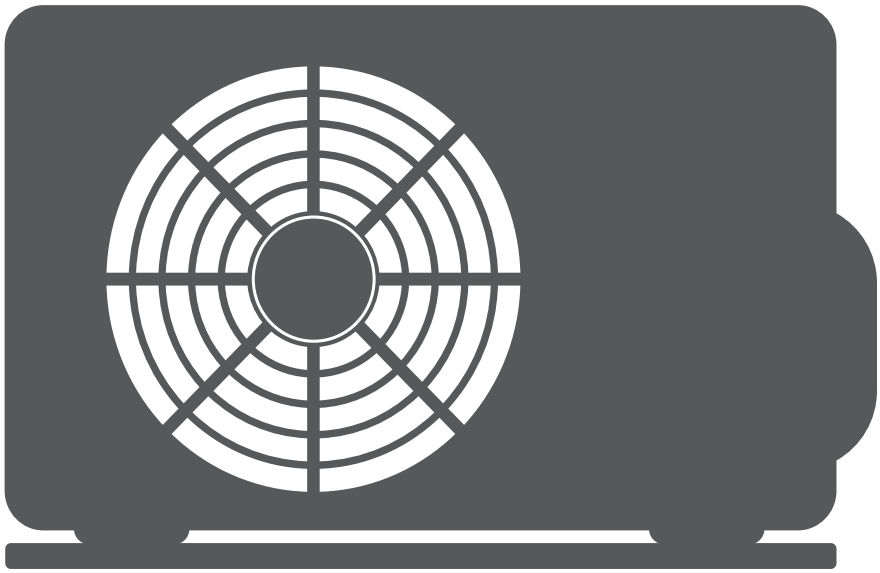
AIR CONDITIONING SYSTEMS

AIR-TO-WATER HEAT PUMP - MONOBLOCK

• PRODUCT FICHE



MODELS:

NB-40W/EN8BP
NB-60W/EN8BP
NB-80W/EN8BP
NB-100W/EN8BP
NB-120W/EN8BP
NB-140W/EN8BP
NB-160W/EN8BP

ENGLISH

Model	For low-temperature application										
	Energy efficiency class	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	kW	%	kWh	kW	%	kWh	kW	%	kWh
NB-40W/EN8BP	A+++	55	4.0	201	1617	4.0	166	2325	4.0	276	775
NB-60W/EN8BP	A+++	57	6.0	199	2455	5.2	165	3147	6.0	275	1165
NB-80W/EN8BP	A+++	58	7.5	183	3529	6.4	160	3871	8.0	262	1607
NB-100W/EN8BP	A+++	59	9.2	206	3617	7.6	162	4541	9.8	276	1877
NB-120W/EN8BP	A+++	60	11.5	189	4958	10.3	152	6524	12.1	251	2544
NB-140W/EN8BP	A+++	63	13.5	181	6069	12.1	152	7695	13.9	256	2865
NB-160W/EN8BP	A+++	67	15.0	183	6692	13.8	157	8509	15.7	264	3138

Model	For medium-temperature application										
	Energy efficiency class	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	kW	%	kWh	kW	%	kWh	kW	%	kWh
NB-40W/EN8BP	A++	56	5.0	136	2375	4.0	115	3435	4.0	192	1113
NB-60W/EN8BP	A++	58	5.8	138	3521	4.8	112	4225	5.9	191	1649
NB-80W/EN8BP	A++	59	6.7	131	4162	5.5	101	5380	8.1	171	2270
NB-100W/EN8BP	A++	60	7.7	139	4453	6.5	109	5604	8.6	190	2374
NB-120W/EN8BP	A++	64	10.9	138	6390	9.8	111	8453	12.0	168	3756
NB-140W/EN8BP	A++	65	12.7	137	7516	10.5	113	8828	13.5	175	3922
NB-160W/EN8BP	A++	68	14.1	148	7723	11.6	116	9285	15.2	171	4669

Product fiche 1

Heat pump space heater		Model	NB-40W/EN8BP	NB-60W/EN8BP	NB-80W/EN8BP	NB-100W/EN8BP	NB-120W/EN8BP	NB-140W/EN8BP	NB-160W/EN8BP
Unit sound power (*)	Average climate low temperature application	[dB]	55	57	58	59	60	63	67
	Average climate medium temperature application	[dB]	56	58	59	60	64	65	68
Capicity of the back-up heater integrated in the unit	Psup back-up heater	[kW]	3	3	3	3	3	3	3
Space heating	Energy efficiency class 35°C (Low temp. app.)	-	A+++	A+++	A+++	A+++	A+++	A+++	A+++
	Energy efficiency class 55°C (Medium temp. app.)	-	A++	A++	A++	A++	A++	A++	A++
Average climate (Design temperature = –10°C)									
Space heating 35°C	Prated (declared heating capacity) @–10°C	[kW]	4.0	6.0	7.5	9.2	11.5	13.5	15.0
	Seasonal space heating efficiency (η)	[%]	201	199	183	206	189	181	183
	Annual energy consumption	[kWh]	1617	2455	3529	3617	4958	6069	6692
Space heating 55°C	Prated (declared heating capacity) @–10°C	[kW]	5.0	5.8	6.7	7.7	10.9	12.7	14.1
	Seasonal space heating efficiency (η)	[%]	136	138	131	139	138	137	148
	Annual energy consumption	[kWh]	2375	3521	4162	4453	6390	7516	7723
Part load conditions space heating average climate low temperature application									
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	3.56	5.36	6.64	8.09	10.21	11.98	13.31
	COPd (declared COP)	-	3.23	3.23	2.69	3.16	2.62	2.60	2.61
	Cdh(degradation coefficient)	-	0.99	0.99	0.99	0.99	0.99	0.99	0.99
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	2.35	3.43	4.18	5.16	6.20	7.16	8.24
	COPd (declared COP)	-	5.01	4.58	4.51	4.78	4.47	4.43	4.42
	Cdh(degradation coefficient)	-	0.99	0.99	0.99	0.99	0.99	0.99	0.99
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	2.11	2.28	3.90	3.27	4.28	5.22	5.46
	COPd (declared COP)	-	6.83	7.15	6.98	7.59	7.48	6.86	6.54
	Cdh(degradation coefficient)	-	0.99	0.99	0.99	0.99	0.99	0.99	0.99
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	2.58	2.57	4.78	3.92	5.17	6.40	7.08
	COPd (declared COP)	-	10.50	11.36	10.09	11.97	11.08	10.30	9.91
	Cdh(degradation coefficient)	-	0.99	0.99	0.99	0.98	0.98	0.99	0.99

Product fiche 2

Heat pump space heater		Model	NB-40W/EN8BP	NB-60W/EN8BP	NB-80W/EN8BP	NB-100W/EN8BP	NB-120W/EN8BP	NB-140W/EN8BP	NB-160W/EN8BP
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[℃]	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00
	Pdh (declared heating capacity)	[kW]	3.99	6.18	6.91	7.99	9.43	11.74	13.57
	COPd (declared COP)	-	2.81	2.86	2.44	2.79	2.39	2.32	2.49
	WTOL (Heating w ater Operation Limit)	[℃]	60.00	60.00	60.00	60.00	60.00	60.00	60.00
(F) Tbivalent temperature	Tblv	[℃]	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00
	Pdh (declared heating capacity)	[kW]	3.56	5.36	6.64	8.09	10.21	11.98	13.31
	COPd (declared COP)	-	3.23	3.23	2.69	3.16	2.62	2.60	2.61
Supplementary capacity at P_design	Psup (@Tdesignh: –10°C)	[kW]	0.01	0.00	0.64	1.20	2.17	1.87	1.56
Part load conditions space heating average climate medium temperature application									
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	4.44	5.12	5.97	6.79	9.61	11.25	12.50
	COPd (declared COP)	-	2.17	2.13	1.89	2.14	1.98	1.96	2.31
	Cdh(degradation coefficient)	-	0.99	0.99	0.99	0.99	0.99	0.99	0.99
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	2.69	3.13	3.94	4.29	6.17	7.70	7.75
	COPd (declared COP)	-	3.41	3.38	3.24	3.41	3.25	3.30	3.33
	Cdh(degradation coefficient)	-	0.99	0.99	0.99	0.99	0.99	0.99	0.99
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	1.93	2.22	3.14	2.93	4.38	4.92	5.48
	COPd (declared COP)	-	4.54	4.72	4.88	4.68	5.13	4.93	5.82
	Cdh(degradation coefficient)	-	0.99	0.99	0.99	0.99	0.99	0.99	0.99
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	2.45	2.42	3.77	3.90	5.49	6.09	6.97
	COPd (declared COP)	-	7.47	7.64	5.88	7.73	8.49	7.98	9.54
	Cdh(degradation coefficient)	-	0.99	0.99	0.99	0.99	0.99	0.99	0.99
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[℃]	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00	-10.00
	Pdh (declared heating capacity)	[kW]	4.23	4.40	5.17	6.61	9.12	10.81	10.28
	COPd (declared COP)	-	1.80	1.82	1.56	1.72	1.81	1.77	1.93
	WTOL (Heating w ater Operation Limit)	[℃]	60.00	60.00	60.00	60.00	60.00	60.00	60.00
(F) Tbivalent temperature	Tblv	[℃]	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00	-7.00
	Pdh (declared heating capacity)	[kW]	4.44	5.12	5.97	6.79	9.61	11.25	12.50
	COPd (declared COP)	-	2.17	2.13	1.89	2.14	1.98	1.96	2.31
Supplementary capacity at Pdesign	Psup (@Tdesignh: –10°C)	[kW]	0.82	1.42	1.61	1.10	1.80	1.97	3.92

Product fiche 3

Heat pump space heater		Model	NB-40W/EN8BP	NB-60W/EN8BP	NB-80W/EN8BP	NB-100W/EN8BP	NB-120W/EN8BP	NB-140W/EN8BP	NB-160W/EN8BP
Colder climate (Design temperature = –22°C)									
Space heating 35°C	Prated (declared heating capacity) @–22°C	[kW]	4.0	5.2	6.4	7.6	10.3	12.1	13.8
	Seasonal space heating efficiency (η)	[%]	166	165	160	162	152	152	157
	Annual energy consumption	[kWh]	2325	3147	3871	4541	6524	7695	8509
Space heating 55°C	Prated(declared heating capacity)@–22°C	[kW]	4.0	4.8	5.5	6.5	9.8	10.5	11.6
	Seasonal space heating efficiency (η)	[%]	115	112	101	109	111	113	116
	Annual energy consumption	[kWh]	3435	4225	5380	5604	8453	8828	9285
Part load conditions space heating colder climate low temperature application									
(A) condition (-7°C)	Pdh (declared heating capacity)@–22°C	[kW]	3.51	3.87	4.23	4.59	6.71	7.56	8.31
	COPd (declared COP)	-	3.54	3.52	3.48	3.42	3.31	3.27	3.36
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	Pdh (declared heating capacity)@–22°C	[kW]	2.01	2.31	2.55	2.82	4.48	4.85	5.23
	COPd (declared COP)	-	4.82	4.98	4.95	5.05	4.76	4.72	4.85
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)@–22°C	[kW]	1.19	1.38	1.58	1.86	3.05	3.06	3.63
	COPd (declared COP)	-	6.41	6.47	6.27	6.87	5.92	5.92	6.51
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)@–22°C	[kW]	1.37	1.41	1.59	1.62	3.56	3.58	3.36
	COPd (declared COP)	-	7.61	7.77	7.65	7.81	7.86	7.81	7.44
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[℃]	-22.00	-22.00	-22.00	-22.00	-22.00	-22.00	-22.00
	Pdh (declared heating capacity)@–22°C	[kW]	3.01	3.25	3.73	4.25	6.45	7.19	8.65
	COPd (declared COP)	-	1.72	1.78	1.79	1.81	1.82	1.82	1.91
	WTOL (Heating w ater Operation Limit)	[℃]	51.00	51.00	51.00	51.00	51.00	51.00	51.00
(F) Tbivalent temperature	Tblv	[℃]	-15.00	-15.00	-15.00	-15.00	-15.00	-15.00	-15.00
	Pdh (declared heating capacity)@–22°C	[kW]	3.31	4.25	5.23	6.21	8.39	9.83	11.23
	COPd (declared COP)	-	2.46	2.62	2.61	2.51	2.46	2.41	2.38
Supplementary capacity at P_design	Psup (@Tdesignh: –22°C)	[kW]	1.05	1.96	2.68	3.37	3.84	4.87	5.13

Product fiche 4

Heat pump space heater		Model	NB-40W/EN8BP	NB-60W/EN8BP	NB-80W/EN8BP	NB-100W/EN8BP	NB-120W/EN8BP	NB-140W/EN8BP	NB-160W/EN8BP
Part load conditions space heating colder climate medium temperature application									
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	2.81	3.01	3.51	4.06	6.31	6.55	7.26
	COPd (declared COP)	-	2.02	2.15	2.23	2.41	2.49	2.53	2.51
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	1.71	1.82	2.09	2.44	3.85	4.15	4.24
	COPd (declared COP)	-	2.79	2.95	3.08	3.33	3.42	3.51	3.64
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	1.21	1.29	1.36	1.57	2.64	2.96	2.88
	COPd (declared COP)	-	3.68	3.82	3.91	4.15	4.31	4.58	4.66
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	1.24	1.31	1.39	1.39	3.26	3.26	3.36
	COPd (declared COP)	-	5.51	5.65	5.62	5.66	6.12	6.12	6.16
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	Tol (temperature operating limit)		-22.0	-22.0	-22.0	-22.00	-22.0	-22.00	-22.00
	Pdh (declared heating capacity)	[kW]	2.01	2.19	2.38	2.52	3.85	3.86	4.79
	COPd (declared COP)	-	1.01	1.02	1.05	1.09	1.03	1.03	1.13
	WTOL (Heating w ater Operation Limit)	[℃]	51.00	51.00	51.00	51.00	51.00	51.00	51.00
(F) Tbivalent temperature	Tblv	[℃]	-15.00	-15.00	-15.00	-15.00	-15.00	-15.00	-15.00
	Pdh (declared heating capacity)	[kW]	3.18	3.98	4.48	5.29	7.98	8.55	9.45
	COPd (declared COP)	-	1.51	1.71	1.71	1.84	1.75	1.69	1.77
Supplementary capacity at P_design	Psup (@Tdesignh: –22°C)	[kW]	1.89	2.69	3.11	3.97	5.93	6.62	6.80
Warmer climate (Design temperature = 2°C)									
Space heating 35°C	Prated (declared heating capacity) @ 2°C	[kW]	4.0	6.0	8.0	9.8	12.1	13.9	15.7
	Seasonalspaceheating efficiency(η)	[%]	276	275	262	276	251	256	264
	Annual energy consumption	[kWh]	775	1165	1607	1877	2544	2865	3138
Space heating 55°C	Prated (declared heating capacity) @ 2°C	[kW]	4.0	5.9	8.1	8.6	12.0	13.5	15.2
	Seasonalspaceheating efficiency(η)	[%]	192	191	171	190	168	175	171
	Annual energy consumption	[kWh]	1113	1649	2270	2374	3756	3922	4669

Product fiche 5

Heat pump space heater		Model	NB-40W/EN8BP	NB-60W/EN8BP	NB-80W/EN8BP	NB-100W/EN8BP	NB-120W/EN8BP	NB-140W/EN8BP	NB-160W/EN8BP
Part load conditions space heating warmer climate low temperature application									
(B) condition (2°C)	Pdh(declared heating capacity)	[kW]	3.97	5.88	7.38	9.35	11.51	13.37	15.23
	COPd (declared COP)	-	3.35	3.48	3.78	3.85	3.58	3.39	3.93
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90
C) condition (7°C)	Pdh(declared heating capacity)	[kW]	2.62	3.87	5.13	6.29	7.77	8.93	10.08
	COPd (declared COP)	-	5.78	5.92	5.97	6.21	5.86	5.82	6.05
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh(declared heating capacity)	[kW]	2.11	2.17	2.54	2.62	3.51	3.71	3.87
	COPd (declared COP)	-	8.13	8.17	8.95	9.03	7.91	8.22	8.12
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[℃]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
	Pdh(declared heating capacity)	[kW]	3.97	5.88	7.38	9.35	11.51	13.37	15.23
	COPd (declared COP)	-	3.35	3.48	3.78	3.85	3.58	3.39	3.93
	WTOL (Heating w ater Operation Limit)	[℃]	65.00	65.00	65.00	65.00	65.00	65.00	65.00
(F) Tbivalent temperature	Tblv	[℃]	7.00	7.00	7.00	7.00	7.00	7.00	7.00
	Pdh(declared heating capacity)	[kW]	2.62	3.87	5.13	6.29	7.77	8.93	10.08
	COPd (declared COP)	-	5.78	5.92	5.97	6.21	5.86	5.82	6.05
Supplementary capacity at P_design	Psup (@Tdesignh: 2°C)	[kW]	0.11	0.14	0.60	0.43	0.58	0.52	0.45
Part load conditions space heating warmer climate medium temperature application									
(B) condition (2°C)	Pdh(declared heating capacity)	[kW]	3.87	5.67	7.51	8.03	11.46	13.01	14.67
	COPd (declared COP)	-	2.35	2.47	2.55	2.57	2.19	2.18	3.18
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90
(C) condition (7°C)	Pdh(declared heating capacity)	[kW]	2.58	3.79	5.21	5.53	7.72	9.06	9.77
	COPd (declared COP)	-	3.51	3.72	3.86	4.02	3.71	3.92	3.69
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90
(D) condition (12°C)	Pdh(declared heating capacity)	[kW]	2.02	2.17	2.32	2.55	3.68	4.06	3.97
	COPd (declared COP)	-	5.43	5.62	5.51	5.76	5.59	5.91	5.73
	Cdh(degradation coefficient)	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90

Product fiche 6

Heat pump space heater		Model	NB-40W/EN8BP	NB-60W/EN8BP	NB-80W/EN8BP	NB-100W/EN8BP	NB-120W/EN8BP	NB-140W/EN8BP	NB-160W/EN8BP
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[℃]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
	Pdh (declared heating capacity)	[kW]	3.87	5.67	7.51	8.03	11.46	13.01	14.67
	COPd (declared COP)	-	2.35	2.47	2.55	2.57	2.19	2.18	3.18
	WTOL (Heating w ater Operation Limit)	[℃]	65.00	65.00	65.00	65.00	65.00	65.00	65.00
(F) Tbivalent temperature	Tblv	[℃]	7.00	7.00	7.00	7.00	7.00	7.00	7.00
	Pdh (declared heating capacity)	[kW]	2.58	3.79	5.21	5.53	7.72	9.06	9.77
	COPd (declared COP)	-	3.51	3.72	3.86	4.02	3.71	3.92	3.69
Supplementary capacity at P_design	Psup (@Tdesignh: 2°C)	[kW]	0.14	0.23	0.59	0.57	0.55	1.09	0.53
Product description	Air-to-water heat pump	Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Water-to-water heat pump	Y/N	No	No	No	No	No	No	No
	Brine-to-water heat pump	Y/N	No	No	No	No	No	No	No
	Low -temperature heat pump	Y/N	No	No	No	No	No	No	No
	Equipped with a supplementary heater	Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Heat pump combination heater	Y/N	No	No	No	No	No	No	No
Air to w ater unit	Rated airflow	[m3/h]	2650	2650	3350	4050	4050	4650	4650
Brine/w ater to w ater unit	Rated w ater/brine flow (outdoor H/E)		/	/	/	/	/	/	/
Other	Capacity control	-	Inverter	Inverter	Inverter	Inverter	Inverter	Inverter	Inverter
	P(Pow er consumption Off mode)	[kW]	0.010	0.010	0.010	0.010	0.010	0.010	0.010
	P (Power consumption Thermostat off mode)	[kW]	0.007	0.007	0.007	0.007	0.007	0.007	0.007
	P(Pow er consumption Standby mode)	[kW]	0.010	0.010	0.010	0.010	0.010	0.010	0.010
	P(Pow er crankcase heater model)	[kW]	0.040	0.040	0.040	0.040	0.040	0.040	0.040
	Q(Daily electricity consumption)	[kWh]	/	/	/	/	/	/	/
	Q(Daily fuel consumption)	[kWh]	/	/	/	/	/	/	/

Technical parameters

Model(s):	NB-40W/EN8BP
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO/YES
Heat pump combination heater:	NO
Declared climate condition:	AVERAGE
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	5.0	kW	Seasonal space heating energy efficiency	η s	136	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	4.4	kW	Tj = -7℃	COPd	2.17	-
Tj = 2℃	Pdh	2.7	kW	Tj = 2℃	COPd	3.41	-
Tj = 7℃	Pdh	1.9	kW	Tj = 7℃	COPd	4.54	-
Tj = 12℃	Pdh	2.4	kW	Tj = 12℃	COPd	7.47	-
Tj = bivalent temperature	Pdh	4.4	kW	Tj = bivalent temperature	COPd	2.17	-
Tj = operating limit	Pdh	4.2	kW	Tj = operating limit	COPd	1.80	-
For air-to-water heat pumps: Tj = -15	Pdh	-	kW	For air-to-water heat pumps: Tj = -15℃	COPd	-	-
Bivalent temperature	T_{biv}	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	P_{cych}	-	kW	Cycling interval efficiency	COP_{cyc}	-	-
Degradation co-efficient (**)	C_{dh}	0.99	--	Heating water operating limit temperature	W_{TOL}	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{off}	0.010	kW	Rated heat output (**)	P_{sup}	0.8	kW
Standby mode	P_{sb}	0.010	kW				
Thermostat-off mode	P_{to}	0.007	kW	Type of energy input	Electrical		
Crankcase heater mode	P_{ck}	0.040	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	2650	m^3/h
Sound power level, indoors/outdoors	L_{WA}	56	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h
Annual energy consumption	Q_{HE}	2375	kWh				

For heat pump combination heater:							
Declared load profile	-			**Water heating energyefficiency**	η_{wh}	-	%
Daily electricity consumption	Q_{clec}	-	kWh	Daily fuel consumption	Q_{fuel}	-	kWh
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ

Contact details	

(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9

Technical parameters

Model(s):	NB-40W/EN8BP
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO/YES
Heat pump combination heater:	NO
Declared climate condition:	COLDER
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	4.0	kW	Seasonal space heating energy efficiency	η s	115	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	2.8	kW	Tj = -7℃	COPd	2.02	-
Tj = 2℃	Pdh	1.7	kW	Tj = 2℃	COPd	2.79	-
Tj = 7℃	Pdh	1.2	kW	Tj = 7℃	COPd	3.68	-
Tj = 12℃	Pdh	1.2	kW	Tj = 12℃	COPd	5.51	-
Tj = bivalent temperature	Pdh	3.2	kW	Tj = bivalent temperature	COPd	1.51	-
Tj = operating limit	Pdh	2.0	kW	Tj = operating limit	COPd	1.01	-
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW	For air-to-water heat pumps: Tj = -15℃	COPd	-	-
Bivalent temperature	T_{biv}	-15	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	P_{cych}	-	kW	Cycling interval efficiency	COP_{cyc}	-	-
Degradation co-efficient (**)	C_{dh}	0.90	--	Heating water operating limit temperature	W_{TOL}	51	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{off}	0.010	kW	Rated heat output (**)	P_{sup}	1.9	kW
Standby mode	P_{sb}	0.010	kW				
Thermostat-off mode	P_{to}	0.007	kW	Type of energy input	Electrical		
Crankcase heater mode	P_{ck}	0.040	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	2650	m^3/h
Sound power level, indoors/outdoors	L_{WA}	56	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h
Annual energy consumption	Q_{HE}	3435	kWh				

For heat pump combination heater:							
Declared load profile	-			**Water heating energyefficiency**	η_{wh}	-	%
Daily electricity consumption	Q_{clec}	-	kWh	Daily fuel consumption	Q_{fuel}	-	kWh
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ

Contact details	

(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9

Technical parameters

Model(s):	NB-40W/EN8BP
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO/YES
Heat pump combination heater:	NO
Declared climate condition:	WARMER
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	4.0	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	-	kW
Tj = 2℃	Pdh	3.9	kW
Tj = 7℃	Pdh	2.6	kW
Tj = 12℃	Pdh	2.0	kW
Tj = bivalent temperature	Pdh	2.6	kW
Tj = operating limit	Pdh	3.9	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	7	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.90	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.010	kW
Standby mode	P_{sb}	0.010	kW
Thermostat-off mode	P_{to}	0.007	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η s	192	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	-	-
Tj = 2℃	COPd	2.35	-
Tj = 7℃	COPd	3.51	-
Tj = 12℃	COPd	5.43	-
Tj = bivalent temperature	COPd	3.51	-
Tj = operating limit	COPd	2.35	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	65	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	0.1	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	56	dB
Annual energy consumption	Q_{HE}	1113	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	2650	m³/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m³/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energyefficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	kWh
Annual fuel consumption	AFC	-	GJ

Contact details	

(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9

Technical parameters

Model(s):	NB-60W/EN8BP
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO/YES
Heat pump combination heater:	NO
Declared climate condition:	AVERAGE
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	5.8	kW	Seasonal space heating energy efficiency	η s	138	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	5.1	kW	Tj = -7℃	COPd	2.13	-
Tj = 2℃	Pdh	3.1	kW	Tj = 2℃	COPd	3.38	-
Tj = 7℃	Pdh	2.2	kW	Tj = 7℃	COPd	4.72	-
Tj = 12℃	Pdh	2.4	kW	Tj = 12℃	COPd	7.64	-
Tj = bivalent temperature	Pdh	5.1	kW	Tj = bivalent temperature	COPd	2.13	-
Tj = operating limit	Pdh	4.4	kW	Tj = operating limit	COPd	1.82	-
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW	For air-to-water heat pumps: Tj = -15℃	COPd	-	-
Bivalent temperature	T_{biv}	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	P_{cych}	-	kW	Cycling interval efficiency	COP_{cyc}	-	-
Degradation co-efficient (**)	C_{dh}	0.99	--	Heating water operating limit temperature	W_{TOL}	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{off}	0.010	kW	Rated heat output (**)	P_{sup}	1.4	kW
Standby mode	P_{sb}	0.010	kW				
Thermostat-off mode	P_{to}	0.007	kW	Type of energy input	Electrical		
Crankcase heater mode	P_{ck}	0.040	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	2650	m^3/h
Sound power level, indoors/outdoors	L_{WA}	58	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h
Annual energy consumption	Q_{HE}	3521	kWh				

For heat pump combination heater:							
Declared load profile	-			**Water heating energyefficiency**	η_{wh}	-	%
Daily electricity consumption	Q_{clec}	-	kWh	Daily fuel consumption	Q_{fuel}	-	kWh
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ

Contact details	

(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9

Technical parameters

Model(s):	NB-60W/EN8BP
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO/YES
Heat pump combination heater:	NO
Declared climate condition:	COLDER
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	4.8	kW	Seasonal space heating energy efficiency	η s	112	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	3.0	kW	Tj = -7℃	COPd	2.15	-
Tj = 2℃	Pdh	1.8	kW	Tj = 2℃	COPd	2.95	-
Tj = 7℃	Pdh	1.3	kW	Tj = 7℃	COPd	3.82	-
Tj = 12℃	Pdh	1.3	kW	Tj = 12℃	COPd	5.65	-
Tj = bivalent temperature	Pdh	4.0	kW	Tj = bivalent temperature	COPd	1.71	-
Tj = operating limit	Pdh	2.2	kW	Tj = operating limit	COPd	1.02	-
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW	For air-to-water heat pumps: Tj = -15℃	COPd	-	-
Bivalent temperature	T_{biv}	-15	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	P_{cych}	-	kW	Cycling interval efficiency	COP_{cyc}	-	-
Degradation co-efficient (**)	C_{dh}	0.90	--	Heating water operating limit temperature	W_{TOL}	51	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{off}	0.010	kW	Rated heat output (**)	P_{sup}	2.7	kW
Standby mode	P_{sb}	0.010	kW				
Thermostat-off mode	P_{to}	0.007	kW	Type of energy input	Electrical		
Crankcase heater mode	P_{ck}	0.040	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	2650	m^3/h
Sound power level, indoors/outdoors	L_{WA}	58	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h
Annual energy consumption	Q_{HE}	4225	kWh				

For heat pump combination heater:							
Declared load profile	-			**Water heating energyefficiency**	η_{wh}	-	%
Daily electricity consumption	Q_{clec}	-	kWh	Daily fuel consumption	Q_{fuel}	-	kWh
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ

Contact details	

(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9

Technical parameters

Model(s):	NB-60W/EN8BP
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO/YES
Heat pump combination heater:	NO
Declared climate condition:	WARMER
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	5.9	kW	Seasonal space heating energy efficiency	η s	191	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	-	kW	Tj = -7℃	COPd	-	-
Tj = 2℃	Pdh	5.7	kW	Tj = 2℃	COPd	2.47	-
Tj = 7℃	Pdh	3.8	kW	Tj = 7℃	COPd	3.72	-
Tj = 12℃	Pdh	2.2	kW	Tj = 12℃	COPd	5.62	-
Tj = bivalent temperature	Pdh	3.8	kW	Tj = bivalent temperature	COPd	3.72	-
Tj = operating limit	Pdh	5.7	kW	Tj = operating limit	COPd	2.47	-
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW	For air-to-water heat pumps: Tj = -15℃	COPd	-	-
Bivalent temperature	T_{biv}	7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	P_{cych}	-	kW	Cycling interval efficiency	COP_{cyc}	-	-
Degradation co-efficient (**)	C_{dh}	0.90	--	Heating water operating limit temperature	W_{TOL}	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{off}	0.010	kW	Rated heat output (**)	P_{sup}	0.2	kW
Standby mode	P_{sb}	0.010	kW				
Thermostat-off mode	P_{to}	0.007	kW	Type of energy input	Electrical		
Crankcase heater mode	P_{ck}	0.000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	2650	m^3/h
Sound power level, indoors/outdoors	L_{WA}	58	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h
Annual energy consumption	Q_{HE}	1649	kWh				

For heat pump combination heater:							
Declared load profile	-			**Water heating energyefficiency**	η wh	-	%
Daily electricity consumption	Q_{clec}	-	kWh	Daily fuel consumption	Q_{fuel}	-	kWh
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ

Contact details	

(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9

Technical parameters

Model(s):	NB-80W/EN8BP
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO/YES
Heat pump combination heater:	NO
Declared climate condition:	AVERAGE
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	6.7	kW	Seasonal space heating energy efficiency	η s	131	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	6.0	kW	Tj = -7℃	COPd	1.89	-
Tj = 2℃	Pdh	3.9	kW	Tj = 2℃	COPd	3.24	-
Tj = 7℃	Pdh	3.1	kW	Tj = 7℃	COPd	4.88	-
Tj = 12℃	Pdh	3.8	kW	Tj = 12℃	COPd	5.88	-
Tj = bivalent temperature	Pdh	6.0	kW	Tj = bivalent temperature	COPd	1.89	-
Tj = operating limit	Pdh	5.2	kW	Tj = operating limit	COPd	1.56	-
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW	For air-to-water heat pumps: Tj = -15℃	COPd	-	-
Bivalent temperature	T_{biv}	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	P_{cych}	-	kW	Cycling interval efficiency	COP_{cyc}	-	-
Degradation co-efficient (**)	C_{dh}	0.99	--	Heating water operating limit temperature	W_{TOL}	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{off}	0.010	kW	Rated heat output (**)	P_{sup}	1.6	kW
Standby mode	P_{sb}	0.010	kW				
Thermostat-off mode	P_{to}	0.007	kW	Type of energy input	Electrical		
Crankcase heater mode	P_{ck}	0.040	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	3350	m^3/h
Sound power level, indoors/outdoors	L_{WA}	-/59	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h
Annual energy consumption	Q_{HE}	4162	kWh				

For heat pump combination heater:							
Declared load profile	-			**Water heating energyefficiency**	η_{wh}	-	%
Daily electricity consumption	Q_{clec}	-	kWh	Daily fuel consumption	Q_{fuel}	-	kWh
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ

Contact details	

(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	NB-80W/EN8BP
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO/YES
Heat pump combination heater:	NO
Declared climate condition:	COLDER
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	5.5	kW	Seasonal space heating energy efficiency	η s	101	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	3.5	kW	Tj = -7℃	COPd	2.23	-
Tj = 2℃	Pdh	2.1	kW	Tj = 2℃	COPd	3.08	-
Tj = 7℃	Pdh	1.4	kW	Tj = 7℃	COPd	3.91	-
Tj = 12℃	Pdh	1.4	kW	Tj = 12℃	COPd	5.62	-
Tj = bivalent temperature	Pdh	4.5	kW	Tj = bivalent temperature	COPd	1.71	-
Tj = operating limit	Pdh	2.4	kW	Tj = operating limit	COPd	1.05	-
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW	For air-to-water heat pumps: Tj = -15℃	COPd	-	-
Bivalent temperature	T_{biv}	-15	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	P_{cych}	-	kW	Cycling interval efficiency	COP_{cyc}	-	-
Degradation co-efficient (**)	C_{dh}	0.90	--	Heating water operating limit temperature	W_{TOL}	51	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{off}	0.010	kW	Rated heat output (**)	P_{sup}	3.1	kW
Standby mode	P_{sb}	0.010	kW				
Thermostat-off mode	P_{to}	0.007	kW	Type of energy input	Electrical		
Crankcase heater mode	P_{ck}	0.040	kW				

Other items							
Capacity control			variabl	For air-to-water heat pumps: Rated air flow rate, outdoors	-	3350	m^3/h
Sound power level, indoors/outdoors	L_{WA}	-/59	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h
Annual energy consumption	Q_{HE}	5380	kWh				

For heat pump combination heater:							
Declared load profile	-			**Water heating energyefficiency**	η_{wh}	-	%
Daily electricity consumption	Q_{clec}	-	kWh	Daily fuel consumption	Q_{fuel}	-	kWh
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ

Contact details	

(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	NB-80W/EN8BP
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO/YES
Heat pump combination heater:	NO
Declared climate condition:	WARMER
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	8.1	kW	Seasonal space heating energy efficiency	η s	171	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	-	kW	Tj = -7℃	COPd	-	-
Tj = 2℃	Pdh	7.51	kW	Tj = 2℃	COPd	2.55	-
Tj = 7℃	Pdh	5.21	kW	Tj = 7℃	COPd	3.86	-
Tj = 12℃	Pdh	2.32	kW	Tj = 12℃	COPd	5.51	-
Tj = bivalent temperature	Pdh	5.21	kW	Tj = bivalent temperature	COPd	3.86	-
Tj = operating limit	Pdh	7.51	kW	Tj = operating limit	COPd	2.55	-
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW	For air-to-water heat pumps: Tj = -15℃	COPd	-	-
Bivalent temperature	T_{biv}	7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	P_{cych}	-	kW	Cycling interval efficiency	COP_{cyc}	-	-
Degradation co-efficient (**)	C_{dh}	0.90	--	Heating water operating limit temperature	W_{TOL}	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{off}	0.010	kW	Rated heat output (**)	P_{sup}	0.6	kW
Standby mode	P_{sb}	0.010	kW				
Thermostat-off mode	P_{to}	0.007	kW	Type of energy input	Electrical		
Crankcase heater mode	P_{ck}	0.000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	3350	m^3/h
Sound power level, indoors/outdoors	L_{WA}	-/59	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h
Annual energy consumption	Q_{HE}	2270	kWh				

For heat pump combination heater:							
Declared load profile	-			**Water heating energyefficiency**	η wh	-	%
Daily electricity consumption	Q_{clec}	-	kWh	Daily fuel consumption	Q_{fuel}	-	kWh
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ

Contact details	

(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	NB-100W/EN8BP
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO/YES
Heat pump combination heater:	NO
Declared climate condition:	AVERAGE
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	7.7	kW	Seasonal space heating energy efficiency	ηs	139	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	6.8	kW	Tj = -7℃	COPd	2.14	-
Tj = 2℃	Pdh	4.3	kW	Tj = 2℃	COPd	3.41	-
Tj = 7℃	Pdh	2.9	kW	Tj = 7℃	COPd	4.68	-
Tj = 12℃	Pdh	3.9	kW	Tj = 12℃	COPd	7.73	-
Tj = bivalent temperature	Pdh	6.8	kW	Tj = bivalent temperature	COPd	2.14	-
Tj = operating limit	Pdh	6.6	kW	Tj = operating limit	COPd	1.72	-
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW	For air-to-water heat pumps: Tj = -15℃	COPd	-	-
Bivalent temperature	T_{biv}	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	P_{cych}	-	kW	Cycling interval efficiency	COP_{cyc}	-	-
Degradation co-efficient (**)	C_{dh}	0.99	--	Heating water operating limit temperature	W_{TOL}	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{off}	0.010	kW	Rated heat output (**)	P_{sup}	1.1	kW
Standby mode	P_{sb}	0.010	kW				
Thermostat-off mode	P_{to}	0.007	kW	Type of energy input	Electrical		
Crankcase heater mode	P_{ck}	0.040	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4050	m^3/h
Sound power level, indoors/outdoors	L_{WA}	-/60	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h
Annual energy consumption	Q_{HE}	4453	kWh				

For heat pump combination heater:							
Declared load profile	-			**Water heating energyefficiency**	η_{wh}	-	%
Daily electricity consumption	Q_{clec}	-	kWh	Daily fuel consumption	Q_{fuel}	-	kWh
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ

Contact details	

(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	NB-100W/EN8BP
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO/YES
Heat pump combination heater:	NO
Declared climate condition:	COLDER
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	6.5	kW	Seasonal space heating energy efficiency	ηs	109	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	4.1	kW	Tj = -7℃	COPd	2.41	-
Tj = 2℃	Pdh	2.4	kW	Tj = 2℃	COPd	3.33	-
Tj = 7℃	Pdh	1.6	kW	Tj = 7℃	COPd	4.15	-
Tj = 12℃	Pdh	1.4	kW	Tj = 12℃	COPd	5.66	-
Tj = bivalent temperature	Pdh	5.3	kW	Tj = bivalent temperature	COPd	1.84	-
Tj = operating limit	Pdh	2.5	kW	Tj = operating limit	COPd	1.09	-
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW	For air-to-water heat pumps: Tj = -15℃	COPd	-	-
Bivalent temperature	T_{biv}	-15	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	P_{cych}	-	kW	Cycling interval efficiency	COP_{cyc}	-	-
Degradation co-efficient (**)	C_{dh}	0.90	--	Heating water operating limit temperature	W_{TOL}	51	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{off}	0.010	kW	Rated heat output (**)	P_{sup}	4.0	kW
Standby mode	P_{sb}	0.010	kW				
Thermostat-off mode	P_{to}	0.007	kW	Type of energy input	Electrical		
Crankcase heater mode	P_{ck}	0.040	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4050	m^3/h
Sound power level, indoors/outdoors	L_{WA}	-/60	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h
Annual energy consumption	Q_{HE}	5604	kWh				

For heat pump combination heater:							
Declared load profile	-			**Water heating energyefficiency**	η_{wh}	-	%
Daily electricity consumption	Q_{clec}	-	kWh	Daily fuel consumption	Q_{fuel}	-	kWh
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ

Contact details	

(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	NB-100W/EN8BP
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO/YES
Heat pump combination heater:	NO
Declared climate condition:	WARMER
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	8.6	kW	Seasonal space heating energy efficiency	ηs	190	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	-	kW	Tj = -7℃	COPd	-	-
Tj = 2℃	Pdh	8.0	kW	Tj = 2℃	COPd	2.57	-
Tj = 7℃	Pdh	5.5	kW	Tj = 7℃	COPd	4.02	-
Tj = 12℃	Pdh	2.6	kW	Tj = 12℃	COPd	5.76	-
Tj = bivalent temperature	Pdh	5.5	kW	Tj = bivalent temperature	COPd	4.02	-
Tj = operating limit	Pdh	8.0	kW	Tj = operating limit	COPd	2.53	-
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW	For air-to-water heat pumps: Tj = -15℃	COPd	-	-
Bivalent temperature	T_{biv}	7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	P_{cych}	-	kW	Cycling interval efficiency	COP_{cyc}	-	-
Degradation co-efficient (**)	C_{dh}	0.90	--	Heating water operating limit temperature	W_{TOL}	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{off}	0.010	kW	Rated heat output (**)	P_{sup}	0.6	kW
Standby mode	P_{sb}	0.010	kW				
Thermostat-off mode	P_{to}	0.007	kW	Type of energy input	Electrical		
Crankcase heater mode	P_{ck}	0.000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4050	m^3/h
Sound power level, indoors/outdoors	L_{WA}	-/60	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h
Annual energy consumption	Q_{HE}	2374	kWh				

For heat pump combination heater:							
Declared load profile	-			**Water heating energyefficiency**	η_{wh}	-	%
Daily electricity consumption	Q_{clec}	-	kWh	Daily fuel consumption	Q_{fuel}	-	kWh
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ

Contact details	

(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	NB-120W/EN8BP
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO/YES
Heat pump combination heater:	NO
Declared climate condition:	AVERAGE
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	10.9	kW	Seasonal space heating energy efficiency	η s	138	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	9.6	kW	Tj = -7℃	COPd	1.98	-
Tj = 2℃	Pdh	6.2	kW	Tj = 2℃	COPd	3.25	-
Tj = 7℃	Pdh	4.4	kW	Tj = 7℃	COPd	5.13	-
Tj = 12℃	Pdh	5.5	kW	Tj = 12℃	COPd	8.49	-
Tj = bivalent temperature	Pdh	9.6	kW	Tj = bivalent temperature	COPd	1.98	-
Tj = operating limit	Pdh	9.1	kW	Tj = operating limit	COPd	1.81	-
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW	For air-to-water heat pumps: Tj = -15℃	COPd	-	-
Bivalent temperature	T_{biv}	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	P_{cych}	-	kW	Cycling interval efficiency	COP_{cyc}	-	-
Degradation co-efficient (**)	C_{dh}	0.99	--	Heating water operating limit temperature	W_{TOL}	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{off}	0.010	kW	Rated heat output (**)	P_{sup}	1.8	kW
Standby mode	P_{sb}	0.010	kW				
Thermostat-off mode	P_{to}	0.007	kW	Type of energy input	Electrical		
Crankcase heater mode	P_{ck}	0.040	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4050	m^3/h
Sound power level, indoors/outdoors	L_{WA}	-/64	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h
Annual energy consumption	Q_{HE}	6390	kWh				

For heat pump combination heater:							
Declared load profile	-			**Water heating energyefficiency**	η_{wh}	-	%
Daily electricity consumption	Q_{clec}	-	kWh	Daily fuel consumption	Q_{fuel}	-	kWh
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ

Contact details	

(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	NB-120W/EN8BP
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO/YES
Heat pump combination heater:	NO
Declared climate condition:	COLDER
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	9.8	kW	Seasonal space heating energy efficiency	η s	111	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	6.3	kW	Tj = -7℃	COPd	2.49	-
Tj = 2℃	Pdh	3.9	kW	Tj = 2℃	COPd	3.42	-
Tj = 7℃	Pdh	2.6	kW	Tj = 7℃	COPd	4.31	-
Tj = 12℃	Pdh	3.3	kW	Tj = 12℃	COPd	6.12	-
Tj = bivalent temperature	Pdh	8.0	kW	Tj = bivalent temperature	COPd	1.75	-
Tj = operating limit	Pdh	3.9	kW	Tj = operating limit	COPd	1.03	-
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW	For air-to-water heat pumps: Tj = -15℃	COPd	-	-
Bivalent temperature	T_{biv}	-15	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	P_{cych}	-	kW	Cycling interval efficiency	COP_{cyc}	-	-
Degradation co-efficient (**)	Cdh	0.90	--	Heating water operating limit temperature	W_{TOL}	51	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{off}	0.010	kW	Rated heat output (**)	P_{sup}	5.9	kW
Standby mode	P_{sb}	0.010	kW				
Thermostat-off mode	P_{to}	0.007	kW	Type of energy input	Electrical		
Crankcase heater mode	P_{ck}	0.040	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4050	m^3/h
Sound power level, indoors/outdoors	L_{WA}	-/64	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h
Annual energy consumption	Q_{HE}	8453	kWh				

For heat pump combination heater:							
Declared load profile	-			**Water heating energyefficiency**	η_{wh}	-	%
Daily electricity consumption	Q_{clec}	-	kWh	Daily fuel consumption	Q_{fuel}	-	kWh
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ

Contact details	

(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	NB-120W/EN8BP
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO/YES
Heat pump combination heater:	NO
Declared climate condition:	WARMER
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	12.0	kW	Seasonal space heating energy efficiency	η s	168	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	-	kW	Tj = -7℃	COPd	-	-
Tj = 2℃	Pdh	11.5	kW	Tj = 2℃	COPd	2.19	-
Tj = 7℃	Pdh	7.7	kW	Tj = 7℃	COPd	3.71	-
Tj = 12℃	Pdh	3.7	kW	Tj = 12℃	COPd	5.59	-
Tj = bivalent temperature	Pdh	7.7	kW	Tj = bivalent temperature	COPd	3.71	-
Tj = operating limit	Pdh	11.5	kW	Tj = operating limit	COPd	2.19	-
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW	For air-to-water heat pumps: Tj = -15℃	COPd	-	-
Bivalent temperature	T_{biv}	7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	P_{cych}	-	kW	Cycling interval efficiency	COP_{cyc}	-	-
Degradation co-efficient (**)	C_{dh}	0.90	--	Heating water operating limit temperature	W_{TOL}	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{off}	0.010	kW	Rated heat output (**)	P_{sup}	0.6	kW
Standby mode	P_{sb}	0.010	kW				
Thermostat-off mode	P_{to}	0.007	kW	Type of energy input	Electrical		
Crankcase heater mode	P_{ck}	0.000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4050	m^3/h
Sound power level, indoors/outdoors	L_{WA}	-/64	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h
Annual energy consumption	Q_{HE}	3756	kWh				

For heat pump combination heater:							
Declared load profile	-			**Water heating energyefficiency**	η_{wh}	-	%
Daily electricity consumption	Q_{clec}	-	kWh	Daily fuel consumption	Q_{fuel}	-	kWh
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ

Contact details	

(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	NB-140W/EN8BP
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO/YES
Heat pump combination heater:	NO
Declared climate condition:	AVERAGE
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	12.7	kW	Seasonal space heating energy efficiency	η s	137	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	11.3	kW	Tj = -7℃	COPd	1.96	-
Tj = 2℃	Pdh	7.7	kW	Tj = 2℃	COPd	3.30	-
Tj = 7℃	Pdh	4.9	kW	Tj = 7℃	COPd	4.93	-
Tj = 12℃	Pdh	6.1	kW	Tj = 12℃	COPd	7.98	-
Tj = bivalent temperature	Pdh	11.3	kW	Tj = bivalent temperature	COPd	1.96	-
Tj = operating limit	Pdh	10.8	kW	Tj = operating limit	COPd	1.77	-
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW	For air-to-water heat pumps: Tj = -15℃	COPd	-	-
Bivalent temperature	T_{biv}	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	P_{cych}	-	kW	Cycling interval efficiency	COP_{cyc}	-	-
Degradation co-efficient (**)	C_{dh}	0.99	--	Heating water operating limit temperature	W_{TOL}	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{off}	0.010	kW	Rated heat output (**)	P_{sup}	2.0	kW
Standby mode	P_{sb}	0.010	kW				
Thermostat-off mode	P_{to}	0.007	kW	Type of energy input	Electrical		
Crankcase heater mode	P_{ck}	0.040	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m^3/h
Sound power level, indoors/outdoors	L_{WA}	-/65	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h
Annual energy consumption	Q_{HE}	7516	kWh				

For heat pump combination heater:							
Declared load profile	-			**Water heating energyefficiency**	η_{wh}	-	%
Daily electricity consumption	Q_{clec}	-	kWh	Daily fuel consumption	Q_{fuel}	-	kWh
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ

Contact details	

(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	NB-140W/EN8BP
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO/YES
Heat pump combination heater:	NO
Declared climate condition:	COLDER
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	10.5	kW	Seasonal space heating energy efficiency	η s	113	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	6.6	kW	Tj = -7℃	COPd	2.53	-
Tj = 2℃	Pdh	4.2	kW	Tj = 2℃	COPd	3.51	-
Tj = 7℃	Pdh	3.0	kW	Tj = 7℃	COPd	4.58	-
Tj = 12℃	Pdh	3.3	kW	Tj = 12℃	COPd	6.12	-
Tj = bivalent temperature	Pdh	8.5	kW	Tj = bivalent temperature	COPd	1.69	-
Tj = operating limit	Pdh	3.9	kW	Tj = operating limit	COPd	1.03	-
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW	For air-to-water heat pumps: Tj = -15℃	COPd	-	-
Bivalent temperature	T_{biv}	-15	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	P_{cych}	-	kW	Cycling interval efficiency	COP_{cyc}	-	-
Degradation co-efficient (**)	C_{dh}	0.90	--	Heating water operating limit temperature	W_{TOL}	51	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{off}	0.010	kW	Rated heat output (**)	P_{sup}	6.6	kW
Standby mode	P_{sb}	0.010	kW				
Thermostat-off mode	P_{to}	0.007	kW	Type of energy input	Electrical		
Crankcase heater mode	P_{ck}	0.040	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m^3/h
Sound power level, indoors/outdoors	L_{WA}	-/65	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h
Annual energy consumption	Q_{HE}	8828	kWh				

For heat pump combination heater:							
Declared load profile	-			**Water heating energyefficiency**	η_{wh}	-	%
Daily electricity consumption	Q_{clec}	-	kWh	Daily fuel consumption	Q_{fuel}	-	kWh
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ

Contact details	

(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	NB-140W/EN8BP
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO/YES
Heat pump combination heater:	NO
Declared climate condition:	WARMER
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	13.5	kW
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	-	kW
Tj = 2℃	Pdh	13.0	kW
Tj = 7℃	Pdh	9.1	kW
Tj = 12℃	Pdh	4.1	kW
Tj = bivalent temperature	Pdh	9.1	kW
Tj = operating limit	Pdh	13.0	kW
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW
Bivalent temperature	T_{biv}	7	°C
Cycling interval capacity for heating	P_{cych}	-	kW
Degradation co-efficient (**)	C_{dh}	0.90	--
Power consumption in modes other than active mode			
Off mode	P_{off}	0.010	kW
Standby mode	P_{sb}	0.010	kW
Thermostat-off mode	P_{to}	0.007	kW
Crankcase heater mode	P_{ck}	0.000	kW

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η s	175	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	COPd	-	-
Tj = 2℃	COPd	2.18	-
Tj = 7℃	COPd	3.92	-
Tj = 12℃	COPd	5.91	-
Tj = bivalent temperature	COPd	3.92	-
Tj = operating limit	COPd	2.18	-
For air-to-water heat pumps: Tj = -15℃	COPd	-	-
For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval efficiency	COP_{cyc}	-	-
Heating water operating limit temperature	W_{TOL}	65	°C
Supplementary heater			
Rated heat output (**)	P_{sup}	1.1	kW
Type of energy input	Electrical		

Other items			
Capacity control	variable		
Sound power level, indoors/outdoors	L_{WA}	-/65	dB
Annual energy consumption	Q_{HE}	3922	kWh

For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m^3/h
For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h

For heat pump combination heater:			
Declared load profile	-		
Daily electricity consumption	Q_{clec}	-	kWh
Annual electricity consumption	AEC	-	kWh

Water heating energyefficiency	η_{wh}	-	%
Daily fuel consumption	Q_{fuel}	-	kWh
Annual fuel consumption	AFC	-	GJ

Contact details	

(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	NB-160W/EN8BP
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO/YES
Heat pump combination heater:	NO
Declared climate condition:	AVERAGE
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	14.1	kW	Seasonal space heating energy efficiency	η s	148	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	12.5	kW	Tj = -7℃	COPd	2.31	-
Tj = 2℃	Pdh	7.8	kW	Tj = 2℃	COPd	3.33	-
Tj = 7℃	Pdh	5.5	kW	Tj = 7℃	COPd	5.82	-
Tj = 12℃	Pdh	7.0	kW	Tj = 12℃	COPd	9.54	-
Tj = bivalent temperature	Pdh	12.5	kW	Tj = bivalent temperature	COPd	2.31	-
Tj = operating limit	Pdh	10.3	kW	Tj = operating limit	COPd	1.93	-
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW	For air-to-water heat pumps: Tj = -15℃	COPd	-	-
Bivalent temperature	T_{biv}	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	P_{cych}	-	kW	Cycling interval efficiency	COP_{cyc}	-	-
Degradation co-efficient (**)	C_{dh}	0.99	--	Heating water operating limit temperature	W_{TOL}	60	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{off}	0.010	kW	Rated heat output (**)	P_{sup}	3.9	kW
Standby mode	P_{sb}	0.010	kW				
Thermostat-off mode	P_{to}	0.007	kW	Type of energy input	Electrical		
Crankcase heater mode	P_{ck}	0.040	kW				
Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m^3/h
Sound power level, indoors/outdoors	L_{WA}	-/68	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h
Annual energy consumption	Q_{HE}	7723	kWh				
For heat pump combination heater:							
Declared load profile	-			**Water heating energyefficiency**	η_{wh}	-	%
Daily electricity consumption	Q_{clec}	-	kWh	Daily fuel consumption	Q_{fuel}	-	kWh
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ
Contact details							

(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	NB-160W/EN8BP
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO/YES
Heat pump combination heater:	NO
Declared climate condition:	COLDER
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	11.6	kW	Seasonal space heating energy efficiency	η s	116	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	7.3	kW	Tj = -7℃	COPd	2.51	-
Tj = 2℃	Pdh	4.2	kW	Tj = 2℃	COPd	3.64	-
Tj = 7℃	Pdh	2.9	kW	Tj = 7℃	COPd	4.66	-
Tj = 12℃	Pdh	3.4	kW	Tj = 12℃	COPd	6.16	-
Tj = bivalent temperature	Pdh	9.5	kW	Tj = bivalent temperature	COPd	1.77	-
Tj = operating limit	Pdh	4.8	kW	Tj = operating limit	COPd	1.13	-
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW	For air-to-water heat pumps: Tj = -15℃	COPd	-	-
Bivalent temperature	T_{biv}	-15	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	P_{cych}	-	kW	Cycling interval efficiency	COP_{cyc}	-	-
Degradation co-efficient (**)	C_{dh}	0.90	--	Heating water operating limit temperature	W_{TOL}	51	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{off}	0.010	kW	Rated heat output (**)	P_{sup}	6.8	kW
Standby mode	P_{sb}	0.010	kW				
Thermostat-off mode	P_{to}	0.007	kW	Type of energy input	Electrical		
Crankcase heater mode	P_{ck}	0.040	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m^3/h
Sound power level, indoors/outdoors	L_{WA}	-/68	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h
Annual energy consumption	Q_{HE}	9285	kWh				

For heat pump combination heater:							
Declared load profile	-			**Water heating energyefficiency**	η_{wh}	-	%
Daily electricity consumption	Q_{clec}	-	kWh	Daily fuel consumption	Q_{fuel}	-	kWh
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ

Contact details	

(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Technical parameters

Model(s):	NB-160W/EN8BP
Air-to-water heat pump:	YES
Water-to-water heat pump:	NO
Brine-to-water heat pump:	NO
Low-temperature heat pump:	NO
Equipped with a supplementary heater:	NO/YES
Heat pump combination heater:	NO
Declared climate condition:	WARMER
Parameters are declared for medium-temperature application.	

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	15.2	kW	Seasonal space heating energy efficiency	η s	171	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj			
Tj = -7℃	Pdh	-	kW	Tj = -7℃	COPd	-	-
Tj = 2℃	Pdh	14.7	kW	Tj = 2℃	COPd	2.18	-
Tj = 7℃	Pdh	9.8	kW	Tj = 7℃	COPd	3.69	-
Tj = 12℃	Pdh	4.0	kW	Tj = 12℃	COPd	5.73	-
Tj = bivalent temperature	Pdh	9.8	kW	Tj = bivalent temperature	COPd	3.69	-
Tj = operating limit	Pdh	14.7	kW	Tj = operating limit	COPd	2.18	-
For air-to-water heat pumps: Tj = -15℃	Pdh	-	kW	For air-to-water heat pumps: Tj = -15℃	COPd	-	-
Bivalent temperature	T_{biv}	7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	2	°C
Cycling interval capacity for heating	P_{cych}	-	kW	Cycling interval efficiency	COP_{cyc}	-	-
Degradation co-efficient (**)	C_{dh}	0.90	--	Heating water operating limit temperature	W_{TOL}	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{off}	0.010	kW	Rated heat output (**)	P_{sup}	0.5	kW
Standby mode	P_{sb}	0.010	kW				
Thermostat-off mode	P_{to}	0.007	kW	Type of energy input	Electrical		
Crankcase heater mode	P_{ck}	0.000	kW				

Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m^3/h
Sound power level, indoors/outdoors	L_{WA}	-/68	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m^3/h
Annual energy consumption	Q_{HE}	4669	kWh				

For heat pump combination heater:							
Declared load profile	-			**Water heating energyefficiency**	η_{wh}	-	%
Daily electricity consumption	Q_{clec}	-	kWh	Daily fuel consumption	Q_{fuel}	-	kWh
Annual electricity consumption	AEC	-	kWh	Annual fuel consumption	AFC	-	GJ

Contact details	

(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heating Pdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).
(**) If Cdh is not determined by measurement then the default degradation coefficient is Cdh = 0,9.

Information requirements

Model(s):	NB-40W/EN8BP
Outdoor side heat exchanger of chiller:	Air to water
Indoor side heat exchanger chiller:	Water
Type:	Compressor driven vapour compression
Driver of compressor:	Electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	4.3	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	203	%
Declared cooling capacity for part load at given outdoor temperature Tj				Declared energy efficiency ratio for part load at given outdoor temperature Tj			
Tj=+35℃	P_{dc}	4.3	kW	Tj=+35℃	EER_d	3.24	-
Tj=+30℃	P_{dc}	3.0	kW	Tj=+30℃	EER_d	4.24	-
Tj=+25℃	P_{dc}	2.3	kW	Tj=+25℃	EER_d	5.83	-
Tj=+20℃	P_{dc}	1.8	kW	Tj=+20℃	EER_d	8.47	-
Degradationco-efficient for chillers(*)	C_{dc}	0.99	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.010	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.007	kW	Standby mode	P_{SB}	0.010	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	2650	m^3/h
Soundpowerlevel, indoors /outdoors	L_{WA}	56	dB				
Emissions of nitrogen oxides(ifapplicable)	NO_x	-	mg/kWh input GCV	For water / brine-to-water chillers:Ratedbrineor water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg $CO_{2\ eq}$ (100years)				
Standard rating conditions used		Low temperature application					
Contact details							

(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9

Information requirements

Model(s):	NB-40W/EN8BP
Outdoor side heat exchanger of chiller:	Air to water
Indoor side heat exchanger chiller:	Water
Type:	Compressor driven vapour compression
Driver of compressor:	Electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	4.0	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	339	%
Declared cooling capacity for part load at given outdoor temperature Tj				Declared energy efficiency ratio for part load at given outdoor temperature Tj			
Tj=+35℃	P_{dc}	4.0	kW	Tj=+35℃	EER_d	5.19	-
Tj=+30℃	P_{dc}	3.3	kW	Tj=+30℃	EER_d	6.97	-
Tj=+25℃	P_{dc}	2.2	kW	Tj=+25℃	EER_d	9.79	-
Tj=+20℃	P_{dc}	2.5	kW	Tj=+20℃	EER_d	15.38	-
Degradationco-efficient for chillers(*)	C_{dc}	0.99	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.010	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.007	kW	Standby mode	P_{SB}	0.010	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	2650	m^3/h
Soundpowerlevel, indoors /outdoors	L_{WA}	56	dB				
Emissions of nitrogen oxides(ifapplicable)	NO_x	-	mg/kWh input GCV	For water / brine-to-water chillers:Ratedbrineor water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg $CO_{2\ eq}$ (100years)				
Standard rating conditions used	Medium temperature application						
Contact details							

(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9

Information requirements

Model(s):	NB-60W/EN8BP
Outdoor side heat exchanger of chiller:	Air to water
Indoor side heat exchanger chiller:	Water
Type:	Compressor driven vapour compression
Driver of compressor:	Electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	6.3	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	207	%
Declared cooling capacity for part load at given outdoor temperature Tj				Declared energy efficiency ratio for part load at given outdoor temperature Tj			
Tj=+35℃	P_{dc}	6.3	kW	Tj=+35℃	EER_d	3.15	-
Tj=+30℃	P_{dc}	4.7	kW	Tj=+30℃	EER_d	4.29	-
Tj=+25℃	P_{dc}	3.1	kW	Tj=+25℃	EER_d	6.11	-
Tj=+20℃	P_{dc}	1.7	kW	Tj=+20℃	EER_d	8.93	-
Degradationco-efficient for chillers(*)	C_{dc}	0.99	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.010	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.007	kW	Standby mode	P_{SB}	0.010	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	2650	m^3/h
Soundpowerlevel, indoors /outdoors	L_{WA}	58	dB				
Emissions of nitrogen oxides(ifapplicable)	NO_x	-	mg/kWh input GCV	For water / brine-to-water chillers:Ratedbrineor water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg $CO_{2\ eq}$ (100years)				
Standard rating conditions used	Low temperature application						
Contact details							

(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9

Information requirements

Model(s):	NB-60W/EN8BP
Outdoor side heat exchanger of chiller:	Air to water
Indoor side heat exchanger chiller:	Water
Type:	Compressor driven vapour compression
Driver of compressor:	Electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	6.2	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	347	%
Declared cooling capacity for part load at given outdoor temperature Tj				Declared energy efficiency ratio for part load at given outdoor temperature Tj			
Tj=+35℃	P_{dc}	6.2	kW	Tj=+35℃	EER_d	4.91	-
Tj=+30℃	P_{dc}	4.7	kW	Tj=+30℃	EER_d	6.77	-
Tj=+25℃	P_{dc}	2.9	kW	Tj=+25℃	EER_d	10.47	-
Tj=+20℃	P_{dc}	2.4	kW	Tj=+20℃	EER_d	16.59	-
Degradationco-efficient for chillers(*)	C_{dc}	0.99	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.010	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.007	kW	Standby mode	P_{SB}	0.010	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	2650	m^3/h
Soundpowerlevel, indoors /outdoors	L_{WA}	58	dB				
Emissions of nitrogen oxides(ifapplicable)	NO_x	-	mg/kWh input GCV	For water / brine-to-water chillers:Ratedbrineor water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg $CO_{2\ eq}$ (100years)				
Standard rating conditions used	Medium temperature application						
Contact details							

(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9

Information requirements

Model(s):	NB-80W/EN8BP
Outdoor side heat exchanger of chiller:	Air to water
Indoor side heat exchanger chiller:	Water
Type:	Compressor driven vapour compression
Driver of compressor:	Electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	7.6	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	203	%
Declared cooling capacity for part load at given outdoor temperature Tj				Declared energy efficiency ratio for part load at given outdoor temperature Tj			
Tj=+35℃	P_{dc}	7.6	kW	Tj=+35℃	EER_d	2.97	-
Tj=+30℃	P_{dc}	5.9	kW	Tj=+30℃	EER_d	4.33	-
Tj=+25℃	P_{dc}	3.9	kW	Tj=+25℃	EER_d	6.57	-
Tj=+20℃	P_{dc}	3.1	kW	Tj=+20℃	EER_d	10.26	-
Degradationco-efficient for chillers(*)	C_{dc}	0.99	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.010	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.007	kW	Standby mode	P_{SB}	0.010	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	3350	m^3/h
Soundpowerlevel, indoors /outdoors	L_{WA}	-/59	dB				
Emissions of nitrogen oxides(ifapplicable)	NO_x	-	mg/kWh input GCV	For water / brine-to-water chillers:Ratedbrineor water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg $CO_{2\ eq}$ (100years)				
Standard rating conditions used	Low temperature application						
Contact details							

(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9.

Information requirements

Model(s):	NB-80W/EN8BP
Outdoor side heat exchanger of chiller:	Air to water
Indoor side heat exchanger chiller:	Water
Type:	Compressor driven vapour compression
Driver of compressor:	Electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	8.2	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	329	%
Declared cooling capacity for part load at given outdoor temperature Tj				Declared energy efficiency ratio for part load at given outdoor temperature Tj			
Tj=+35℃	P_{dc}	8.2	kW	Tj=+35℃	EER_d	4.65	-
Tj=+30℃	P_{dc}	6.1	kW	Tj=+30℃	EER_d	6.82	-
Tj=+25℃	P_{dc}	3.8	kW	Tj=+25℃	EER_d	11.24	-
Tj=+20℃	P_{dc}	3.8	kW	Tj=+20℃	EER_d	17.47	-
Degradationco-efficient for chillers(*)	C_{dc}	0.99	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.010	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.007	kW	Standby mode	P_{SB}	0.010	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	3350	m^3/h
Soundpowerlevel, indoors /outdoors	L_{WA}	-/59	dB				
Emissions of nitrogen oxides(ifapplicable)	NO_x	-	mg/kWh input GCV	For water / brine-to-water chillers:Ratedbrineor water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg $CO_{2\ eq}$ (100years)				
Standard rating conditions used	Medium temperature application						
Contact details							

(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9.

Information requirements

Model(s):	NB-100W/EN8BP
Outdoor side heat exchanger of chiller:	Air to water
Indoor side heat exchanger chiller:	Water
Type:	Compressor driven vapour compression
Driver of compressor:	Electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	8.8	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	183	%
Declared cooling capacity for part load at given outdoor temperature Tj				Declared energy efficiency ratio for part load at given outdoor temperature Tj			
Tj=+35℃	P_{dc}	8.8	kW	Tj=+35℃	EER_d	2.96	-
Tj=+30℃	P_{dc}	8.6	kW	Tj=+30℃	EER_d	4.04	-
Tj=+25℃	P_{dc}	4.1	kW	Tj=+25℃	EER_d	5.43	-
Tj=+20℃	P_{dc}	2.3	kW	Tj=+20℃	EER_d	6.11	-
Degradationco-efficient for chillers(*)	C_{dc}	0.99	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.010	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.007	kW	Standby mode	P_{SB}	0.010	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	4050	m^3/h
Soundpowerlevel, indoors /outdoors	L_{WA}	-/60	dB				
Emissions of nitrogen oxides(ifapplicable)	NO_x	-	mg/kWh input GCV	For water / brine-to-water chillers:Ratedbrineor water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg CO_2 eq (100years)				
Standard rating conditions used	Low temperature application						
Contact details							

(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9.

Information requirements

Model(s):	NB-100W/EN8BP
Outdoor side heat exchanger of chiller:	Air to water
Indoor side heat exchanger chiller:	Water
Type:	Compressor driven vapour compression
Driver of compressor:	Electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	10.0	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	326	%
Declared cooling capacity for part load at given outdoor temperature Tj				Declared energy efficiency ratio for part load at given outdoor temperature Tj			
Tj=+35℃	P_{dc}	10.0	kW	Tj=+35℃	EER_d	4.14	-
Tj=+30℃	P_{dc}	7.7	kW	Tj=+30℃	EER_d	6.23	-
Tj=+25℃	P_{dc}	5.0	kW	Tj=+25℃	EER_d	9.99	-
Tj=+20℃	P_{dc}	3.1	kW	Tj=+20℃	EER_d	16.48	-
Degradationco-efficient for chillers(*)	C_{dc}	0.99	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.010	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.007	kW	Standby mode	P_{SB}	0.010	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	4050	m^3/h
Soundpowerlevel, indoors /outdoors	L_{WA}	-/60	dB				
Emissions of nitrogen oxides(ifapplicable)	NO_x	-	mg/kWh input GCV	For water / brine-to-water chillers:Ratedbrineor water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg $CO_{2\ eq}$ (100years)				
Standard rating conditions used	Medium temperature application						
Contact details							

(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9.

Information requirements

Model(s):	NB-120W/EN8BP
Outdoor side heat exchanger of chiller:	Air to water
Indoor side heat exchanger chiller:	Water
Type:	Compressor driven vapour compression
Driver of compressor:	Electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	11.6	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	197	%
Declared cooling capacity for part load at given outdoor temperature Tj				Declared energy efficiency ratio for part load at given outdoor temperature Tj			
Tj=+35℃	P_{dc}	11.6	kW	Tj=+35℃	EER_d	2.80	-
Tj=+30℃	P_{dc}	9.2	kW	Tj=+30℃	EER_d	4.14	-
Tj=+25℃	P_{dc}	6.0	kW	Tj=+25℃	EER_d	6.33	-
Tj=+20℃	P_{dc}	4.9	kW	Tj=+20℃	EER_d	9.25	-
Degradationco-efficient for chillers(*)	C_{dc}	0.99	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.010	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.007	kW	Standby mode	P_{SB}	0.010	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	4050	m^3/h
Soundpowerlevel, indoors /outdoors	L_{WA}	-/64	dB				
Emissions of nitrogen oxides(ifapplicable)	NO_x	-	mg/kWh input GCV	For water / brine-to-water chillers:Ratedbrineor water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg $CO_{2\ eq}$ (100years)				
Standard rating conditions used		Low temperature application					
Contact details							

(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9.

Information requirements

Model(s):	NB-120W/EN8BP
Outdoor side heat exchanger of chiller:	Air to water
Indoor side heat exchanger chiller:	Water
Type:	Compressor driven vapour compression
Driver of compressor:	Electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	11.9	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	323	%
Declared cooling capacity for part load at given outdoor temperature Tj				Declared energy efficiency ratio for part load at given outdoor temperature Tj			
Tj=+35℃	P_{dc}	11.9	kW	Tj=+35℃	EER_d	4.36	-
Tj=+30℃	P_{dc}	8.9	kW	Tj=+30℃	EER_d	6.53	-
Tj=+25℃	P_{dc}	5.7	kW	Tj=+25℃	EER_d	11.25	-
Tj=+20℃	P_{dc}	6.1	kW	Tj=+20℃	EER_d	14.95	-
Degradationco-efficient for chillers(*)	C_{dc}	0.99	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.010	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.007	kW	Standby mode	P_{SB}	0.010	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	4050	m^3/h
Soundpowerlevel, indoors /outdoors	L_{WA}	-/64	dB				
Emissions of nitrogen oxides(ifapplicable)	NO_x	-	mg/kWh input GCV	For water / brine-to-water chillers:Ratedbrineor water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg CO_2 eq (100years)				
Standard rating conditions used	Medium temperature application						
Contact details							

(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9.

Information requirements

Model(s):	NB-140W/EN8BP
Outdoor side heat exchanger of chiller:	Air to water
Indoor side heat exchanger chiller:	Water
Type:	Compressor driven vapour compression
Driver of compressor:	Electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	14.3	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	187	%
Declared cooling capacity for part load at given outdoor temperature Tj				Declared energy efficiency ratio for part load at given outdoor temperature Tj			
Tj=+35℃	P_{dc}	14.3	kW	Tj=+35℃	EER_d	2.80	-
Tj=+30℃	P_{dc}	10.7	kW	Tj=+30℃	EER_d	4.17	-
Tj=+25℃	P_{dc}	7.1	kW	Tj=+25℃	EER_d	6.01	-
Tj=+20℃	P_{dc}	5.5	kW	Tj=+20℃	EER_d	8.61	-
Degradationco-efficient for chillers(*)	C_{dc}	0.99	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.010	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.007	kW	Standby mode	P_{SB}	0.010	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	4650	m^3/h
Soundpowerlevel, indoors /outdoors	L_{WA}	-/65	dB				
Emissions of nitrogen oxides(ifapplicable)	NO_x	-	mg/kWh input GCV	For water / brine-to-water chillers:Ratedbrineor water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg $CO_{2\ eq}$ (100years)				
Standard rating conditions used		Low temperature application					
Contact details							

(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9.

Information requirements

Model(s):	NB-140W/EN8BP
Outdoor side heat exchanger of chiller:	Air to water
Indoor side heat exchanger chiller:	Water
Type:	Compressor driven vapour compression
Driver of compressor:	Electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	14.1	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	266	%
Declared cooling capacity for part load at given outdoor temperature Tj				Declared energy efficiency ratio for part load at given outdoor temperature Tj			
Tj=+35℃	P_{dc}	14.1	kW	Tj=+35℃	EER_d	4.56	-
Tj=+30℃	P_{dc}	10.4	kW	Tj=+30℃	EER_d	6.09	-
Tj=+25℃	P_{dc}	7.2	kW	Tj=+25℃	EER_d	8.73	-
Tj=+20℃	P_{dc}	7.3	kW	Tj=+20℃	EER_d	13.20	-
Degradationco-efficient for chillers(*)	C_{dc}	0.99	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.010	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.007	kW	Standby mode	P_{SB}	0.010	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	4650	m^3/h
Soundpowerlevel, indoors /outdoors	L_{WA}	-/65	dB				
Emissions of nitrogen oxides(ifapplicable)	NO_x	-	mg/kWh input GCV	For water / brine-to-water chillers:Ratedbrineor water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg $CO_{2\ eq}$ (100years)				
Standard rating conditions used	Medium temperature application						
Contact details							

(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9.

Information requirements

Model(s):	NB-160W/EN8BP
Outdoor side heat exchanger of chiller:	Air to water
Indoor side heat exchanger chiller:	Water
Type:	Compressor driven vapour compression
Driver of compressor:	Electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	16.0	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	182	%
Declared cooling capacity for part load at given outdoor temperature Tj				Declared energy efficiency ratio for part load at given outdoor temperature Tj			
Tj=+35℃	P_{dc}	16.0	kW	Tj=+35℃	EER_d	2.61	-
Tj=+30℃	P_{dc}	12.9	kW	Tj=+30℃	EER_d	3.72	-
Tj=+25℃	P_{dc}	7.7	kW	Tj=+25℃	EER_d	5.71	-
Tj=+20℃	P_{dc}	5.5	kW	Tj=+20℃	EER_d	8.02	-
Degradationco-efficient for chillers(*)	C_{dc}	0.99	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.010	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.007	kW	Standby mode	P_{SB}	0.010	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	4650	m^3/h
Soundpowerlevel, indoors /outdoors	L_{WA}		dB				
Emissions of nitrogen oxides(ifapplicable)	NO_x	-	mg/kWh input GCV	For water / brine-to-water chillers:Ratedbrine or water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg $CO_{2\ eq}$ (100years)				
Standard rating conditions used		Low temperature application					
Contact details							

(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9.

Information requirements

Model(s):	NB-160W/EN8BP
Outdoor side heat exchanger of chiller:	Air to water
Indoor side heat exchanger chiller:	Water
Type:	Compressor driven vapour compression
Driver of compressor:	Electric motor

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated cooling capacity	$P_{rated,c}$	15.7	kW	Seasonal space cooling energy efficiency	$\eta_{s,c}$	257	%
Declared cooling capacity for part load at given outdoor temperature Tj				Declared energy efficiency ratio for part load at given outdoor temperature Tj			
Tj=+35℃	P_{dc}	15.7	kW	Tj=+35℃	EER_d	3.90	-
Tj=+30℃	P_{dc}	12.0	kW	Tj=+30℃	EER_d	5.52	-
Tj=+25℃	P_{dc}	7.7	kW	Tj=+25℃	EER_d	8.29	-
Tj=+20℃	P_{dc}	6.9	kW	Tj=+20℃	EER_d	12.07	-
Degradationco-efficient for chillers(*)	C_{dc}	0.99	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.010	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.007	kW	Standby mode	P_{SB}	0.010	kW
Other items							
Capacity control	variable			For air-to-water comfort chillers: air flow rate, outdoor measured	-	4650	m^3/h
Soundpowerlevel, indoors /outdoors	L_{WA}	-/68	dB				
Emissions of nitrogen oxides(ifapplicable)	NO_x	-	mg/kWh input GCV	For water / brine-to-water chillers:Ratedbrineor water flow rate, outdoor side heat exchanger	-	-	m^3/h
GWP of the refrigerant	-	675	kg $CO_{2\ eq}$ (100years)				
Standard rating conditions used	Medium temperature application						
Contact details							

(*) If C_{dc} is not determined by measurement then the default degradation coefficient of chillers shall be 0,9.

Condition (ºC)	Model	Capacity (kW)	Power input (kW)	EER/COP
Ambient Temperature: 35/24 Water Temperature: 12/7	NB-40W/EN8BP	4.3	1.32	3.24
	NB-60W/EN8BP	6.3	2.00	3.14
	NB-80W/EN8BP	7.6	2.55	2.97
	NB-100W/EN8BP	8.8	2.97	2.96
	NB-120W/EN8BP	11.6	4.14	2.80
	NB-140W/EN8BP	14.3	5.11	2.80
	NB-160W/EN8BP	16.0	6.12	2.61
Ambient Temperature: 35/24 Water Temperature: 23/18	NB-40W/EN8BP	4.0	0.77	5.19
	NB-60W/EN8BP	6.2	1.26	4.91
	NB-80W/EN8BP	8.2	1.75	4.65
	NB-100W/EN8BP	10.0	2.42	4.14
	NB-120W/EN8BP	11.9	2.72	4.36
	NB-140W/EN8BP	14.1	3.10	4.56
	NB-160W/EN8BP	15.7	4.03	3.90
Ambient Temperature: 7/6 Water Temperature: 30/35	NB-40W/EN8BP	4.0	0.75	5.25
	NB-60W/EN8BP	6.0	1.17	5.17
	NB-80W/EN8BP	7.9	1.76	4.50
	NB-100W/EN8BP	10.2	2.04	5.01
	NB-120W/EN8BP	12.1	2.57	4.70
	NB-140W/EN8BP	14.5	2.99	4.84
	NB-160W/EN8BP	15.9	3.42	4.65
Ambient Temperature: 2/1 Water Temperature: 30/35	NB-40W/EN8BP	4.9	1.18	4.12
	NB-60W/EN8BP	5.9	1.46	4.06
	NB-80W/EN8BP	7.2	1.91	3.74
	NB-100W/EN8BP	8.2	2.12	3.87
	NB-120W/EN8BP	9.3	2.47	3.78
	NB-140W/EN8BP	11.4	3.37	3.37
	NB-160W/EN8BP	13.3	3.89	3.41
Ambient Temperature: -7/-8 Water Temperature: 30/35	NB-40W/EN8BP	4.7	1.52	3.07
	NB-60W/EN8BP	6.2	2.02	3.06
	NB-80W/EN8BP	7.0	2.39	2.92
	NB-100W/EN8BP	8.3	2.75	3.00
	NB-120W/EN8BP	10.1	3.49	2.88
	NB-140W/EN8BP	12.1	4.63	2.61
	NB-160W/EN8BP	13.2	5.18	2.55
Ambient Temperature: 7/6 Water Temperature: 40/45	NB-40W/EN8BP	4.2	1.11	3.77
	NB-60W/EN8BP	6.0	1.63	3.70
	NB-80W/EN8BP	8.3	2.61	3.18
	NB-100W/EN8BP	10.2	2.79	3.65
	NB-120W/EN8BP	12.1	3.36	3.60
	NB-140W/EN8BP	14.5	3.89	3.72
	NB-160W/EN8BP	15.9	4.63	3.43
Ambient Temperature: 2/1 Water Temperature: 40/45	NB-40W/EN8BP	4.7	1.54	3.05
	NB-60W/EN8BP	6.0	1.85	3.25
	NB-80W/EN8BP	7.4	2.51	2.95
	NB-100W/EN8BP	8.0	2.57	3.09
	NB-120W/EN8BP	10.8	3.75	2.88
	NB-140W/EN8BP	11.8	4.42	2.67
	NB-160W/EN8BP	12.9	4.64	2.77
Ambient Temperature: -7/-8 Water Temperature: 40/45	NB-40W/EN8BP	4.3	1.84	2.32
	NB-60W/EN8BP	5.6	2.27	2.45
	NB-80W/EN8BP	6.5	2.85	2.28
	NB-100W/EN8BP	7.4	3.02	2.43
	NB-120W/EN8BP	10.1	4.59	2.20
	NB-140W/EN8BP	11.8	5.42	2.17
	NB-160W/EN8BP	12.8	6.07	2.11
Ambient Temperature: 7/6 Water Temperature: 47/55	NB-40W/EN8BP	4.1	1.46	2.84
	NB-60W/EN8BP	6.1	2.13	2.86
	NB-80W/EN8BP	7.7	2.98	2.58
	NB-100W/EN8BP	9.6	3.22	2.98
	NB-120W/EN8BP	12.3	4.44	2.77
	NB-140W/EN8BP	13.8	4.42	3.12
	NB-160W/EN8BP	15.8	6.12	2.58
Ambient Temperature: 2/1 Water Temperature: 47/55	NB-40W/EN8BP	4.5	1.70	2.64
	NB-60W/EN8BP	5.0	2.07	2.39
	NB-80W/EN8BP	7.1	3.01	2.36
	NB-100W/EN8BP	8.1	3.32	2.45
	NB-120W/EN8BP	11.4	4.69	2.42
	NB-140W/EN8BP	12.6	5.45	2.30
	NB-160W/EN8BP	13.6	5.85	2.32
Ambient Temperature: -7/-8 Water Temperature: 47/55	NB-40W/EN8BP	4.0	2.07	1.92
	NB-60W/EN8BP	5.3	2.60	2.04
	NB-80W/EN8BP	6.1	3.10	1.95
	NB-100W/EN8BP	7.0	3.51	1.98
	NB-120W/EN8BP	10.0	4.89	2.04
	NB-140W/EN8BP	11.0	5.38	2.05
	NB-160W/EN8BP	12.5	6.18	2.02

NOTE

NOTE

AIR CONDITIONING SYSTEMS
AIR-TO-WATER HEAT PUMP - MONOBLOCK

V:1.0.092022

Please check the applicable models, F-GAS and manufacturer information
from the "Owner's Manual - Product Fiche" in the packaging of the outdoor unit. (European Union products only).

产品信息卡：

封面封底的印刷颜色要求为：  PANTONE 425 C

注意：本页不用印刷，仅对封面及封底颜色做要求。