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Summary of	F1x45-10 1x230	Reg. No.	012-042
Certificate Holder			
Name	Nibe AB		
Address	Box 14	Zip	S-28521
City	Markaryd	Country	Sweden
Certification Body	RISE CERT		
Subtype title	F1x45-10 1x230		
Heat Pump Type	Brine/Water		
Refrigerant	R407c		
Mass of Refrigerant	2.1 kg		

## Model: F1145-10 1x230

Configure model	
Model name	F1145-10 1x230
Application	Heating (medium temp)
Units	Indoor
Climate Zone	Colder Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

### Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	9.69 kW	7.93 kW
El input	2.07 kW	2.48 kW
COP	4.68	3.20

EN 14511-4	
Operating range outdoor exchanger/indoor exchanger lower limit/lower limit	passed
Operating range outdoor exchanger/indoor exchanger upper limit/upper limit	passed
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed

### Average Climate

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### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	45 dB(A)	45 dB(A)

### EN 14825

	Low temperature	Medium temperature
$\eta_s$	188 %	147 %
Prated	12.00 kW	10.20 kW
SCOP	4.90	3.88
Tbiv	-5 °C	-5 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	9.80 kW	8.20 kW
COP Tj = -7°C	4.79	3.40
Pdh Tj = +2°C	10.00 kW	8.80 kW
COP Tj = +2°C	5.00	3.90
Pdh Tj = +7°C	10.20 kW	9.20 kW
COP Tj = +7°C	5.14	4.22
Pdh Tj = 12°C	10.40 kW	9.60 kW
COP Tj = 12°C	5.18	4.50
Pdh Tj = Tbiv	9.90 kW	8.30 kW
COP Tj = Tbiv	4.84	3.52

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$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	9.70 kW	7.90 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.68	3.21
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.99	1.00
WTOL	65 °C	65 °C
Poff	2 W	2 W
PTO	20 W	10 W
PSB	7 W	7 W
PCK	9 W	9 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.30 kW	2.30 kW
Annual energy consumption $Q_{he}$	5060 kWh	5454 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	45 dB(A)	45 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$\eta_s$	193 %	150 %
Prated	12.00 kW	10.20 kW

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SCOP	5.03	3.95
Tbiv	-15 °C	-15 °C
TOL	-22 °C	-22 °C
Pdh Tj = -7°C	10.10 kW	8.70 kW
COP Tj = -7°C	5.04	3.79
Pdh Tj = +2°C	10.20 kW	9.20 kW
COP Tj = +2°C	5.17	4.14
Pdh Tj = +7°C	10.30 kW	9.50 kW
COP Tj = +7°C	5.22	4.43
Pdh Tj = 12°C	10.40 kW	9.80 kW
COP Tj = 12°C	5.01	4.57
Pdh Tj = Tbiv	9.90 kW	8.40 kW
COP Tj = Tbiv	4.92	3.53
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.70 kW	7.90 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.68	3.21
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.99	1.00
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Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.30 kW	2.30 kW
Annual energy consumption Q <sub>he</sub>	5901 kWh	6370 kWh

## Model: F1245-10 1x230

### Configure model

Model name	F1245-10 1x230
Application	Heating + DHW + low temp
Units	Indoor
Climate Zone	Colder Climate
Reversibility	No
Cooling mode application (optional)	n/a

### General Data

Power supply	1x230V 50Hz
Off-peak product	No

## Heating

### EN 14511-2

	Low temperature	Medium temperature
Heat output	9.69 kW	7.93 kW
El input	2.07 kW	2.48 kW
COP	4.68	3.20

### EN 14511-4

Operating range outdoor exchanger/indoor exchanger lower limit/lower limit	passed
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Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.30 kW	2.30 kW
Annual energy consumption Qhe	5060 kWh	5454 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	45 dB(A)	45 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
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Supplementary Heater: PSUP	2.30 kW	2.30 kW
Annual energy consumption Q <sub>he</sub>	5901 kWh	6370 kWh

## Domestic Hot Water (DHW)

### Average Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	96 %
COP	2.40
Heating up time	01:10 h:min
Standby power input	55.0 W
Reference hot water temperature	50.0 °C
Mixed water at 40°C	235 l

### Colder Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	96 %
COP	2.40
Heating up time	01:10 h:min
Standby power input	55.0 W
Reference hot water temperature	50.0 °C
Mixed water at 40°C	235 l