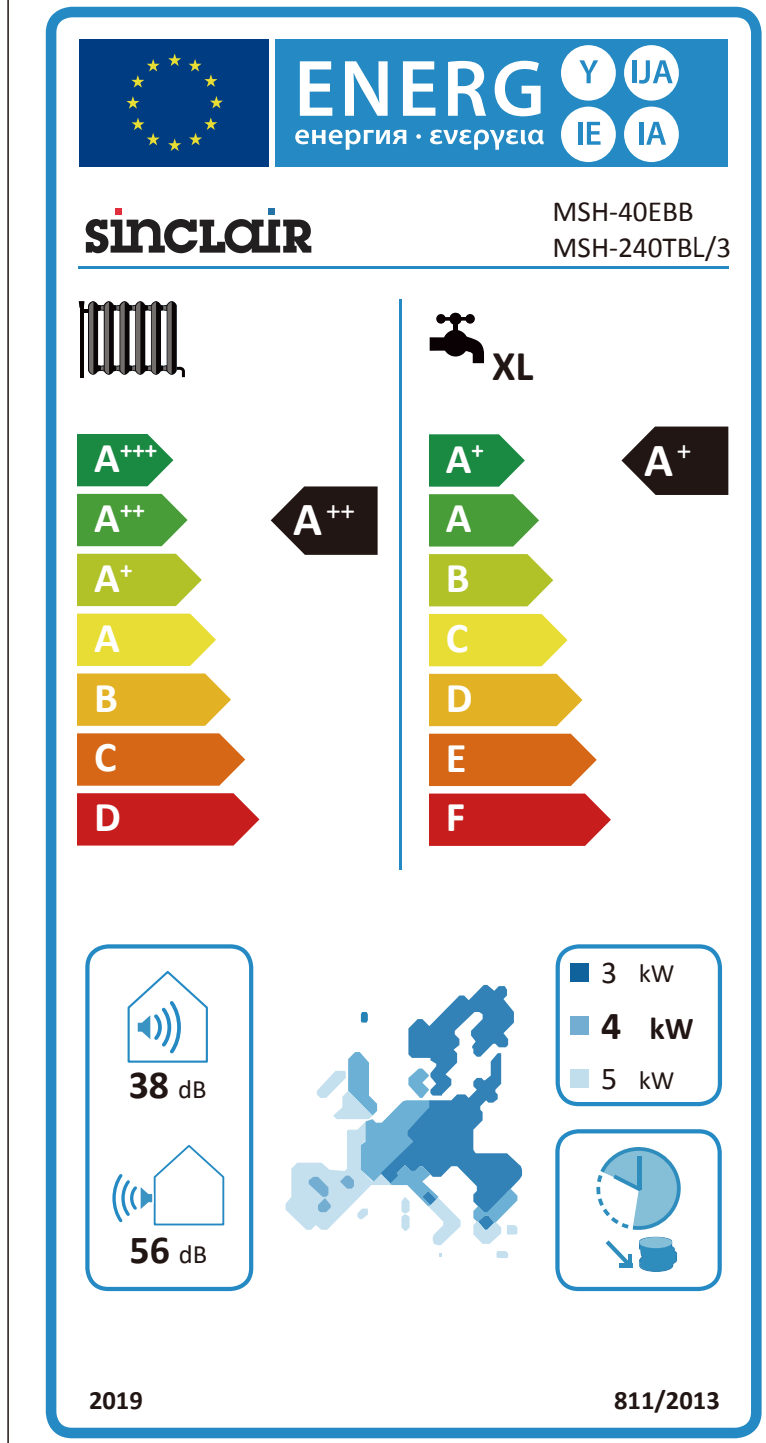
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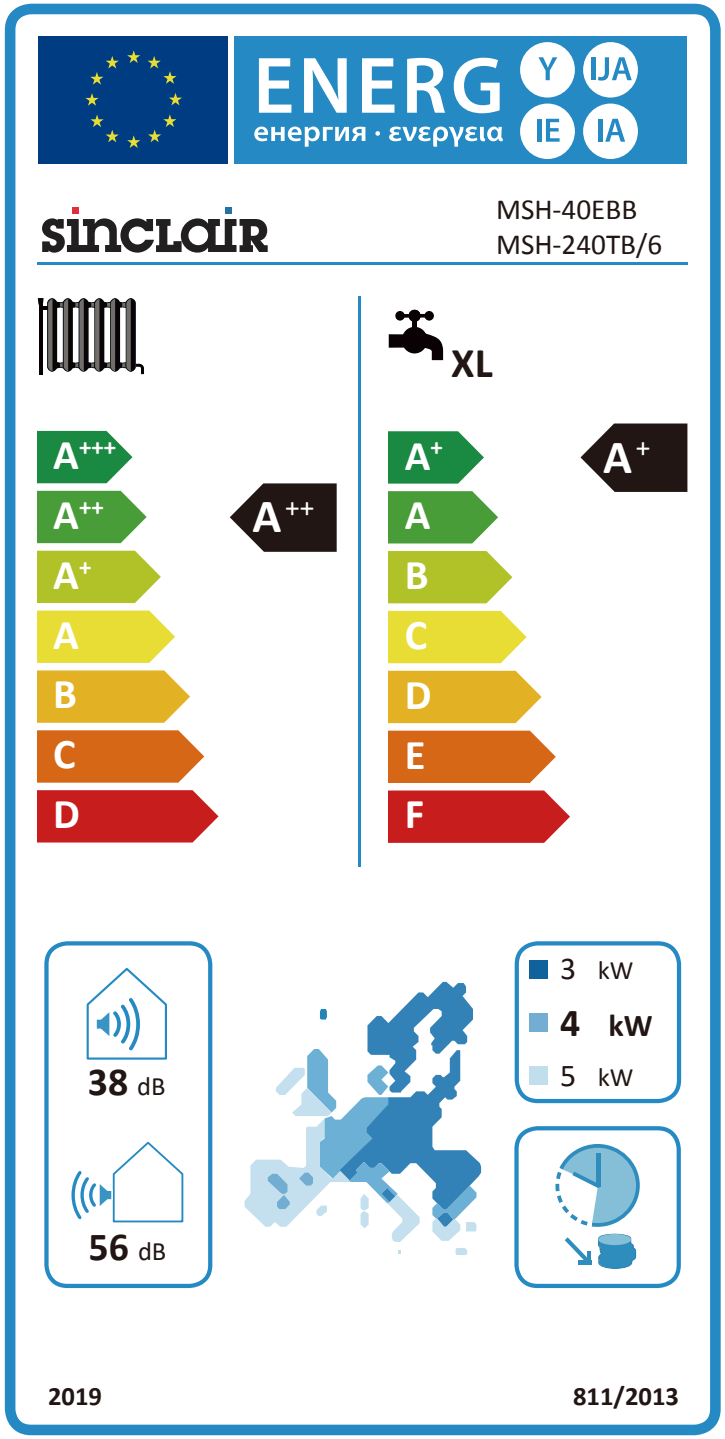
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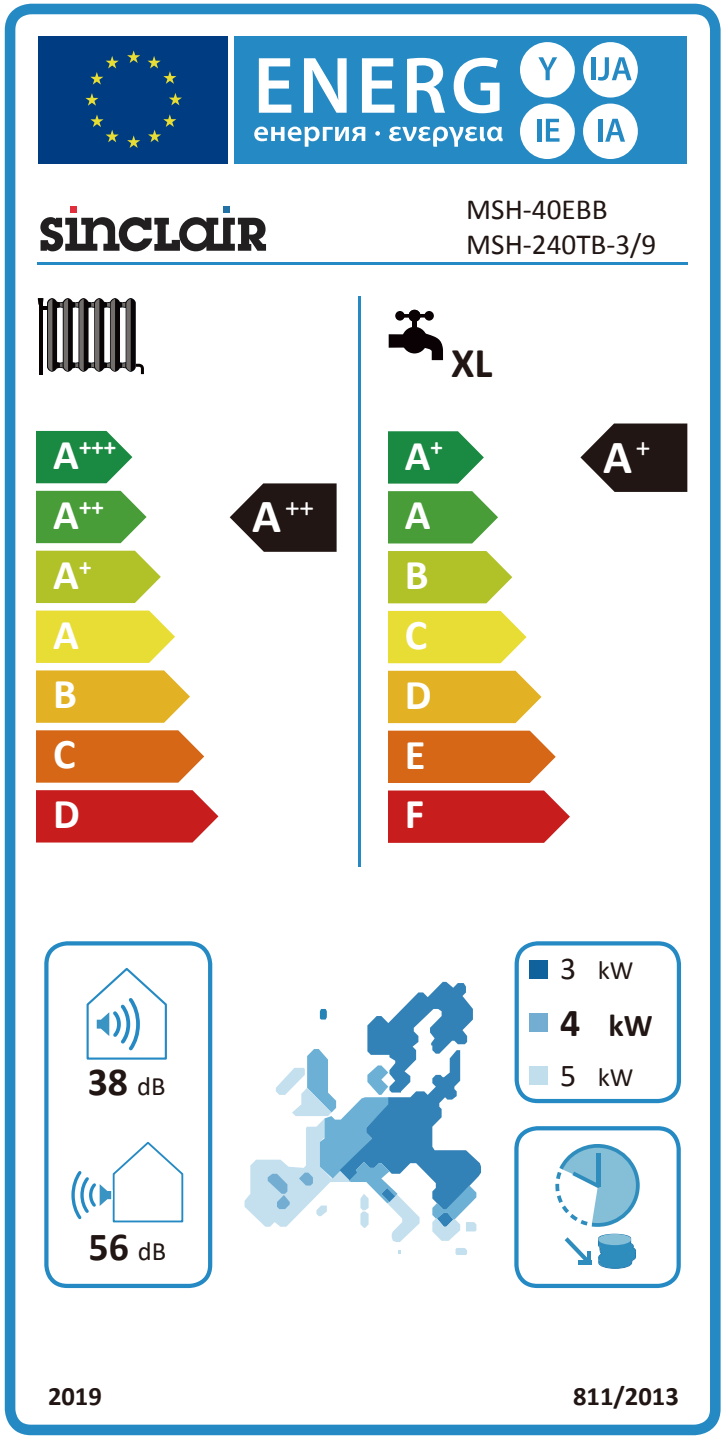
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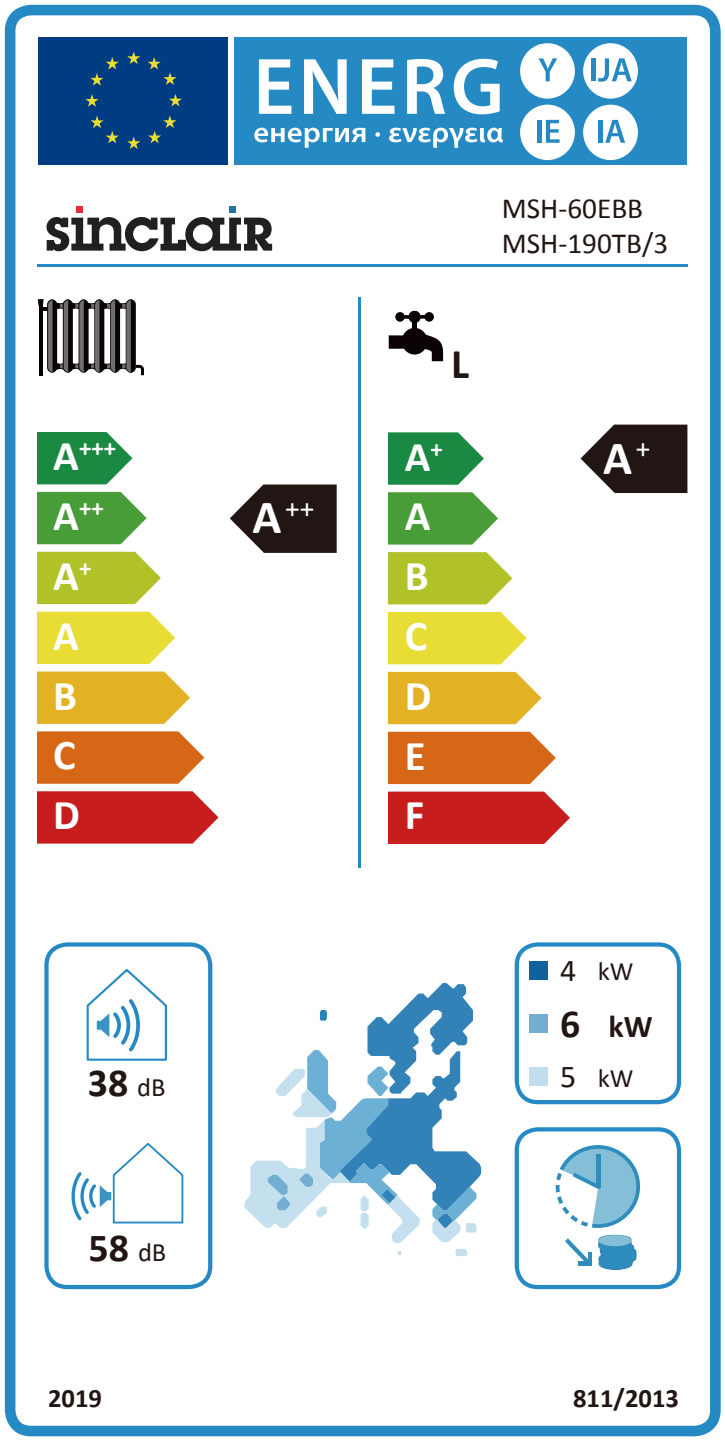
811/2013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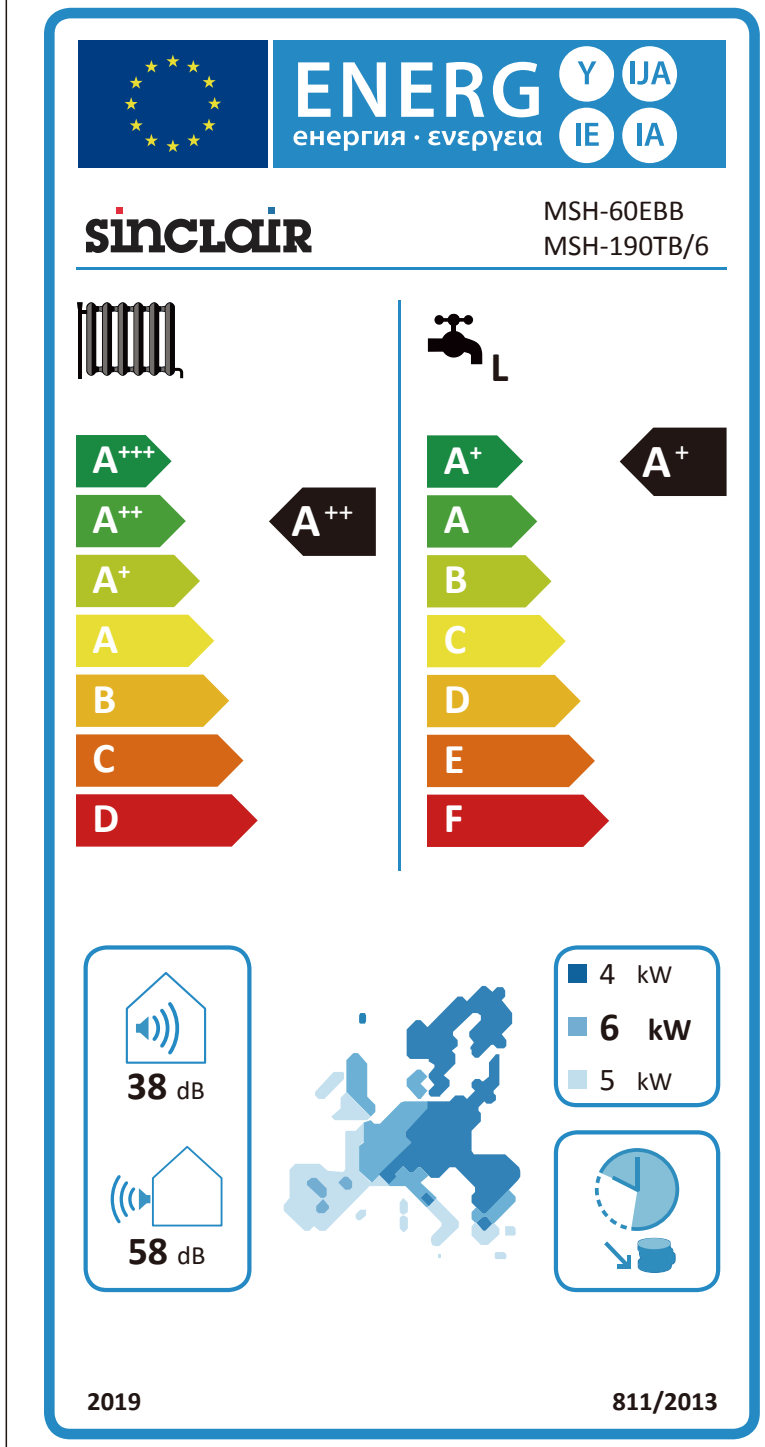
6 kW
5 kW
2019
811/2013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6 kW
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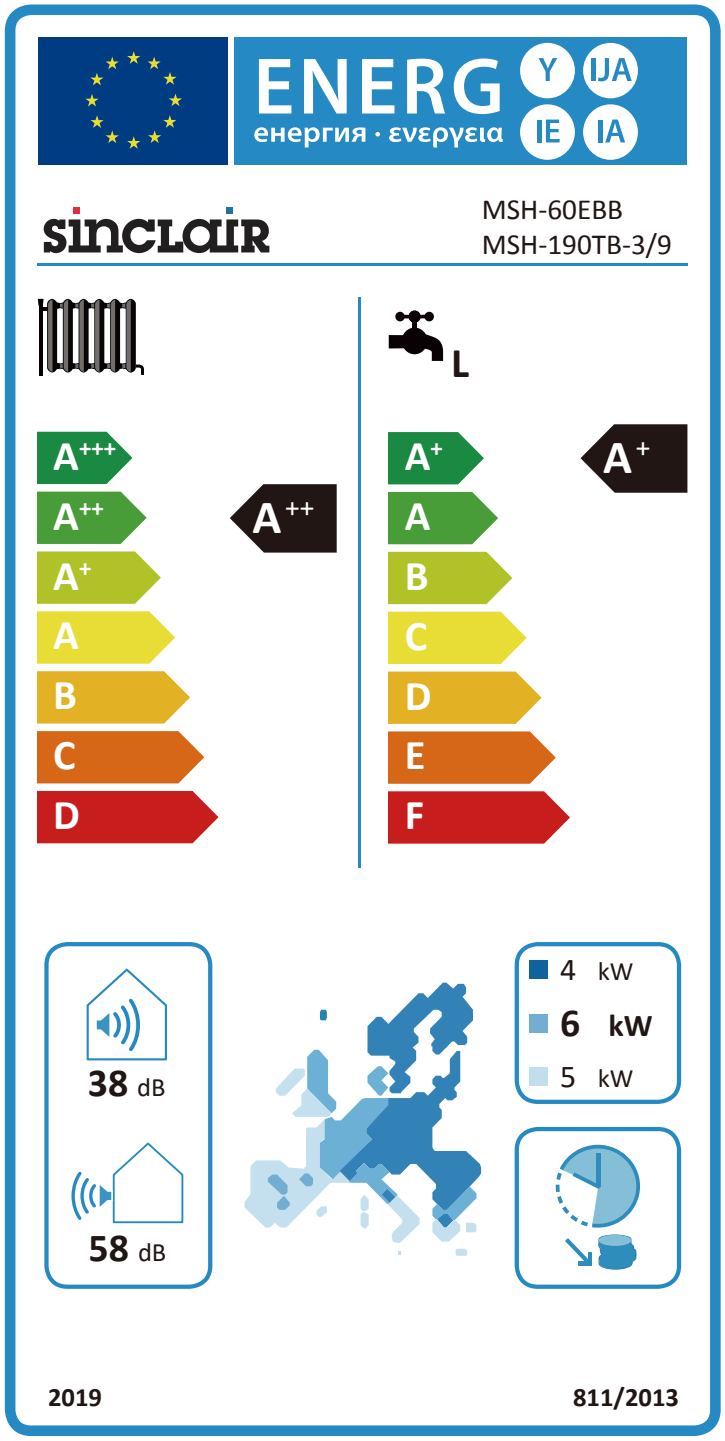
2019
811/2013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2019
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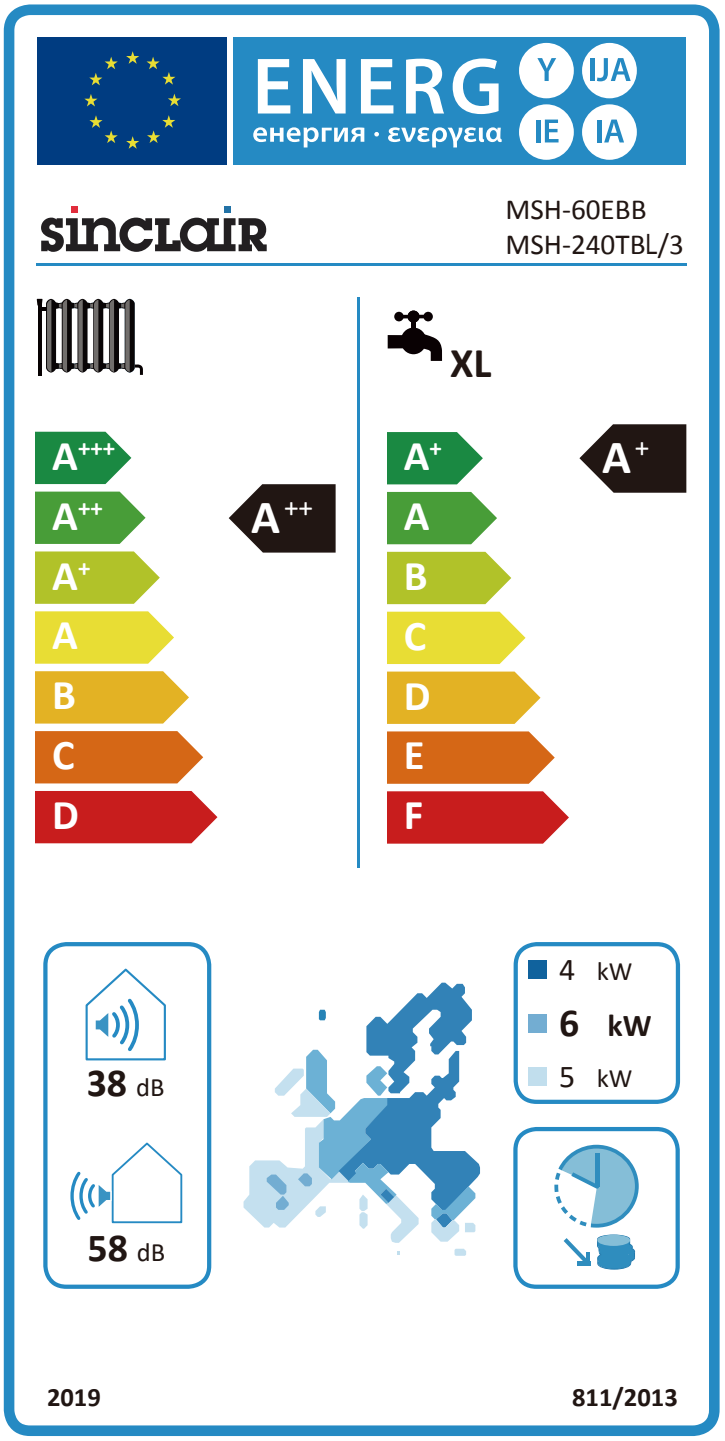
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Y
IJA
IE
IA
sinclair
MSH-60EBB
MSH-240TBL/3
XL
A+++
A++
A+
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A++
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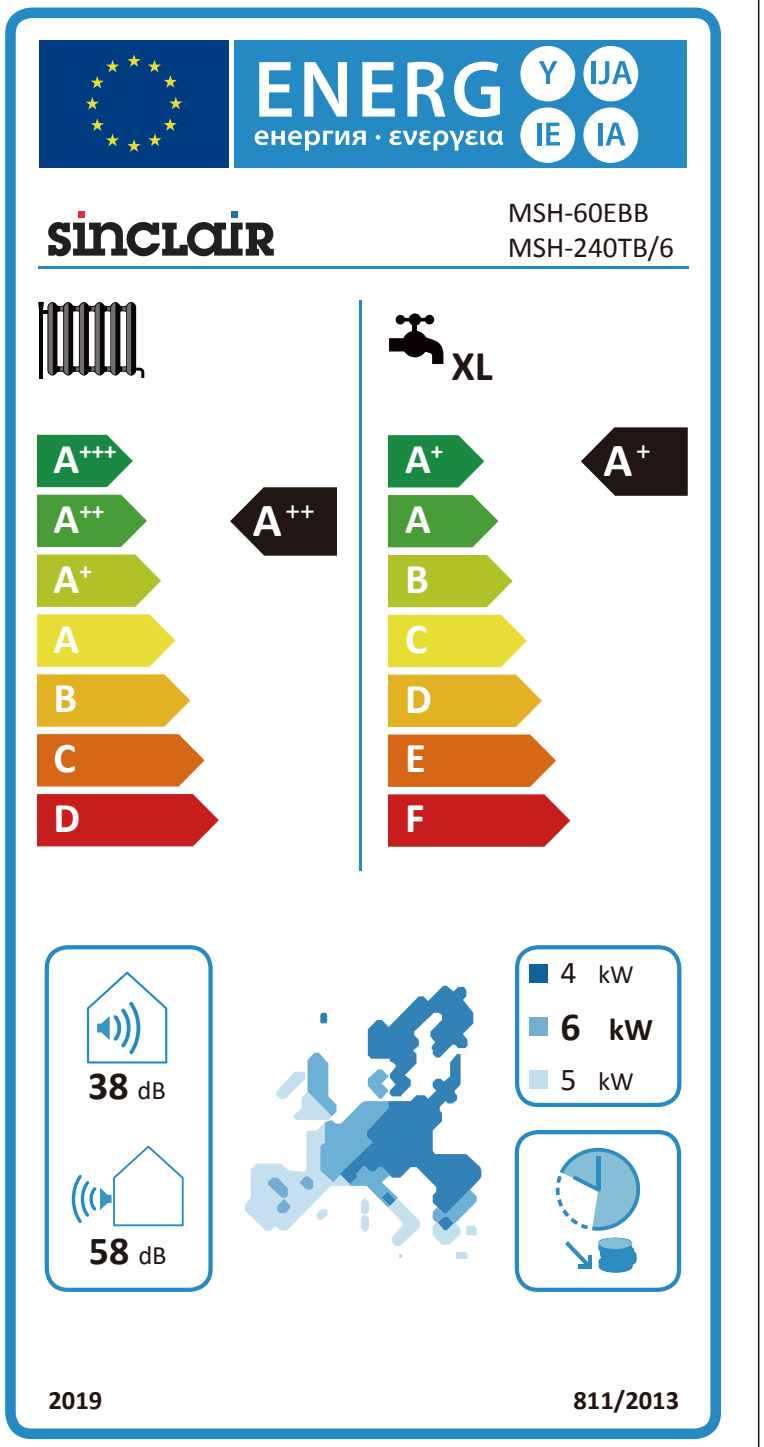
A+
38 dB
58 dB
4 kW
6 kW
5 kW
2019
811/2013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IJA
IE
IA
sinclair
MSH-60EBB
MSH-240TB/6
XL
A+++
A++
A+
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A++
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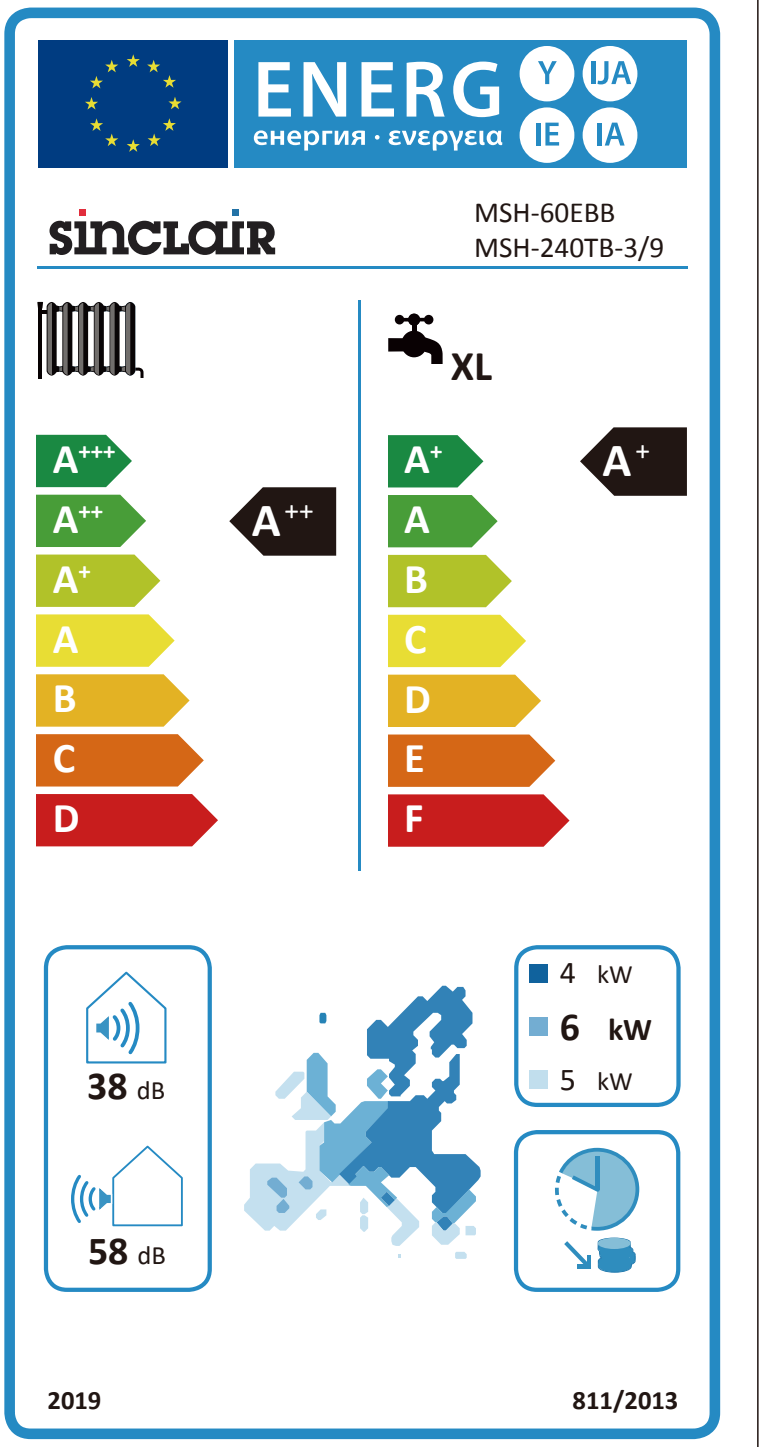
A+
38 dB
58 dB
4 kW
6 kW
5 kW
2019
811/2013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sinclair
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MSH-240TB-3/9
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A+++
A++
A+
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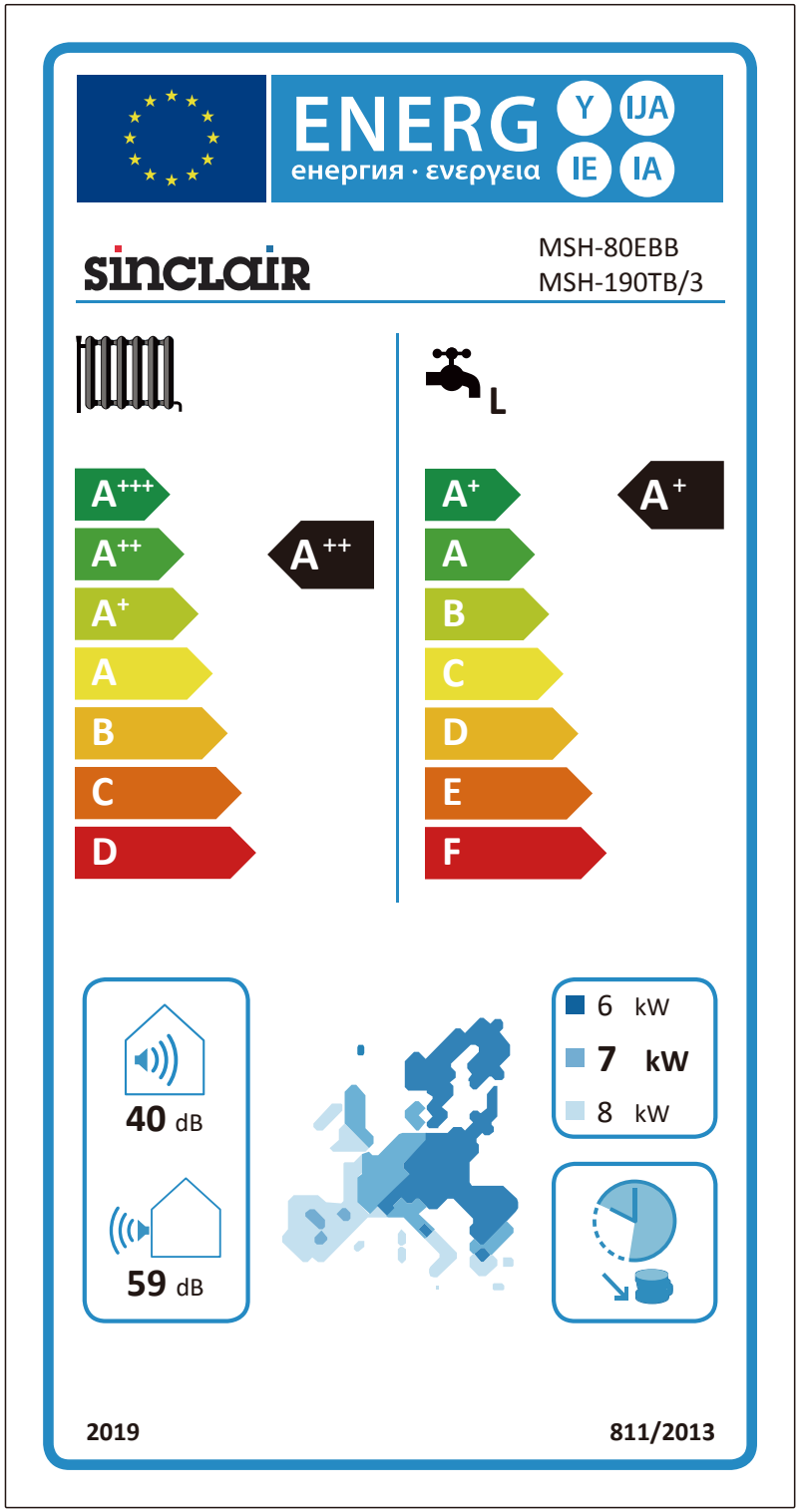
A+
38 dB
58 dB
4 kW
6 kW
5 kW
2019
811/2013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sinclair
MSH-80EBB
MSH-190TB/3
L
A+++
A++
A+
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A++
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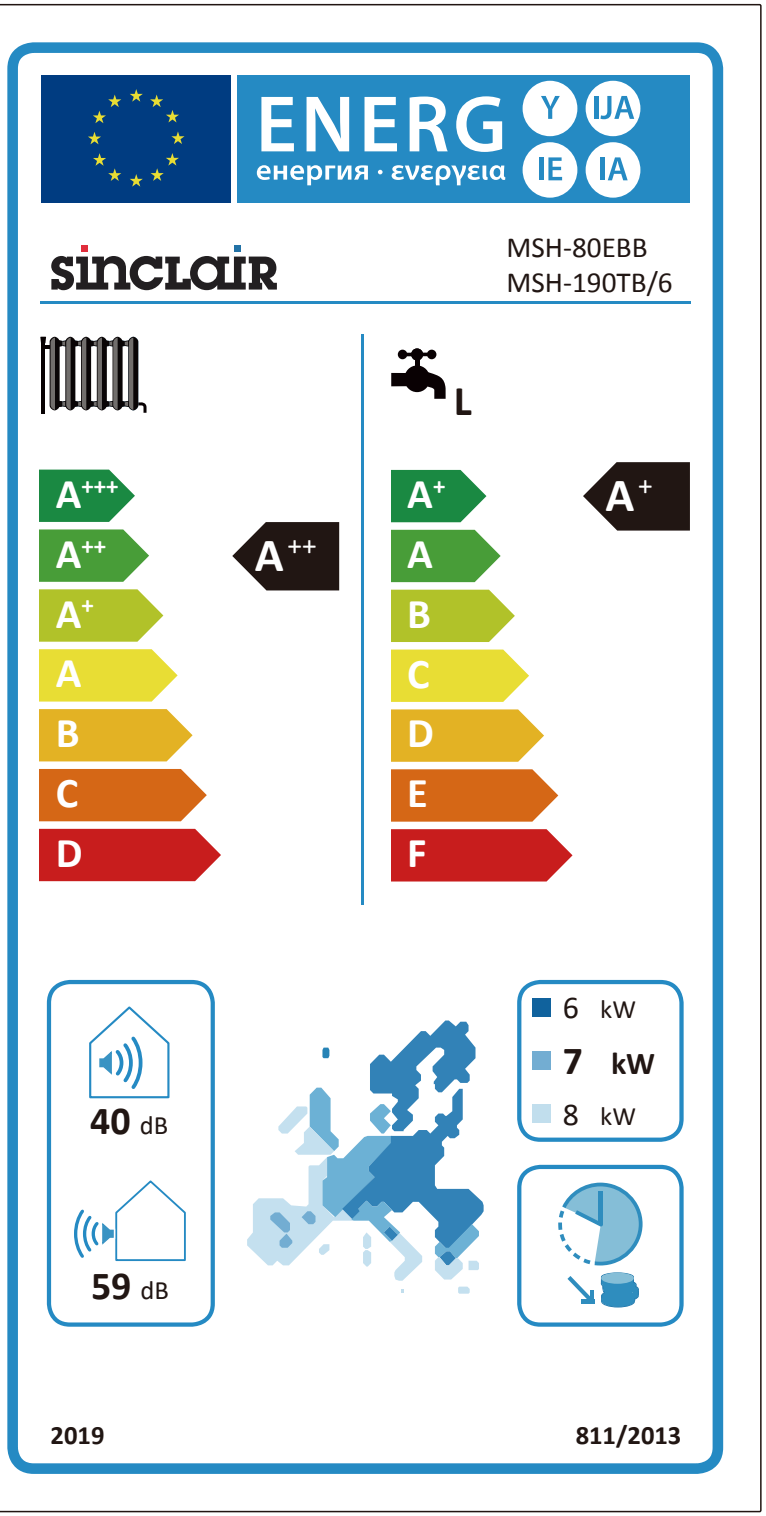
D
E
F
A+
40 dB
59 dB
6 kW
7 kW
8 kW
2019
811/2013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A+++
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40 dB
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6 kW
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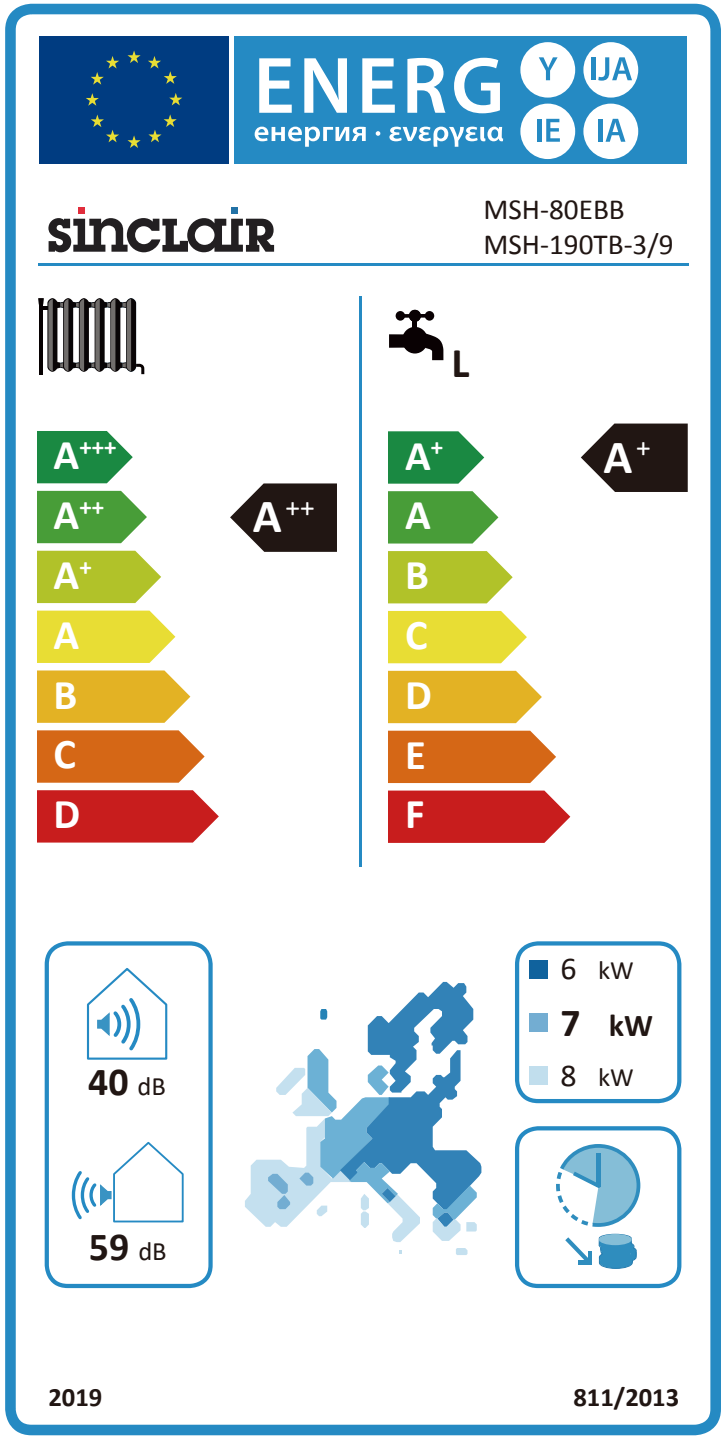
8 kW
2019
811/2013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MSH-190TB-3/9
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A+
40 dB
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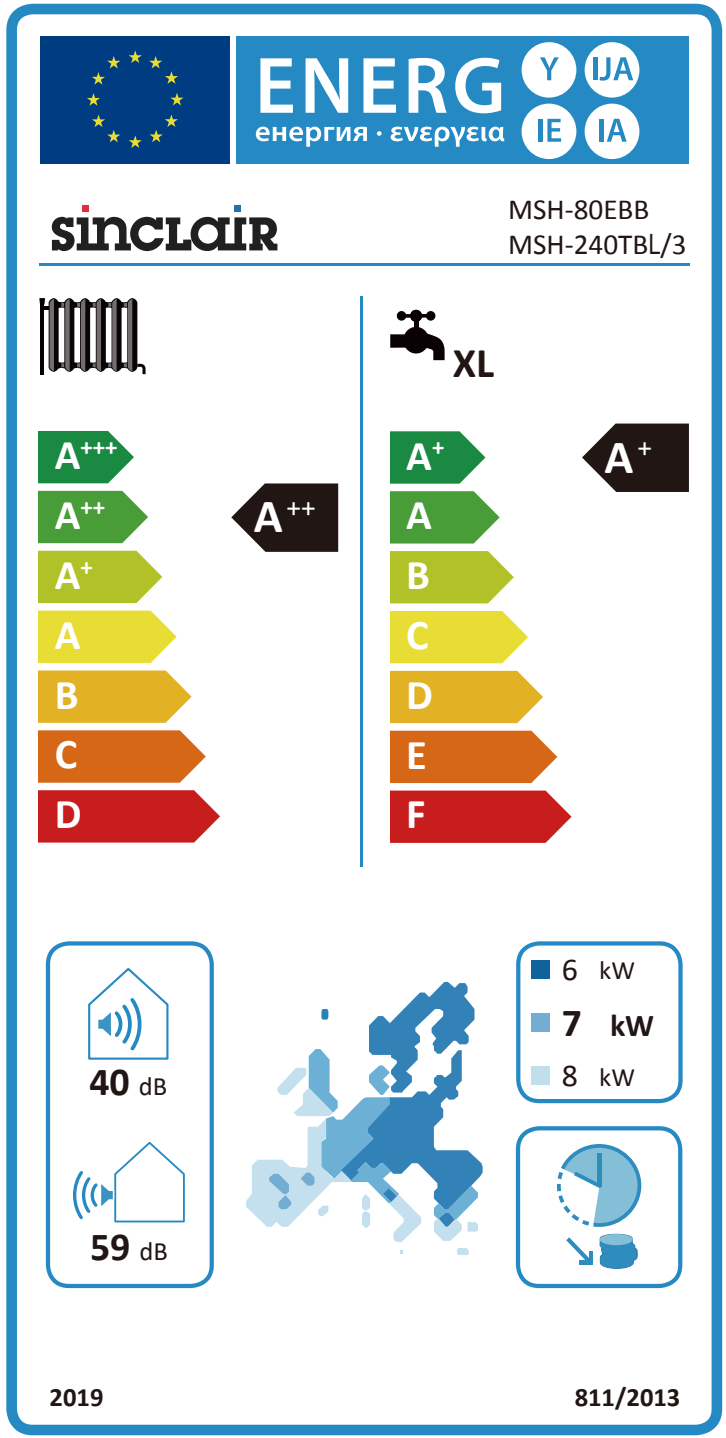
6 kW
7 kW
8 kW
2019
811/2013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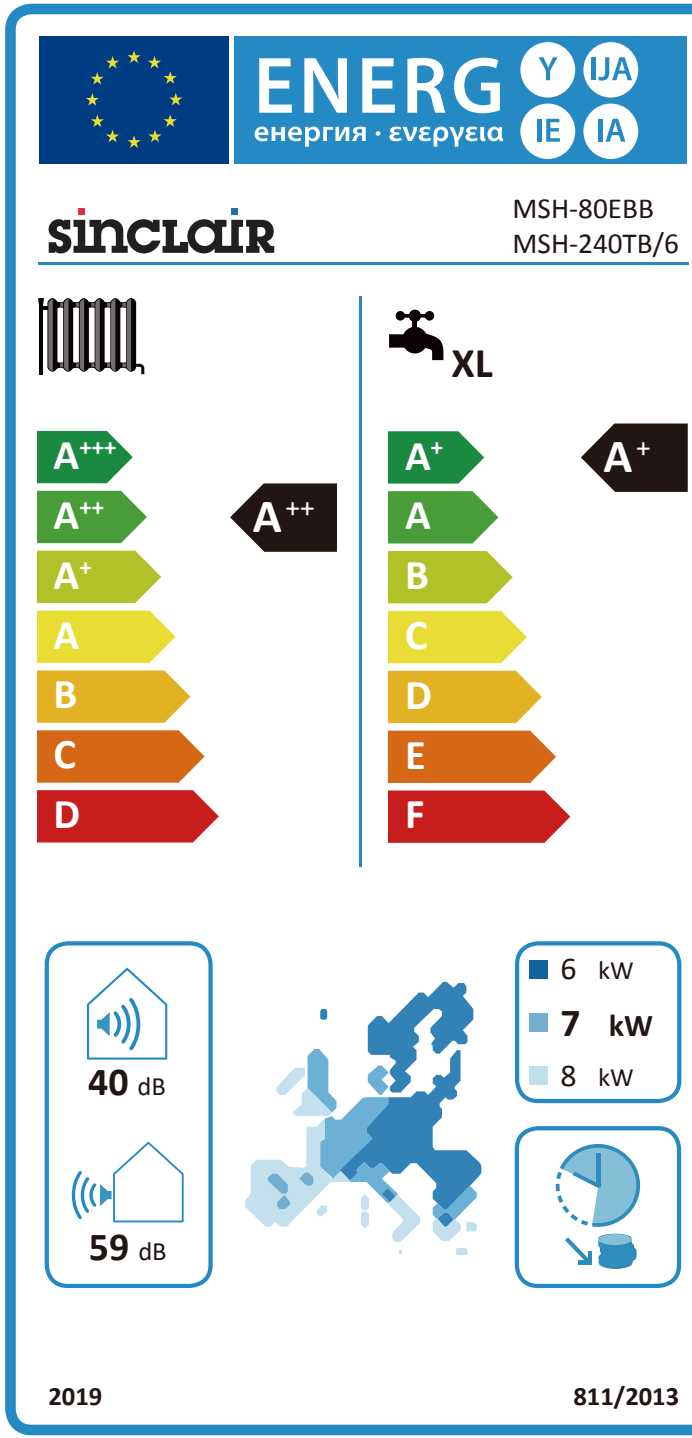
40 dB
59 dB
6 kW
7 kW
8 kW
2019
811/2013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6 kW
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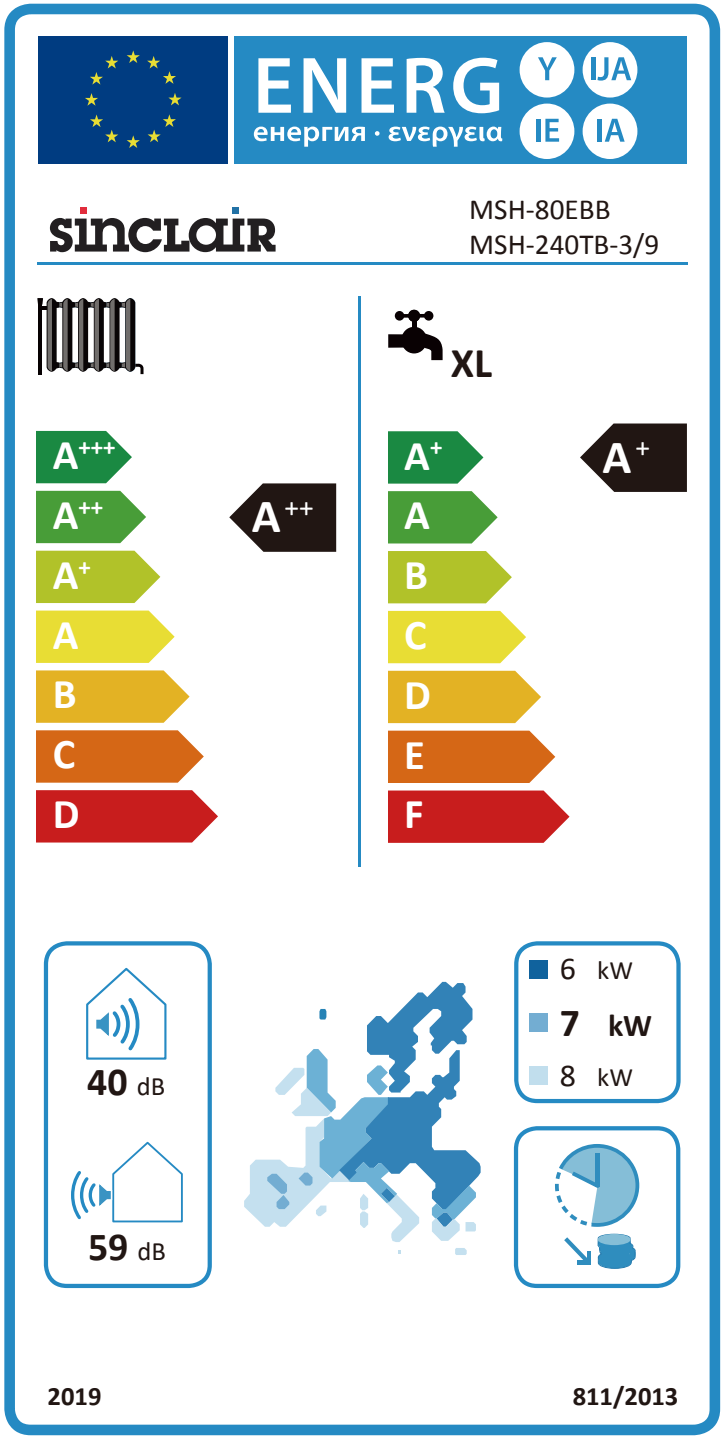
2019
811/2013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MSH-240TB-3/9
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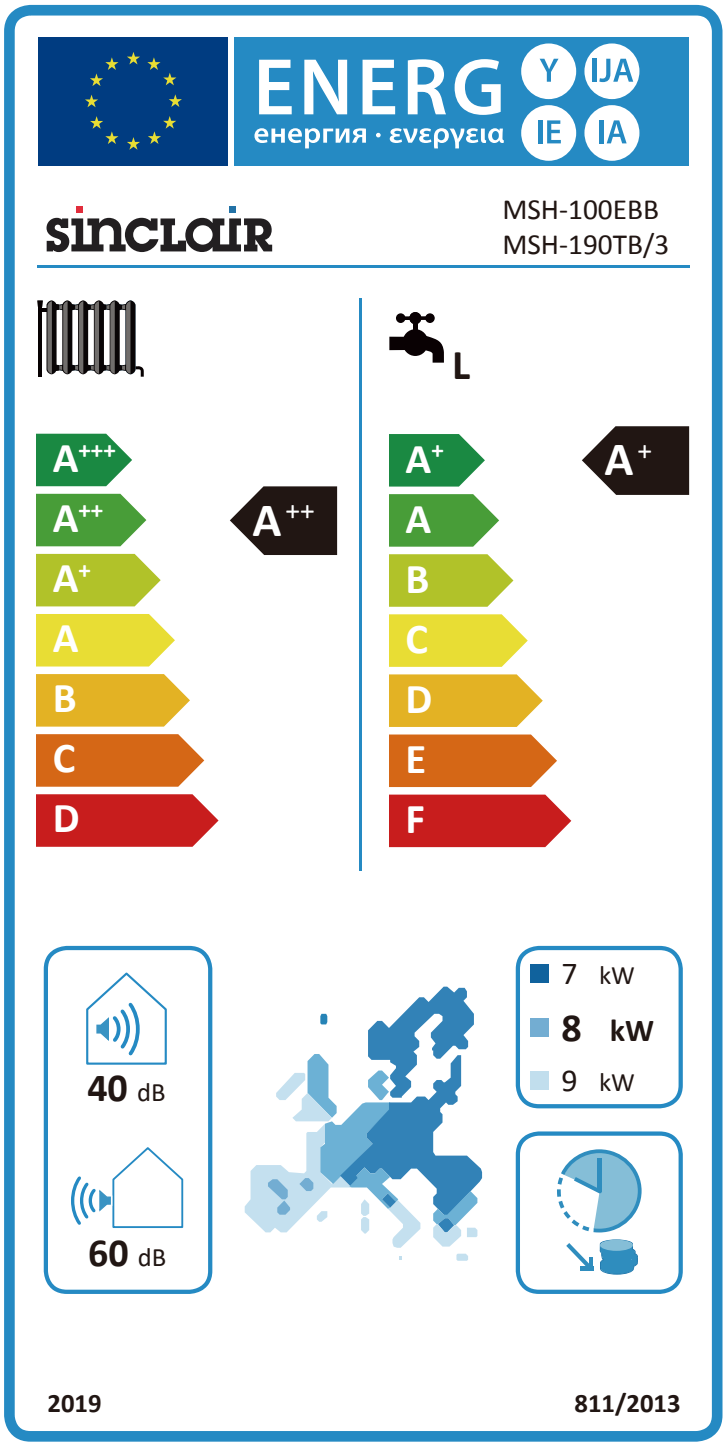
811/2013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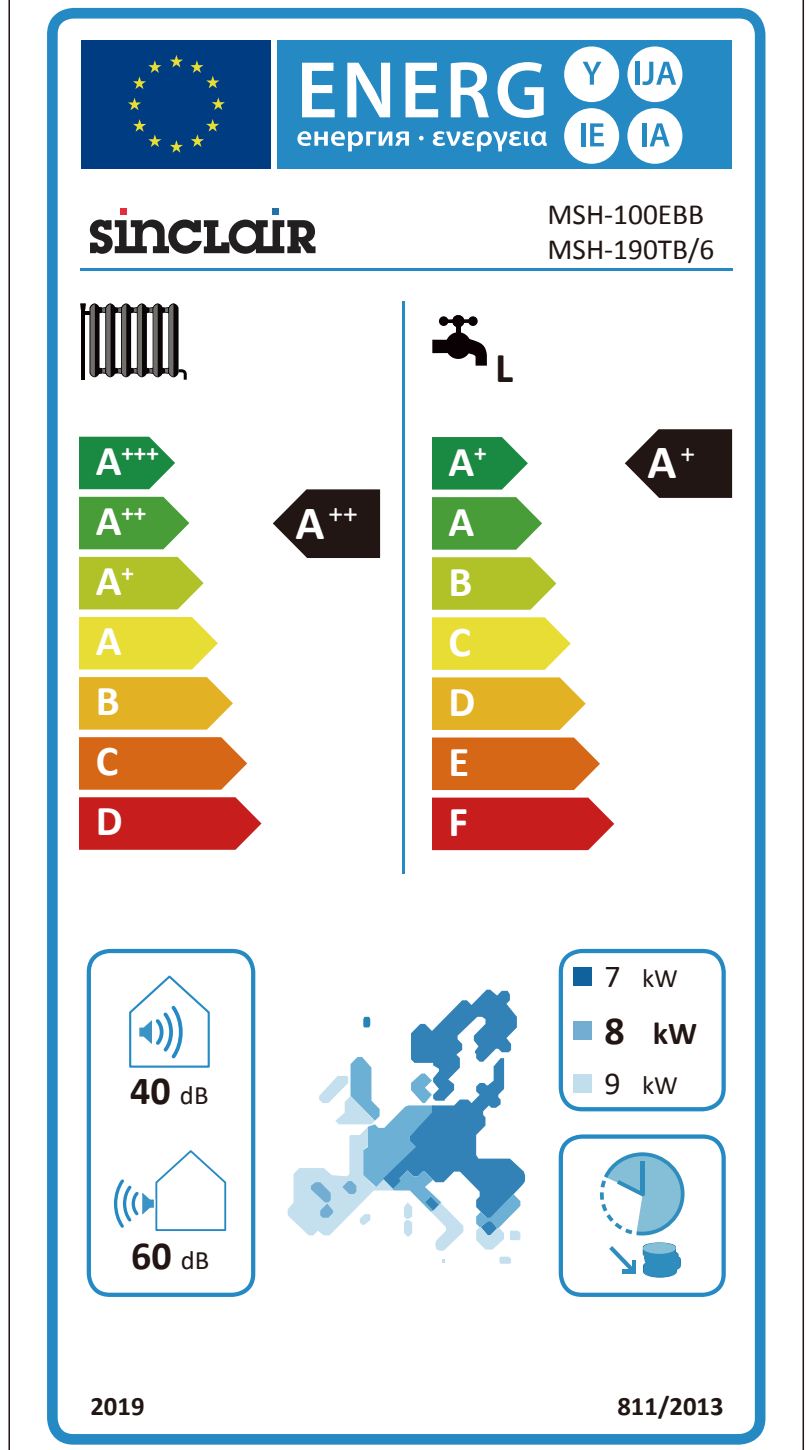
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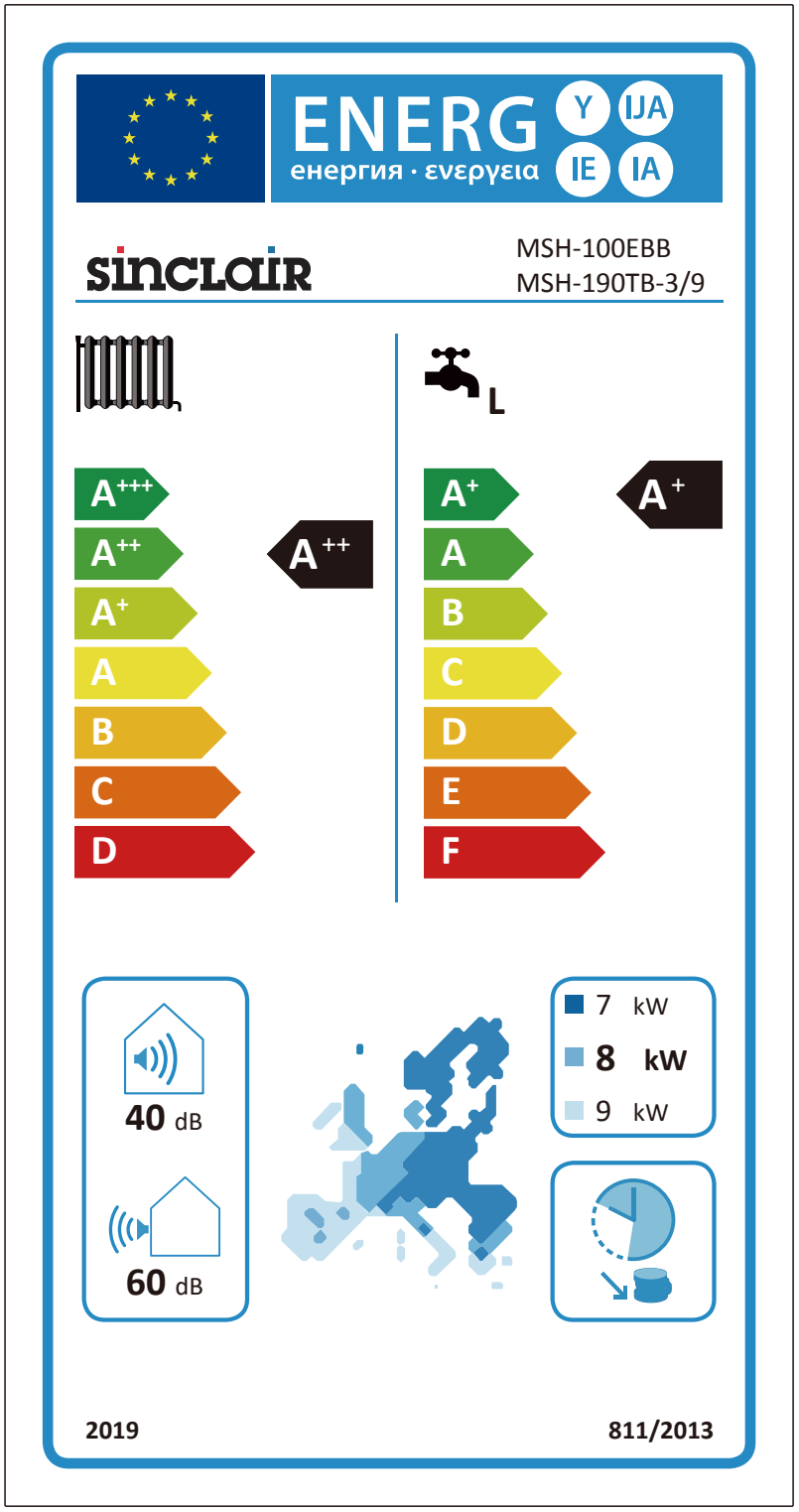
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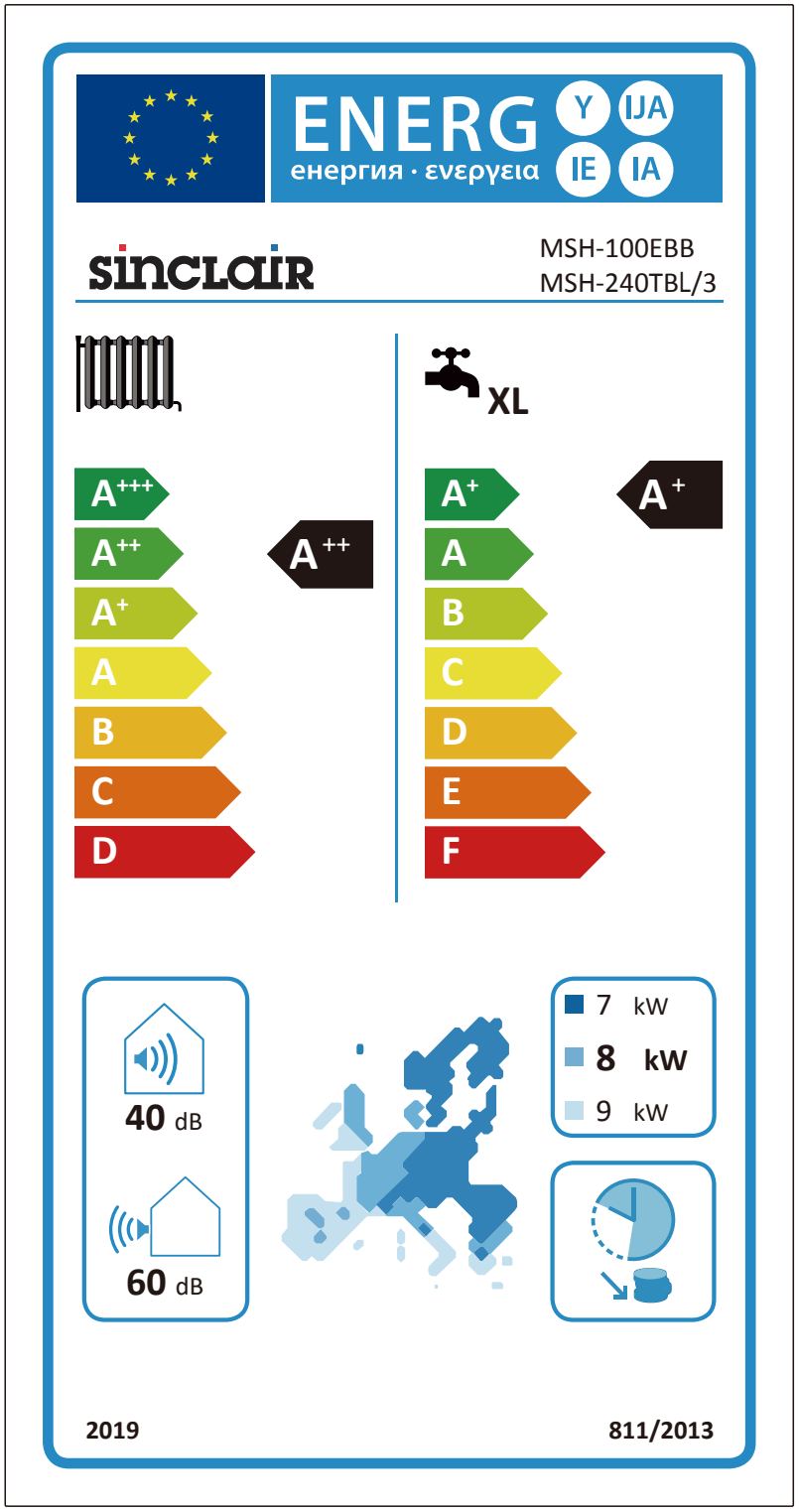
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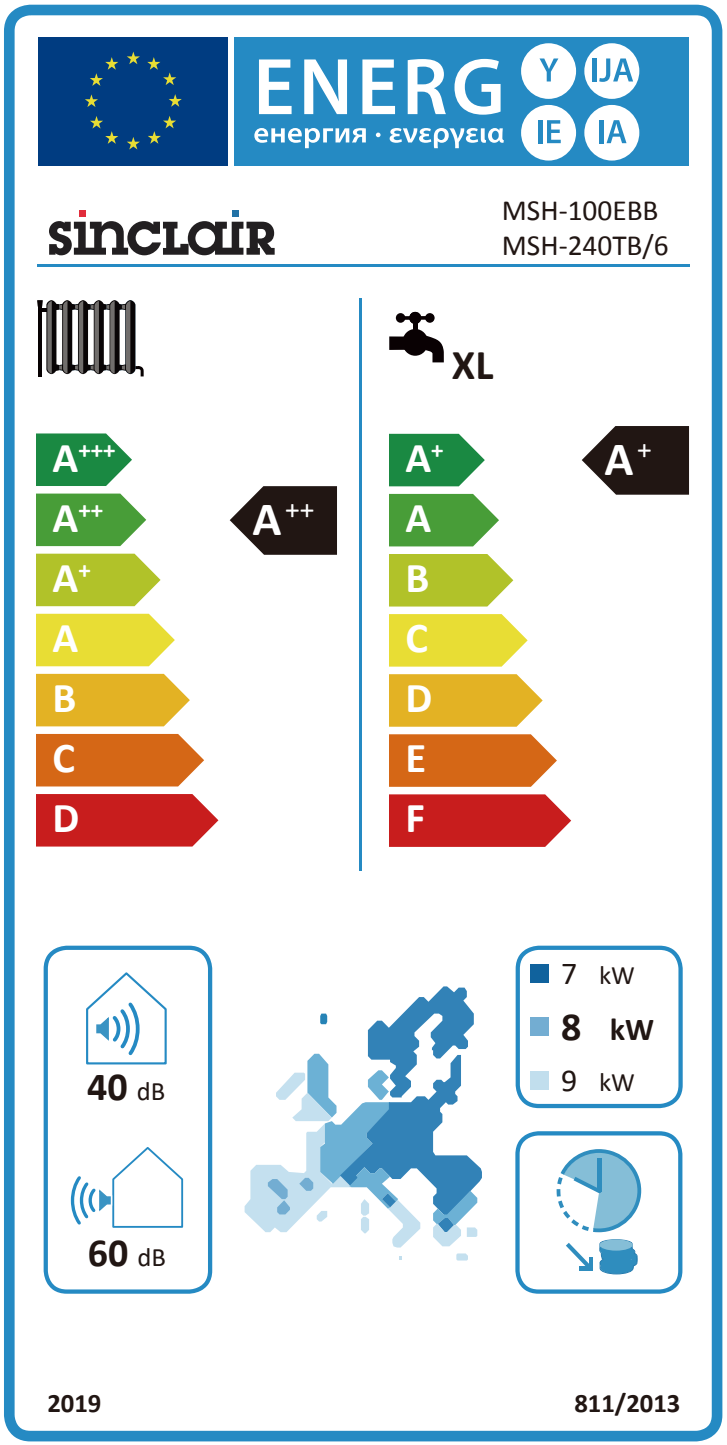
811/2013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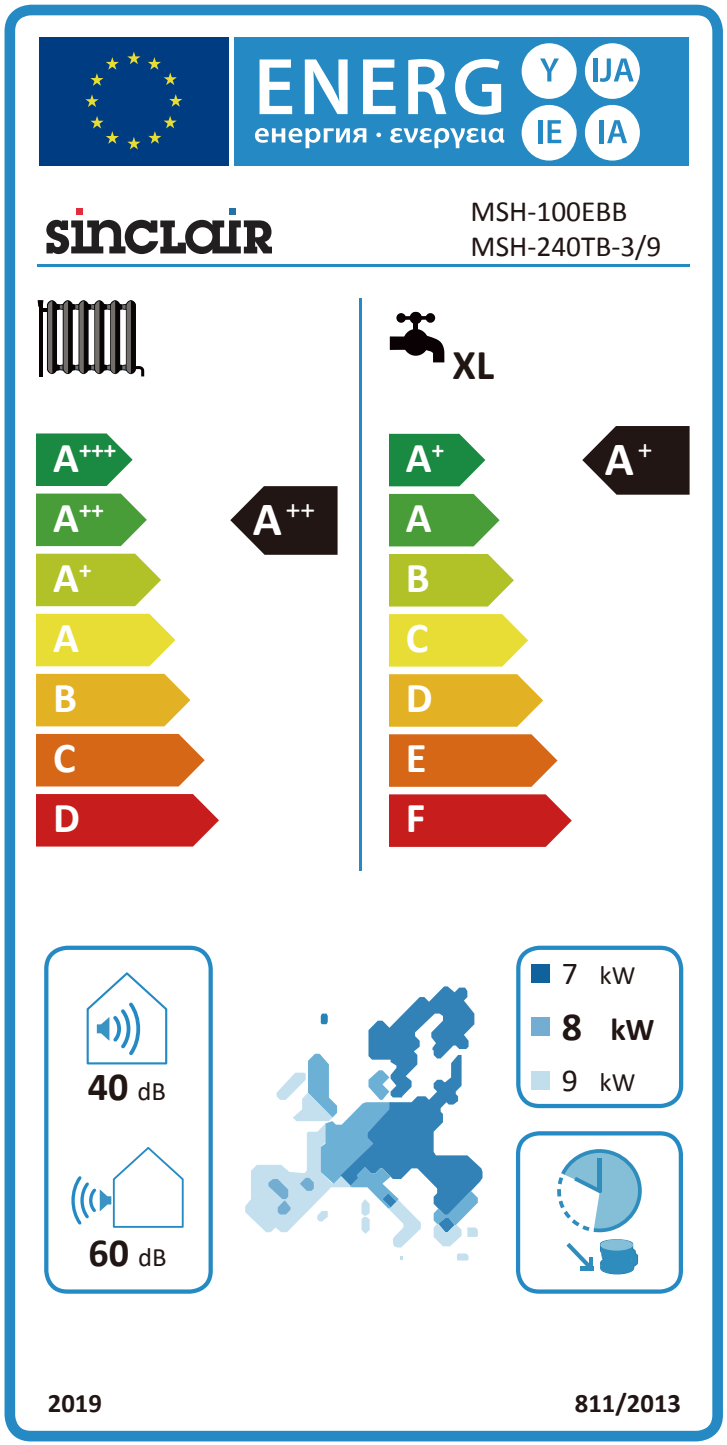
2019
811/2013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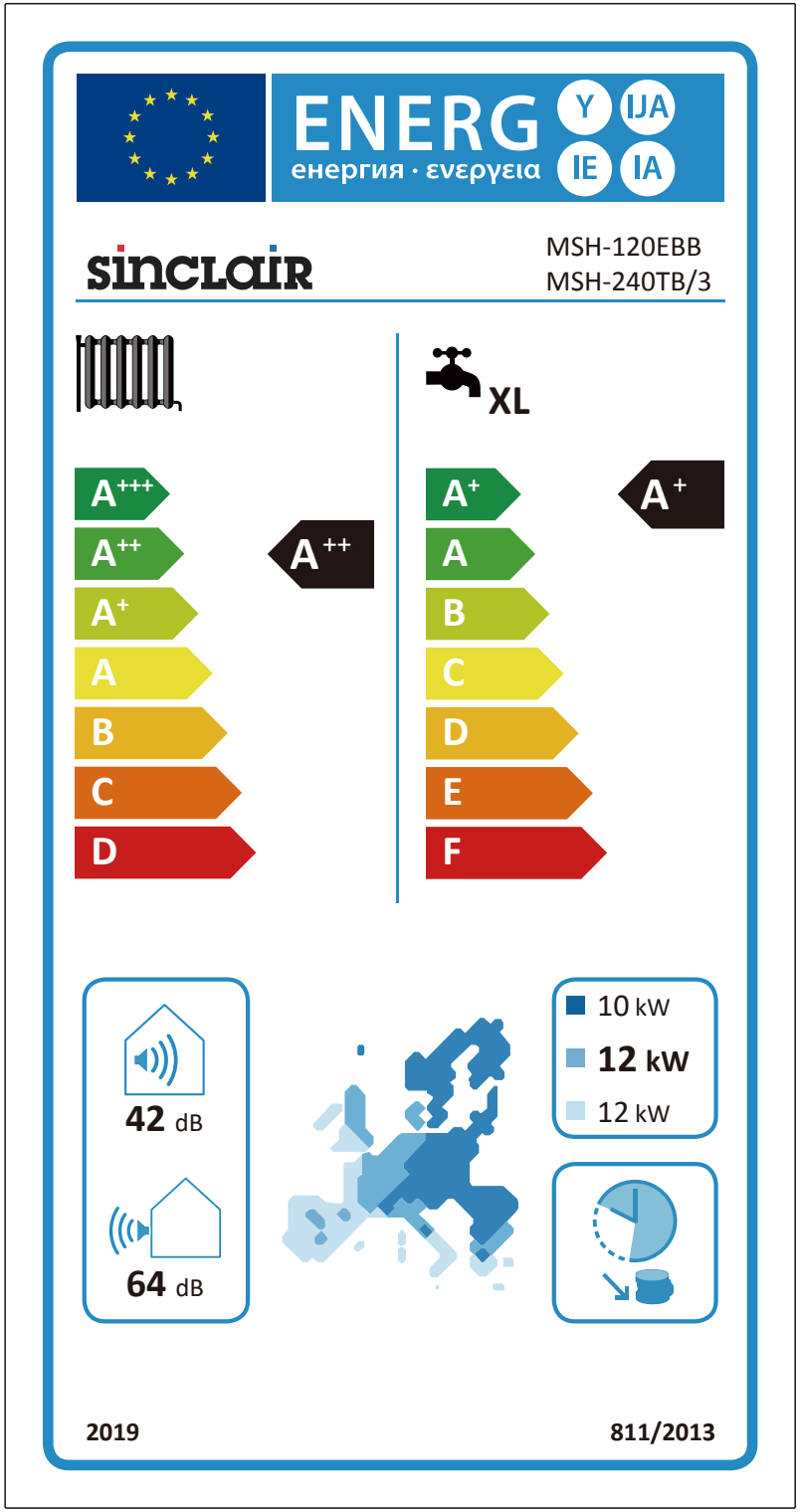
2019
811/2013


ENERG
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A+++
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A+
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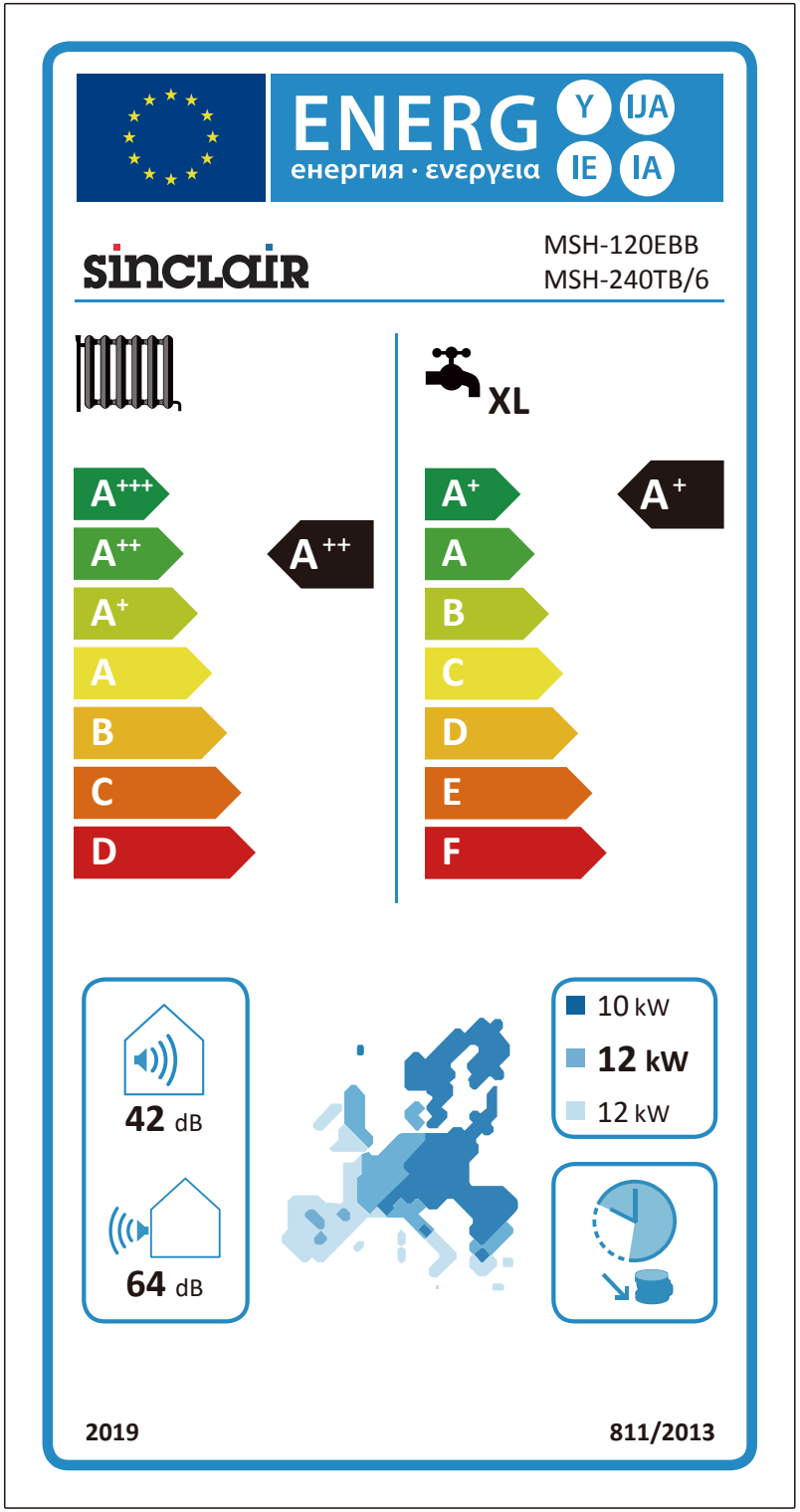
A+
42 dB
64 dB
10 kW
12 kW
12 kW
2019
811/2013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42 dB
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2019
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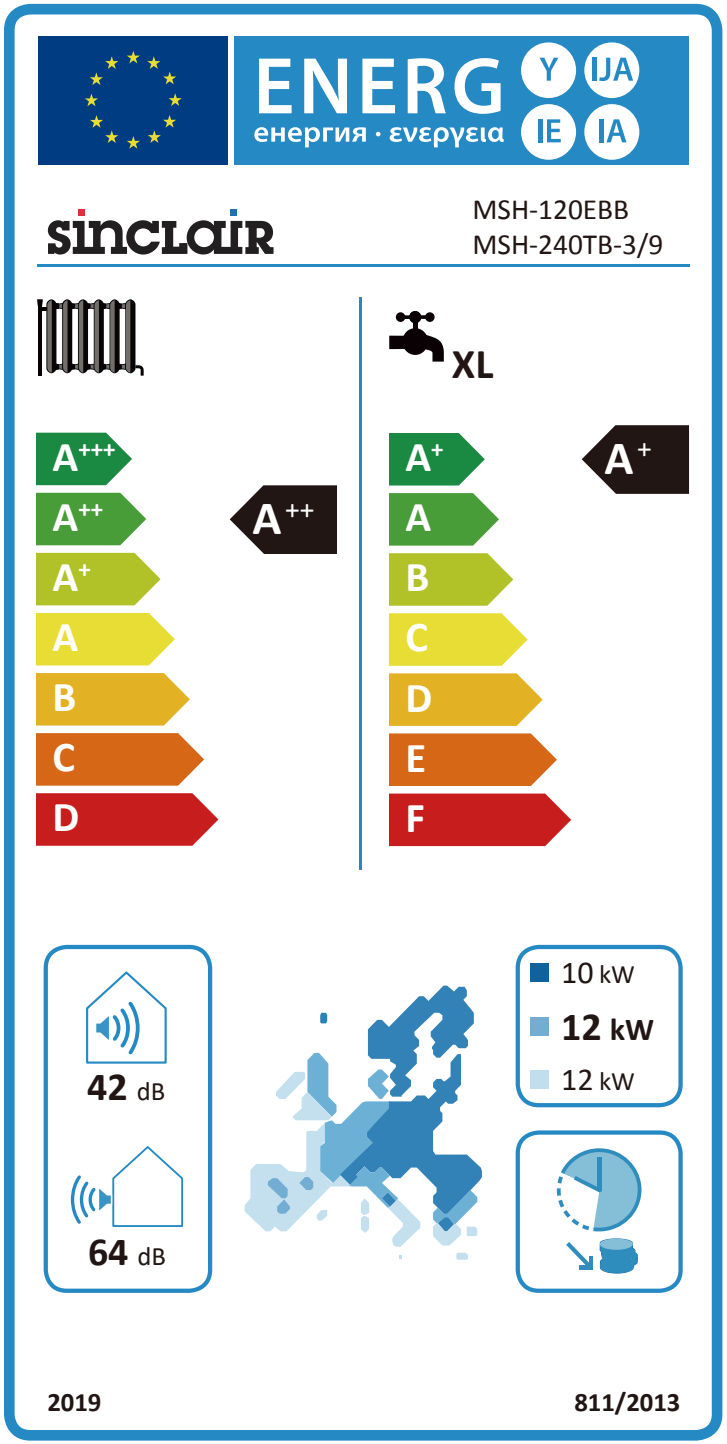
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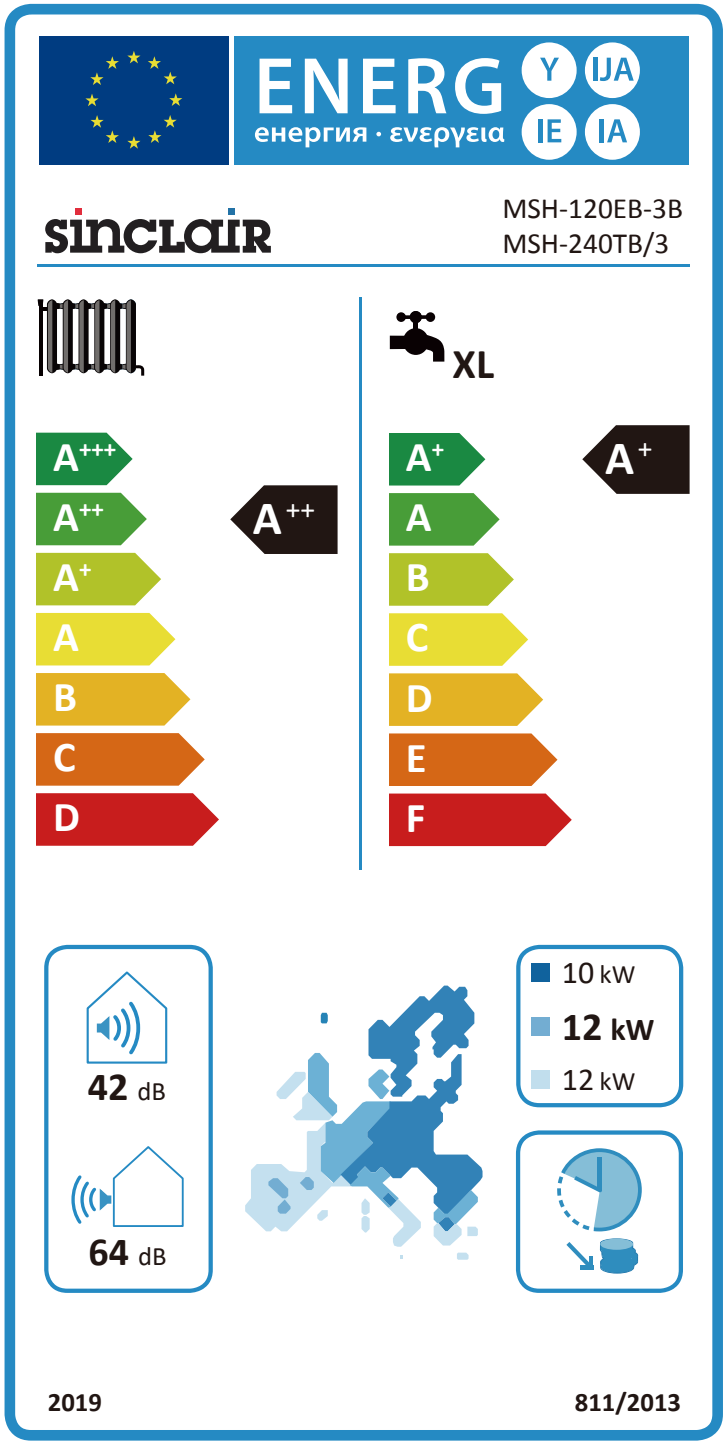
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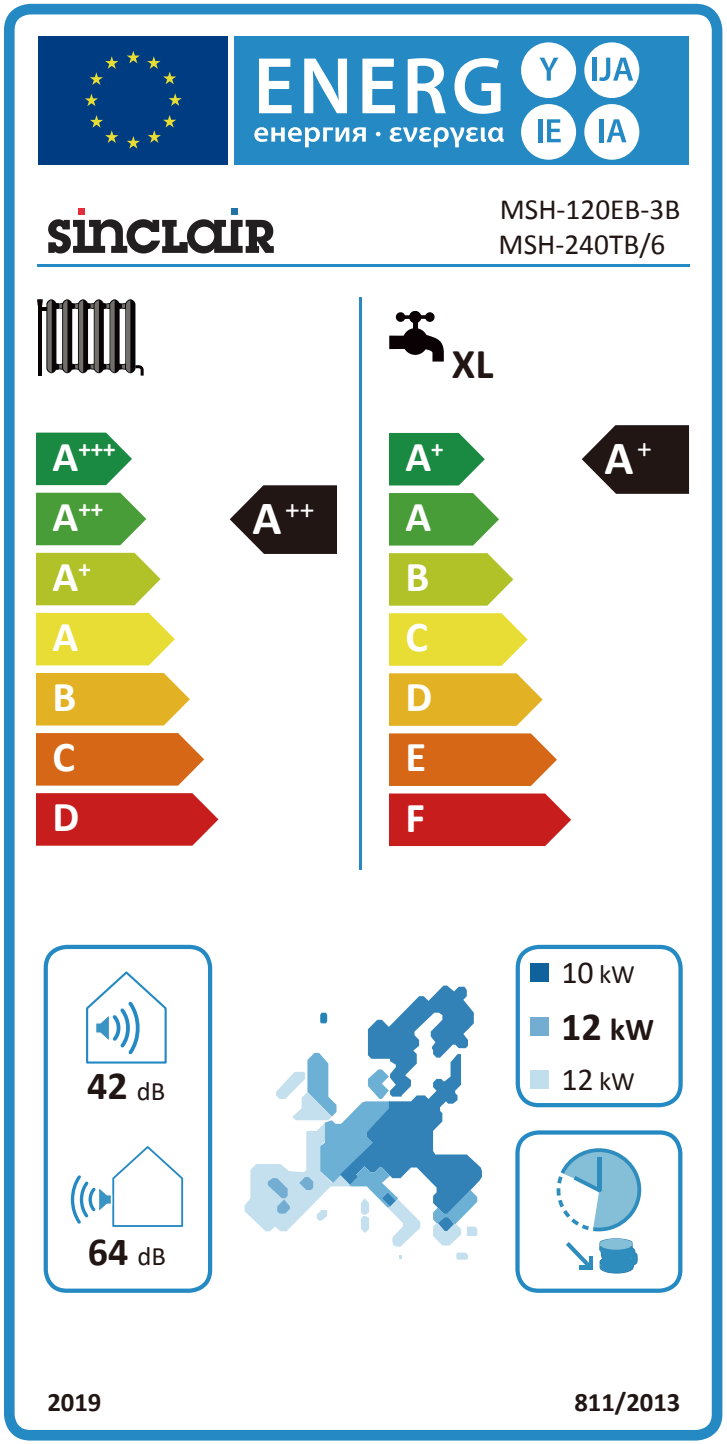
811/2013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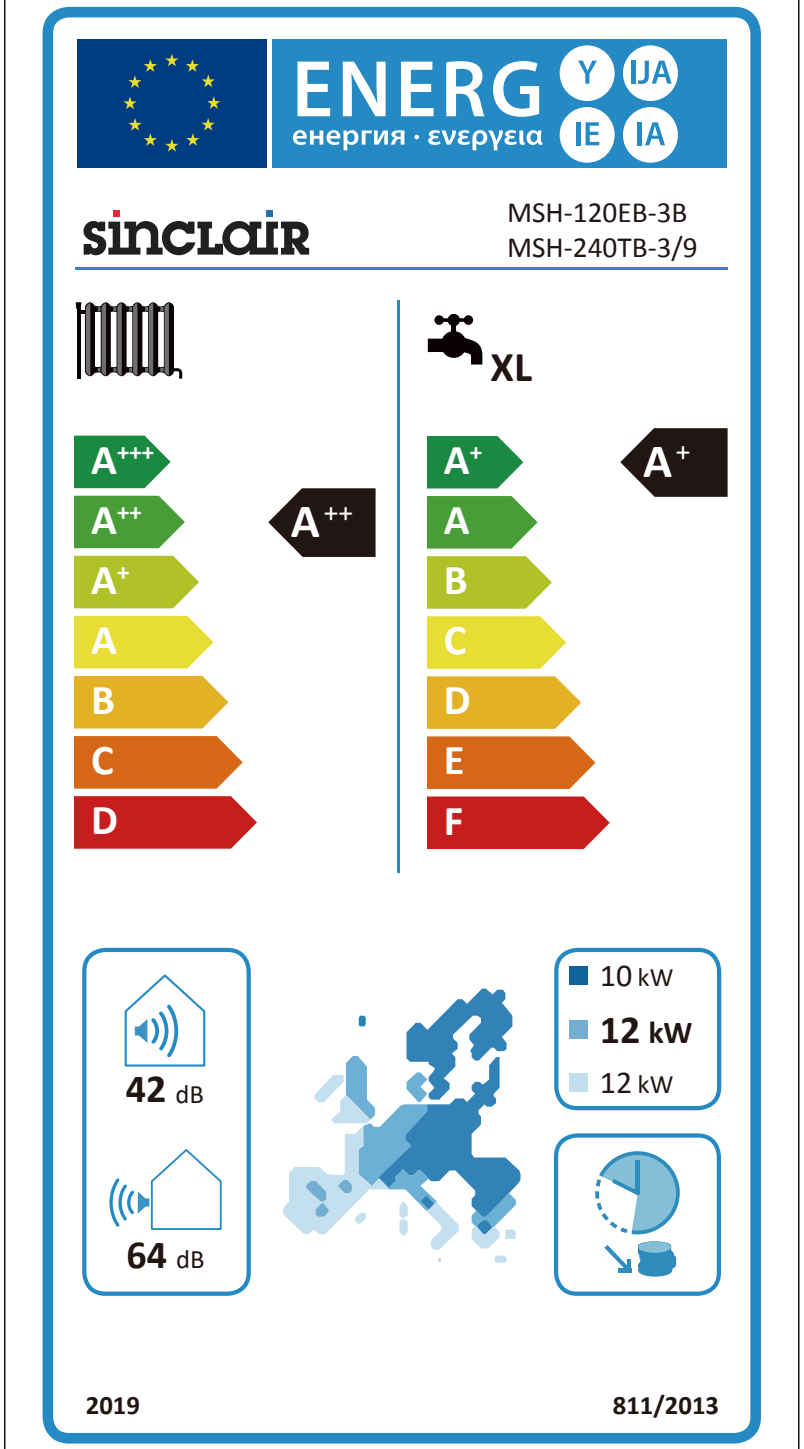
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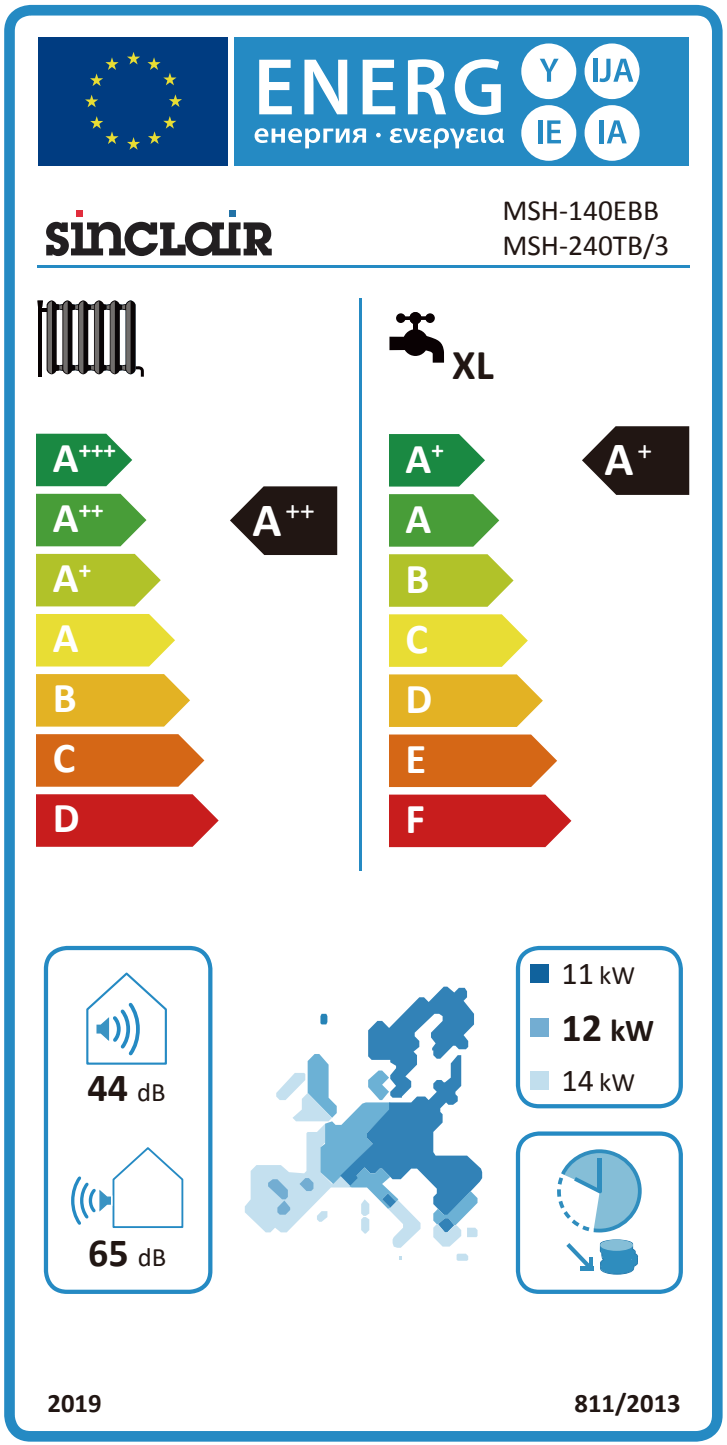
811/2013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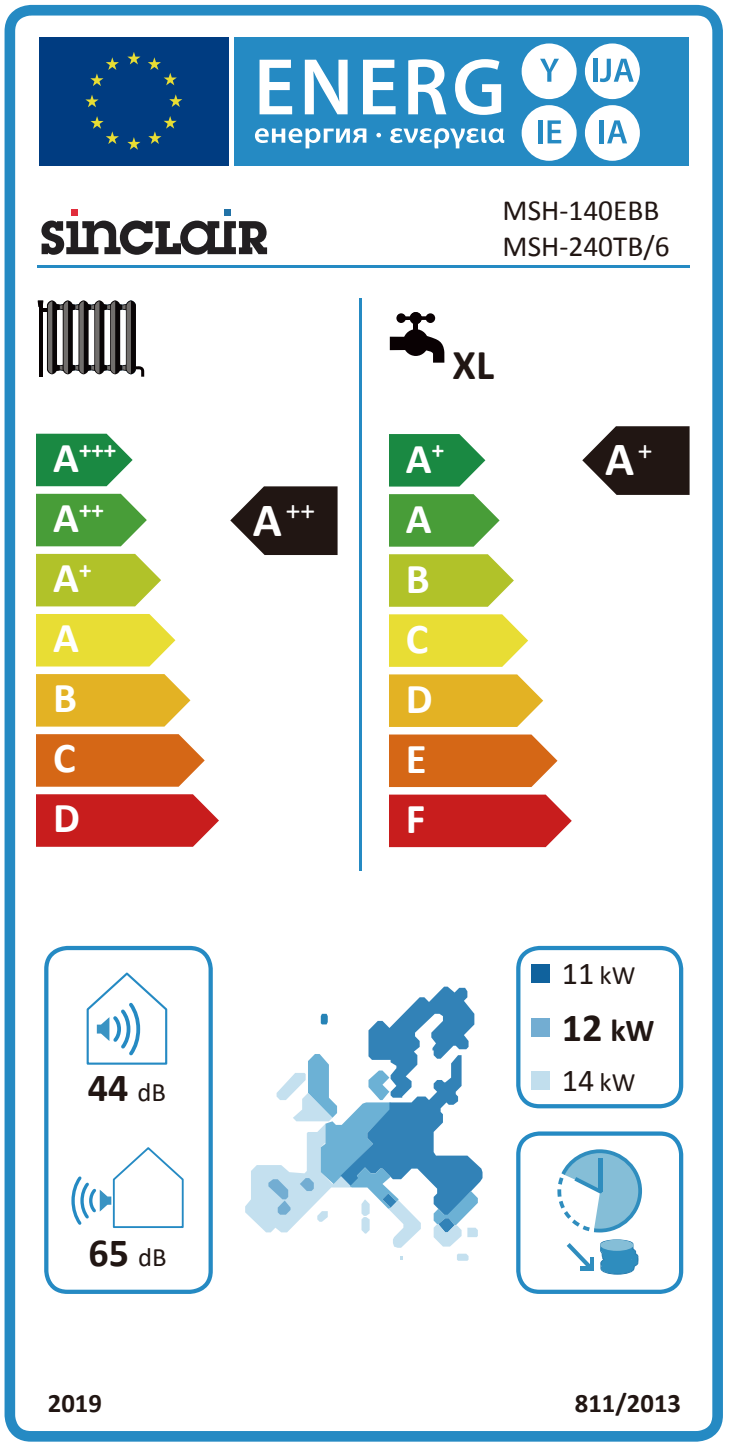
44 dB
65 dB
11 kW
12 kW
14 kW
2019
811/2013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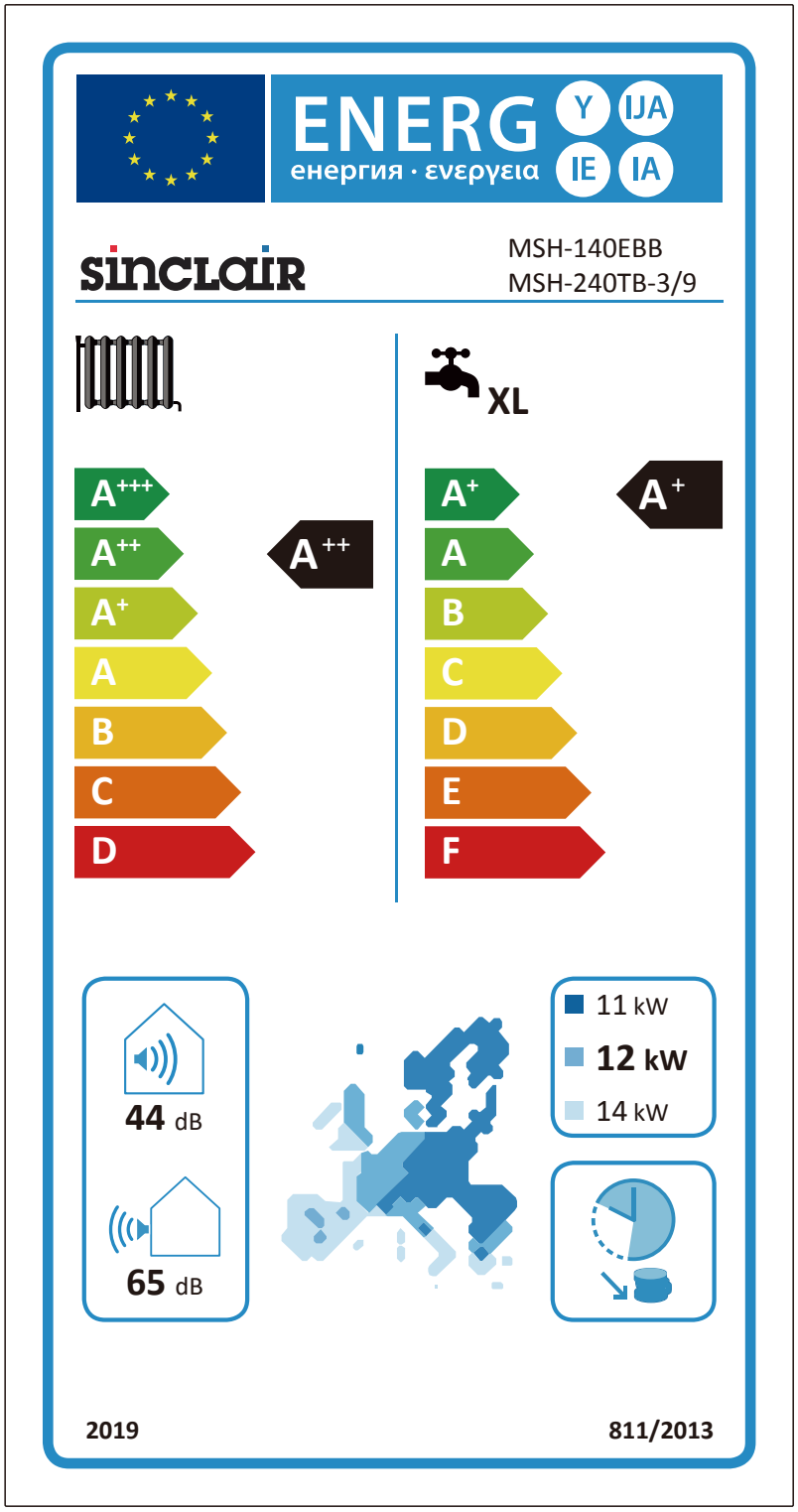
2019
811/2013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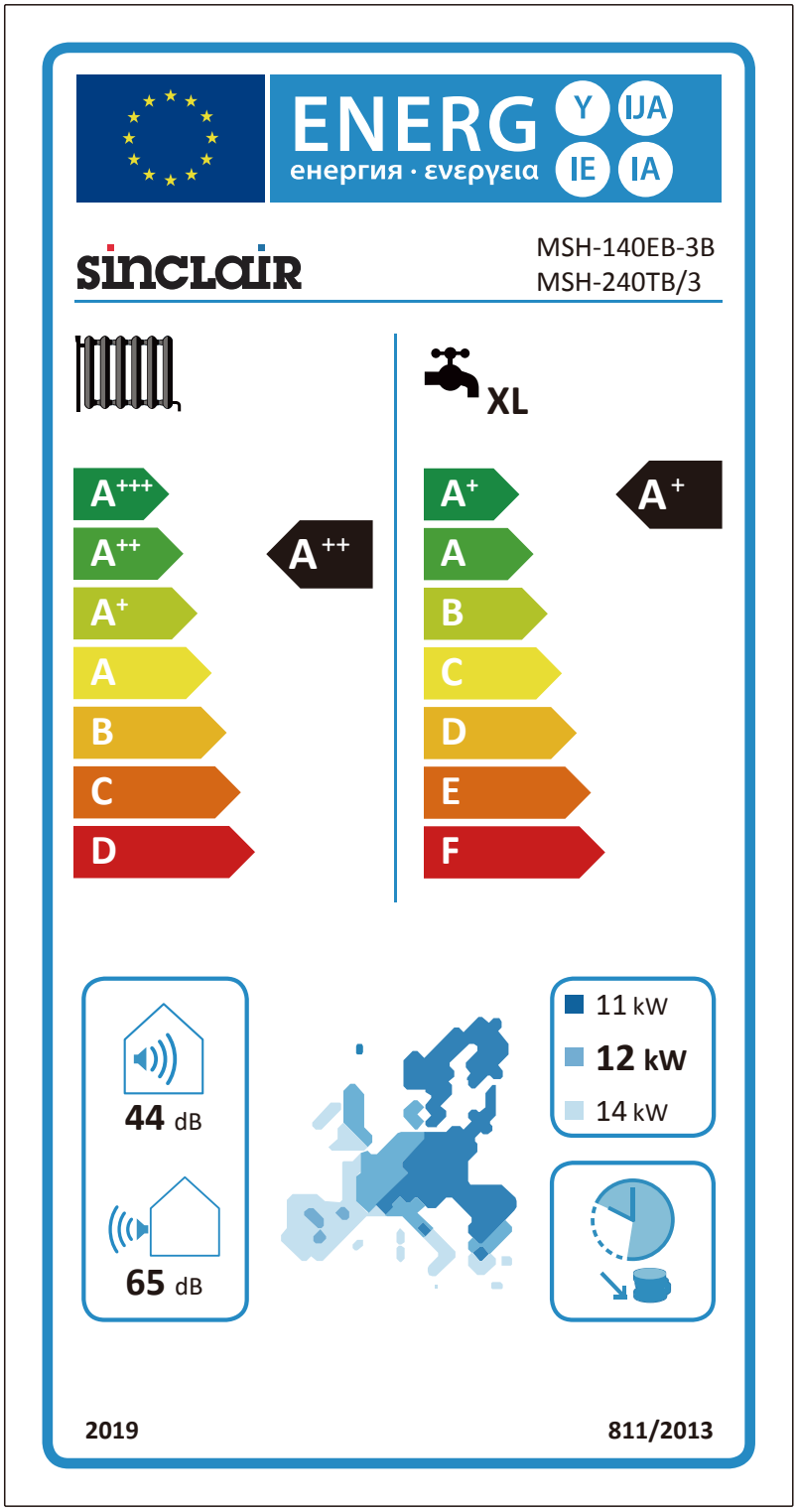
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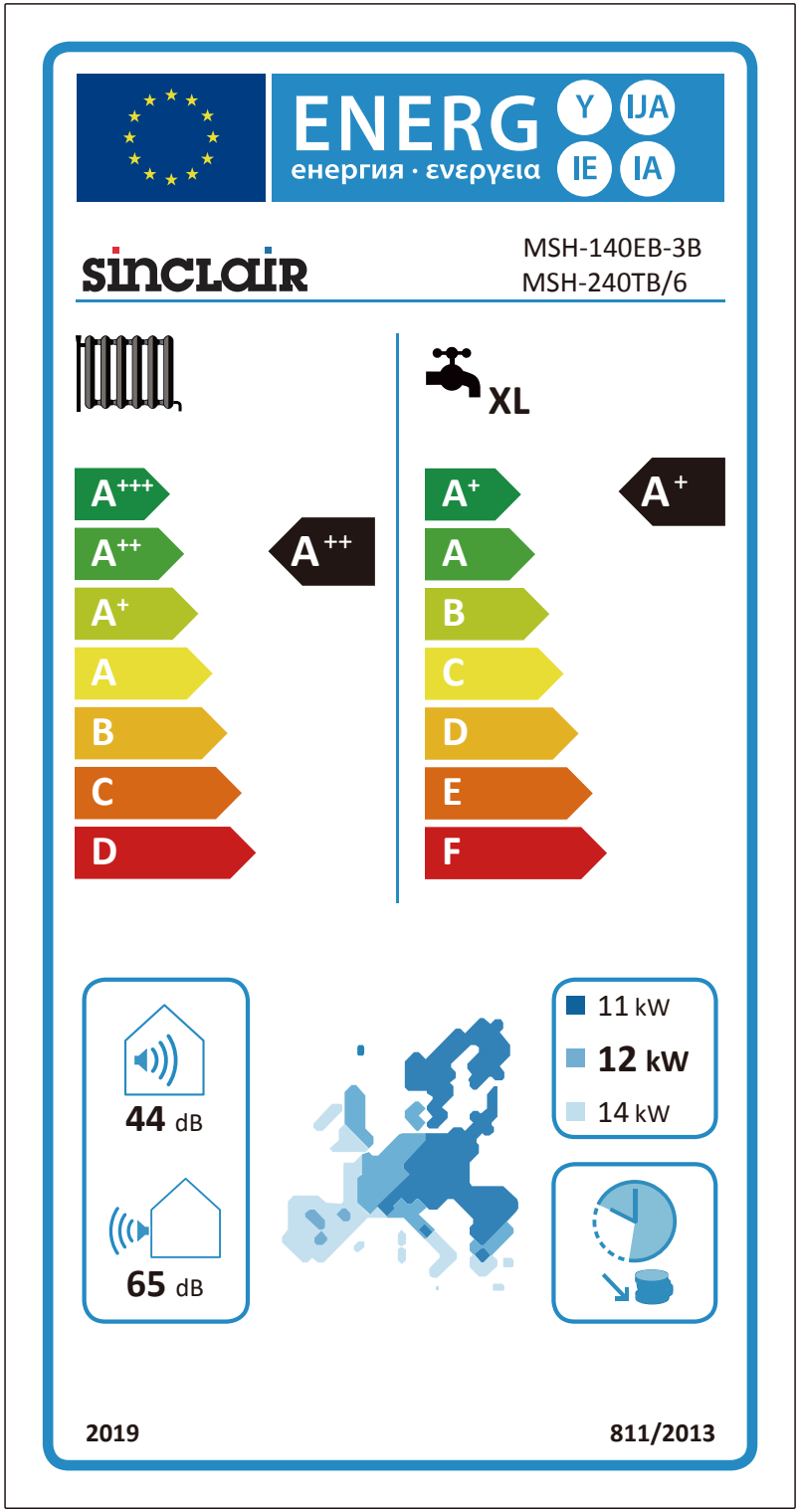
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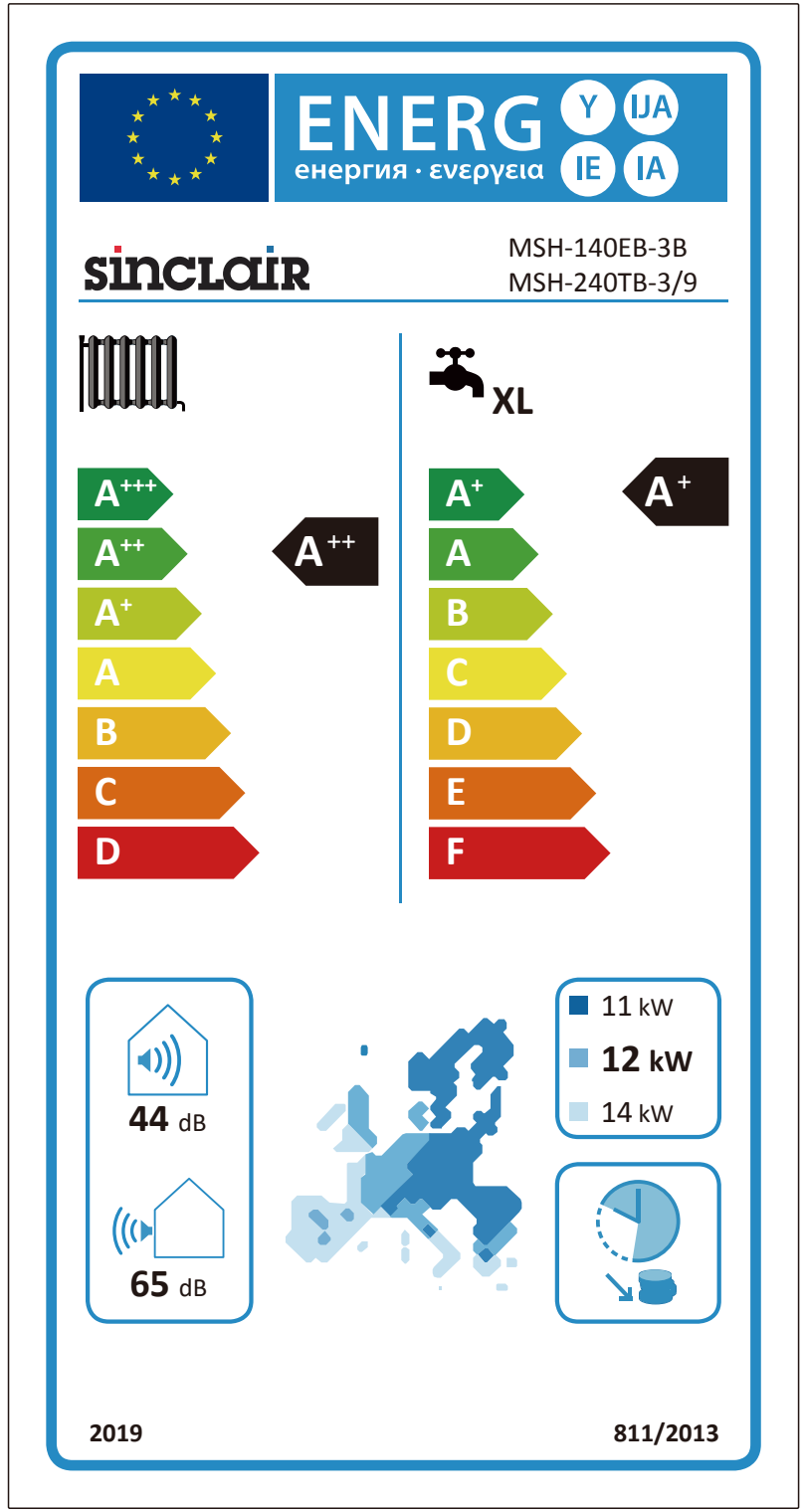
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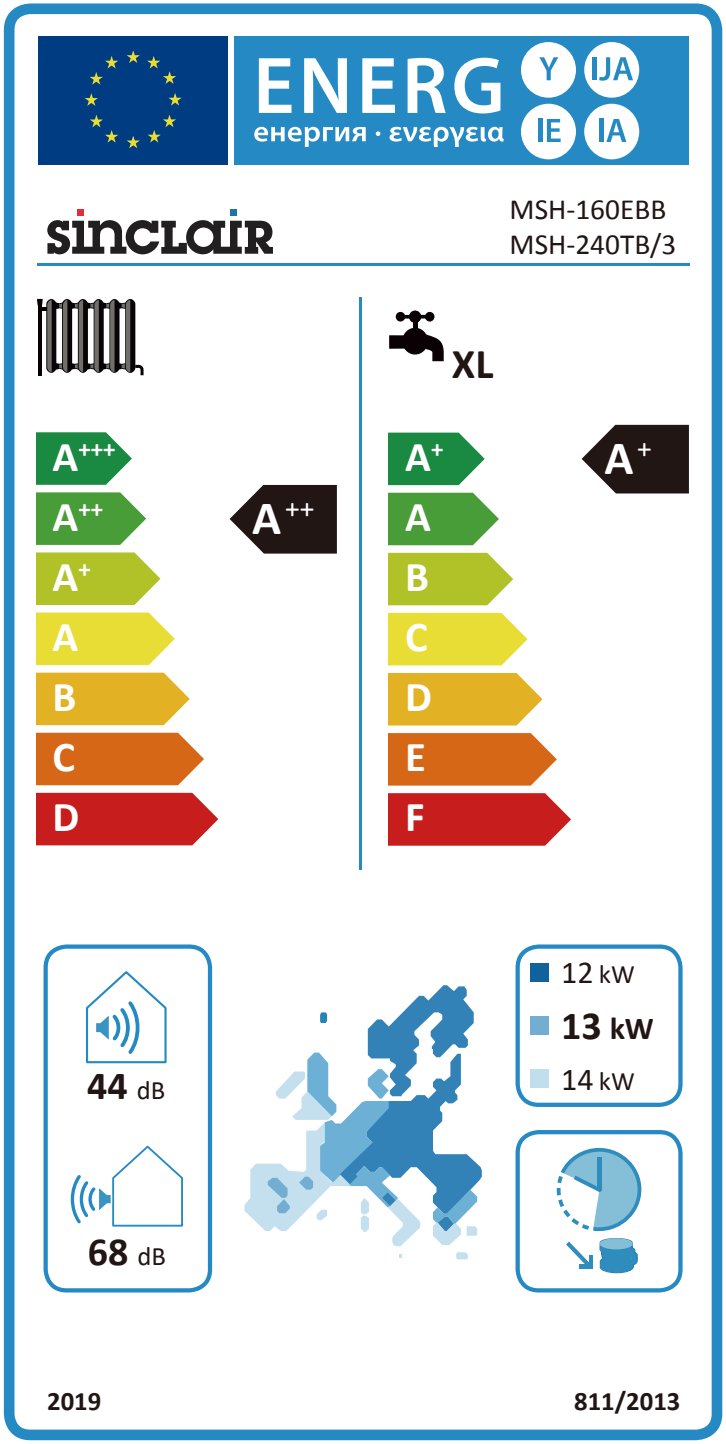
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2019
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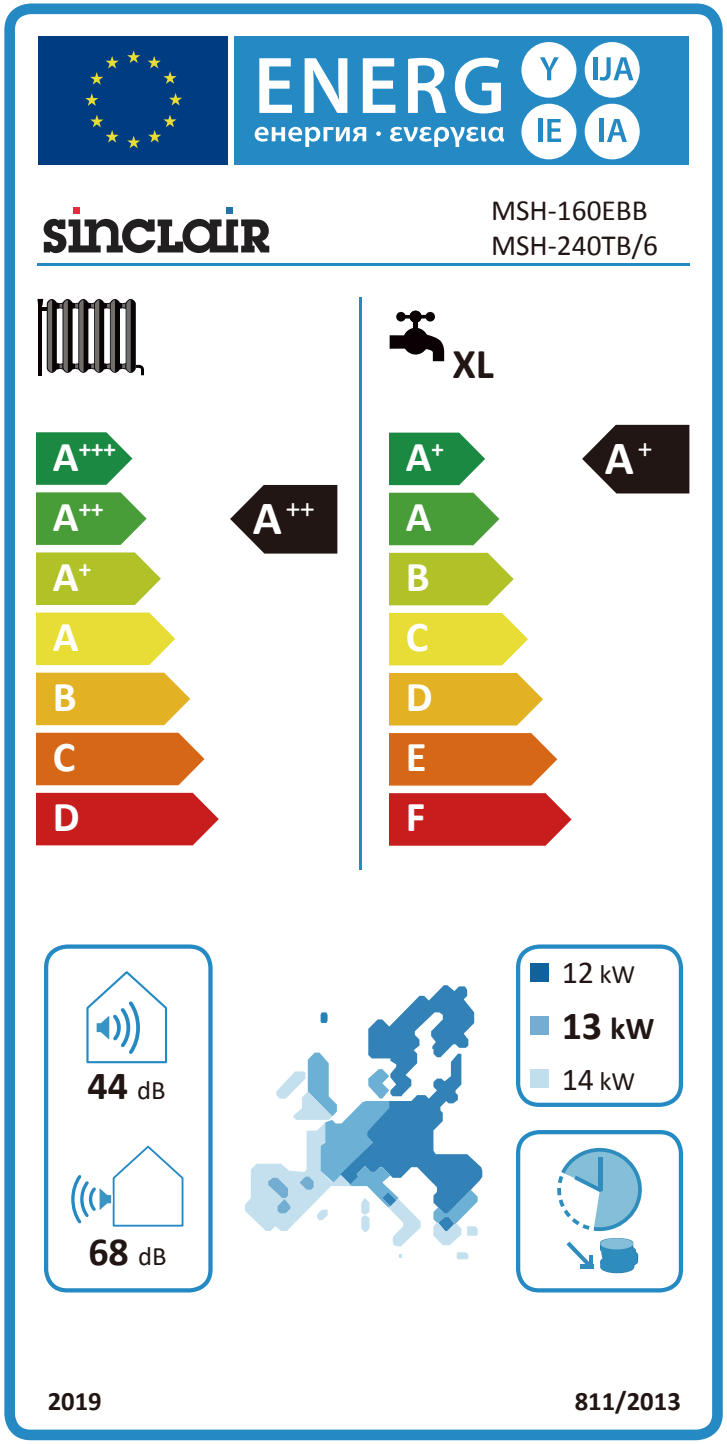
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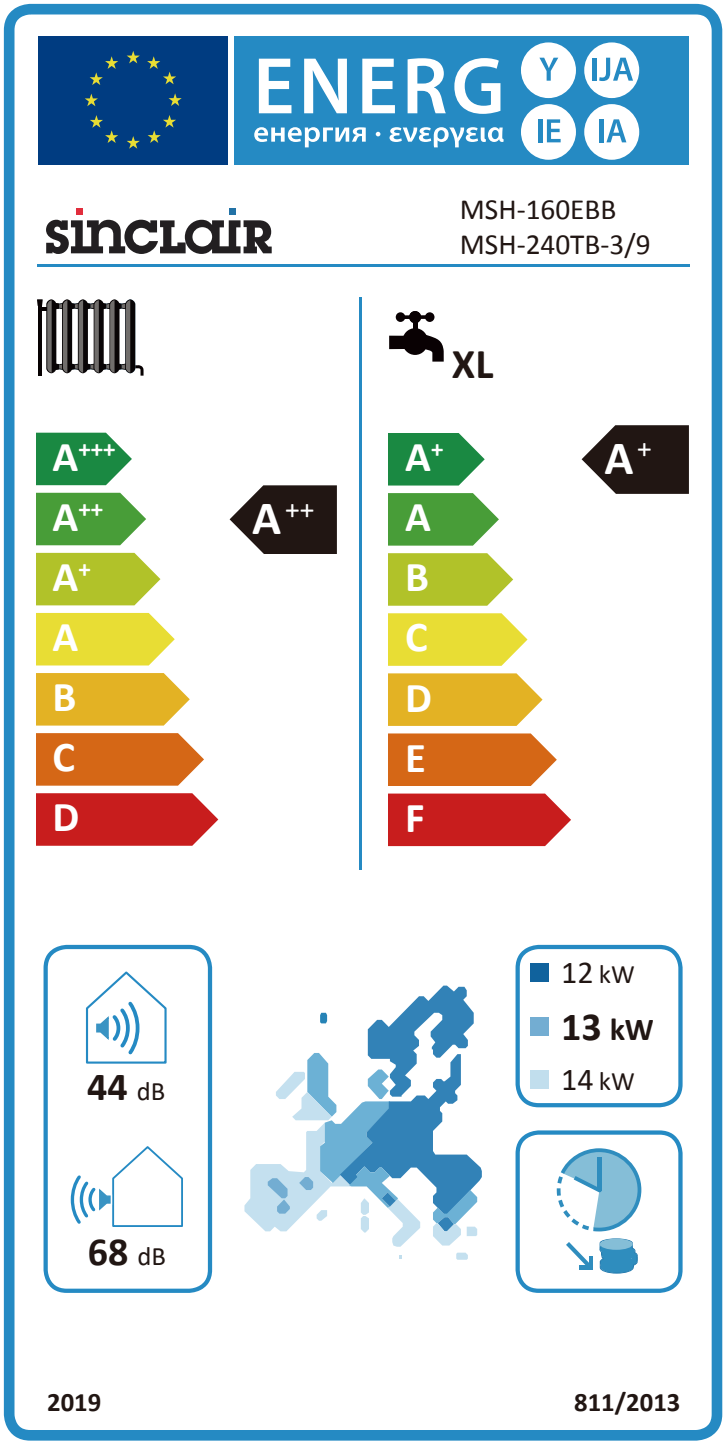
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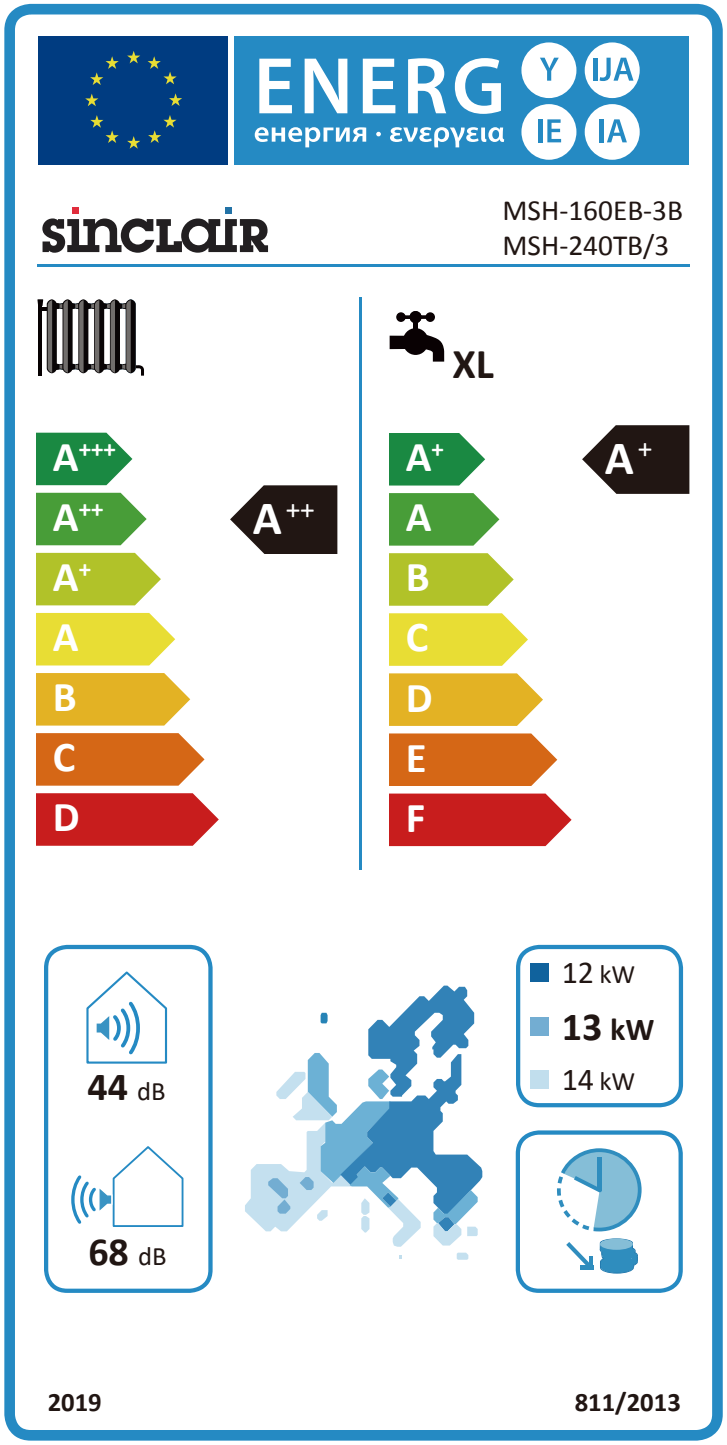
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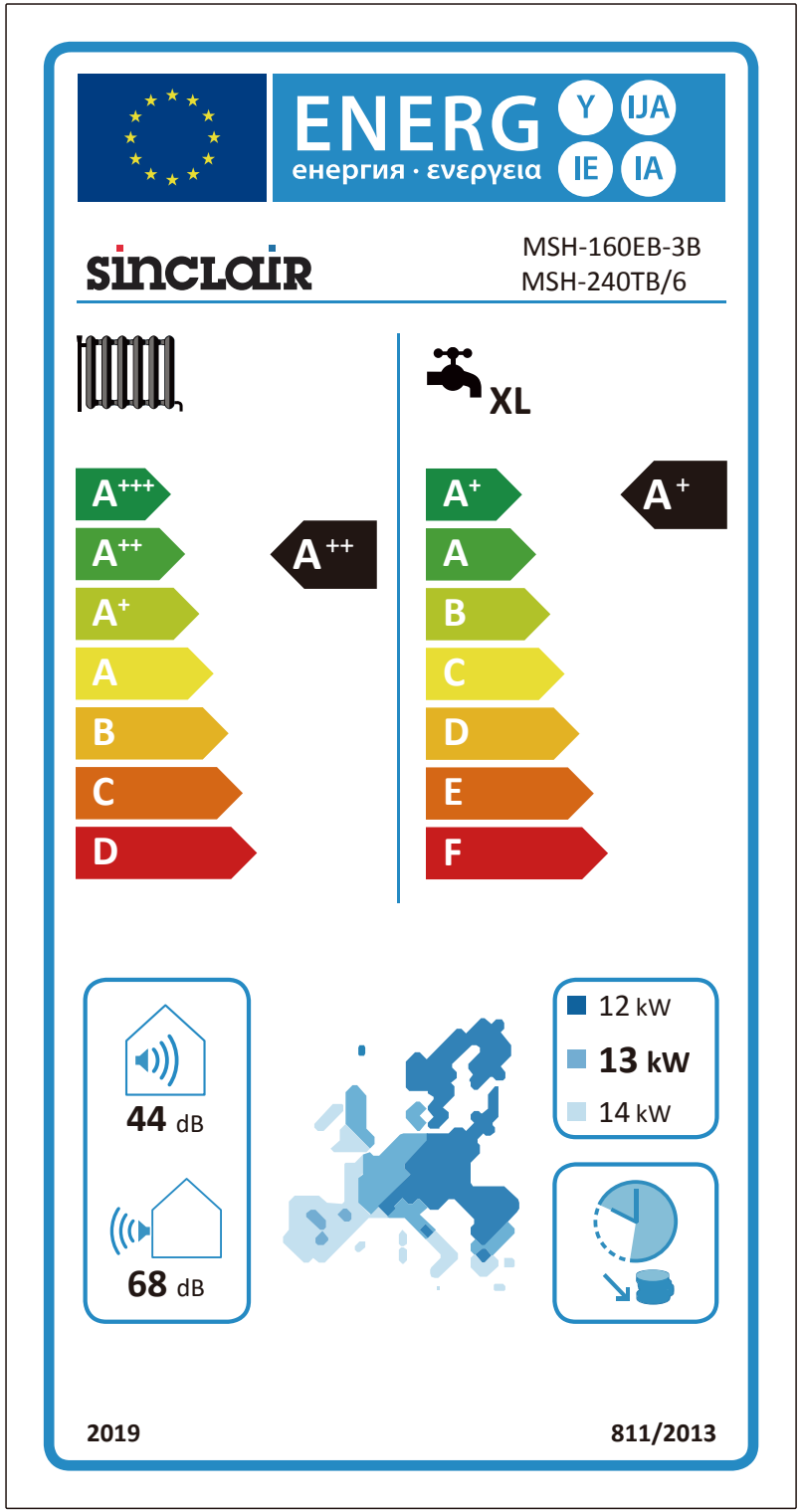
sinclair
MSH-160EB-3B
MSH-240TB/3
XL
A+++
A++
A+
A
B
C
D
A++
A+
A+
A
B
C
D
E
F
A+
44 dB
68 dB
12 kW
13 kW
14 kW
2019
811/2013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енергия · ενεργεια
SINCLAIR
MSH-160EB-3B
MSH-240TB/6
XL
A+++
A++
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A++
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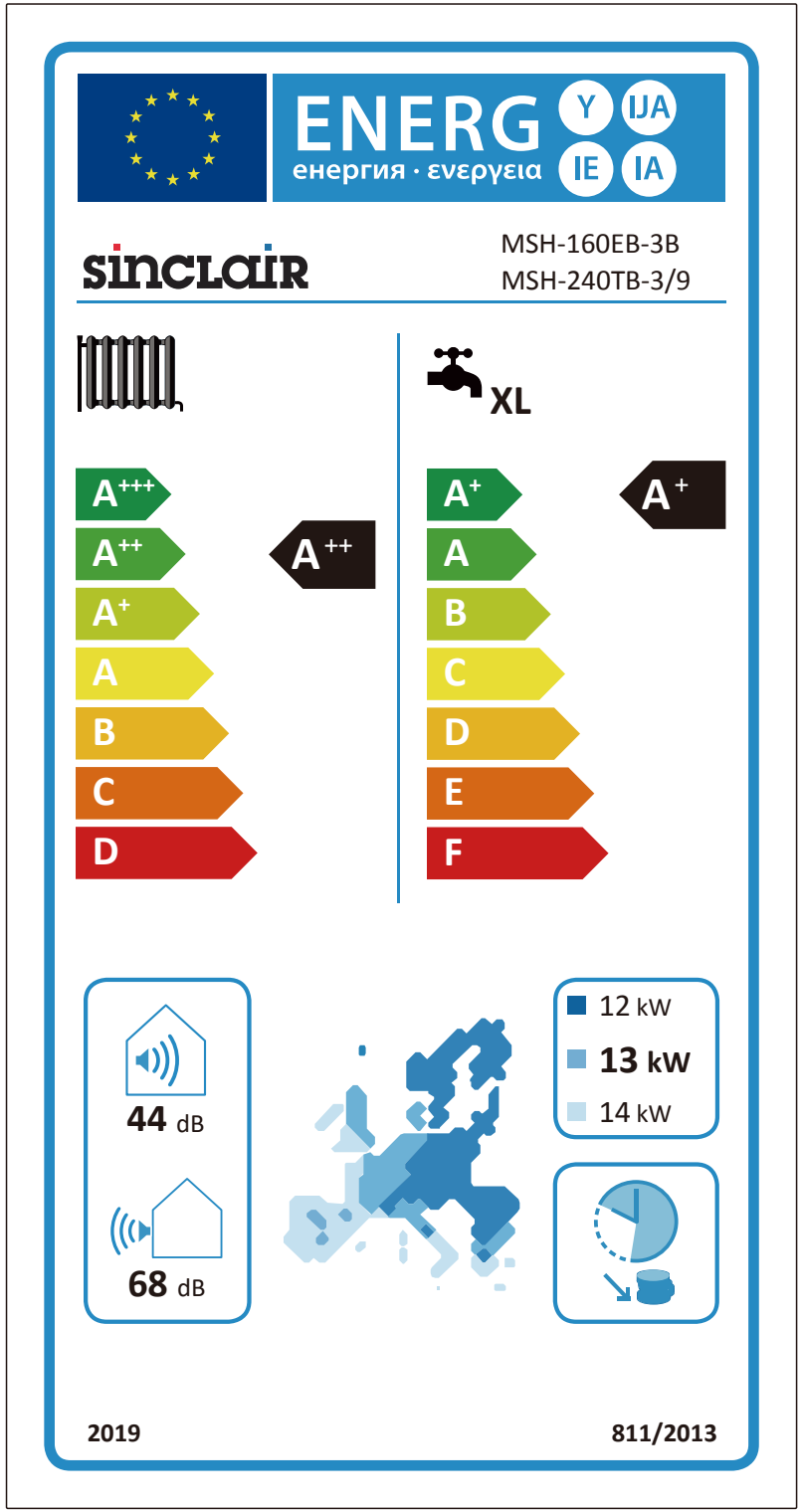
F
A+
44 dB
68 dB
12 kW
13 kW
14 kW
2019
811/2013


ENERG
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енергия · ενεργεια
SINCLAIR
MSH-160EB-3B
MSH-240TB-3/9
XL
A+++
A++
A+
A
B
C
D
A++
A+
A
B
C
D
E
F
A+
44 dB
68 dB
12 kW
13 kW
14 kW
2019
811/2013

Heat pump space heating		For medium - temperature application											
Outdoor unit	Indoor unit	Energy efficiency class	Indoor unit sound power	Outdoor unit sound power	average climate			colder climate			warmer climate		
					Rated heat output	Seasonal space heating energy efficiency	For space heating,annual energy consumption	Rated heat output	Seasonal space heating energy efficiency	For space heating,annual energy consumption	Rated heat output	Seasonal space heating energy efficiency	For space heating,annual energy consumption
		-	dB	dB	kW	%	kWh	kW	%	kWh	kW	%	kWh
MSH-40EBB	MSH-60IB/3	A++	38	56	4.4	129.5	2744	3.4	102.1	3158	5.0	163.1	1614
	MSH-190TB/3	A++	38	56	4.4	129.5	2744	3.4	102.1	3158	5.0	163.1	1614
	MSH-240TBL/3	A++	38	56	4.4	129.5	2744	3.4	102.1	3158	5.0	163.1	1614
MSH-60EBB	MSH-60IB/3	A++	38	58	5.7	137.9	3345	4.3	111.1	3680	5.1	165.4	1634
	MSH-190TB/3	A++	38	58	5.7	137.9	3345	4.3	111.1	3680	5.1	165.4	1634
	MSH-240TBL/3	A++	38	58	5.7	137.9	3345	4.3	111.1	3680	5.1	165.4	1634
MSH-80EBB	MSH-100IB-3/9	A++	42	59	6.6	131.5	4056	5.8	112.1	4948	8.37	176.9	2485
	MSH-190TB-3/9	A++	40	59	6.6	131.5	4056	5.8	112.1	4948	8.37	176.9	2485
	MSH-240TBL/3	A++	40	59	6.6	131.5	4056	5.8	112.1	4948	8.37	176.9	2485
MSH-100EBB	MSH-100IB-3/9	A++	42	60	7.7	136.6	4539	6.7	116.5	5539	8.6	180.3	2496
	MSH-190TB-3/9	A++	40	60	7.7	136.6	4539	6.7	116.5	5539	8.6	180.3	2496
	MSH-240TBL/3	A++	40	60	7.7	136.6	4539	6.7	116.5	5539	8.6	180.3	2496
MSH-120EBB	MSH-160IB/3	A++	43	64	11.6	135.1	6927	10.3	117.8	8419	12.5	174.0	3776
	MSH-240TB/3	A++	42	64	11.6	135.1	6927	10.3	117.8	8419	12.5	174.0	3776
MSH-120EB-3B	MSH-160IB-3/9	A++	43	64	11.6	135.1	6928	10.3	117.7	8420	12.5	173.8	3780
	MSH-240TB-3/9	A++	42	64	11.6	135.1	6928	10.3	117.7	8420	12.5	173.8	3780
MSH-140EBB	MSH-160IB/3	A++	43	65	12.1	135.6	7202	11.0	118.9	8866	14.17	174.9	4258
	MSH-240TB/3	A++	44	65	12.1	135.6	7202	11.0	118.9	8866	14.17	174.9	4258
MSH-140EB-3B	MSH-160IB-3/9	A++	43	65	12.1	135.6	7203	11.0	118.9	8867	14.17	174.7	4262
	MSH-240TB-3/9	A++	44	65	12.1	135.6	7203	11.0	118.9	8867	14.17	174.7	4262
MSH-160EBB	MSH-160IB/3	A++	43	68	13.0	133.3	7895	11.8	121.8	9309	14.17	176.0	4231
	MSH-240TB/3	A++	44	68	13.0	133.3	7895	11.8	121.8	9309	14.17	176.0	4231
MSH-160EB-3B	MSH-160IB-3/9	A++	43	68	13.0	133.2	7896	11.8	121.8	9310	14.17	175.8	4236
	MSH-240TB-3/9	A++	44	68	13.0	133.2	7896	11.8	121.8	9310	14.17	175.8	4236

Heat pump space heating		For low - temperature appl ication											
Outdoor unit	Indoor unit	Energy efficiency class	Indoor unit sound power	Outdoor unit sound power	average climate			colder climate			warmer climate		
					Rated heat output	Seasonal space heating energy efficiency	For space heating,annual energy consumption	Rated heat output	Seasonal space heating energy efficiency	For space heating,annual energy consumption	Rated heat output	Seasonal space heating energy efficiency	For space heating,annual energy consumption
		-	dB	dB	kW	%	kWh	kW	%	kWh	kW	%	kWh
MSH-40EBB	MSH-60IB/3	A+++	38	56	5.5	191.0	2351	4.6	159.5	2769	5.5	255.4	1146
	MSH-190TB/3	A+++	38	56	5.5	191.0	2351	4.6	159.5	2769	5.5	255.4	1146
	MSH-240TBL/3	A+++	38	56	5.5	191.0	2351	4.6	159.5	2769	5.5	255.4	1146
MSH-60EBB	MSH-60IB/3	A+++	38	58	6.8	195.0	2845	5.6	165.3	3300	6.1	259.8	1244
	MSH-190TB/3	A+++	38	58	6.8	195.0	2845	5.6	165.3	3300	6.1	259.8	1244
	MSH-240TBL/3	A+++	38	58	6.8	195.0	2845	5.6	165.3	3300	6.1	259.8	1244
MSH-80EBB	MSH-100IB-3/9	A+++	42	59	8.1	205.6	3218	7.0	170.0	3976	8.1	276.6	1551
	MSH-190TB-3/9	A+++	40	59	8.1	205.6	3218	7.0	170.0	3976	8.1	276.6	1551
	MSH-240TBL/3	A+++	40	59	8.1	205.6	3218	7.0	170.0	3976	8.1	276.6	1551
MSH-100EBB	MSH-100IB-3/9	A+++	42	60	9.2	204.8	3644	7.7	169.8	4423	8.6	280.5	1617
	MSH-190TB-3/9	A+++	40	60	9.2	204.8	3644	7.7	169.8	4423	8.6	280.5	1617
	MSH-240TBL/3	A+++	40	60	9.2	204.8	3644	7.7	169.8	4423	8.6	280.5	1617
MSH-120EBB	MSH-160IB/3	A+++	43	64	12.0	189.4	5152	11.4	160.2	6870	11.1	256.1	2292
	MSH-240TB/3	A+++	42	64	12.0	189.4	5152	11.4	160.2	6870	11.1	256.1	2292
MSH-120EB-3B	MSH-160IB-3/9	A+++	43	64	12.0	189.3	5153	11.4	160.2	6871	11.1	255.6	2296
	MSH-240TB-3/9	A+++	42	64	12.0	189.3	5153	11.4	160.2	6871	11.1	255.6	2296
MSH-140EBB	MSH-160IB/3	A+++	43	65	13.7	185.7	6012	12.6	159.6	7667	12.1	260.3	2457
	MSH-240TB/3	A+++	44	65	13.7	185.7	6012	12.6	159.6	7667	12.1	260.3	2457
MSH-140EB-3B	MSH-160IB-3/9	A+++	43	65	13.7	185.6	6013	12.6	159.6	7667	12.1	259.8	2462
	MSH-240TB-3/9	A+++	44	65	13.7	185.6	6013	12.6	159.6	7667	12.1	259.8	2462
MSH-160EBB	MSH-160IB/3	A+++	43	68	15.2	181.7	6804	13.7	157.8	8431	13.1	248.5	2781
	MSH-240TB/3	A+++	44	68	15.2	181.7	6804	13.7	157.8	8431	13.1	248.5	2781
MSH-160EB-3B	MSH-160IB-3/9	A+++	43	68	15.2	181.6	6805	13.7	157.8	8431	13.1	248.1	2786
	MSH-240TB-3/9	A+++	44	68	15.2	181.6	6805	13.7	157.8	8431	13.1	248.1	2786

Product fiche 1

Heat pump space heating		Outdoor	MSH-40EBB	MSH-60EBB	MSH-80EBB	MSH-100EBB	MSH-120EBB
		Indoor	MSH-60IB/3 MSH-190TB/3 MSH-240TBL/3	MSH-60IB/3 MSH-190TB/3 MSH-240TBL/3	MSH-100IB-3/9 MSH-190TB-3/9 MSH-240TBL/3	MSH-100IB-3/9 MSH-190TB-3/9 MSH-240TBL/3	MSH-160IB/3 MSH-240TB/3
Indoor unit sound power (*)		dB	38[a)] /38[b)]	38[a)] /38[b)]	42[a)] /40[b)]	42[a)] /40[b)]	43[a)] /42[b)]
Outdoor unit sound power (*)	Average climate low temperature application	dB	56	58	59	60	64
	Average climate medium temperature application	dB	56	58	59	60	64
Capicity of the back-up heater integrated in the unit	Psup back-up heater (optional)	[kW]	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9
Space heating	Energy efficiency class 35°C (Low temp. app.)	-	A+++	A+++	A+++	A+++	A+++
Space heating	Energy efficiency class 55°C (Medium temp. app.)	-	A++	A++	A++	A++	A++
Average climate (Design temperature = –10°C)							
Space heating 35°C	Prated (declared heating capacity) @ –10°C	[kW]	5.5	6.8	8.1	9.2	12.0
	Seasonal space heating efficiency (ηs)	[%]	191.0	195.0	205.6	204.8	189.4
	Annual energy consumption	[kWh]	2,351	2,845	3,218	3,644	5,152
Space heating 55°C	Prated (declared heating capacity) @ –10°C	[kW]	4.4	5.7	6.6	7.7	11.6
	Seasonal space heating efficiency (ηs)	[%]	129.5	137.9	131.5	136.6	135.1
	Annual energy consumption	[kWh]	2,744	3,345	4,056	4,539	6,927
Part load conditions space heating average climate low temperature application							
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	4.88	6.03	7.18	8.10	10.61
	COPd (declared COP)	-	3.19	3.09	3.35	3.23	2.88
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	3.05	3.88	4.65	5.18	6.69
	COPd (declared COP)	-	4.78	4.85	5.09	5.01	4.65
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	1.93	2.39	2.90	3.32	4.44
	COPd (declared COP)	-	6.13	6.63	6.82	7.08	6.62
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	1.48	1.39	1.63	1.65	3.74
	COPd (declared COP)	-	8.05	7.93	8.35	8.58	8.47
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	-10.00	-10.00	-10.00	-10.00	-10.00
	Pdh (declared heating capacity)	[kW]	4.41	5.36	6.44	7.40	10.74
	COPd (declared COP)	-	2.86	2.76	3.04	2.96	2.77
	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65	65

Note：
a) represents the hydraulic module series ;
b) represents the Yukon tank series ;

Product fiche 1

Heat pump space heating		Outdoor	MSH-140EBB	MSH-160EBB	MSH-120EB-3B	MSH-140EB-3B	MSH-160EB-3B
		Indoor	MSH-160IB/3 MSH-240TB/3	MSH-160IB/3 MSH-240TB/3	MSH-160IB-3/9 MSH-240TB-3/9	MSH-160IB-3/9 MSH-240TB-3/9	MSH-160IB-3/9 MSH-240TB-3/9
Indoor unit sound power (*)		dB	43[a)] /44[b)]	43[a)] /44[b)]	43[a)] /42[b)]	43[a)] /44[b)]	43[a)] /44[b)]
Outdoor unit sound power (*)	Average climate low temperature application	dB	65	68	64	65	68
	Average climate medium temperature application	dB	65	68	64	65	68
Capicity of the back-up heater integrated in the unit	Psup back-up heater (optional)	[kW]	3/6/9	3/6/9	3/6/9	3/6/9	3/6/9
Space heating	Energy efficiency class 35°C (Low temp. app.)	-	A+++	A+++	A+++	A+++	A+++
Space heating	Energy efficiency class 55°C (Medium temp. app.)	-	A++	A++	A++	A++	A++
Average climate (Design temperature = –10°C)							
Space heating 35°C	Prated (declared heating capacity) @ –10°C	[kW]	13.7	15.2	12.0	13.7	15.2
	Seasonal space heating efficiency (ηs)	[%]	185.7	181.7	189.3	185.6	181.6
	Annual energy consumption	[kWh]	6,012	6,804	5,153	6,013	6,805
Space heating 55°C	Prated (declared heating capacity) @ –10°C	[kW]	12.1	13.0	11.6	12.1	13.0
	Seasonal space heating efficiency (ηs)	[%]	135.6	133.3	135.1	135.6	133.2
	Annual energy consumption	[kWh]	7,202	7,895	6,928	7,203	7,896
Part load conditions space heating average climate low temperature application							
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	12.14	13.45	10.61	12.14	13.45
	COPd (declared COP)	-	2.79	2.72	2.88	2.79	2.72
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	7.94	8.56	6.69	7.94	8.56
	COPd (declared COP)	-	4.52	4.41	4.65	4.52	4.41
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	5.20	5.70	4.44	5.20	5.70
	COPd (declared COP)	-	6.68	6.56	6.62	6.68	6.56
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	3.75	3.78	3.74	3.75	3.78
	COPd (declared COP)	-	8.52	8.51	8.47	8.52	8.51
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	-10.00	-10.00	-10.00	-10.00	-10.00
	Pdh (declared heating capacity)	[kW]	11.47	12.52	10.74	11.47	12.52
	COPd (declared COP)	-	2.59	2.48	2.77	2.59	2.48
	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65	65

Note：
a) represents the hydraulic module series ;
b) represents the Yukon series ;

Product fiche 2

Heat pump space heating		Outdoor	MSH-40EBB	MSH-60EBB	MSH-80EBB	MSH-100EBB	MSH-120EBB
		Indoor	MSH-60IB/3 MSH-190TB/3 MSH-240TBL/3	MSH-60IB/3 MSH-190TB/3 MSH-240TBL/3	MSH-100IB-3/9 MSH-190TB-3/9 MSH-240TBL/3	MSH-100IB-3/9 MSH-190TB-3/9 MSH-240TBL/3	MSH-160IB/3 MSH-240TB/3
(F) Tbivalent temperature	Tbiv	[°C]	-7.00	-7.00	-7.00	-7.00	-7.00
	Pdh (declared heating capacity)	[kW]	4.88	6.03	7.18	8.10	10.61
	COPd (declared COP)	-	3.19	3.09	3.35	3.23	2.88
Supplementary capacity at P_design	Psup (@Tdesignh: –10°C)	[kW]	1.11	1.45	1.68	1.76	1.26
Part load conditions space heating average climate medium temperature application							
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	3.89	5.04	5.84	6.78	10.24
	COPd (declared COP)	-	2.17	2.17	2.16	2.24	2.01
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	2.38	3.12	3.75	4.28	6.52
	COPd (declared COP)	-	3.30	3.51	3.30	3.42	3.44
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	2.94	2.08	2.42	2.77	4.36
	COPd (declared COP)	-	4.41	4.54	4.34	4.52	4.59
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	1.32	1.28	1.39	1.58	3.29
	COPd (declared COP)	-	5.66	5.59	5.33	5.68	6.05
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	-10.00	-10.00	-10.00	-10.00	-10.00
	Pdh (declared heating capacity)	[kW]	3.42	4.52	4.90	5.38	9.10
	COPd (declared COP)	-	1.91	1.91	1.84	1.83	1.79
	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65	65
(F) Tbivalent temperature	Tbiv	[°C]	-7.00	-7.00	-7.00	-7.00	-7.00
	Pdh (declared heating capacity)	[kW]	3.89	5.04	5.84	6.78	10.24
	COPd (declared COP)	-	2.17	2.17	2.16	2.24	2.01
Supplementary capacity at P_design	Psup (@Tdesignh: –10°C)	[kW]	0.98	1.18	1.69	2.28	2.50
Colder climate (Design temperature = –22°C)							
Space heating 35°C	Prated (declared heating capacity) @ –22°C	[kW]	4.6	5.6	7.0	7.7	11.4
	Seasonal space heating efficiency (ηs)	[%]	159.5	165.3	170.0	169.8	160.2
	Annual energy consumption	[kWh]	2,769	3,300	3,976	4,423	6,870

Product fiche 2

Heat pump space heating		Outdoor	MSH-140EBB	MSH-160EBB	MSH-120EB-3B	MSH-140EB-3B	MSH-160EB-3B
		Indoor	MSH-160IB/3 MSH-240TB/3	MSH-160IB/3 MSH-240TB/3	MSH-160IB-3/9 MSH-240TB-3/9	MSH-160IB-3/9 MSH-240TB-3/9	MSH-160IB-3/9 MSH-240TB-3/9
(F) Tbivalent temperature	Tbiv	[°C]	-7.00	-7.00	-7.00	-7.00	-7.00
	Pdh (declared heating capacity)	[kW]	12.14	13.45	10.61	12.14	13.45
	COPd (declared COP)	-	2.79	2.72	2.88	2.79	2.72
Supplementary capacity at P_design	Psup (@Tdesignh: –10°C)	[kW]	2.23	2.68	1.26	2.23	2.68
Part load conditions space heating average climate medium temperature application							
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	10.68	11.52	10.24	10.68	11.52
	COPd (declared COP)	-	2.01	1.99	2.01	2.01	1.99
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	6.86	7.18	6.52	6.86	7.18
	COPd (declared COP)	-	3.43	3.34	3.44	3.43	3.34
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	4.63	4.67	4.36	4.63	4.67
	COPd (declared COP)	-	4.66	4.61	4.59	4.66	4.61
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	3.31	3.31	3.29	3.31	3.31
	COPd (declared COP)	-	6.13	6.07	6.05	6.13	6.07
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	-10.00	-10.00	-10.00	-10.00	-10.00
	Pdh (declared heating capacity)	[kW]	9.19	10.33	9.10	9.19	10.33
	COPd (declared COP)	-	1.76	1.80	1.79	1.76	1.80
	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65	65
(F) Tbivalent temperature	Tbiv	[°C]	-7.00	-7.00	-7.00	-7.00	-7.00
	Pdh (declared heating capacity)	[kW]	10.68	11.52	10.24	10.68	11.52
	COPd (declared COP)	-	2.01	1.99	2.01	2.01	1.99
Supplementary capacity at P_design	Psup (@Tdesignh: –10°C)	[kW]	2.91	2.67	2.50	2.91	2.67
Colder climate (Design temperature = –22°C)							
Space heating 35°C	Prated (declared heating capacity) @ –22°C	[kW]	12.6	13.7	11.4	12.6	13.7
	Seasonal space heating efficiency (ηs)	[%]	159.6	157.8	160.2	159.6	157.8
	Annual energy consumption	[kWh]	7,667	8,431	6,871	7,667	8,431

Product fiche 3

Heat pump space heating		Outdoor	MSH-40EBB	MSH-60EBB	MSH-80EBB	MSH-100EBB	MSH-120EBB
		Indoor	MSH-60IB/3 MSH-190TB/3 MSH-240TBL/3	MSH-60IB/3 MSH-190TB/3 MSH-240TBL/3	MSH-100IB-3/9 MSH-190TB-3/9 MSH-240TBL/3	MSH-100IB-3/9 MSH-190TB-3/9 MSH-240TBL/3	MSH-160IB/3 MSH-240TB/3
Space heating 55°C	Prated (declared heating capacity) @ –22°C	[kW]	3.4	4.3	5.8	6.7	10.3
	Seasonal space heating efficiency (ηs)	[%]	102.1	111.1	112.0	116.4	117.8
	Annual energy consumption	[kWh]	3,159	3,681	4,950	5,540	8,419
Part load conditions space heating colder climate low temperature application							
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	2.75	3.42	4.46	4.83	7.05
	COPd (declared COP)	-	3.49	3.59	3.66	3.60	3.48
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	1.77	2.06	2.69	2.94	4.67
	COPd (declared COP)	-	4.95	5.21	5.20	5.26	4.96
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	1.17	1.46	1.65	1.92	3.14
	COPd (declared COP)	-	5.53	6.24	6.53	7.08	6.10
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	1.43	1.44	1.65	1.65	3.57
	COPd (declared COP)	-	7.67	7.66	7.96	7.96	7.87
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	-22.00	-22.00	-22.00	-22.00	-22.00
	Pdh (declared heating capacity)	[kW]	2.80	3.48	4.06	4.62	7.01
	COPd (declared COP)	-	1.97	1.96	1.95	1.97	1.98
	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65	65
(F) Tbivalent temperature	Tbiv	[°C]	-15.00	-15.00	-15.00	-15.00	-15.00
	Pdh (declared heating capacity)	[kW]	3.72	4.59	5.69	6.32	9.28
	COPd (declared COP)	-	2.57	2.53	2.83	2.64	2.59
Supplementary capacity at P_design	Psup (@Tdesignh: –22°C)	[kW]	1.76	2.15	2.91	3.08	4.40
Part load conditions space heating colder climate medium temperature application							
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	2.13	2.70	3.86	4.27	6.63
	COPd (declared COP)	-	2.32	2.46	2.48	2.54	2.63
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90

Product fiche 3

Heat pump space heating		Outdoor	MSH-140EBB	MSH-160EBB	MSH-120EB-3B	MSH-140EB-3B	MSH-160EB-3B
		Indoor	MSH-160IB/3 MSH-240TB/3	MSH-160IB/3 MSH-240TB/3	MSH-160IB-3/9 MSH-240TB-3/9	MSH-160IB-3/9 MSH-240TB-3/9	MSH-160IB-3/9 MSH-240TB-3/9
Space heating 55°C	Prated (declared heating capacity) @ –22°C	[kW]	11.0	11.8	10.3	11.0	11.8
	Seasonal space heating efficiency (ηs)	[%]	118.9	121.8	117.7	118.9	121.8
	Annual energy consumption	[kWh]	8,866	9,309	8,420	8,867	9,310
Part load conditions space heating colder climate low temperature application							
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	7.96	8.31	7.05	7.96	8.31
	COPd (declared COP)	-	3.44	3.37	3.48	3.44	3.37
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	5.05	5.26	4.67	5.05	5.26
	COPd (declared COP)	-	4.92	4.86	4.96	4.92	4.86
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	3.15	3.62	3.14	3.15	3.62
	COPd (declared COP)	-	6.11	6.49	6.10	6.11	6.49
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	3.57	3.34	3.57	3.57	3.34
	COPd (declared COP)	-	7.82	7.40	7.87	7.82	7.40
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	-22.00	-22.00	-22.00	-22.00	-22.00
	Pdh (declared heating capacity)	[kW]	7.57	8.88	7.01	7.57	8.88
	COPd (declared COP)	-	1.92	1.97	1.98	1.92	1.97
	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65	65
(F) Tbivalent temperature	Tbiv	[°C]	-15.00	-15.00	-15.00	-15.00	-15.00
	Pdh (declared heating capacity)	[kW]	10.31	11.22	9.28	10.31	11.22
	COPd (declared COP)	-	2.53	2.43	2.59	2.53	2.43
Supplementary capacity at P_design	Psup (@Tdesignh: –22°C)	[kW]	5.03	4.82	4.40	5.03	4.82
Part load conditions space heating colder climate medium temperature application							
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	6.89	7.64	6.63	6.89	7.64
	COPd (declared COP)	-	2.66	2.65	2.63	2.66	2.65
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90

Product fiche 4

Heat pump space heating		Outdoor	MSH-40EBB	MSH-60EBB	MSH-80EBB	MSH-100EBB	MSH-120EBB
		Indoor	MSH-60IB/3 MSH-190TB/3 MSH-240TBL/3	MSH-60IB/3 MSH-190TB/3 MSH-240TBL/3	MSH-100IB-3/9 MSH-190TB-3/9 MSH-240TBL/3	MSH-100IB-3/9 MSH-190TB-3/9 MSH-240TBL/3	MSH-160IB/3 MSH-240TB/3
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	1.28	1.60	2.21	2.57	4.06
	COPd (declared COP)	-	2.99	3.36	3.35	3.51	3.60
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	1.01	1.02	1.44	1.65	2.78
	COPd (declared COP)	-	3.86	3.94	4.11	4.37	4.54
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	1.36	1.37	1.46	1.47	3.33
	COPd (declared COP)	-	6.28	6.35	5.92	5.96	6.25
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	-22.00	-22.00	-22.00	-22.00	-22.00
	Pdh (declared heating capacity)	[kW]	1.64	2.09	2.80	2.80	4.19
	COPd (declared COP)	-	1.02	1.13	1.22	1.22	1.13
	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65	65
(F) Tbivalent temperature	Tbiv	[°C]	-15.00	-15.00	-15.00	-15.00	-15.00
	Pdh (declared heating capacity)	[kW]	2.74	3.47	4.71	5.47	8.41
	COPd (declared COP)	-	1.74	1.86	1.90	2.00	1.84
Supplementary capacity at P_design	Psup (@Tdesignh: –22°C)	[kW]	1.72	2.17	2.97	3.91	6.12
Warmer climate (Design temperature = 2°C)							
Space heating 35°C	Prated (declared heating capacity) @ 2°C	[kW]	5.5	6.1	8.1	8.6	11.1
	Seasonal space heating efficiency (ηs)	[%]	255.4	259.8	276.6	280.5	256.1
	Annual energy consumption	[kWh]	1,146	1,244	1,551	1,617	2,292
Space heating 55°C	Prated (declared heating capacity) @ 2°C	[kW]	5.0	5.1	8.37	8.6	12.5
	Seasonal space heating efficiency (ηs)	[%]	162.4	164.7	176.9	180.3	174.0
	Annual energy consumption	[kWh]	1,621	1,640	2,485	2,516	3,776
Part load conditions space heating warmer climate low temperature application							
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	5.34	5.93	7.56	8.44	11.10
	COPd (declared COP)	-	3.94	3.91	3.98	3.84	3.59
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	3.56	3.93	5.22	5.52	7.14
	COPd (declared COP)	-	5.92	5.89	6.26	6.18	5.87
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90

Product fiche 4

Heat pump space heating		Outdoor	MSH-140EBB	MSH-160EBB	MSH-120EB-3B	MSH-140EB-3B	MSH-160EB-3B
		Indoor	MSH-160IB/3 MSH-240TB/3	MSH-160IB/3 MSH-240TB/3	MSH-160IB-3/9 MSH-240TB-3/9	MSH-160IB-3/9 MSH-240TB-3/9	MSH-160IB-3/9 MSH-240TB-3/9
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	4.32	4.42	4.06	4.32	4.42
	COPd (declared COP)	-	3.66	3.79	3.60	3.66	3.79
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	3.06	2.97	2.78	3.06	2.97
	COPd (declared COP)	-	4.72	4.81	4.54	4.72	4.81
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	3.33	3.43	3.33	3.33	3.43
	COPd (declared COP)	-	6.25	6.29	6.25	6.25	6.29
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	-22.00	-22.00	-22.00	-22.00	-22.00
	Pdh (declared heating capacity)	[kW]	4.20	5.21	4.19	4.20	5.21
	COPd (declared COP)	-	1.13	1.23	1.13	1.13	1.23
	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65	65
(F) Tbivalent temperature	Tbiv	[°C]	-15.00	-15.00	-15.00	-15.00	-15.00
	Pdh (declared heating capacity)	[kW]	8.94	9.61	8.41	8.94	9.61
	COPd (declared COP)	-	1.79	1.86	1.84	1.79	1.86
Supplementary capacity at P_design	Psup (@Tdesignh: –22°C)	[kW]	6.76	6.59	6.12	6.76	6.59
Warmer climate (Design temperature = 2°C)							
Space heating 35°C	Prated (declared heating capacity) @ 2°C	[kW]	12.1	13.1	11.1	12.1	13.1
	Seasonal space heating efficiency (ηs)	[%]	260.3	248.5	255.6	259.8	248.1
	Annual energy consumption	[kWh]	2,457	2,781	2,296	2,462	2,786
Space heating 55°C	Prated (declared heating capacity) @ 2°C	[kW]	14.17	14.17	12.5	14.17	14.17
	Seasonal space heating efficiency (ηs)	[%]	174.9	176.0	173.8	174.7	175.8
	Annual energy consumption	[kWh]	4,258	4,231	3,780	4,231	4,236
Part load conditions space heating warmer climate low temperature application							
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	12.04	13.10	11.10	12.04	13.10
	COPd (declared COP)	-	3.44	3.35	3.59	3.44	3.35
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	7.78	8.41	7.14	7.78	8.41
	COPd (declared COP)	-	5.84	5.36	5.87	5.84	5.36
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90

Product fiche 5

Heat pump space heating		Outdoor	MSH-40EBB	MSH-60EBB	MSH-80EBB	MSH-100EBB	MSH-120EBB
		Indoor	MSH-60IB/3 MSH-190TB/3 MSH-240TBL/3	MSH-60IB/3 MSH-190TB/3 MSH-240TBL/3	MSH-100IB-3/9 MSH-190TB-3/9 MSH-240TBL/3	MSH-100IB-3/9 MSH-190TB-3/9 MSH-240TBL/3	MSH-160IB/3 MSH-240TB/3
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	1.63	1.79	2.62	2.62	3.55
	COPd (declared COP)	-	7.91	8.20	9.23	9.04	7.94
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	2.00	2.00	2.00	2.00	2.00
	Pdh (declared heating capacity)	[kW]	5.34	5.93	7.56	8.44	11.10
	COPd (declared COP)	-	3.94	3.91	3.98	3.84	3.59
	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65	65
(F) Tbivalent temperature	Tbiv	[°C]	7.00	7.00	7.00	7.00	7.00
	Pdh (declared heating capacity)	[kW]	3.56	3.93	5.22	5.52	7.14
	COPd (declared COP)	-	5.92	5.89	6.26	6.18	5.87
Supplementary capacity at P_design	Psup (@Tdesignh: 2°C)	[kW]	0.18	0.18	0.55	0.14	0.00
Part load conditions space heating warmer climate medium temperature application							
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	4.83	5.02	7.55	8.06	12.07
	COPd (declared COP)	-	2.51	2.48	2.59	2.59	2.31
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	3.22	3.31	5.38	5.54	8.04
	COPd (declared COP)	-	3.68	3.67	4.01	4.10	3.86
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	1.47	1.59	2.31	2.53	3.75
	COPd (declared COP)	-	5.15	5.29	5.55	5.82	5.70
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	2.00	2.00	2.00	2.00	2.00
	Pdh (declared heating capacity)	[kW]	4.83	5.02	7.55	8.06	12.07
	COPd (declared COP)	-	2.51	2.48	2.59	2.59	2.31
	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65	65
(F) Tbivalent temperature	Tbiv	[°C]	7.00	7.00	7.00	7.00	7.00
	Pdh (declared heating capacity)	[kW]	3.22	3.31	5.38	5.54	8.04
	COPd (declared COP)	-	3.68	3.67	4.01	4.10	3.86
Supplementary capacity at P_design	Psup (@Tdesignh: 2°C)	[kW]	0.18	0.12	0.82	0.48	0.43

Product fiche 5

Heat pump space heating		Outdoor	MSH-140EBB	MSH-160EBB	MSH-120EB-3B	MSH-140EB-3B	MSH-160EB-3B
		Indoor	MSH-160IB/3 MSH-240TB/3	MSH-160IB/3 MSH-240TB/3	MSH-160IB-3/9 MSH-240TB-3/9	MSH-160IB-3/9 MSH-240TB-3/9	MSH-160IB-3/9 MSH-240TB-3/9
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	3.75	3.87	3.55	3.75	3.87
	COPd (declared COP)	-	8.25	8.11	7.94	8.25	8.11
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	2.00	2.00	2.00	2.00	2.00
	Pdh (declared heating capacity)	[kW]	12.04	13.10	11.10	12.04	13.10
	COPd (declared COP)	-	3.44	3.35	3.59	3.44	3.35
	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65	65
(F) Tbivalent temperature	Tbiv	[°C]	7.00	7.00	7.00	7.00	7.00
	Pdh (declared heating capacity)	[kW]	7.78	8.41	7.14	7.78	8.41
	COPd (declared COP)	-	5.84	5.36	5.87	5.84	5.36
Supplementary capacity at P_design	Psup (@Tdesignh: 2°C)	[kW]	0.00	0.00	0.00	0.00	0.00
Part load conditions space heating warmer climate medium temperature application							
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	13.04	13.38	12.07	13.04	13.38
	COPd (declared COP)	-	2.20	2.29	2.31	2.20	2.29
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	9.11	9.11	8.04	9.11	9.11
	COPd (declared COP)	-	3.89	3.89	3.86	3.89	3.89
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	4.08	4.06	3.75	4.08	4.06
	COPd (declared COP)	-	5.90	5.86	5.70	5.90	5.86
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	2.00	2.00	2.00	2.00	2.00
	Pdh (declared heating capacity)	[kW]	13.04	13.38	12.07	13.04	13.38
	COPd (declared COP)	-	2.20	2.29	2.31	2.20	2.29
	WTOL (Heating water Operation Limit)	[°C]	65	65	65	65	65
(F) Tbivalent temperature	Tbiv	[°C]	7.00	7.00	7.00	7.00	7.00
	Pdh (declared heating capacity)	[kW]	9.11	9.11	8.04	9.11	9.11
	COPd (declared COP)	-	3.89	3.89	3.86	3.89	3.89
Supplementary capacity at P_design	Psup (@Tdesignh: 2°C)	[kW]	1.13	0.79	0.43	1.13	0.79

Product fiche 6

Heat pump space heating		Outdoor	MSH-40EBB	MSH-60EBB	MSH-80EBB	MSH-100EBB	MSH-120EBB
		Indoor	MSH-60IB/3 MSH-190TB/3 MSH-240TBL/3	MSH-60IB/3 MSH-190TB/3 MSH-240TBL/3	MSH-100IB-3/9 MSH-190TB-3/9 MSH-240TBL/3	MSH-100IB-3/9 MSH-190TB-3/9 MSH-240TBL/3	MSH-160IB/3 MSH-240TB/3
Product description	Air-to-water heat pump	Y/N	Yes	Yes	Yes	Yes	Yes
	Water-to-water heat pump	Y/N	No	No	No	No	No
	Brine-to-water heat pump	Y/N	No	No	No	No	No
	Low-temperature heat pump	Y/N	No	No	No	No	No
	Equipped with a supplementary heater	Y/N	Yes	Yes	Yes	Yes	Yes
	Heat pump combination heater	Y/N	Yes	Yes	Yes	Yes	Yes
Air to water unit	Rated airflow (outdoor)	[m^3/h]	2770	2770	4030	4030	4060
Brine/water to water unit	Rated water/brine flow (outdoor H/E)	-	/	/	/	/	/
Other	Capacity control	-	Inverter	Inverter	Inverter	Inverter	Inverter
	Poff (Power consumption Off mode)	[kW]	0.014	0.014	0.014	0.014	0.014
	Pto (Power consumption Thermostat off mode)	[kW]	0.024	0.024	0.024	0.024	0.024
	Psb (Power consumption Standby mode)	[kW]	0.014	0.014	0.014	0.014	0.014
	Pck (Power crankcase heater mode)	[kW]	0.000	0.000	0.000	0.000	0.000
	Qelec (Daily electricity consumption)	[kWh]	/	/	/	/	/
	Qfuel (Daily fuel consumption)	[kWh]	/	/	/	/	/

Note：
Indoor unit type explanation:
Hydraulic module series
1) includes the following type：
MSH-60IB： without back-up heater.
MSH-60IB/3 ：with 3kW back-up heater and 1-Phase Source.
2) includes the following type ：
MSH-100IB： without back-up heater.
MSH-100IB/3：with 3kW back-up heater and 1-Phase Source.
MSH-100IB-3/9 ：with 9kW back-up heater and 3-Phase Source.
3) includes the following type ：
MSH-160IB： without back-up heater.
MSH-160IB/3 ：with 3kW back-up heater and 1-Phase Source.
MSH-160IB-3/9 ：with 9kW back-up heater and 3-Phase Source.

Yukon seires
1). includes the following type：
MSH-190TB/3 ：190L tank with 3kW back-up heater and 1-Phase Source.
MSH-190TB/6 ：190L tank with 6kW back-up heater and 1-Phase Source.
MSH-190TB-3/9：190L tank with 9kW back-up heater and 3-Phase Source.
2). includes the following type ：
MSH-240TB(L)/3：240L tank with 3kW back-up heater and 1-Phase Source.
MSH-240TB/6 ：240L tank with 6kW back-up heater and 1-Phase Source.
MSH-240TB-3/9：240L tank with 9kW back-up heater and 3-Phase Source.

Product fiche data according to energy label directive 2010/30/EC regulation (EU) 811/2013.
*Sound power measured according to the EN12102 under conditions of the EN14825.
Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.

Product fiche 6

Heat pump space heating		Outdoor	MSH-140EBB	MSH-160EBB	MSH-120EB-3B	MSH-140EB-3B	MSH-160EB-3B
		Indoor	MSH-160IB/3 MSH-240TB/3	MSH-160IB/3 MSH-240TB/3	MSH-160IB-3/9 MSH-240TB-3/9	MSH-160IB-3/9 MSH-240TB-3/9	MSH-160IB-3/9 MSH-240TB-3/9
Product description	Air-to-water heat pump	Y/N	Yes	Yes	Yes	Yes	Yes
	Water-to-water heat pump	Y/N	No	No	No	No	No
	Brine-to-water heat pump	Y/N	No	No	No	No	No
	Low-temperature heat pump	Y/N	No	No	No	No	No
	Equipped with a supplementary heater	Y/N	Yes	Yes	Yes	Yes	Yes
	Heat pump combination heater	Y/N	Yes	Yes	Yes	Yes	Yes
Air to water unit	Rated airflow (outdoor)	[m^3/h]	4060	4650	4060	4060	4650
Brine/water to water unit	Rated water/brine flow (outdoor H/E)	-	/	/	/	/	/
Other	Capacity control	-	Inverter	Inverter	Inverter	Inverter	Inverter
	Poff (Power consumption Off mode)	[kW]	0.014	0.014	0.020	0.020	0.020
	Pto (Power consumption Thermostat off mode)	[kW]	0.024	0.024	0.030	0.030	0.030
	Psb (Power consumption Standby mode)	[kW]	0.014	0.014	0.020	0.020	0.020
	Pck (Power crankcase heater mode)	[kW]	0.000	0.000	0.000	0.000	0.000
	Qelec (Daily electricity consumption)	[kWh]	/	/	/	/	/
	Qfuel (Daily fuel consumption)	[kWh]	/	/	/	/	/

Note：
Indoor unit type explanation:
Hydraulic module series
1) includes the following type：
MSH-60IB： without back-up heater.
MSH-60IB/3 ：with 3kW back-up heater and 1-Phase Source.
2) includes the following type ：
MSH-100IB： without back-up heater.
MSH-100IB/3：with 3kW back-up heater and 1-Phase Source.
MSH-100IB-3/9 ：with 9kW back-up heater and 3-Phase Source.
3) includes the following type ：
MSH-160IB： without back-up heater.
MSH-160IB/3 ：with 3kW back-up heater and 1-Phase Source.
MSH-160IB-3/9 ：with 9kW back-up heater and 3-Phase Source.

Yukon seires
1). includes the following type：
MSH-190TB/3 ：190L tank with 3kW back-up heater and 1-Phase Source.
MSH-190TB/6 ：190L tank with 6kW back-up heater and 1-Phase Source.
MSH-190TB-3/9：190L tank with 9kW back-up heater and 3-Phase Source.
2). includes the following type ：
MSH-240TB(L)/3：240L tank with 3kW back-up heater and 1-Phase Source.
MSH-240TB/6 ：240L tank with 6kW back-up heater and 1-Phase Source.
MSH-240TB-3/9：240L tank with 9kW back-up heater and 3-Phase Source.

Product fiche data according to energy label directive 2010/30/EC regulation (EU) 811/2013.
*Sound power measured according to the EN12102 under conditions of the EN14825.
Details and precautions on installation, maintenance and assembly can be found in the installation and or operation manuals.

Product fiche 7

Heat pump space cooling		Outdoor	MSH-40EBB	MSH-60EBB	MSH-80EBB	MSH-100EBB	MSH-120EBB
		Indoor	MSH-60IB/3 MSH-190TB/3 MSH-240TBL/3	MSH-60IB/3 MSH-190TB/3 MSH-240TBL/3	MSH-100IB-3/9 MSH-190TB-3/9 MSH-240TBL/3	MSH-100IB-3/9 MSH-190TB-3/9 MSH-240TBL/3	MSH-160IB/3 MSH-240TB/3
Indoor unit sound power (*)		dB	38	40	42	42	43
Outdoor unit sound power (*)	Average climate low temperature application	dB	56	58	60	61	65
	Average climate medium temperature application	dB	55	58	60	60	64
Space cooling 7°C	Prated (declared cooling capacity) @ 35°C	[kW]	4.7	7.0	7.4	8.2	11.6
	Seasonal space cooling efficiency (ηs)	[%]	196.2	209.5	230.1	235.3	194.2
	Annual energy consumption	[kWh]	566	791	762	826	1,412
Space cooling 18°C	Prated (declared cooling capacity) @ 35°C	[kW]	4.5	6.55	8.4	10.0	12.0
	Seasonal space cooling efficiency (ηs)	[%]	307.7	326.8	354.9	348.8	282.4
	Annual energy consumption	[kWh]	348	477	563	682	1,009
Part load conditions space cooling：low temperature application@7°C							
(A) condition (35°C)	Pdc (declared cooling capacity)	[kW]	4.70	7.00	7.40	8.20	11.60
	EERd (declared EER)	-	3.45	3.00	3.38	3.30	2.75
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (30°C)	Pdc (declared cooling capacity)	[kW]	3.66	5.13	5.72	6.68	8.76
	EERd (declared EER)	-	4.76	4.00	4.71	4.47	3.93
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (25°C)	Pdc (declared cooling capacity)	[kW]	2.21	3.48	3.62	4.26	5.81
	EERd (declared EER)	-	5.72	6.45	6.65	7.02	5.73
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (20°C)	Pdc (declared cooling capacity)	[kW]	0.94	1.53	1.64	1.94	2.63
	EERd (declared EER)	-	5.72	7.73	8.55	9.54	6.75
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90

(*)Sound power measured according to the EN12102 under conditions of the EN14825.

Product fiche 7

Heat pump space cooling		Outdoor	MSH-140EBB	MSH-160EBB	MSH-120EB-3B	MSH-140EB-3B	MSH-160EB-3B
		Indoor	MSH-160IB/3 MSH-240TB/3	MSH-160IB/3 MSH-240TB/3	MSH-160IB-3/9 MSH-240TB-3/9	MSH-160IB-3/9 MSH-240TB-3/9	MSH-160IB-3/9 MSH-240TB-3/9
Indoor unit sound power (*)		dB	44	44	43	44	44
Outdoor unit sound power (*)	Average climate low temperature application	dB	65	68	65	65	68
	Average climate medium temperature application	dB	64	67	64	64	67
Space cooling 7°C	Prated (declared cooling capacity) @ 35°C	[kW]	12.7	14.0	11.6	12.7	14.0
	Seasonal space cooling efficiency (ηs)	[%]	192.4	184.1	193.0	191.4	183.3
	Annual energy consumption	[kWh]	1,560	1,796	1,420	1,568	1,804
Space cooling 18°C	Prated (declared cooling capacity) @ 35°C	[kW]	13.5	14.2	12.0	13.5	14.2
	Seasonal space cooling efficiency (ηs)	[%]	274.4	266.8	280.1	272.5	265.0
	Annual energy consumption	[kWh]	1,168	1,263	1,017	1,176	1,271
Part load conditions space cooling：low temperature application@7°C							
(A) condition (35°C)	Pdc (declared cooling capacity)	[kW]	12.70	14.00	11.60	12.70	14.00
	EERd (declared EER)	-	2.55	2.45	2.75	2.55	2.45
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (30°C)	Pdc (declared cooling capacity)	[kW]	9.41	10.68	8.76	9.41	10.68
	EERd (declared EER)	-	3.85	3.63	3.93	3.85	3.63
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (25°C)	Pdc (declared cooling capacity)	[kW]	6.16	6.76	5.81	6.16	6.76
	EERd (declared EER)	-	5.80	5.27	5.73	5.80	5.27
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (20°C)	Pdc (declared cooling capacity)	[kW]	2.63	3.41	2.63	2.63	3.41
	EERd (declared EER)	-	6.74	7.29	6.75	6.74	7.29
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90

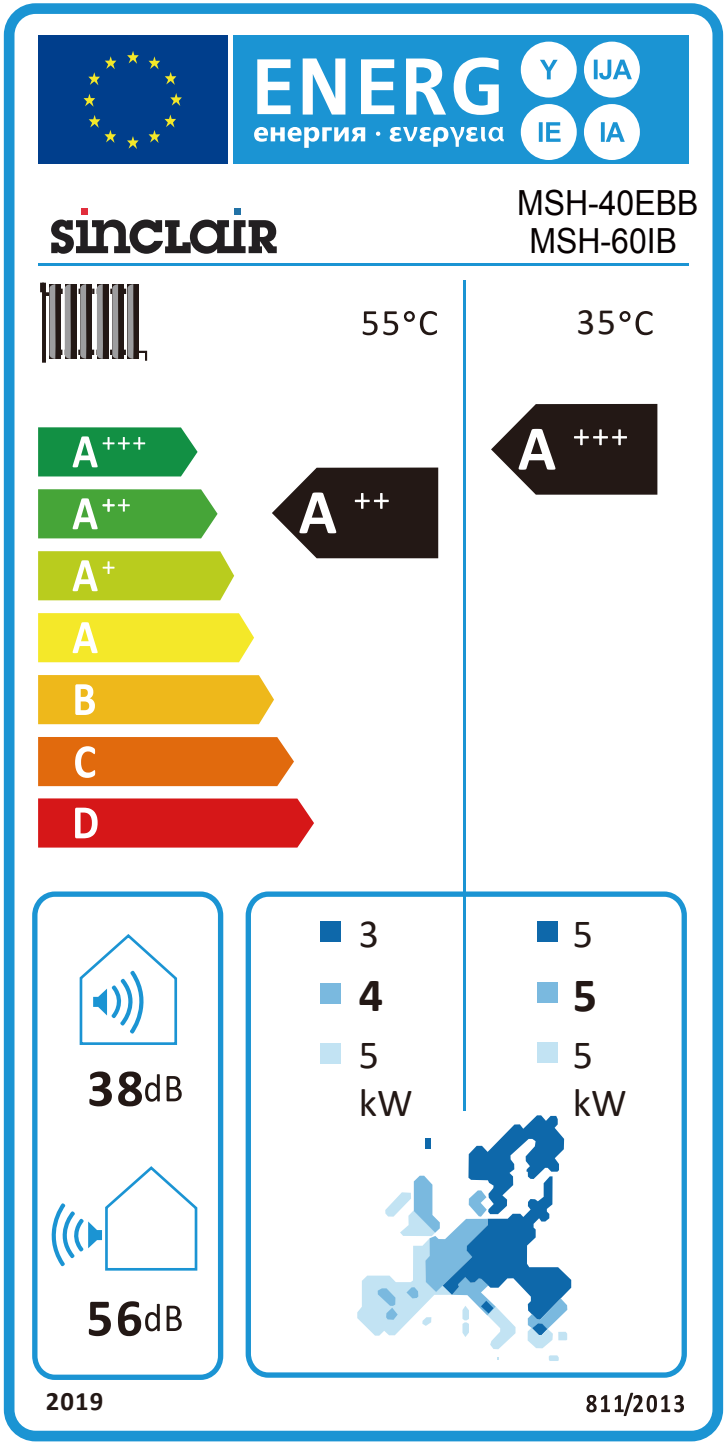
(*)Sound power measured according to the EN12102 under conditions of the EN14825.

Product fiche 8

Heat pump space cooling		Outdoor	MSH-40EBB	MSH-60EBB	MSH-80EBB	MSH-100EBB	MSH-120EBB
		Indoor	MSH-60IB/3 MSH-190TB/3 MSH-240TBL/3	MSH-60IB/3 MSH-190TB/3 MSH-240TBL/3	MSH-100IB-3/9 MSH-190TB-3/9 MSH-240TBL/3	MSH-100IB-3/9 MSH-190TB-3/9 MSH-240TBL/3	MSH-160IB/3 MSH-240TB/3
Part load conditions space cooling：medium temperature application@18°C							
(A) condition (35°C)	Pdc (declared cooling capacity)	[kW]	4.50	6.55	8.40	10.00	12.00
	EERd (declared EER)	-	5.55	4.90	5.05	4.80	4.00
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (30°C)	Pdc (declared cooling capacity)	[kW]	3.44	4.84	6.47	7.71	9.21
	EERd (declared EER)	-	7.23	7.16	7.02	6.45	5.50
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (25°C)	Pdc (declared cooling capacity)	[kW]	2.19	3.26	4.31	5.03	5.74
	EERd (declared EER)	-	8.94	9.64	10.67	10.36	8.66
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (20°C)	Pdc (declared cooling capacity)	[kW]	1.13	1.41	1.80	2.32	3.33
	EERd (declared EER)	-	10.48	11.48	13.61	14.98	10.07
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
Air to water unit	Rated airflow (outdoor)	[m^3/h]	2770	2770	4030	4030	4060
Brine/water to water unit	Rated water/brine flow (outdoor H/E)	-	/	/	/	/	/
Other	Capacity control	-	Inverter	Inverter	Inverter	Inverter	Inverter
	Poff (Power consumption Off mode)	[kW]	0.014	0.014	0.014	0.014	0.014
	Pto (Power consumption Thermostat off mode)	[kW]	0.010	0.010	0.010	0.010	0.010
	Psb (Power consumption Standby mode)	[kW]	0.014	0.014	0.014	0.014	0.014
	Pck (Power crankcase heater mode)	[kW]	0.000	0.000	0.000	0.000	0.000
	Qelec (Daily electricity consumption)	[kWh]	/	/	/	/	/
	Qfuel (Daily fuel consumption)	[kWh]	/	/	/	/	/

Product fiche 8

Heat pump space cooling		Outdoor	MSH-140EBB	MSH-160EBB	MSH-120EB-3B	MSH-140EB-3B	MSH-160EB-3B
		Indoor	MSH-160IB/3 MSH-240TB/3	MSH-160IB/3 MSH-240TB/3	MSH-160IB-3/9 MSH-240TB-3/9	MSH-160IB-3/9 MSH-240TB-3/9	MSH-160IB-3/9 MSH-240TB-3/9
Part load conditions space cooling：medium temperature application@18°C							
(A) condition (35°C)	Pdc (declared cooling capacity)	[kW]	13.50	14.20	12.00	13.50	14.20
	EERd (declared EER)	-	3.61	3.61	4.00	3.61	3.61
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(B) condition (30°C)	Pdc (declared cooling capacity)	[kW]	10.20	11.42	9.21	10.20	11.42
	EERd (declared EER)	-	5.26	5.14	5.50	5.26	5.14
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(C) condition (25°C)	Pdc (declared cooling capacity)	[kW]	6.57	7.27	5.74	6.57	7.27
	EERd (declared EER)	-	8.45	7.83	8.66	8.45	7.83
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
(D) condition (20°C)	Pdc (declared cooling capacity)	[kW]	3.33	3.40	3.33	3.33	3.40
	EERd (declared EER)	-	10.07	10.35	10.07	10.07	10.35
	Cdc(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90
Air to water unit	Rated airflow (outdoor)	[m^3/h]	4060	4650	4060	4060	4650
Brine/water to water unit	Rated water/brine flow (outdoor H/E)	-	/	/	/	/	/
Other	Capacity control	-	Inverter	Inverter	Inverter	Inverter	Inverter
	Poff (Power consumption Off mode)	[kW]	0.014	0.014	0.020	0.020	0.020
	Pto (Power consumption Thermostat off mode)	[kW]	0.010	0.010	0.010	0.010	0.010
	Psb (Power consumption Standby mode)	[kW]	0.014	0.014	0.020	0.020	0.020
	Pck (Power crankcase heater mode)	[kW]	0.000	0.000	0.000	0.000	0.000
	Qelec (Daily electricity consumption)	[kWh]	/	/	/	/	/
	Qfuel (Daily fuel consumption)	[kWh]	/	/	/	/	/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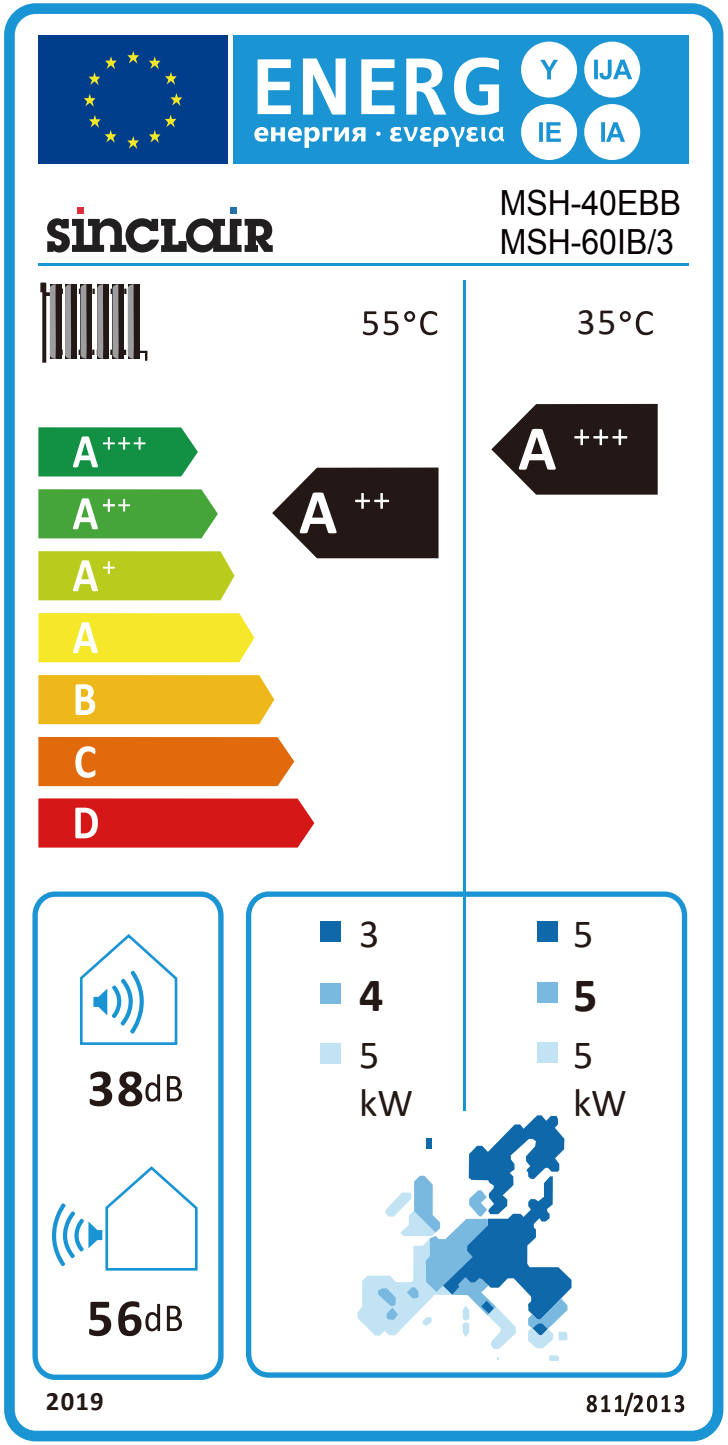
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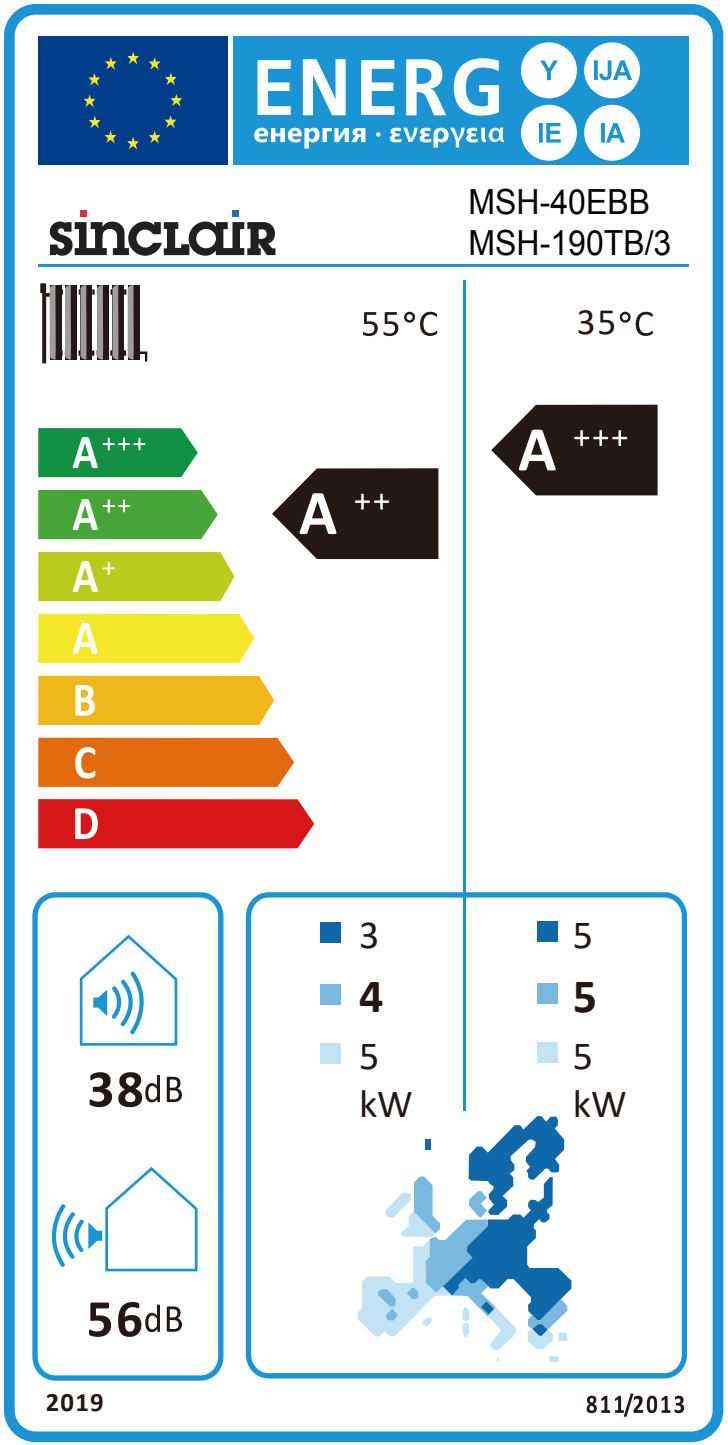
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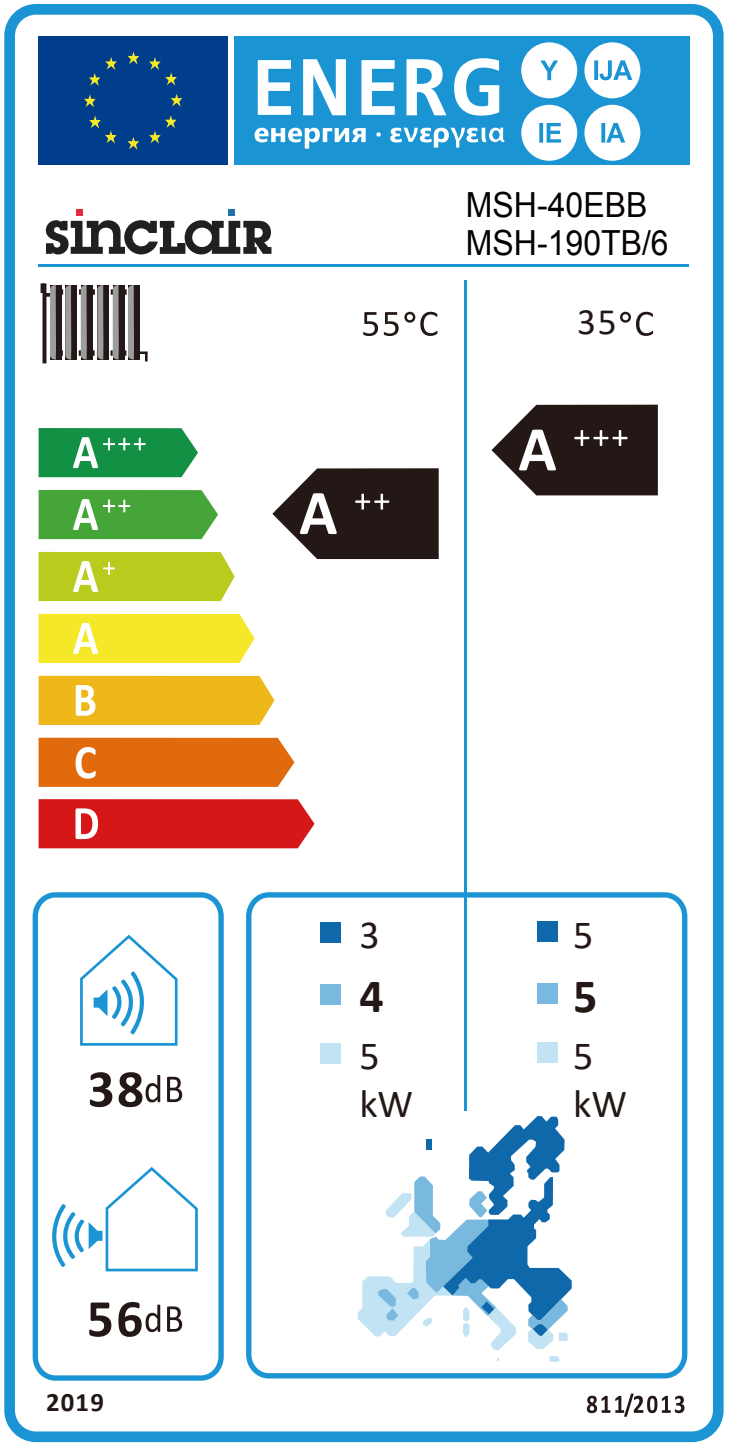
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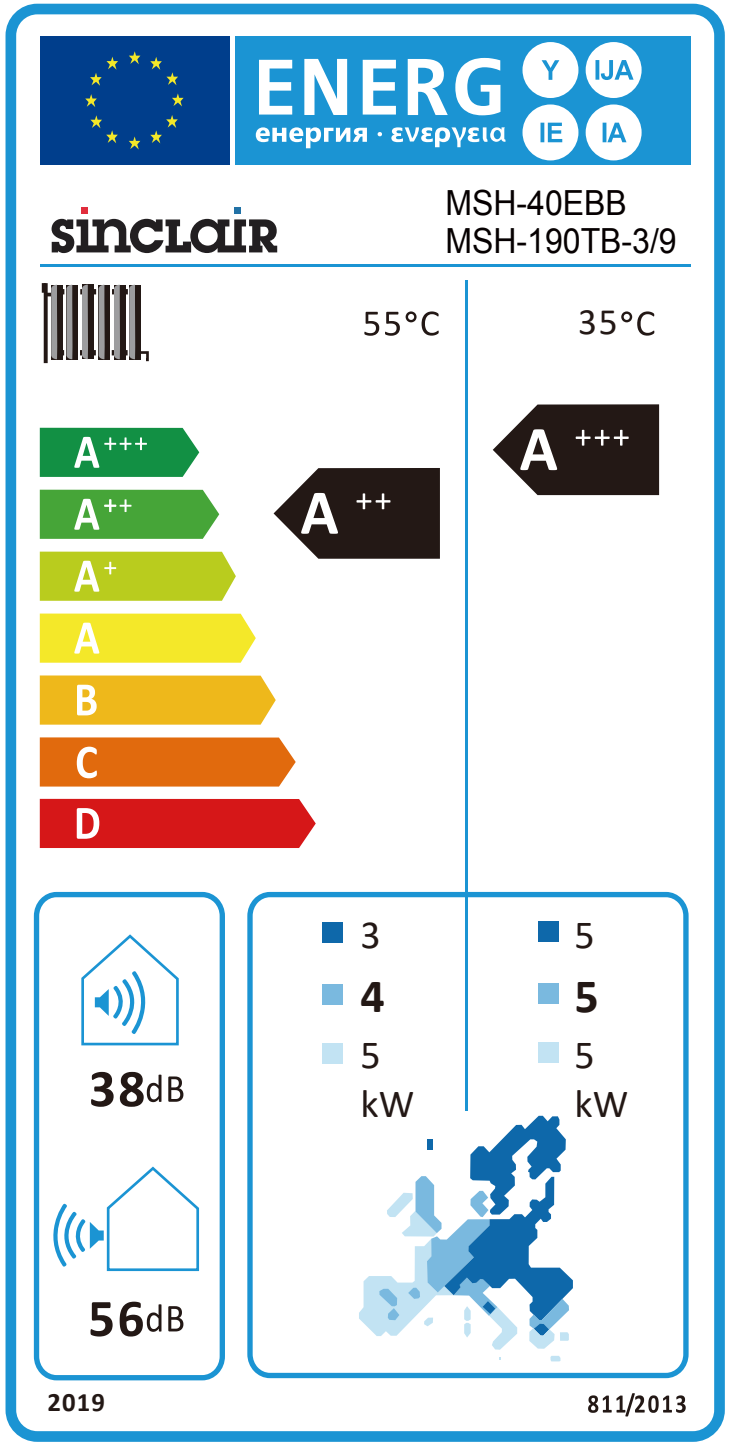
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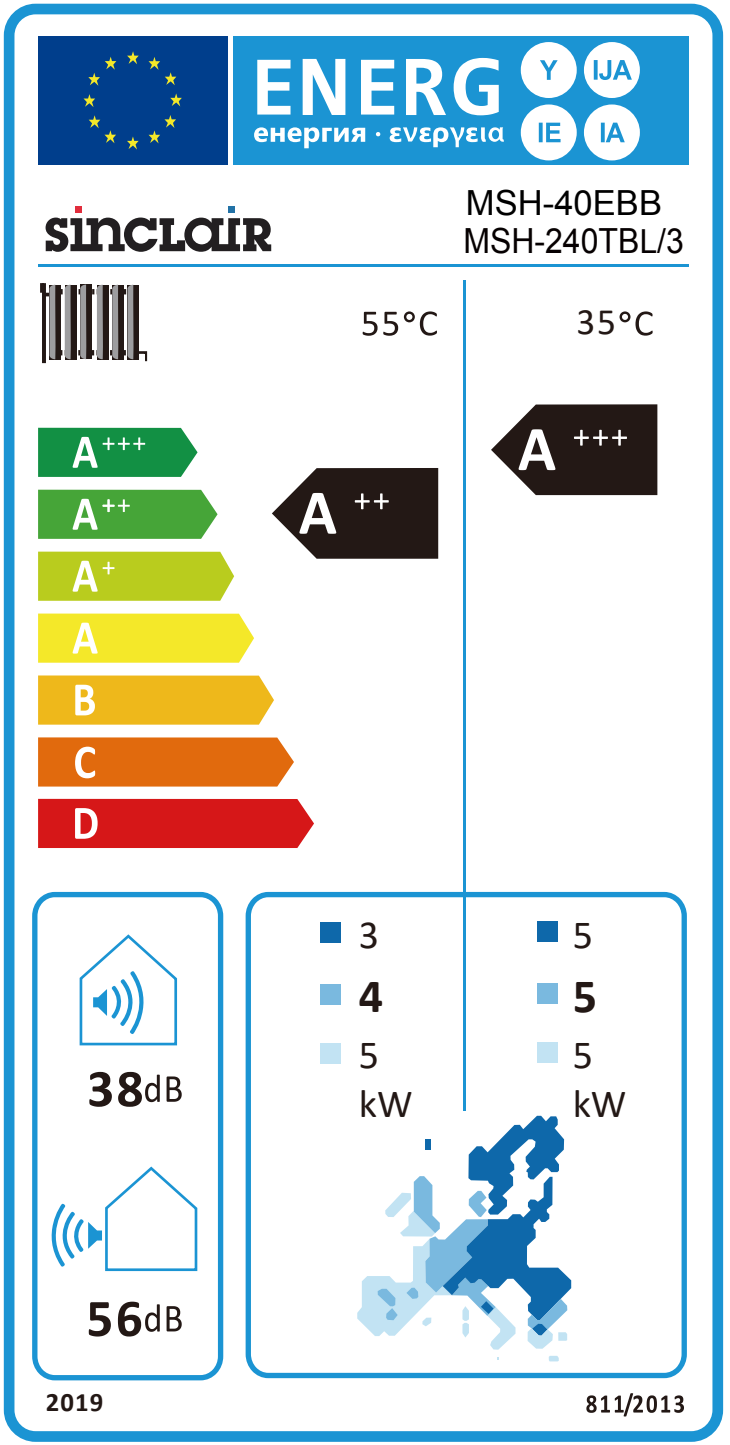
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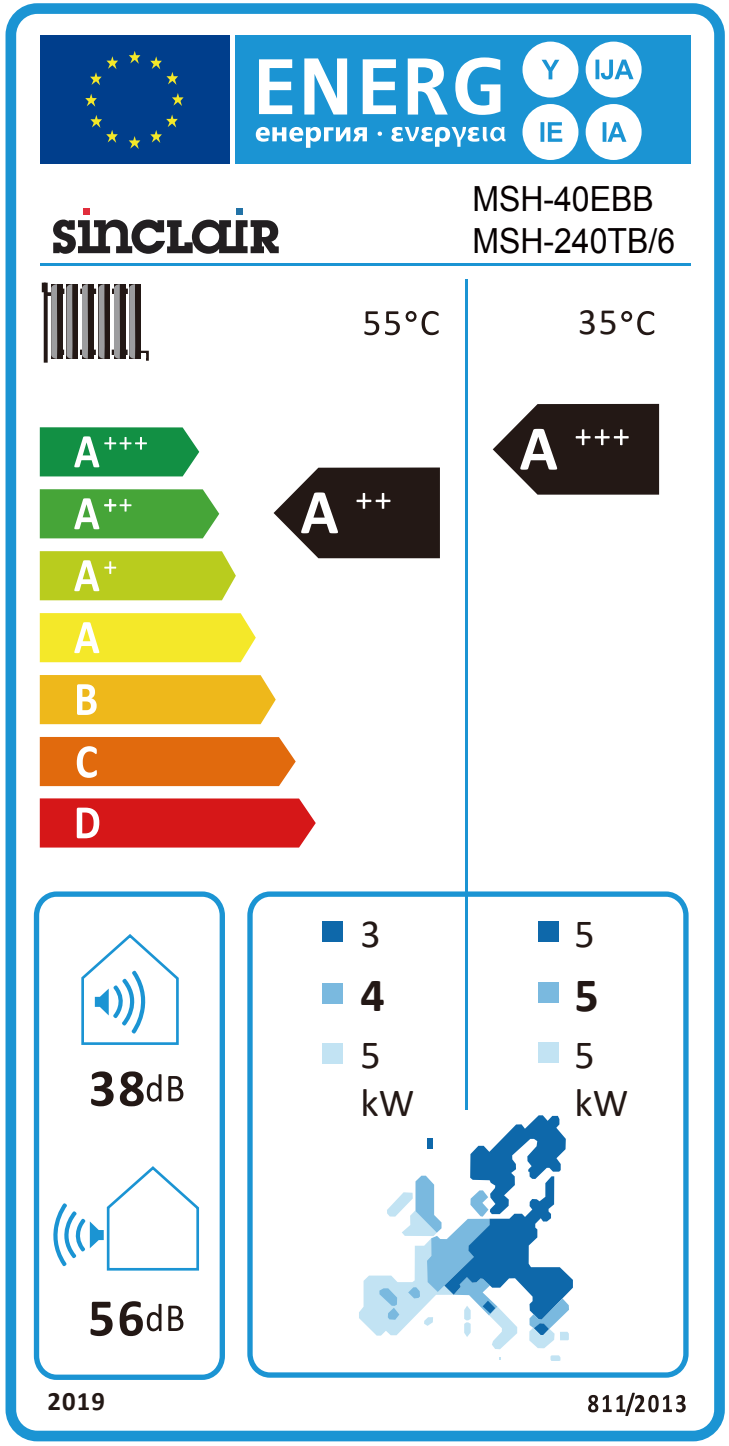
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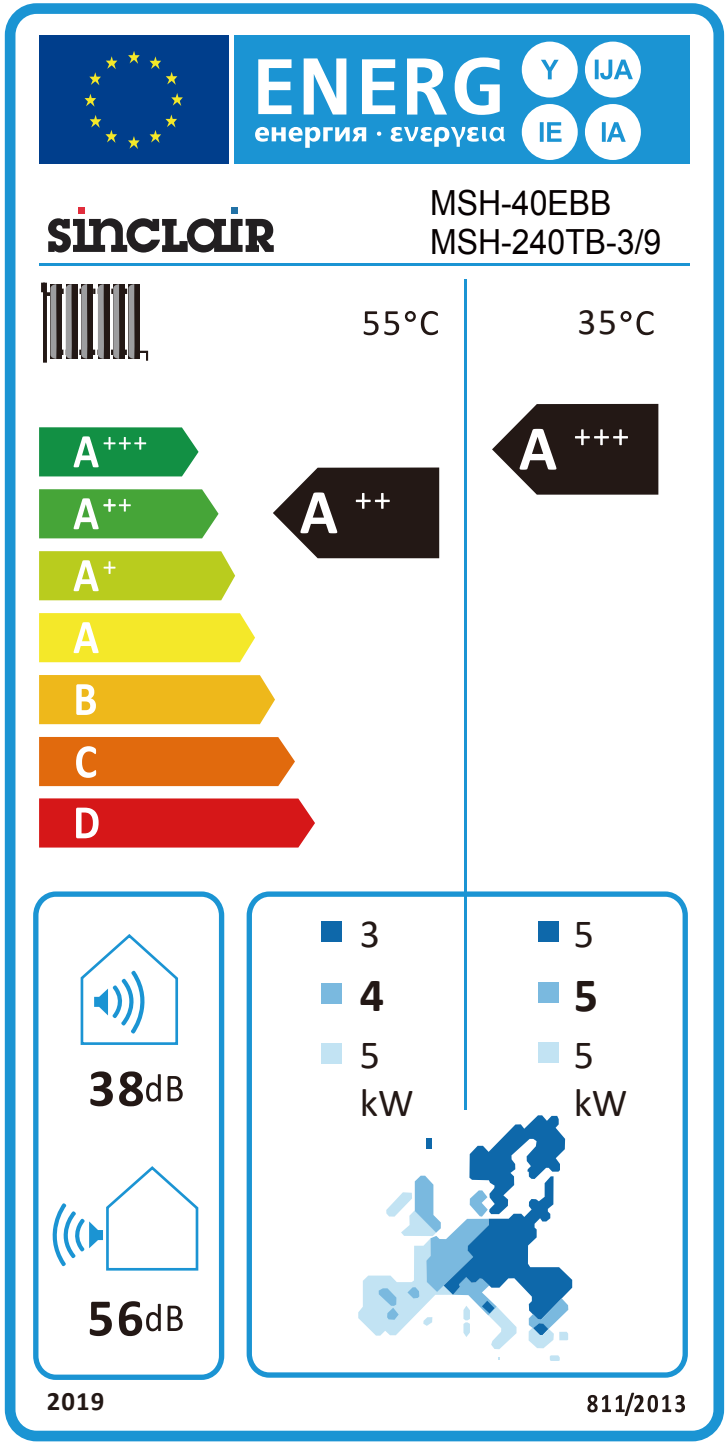
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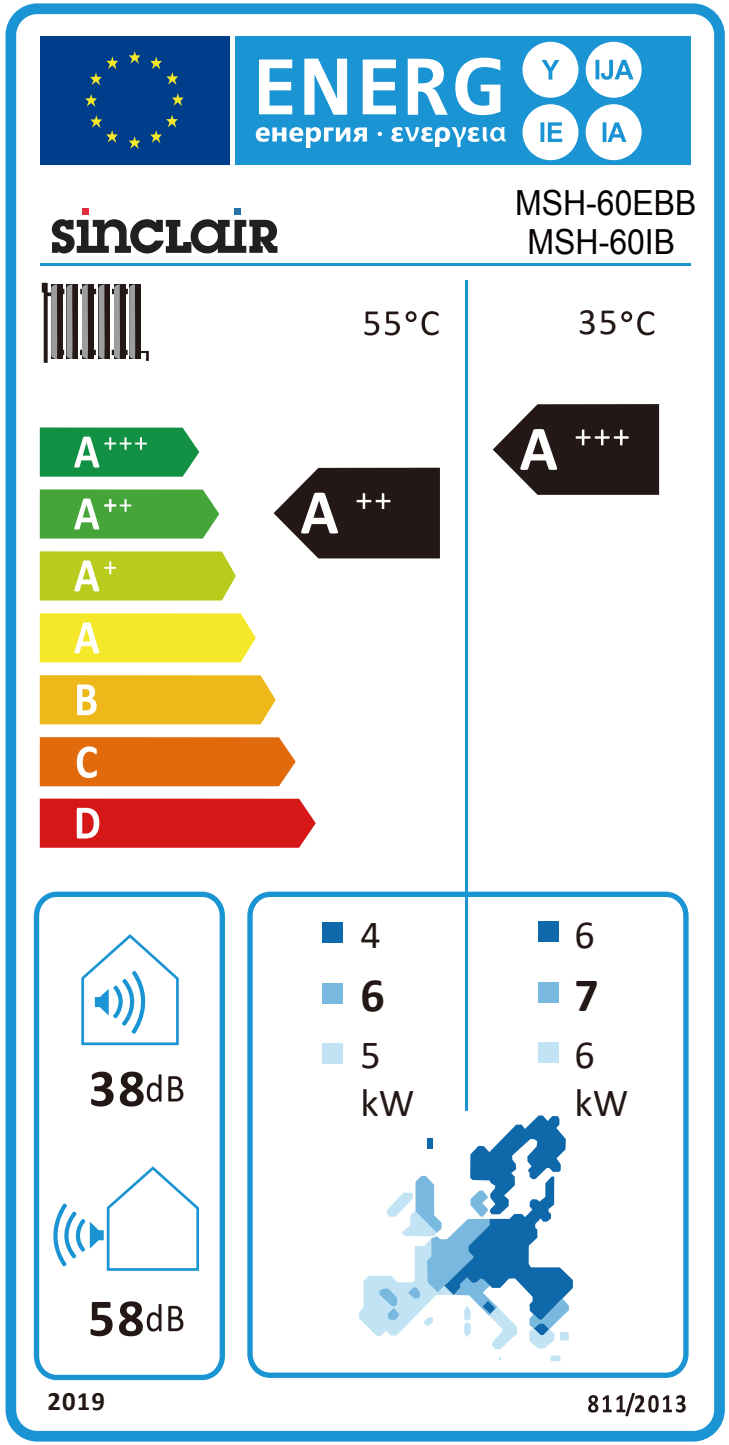
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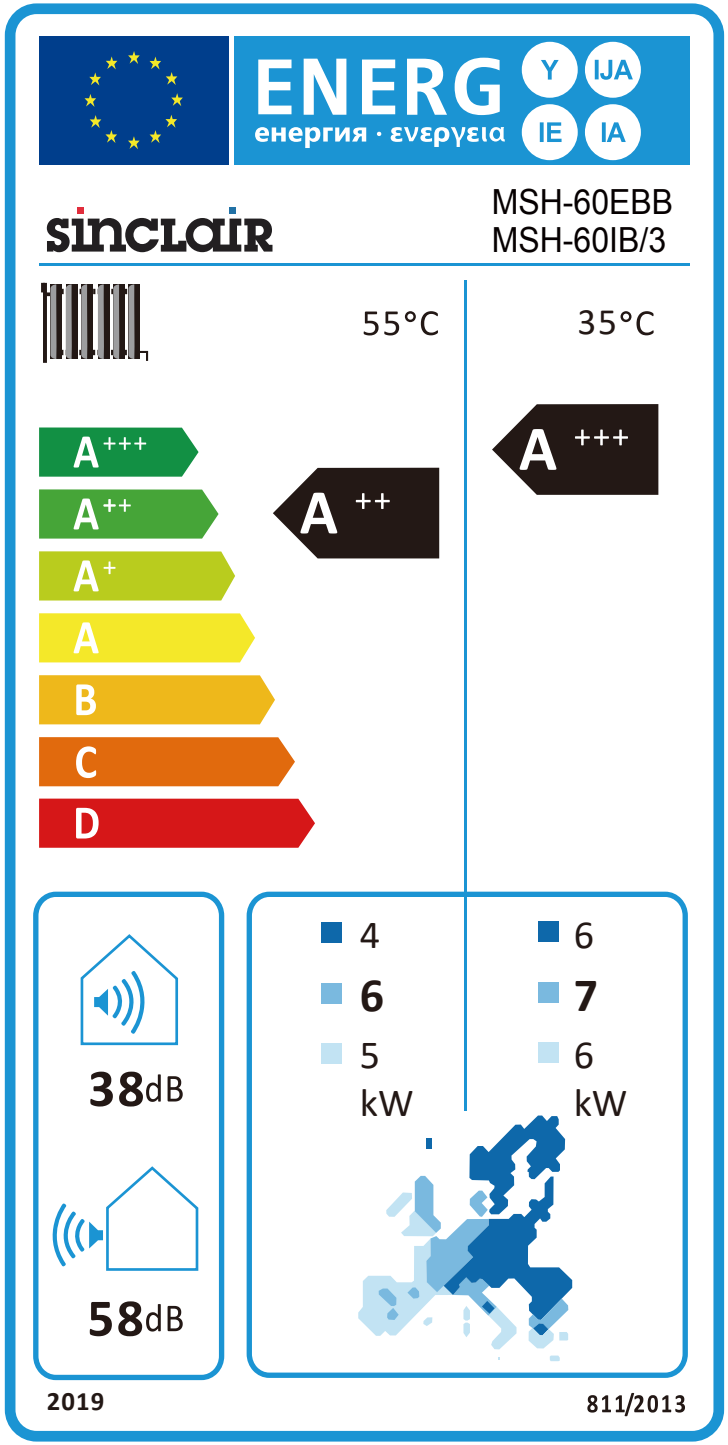
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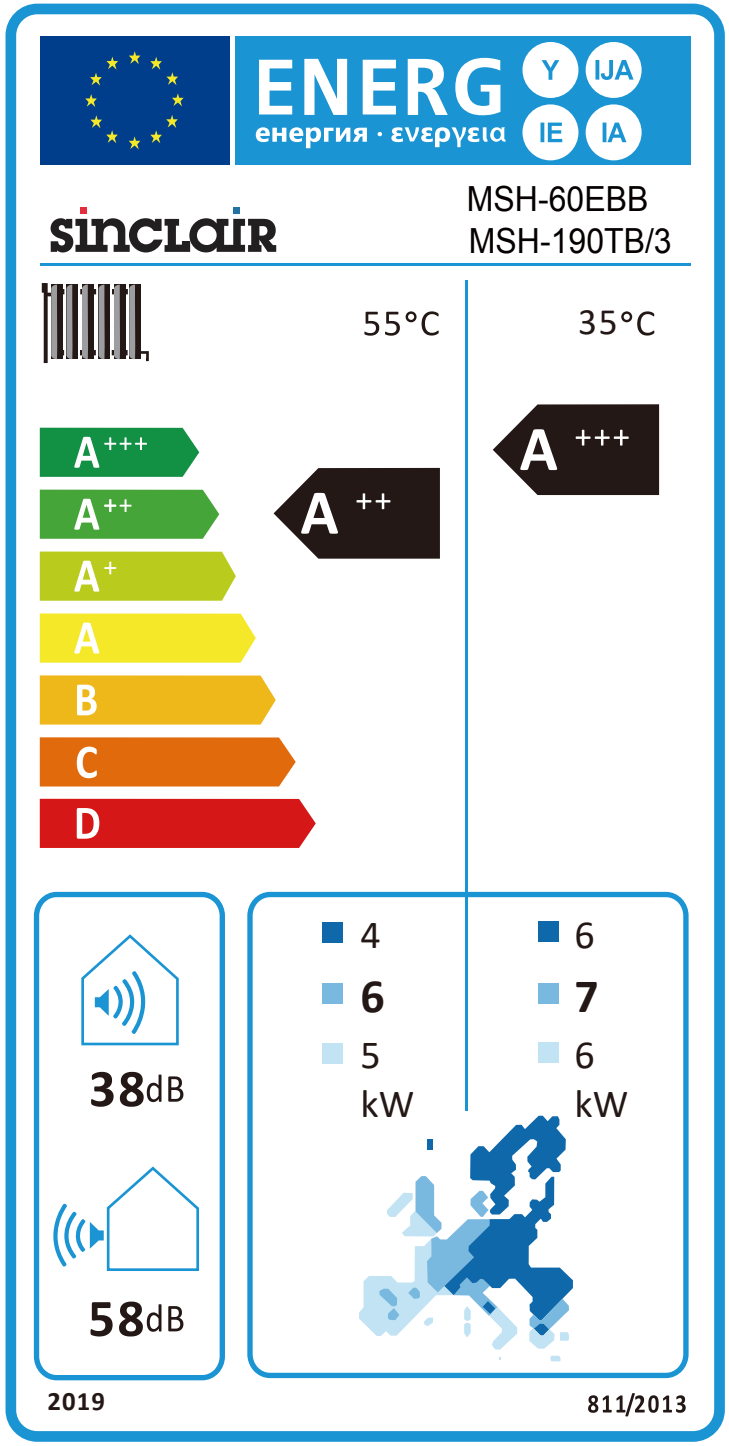
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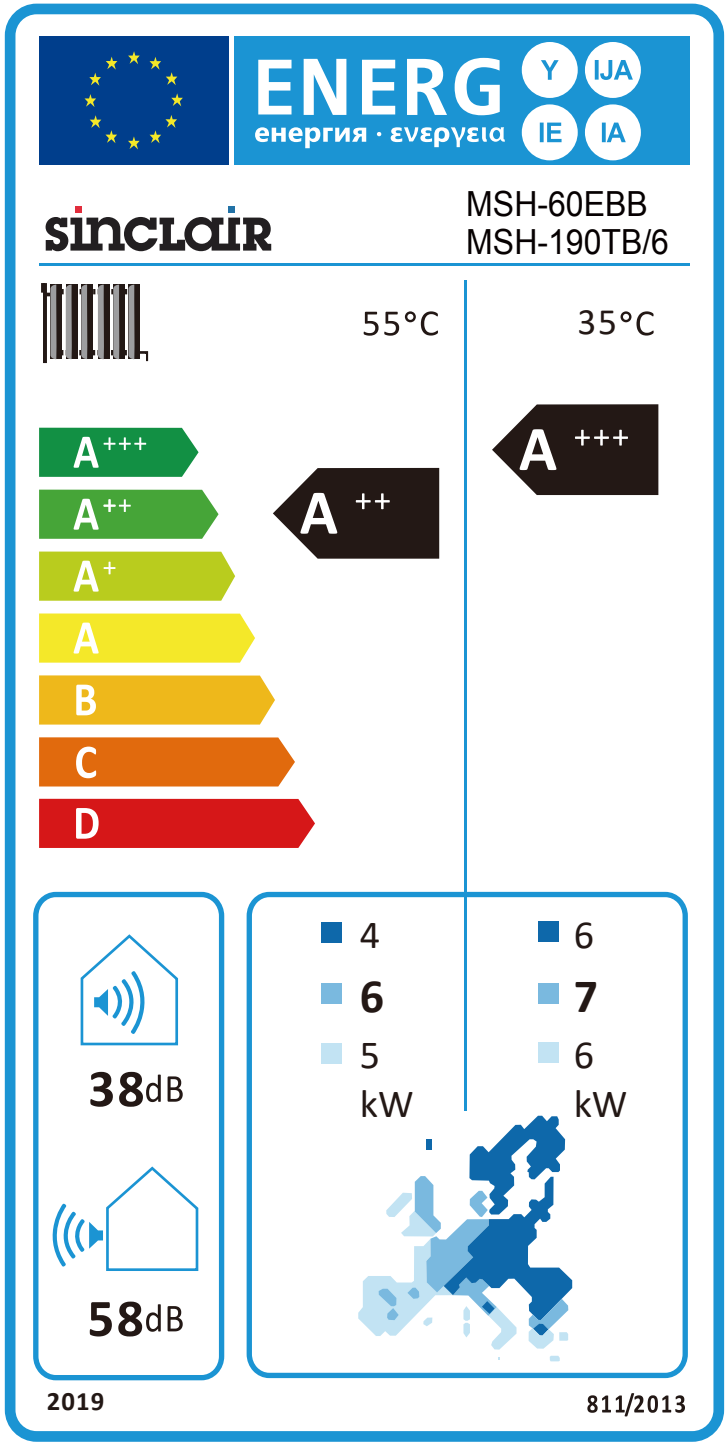
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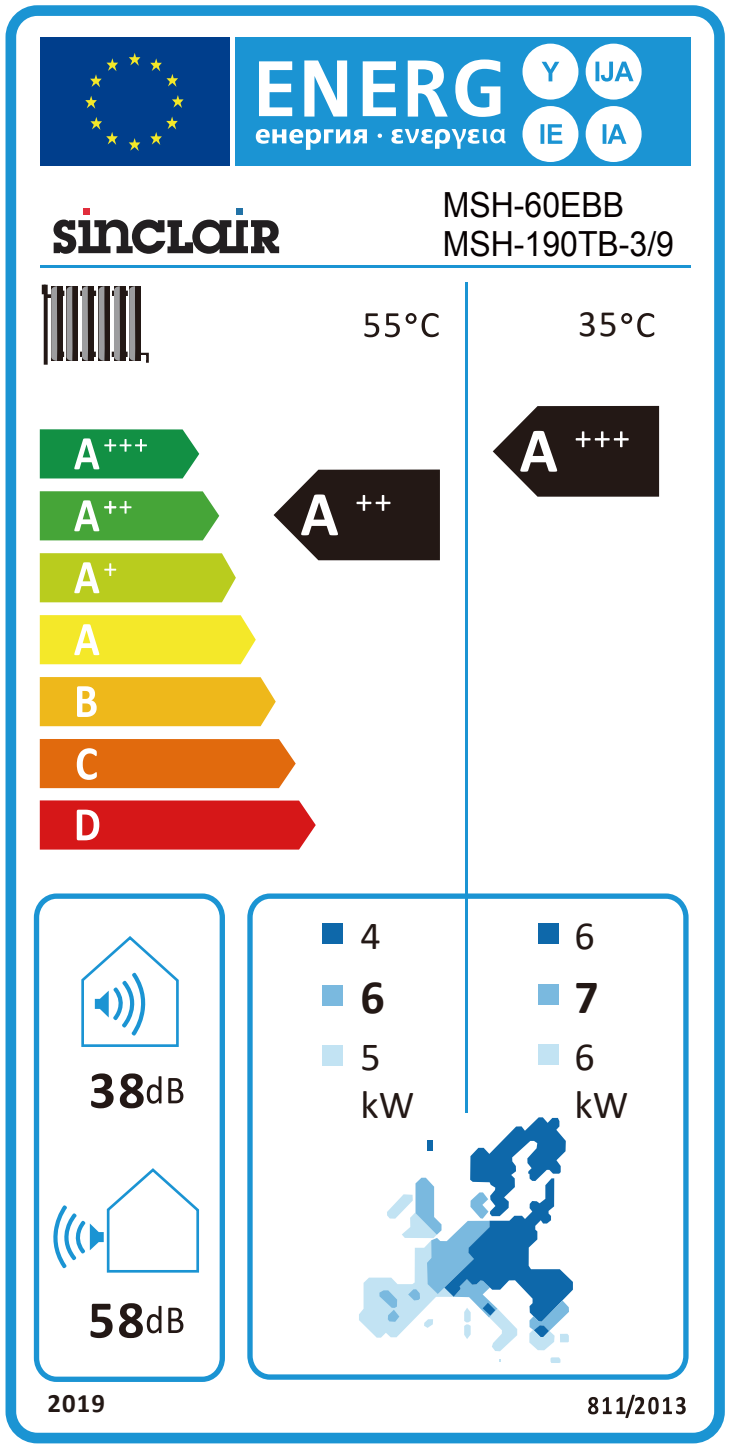
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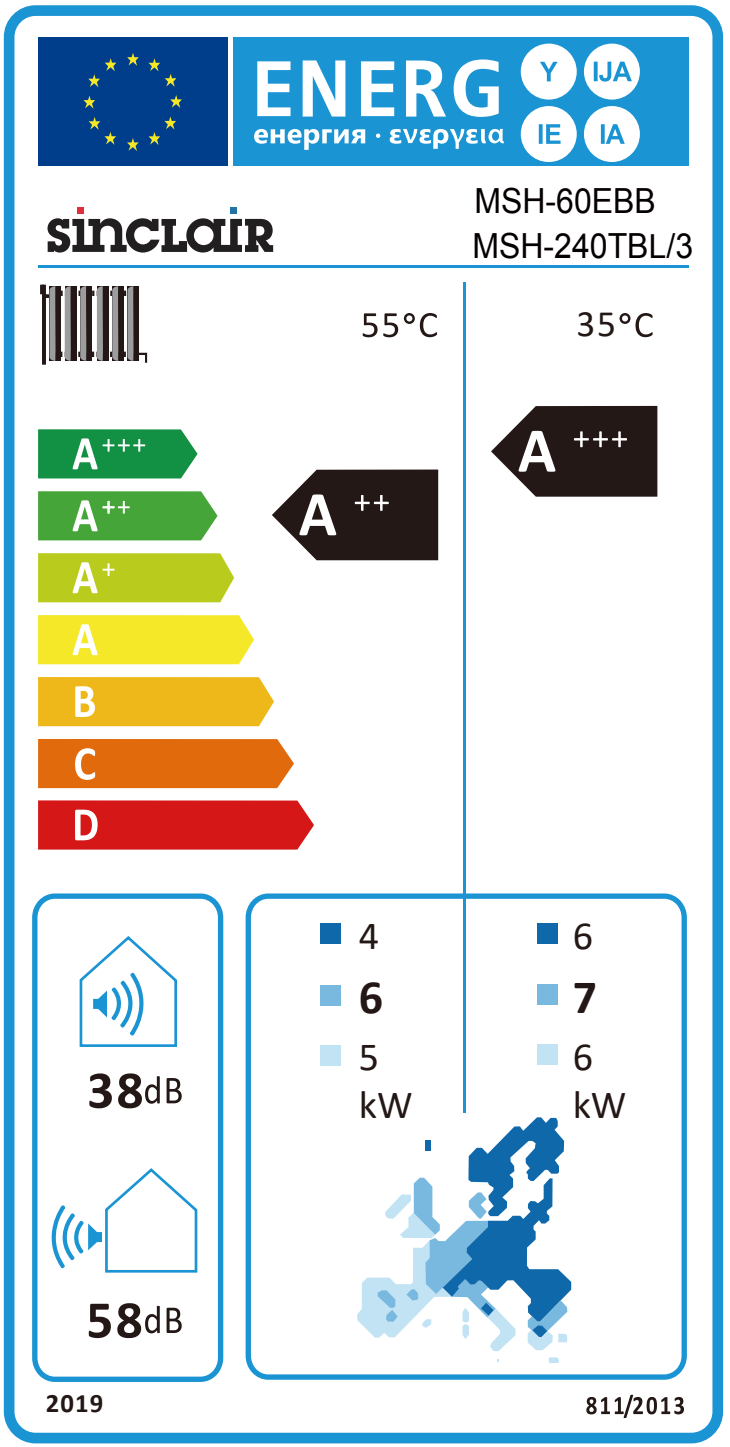
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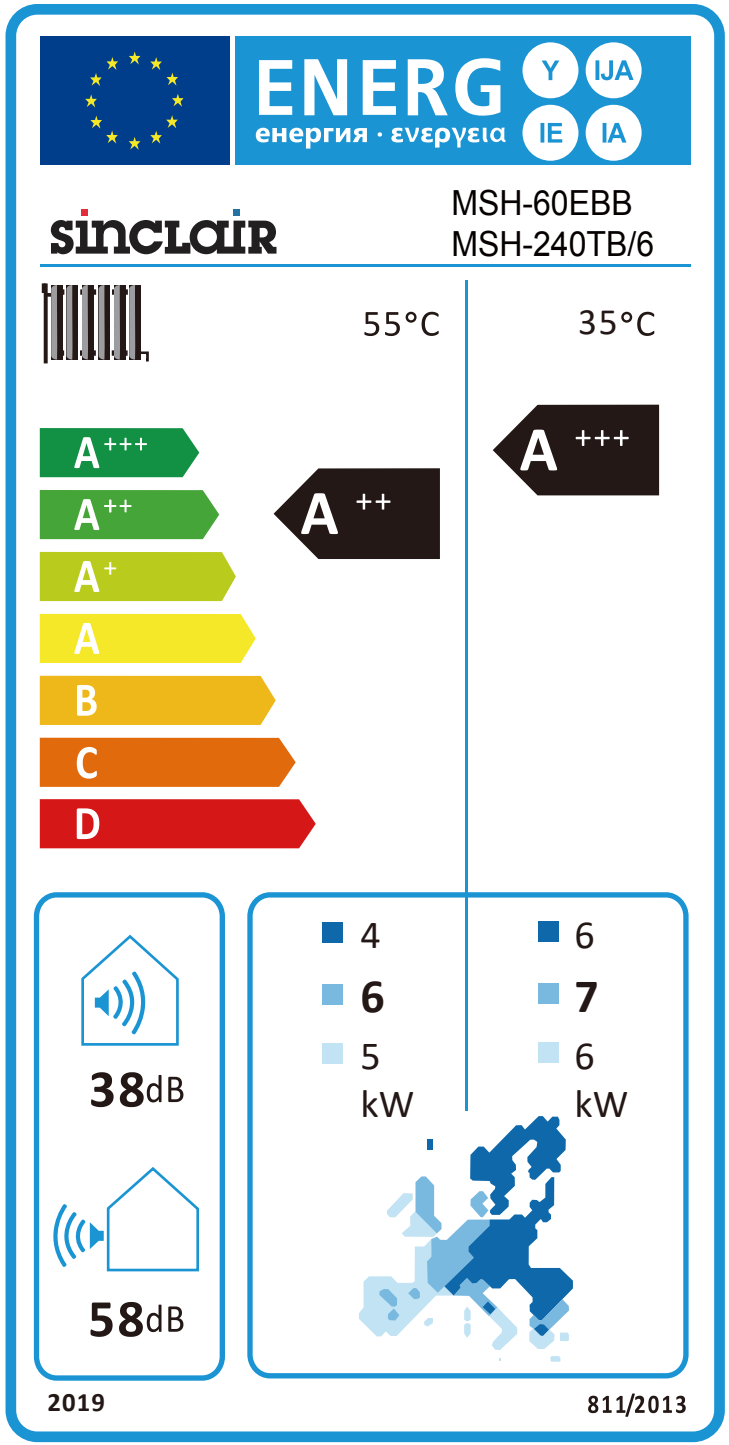
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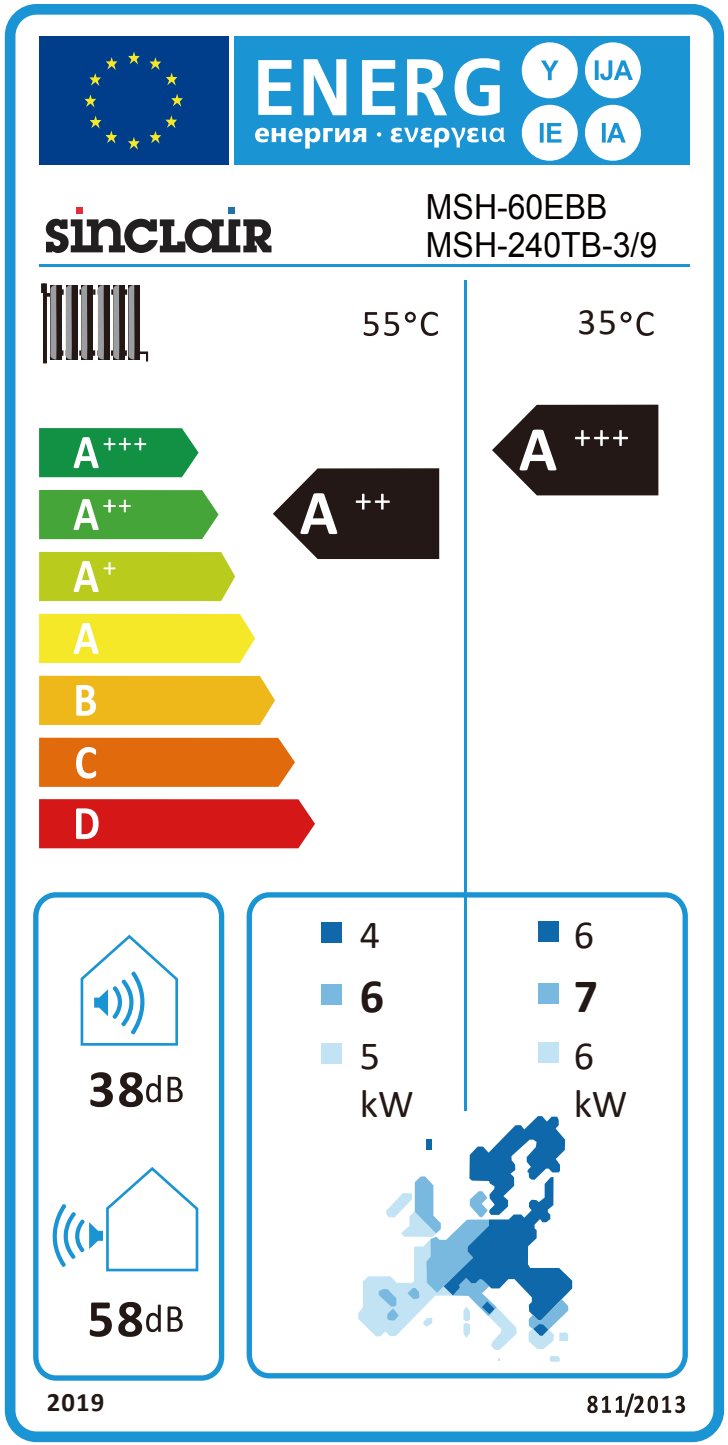
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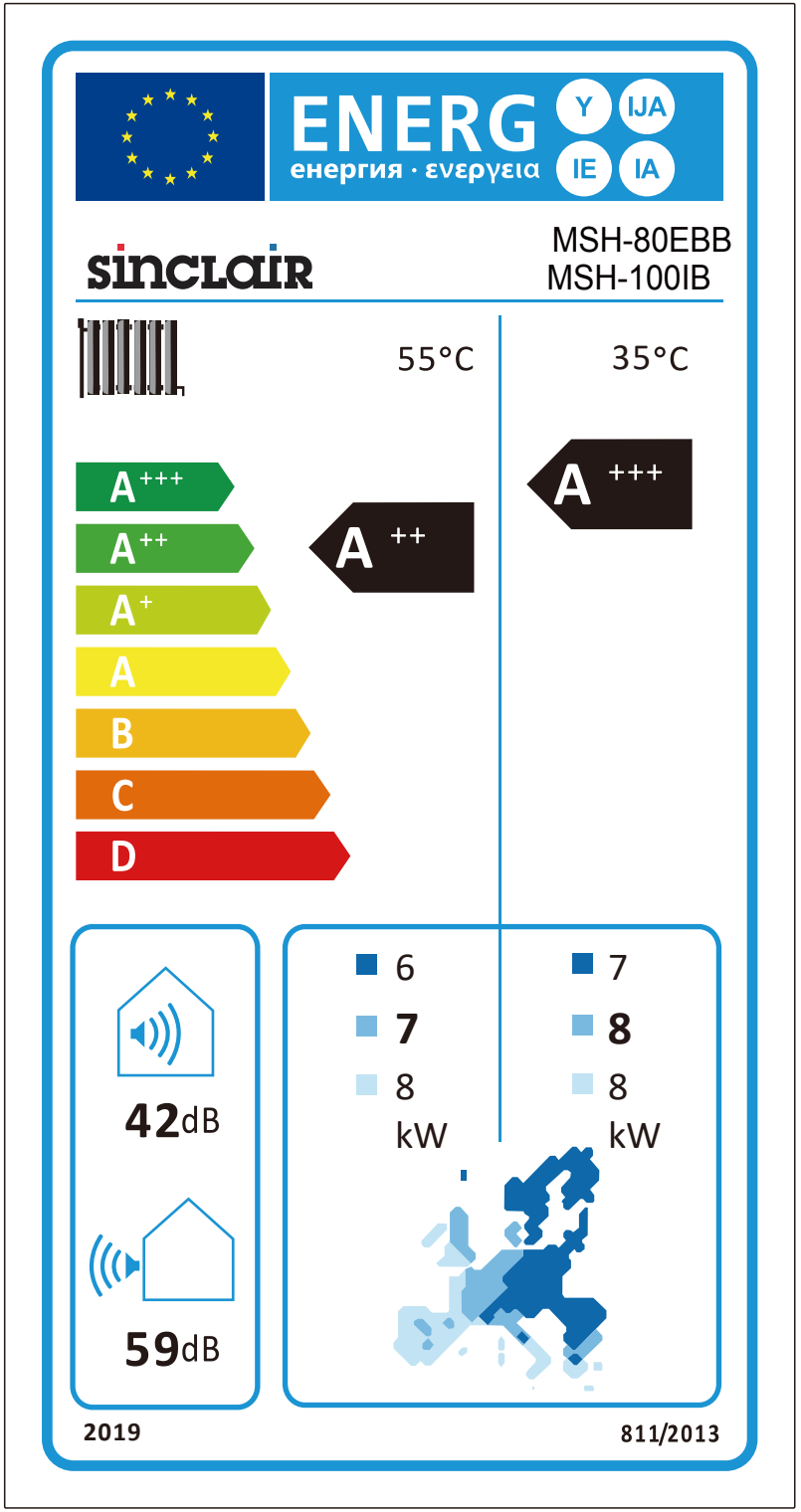
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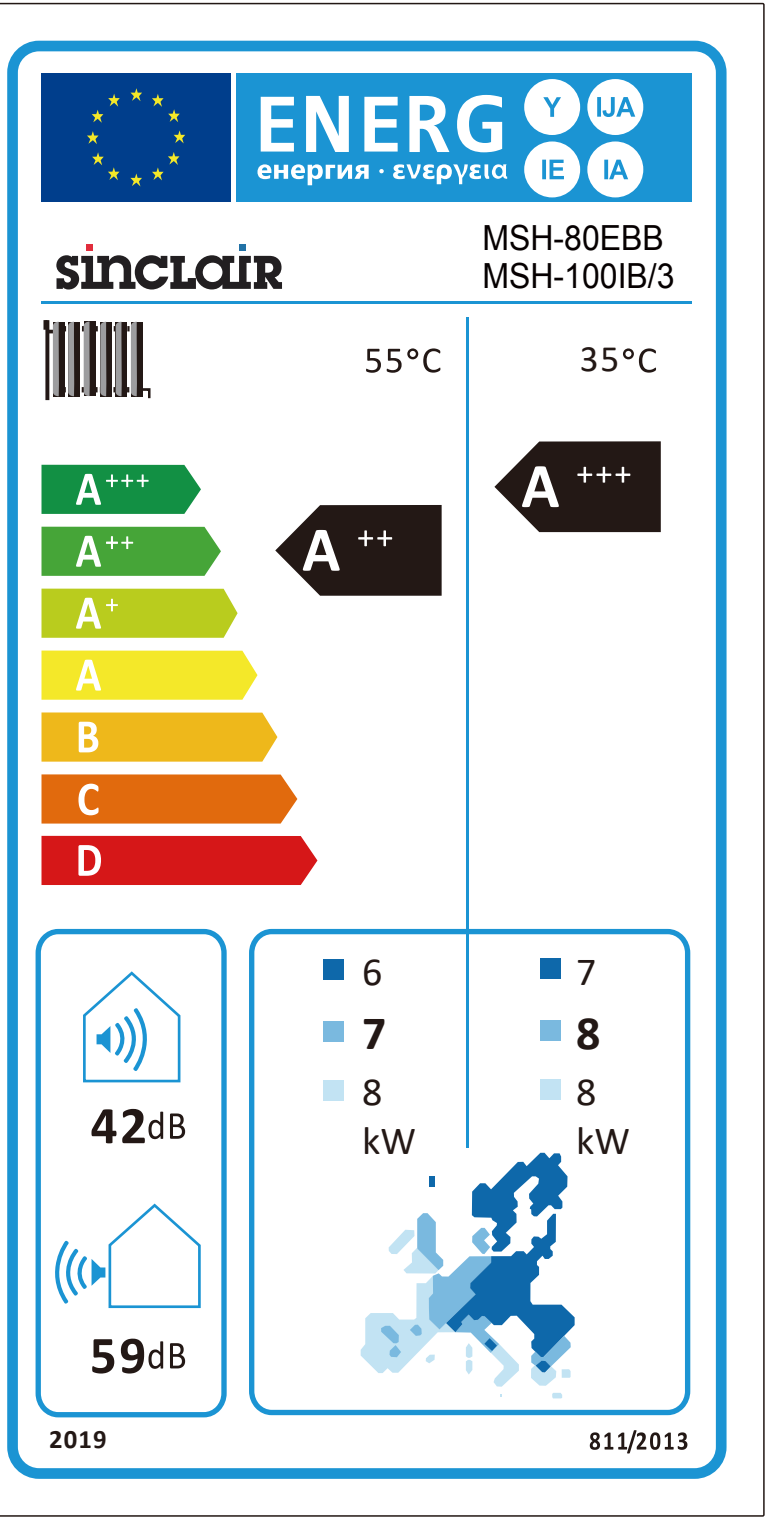
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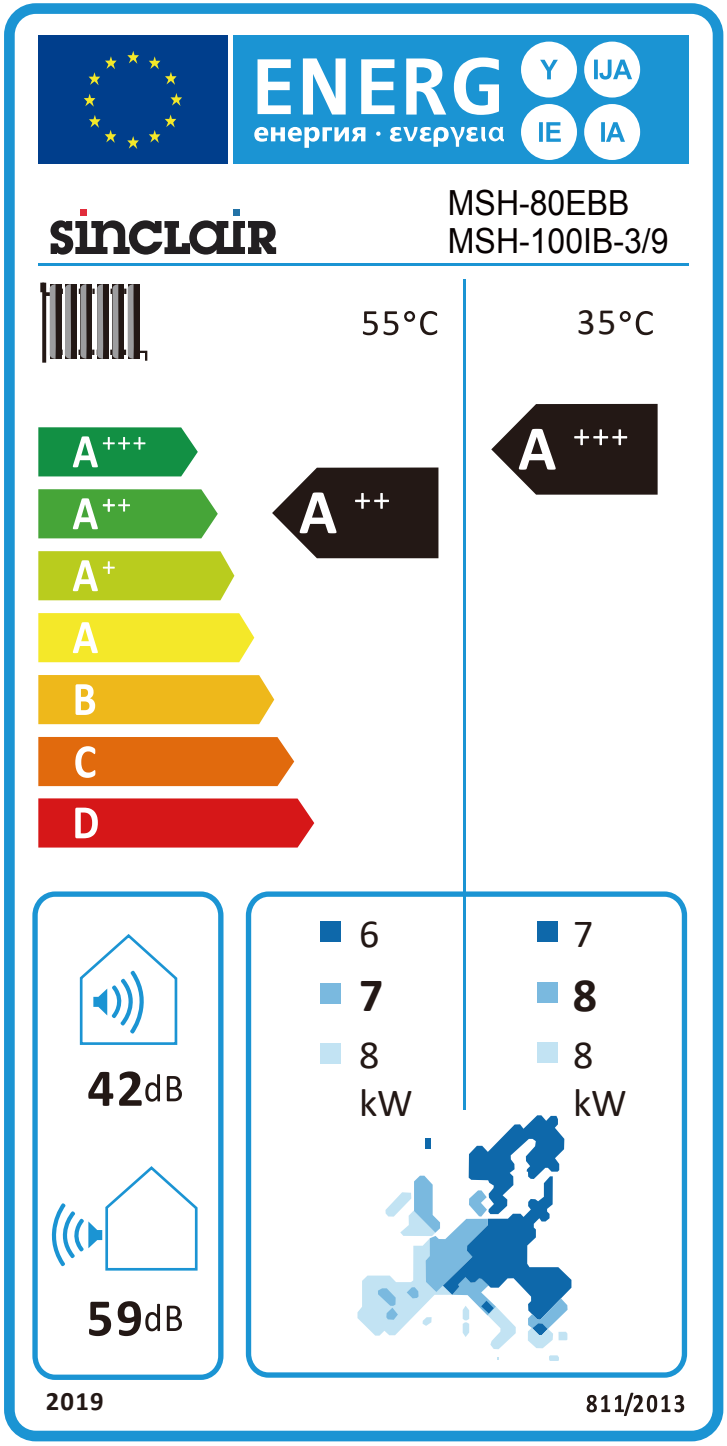
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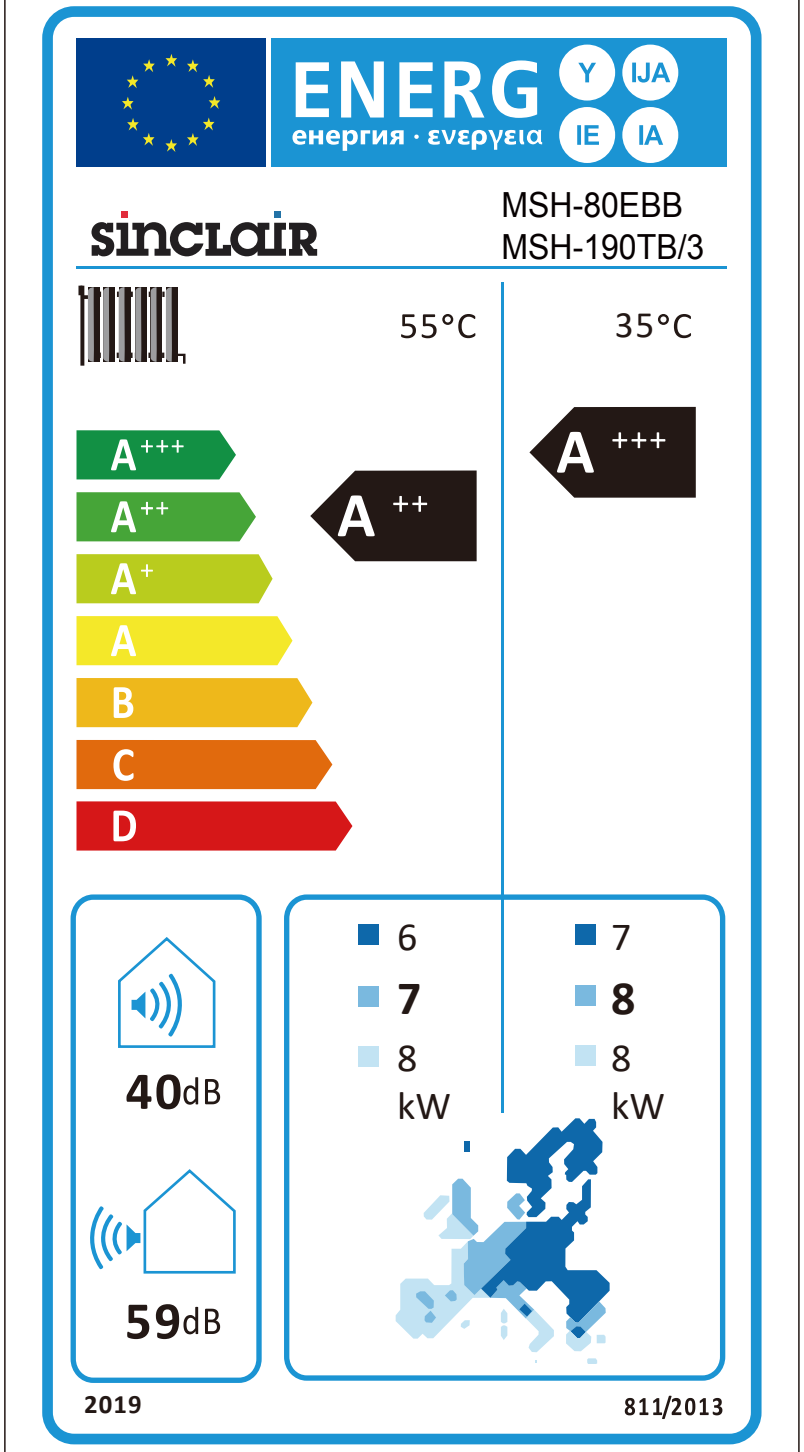
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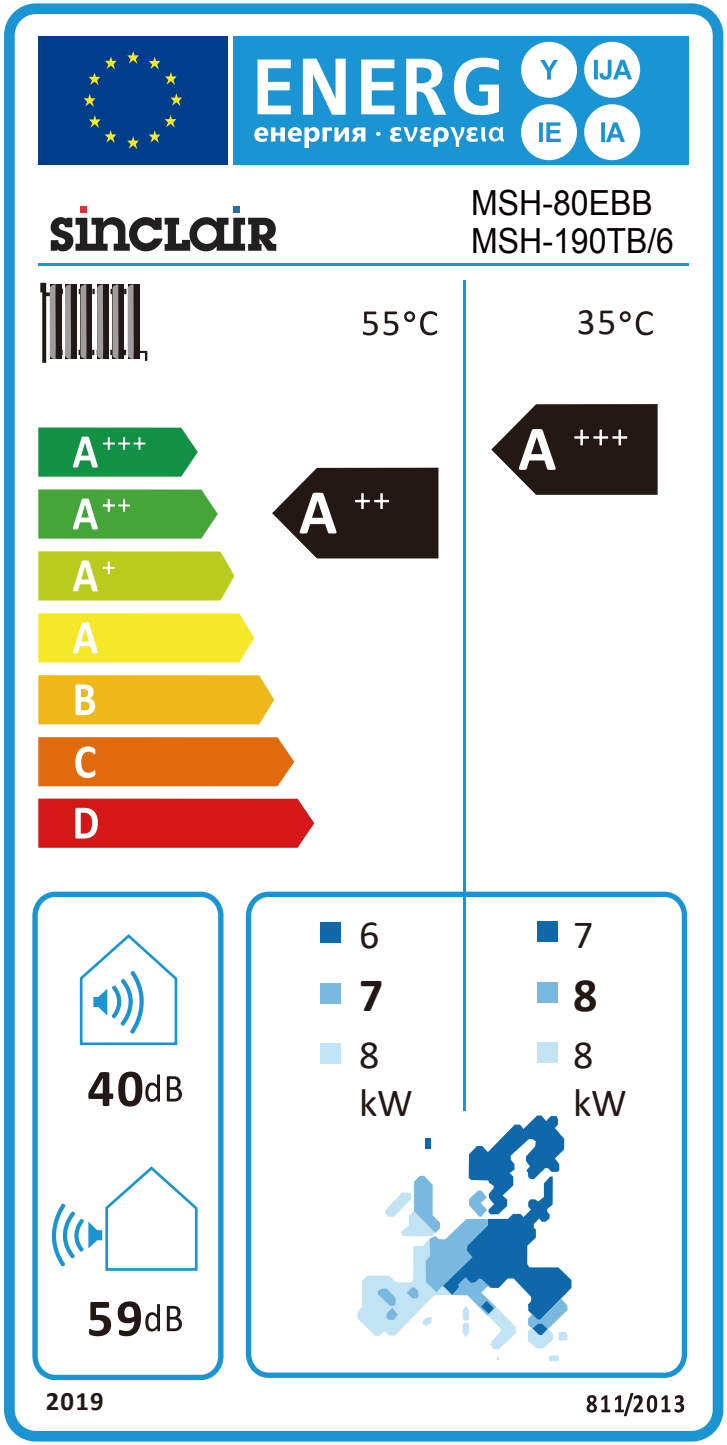
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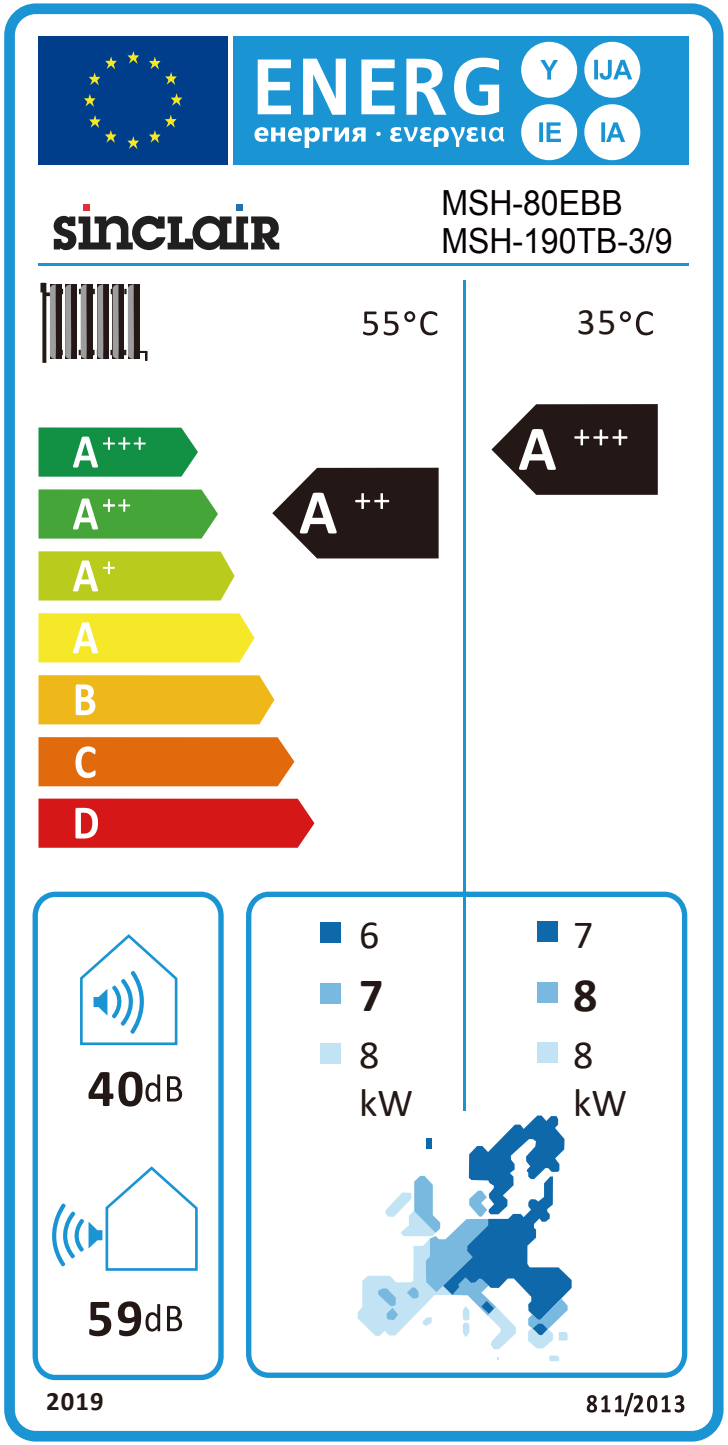
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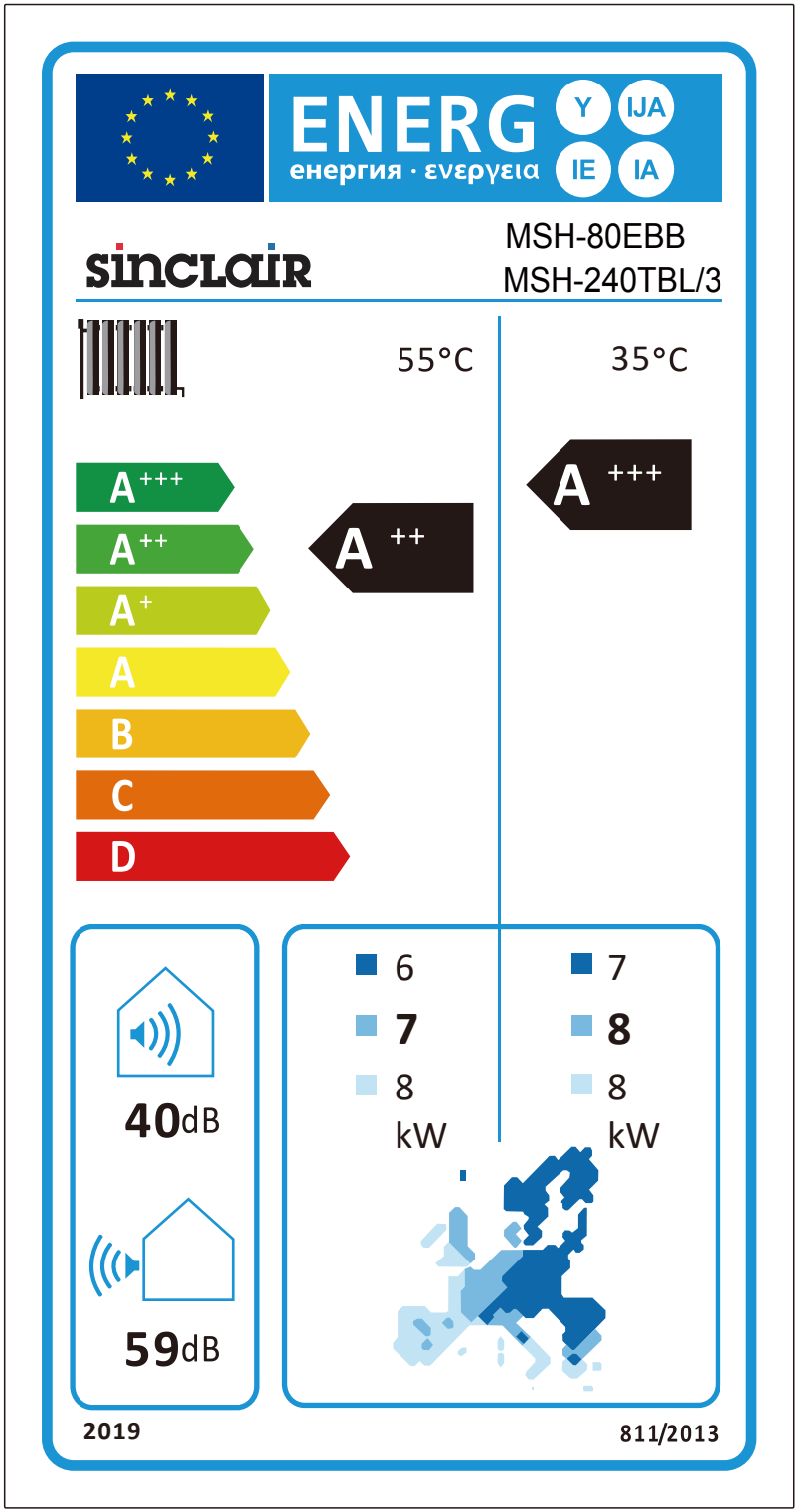
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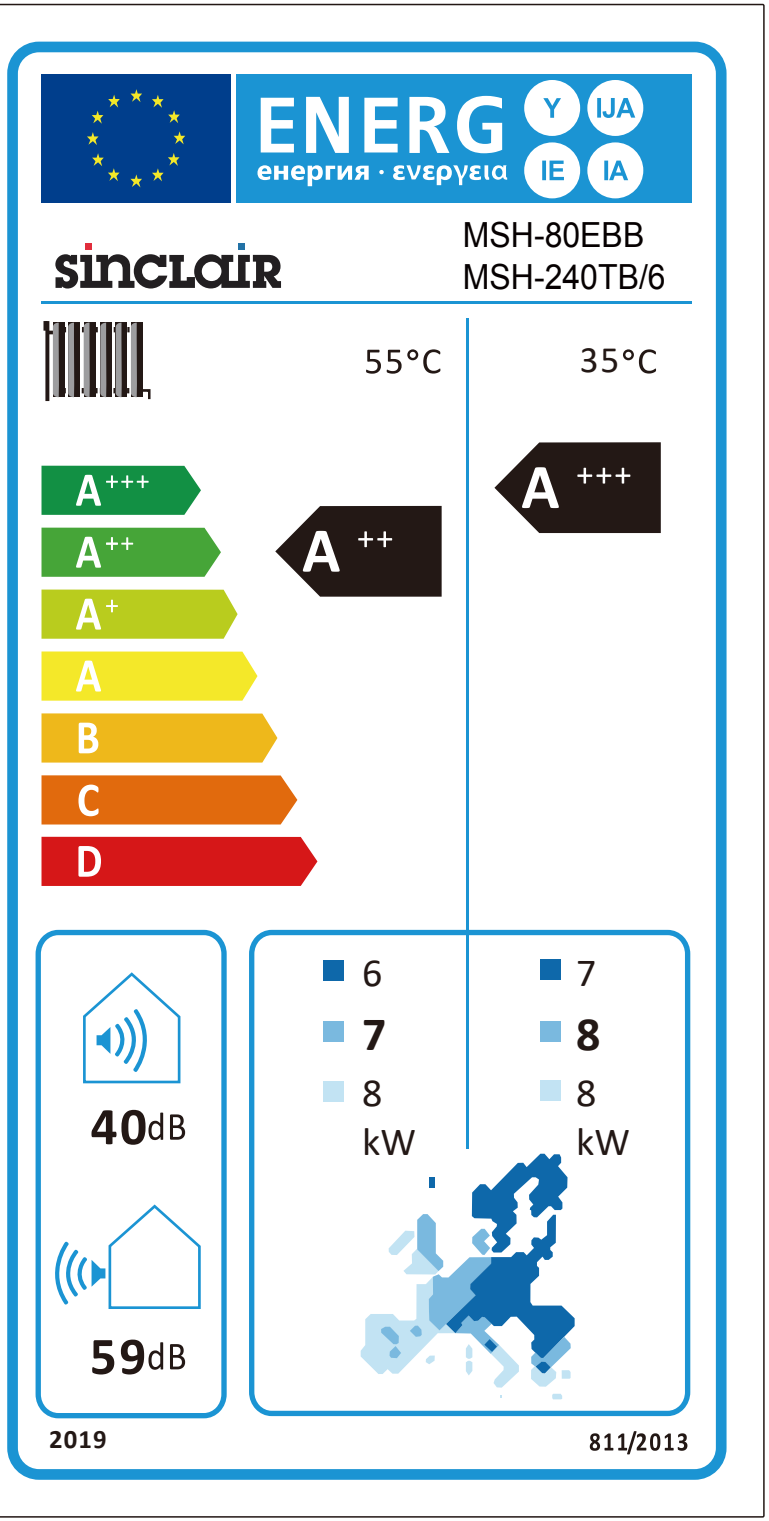
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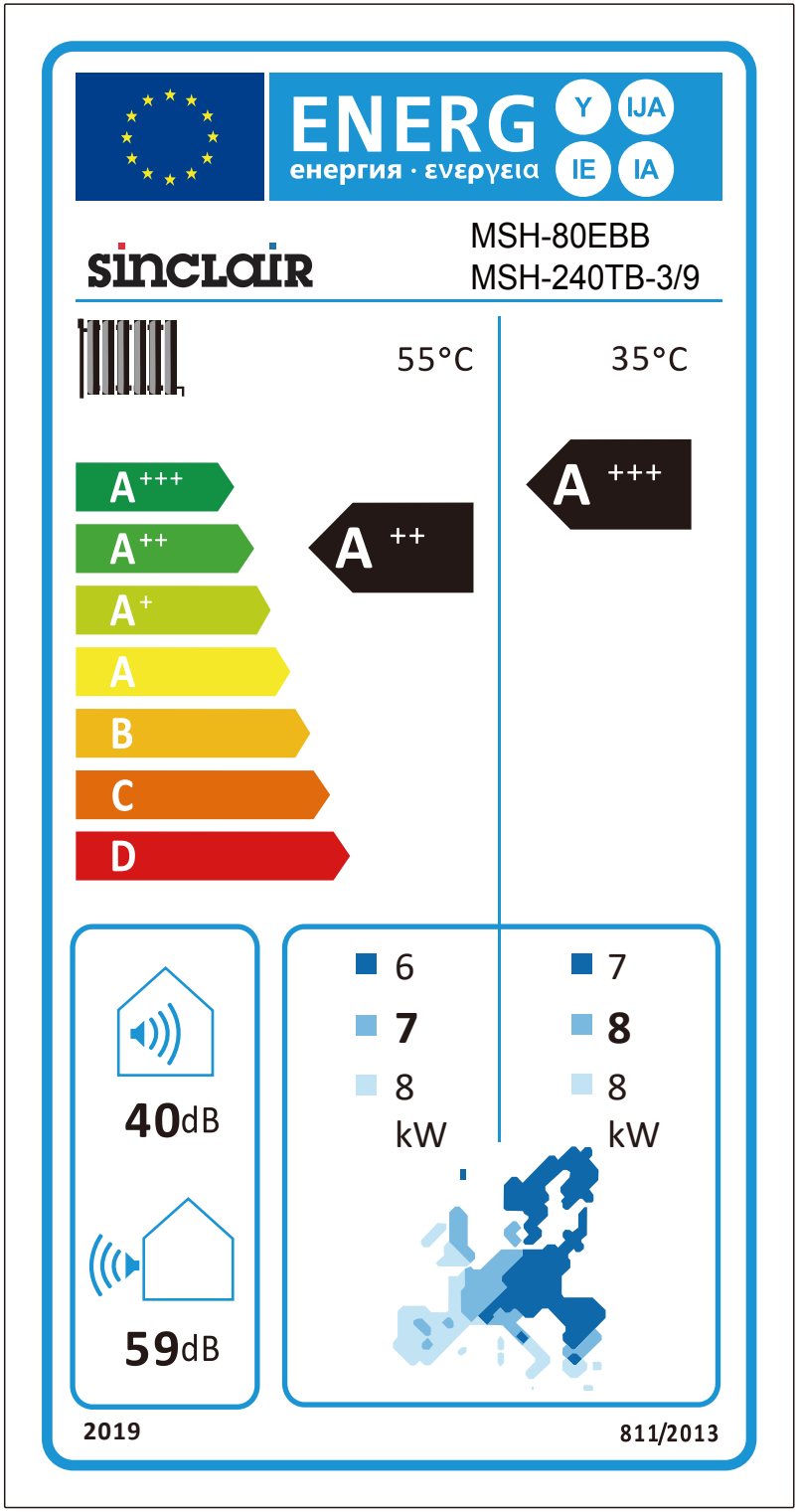
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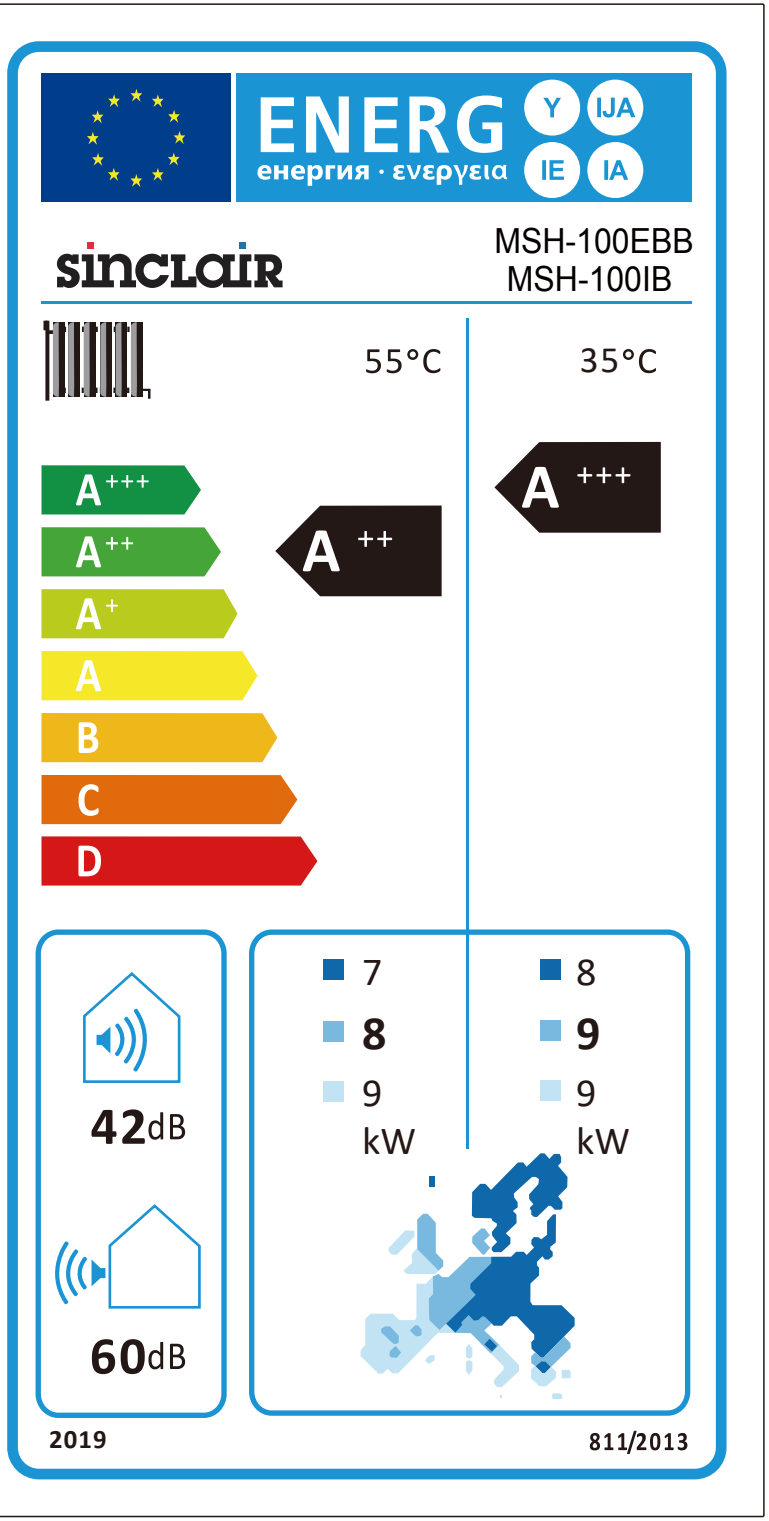
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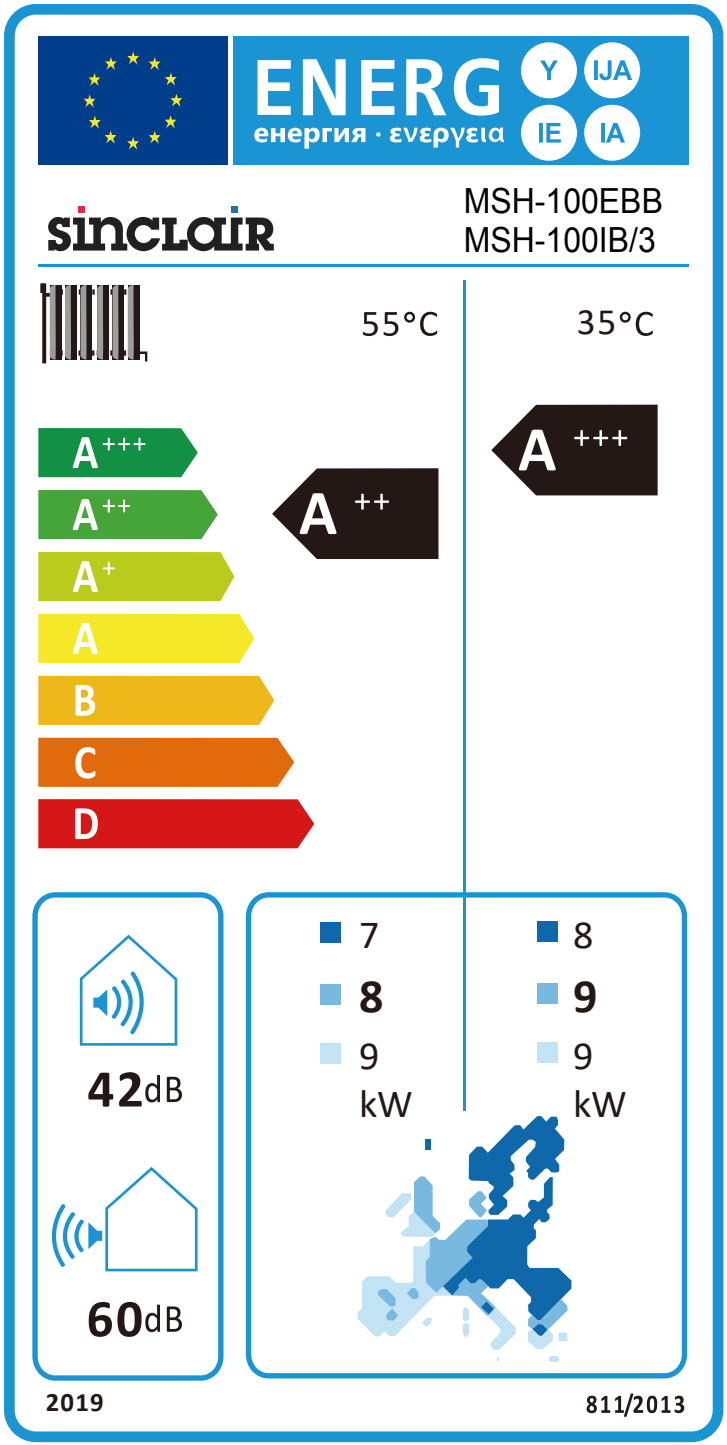
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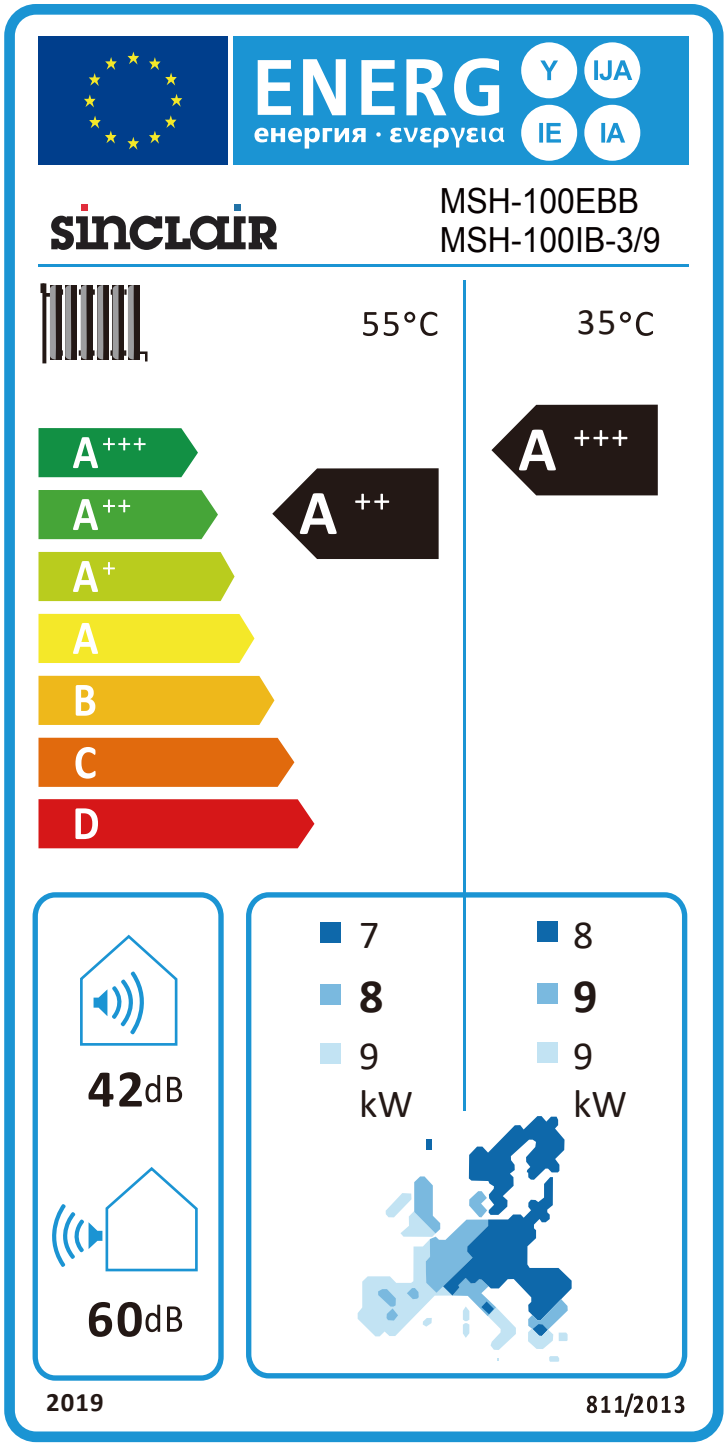
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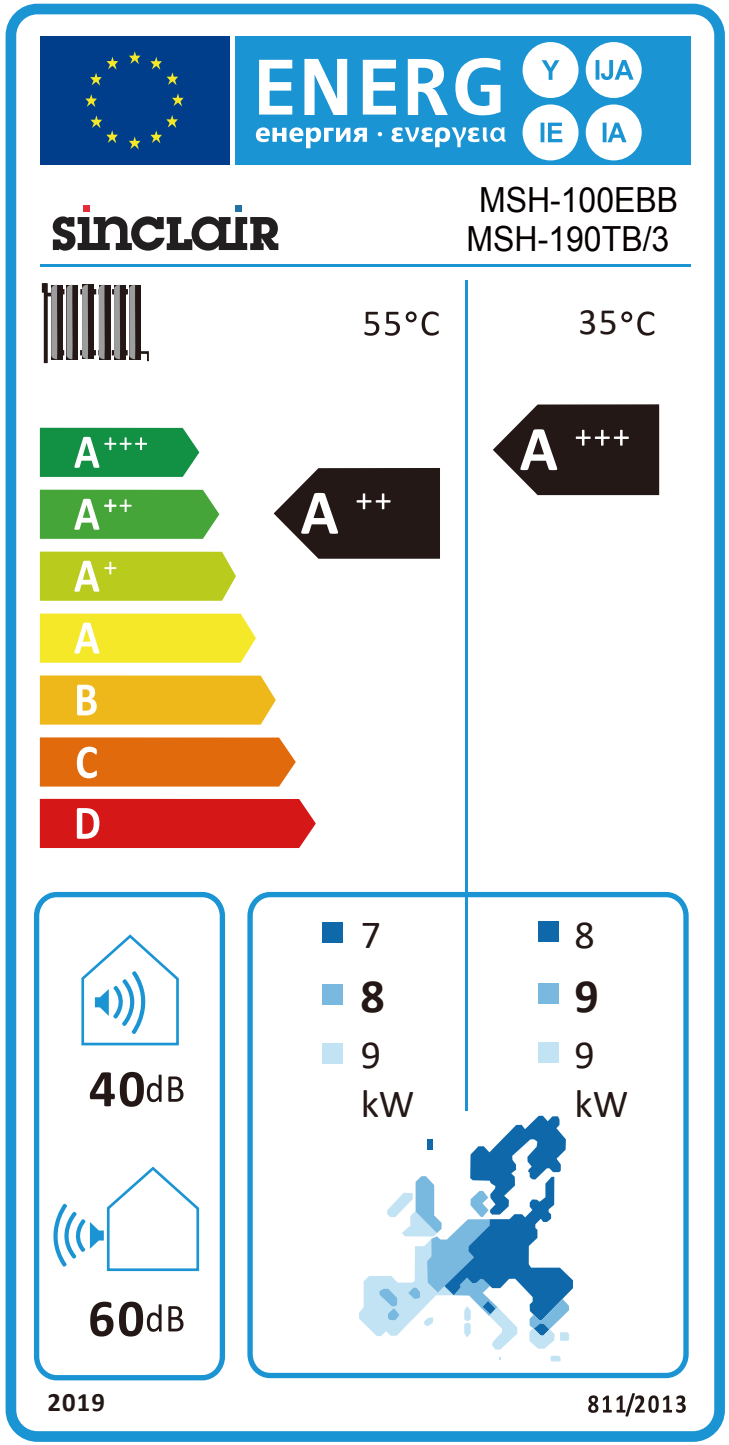
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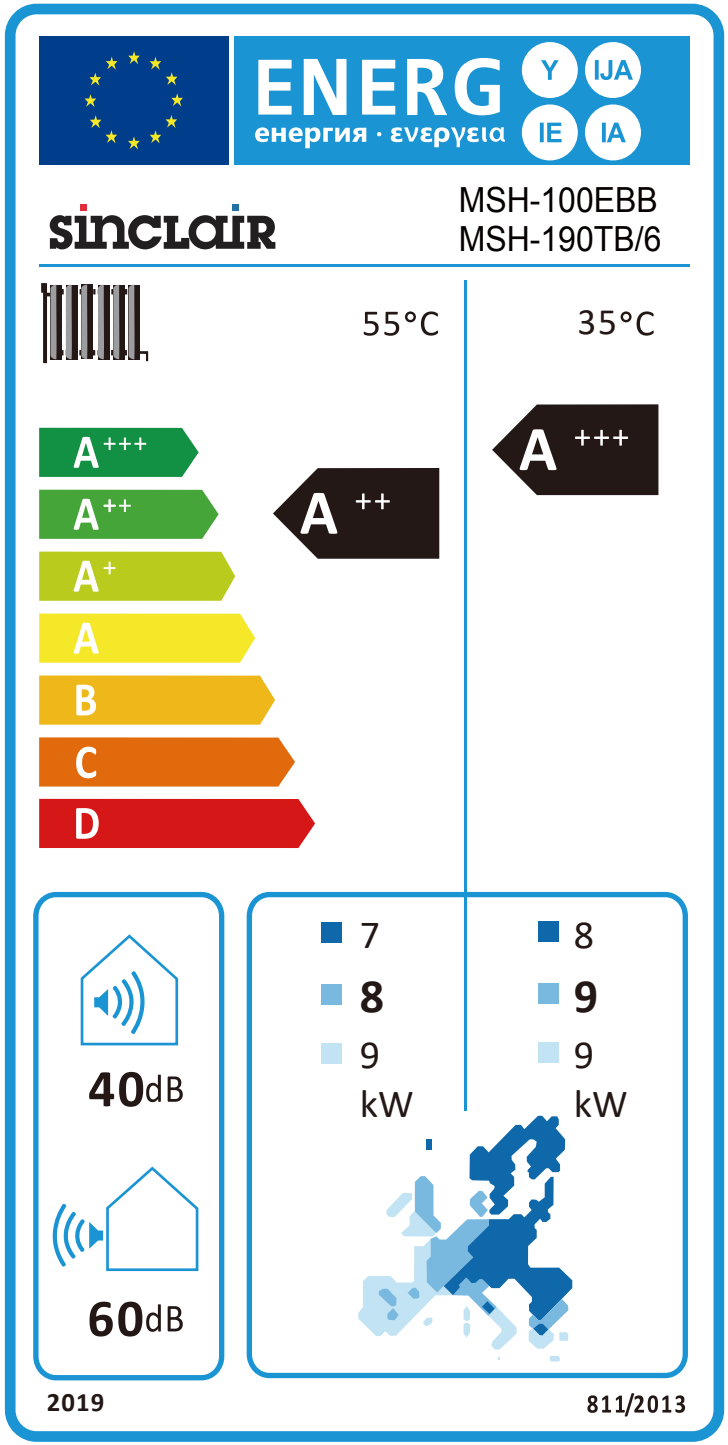
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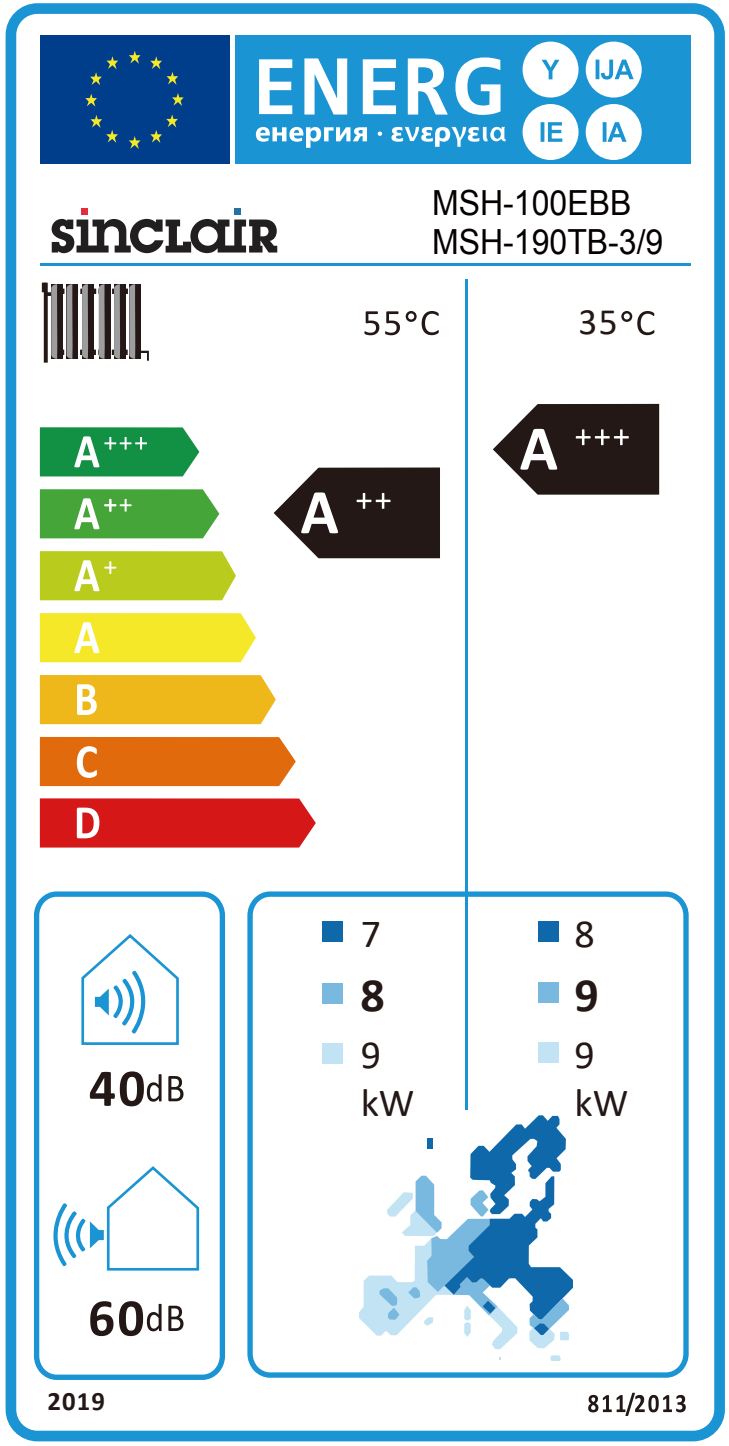
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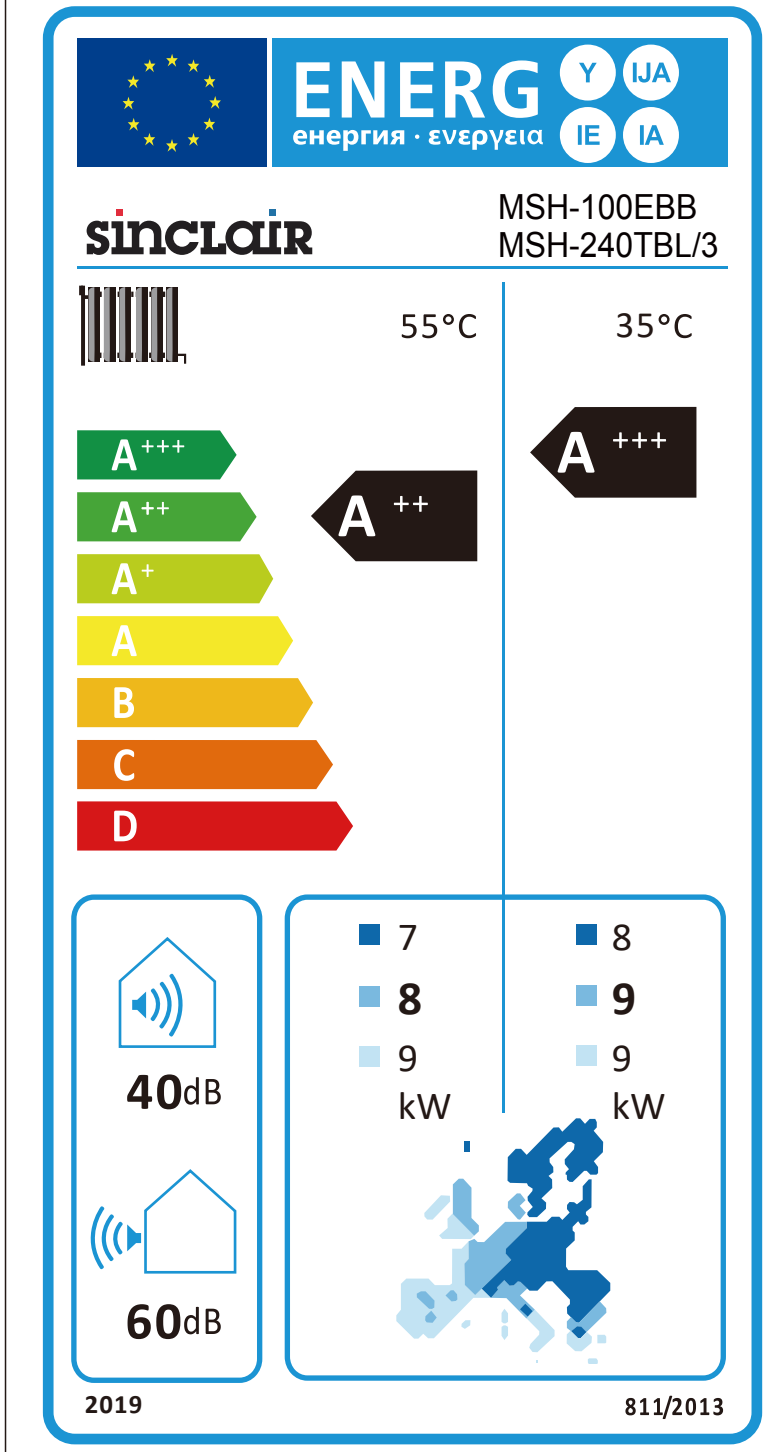
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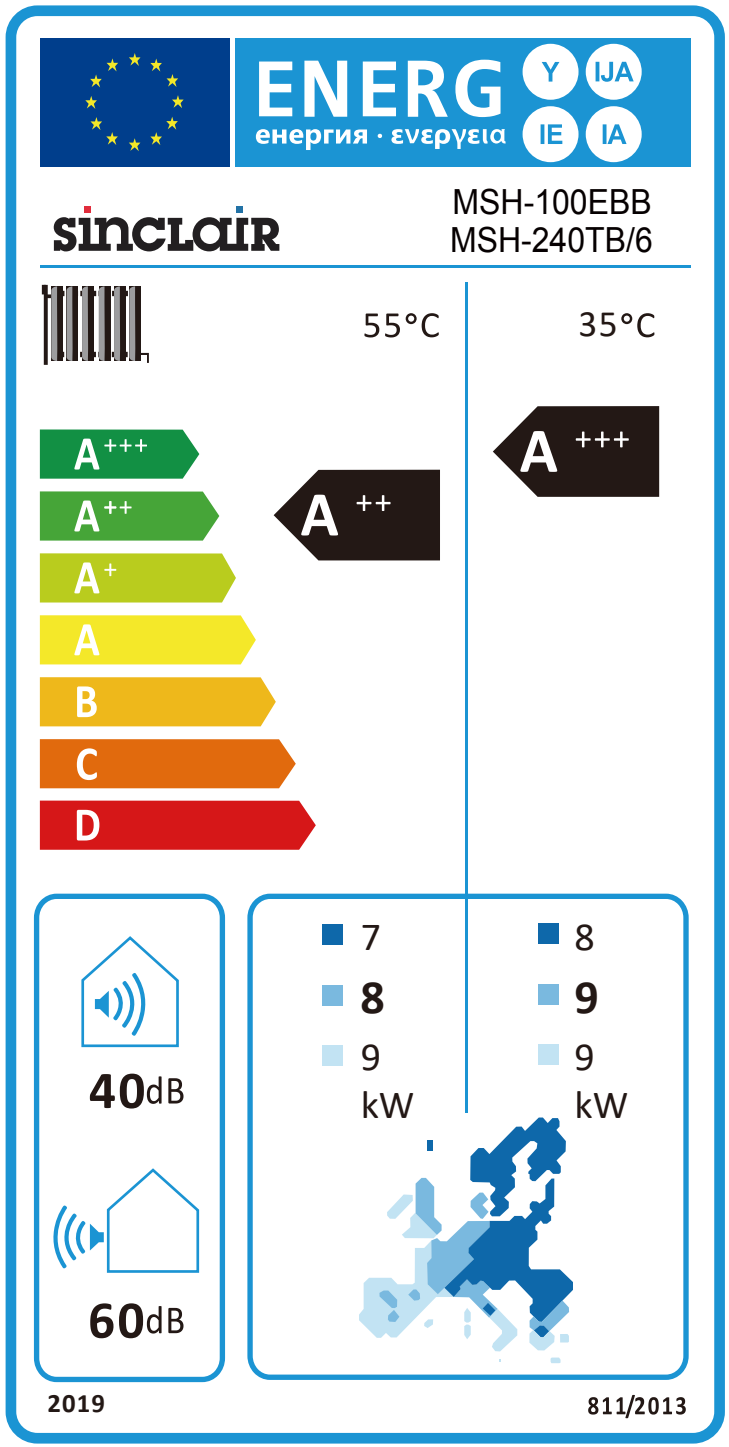
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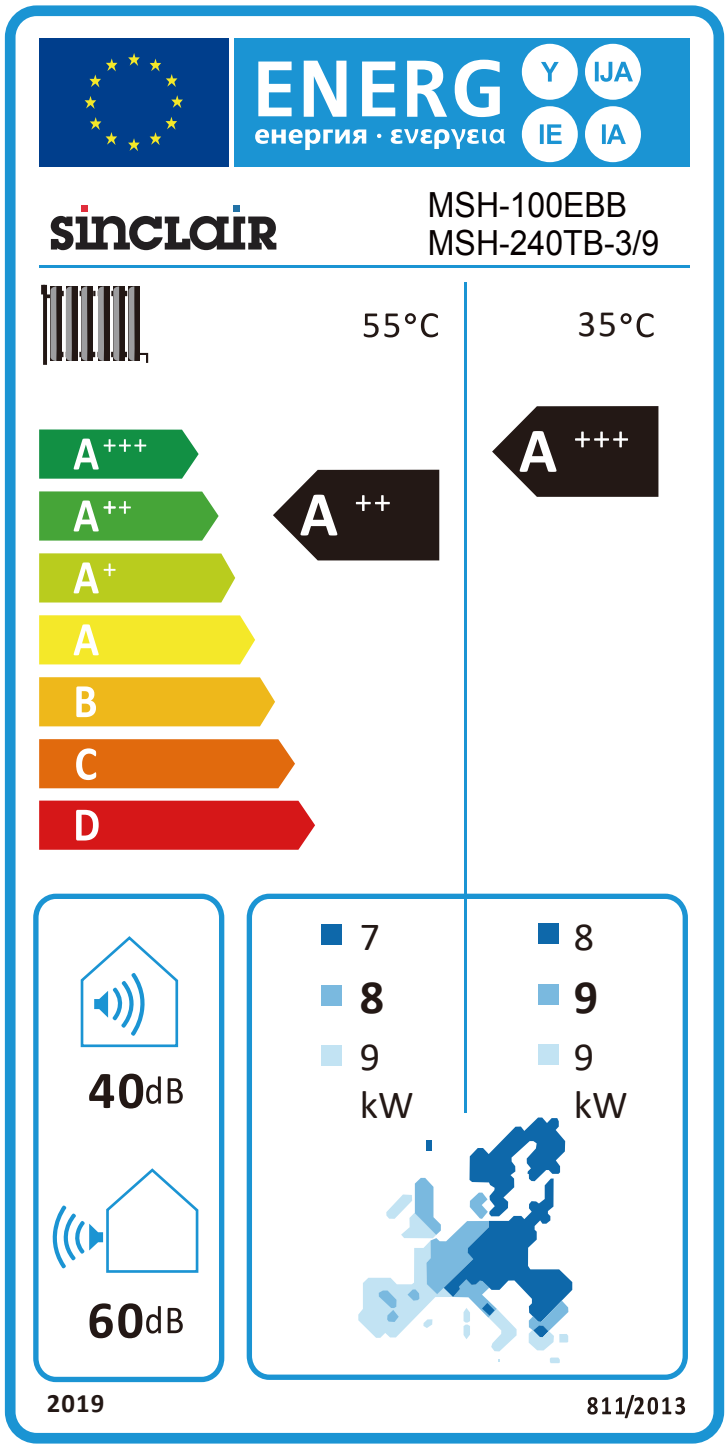
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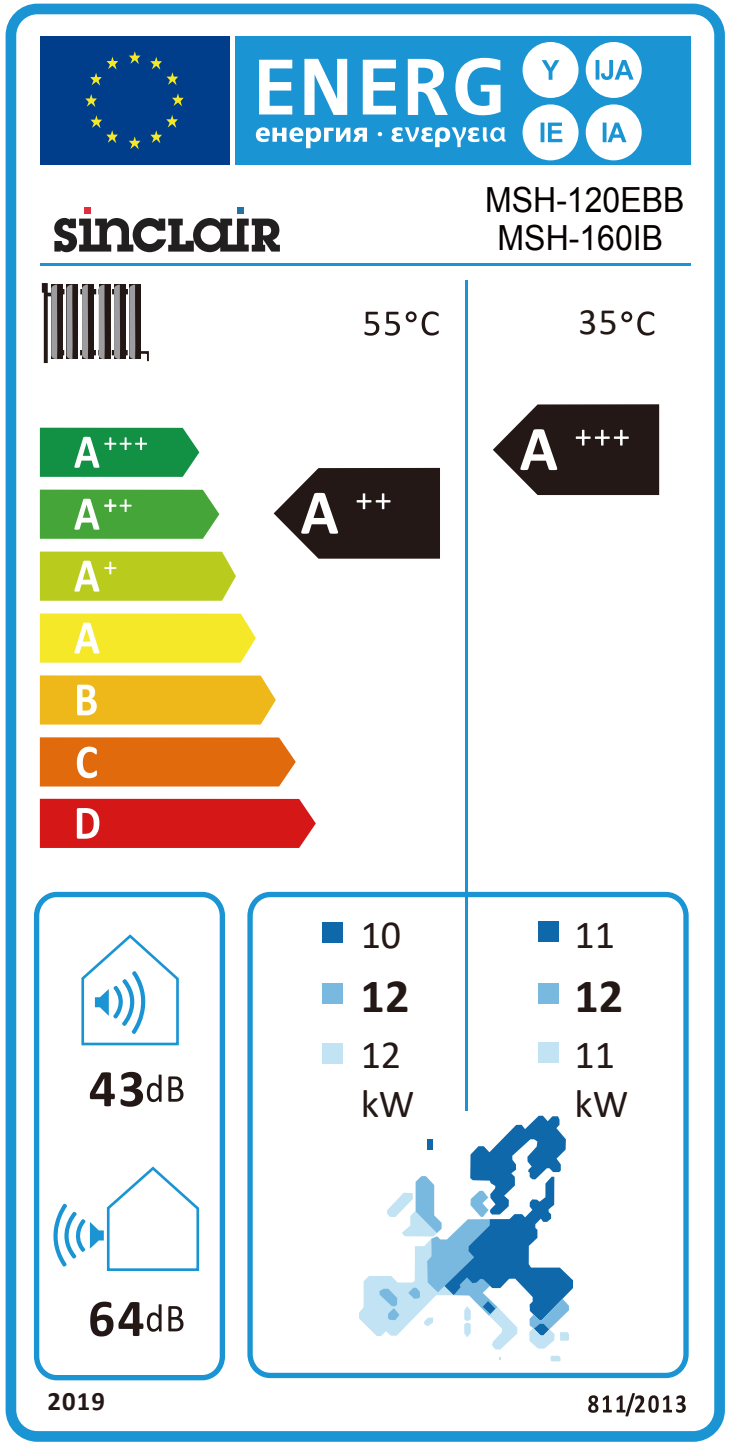
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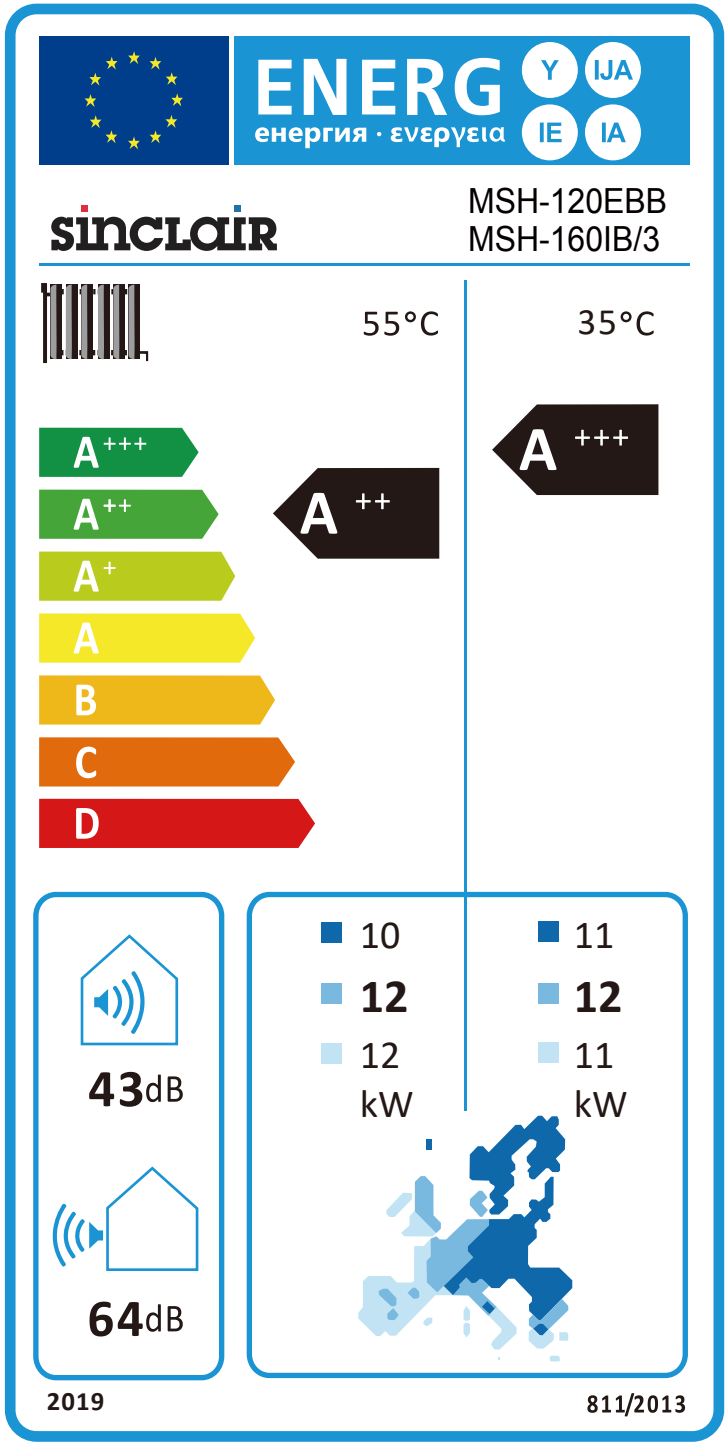
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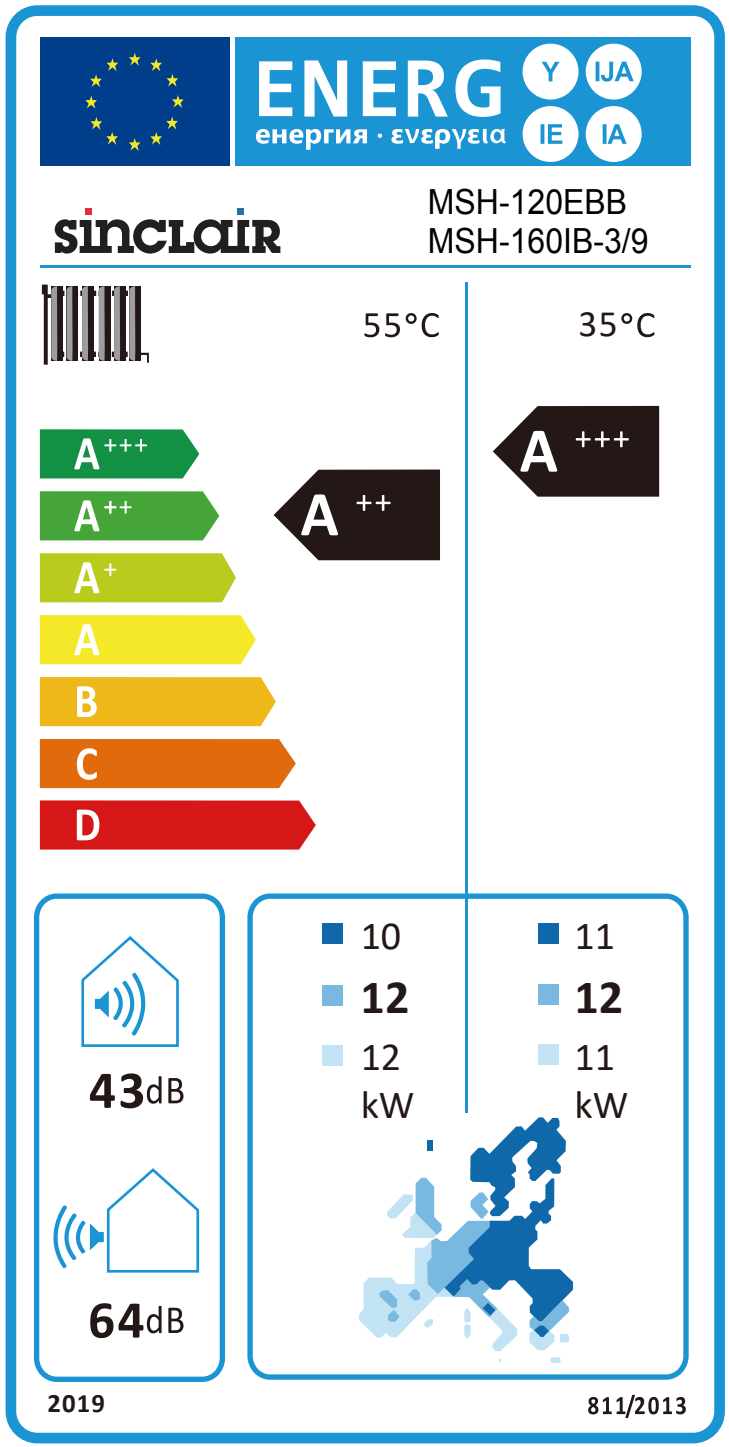
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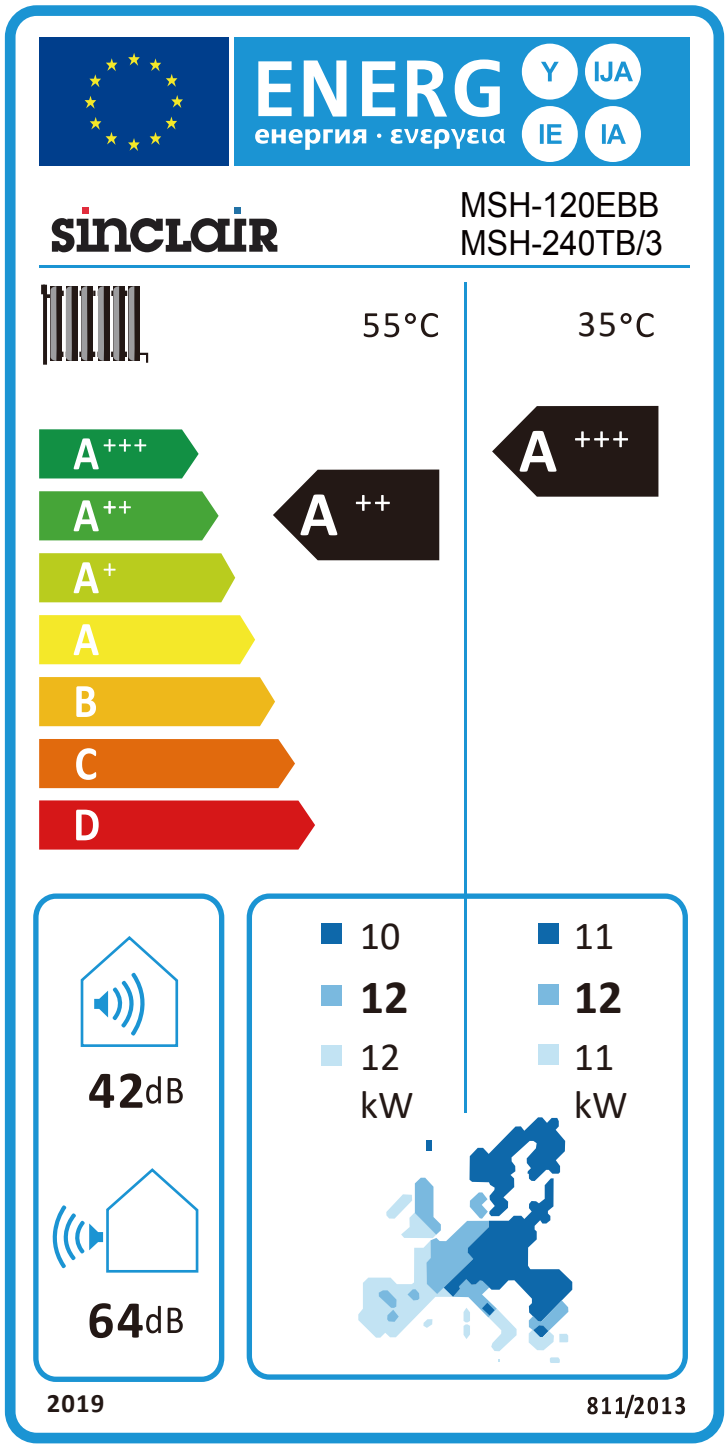
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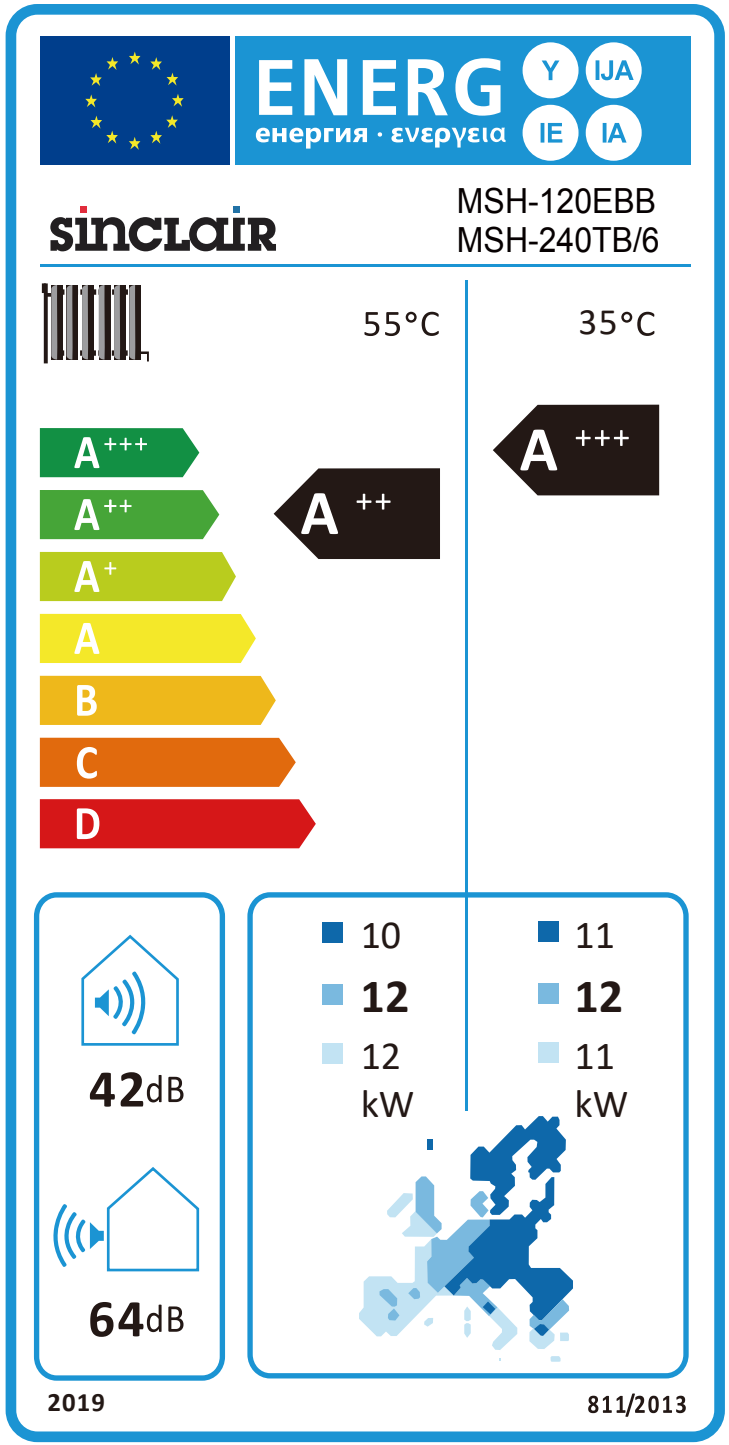
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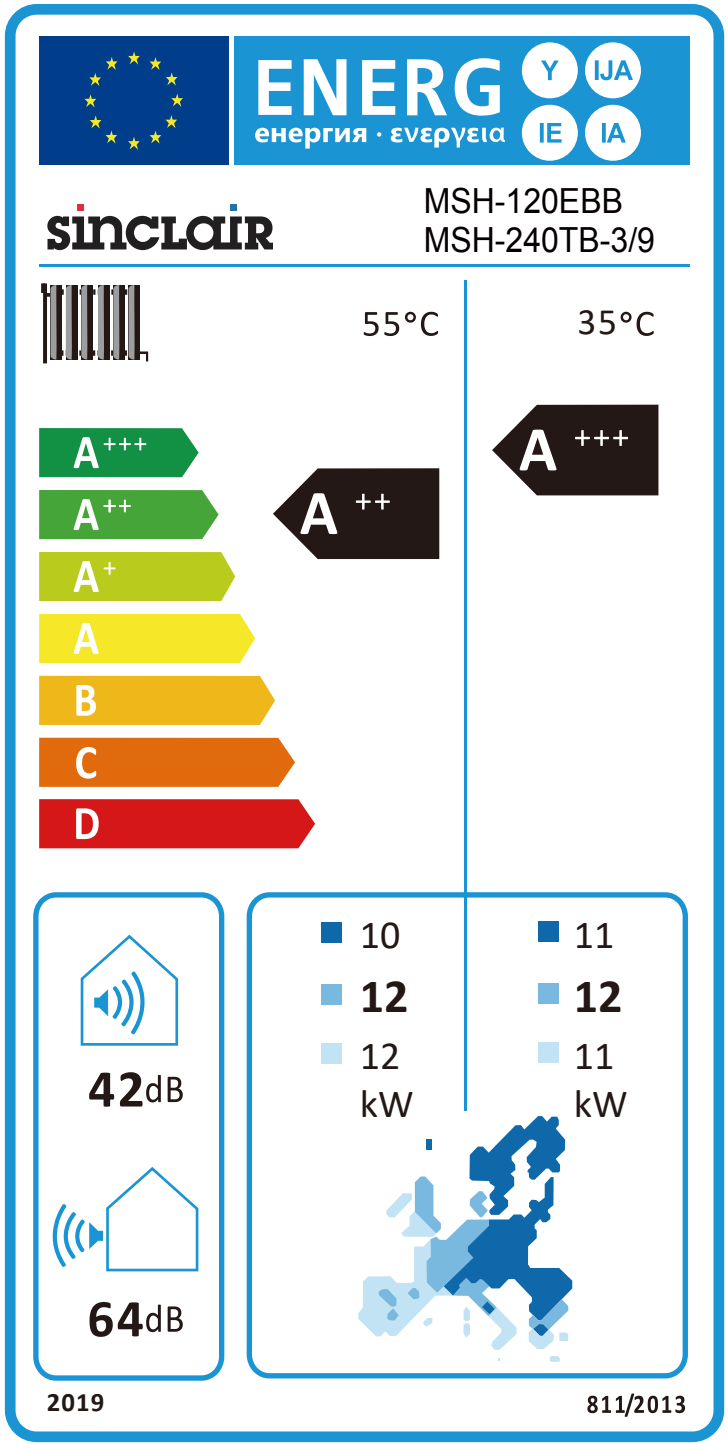
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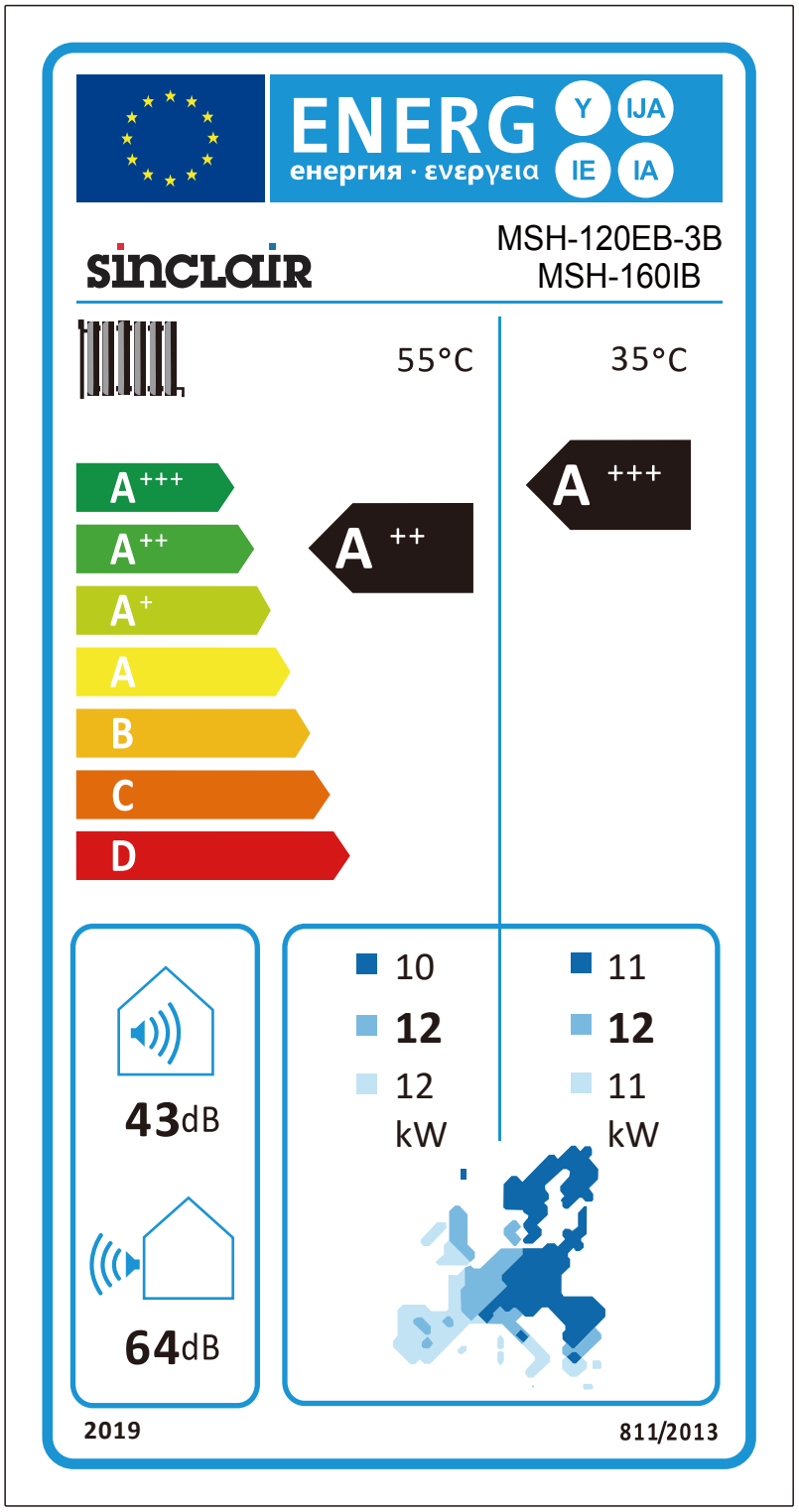
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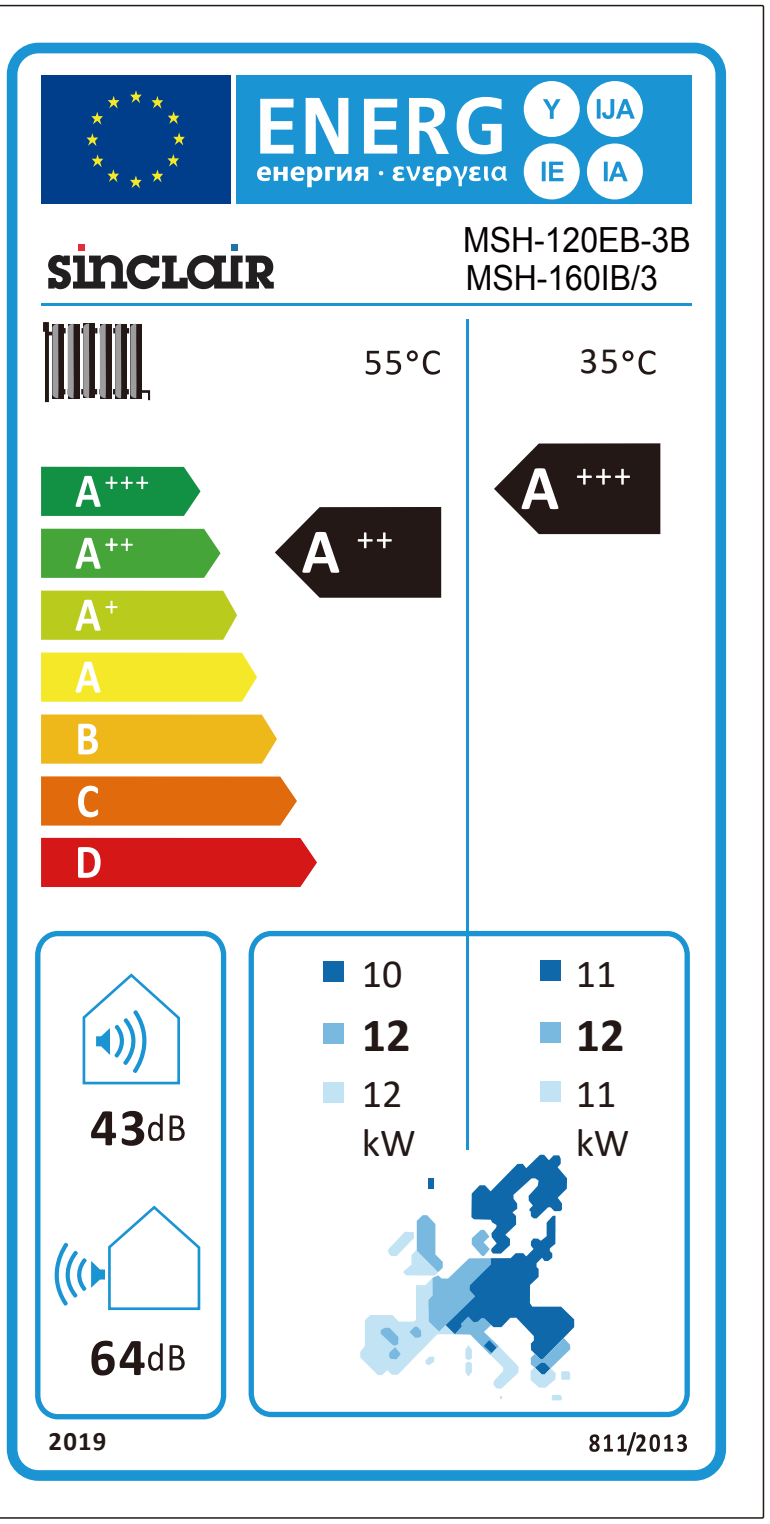
енергия · ενεργεια
sinclair
MSH-120EB-3B
MSH-160IB
55°C
35°C
A+++
A++
A+
A
B
C
D
A ++
A +++
43dB
64dB
10
12
12
kW
11
12
11
kW
2019
811/2013


ENERG
Y
IJA
IE
IA
енергия · ενεργεια
sinclair
MSH-120EB-3B
MSH-160IB/3
55°C
35°C
A+++
A++
A+
A
B
C
D
A ++
A +++
43dB
64dB
10
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kW
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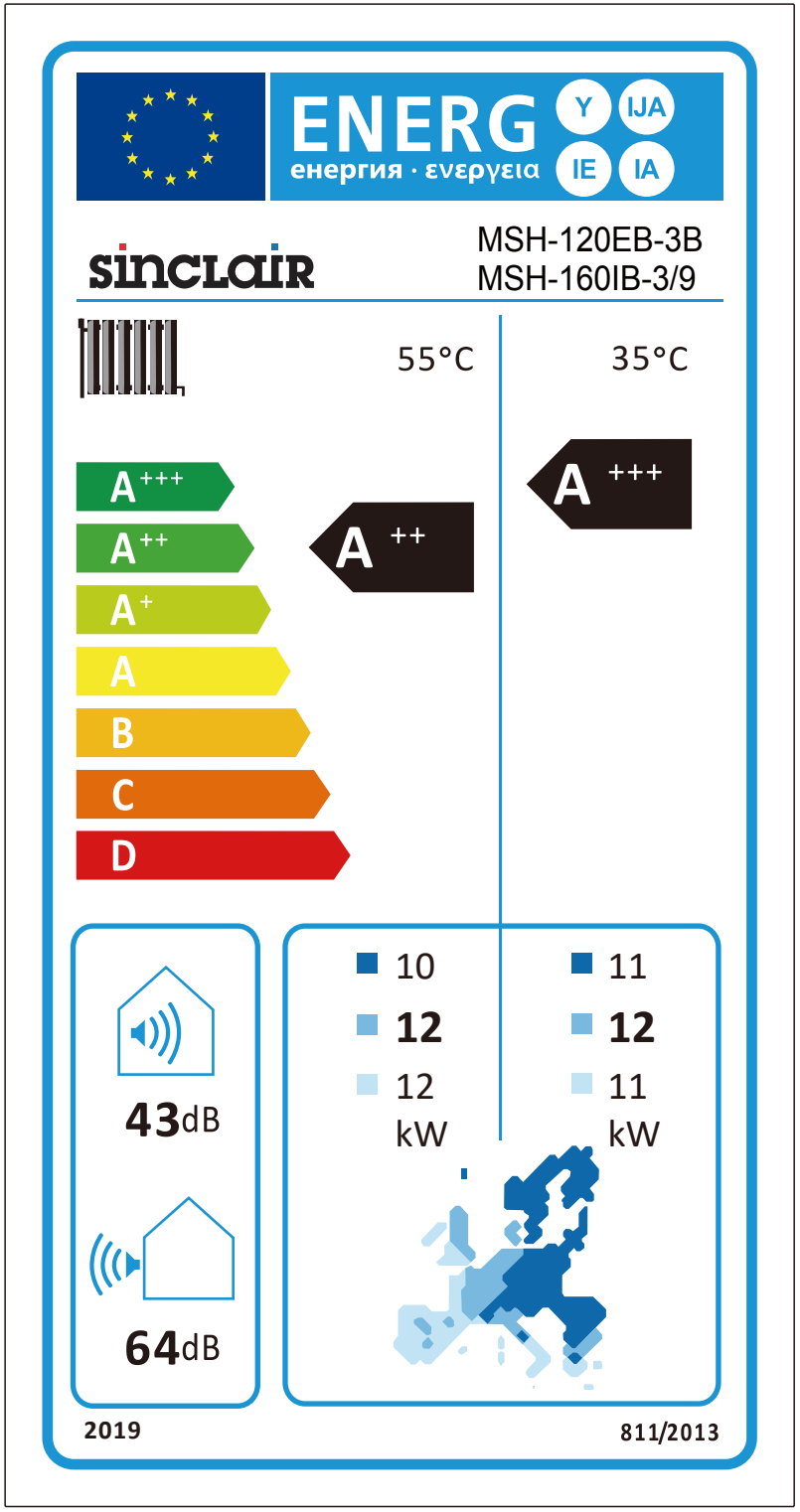
kW
2019
811/2013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енергия · ενεργεια
Y
IJA
IE
IA
sinclair
MSH-120EB-3B
MSH-160IB-3/9
55°C
35°C
A+++
A++
A+
A
B
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A ++
A +++
43dB
64dB
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kW
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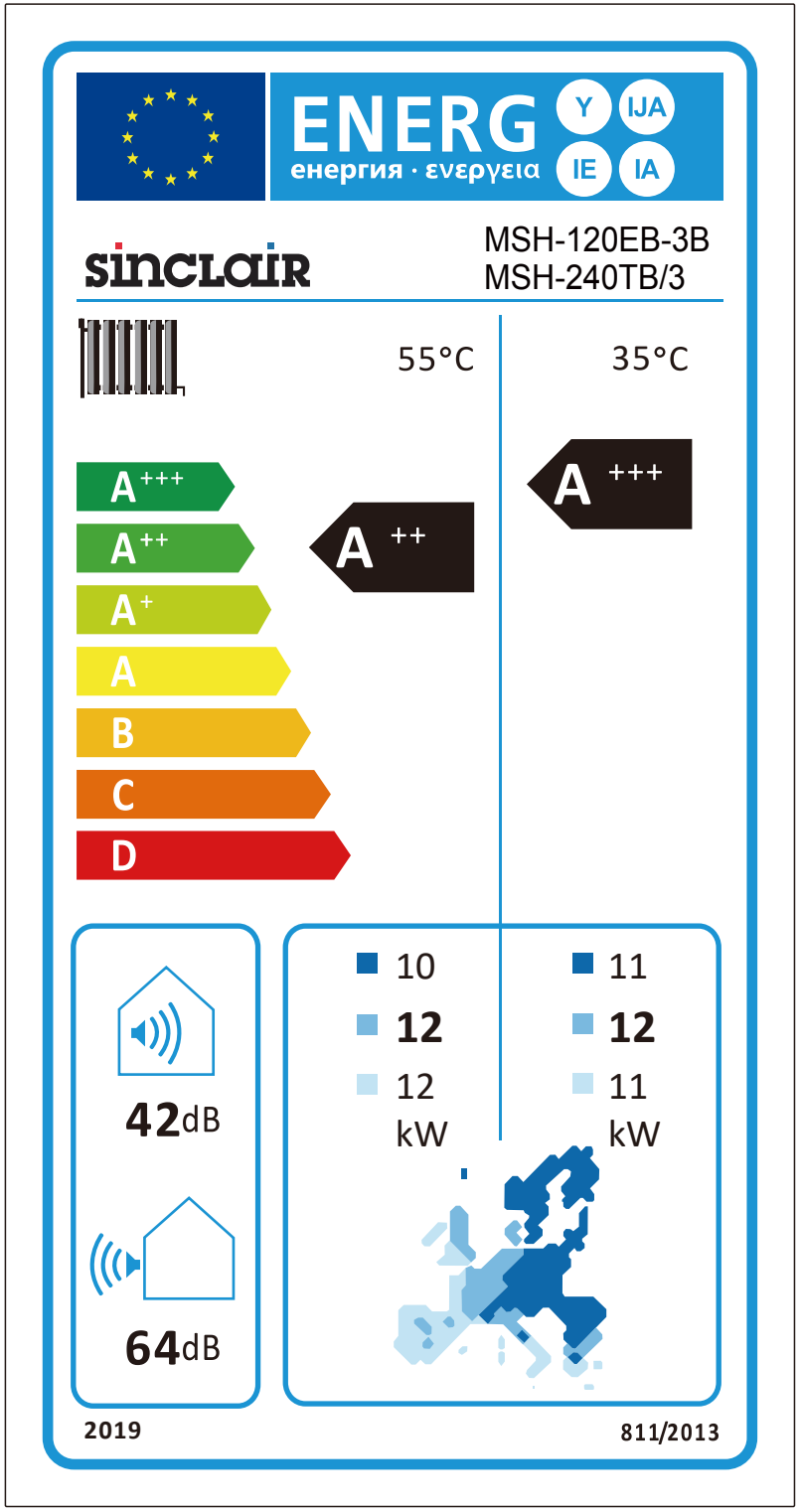
kW
2019
811/2013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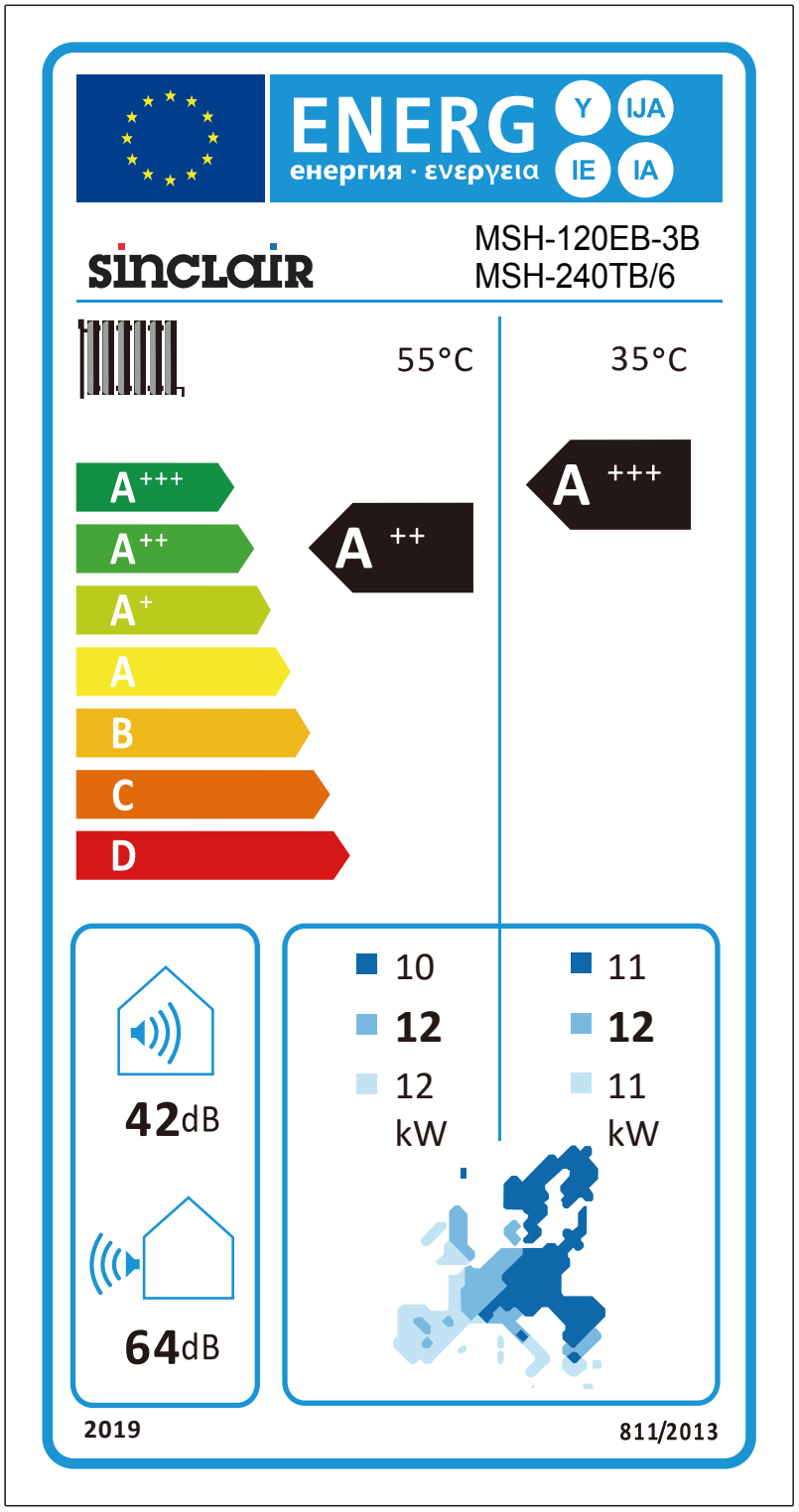
енергия · ενεργεια
Y
IJA
IE
IA
sinclair
MSH-120EB-3B
MSH-240TB/3
55°C
35°C
A+++
A++
A+
A
B
C
D
A ++
A +++
42dB
64dB
10
12
12
kW
11
12
11
kW
2019
811/2013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IJA
IE
IA
енергия · ενεργεια
sinclair
MSH-120EB-3B
MSH-240TB/6
55°C
35°C
A+++
A++
A+
A
B
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A ++
A +++
42dB
64dB
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kW
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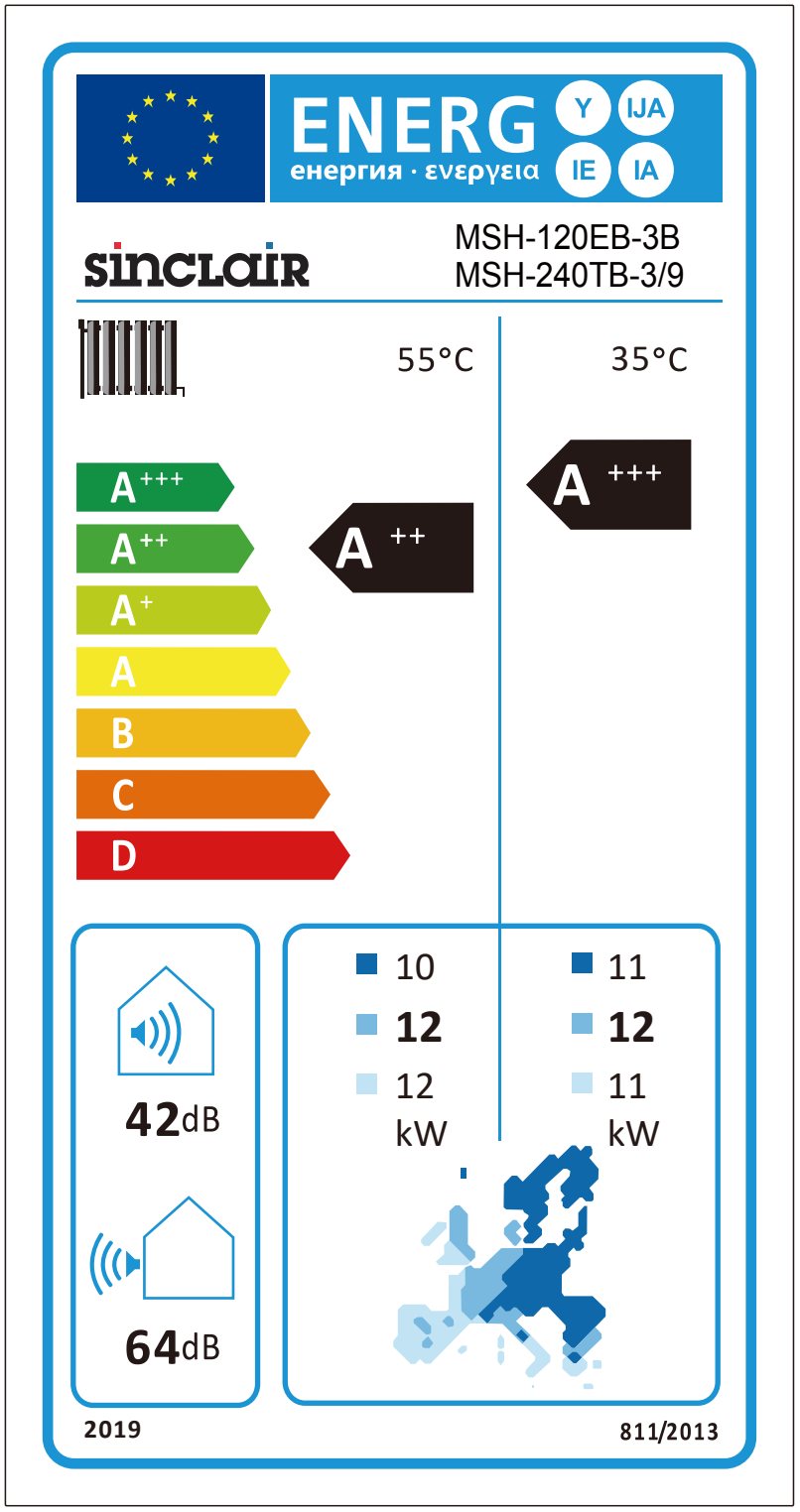
kW
2019
811/2013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IJA
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IA
енергия · ενεργεια
sinclair
MSH-120EB-3B
MSH-240TB-3/9
55°C
35°C
A+++
A++
A+
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A ++
A +++
42dB
64dB
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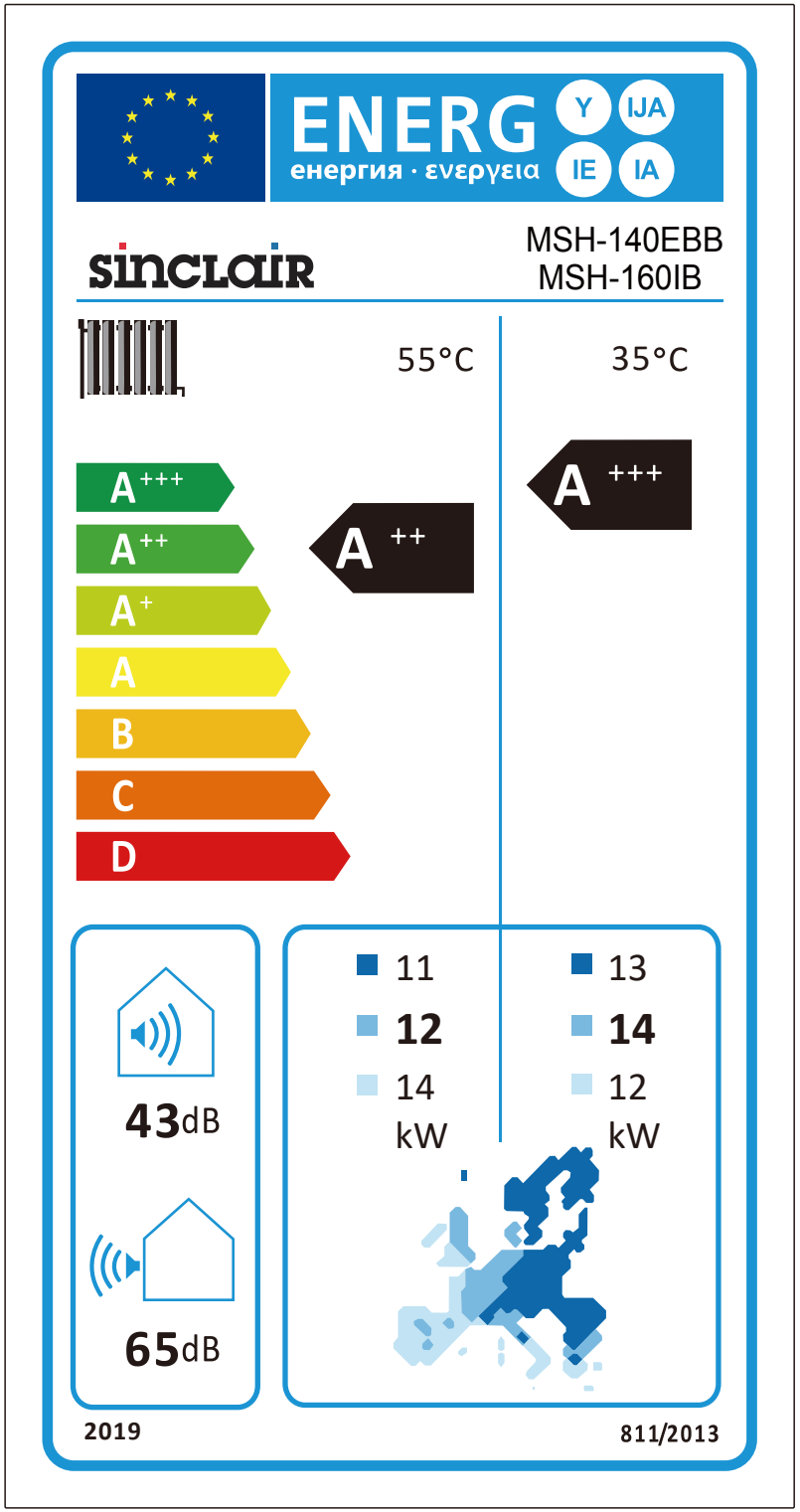
kW
2019
811/2013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енергия · ενεργεια
Y
IJA
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IA
sinclair
MSH-140EBB
MSH-160IB
55°C
35°C
A+++
A++
A+
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A ++
A +++
43dB
65dB
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kW
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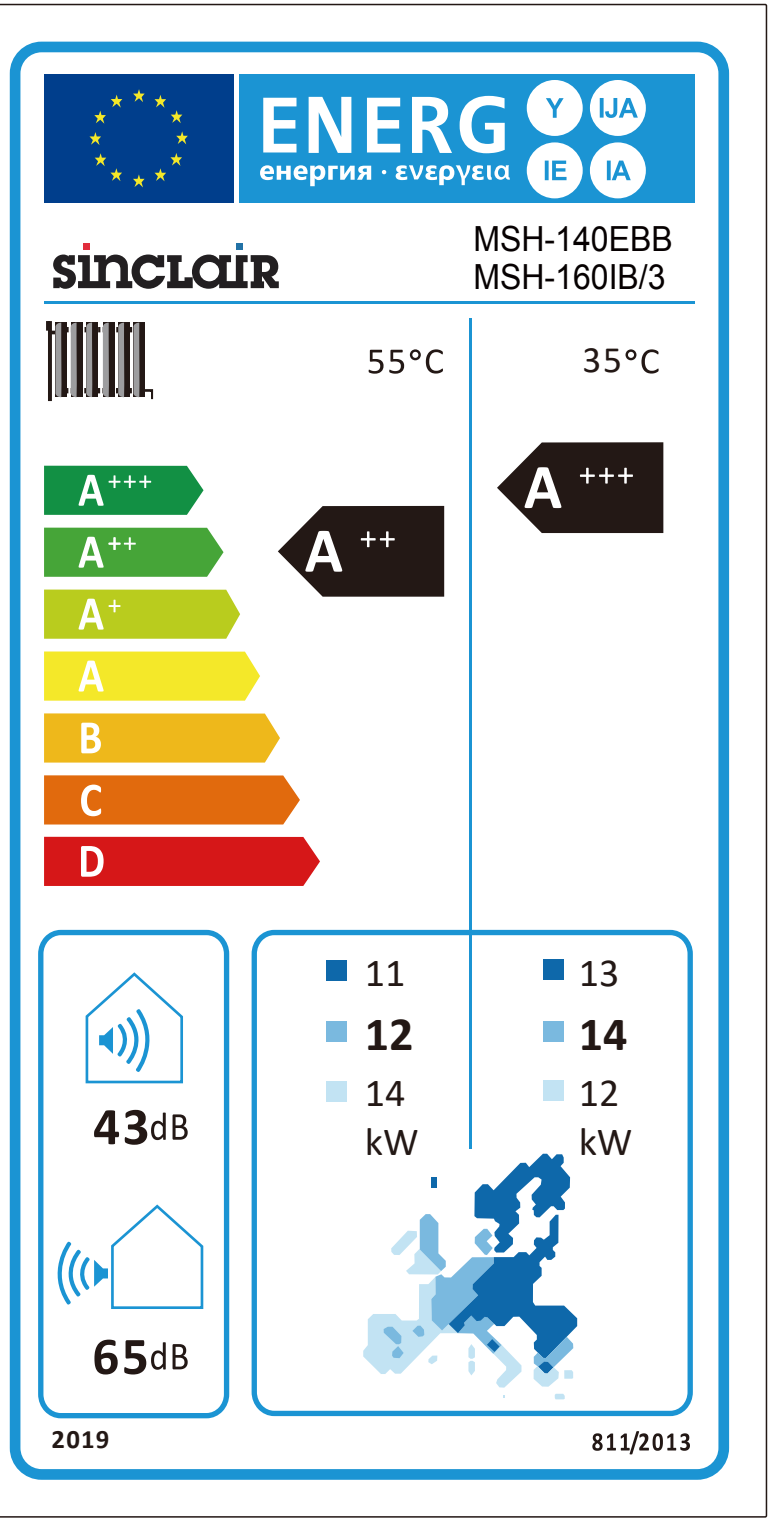
kW
2019
811/2013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енергия · ενεργεια
Y
IJA
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sinclair
MSH-140EBB
MSH-160IB/3
55°C
35°C
A+++
A++
A+
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A ++
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43dB
65dB
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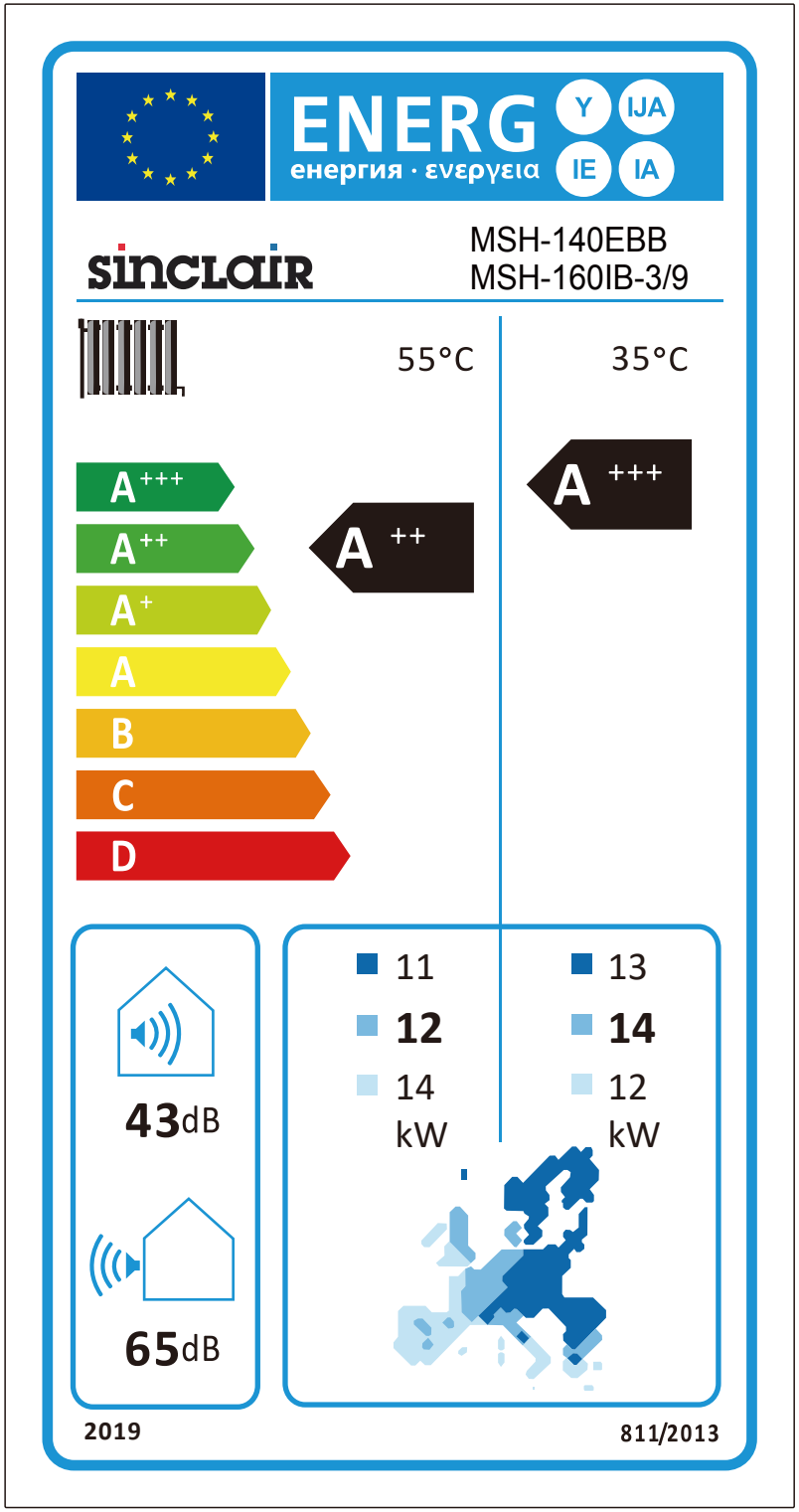
kW
2019
811/2013


ENERG
енергия · ενεργεια
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sinclair
MSH-140EBB
MSH-160IB-3/9
55°C
35°C
A +++
A ++
A +
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A ++
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43dB
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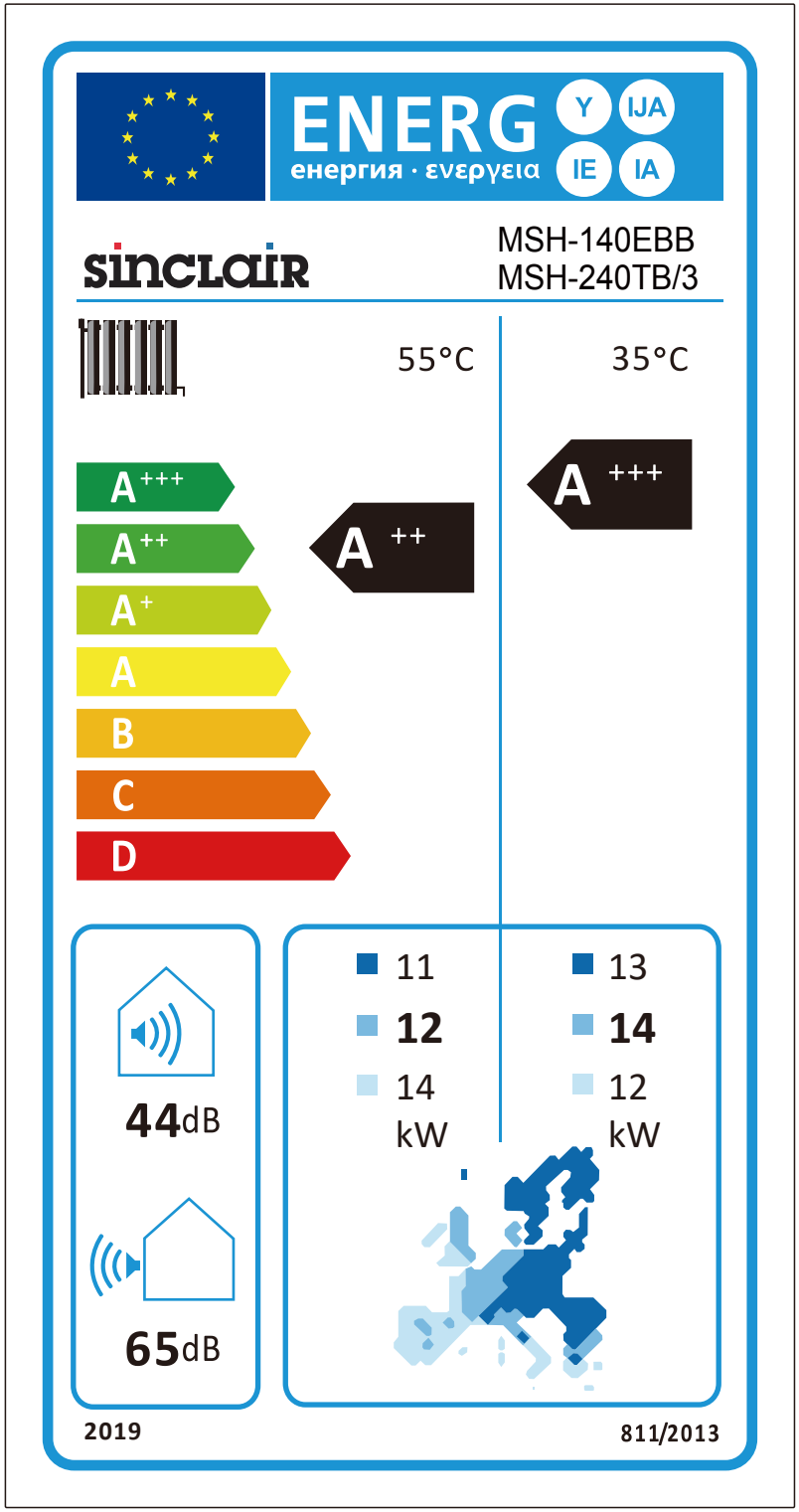
2019
811/2013


ENERG
енергия · ενεργεια
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IJA
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IA
sinclair
MSH-140EBB
MSH-240TB/3
55°C
35°C
A +++
A ++
A +
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A ++
A +++
44dB
65dB
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kW
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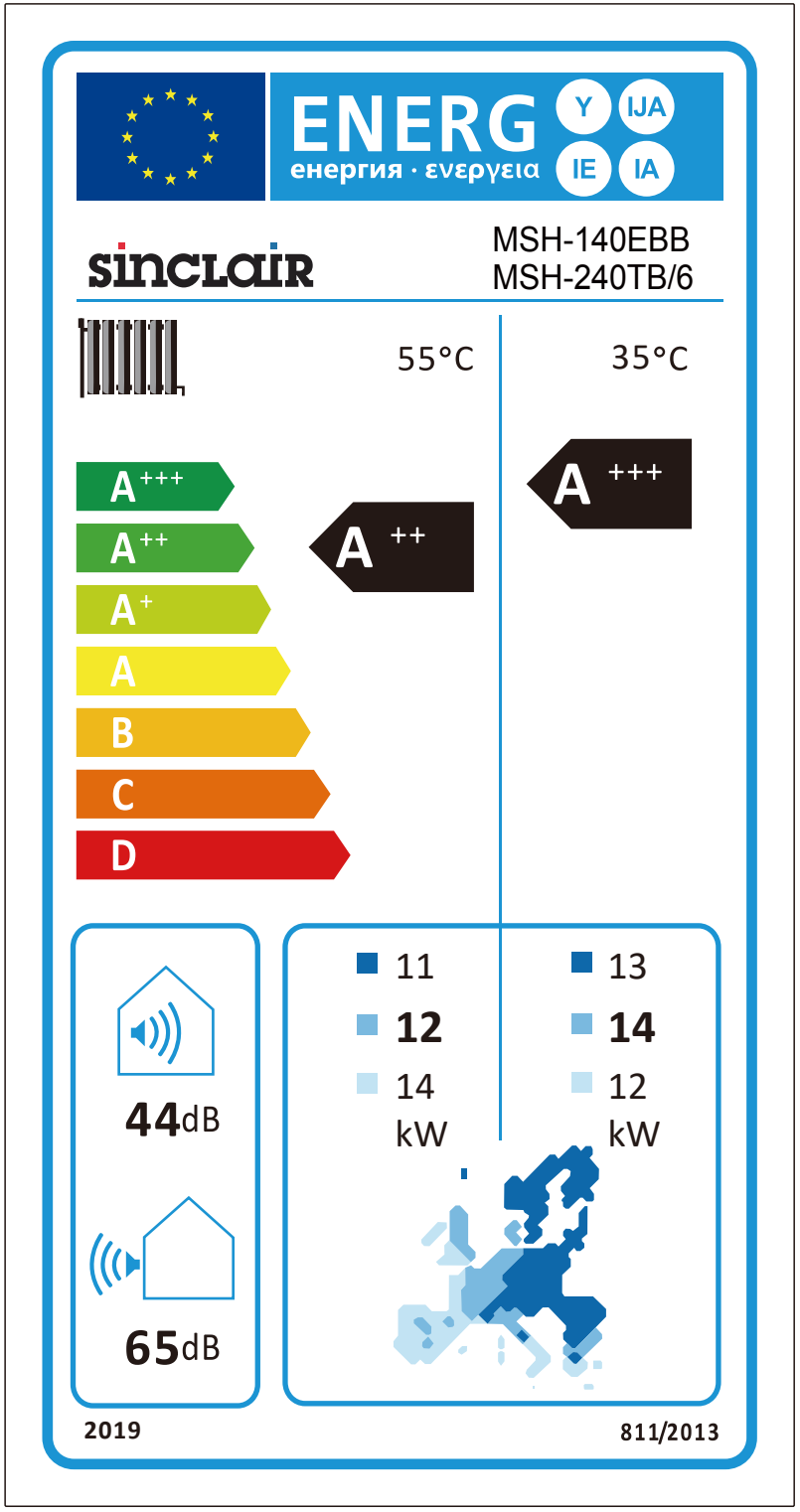
kW
2019
811/2013


ENERG
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енергия · ενεργεια
sinclair
MSH-140EBB
MSH-240TB/6
55°C
35°C
A+++
A++
A+
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A ++
A +++
44dB
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kW
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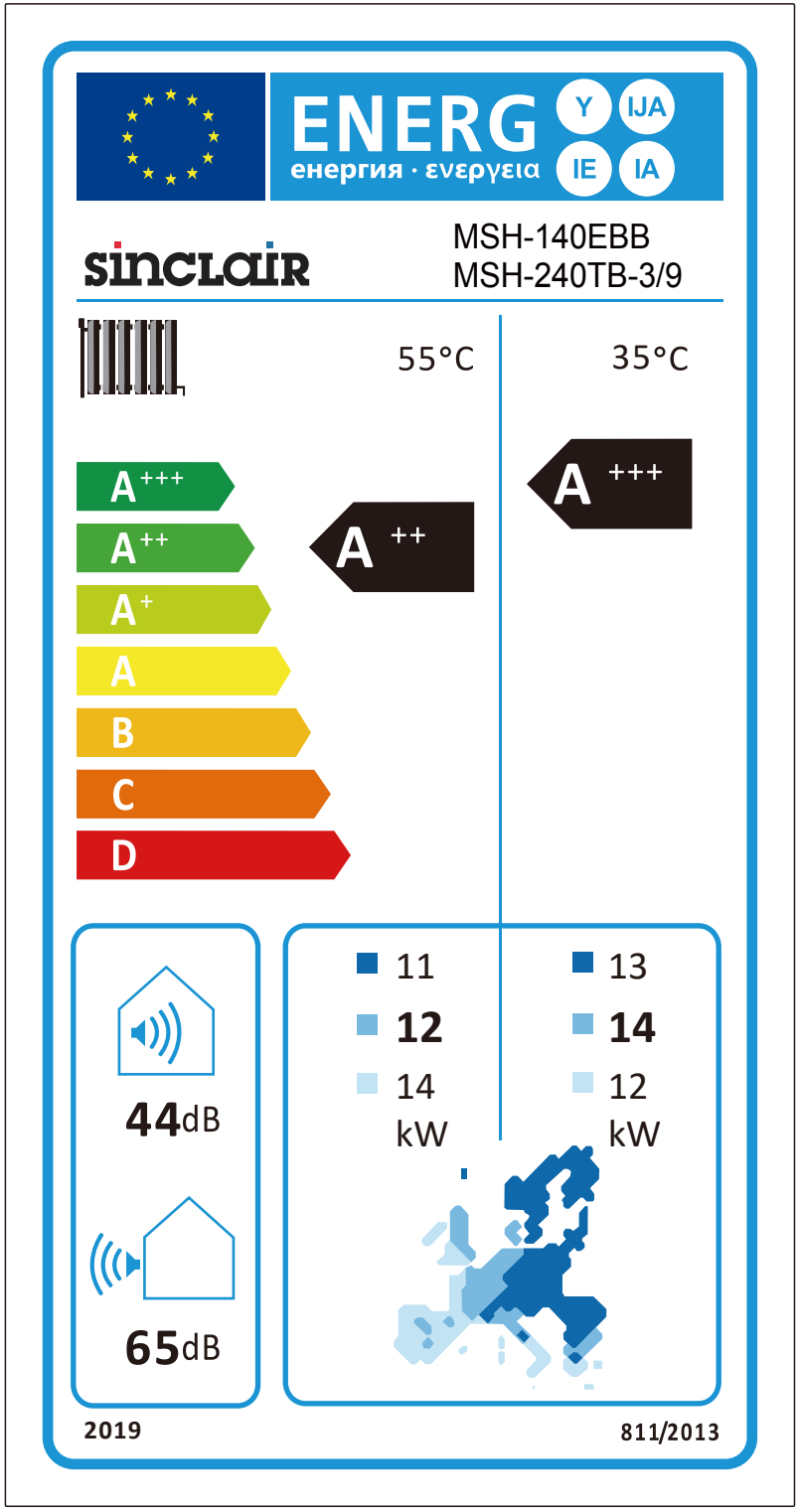
kW
2019
811/2013


ENERG
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енергия · ενεργεια
sinclair
MSH-140EBB
MSH-240TB-3/9
55°C
35°C
A+++
A++
A+
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A ++
A +++
44dB
65dB
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kW
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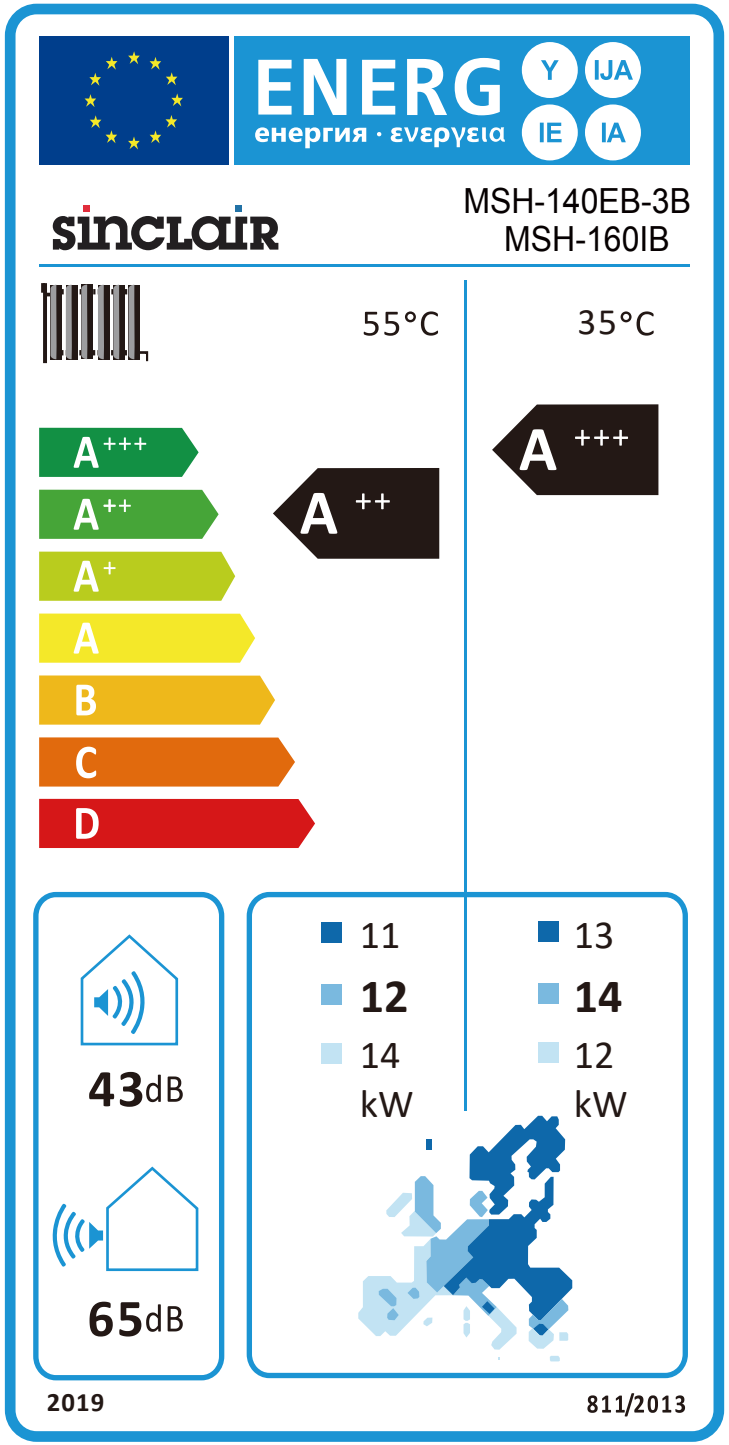
kW
2019
811/2013


ENERG
Y
IJA
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енергия · ενεργεια
sinclair
MSH-140EB-3B
MSH-160IB
55°C
35°C
A+++
A++
A+
A
B
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D
A++
A+++
43dB
65dB
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kW
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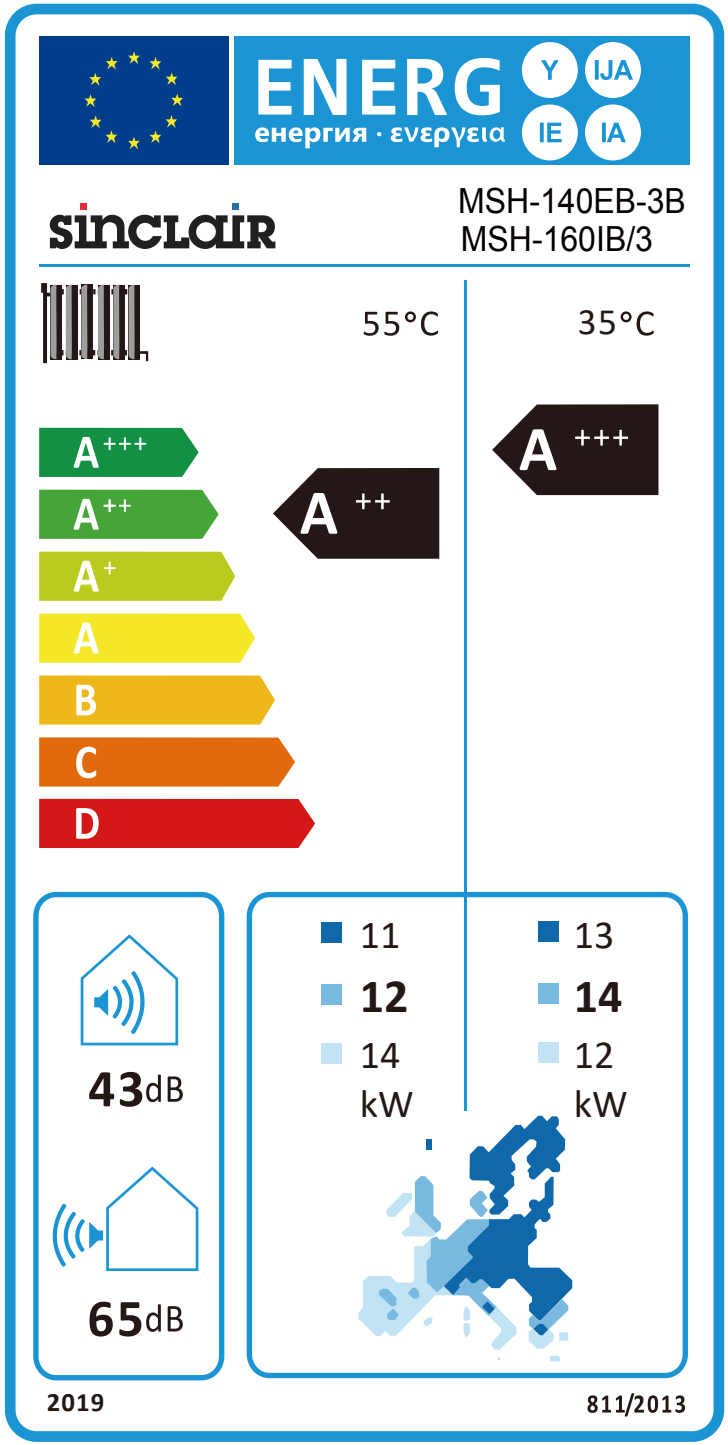
kW
2019
811/2013


ENERG
Y
IJA
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енергия · ενεργεια
sinclair
MSH-140EB-3B
MSH-160IB/3
55°C
35°C
A+++
A++
A+
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A++
A+++
43dB
65dB
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kW
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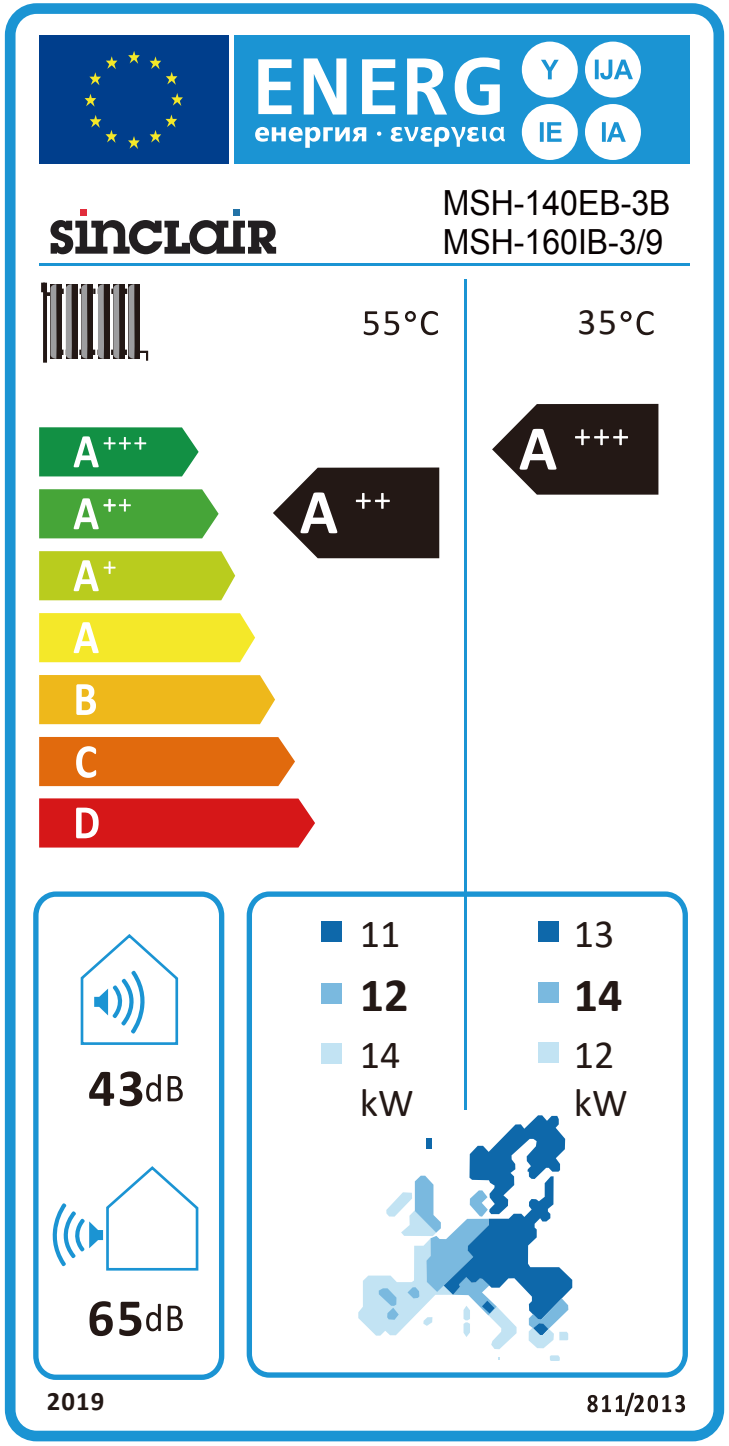
kW
2019
811/2013


ENERG
Y
IJA
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енергия · ενεργεια
sinclair
MSH-140EB-3B
MSH-160IB-3/9
55°C
35°C
A+++
A++
A+
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A++
A+++
43dB
65dB
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kW
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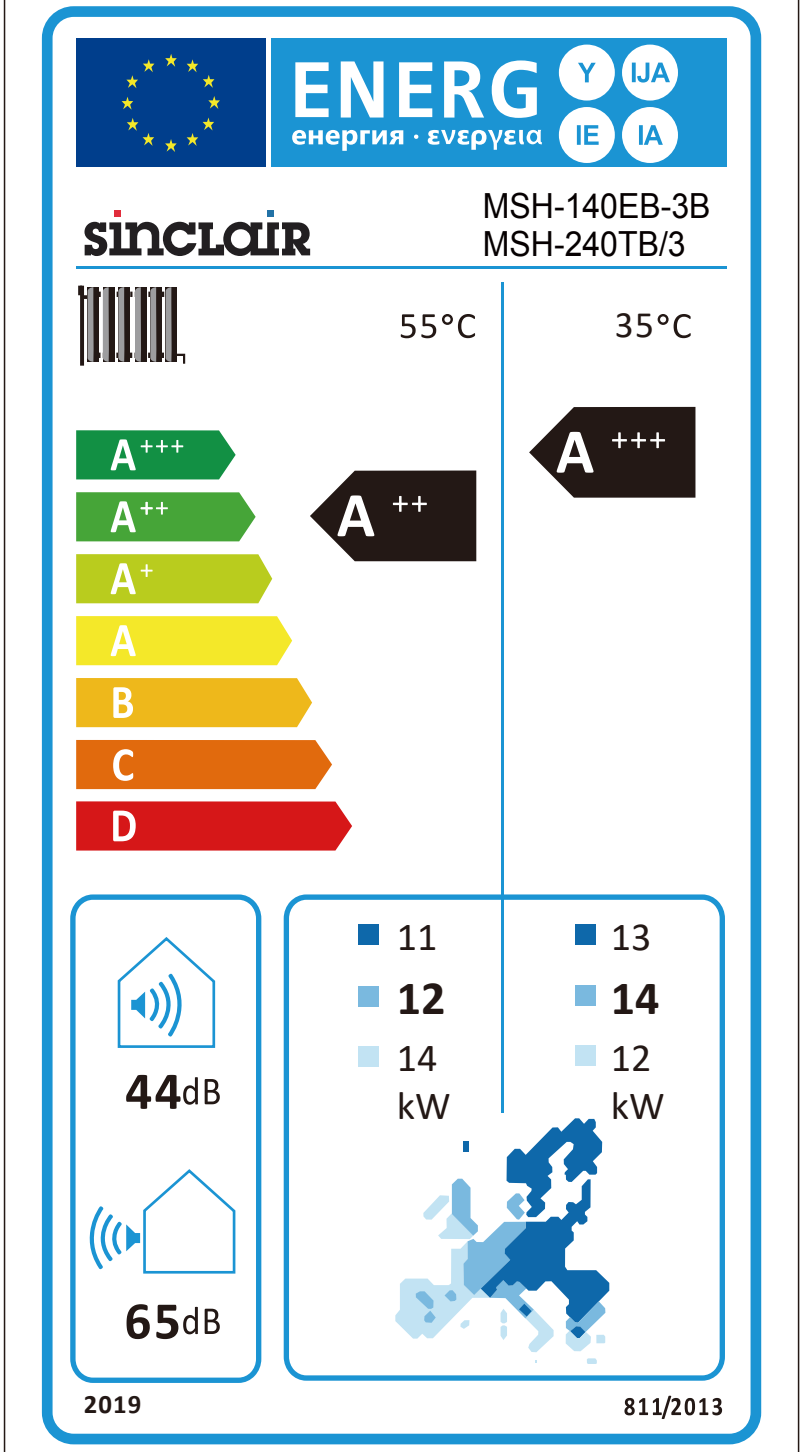
kW
2019
811/2013


ENERG
Y
IJA
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IA
енергия · ενεργεια
sinclair
MSH-140EB-3B
MSH-240TB/3
55°C
35°C
A+++
A++
A+
A
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A++
A+++
44dB
65dB
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kW
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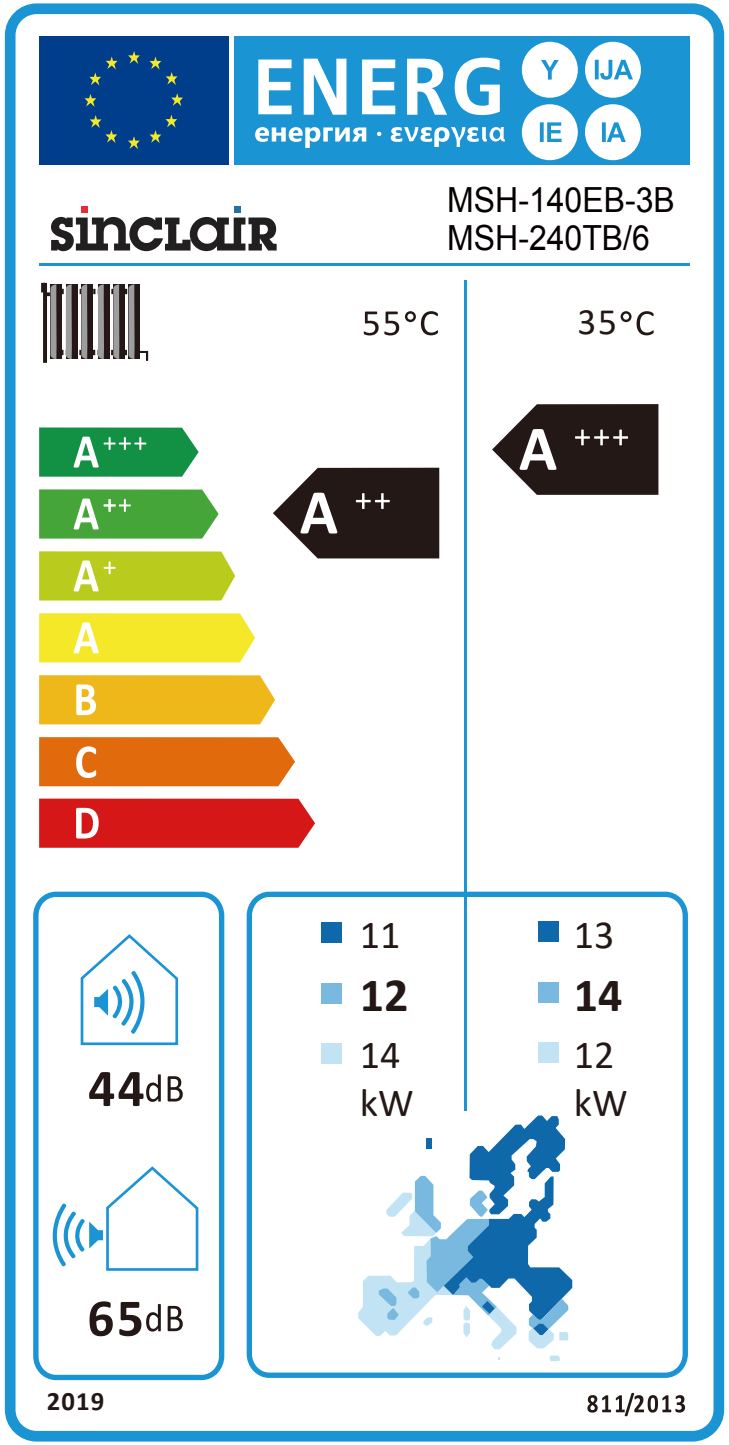
kW
2019
811/2013


ENERG
енергия · ενεργεια
Y
IJA
IE
IA
sinclair
MSH-140EB-3B
MSH-240TB/6
55°C
35°C
A+++
A++
A+
A
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A++
A+++
44dB
65dB
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kW
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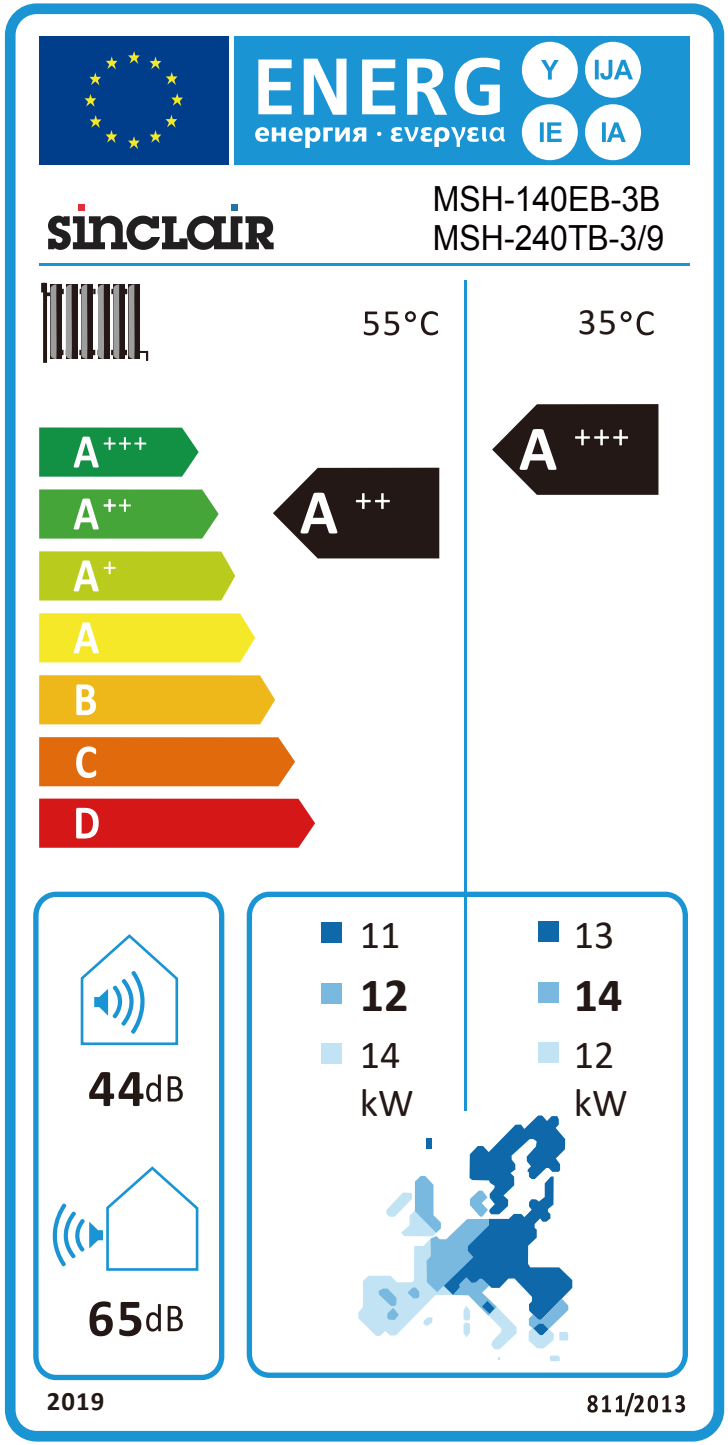
kW
2019
811/2013


ENERG
енергия · ενεργεια
Y
IJA
IE
IA
sinclair
MSH-140EB-3B
MSH-240TB-3/9
55°C
35°C
A+++
A++
A+
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A++
A+++
44dB
65dB
11
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kW
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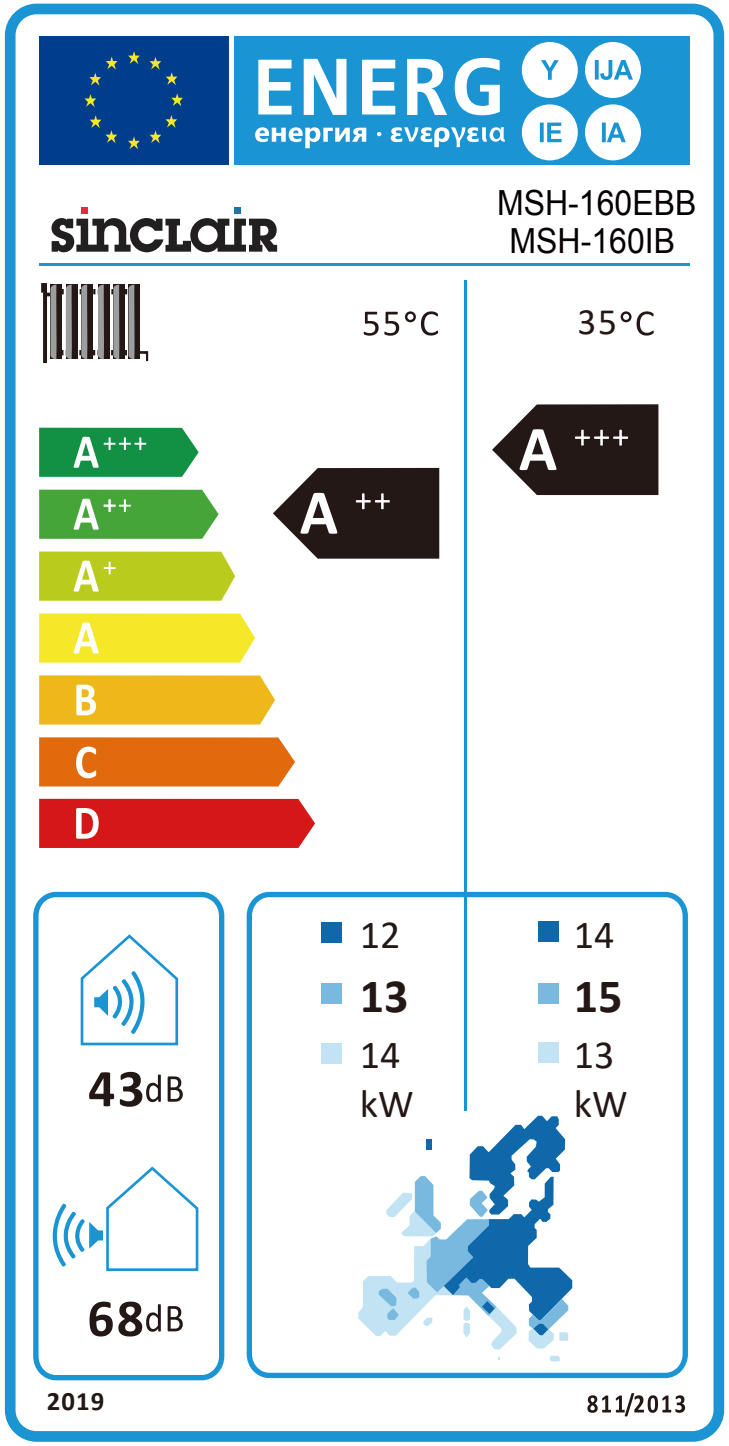
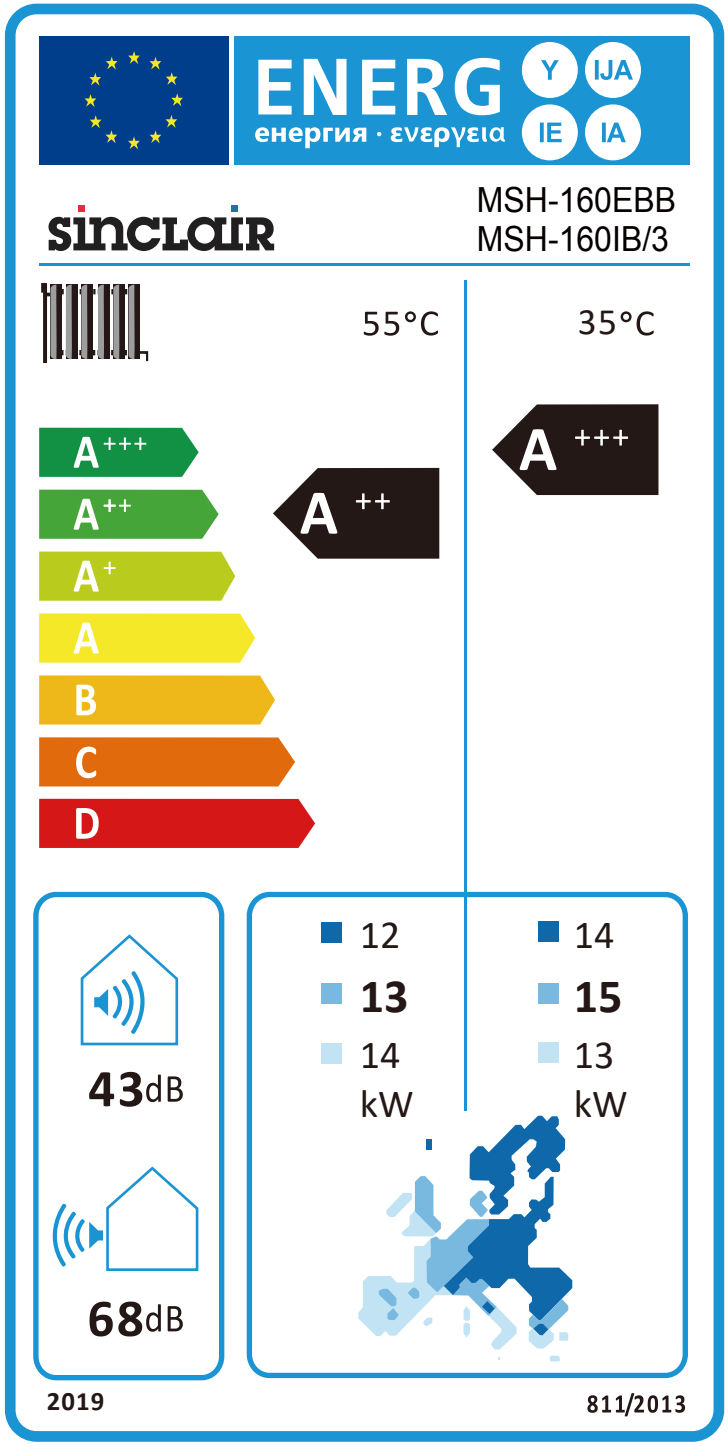
kW
2019
811/2013


ENERG
енергия · ενεργεια
Y
IJA
IE
IA
sinclair
MSH-160EBB
MSH-160IB
55°C
35°C
A +++
A ++
A +
A
B
C
D
A ++
A +++
43dB
68dB
12
13
14
kW
14
15
13
kW
2019
811/2013


ENERG
енергия · ενεργεια
Y
IJA
IE
IA
sinclair
MSH-160EBB
MSH-160IB/3
55°C
35°C
A +++
A ++
A +
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A ++
A +++
43dB
68dB
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kW
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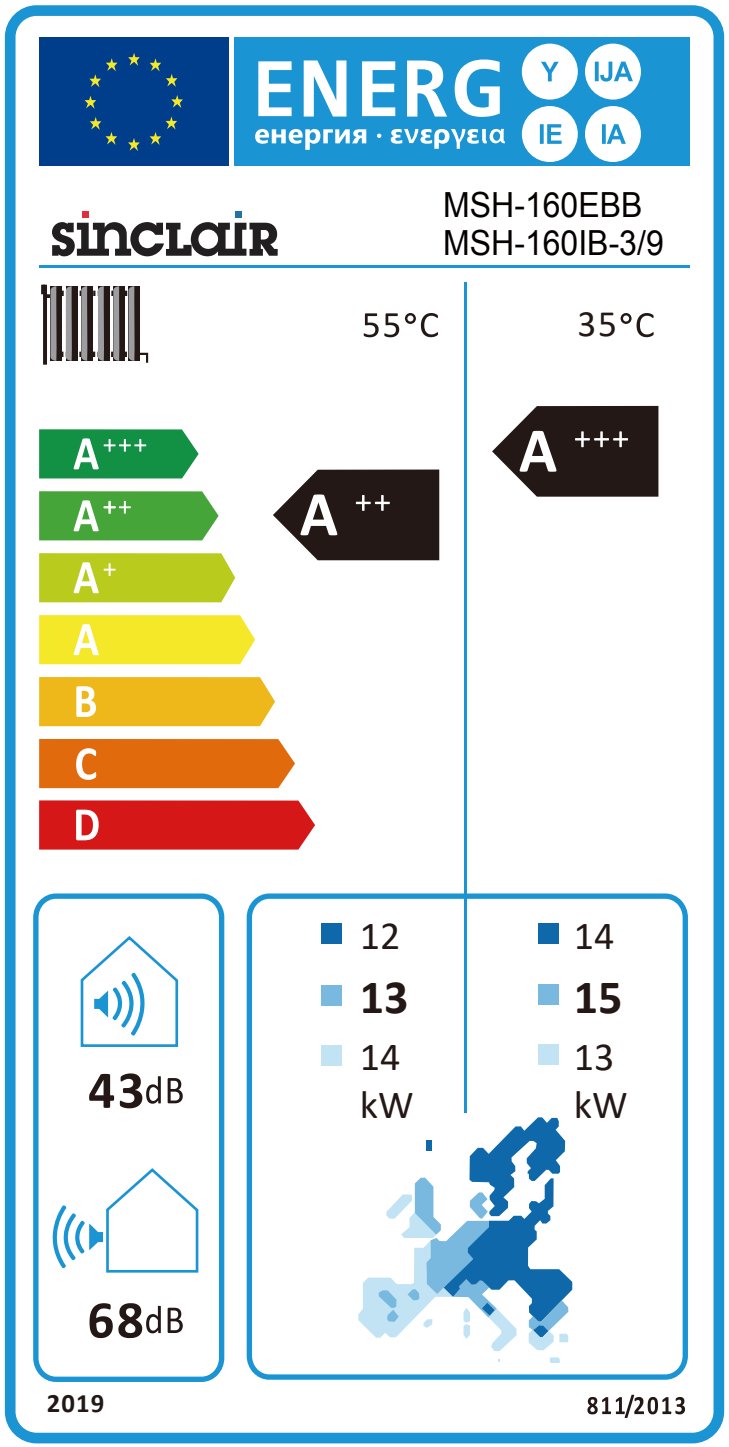
kW
2019
811/2013


ENERG
енергия · ενεργεια
Y
IJA
IE
IA
sinclair
MSH-160EBB
MSH-160IB-3/9
55°C
35°C
A+++
A++
A+
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A++
A+++
43dB
68dB
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kW
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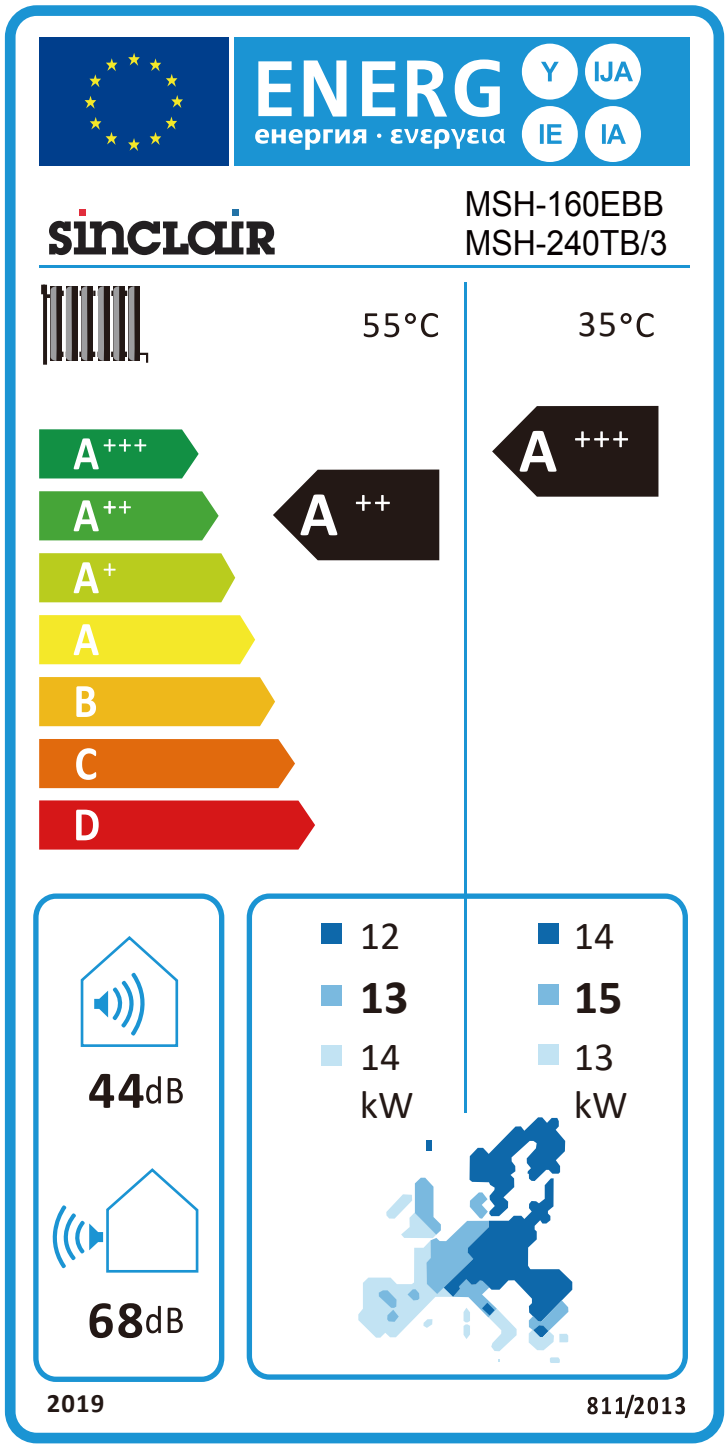
kW
2019
811/2013


ENERG
енергия · ενεργεια
Y
IJA
IE
IA
sinclair
MSH-160EBB
MSH-240TB/3
55°C
35°C
A+++
A++
A+
A
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A++
A+++
44dB
68dB
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kW
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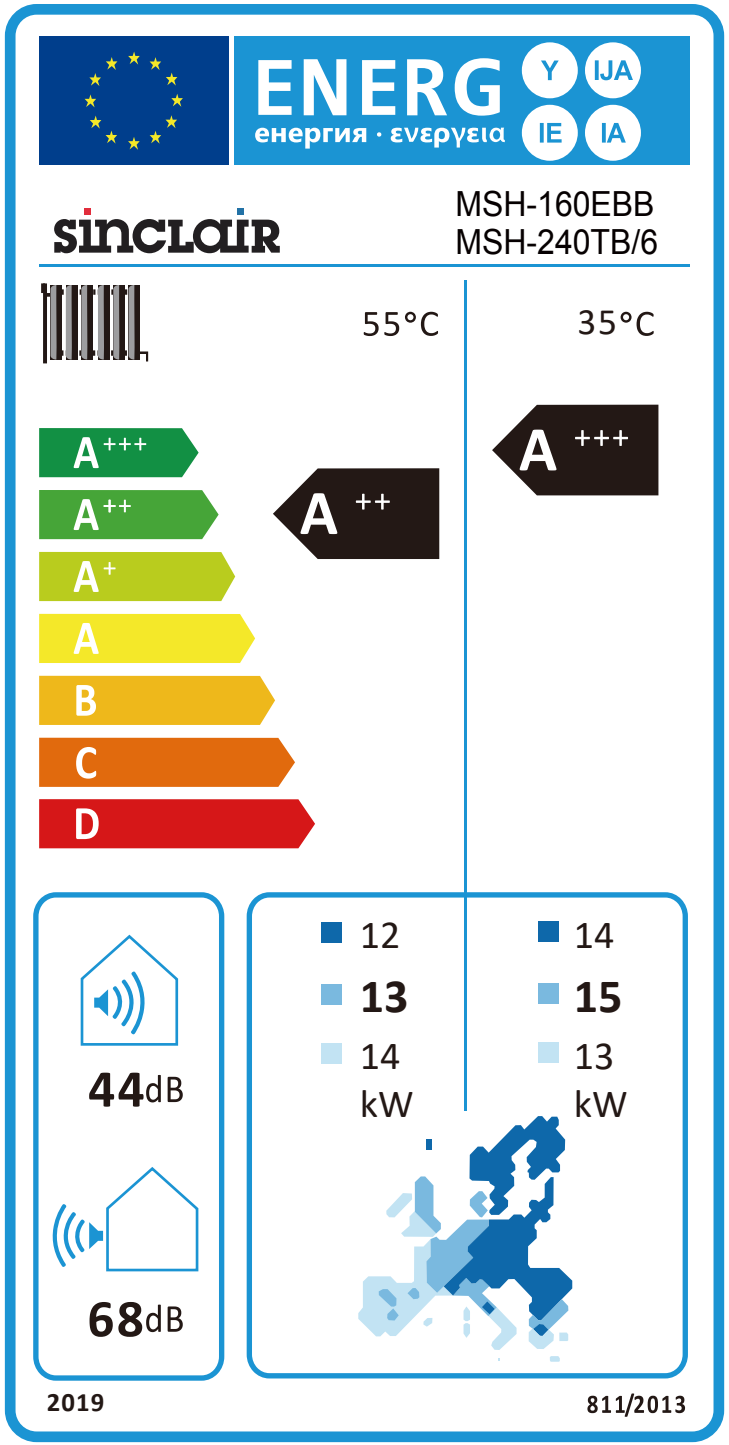
kW
2019
811/2013


ENERG
енергия · ενεργεια
Y
IJA
IE
IA
sinclair
MSH-160EBB
MSH-240TB/6
55°C
35°C
A+++
A++
A+
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A++
A+++
44dB
68dB
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kW
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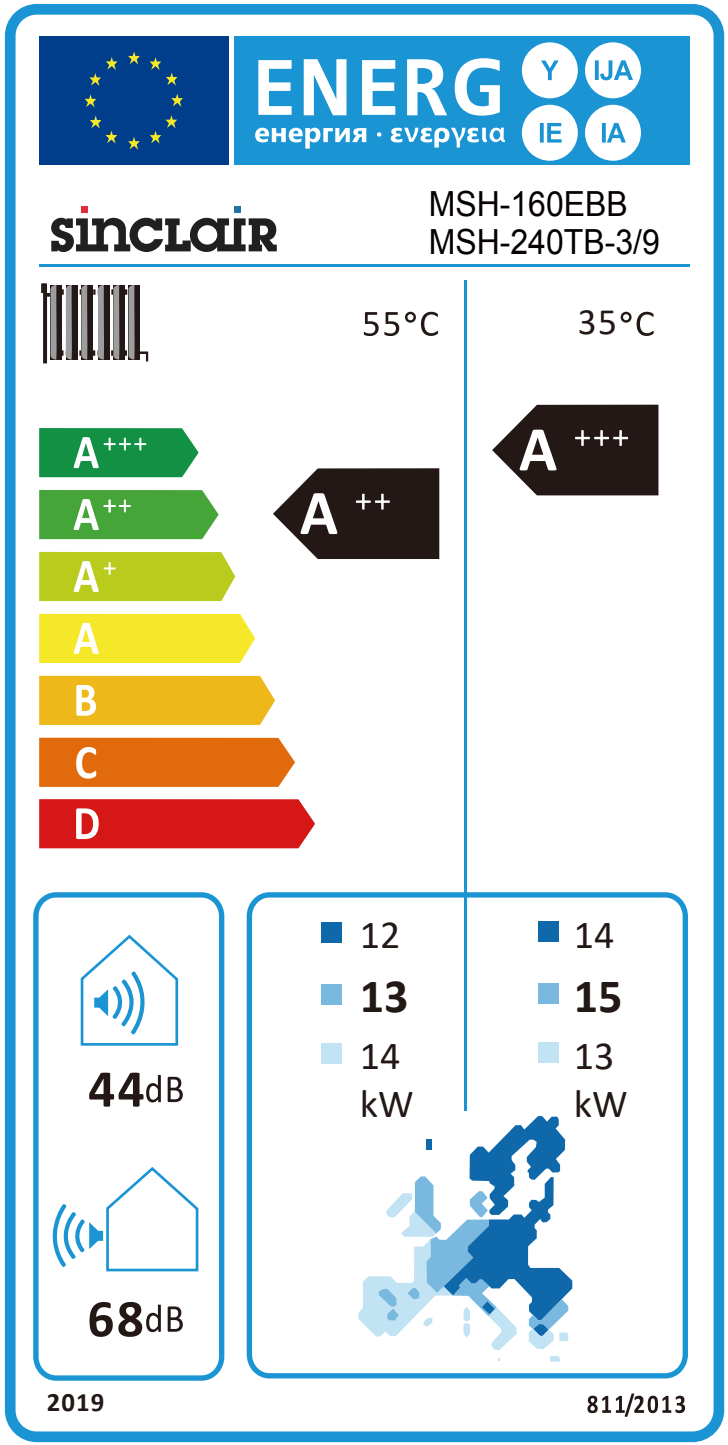
kW
2019
811/2013


ENERG
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Y
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sinclair
MSH-160EBB
MSH-240TB-3/9
55°C
35°C
A+++
A++
A+
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A++
A+++
44dB
68dB
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kW
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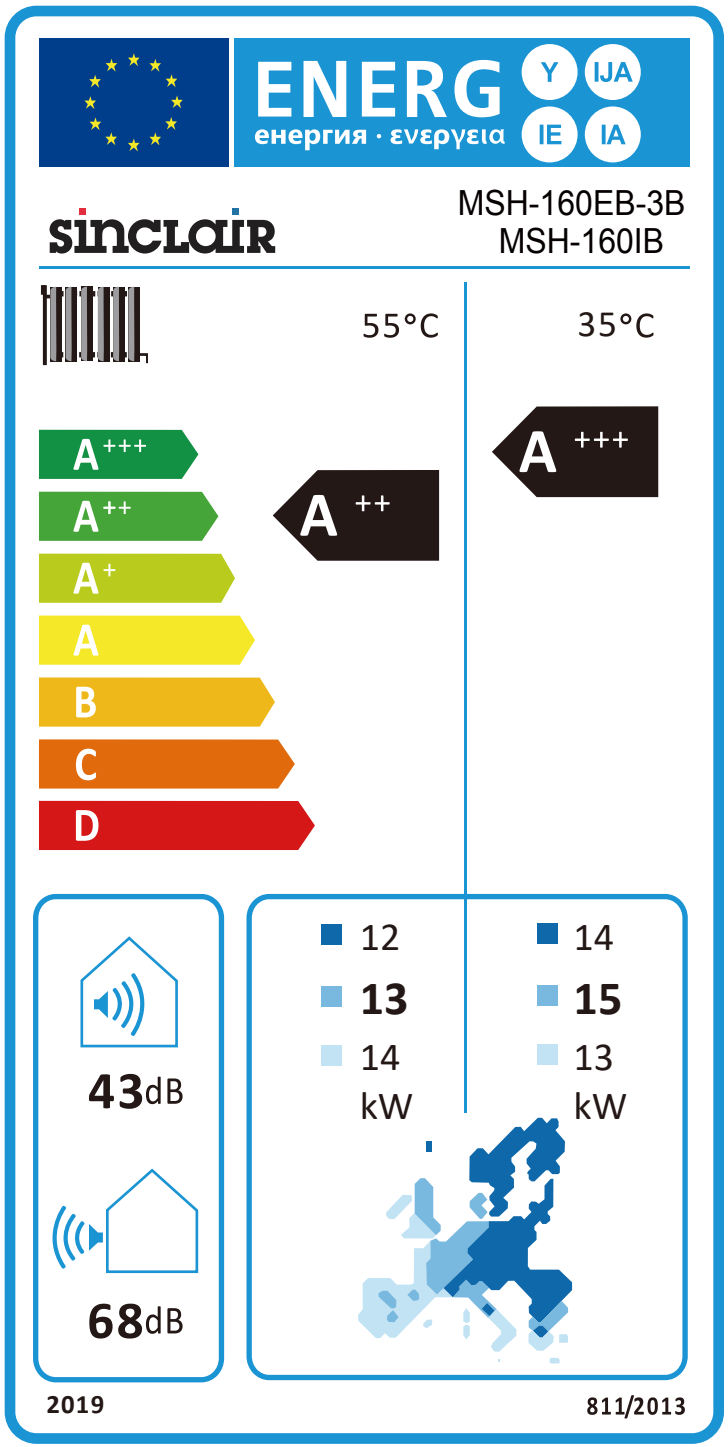
kW
2019
811/2013


ENERG
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IE
IA
енергия · ενεργεια
sinclair
MSH-160EB-3B
MSH-160IB
55°C
35°C
A+++
A++
A+
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A++
A+++
43dB
68dB
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kW
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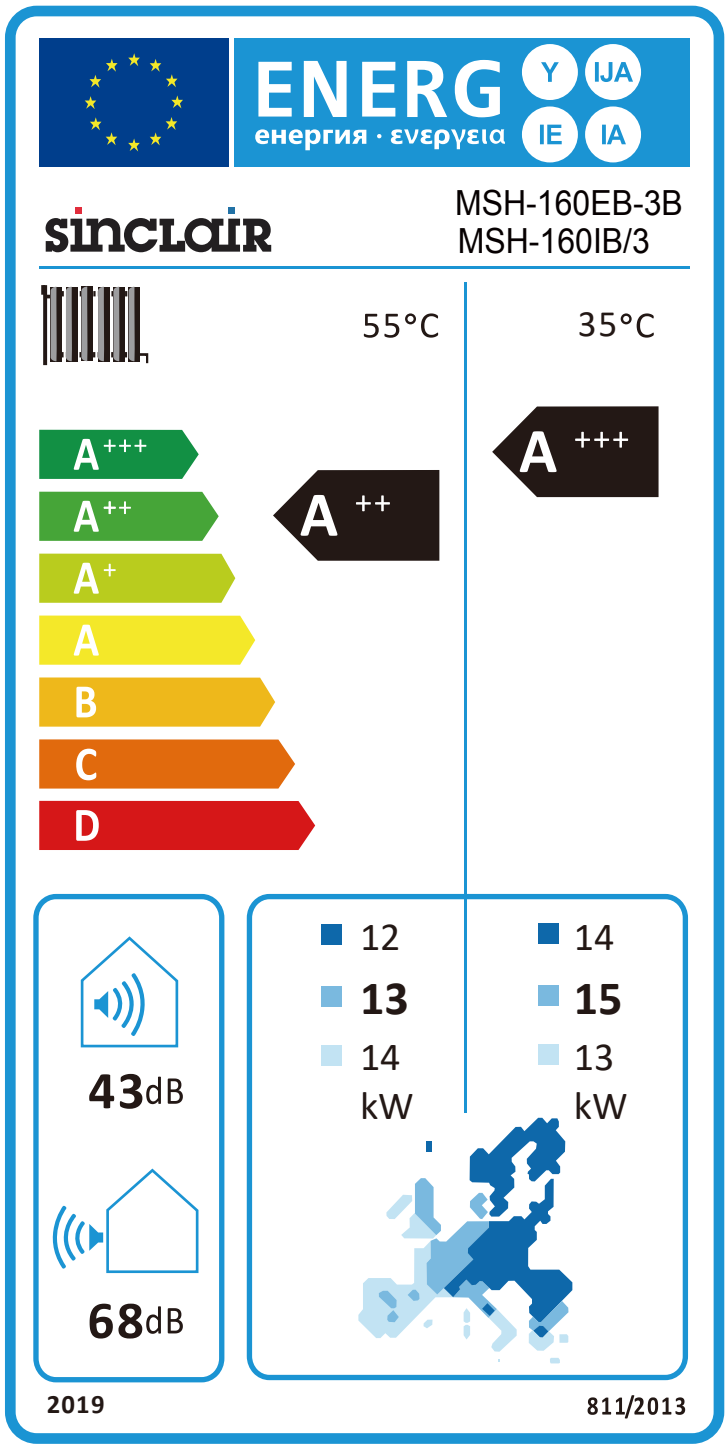
kW
2019
811/2013


ENERG
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енергия · ενεργεια
sinclair
MSH-160EB-3B
MSH-160IB/3
55°C
35°C
A+++
A++
A+
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A++
A+++
43dB
68dB
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kW
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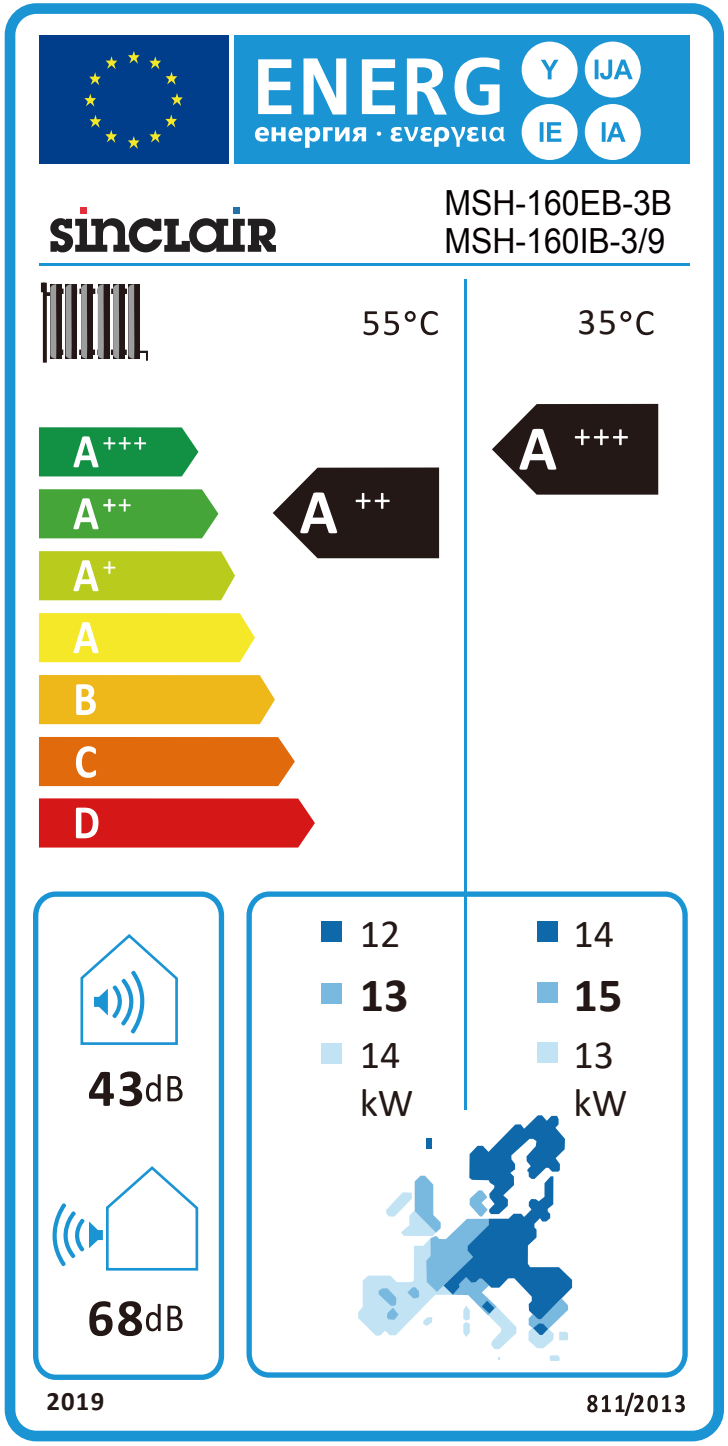
kW
2019
811/2013


ENERG
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енергия · ενεργεια
sinclair
MSH-160EB-3B
MSH-160IB-3/9
55°C
35°C
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A++
A+
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A++
A+++
43dB
68dB
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kW
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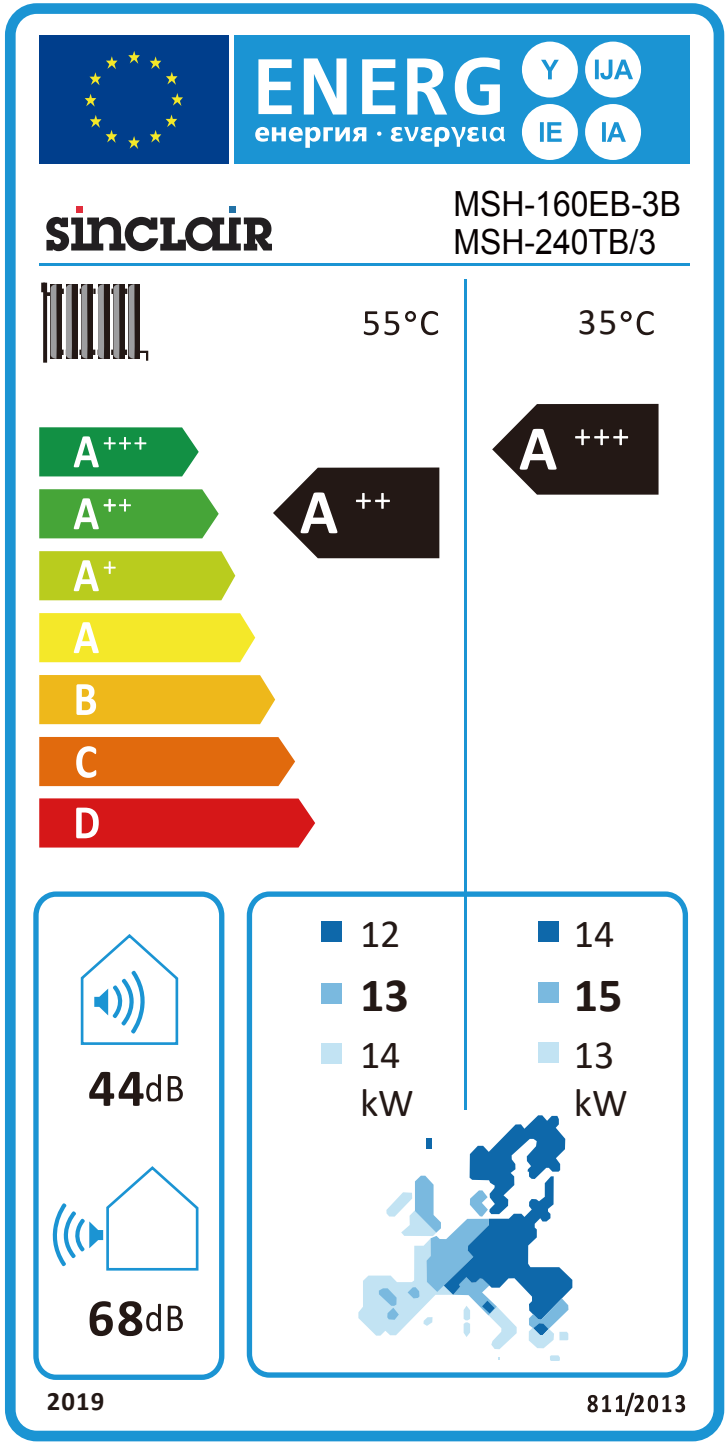
kW
2019
811/2013


ENERG
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IA
енергия · ενεργεια
sinclair
MSH-160EB-3B
MSH-240TB/3
55°C
35°C
A+++
A++
A+
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A+++
44dB
68dB
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kW
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15
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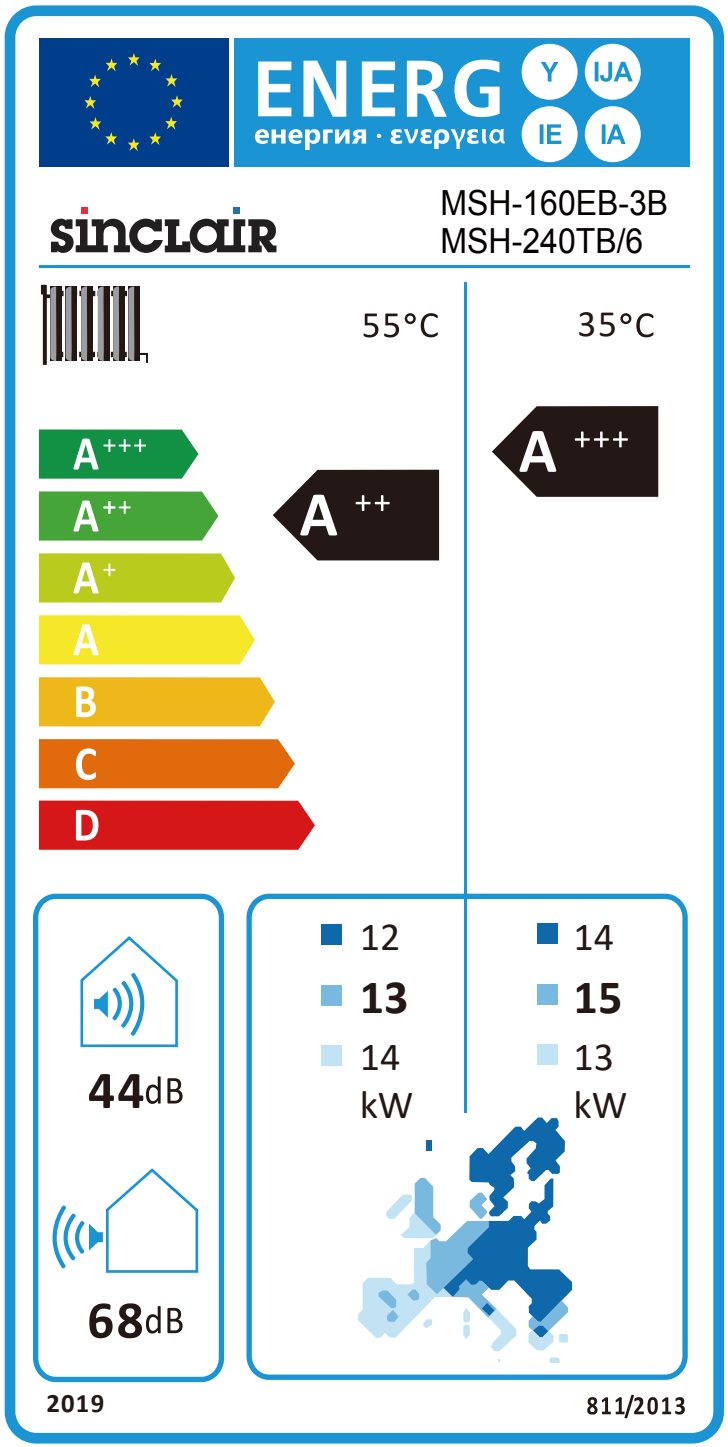
kW
2019
811/2013


ENERG
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енергия · ενεργεια
sinclair
MSH-160EB-3B
MSH-240TB/6
55°C
35°C
A+++
A++
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44dB
68dB
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kW
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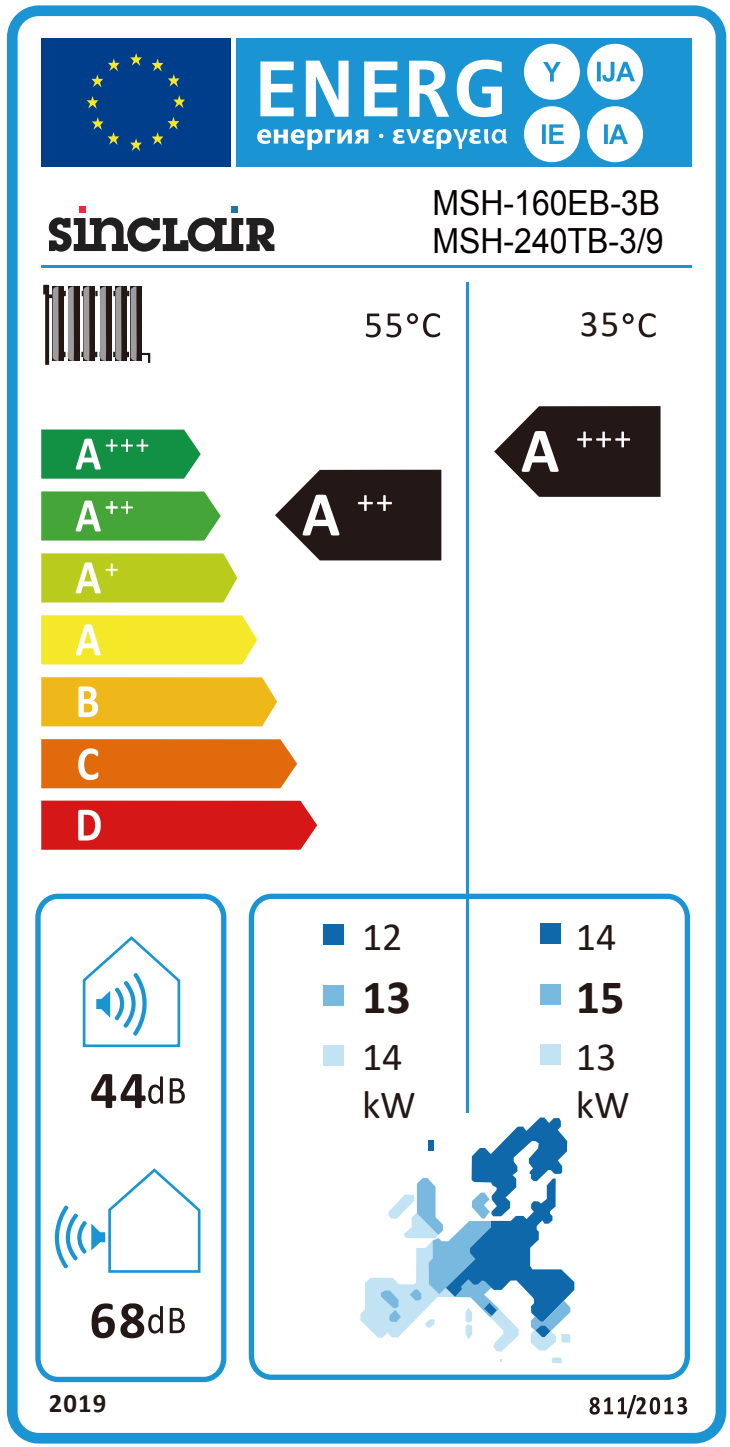
kW
2019
811/2013


ENERG
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енергия · ενεργεια
sinclair
MSH-160EB-3B
MSH-240TB-3/9
55°C
35°C
A+++
A++
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D
A++
A+++
44dB
68dB
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kW
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15
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kW
2019
811/2013

Outdoor unit	Indoor unit	Ambient Temperature：35/24 Water temperature：23/18			Ambient Temperature：35/24 Water temperature：12/7			Ambient Temperature：7/6 Water temperature：30/35			Ambient Temperature：2/1 Water temperature：30/35		
		Capacity kW	Power input kW	EER	Capacity kW	Power input kW	EER	Capacity kW	Power input kW	COP	Capacity kW	Power input kW	COP
MSH-40EBB	MSH-60IB/3	4.50	0.81	5.55	4.70	1.36	3.45	4.25	0.82	5.20	4.45	1.10	4.05
	MSH-190TB/3	4.50	0.81	5.55	4.70	1.36	3.45	4.25	0.82	5.20	4.45	1.10	4.05
	MSH-240TBL/3	4.50	0.81	5.55	4.70	1.36	3.45	4.25	0.82	5.20	4.45	1.10	4.05
MSH-60EBB	MSH-60IB/3	6.55	1.34	4.90	7.00	2.33	3.00	6.20	1.24	5.00	5.50	1.39	3.95
	MSH-190TB/3	6.55	1.34	4.90	7.00	2.33	3.00	6.20	1.24	5.00	5.50	1.39	3.95
	MSH-240TBL/3	6.55	1.34	4.90	7.00	2.33	3.00	6.20	1.24	5.00	5.50	1.39	3.95
MSH-80EBB	MSH-100IB-3/9	8.40	1.66	5.05	7.40	2.19	3.38	8.30	1.60	5.20	7.10	1.73	4.10
	MSH-190TB-3/9	8.40	1.66	5.05	7.40	2.19	3.38	8.30	1.60	5.20	7.10	1.73	4.10
	MSH-240TBL/3	8.40	1.66	5.05	7.40	2.19	3.38	8.30	1.60	5.20	7.10	1.73	4.10
MSH-100EBB	MSH-100IB-3/9	10.00	2.08	4.80	8.20	2.48	3.30	10.00	2.00	5.00	8.20	2.02	4.05
	MSH-190TB-3/9	10.00	2.08	4.80	8.20	2.48	3.30	10.00	2.00	5.00	8.20	2.02	4.05
	MSH-240TBL/3	10.00	2.08	4.80	8.20	2.48	3.30	10.00	2.00	5.00	8.20	2.02	4.05
MSH-120EBB	MSH-160IB/3	12.00	3.00	4.00	11.60	4.22	2.75	12.10	2.44	4.95	9.30	2.35	3.95
	MSH-240TB/3	12.00	3.00	4.00	11.60	4.22	2.75	12.10	2.44	4.95	9.30	2.35	3.95
MSH-120EB-3B	MSH-160IB-3/9	12.00	3.00	4.00	11.60	4.22	2.75	12.10	2.44	4.95	9.30	2.35	3.95
	MSH-240TB-3/9	12.00	3.00	4.00	11.60	4.22	2.75	12.10	2.44	4.95	9.30	2.35	3.95
MSH-140EBB	MSH-160IB/3	13.50	3.74	3.61	12.70	4.98	2.55	14.50	3.09	4.70	11.40	3.12	3.65
	MSH-240TB/3	13.50	3.74	3.61	12.70	4.98	2.55	14.50	3.09	4.70	11.40	3.12	3.65
MSH-140EB-3B	MSH-160IB-3/9	13.50	3.74	3.61	12.70	4.98	2.55	14.50	3.09	4.70	11.40	3.12	3.65
	MSH-240TB-3/9	13.50	3.74	3.61	12.70	4.98	2.55	14.50	3.09	4.70	11.40	3.12	3.65
MSH-160EBB	MSH-160IB/3	14.20	3.94	3.61	14.00	5.71	2.45	16.00	3.56	4.50	13.00	3.71	3.50
	MSH-240TB/3	14.20	3.94	3.61	14.00	5.71	2.45	16.00	3.56	4.50	13.00	3.71	3.50
MSH-160EB-3B	MSH-160IB-3/9	14.20	3.94	3.61	14.00	5.71	2.45	16.00	3.56	4.50	13.00	3.71	3.50
	MSH-240TB-3/9	14.20	3.94	3.61	14.00	5.71	2.45	16.00	3.56	4.50	13.00	3.71	3.50

Outdoor unit	Indoor unit	Ambient Temperature : -7/-8 Water temperature : 30/35			Ambient Temperature : 7/6 Water temperature : 40/45			Ambient Temperature : 2/1 Water temperature : 40/45			Ambient Temperature : -7/-8 Water temperature : 40/45		
		Capacity kW	Power input kW	COP	Capacity kW	Power input kW	COP	Capacity kW	Power input kW	COP	Capacity kW	Power input kW	COP
MSH-40EBB	MSH-60IB/3	4.80	1.52	3.15	4.35	1.14	3.80	5.10	1.70	3.00	4.30	1.83	2.35
	MSH-190TB/3	4.80	1.52	3.15	4.35	1.14	3.80	5.10	1.70	3.00	4.30	1.83	2.35
	MSH-240TBL/3	4.80	1.52	3.15	4.35	1.14	3.80	5.10	1.70	3.00	4.30	1.83	2.35
MSH-60EBB	MSH-60IB/3	6.10	2.00	3.05	6.35	1.69	3.75	5.80	1.93	3.00	5.40	2.25	2.40
	MSH-190TB/3	6.10	2.00	3.05	6.35	1.69	3.75	5.80	1.93	3.00	5.40	2.25	2.40
	MSH-240TBL/3	6.10	2.00	3.05	6.35	1.69	3.75	5.80	1.93	3.00	5.40	2.25	2.40
MSH-80EBB	MSH-100IB-3/9	7.10	2.18	3.25	8.20	2.08	3.95	7.40	2.28	3.25	6.60	2.59	2.55
	MSH-190TB-3/9	7.10	2.18	3.25	8.20	2.08	3.95	7.40	2.28	3.25	6.60	2.59	2.55
	MSH-240TBL/3	7.10	2.18	3.25	8.20	2.08	3.95	7.40	2.28	3.25	6.60	2.59	2.55
MSH-100EBB	MSH-100IB-3/9	8.25	2.62	3.15	10.00	2.63	3.80	7.85	2.45	3.20	7.35	2.88	2.55
	MSH-190TB-3/9	8.25	2.62	3.15	10.00	2.63	3.80	7.85	2.45	3.20	7.35	2.88	2.55
	MSH-240TBL/3	8.25	2.62	3.15	10.00	2.63	3.80	7.85	2.45	3.20	7.35	2.88	2.55
MSH-120EBB	MSH-160IB/3	10.00	3.33	3.00	12.30	3.24	3.80	10.70	3.57	3.00	10.20	4.25	2.40
	MSH-240TB/3	10.00	3.33	3.00	12.30	3.24	3.80	10.70	3.57	3.00	10.20	4.25	2.40
MSH-120EB-3B	MSH-160IB-3/9	10.00	3.33	3.00	12.30	3.24	3.80	10.70	3.57	3.00	10.20	4.25	2.40
	MSH-240TB-3/9	10.00	3.33	3.00	12.30	3.24	3.80	10.70	3.57	3.00	10.20	4.25	2.40
MSH-140EBB	MSH-160IB/3	12.00	4.29	2.80	14.20	3.89	3.65	11.70	4.09	2.86	11.80	5.02	2.35
	MSH-240TB/3	12.00	4.29	2.80	14.20	3.89	3.65	11.70	4.09	2.86	11.80	5.02	2.35
MSH-140EB-3B	MSH-160IB-3/9	12.00	4.29	2.80	14.20	3.89	3.65	11.70	4.09	2.86	11.80	5.02	2.35
	MSH-240TB-3/9	12.00	4.29	2.80	14.20	3.89	3.65	11.70	4.09	2.86	11.80	5.02	2.35
MSH-160EBB	MSH-160IB/3	13.30	4.93	2.70	16.00	4.44	3.60	12.80	4.49	2.85	12.90	5.78	2.23
	MSH-240TB/3	13.30	4.93	2.70	16.00	4.44	3.60	12.80	4.49	2.85	12.90	5.78	2.23
MSH-160EB-3B	MSH-160IB-3/9	13.30	4.93	2.70	16.00	4.44	3.60	12.80	4.49	2.85	12.90	5.78	2.23
	MSH-240TB-3/9	13.30	4.93	2.70	16.00	4.44	3.60	12.80	4.49	2.85	12.90	5.78	2.23

Outdoor unit	Indoor unit	Ambient Temperature：7/6 Water temperature：47/55			Ambient Temperature：2/1 Water temperature：47/55			Ambient Temperature：-7/-8 Water temperature：47/55		
		Capacity kW	Power input kW	COP	Capacity kW	Power input kW	COP	Capacity kW	Power input kW	COP
MSH-40EBB	MSH-60IB/3	4.40	1.49	2.95	5.10	2.08	2.45	4.00	2.05	1.95
	MSH-190TB/3	4.40	1.49	2.95	5.10	2.08	2.45	4.00	2.05	1.95
	MSH-240TBL/3	4.40	1.49	2.95	5.10	2.08	2.45	4.00	2.05	1.95
MSH-60EBB	MSH-60IB/3	6.00	2.00	3.00	5.65	2.31	2.45	5.15	2.58	2.00
	MSH-190TB/3	6.00	2.00	3.00	5.65	2.31	2.45	5.15	2.58	2.00
	MSH-240TBL/3	6.00	2.00	3.00	5.65	2.31	2.45	5.15	2.58	2.00
MSH-80EBB	MSH-100IB-3/9	7.50	2.36	3.18	7.10	2.73	2.60	6.15	3.00	2.05
	MSH-190TB-3/9	7.50	2.36	3.18	7.10	2.73	2.60	6.15	3.00	2.05
	MSH-240TBL/3	7.50	2.36	3.18	7.10	2.73	2.60	6.15	3.00	2.05
MSH-100EBB	MSH-100IB-3/9	9.50	3.06	3.10	8.10	3.16	2.56	6.85	3.43	2.00
	MSH-190TB-3/9	9.50	3.06	3.10	8.10	3.16	2.56	6.85	3.43	2.00
	MSH-240TBL/3	9.50	3.06	3.10	8.10	3.16	2.56	6.85	3.43	2.00
MSH-120EBB	MSH-160IB/3	12.00	3.87	3.10	11.40	4.47	2.55	10.00	4.88	2.05
	MSH-240TB/3	12.00	3.87	3.10	11.40	4.47	2.55	10.00	4.88	2.05
MSH-120EB-3B	MSH-160IB-3/9	12.00	3.87	3.10	11.40	4.47	2.55	10.00	4.88	2.05
	MSH-240TB-3/9	12.00	3.87	3.10	11.40	4.47	2.55	10.00	4.88	2.05
MSH-140EBB	MSH-160IB/3	13.80	4.60	3.00	12.40	5.06	2.45	11.00	5.37	2.05
	MSH-240TB/3	13.80	4.60	3.00	12.40	5.06	2.45	11.00	5.37	2.05
MSH-140EB-3B	MSH-160IB-3/9	13.80	4.60	3.00	12.40	5.06	2.45	11.00	5.37	2.05
	MSH-240TB-3/9	13.80	4.60	3.00	12.40	5.06	2.45	11.00	5.37	2.05
MSH-160EBB	MSH-160IB/3	16.00	5.52	2.90	13.40	5.58	2.40	12.50	6.19	2.02
	MSH-240TB/3	16.00	5.52	2.90	13.40	5.58	2.40	12.50	6.19	2.02
MSH-160EB-3B	MSH-160IB-3/9	16.00	5.52	2.90	13.40	5.58	2.40	12.50	6.19	2.02
	MSH-240TB-3/9	16.00	5.52	2.90	13.40	5.58	2.40	12.50	6.19	2.02

ErP Information

Fan Types	Axial fan		
Directive (or Standard) for Regulation		ErP Directive 2009/125/EC COMMISSION REGULATION (EU) No 327/2011	
Model Name	WZDK170-38G-1	Rev.	
Prepare by			

Specified Information of Fan:

No.	Information Item	Comment
1	η_{target} =	29.1%
2	Overall efficiency (η_e) =	33.1%
3	Pass or not (Criteria: $\eta_e \geqq \eta_{target}$)	Pass
4	Measurement category (A-D)	A
5	Efficiency category (static or total)	Static
6	Efficiency grade at optimum energy efficiency point	N =43.9
7	VSD is integrated within the fan	YES
8	Year of Manufacture	Ref. to the Unit Nameplate
9	Manufacturer's name and place of manufacture	Ref. to the Unit Nameplate
10.1	Rated motor power input(s) (kW), at optimum energy efficiency	0.190kw
10.2	Rated motor flow rate(s) at optimum energy efficiency	1.368m^3/s
10.3	Rated motor pressure(s) at optimum energy efficiency	40Pa
11	Rotations per minute (R.P.M)at the optimum energy efficiency point	800r/min
12	Specific ratio	1.001
13	Information relevant for facilitating disassembly, recycling or disposal at end-of-life	all materials can be recycled
14	Information relevant to minimize impact on the environment and ensure optimal life expectancy as regards installation, use and maintenance of the fan	For installation, the clearance of 500 mm shall be kept from inlet
15	Description of additional items used when determining the fan energy efficiency,such as ducts, that are not described in the measurement category and not supplied with the fan.	Measure ment category A, fan is free inlet and outlet conditions
16	Motor manufacturer	NIDEC SHIBAURA (ZHEJIANG) CORP.

ErP Information

Fan Types	Axial fan		
Directive (or Standard) for Regulation		ErP Directive 2009/125/EC COMMISSION REGULATION (EU) No 327/2011	
Model Name	WZDK170-38G-1	Rev.	
Prepare by			

Specified Information of Fan:

No.	Information Item	Comment
1	η_{target} =	29.1%
2	Overall efficiency (η_e) =	33.7%
3	Pass or not (Criteria: $\eta_e \geqq \eta_{target}$)	Pass
4	Measurement category (A-D)	A
5	Efficiency category (static or total)	Static
6	Efficiency grade at optimum energy efficiency point	N =44.6
7	VSD is integrated within the fan	YES
8	Year of Manufacture	Ref. to the Unit Nameplate
9	Manufacturer's name and place of manufacture	Ref. to the Unit Nameplate
10.1	Rated motor power input(s) (kW), at optimum energy efficiency	0.186kw
10.2	Rated motor flow rate(s) at optimum energy efficiency	1.37m^3/s
10.3	Rated motor pressure(s) at optimum energy efficiency	40Pa
11	Rotations per minute (R.P.M)at the optimum energy efficiency point	800r/min
12	Specific ratio	1.001
13	Information relevant for facilitating disassembly, recycling or disposal at end-of-life	all materials can be recycled
14	Information relevant to minimize impact on the environment and ensure optimal life expectancy as regards installation, use and maintenance of the fan	For installation, the clearance of 500 mm shall be kept from inlet
15	Description of additional items used when determining the fan energy efficiency,such as ducts, that are not described in the measurement category and not supplied with the fan.	Measurement category A, fan is free inlet and outlet conditions
16	Motor manufacturer	GUANGDONG WELLING MOTOR MANUFACTURING CO.,LTD.

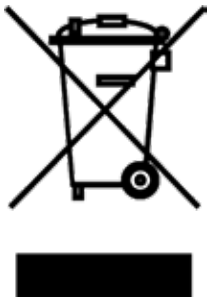
ErP Information

Fan Types	Axial fan		
Directive (or Standard) for Regulation		ErP Directive 2009/125/EC COMMISSION REGULATION (EU) No 327/2011	
Model Name	WZDK170-38G-1	Rev.	
Prepare by			

Specified Information of Fan:

No.	Information Item	Comment
1	ηtarget =	29.0%
2	Overall efficiency (ηe) =	34.6%
3	Pass or not (Criteria: ηe ≧ηtarget)	Pass
4	Measurement category (A-D)	A
5	Efficiency category (static or total)	Static
6	Efficiency grade at optimum energy efficiency point	N =4.57
7	VSD is integrated within the fan	YES
8	Year of Manufacture	Ref. to the Unit Nameplate
9	Manufacturer's name and place of manufacture	Ref. to the Unit Nameplate
10.1	Rated motor power input(s) (kW), at optimum energy efficiency	0.180kw
10.2	Rated motor flow rate(s) at optimum energy efficiency	1.378m^3/s
10.3	Rated motor pressure(s) at optimum energy efficiency	40Pa
11	Rotations per minute (R.P.M)at the optimum energy efficiency point	800r/min
12	Specific ratio	1.001
13	Information relevant for facilitating disassembly, recycling or disposal at end-of-life	all materials can be recycled
14	Information relevant to minimize impact on the environment and ensure optimal life expectancy as regards installation, use and maintenance of the fan	For installation, the clearance of 500 mm shall be kept from inlet
15	Description of additional items used when determining the fan energy efficiency,such as ducts, that are not described in the measurement category and not supplied with the fan.	Measurement category A, fan is free inlet and outlet conditions
16	Motor manufacturer	Panasonic Motor (HangZhou) CO.,LTD

NOTE CONCERNING PROTECTION OF ENVIRONMENT



This product must not be disposed of via normal household waste after its service life, but must be taken to a collection station for the recycling of electrical and electronic devices. The symbol on the product, the operating instructions or the packaging indicate such disposal procedures. The materials are recyclable in accordance with their respective symbols. By means of re-use, material recycling or any other form of recycling old appliances you are making an important contribution to the protection of our environment. Please ask your local council where your nearest disposal station is located.

INFORMATION CONCERNING USED REFRIGERANT MEDIUM

This unit is containing fluorinated gases included in the Kyoto protocol.
The maintenance and the liquidation must be carried out by qualified personnel.

Type of refrigerant: R32
The quantity of the refrigerant: Please see the unit label.
The value GWP: 675 (1 kg R32 = 0,675 t CO_2 eq)
GWP = Global Warming Potential

 Appliance filled with flammable gas R32.

In case of quality problem or other please contact your local supplier or authorized service center.
Emergency number: 112

PRODUCER

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This product was manufactured in China (Made in China).

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