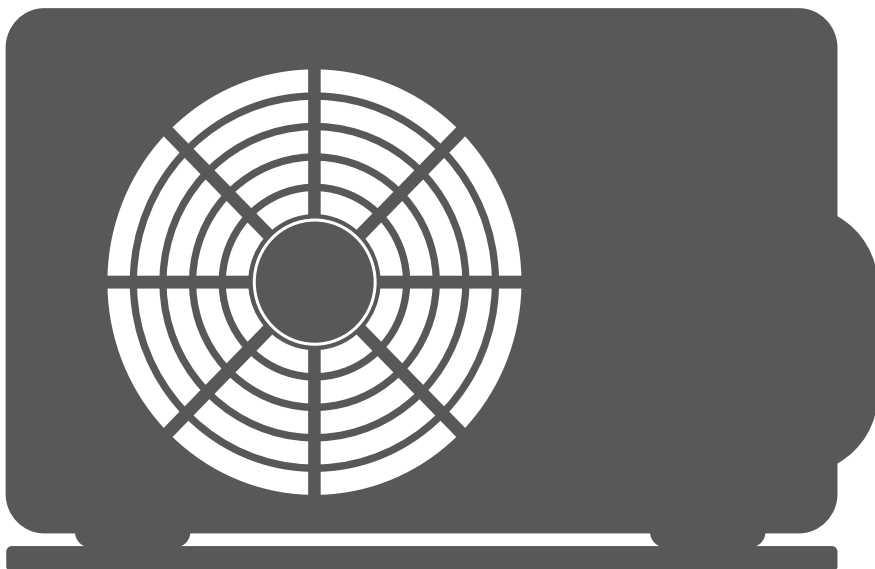




AIR CONDITIONING SYSTEMS

AIR-TO-WATER HEAT PUMP - MONOBLOCK

• PRODUCT FICHE



MODELS:

NB-120W/EN8BPT
NB-140W/EN8BPT
NB-160W/EN8BPT



For low-temperature application											
Model	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-120W/EN8BPT	A+++	60	11.3	188	4872	10.1	151	6452	12.2	257	2507
NB-140W/EN8BPT	A+++	63	13.2	184	5821	12.0	152	7658	13.9	263	2790
NB-160W/EN8BPT	A+++	67	14.9	192	6326	13.7	156	8488	15.6	265	3112
For medium-temperature application											
Model	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-120W/EN8BPT	A++	64	11.0	141	6319	9.7	110	8416	12.2	166	3845
NB-140W/EN8BPT	A++	65	12.4	142	7054	10.3	113	8760	13.8	172	4208
NB-160W/EN8BPT	A++	68	12.8	143	7238	11.0	114	9273	14.4	173	4367

Product fiche 1

Heat pump space heater

		Model	NB-120W/EN8BPT	NB-140W/EN8BPT	NB-160W/EN8BPT
Unit sound power (*)	Average climate low temperature application	[dB]	60	63	67
	Average climate medium temperature application	[dB]	64	65	68
Capacity of the back-up heater integrated in the unit	Psup back-up heater	[kW]	9	9	9
	Energy efficiency class 35°C (Low temp. app.)	-	A+++	A+++	A+++
Space heating	Energy efficiency class 55°C (Medium temp. app.)	-	A++	A++	A++
	Average climate (Design temperature = -10°C)				
Space heating 35°C	Prated (declared heating capacity) @-10°C	[kW]	11.3	13.2	14.9
	Seasonal space heating efficiency (η)	[%]	188	184	192
	Annual energy consumption	[kWh]	4872	5821	6326
Space heating 55°C	Prated (declared heating capacity) @-10°C	[kW]	11.0	12.4	12.8
	Seasonal space heating efficiency (η)	[%]	141	142	143
	Annual energy consumption	[kWh]	6319	7054	7238
Part load conditions space heating average climate low temperature application					
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	10.00	11.60	13.20
	COPd (declared COP)	-	2.64	2.63	2.59
	Cdh(degradation coefficient)	-	1.00	1.00	1.00
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	6.10	7.10	8.00
	COPd (declared COP)	-	4.40	4.40	4.68
	Cdh(degradation coefficient)	-	0.99	0.99	0.99
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	3.90	4.60	5.20
	COPd (declared COP)	-	7.69	7.16	7.05
	Cdh(degradation coefficient)	-	0.97	0.98	0.98
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	1.70	2.00	2.30
	COPd (declared COP)	-	10.82	9.96	10.09
	Cdh(degradation coefficient)	-	0.96	0.97	0.97

Product fiche 2

Heat pump space heater		Model	NB-120W/EN8BPT	NB-140W/EN8BPT	NB-160W/EN8BPT
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	-10.00	-10.00	-10.00
	Pdh (declared heating capacity)	[kW]	11.30	13.20	14.90
	COPd (declared COP)	-	2.52	2.39	2.38
	SHIMGE (Heating water Operation Limit)	[°C]	65.00	65.00	65.00
(F) TbiValent temperature	Tblv	[°C]	-7.00	-7.00	-7.00
	Pdh (declared heating capacity)	[kW]	10.00	11.60	13.20
	COPd (declared COP)	-	2.64	2.63	2.59
	Psup (@ Tdesignh: -10°C)	[kW]	1.53	0.94	1.51
Part load conditions space heating average climate medium temperature application					
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	9.70	10.90	11.30
	COPd (declared COP)	-	2.05	2.01	2.00
	Cdh(degradation coefficient)	-	1.00	1.00	1.00
(B) condition (2°C)	Pdh (declared heating capacity)	[kW]	5.90	6.70	6.90
	COPd (declared COP)	-	3.30	3.44	3.49
	Cdh(degradation coefficient)	-	0.99	0.99	0.99
(C) condition (7°C)	Pdh (declared heating capacity)	[kW]	3.80	4.30	4.40
	COPd (declared COP)	-	5.28	5.15	5.16
	Cdh(degradation coefficient)	-	0.98	0.98	0.98
(D) condition (12°C)	Pdh (declared heating capacity)	[kW]	1.70	1.90	2.00
	COPd (declared COP)	-	8.12	7.56	7.79
	Cdh(degradation coefficient)	-	0.97	0.98	0.98
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	-10.00	-10.00	-10.00
	Pdh (declared heating capacity)	[kW]	11.00	12.40	12.80
	COPd (declared COP)	-	1.91	1.79	1.80
	SHIMGE (Heating water Operation Limit)	[°C]	65.00	65.00	65.00
(F) TbiValent temperature	Tblv	[°C]	-7.00	-7.00	-7.00
	Pdh (declared heating capacity)	[kW]	9.70	10.90	11.30
	COPd (declared COP)	-	2.05	2.01	2.00

Product fiche 3

Heat pump space heater

Supplementary capacity at Pdesign		Psup (@Tdesignh: -10°C)		[kW]	1.16	1.64	1.22
Colder climate (Design temperature = -22°C)							
Space heating 35°C	Prated (declared heating capacity) @-22°C		[kW]	10.1	12.0	13.7	
	Seasonal space heating efficiency (η)		[%]	151	152	156	
	Annual energy consumption		[kWh]	6452	7658	8488	
	Prated(declared heating capacity)@-22°C		[kW]	9.7	10.3	11.0	
Space heating 55°C	Seasonal space heating efficiency (η)		[%]	111	113	116	
	Annual energy consumption		[kWh]	8453	8828	9285	
	Part load conditions space heating colder climate low temperature application						
(A) condition (-7°C)	Pdh (declared heating capacity)@-22°C		[kW]	6.11	7.26	8.29	
	COPd (declared COP)		-	3.32	3.29	3.39	
	Cdh(degradation coefficient)		-	0.90	0.90	0.90	
(B) condition (2°C)	Pdh (declared heating capacity)@-22°C		[kW]	3.72	4.42	5.05	
	COPd (declared COP)		-	4.46	4.53	4.74	
	Cdh(degradation coefficient)		-	0.90	0.90	0.90	
(C) condition (7°C)	Pdh (declared heating capacity)@-22°C		[kW]	2.39	2.84	3.24	
	COPd (declared COP)		-	6.04	6.16	6.57	
	Cdh(degradation coefficient)		-	0.90	0.90	0.90	
(D) condition (12°C)	Pdh (declared heating capacity)@-22°C		[kW]	1.06	1.26	1.44	
	COPd (declared COP)		-	6.32	6.71	6.65	
	Cdh(degradation coefficient)		-	0.90	0.90	0.90	
(E) Tol (temperature operating limit)	Tol (temperature operating limit)		[°C]	-22.00	-22.00	-22.00	
	Pdh (declared heating capacity)@-22°C		[kW]	10.10	12.00	8.86	
	COPd (declared COP)		-	1.85	1.82	1.81	
	WTOL (Heating w ater Operation Limit)		[°C]	51.00	51.00	51.00	
(F) Tbivalent temperature	Tbiv		[°C]	-15.00	-15.00	-15.00	
	Pdh (declared heating capacity)@-22°C		[kW]	8.24	9.79	11.26	
	COPd (declared COP)		-	2.47	2.44	2.35	
Supplementary capacity at P_design	Psup (@Tdesignh: -22°C)		[kW]	3.48	4.51	4.84	

Product fiche 4

Heat pump space heater

Part load conditions space heating colder climate medium temperature application

	Model	NB-120W/EN8BPT	NB-140W/EN8BPT	NB-160W/EN8BPT
(A) condition (-7°C)	Pdh (declared heating capacity)	[kW]	5.87	6.23
	COPd (declared COP)	-	2.42	2.49
	Cdh(degradation coefficient)	-	0.90	0.90
	Pdh (declared heating capacity)	[kW]	3.57	3.79
(B) condition (2°C)	COPd (declared COP)	-	3.40	3.49
	Cdh(degradation coefficient)	-	0.90	0.90
	Pdh (declared heating capacity)	[kW]	2.30	2.44
	COPd (declared COP)	-	4.23	4.33
(C) condition (7°C)	Cdh(degradation coefficient)	-	0.90	0.90
	Pdh (declared heating capacity)	[kW]	1.02	1.08
	COPd (declared COP)	-	5.01	5.10
	Cdh(degradation coefficient)	-	0.90	0.90
(D) condition (12°C)	Tol (temperature operating limit)		-22.0	-22.00
	Pdh (declared heating capacity)	[kW]	9.70	10.30
	COPd (declared COP)	-	1.03	1.02
	WTOL (Heating w ater Operation Limit)	[°C]	51.00	51.00
(F) Tbi valent temperature	Tbiv	[°C]	-15.00	-15.00
	Pdh (declared heating capacity)	[kW]	7.91	8.41
	COPd (declared COP)	-	1.77	1.72
	Psup (@Tdesignh: -22°C)	[kW]	5.83	6.05
Warmer climate (Design temperature = 2°C)				
Space heating 35°C	Prated (declared heating capacity) @ 2°C	[kW]	12.2	13.9
	Seasonalspaceheating efficiency(η)	[%]	257	263
	Annual energy consumption	[kWh]	2507	2790
Space heating 55°C	Prated (declared heating capacity) @ 2°C	[kW]	12.2	13.8
	Seasonalspaceheating efficiency(η)	[%]	166	172
	Annual energy consumption	[kWh]	3845	4208

Product fiche 5

Heat pump space heater

Part load conditions space heating warmer climate low temperature application		Model	NB-120W/EN8BPT	NB-140W/EN8BPT	NB-160W/EN8BPT
(B) condition (2°C)	Pdh(declared heating capacity)	[kW]	12.20	13.90	15.60
	COPd (declared COP)	-	3.62	3.48	3.85
	Cdh(degradation coefficient)	-	0.90	0.90	0.90
	Pdh(declared heating capacity)	[kW]	7.84	8.94	10.03
C) condition (7°C)	COPd (declared COP)	-	5.92	5.96	6.02
	Cdh(degradation coefficient)	-	0.90	0.90	0.90
	Pdh(declared heating capacity)	[kW]	3.49	3.97	4.46
	COPd (declared COP)	-	8.30	8.35	8.19
(D) condition (12°C)	Cdh(degradation coefficient)	-	0.90	0.90	0.90
	Tol (temperature operating limit)	[°C]	2.00	2.00	2.00
	Pdh(declared heating capacity)	[kW]	12.20	13.90	15.60
	COPd (declared COP)	-	3.62	3.48	3.85
(E) Tol (temperature operating limit)	WTOL (Heating water Operation Limit)	[°C]	65.00	65.00	65.00
	Tblv	[°C]	7.00	7.00	7.00
	Pdh(declared heating capacity)	[kW]	7.84	8.94	10.03
	COPd (declared COP)	-	5.92	5.96	6.02
(F) Tivalent temperature	Psup (@Tdesignh: 2°C)	[kW]	0.64	0.44	0.33
	Supplementary capacity at P_design				
Part load conditions space heating warmer climate medium temperature application					
(B) condition (2°C)	Pdh(declared heating capacity)	[kW]	12.20	13.80	14.40
	COPd (declared COP)	-	2.20	2.15	2.58
	Cdh(degradation coefficient)	-	0.90	0.90	0.90
	Pdh(declared heating capacity)	[kW]	7.84	8.87	9.26
(C) condition (7°C)	COPd (declared COP)	-	3.75	3.85	3.65
	Cdh(degradation coefficient)	-	0.90	0.90	0.90
	Pdh(declared heating capacity)	[kW]	3.49	3.94	4.11
	COPd (declared COP)	-	5.45	5.70	5.88
(D) condition (12°C)	Cdh(degradation coefficient)	-	0.90	0.90	0.90

Product fiche 6

Heat pump space heater

		Model	NB-120W/EN8BPT	NB-140W/EN8BPT	NB-160W/EN8BPT
(E) Tol (temperature operating limit)	Tol (temperature operating limit)	[°C]	2.00	2.00	2.00
	Pdh (declared heating capacity)	[kW]	12.20	13.80	14.40
	COPd (declared COP)	-	2.20	2.15	2.58
	WTOL (Heating water Operation Limit)	[°C]	65.00	65.00	65.00
(F) Tbiivalent temperature	Tbiiv	[°C]	7.00	7.00	7.00
	Pdh (declared heating capacity)	[kW]	7.84	8.87	9.26
	COPd (declared COP)	-	3.75	3.85	3.65
	Psup (@Tdesignh: 2°C)	[kW]	0.7	0.7	0.29
Product description	Air-to-water heat pump	Y/N	Yes	Yes	Yes
	Water-to-water heat pump	Y/N	No	No	No
	Brine-to-water heat pump	Y/N	No	No	No
	Low -temperature heat pump	Y/N	No	No	No
	Equipped with a supplementary heater	Y/N	Yes	Yes	Yes
	Heat pump combination heater	Y/N	No	No	No
	Rated airflow	[m3/h]	4050	4650	4650
	Rated w ater/brine flow (outdoor H/E)		/	/	/
Other	Capacity control	-	Inverter	Inverter	Inverter
	P(Power consumption Off mode)	[kW]	0.012	0.012	0.012
	P (Power consumption Thermostat off mode)	[kW]	0.018	0.018	0.018
	P(Power consumption Standby mode)	[kW]	0.012	0.012	0.012
	P(Power crankcase heater model)	[kW]	0.013	0.013	0.013
	Q(Daily electricity consumption)	[kWh]	/	/	/
	Q(Daily fuel consumption)	[kWh]	/	/	/

Technical parameters							
Model(s):		NB-120W/EN8BPT					
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	11.0	kW	Seasonal space heating energy efficiency	η_s	141	%
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°C	Pdh	9.70	kW	Tj = -7°C	COPd	2.05	-
Tj = 2°C	Pdh	5.90	kW	Tj = 2°C	COPd	3.30	-
Tj = 7°C	Pdh	3.80	kW	Tj = 7°C	COPd	5.28	-
Tj = 12°C	Pdh	1.70	kW	Tj = 12°C	COPd	8.12	-
Tj = bivalent temperature	Pdh	9.70	kW	Tj = bivalent temperature	COPd	2.05	-
Tj = operating limit	Pdh	11.00	kW	Tj = operating limit	COPd	1.91	-
For air-to-water heat pumps: Tj = -15	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	-7	°C	For air-to-water heat pumps: Operation limit	TOL	-10	°C
Cycling interval capacity for heating	Pcyc	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient (**)	Cdh	0.99	--	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	Poff	0.012	kW	Rated heat output (**)	Psup	1.20	kW
Standby mode	Psb	0.012	kW	Type of energy input	Electrical		
Thermostat-off mode	Pto	0.018	kW				
Crankcase heater mode	Pck	0.013	kW				
Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4050	m³/h
Sound power level, indoors/outdoors	LWA	-/64	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m³/h
Annual energy consumption	QHE	6319	kWh				
For heat pump combination heater:							
Declared load profile	-			Water heating energy efficiency	η_{wh}	-	%
Daily electricity consumption	Qelec	-	kWh	Daily fuel consumption	Qfuel	-	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/EN8BPT							
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	9.7	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°C		Pdh	5.87	kW	Tj = -7°C		COPd	2.51	-
Tj = 2°C		Pdh	3.57	kW	Tj = 2°C		COPd	3.44	-
Tj = 7°C		Pdh	2.30	kW	Tj = 7°C		COPd	4.35	-
Tj = 12°C		Pdh	1.02	kW	Tj = 12°C		COPd	6.22	-
Tj = bivalent temperature		Pdh	7.91	kW	Tj = bivalent temperature		COPd	1.72	-
Tj = operating limit		Pdh	9.70	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°C		COPd	-	-
Bivalent temperature		Tbiv	-15	°C	For air-to-water heat pumps: Operation limit temperature		TOL	-22	°C
Cycling interval capacity for heating		Pcyc	-	kW	Cycling interval efficiency		COPcyc	-	-
Degradation co-efficient (**)		Cdh	0.90	--	Heating water operating limit temperature		WTOL	51	°C
Power consumption in modes other than active mode					Supplementary heater				
Off mode		Poff	0.012	kW	Rated heat output (**)		Psup	5.70	kW
Standby mode		Psb	0.012	kW					
Thermostat-off mode		Pto	0.018	kW	Type of energy input		Electrical		
Crankcase heater mode		Pck	0.013	kW					
Other items									
Capacity control		variable			For air-to-water heat pumps: Rated air flow rate outdoors		-	4050	m³/h
Sound power level, indoors/outdoors		LWA	-/64	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger		-	-	m³/h
Annual energy consumption		QHE	8232	kWh					
For heat pump combination heater:									
Declared load profile		-			Water heating energyefficiency		ηwh	-	%
Daily electricity consumption		Qdec	-	kWh	Daily fuel consumption		Qfuel	-	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/EN8BPT							
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	12.2	kW	Seasonal space heating energy efficiency		η_s	172	%
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°C		Pdh	-	kW	Tj = -7°C		COPd	-	-
Tj = 2°C		Pdh	11.20	kW	Tj = 2°C		COPd	2.14	-
Tj = 7°C		Pdh	7.20	kW	Tj = 7°C		COPd	3.68	-
Tj = 12°C		Pdh	3.20	kW	Tj = 12°C		COPd	5.44	-
Tj = bivalent temperature		Pdh	7.81	kW	Tj = bivalent temperature		COPd	3.62	-
Tj = operating limit		Pdh	12.20	kW	Tj = operating limit		COPd	2.14	-
For air-to-water heat pumps: Tj = -15		Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C		COPd	-	-
Bivalent temperature		Tbiv	7	°C	For air-to-water heat pumps: Operation limit temperature		TOL	2	°C
Cycling interval capacity for heating		Pcyc	-	kW	Cycling interval efficiency		COPcyc	-	-
Degradation co-efficient (**)		Cdh	0.90	--	Heating water operating limit temperature		WTOL	65	°C
Power consumption in modes other than active mode					Supplementary heater				
Off mode		Poff	0.012	kW	Rated heat output (**)		Psup	0.50	kW
Standby mode		Psb	0.012	kW					
Thermostat-off mode		Pto	0.018	kW	Type of energy input		Electrical		
Crankcase heater mode		Pck	0.013	kW					
Other items									
Capacity control		variable			For air-to-water heat pumps: Rated air flow rate, outdoors		-	2650	m³/h
Sound power level, indoors/outdoors		LWA	-/64	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger		-	-	m³/h
Annual energy consumption		QHE	3415	kWh					
For heat pump combination heater:									
Declared load profile		-			Water heating energyefficiency		η_{wh}	-	%
Daily electricity consumption		Qdec	-	kWh	Daily fuel consumption		Qfuel	-	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/EN8BPT							
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	12.4	kW	Seasonal space heating energy efficiency		η s	142	%
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°C		Pdh	10.90	kW	Tj = -7°C		COPd	2.01	-
Tj = 2°C		Pdh	6.70	kW	Tj = 2°C		COPd	3.44	-
Tj = 7°C		Pdh	4.30	kW	Tj = 7°C		COPd	5.15	-
Tj = 12°C		Pdh	1.90	kW	Tj = 12°C		COPd	7.56	-
Tj = bivalent temperature		Pdh	10.90	kW	Tj = bivalent temperature		COPd	2.01	-
Tj = operating limit		Pdh	12.40	kW	Tj = operating limit		COPd	1.79	-
For air-to-water heat pumps: Tj = -15因		Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C		COPd	-	-
Bivalent temperature		Tbiv	-7	°C	For air-to-water heat pumps: Operation limit temperature		TOL	-10	°C
Cycling interval capacity for heating		Pcych	-	kW	Cycling interval efficiency		COPcyc	-	-
Degradation co-efficient (**)		Cdh	0.99	--	Heating water operating limit temperature		WTOL	65	°C
Power consumption in modes other than active mode				Supplementary heater					
Off mode		Poff	0.012	kW	Rated heat output (**)		Psup	1.70	kW
Standby mode		Psb	0.012	kW					
Thermostat-off mode		Pto	0.018	kW	Type of energy input		Electrical		
Crankcase heater mode		Pck	0.013	kW					
Other items									
Capacity control		variable		For air-to-water heat pumps: Rated air flow rate, outdoors		-	4650	m³/h	
Sound power level, indoors/outdoors		LWA	-/65	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger		-	-	m³/h
Annual energy consumption		QHE	7054	kWh					
For heat pump combination heater:									
Declared load profile		-		Water heating energyefficiency		η_{wh}	-	%	
Daily electricity consumption		Qelec	-	kWh	Daily fuel consumption		Qfuel	-	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/EN8BPT					
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	10.3	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°C	Pdh	6.23	kW	Tj = -7°C	COPd	2.60	-
Tj = 2°C	Pdh	3.79	kW	Tj = 2°C	COPd	3.55	-
Tj = 7°C	Pdh	2.44	kW	Tj = 7°C	COPd	4.60	-
Tj = 12°C	Pdh	1.08	kW	Tj = 12°C	COPd	6.31	-
Tj = bivalent temperature	Pdh	8.40	kW	Tj = bivalent temperature	COPd	1.73	-
Tj = operating limit	Pdh	10.30	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°C	COPd	-	-
Bivalent temperature	Tbiv	-15	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	Pcyc	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient (**)	Cdh	0.90	--	Heating water operating limit temperature	WTOL	51	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	Poff	0.012	kW	Rated heat output (**)	Psup	6.30	kW
Standby mode	Psb	0.012	kW	Type of energy input	Electrical		
Thermostat-off mode	Pto	0.018	kW				
Crankcase heater mode	Pck	0.013	kW				
Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m³/h
Sound power level, indoors/outdoors	LWA	-/65	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m³/h
Annual energy consumption	QHE	8609	kWh				
For heat pump combination heater:							
Declared load profile	-			Water heating energy efficiency	η_{wh}	-	%
Daily electricity consumption	Qdec	-	kWh	Daily fuel consumption	Qfuel	-	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/EN8BPT					
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	13.8	kW	Seasonal space heating energy efficiency	η_s	177	%
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°C	Pdh	-	kW	Tj = -7°C	COPd	-	-
Tj = 2°C	Pdh	13.80	kW	Tj = 2°C	COPd	2.21	-
Tj = 7°C	Pdh	8.87	kW	Tj = 7°C	COPd	4.05	-
Tj = 12°C	Pdh	3.90	kW	Tj = 12°C	COPd	5.75	-
Tj = bivalent temperature	Pdh	9.21	kW	Tj = bivalent temperature	COPd	4.01	-
Tj = operating limit	Pdh	13.80	kW	Tj = operating limit	COPd	2.21	-
For air-to-water heat pumps: Tj = -15	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	7	°C	For air-to-water heat pumps: Operation limit	TOL	2	°C
Cycling interval capacity for heating	Pcyc	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient (**)	Cdh	0.90	--	Heating water operating limit temperature	WTOL	65	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	Poff	0.012	kW	Rated heat output (**)	Psup	0.25	kW
Standby mode	Psb	0.012	kW	Type of energy input	Electrical		
Thermostat-off mode	Pto	0.018	kW				
Crankcase heater mode	Pck	0.013	kW				
Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors			
Sound power level, indoors/outdoors	LWA	-/65	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger			
Annual energy consumption	QHE	3922	kWh				
For heat pump combination heater:							
Declared load profile	-			Water heating energy efficiency	η_{wh}	-	%
Daily electricity consumption	Qdec	-	kWh	Daily fuel consumption	Qfuel	-	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/EN8BPT							
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	12.8	kW	Seasonal space heating energy efficiency		η s	143	%
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°C		Pdh	11.30	kW	Tj = -7°C		COPd	2.00	-
Tj = 2°C		Pdh	6.90	kW	Tj = 2°C		COPd	3.49	-
Tj = 7°C		Pdh	4.40	kW	Tj = 7°C		COPd	5.16	-
Tj = 12°C		Pdh	2.00	kW	Tj = 12°C		COPd	7.79	-
Tj = bivalent temperature		Pdh	11.30	kW	Tj = bivalent temperature		COPd	2.00	-
Tj = operating limit		Pdh	12.80	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°C		COPd	-	-
Bivalent temperature		Tbiv	-7	°C	For air-to-water heat pumps: Operation limit temperature		TOL	-10	°C
Cycling interval capacity for heating		Pcyc	-	kW	Cycling interval efficiency		COPcyc	-	-
Degradation co-efficient (**)		Cdh	0.99	—	Heating water operating limit temperature		WTOL	65	°C
Power consumption in modes other than active mode					Supplementary heater				
Off mode		Poff	0.012	kW	Rated heat output (**)		Psup	1.30	kW
Standby mode		Psb	0.012	kW					
Thermostat-off mode		Pto	0.018	kW	Type of energy input		Electrical		
Crankcase heater mode		Pck	0.013	kW					
Other items									
Capacity control		variable			For air-to-water heat pumps: Rated air flow rate, outdoors		-	4650	m³/h
Sound power level, indoors/outdoors		LWA	-/68	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger		-	-	m³/h
Annual energy consumption		QHE	7238	kWh					
For heat pump combination heater:									
Declared load profile		-			Water heating energyefficiency		ηwh	-	%
Daily electricity consumption		Qdec	-	kWh	Daily fuel consumption		Qfuel	-	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/EN8BPT					
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	11.0	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°C	Pdh	6.66	kW	Tj = -7°C	COPd	2.51	-
Tj = 2°C	Pdh	4.05	kW	Tj = 2°C	COPd	3.64	-
Tj = 7°C	Pdh	2.61	kW	Tj = 7°C	COPd	4.66	-
Tj = 12°C	Pdh	1.16	kW	Tj = 12°C	COPd	6.16	-
Tj = bivalent temperature	Pdh	8.97	kW	Tj = bivalent temperature	COPd	1.77	-
Tj = operating limit	Pdh	11.00	kW	Tj = operating limit	COPd	1.13	-
For air-to-water heat pumps: Tj = -15°C	Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C	COPd	-	-
Bivalent temperature	Tbiv	-15	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-22	°C
Cycling interval capacity for heating	Pcyc	-	kW	Cycling interval efficiency	COPcyc	-	-
Degradation co-efficient (**)	Cdh	0.90	--	Heating water operating limit temperature	WTOL	51	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	Poff	0.012	kW	Rated heat output (**)	Psup	6.55	kW
Standby mode	Psb	0.012	kW	Type of energy input	Electrical		
Thermostat-off mode	Pto	0.018	kW				
Crankcase heater mode	Pck	0.013	kW				
Other items							
Capacity control	variable			For air-to-water heat pumps: Rated air flow rate, outdoors	-	4650	m³/h
Sound power level, indoors/outdoors	LWA	-/68	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	-	m³/h
Annual energy consumption	QHE	9388	kWh				
For heat pump combination heater:							
Declared load profile	-			Water heating energy efficiency	η_{wh}	-	%
Daily electricity consumption	Qelec	-	kWh	Daily fuel consumption	Qfuel	-	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/EN8BPT					
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	14.4	kW			
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°C		Pdh	-	kW	Tj = -7°C		COPd	-	-
Tj = 2°C		Pdh	14.40	kW	Tj = 2°C		COPd	2.14	-
Tj = 7°C		Pdh	9.26	kW	Tj = 7°C		COPd	3.58	-
Tj = 12°C		Pdh	4.11	kW	Tj = 12°C		COPd	5.66	-
Tj = bivalent temperature		Pdh	9.14	kW	Tj = bivalent temperature		COPd	3.55	-
Tj = operating limit		Pdh	14.40	kW	Tj = operating limit		COPd	2.14	-
For air-to-water heat pumps: Tj = -15因		Pdh	-	kW	For air-to-water heat pumps: Tj = -15°C		COPd	-	-
Bivalent temperature		Tbiv	7	°C	For air-to-water heat pumps: Operation limit temperature		TOL	2	°C
Cycling interval capacity for heating		Pcyc	-	kW	Cycling interval efficiency		COPcyc	-	-
Degradation co-efficient (**)		Cdh	0.90	--	Heating water operating limit temperature		WTOL	62	°C
Power consumption in modes other than active mode				Supplementary heater					
Off mode		Poff	0.012	kW	Rated heat output (**)		Psup	0.65	kW
Standby mode		Psb	0.012	kW					
Thermostat-off mode		Pto	0.018	kW	Type of energy input		Electrical		
Crankcase heater mode		Pck	0.013	kW					
Other items									
Capacity control		variable		For air-to-water heat pumps: Rated air flow rate, outdoors		-	4650	m³/h	
Sound power level, indoors/outdoors		LWA	-/68	dB	For water-or brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger		-	-	m³/h
Annual energy consumption		QHE	4644	kWh					
For heat pump combination heater:									
Declared load profile		-		Water heating energyefficiency		ηwh	-	%	
Daily electricity consumption		Qdec	-	kWh	Daily fuel consumption		Qfuel	-	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-120W/EN8BPT			
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	$\eta_{s,c}$	219.0	%
Declared cooling capacity for part load at given outdoor temperature T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^{\circ}\text{C}$	P_{dc}	11.60	kW	$T_j=+35^{\circ}\text{C}$	EER_d	2.84	-
$T_j=+30^{\circ}\text{C}$	P_{dc}	8.54	kW	$T_j=+30^{\circ}\text{C}$	EER_d	4.13	-
$T_j=+25^{\circ}\text{C}$	P_{dc}	5.49	kW	$T_j=+25^{\circ}\text{C}$	EER_d	6.38	-
$T_j=+20^{\circ}\text{C}$	P_{dc}	2.44	kW	$T_j=+20^{\circ}\text{C}$	EER_d	9.40	-
Degradationco-efficient for chillers(*)	C_{dc}	0.99	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.012	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.018	kW	Standby mode	P_{SB}	0.012	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/EN8BPT			
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	$\eta_{s,c}$	328.6	%
Declared cooling capacity for part load at given outdoor temperature T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^{\circ}\text{C}$	P_{dc}	11.9	kW	$T_j=+35^{\circ}\text{C}$	EER_d	4.55	-
$T_j=+30^{\circ}\text{C}$	P_{dc}	8.77	kW	$T_j=+30^{\circ}\text{C}$	EER_d	6.43	-
$T_j=+25^{\circ}\text{C}$	P_{dc}	5.64	kW	$T_j=+25^{\circ}\text{C}$	EER_d	10.30	-
$T_j=+20^{\circ}\text{C}$	P_{dc}	2.51	kW	$T_j=+20^{\circ}\text{C}$	EER_d	11.61	-
Degradationco-efficient for chillers(*)	C_{dc}	0.99	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.012	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.018	kW	Standby mode	P_{SB}	0.012	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/EN8BPT			
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	$\eta_{s,c}$	214.4	%
Declared cooling capacity for part load at given outdoor temperature T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^{\circ}\text{C}$	P_{dc}	14.30	kW	$T_j=+35^{\circ}\text{C}$	EER_d	2.59	-
$T_j=+30^{\circ}\text{C}$	P_{dc}	10.53	kW	$T_j=+30^{\circ}\text{C}$	EER_d	4.35	-
$T_j=+25^{\circ}\text{C}$	P_{dc}	6.77	kW	$T_j=+25^{\circ}\text{C}$	EER_d	6.03	-
$T_j=+20^{\circ}\text{C}$	P_{dc}	3.01	kW	$T_j=+20^{\circ}\text{C}$	EER_d	8.99	-
Degradationco-efficient for chillers(*)	C_{dc}	0.99	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.012	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.012	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/EN8BPT			
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	$\eta_{s,c}$	330.2	%
Declared cooling capacity for part load at given outdoor temperature T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^{\circ}\text{C}$	P_{dc}	14.10	kW	$T_j=+35^{\circ}\text{C}$	EER_d	4.15	-
$T_j=+30^{\circ}\text{C}$	P_{dc}	10.39	kW	$T_j=+30^{\circ}\text{C}$	EER_d	6.04	-
$T_j=+25^{\circ}\text{C}$	P_{dc}	6.68	kW	$T_j=+25^{\circ}\text{C}$	EER_d	10.18	-
$T_j=+20^{\circ}\text{C}$	P_{dc}	2.97	kW	$T_j=+20^{\circ}\text{C}$	EER_d	13.72	-
Degradationco-efficient for chillers(*)	C_{dc}	0.99	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.012	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.018	kW	Standby mode	P_{SB}	0.012	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:Ratedbrin eor 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/EN8BPT			
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	$\eta_{s,c}$	212.2	%
Declared cooling capacity for part load at given outdoor temperature T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^{\circ}\text{C}$	P_{dc}	15.98	kW	$T_j=+35^{\circ}\text{C}$	EER_d	2.70	-
$T_j=+30^{\circ}\text{C}$	P_{dc}	12.93	kW	$T_j=+30^{\circ}\text{C}$	EER_d	3.96	-
$T_j=+25^{\circ}\text{C}$	P_{dc}	7.66	kW	$T_j=+25^{\circ}\text{C}$	EER_d	6.12	-
$T_j=+20^{\circ}\text{C}$	P_{dc}	5.45	kW	$T_j=+20^{\circ}\text{C}$	EER_d	9.22	-
Degradationco-efficient for chillers(*)	C_{dc}	0.99	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.012	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.018	kW	Standby mode	P_{SB}	0.012	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:Ratedbrin eor 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/EN8BPT			
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	$\eta_{s,c}$	327.5	%
Declared cooling capacity for part load at given outdoor temperature T_j				Declared energy efficiency ratio for part load at given outdoor temperature T_j			
$T_j=+35^{\circ}\text{C}$	P_{dc}	15.70	kW	$T_j=+35^{\circ}\text{C}$	EER_d	4.11	-
$T_j=+30^{\circ}\text{C}$	P_{dc}	11.57	kW	$T_j=+30^{\circ}\text{C}$	EER_d	6.38	-
$T_j=+25^{\circ}\text{C}$	P_{dc}	7.44	kW	$T_j=+25^{\circ}\text{C}$	EER_d	9.66	-
$T_j=+20^{\circ}\text{C}$	P_{dc}	3.31	kW	$T_j=+20^{\circ}\text{C}$	EER_d	13.23	-
Degradationco-efficient for chillers(*)	C_{dc}	0.99	-				
Power consumption in modes other than "active mode"							
Off mode	P_{OFF}	0.012	kW	Crankcase heater mode	P_{CK}	0.000	kW
Thermosat-off mode	P_{TO}	0.018	kW	Standby mode	P_{SB}	0.012	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 (°C)	Model	Capacity (kW)	Power input (kW)	EER/COP
Ambient Temperature: 35/24 Water Temperature: 12/7	NB-120W/EN8BPT	11.46	4.04	2.84
	NB-140W/EN8BPT	13.71	5.29	2.59
	NB-160W/EN8BPT	16.01	5.93	2.70
Ambient Temperature: 35/24 Water Temperature: 23/18	NB-120W/EN8BPT	11.96	2.63	4.55
	NB-140W/EN8BPT	13.89	3.35	4.15
	NB-160W/EN8BPT	16.20	3.94	4.11
Ambient Temperature: 7/6 Water Temperature: 30/35	NB-120W/EN8BPT	12.05	2.64	4.57
	NB-140W/EN8BPT	14.03	2.99	4.70
	NB-160W/EN8BPT	15.81	3.53	4.48
Ambient Temperature: 2/1 Water Temperature: 30/35	NB-120W/EN8BPT	9.28	2.54	3.65
	NB-140W/EN8BPT	11.48	3.34	3.44
	NB-160W/EN8BPT	13.72	3.90	3.52
Ambient Temperature: -7/-8 Water Temperature: 30/35	NB-120W/EN8BPT	10.11	3.52	2.87
	NB-140W/EN8BPT	12.15	4.62	2.63
	NB-160W/EN8BPT	13.35	5.04	2.65
Ambient Temperature: 7/6 Water Temperature: 40/45	NB-120W/EN8BPT	12.06	3.36	3.59
	NB-140W/EN8BPT	14.09	3.95	3.57
	NB-160W/EN8BPT	16.04	4.64	3.46
Ambient Temperature: 2/1 Water Temperature: 40/45	NB-120W/EN8BPT	10.88	3.80	2.86
	NB-140W/EN8BPT	11.91	4.30	2.77
	NB-160W/EN8BPT	13.02	4.63	2.81
Ambient Temperature: -7/-8 Water Temperature: 40/45	NB-120W/EN8BPT	10.11	4.55	2.22
	NB-140W/EN8BPT	11.86	5.44	2.18
	NB-160W/EN8BPT	12.92	6.04	2.14
Ambient Temperature: 7/6 Water Temperature: 47/55	NB-120W/EN8BPT	12.20	4.15	2.94
	NB-140W/EN8BPT	14.21	5.08	2.80
	NB-160W/EN8BPT	16.24	5.76	2.82
Ambient Temperature: 2/1 Water Temperature: 47/55	NB-120W/EN8BPT	11.23	4.57	2.46
	NB-140W/EN8BPT	12.78	5.44	2.35
	NB-160W/EN8BPT	13.43	5.89	2.28
Ambient Temperature: -7/-8 Water Temperature: 47/55	NB-120W/EN8BPT	9.87	4.84	2.04
	NB-140W/EN8BPT	11.12	5.48	2.03
	NB-160W/EN8BPT	12.44	6.07	2.05

NOTE

NOTE



AIR CONDITIONING SYSTEMS

AIR-TO-WATER HEAT PUMP - MONOBLOCK



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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。