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Summary of	NIMBUS 110 M - ARIANEXT 110 M - AEROTOP MONO 11 - ENERGION M 11		Reg. No.	ICIM-PDC- 000001
Certificate Holder				
Name	Ariston Thermo Group			
Address	Viale Aristide Merloni 45		Zip	I-60044
City	Fabriano (AN)		Country	Italy
Certification Body	ICIM S.p.A.			
Subtype title	NIMBUS 110 M - ARIANEXT 110 M - AEROTOP MONO 11 - ENERGION M 11			
Heat Pump Type	Outdoor Air/Water			
Refrigerant	R410A			
Mass of Refrigerant	3.9 kg			
Certification Date	19.12.2017			

## Model: AEROTOP MONO 11M-R

Configure model	
Model name	AEROTOP MONO 11M-R
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Warmer Climate

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### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
$P_{designh}$	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
$P_{rated}$	7.96 kW	7.45 kW
SCOP	6.21	4.10
$T_{biv}$	2 °C	2 °C
TOL	2 °C	2 °C
$P_{dh} T_j = +2^{\circ}C$	7.96 kW	7.45 kW
$COP T_j = +2^{\circ}C$	4.07	2.38
$P_{dh} T_j = +7^{\circ}C$	5.36 kW	5.05 kW
$COP T_j = +7^{\circ}C$	5.51	3.47
$P_{dh} T_j = 12^{\circ}C$	4.40 kW	4.15 kW
$COP T_j = 12^{\circ}C$	8.35	5.86
$P_{dh} T_j = T_{biv}$	7.96 kW	7.45 kW
$COP T_j = T_{biv}$	4.07	2.38

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$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

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$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

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PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
η <sub>s</sub>	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

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COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Model: AEROTOP MONO 11M-RL

Configure model	
Model name	AEROTOP MONO 11M-RL
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Warmer Climate



This information was generated by the HP KEYMARK database on 7 Jul 2022

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
$P_{designh}$	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
$P_{rated}$	7.96 kW	7.45 kW
SCOP	6.21	4.10
$T_{biv}$	2 °C	2 °C
TOL	2 °C	2 °C
$P_{dh} T_j = +2^{\circ}C$	7.96 kW	7.45 kW
$COP T_j = +2^{\circ}C$	4.07	2.38
$P_{dh} T_j = +7^{\circ}C$	5.36 kW	5.05 kW
$COP T_j = +7^{\circ}C$	5.51	3.47
$P_{dh} T_j = 12^{\circ}C$	4.40 kW	4.15 kW
$COP T_j = 12^{\circ}C$	8.35	5.86
$P_{dh} T_j = T_{biv}$	7.96 kW	7.45 kW
$COP T_j = T_{biv}$	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

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PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Model: ARIANEXT LITE 110 M-T LINK

Configure model	
Model name	ARIANEXT LITE 110 M-T LINK
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
$P_{designh}$	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
$P_{rated}$	7.96 kW	7.45 kW
SCOP	6.21	4.10
$T_{biv}$	2 °C	2 °C
TOL	2 °C	2 °C
$P_{dh} T_j = +2^{\circ}C$	7.96 kW	7.45 kW
$COP T_j = +2^{\circ}C$	4.07	2.38
$P_{dh} T_j = +7^{\circ}C$	5.36 kW	5.05 kW
$COP T_j = +7^{\circ}C$	5.51	3.47
$P_{dh} T_j = 12^{\circ}C$	4.40 kW	4.15 kW
$COP T_j = 12^{\circ}C$	8.35	5.86
$P_{dh} T_j = T_{biv}$	7.96 kW	7.45 kW
$COP T_j = T_{biv}$	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW



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$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Model: ARIANEXT LITE 110 M-T

Configure model	
Model name	ARIANEXT LITE 110 M-T
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
$P_{designh}$	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
$P_{rated}$	7.96 kW	7.45 kW
SCOP	6.21	4.10
$T_{biv}$	2 °C	2 °C
TOL	2 °C	2 °C
$P_{dh} T_j = +2^{\circ}C$	7.96 kW	7.45 kW
$COP T_j = +2^{\circ}C$	4.07	2.38
$P_{dh} T_j = +7^{\circ}C$	5.36 kW	5.05 kW
$COP T_j = +7^{\circ}C$	5.51	3.47
$P_{dh} T_j = 12^{\circ}C$	4.40 kW	4.15 kW
$COP T_j = 12^{\circ}C$	8.35	5.86
$P_{dh} T_j = T_{biv}$	7.96 kW	7.45 kW
$COP T_j = T_{biv}$	4.07	2.38

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$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW



This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Model: ARIANEXT PLUS 110 M-T LINK

Configure model	
Model name	ARIANEXT PLUS 110 M-T LINK
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
$P_{designh}$	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
$P_{rated}$	7.96 kW	7.45 kW
SCOP	6.21	4.10
$T_{biv}$	2 °C	2 °C
TOL	2 °C	2 °C
$P_{dh} T_j = +2^{\circ}C$	7.96 kW	7.45 kW
$COP T_j = +2^{\circ}C$	4.07	2.38
$P_{dh} T_j = +7^{\circ}C$	5.36 kW	5.05 kW
$COP T_j = +7^{\circ}C$	5.51	3.47
$P_{dh} T_j = 12^{\circ}C$	4.40 kW	4.15 kW
$COP T_j = 12^{\circ}C$	8.35	5.86
$P_{dh} T_j = T_{biv}$	7.96 kW	7.45 kW
$COP T_j = T_{biv}$	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
η <sub>s</sub>	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Model: ARIANEXT PLUS 110 M-T

Configure model	
Model name	ARIANEXT PLUS 110 M-T
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Warmer Climate



### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
$P_{designh}$	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
$P_{rated}$	7.96 kW	7.45 kW
SCOP	6.21	4.10
$T_{biv}$	2 °C	2 °C
TOL	2 °C	2 °C
$P_{dh} T_j = +2^{\circ}C$	7.96 kW	7.45 kW
$COP T_j = +2^{\circ}C$	4.07	2.38
$P_{dh} T_j = +7^{\circ}C$	5.36 kW	5.05 kW
$COP T_j = +7^{\circ}C$	5.51	3.47
$P_{dh} T_j = 12^{\circ}C$	4.40 kW	4.15 kW
$COP T_j = 12^{\circ}C$	8.35	5.86
$P_{dh} T_j = T_{biv}$	7.96 kW	7.45 kW
$COP T_j = T_{biv}$	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
η <sub>s</sub>	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Model: NIMBUS PLUS 110 M-T NET

Configure model	
Model name	NIMBUS PLUS 110 M-T NET
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
$P_{designh}$	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
$P_{rated}$	7.96 kW	7.45 kW
SCOP	6.21	4.10
$T_{biv}$	2 °C	2 °C
TOL	2 °C	2 °C
$P_{dh} T_j = +2^{\circ}C$	7.96 kW	7.45 kW
$COP T_j = +2^{\circ}C$	4.07	2.38
$P_{dh} T_j = +7^{\circ}C$	5.36 kW	5.05 kW
$COP T_j = +7^{\circ}C$	5.51	3.47
$P_{dh} T_j = 12^{\circ}C$	4.40 kW	4.15 kW
$COP T_j = 12^{\circ}C$	8.35	5.86
$P_{dh} T_j = T_{biv}$	7.96 kW	7.45 kW
$COP T_j = T_{biv}$	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW



This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Model: NIMBUS POCKET 110 M-T NET

Configure model	
Model name	NIMBUS POCKET 110 M-T NET
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
P <sub>rated</sub>	7.96 kW	7.45 kW
SCOP	6.21	4.10
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>dh</sub> T <sub>j</sub> = +2°C	7.96 kW	7.45 kW
COP T <sub>j</sub> = +2°C	4.07	2.38
P <sub>dh</sub> T <sub>j</sub> = +7°C	5.36 kW	5.05 kW
COP T <sub>j</sub> = +7°C	5.51	3.47
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.40 kW	4.15 kW
COP T <sub>j</sub> = 12°C	8.35	5.86
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	7.96 kW	7.45 kW
COP T <sub>j</sub> = T <sub>biv</sub>	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
η <sub>s</sub>	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW



This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Model: AEROTOP MONO 11M-CR

Configure model	
Model name	AEROTOP MONO 11M-CR
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
$P_{designh}$	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
$P_{rated}$	7.96 kW	7.45 kW
SCOP	6.21	4.10
$T_{biv}$	2 °C	2 °C
TOL	2 °C	2 °C
$P_{dh} T_j = +2^{\circ}\text{C}$	7.96 kW	7.45 kW
$COP T_j = +2^{\circ}\text{C}$	4.07	2.38
$P_{dh} T_j = +7^{\circ}\text{C}$	5.36 kW	5.05 kW
$COP T_j = +7^{\circ}\text{C}$	5.51	3.47
$P_{dh} T_j = 12^{\circ}\text{C}$	4.40 kW	4.15 kW
$COP T_j = 12^{\circ}\text{C}$	8.35	5.86
$P_{dh} T_j = T_{biv}$	7.96 kW	7.45 kW
$COP T_j = T_{biv}$	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Domestic Hot Water (DHW)

## Warmer Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	111 %
COP	2.70
Heating up time	01:16 h:min
Standby power input	39.0 W
Reference hot water temperature	53.2 °C
Mixed water at 40°C	248 l

## Colder Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	89 %
COP	2.15
Heating up time	01:49 h:min
Standby power input	57.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	250 l

## Average Climate



<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	106 %
COP	2.56
Heating up time	01:28 h:min
Standby power input	52.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	251 l

# Model: ARIANEXT COMPACT 110 M-T LINK

Configure model	
Model name	ARIANEXT COMPACT 110 M-T LINK
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

## Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

## Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
P <sub>rated</sub>	7.96 kW	7.45 kW
SCOP	6.21	4.10
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>dh</sub> T <sub>j</sub> = +2°C	7.96 kW	7.45 kW
COP T <sub>j</sub> = +2°C	4.07	2.38
P <sub>dh</sub> T <sub>j</sub> = +7°C	5.36 kW	5.05 kW
COP T <sub>j</sub> = +7°C	5.51	3.47
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.40 kW	4.15 kW
COP T <sub>j</sub> = 12°C	8.35	5.86
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	7.96 kW	7.45 kW
COP T <sub>j</sub> = T <sub>biv</sub>	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Domestic Hot Water (DHW)

## Warmer Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	111 %
COP	2.70
Heating up time	01:16 h:min
Standby power input	39.0 W
Reference hot water temperature	53.2 °C
Mixed water at 40°C	248 l

## Colder Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	89 %
COP	2.15
Heating up time	01:49 h:min
Standby power input	57.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	250 l

## Average Climate



<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	106 %
COP	2.56
Heating up time	01:28 h:min
Standby power input	52.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	251 l

# Model: ARIANEXT FLEX 110 M-T - 300 LINK

Configure model	
Model name	ARIANEXT FLEX 110 M-T - 300 LINK
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

## Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

## Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
$P_{designh}$	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
$P_{rated}$	7.96 kW	7.45 kW
SCOP	6.21	4.10
$T_{biv}$	2 °C	2 °C
TOL	2 °C	2 °C
$P_{dh} T_j = +2^{\circ}C$	7.96 kW	7.45 kW
$COP T_j = +2^{\circ}C$	4.07	2.38
$P_{dh} T_j = +7^{\circ}C$	5.36 kW	5.05 kW
$COP T_j = +7^{\circ}C$	5.51	3.47
$P_{dh} T_j = 12^{\circ}C$	4.40 kW	4.15 kW
$COP T_j = 12^{\circ}C$	8.35	5.86
$P_{dh} T_j = T_{biv}$	7.96 kW	7.45 kW
$COP T_j = T_{biv}$	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Domestic Hot Water (DHW)

## Warmer Climate

<b>EN 16147</b>	
Declared load profile	XXL
Efficiency $\eta_{DHW}$	132 %
COP	3.30
Heating up time	01:34 h:min
Standby power input	48.0 W
Reference hot water temperature	54.2 °C
Mixed water at 40°C	430 l

## Colder Climate

<b>EN 16147</b>	
Declared load profile	XXL
Efficiency $\eta_{DHW}$	97 %
COP	2.43
Heating up time	02:15 h:min
Standby power input	63.0 W
Reference hot water temperature	53.4 °C
Mixed water at 40°C	422 l

## Average Climate



This information was generated by the HP KEYMARK database on 7 Jul 2022

<b>EN 16147</b>	
Declared load profile	XXL
Efficiency $\eta_{DHW}$	122 %
COP	3.06
Heating up time	01:52 h:min
Standby power input	53.0 W
Reference hot water temperature	54.5 °C
Mixed water at 40°C	434 l

## Model: ARIANEXT FLEX 110 M-T LINK

Configure model	
Model name	ARIANEXT FLEX 110 M-T LINK
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
P <sub>rated</sub>	7.96 kW	7.45 kW
SCOP	6.21	4.10
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>dh</sub> T <sub>j</sub> = +2°C	7.96 kW	7.45 kW
COP T <sub>j</sub> = +2°C	4.07	2.38
P <sub>dh</sub> T <sub>j</sub> = +7°C	5.36 kW	5.05 kW
COP T <sub>j</sub> = +7°C	5.51	3.47
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.40 kW	4.15 kW
COP T <sub>j</sub> = 12°C	8.35	5.86
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	7.96 kW	7.45 kW
COP T <sub>j</sub> = T <sub>biv</sub>	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
η <sub>s</sub>	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Domestic Hot Water (DHW)

## Warmer Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	111 %
COP	2.70
Heating up time	01:16 h:min
Standby power input	39.0 W
Reference hot water temperature	53.2 °C
Mixed water at 40°C	248 l

## Colder Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	89 %
COP	2.15
Heating up time	01:49 h:min
Standby power input	57.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	250 l

## Average Climate



<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	106 %
COP	2.56
Heating up time	01:28 h:min
Standby power input	52.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	251 l

# Model: NIMBUS COMPACT 110 M-T NET

Configure model	
Model name	NIMBUS COMPACT 110 M-T NET
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

## Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

## Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
P <sub>rated</sub>	7.96 kW	7.45 kW
SCOP	6.21	4.10
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>dh</sub> T <sub>j</sub> = +2°C	7.96 kW	7.45 kW
COP T <sub>j</sub> = +2°C	4.07	2.38
P <sub>dh</sub> T <sub>j</sub> = +7°C	5.36 kW	5.05 kW
COP T <sub>j</sub> = +7°C	5.51	3.47
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.40 kW	4.15 kW
COP T <sub>j</sub> = 12°C	8.35	5.86
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	7.96 kW	7.45 kW
COP T <sub>j</sub> = T <sub>biv</sub>	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
η <sub>s</sub>	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Domestic Hot Water (DHW)

## Warmer Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	111 %
COP	2.70
Heating up time	01:16 h:min
Standby power input	39.0 W
Reference hot water temperature	53.2 °C
Mixed water at 40°C	248 l

## Colder Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	89 %
COP	2.15
Heating up time	01:49 h:min
Standby power input	57.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	250 l

## Average Climate



<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	106 %
COP	2.56
Heating up time	01:28 h:min
Standby power input	52.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	251 l

# Model: NIMBUS FLEX 110 M-T - 300 NET

Configure model	
Model name	NIMBUS FLEX 110 M-T - 300 NET
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

## Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

## Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
P <sub>rated</sub>	7.96 kW	7.45 kW
SCOP	6.21	4.10
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>dh</sub> T <sub>j</sub> = +2°C	7.96 kW	7.45 kW
COP T <sub>j</sub> = +2°C	4.07	2.38
P <sub>dh</sub> T <sub>j</sub> = +7°C	5.36 kW	5.05 kW
COP T <sub>j</sub> = +7°C	5.51	3.47
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.40 kW	4.15 kW
COP T <sub>j</sub> = 12°C	8.35	5.86
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	7.96 kW	7.45 kW
COP T <sub>j</sub> = T <sub>biv</sub>	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Domestic Hot Water (DHW)

## Warmer Climate

<b>EN 16147</b>	
Declared load profile	XXL
Efficiency $\eta_{DHW}$	132 %
COP	3.30
Heating up time	01:34 h:min
Standby power input	48.0 W
Reference hot water temperature	54.2 °C
Mixed water at 40°C	430 l

## Colder Climate

<b>EN 16147</b>	
Declared load profile	XXL
Efficiency $\eta_{DHW}$	97 %
COP	2.43
Heating up time	02:15 h:min
Standby power input	63.0 W
Reference hot water temperature	53.4 °C
Mixed water at 40°C	422 l

## Average Climate



This information was generated by the HP KEYMARK database on 7 Jul 2022

<b>EN 16147</b>	
Declared load profile	XXL
Efficiency $\eta_{DHW}$	122 %
COP	3.06
Heating up time	01:52 h:min
Standby power input	53.0 W
Reference hot water temperature	54.5 °C
Mixed water at 40°C	434 l

## Model: NIMBUS FLEX 110 M-T NET

Configure model	
Model name	NIMBUS FLEX 110 M-T NET
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
P <sub>rated</sub>	7.96 kW	7.45 kW
SCOP	6.21	4.10
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>dh</sub> T <sub>j</sub> = +2°C	7.96 kW	7.45 kW
COP T <sub>j</sub> = +2°C	4.07	2.38
P <sub>dh</sub> T <sub>j</sub> = +7°C	5.36 kW	5.05 kW
COP T <sub>j</sub> = +7°C	5.51	3.47
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.40 kW	4.15 kW
COP T <sub>j</sub> = 12°C	8.35	5.86
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	7.96 kW	7.45 kW
COP T <sub>j</sub> = T <sub>biv</sub>	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Domestic Hot Water (DHW)

## Warmer Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	111 %
COP	2.70
Heating up time	01:16 h:min
Standby power input	39.0 W
Reference hot water temperature	53.2 °C
Mixed water at 40°C	248 l

## Colder Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	89 %
COP	2.15
Heating up time	01:49 h:min
Standby power input	57.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	250 l

## Average Climate



This information was generated by the HP KEYMARK database on 7 Jul 2022

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	106 %
COP	2.56
Heating up time	01:28 h:min
Standby power input	52.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	251 l

## Model: ARIANEXT COMPACT 110 M-T

Configure model	
Model name	ARIANEXT COMPACT 110 M-T
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	n/a
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Average Climate

This information was generated by the HP KEYMARK database on 7 Jul 2022

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW
COP T <sub>j</sub> = -7°C	3.19	2.31
P <sub>dh</sub> T <sub>j</sub> = +2°C	6.77 kW	6.23 kW
COP T <sub>j</sub> = +2°C	4.61	3.42
P <sub>dh</sub> T <sub>j</sub> = +7°C	4.35 kW	4.00 kW
COP T <sub>j</sub> = +7°C	6.16	3.80
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.41 kW	4.07 kW
COP T <sub>j</sub> = 12°C	8.45	5.63

This information was generated by the HP KEYMARK database on 7 Jul 2022

Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Domestic Hot Water (DHW)

### Average Climate

<b>EN 16147</b>	
Declared load profile	L
Efficiency $\eta_{DHW}$	127 %
COP	3.01
Heating up time	00:47 h:min
Standby power input	38.0 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	247 l

## Model: ARIANEXT FLEX 110 M-T - 300

Configure model	
Model name	ARIANEXT FLEX 110 M-T - 300
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	n/a
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Average Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW
COP T <sub>j</sub> = -7°C	3.19	2.31
P <sub>dh</sub> T <sub>j</sub> = +2°C	6.77 kW	6.23 kW
COP T <sub>j</sub> = +2°C	4.61	3.42
P <sub>dh</sub> T <sub>j</sub> = +7°C	4.35 kW	4.00 kW
COP T <sub>j</sub> = +7°C	6.16	3.80
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.41 kW	4.07 kW
COP T <sub>j</sub> = 12°C	8.45	5.63

This information was generated by the HP KEYMARK database on 7 Jul 2022

Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Domestic Hot Water (DHW)

### Average Climate



<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	131 %
COP	3.10
Heating up time	01:52 h:min
Standby power input	61.0 W
Reference hot water temperature	54.4 °C
Mixed water at 40°C	434 l

## Model: ARIANEXT FLEX 110 M-T

Configure model	
Model name	ARIANEXT FLEX 110 M-T
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	n/a
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Average Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW
COP T <sub>j</sub> = -7°C	3.19	2.31
P <sub>dh</sub> T <sub>j</sub> = +2°C	6.77 kW	6.23 kW
COP T <sub>j</sub> = +2°C	4.61	3.42
P <sub>dh</sub> T <sub>j</sub> = +7°C	4.35 kW	4.00 kW
COP T <sub>j</sub> = +7°C	6.16	3.80
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.41 kW	4.07 kW
COP T <sub>j</sub> = 12°C	8.45	5.63

This information was generated by the HP KEYMARK database on 7 Jul 2022

Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Domestic Hot Water (DHW)

### Average Climate

This information was generated by the HP KEYMARK database on 7 Jul 2022

<b>EN 16147</b>	
Declared load profile	L
Efficiency $\eta_{DHW}$	127 %
COP	3.01
Heating up time	00:47 h:min
Standby power input	38.0 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	247 l

## Model: AEROTOP MONO 11M-RX

Configure model	
Model name	AEROTOP MONO 11M-RX
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
$P_{designh}$	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
$P_{rated}$	7.96 kW	7.45 kW
SCOP	6.21	4.10
$T_{biv}$	2 °C	2 °C
TOL	2 °C	2 °C
$P_{dh} T_j = +2^{\circ}C$	7.96 kW	7.45 kW
$COP T_j = +2^{\circ}C$	4.07	2.38
$P_{dh} T_j = +7^{\circ}C$	5.36 kW	5.05 kW
$COP T_j = +7^{\circ}C$	5.51	3.47
$P_{dh} T_j = 12^{\circ}C$	4.40 kW	4.15 kW
$COP T_j = 12^{\circ}C$	8.35	5.86
$P_{dh} T_j = T_{biv}$	7.96 kW	7.45 kW
$COP T_j = T_{biv}$	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW



This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Model: AEROTOP MONO 11M-RXL

Configure model	
Model name	AEROTOP MONO 11M-RXL
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
P <sub>rated</sub>	7.96 kW	7.45 kW
SCOP	6.21	4.10
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>dh</sub> T <sub>j</sub> = +2°C	7.96 kW	7.45 kW
COP T <sub>j</sub> = +2°C	4.07	2.38
P <sub>dh</sub> T <sub>j</sub> = +7°C	5.36 kW	5.05 kW
COP T <sub>j</sub> = +7°C	5.51	3.47
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.40 kW	4.15 kW
COP T <sub>j</sub> = 12°C	8.35	5.86
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	7.96 kW	7.45 kW
COP T <sub>j</sub> = T <sub>biv</sub>	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW



This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Model: ARIANEXT LITE 110 M LINK

Configure model	
Model name	ARIANEXT LITE 110 M LINK
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
$P_{designh}$	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
$P_{rated}$	7.96 kW	7.45 kW
SCOP	6.21	4.10
$T_{biv}$	2 °C	2 °C
TOL	2 °C	2 °C
$P_{dh} T_j = +2^{\circ}C$	7.96 kW	7.45 kW
$COP T_j = +2^{\circ}C$	4.07	2.38
$P_{dh} T_j = +7^{\circ}C$	5.36 kW	5.05 kW
$COP T_j = +7^{\circ}C$	5.51	3.47
$P_{dh} T_j = 12^{\circ}C$	4.40 kW	4.15 kW
$COP T_j = 12^{\circ}C$	8.35	5.86
$P_{dh} T_j = T_{biv}$	7.96 kW	7.45 kW
$COP T_j = T_{biv}$	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Model: ARIANEXT LITE 110 M

Configure model	
Model name	ARIANEXT LITE 110 M
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Warmer Climate



### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
$P_{designh}$	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
$P_{rated}$	7.96 kW	7.45 kW
SCOP	6.21	4.10
$T_{biv}$	2 °C	2 °C
TOL	2 °C	2 °C
$P_{dh} T_j = +2^{\circ}C$	7.96 kW	7.45 kW
$COP T_j = +2^{\circ}C$	4.07	2.38
$P_{dh} T_j = +7^{\circ}C$	5.36 kW	5.05 kW
$COP T_j = +7^{\circ}C$	5.51	3.47
$P_{dh} T_j = 12^{\circ}C$	4.40 kW	4.15 kW
$COP T_j = 12^{\circ}C$	8.35	5.86
$P_{dh} T_j = T_{biv}$	7.96 kW	7.45 kW
$COP T_j = T_{biv}$	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Model: ARIANEXT PLUS 110 M LINK

Configure model	
Model name	ARIANEXT PLUS 110 M LINK
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
$P_{designh}$	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
$P_{rated}$	7.96 kW	7.45 kW
SCOP	6.21	4.10
$T_{biv}$	2 °C	2 °C
TOL	2 °C	2 °C
$P_{dh} T_j = +2^{\circ}C$	7.96 kW	7.45 kW
$COP T_j = +2^{\circ}C$	4.07	2.38
$P_{dh} T_j = +7^{\circ}C$	5.36 kW	5.05 kW
$COP T_j = +7^{\circ}C$	5.51	3.47
$P_{dh} T_j = 12^{\circ}C$	4.40 kW	4.15 kW
$COP T_j = 12^{\circ}C$	8.35	5.86
$P_{dh} T_j = T_{biv}$	7.96 kW	7.45 kW
$COP T_j = T_{biv}$	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW



This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Model: ARIANEXT PLUS 110 M

Configure model	
Model name	ARIANEXT PLUS 110 M
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
$P_{designh}$	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
$P_{rated}$	7.96 kW	7.45 kW
SCOP	6.21	4.10
$T_{biv}$	2 °C	2 °C
TOL	2 °C	2 °C
$P_{dh} T_j = +2^{\circ}C$	7.96 kW	7.45 kW
$COP T_j = +2^{\circ}C$	4.07	2.38
$P_{dh} T_j = +7^{\circ}C$	5.36 kW	5.05 kW
$COP T_j = +7^{\circ}C$	5.51	3.47
$P_{dh} T_j = 12^{\circ}C$	4.40 kW	4.15 kW
$COP T_j = 12^{\circ}C$	8.35	5.86
$P_{dh} T_j = T_{biv}$	7.96 kW	7.45 kW
$COP T_j = T_{biv}$	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW



This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Model: NIMBUS PLUS 110 M NET

Configure model	
Model name	NIMBUS PLUS 110 M NET
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
P <sub>rated</sub>	7.96 kW	7.45 kW
SCOP	6.21	4.10
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>dh</sub> T <sub>j</sub> = +2°C	7.96 kW	7.45 kW
COP T <sub>j</sub> = +2°C	4.07	2.38
P <sub>dh</sub> T <sub>j</sub> = +7°C	5.36 kW	5.05 kW
COP T <sub>j</sub> = +7°C	5.51	3.47
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.40 kW	4.15 kW
COP T <sub>j</sub> = 12°C	8.35	5.86
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	7.96 kW	7.45 kW
COP T <sub>j</sub> = T <sub>biv</sub>	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Model: NIMBUS POCKET 110 M NET

Configure model	
Model name	NIMBUS POCKET 110 M NET
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Warmer Climate



### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
$P_{designh}$	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
$P_{rated}$	7.96 kW	7.45 kW
SCOP	6.21	4.10
$T_{biv}$	2 °C	2 °C
TOL	2 °C	2 °C
$P_{dh} T_j = +2^{\circ}\text{C}$	7.96 kW	7.45 kW
$COP T_j = +2^{\circ}\text{C}$	4.07	2.38
$P_{dh} T_j = +7^{\circ}\text{C}$	5.36 kW	5.05 kW
$COP T_j = +7^{\circ}\text{C}$	5.51	3.47
$P_{dh} T_j = 12^{\circ}\text{C}$	4.40 kW	4.15 kW
$COP T_j = 12^{\circ}\text{C}$	8.35	5.86
$P_{dh} T_j = T_{biv}$	7.96 kW	7.45 kW
$COP T_j = T_{biv}$	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

# Model: AEROTOP MONO 11M-CRX

Configure model	
Model name	AEROTOP MONO 11M-CRX
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

## Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

## Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
$P_{designh}$	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
$P_{rated}$	7.96 kW	7.45 kW
SCOP	6.21	4.10
$T_{biv}$	2 °C	2 °C
TOL	2 °C	2 °C
$P_{dh} T_j = +2^{\circ}C$	7.96 kW	7.45 kW
$COP T_j = +2^{\circ}C$	4.07	2.38
$P_{dh} T_j = +7^{\circ}C$	5.36 kW	5.05 kW
$COP T_j = +7^{\circ}C$	5.51	3.47
$P_{dh} T_j = 12^{\circ}C$	4.40 kW	4.15 kW
$COP T_j = 12^{\circ}C$	8.35	5.86
$P_{dh} T_j = T_{biv}$	7.96 kW	7.45 kW
$COP T_j = T_{biv}$	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW



This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Domestic Hot Water (DHW)

## Warmer Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	111 %
COP	2.70
Heating up time	01:16 h:min
Standby power input	39.0 W
Reference hot water temperature	53.2 °C
Mixed water at 40°C	248 l

## Colder Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	89 %
COP	2.15
Heating up time	01:49 h:min
Standby power input	57.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	250 l

## Average Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	106 %
COP	2.56
Heating up time	01:28 h:min
Standby power input	52.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	251 l

# Model: ARIANEXT COMPACT 110 M LINK

Configure model	
Model name	ARIANEXT COMPACT 110 M LINK
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

## Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

## Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
$P_{designh}$	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
$P_{rated}$	7.96 kW	7.45 kW
SCOP	6.21	4.10
$T_{biv}$	2 °C	2 °C
TOL	2 °C	2 °C
$P_{dh} T_j = +2^{\circ}C$	7.96 kW	7.45 kW
$COP T_j = +2^{\circ}C$	4.07	2.38
$P_{dh} T_j = +7^{\circ}C$	5.36 kW	5.05 kW
$COP T_j = +7^{\circ}C$	5.51	3.47
$P_{dh} T_j = 12^{\circ}C$	4.40 kW	4.15 kW
$COP T_j = 12^{\circ}C$	8.35	5.86
$P_{dh} T_j = T_{biv}$	7.96 kW	7.45 kW
$COP T_j = T_{biv}$	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW



This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Domestic Hot Water (DHW)

## Warmer Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	111 %
COP	2.70
Heating up time	01:16 h:min
Standby power input	39.0 W
Reference hot water temperature	53.2 °C
Mixed water at 40°C	248 l

## Colder Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	89 %
COP	2.15
Heating up time	01:49 h:min
Standby power input	57.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	250 l

## Average Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	106 %
COP	2.56
Heating up time	01:28 h:min
Standby power input	52.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	251 l

## Model: ARIANEXT FLEX 110 M LINK

Configure model	
Model name	ARIANEXT FLEX 110 M LINK
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
$P_{designh}$	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
$P_{rated}$	7.96 kW	7.45 kW
SCOP	6.21	4.10
$T_{biv}$	2 °C	2 °C
TOL	2 °C	2 °C
$P_{dh} T_j = +2^{\circ}C$	7.96 kW	7.45 kW
$COP T_j = +2^{\circ}C$	4.07	2.38
$P_{dh} T_j = +7^{\circ}C$	5.36 kW	5.05 kW
$COP T_j = +7^{\circ}C$	5.51	3.47
$P_{dh} T_j = 12^{\circ}C$	4.40 kW	4.15 kW
$COP T_j = 12^{\circ}C$	8.35	5.86
$P_{dh} T_j = T_{biv}$	7.96 kW	7.45 kW
$COP T_j = T_{biv}$	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW



This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Domestic Hot Water (DHW)

## Warmer Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	111 %
COP	2.70
Heating up time	01:16 h:min
Standby power input	39.0 W
Reference hot water temperature	53.2 °C
Mixed water at 40°C	248 l

## Colder Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	89 %
COP	2.15
Heating up time	01:49 h:min
Standby power input	57.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	250 l

## Average Climate

This information was generated by the HP KEYMARK database on 7 Jul 2022

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	106 %
COP	2.56
Heating up time	01:28 h:min
Standby power input	52.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	251 l

# Model: ARIANEXT FLEX 110 M - 300 LINK

Configure model	
Model name	ARIANEXT FLEX 110 M - 300 LINK
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

## Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

## Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
$P_{designh}$	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
$P_{rated}$	7.96 kW	7.45 kW
SCOP	6.21	4.10
$T_{biv}$	2 °C	2 °C
TOL	2 °C	2 °C
$P_{dh} T_j = +2^{\circ}C$	7.96 kW	7.45 kW
$COP T_j = +2^{\circ}C$	4.07	2.38
$P_{dh} T_j = +7^{\circ}C$	5.36 kW	5.05 kW
$COP T_j = +7^{\circ}C$	5.51	3.47
$P_{dh} T_j = 12^{\circ}C$	4.40 kW	4.15 kW
$COP T_j = 12^{\circ}C$	8.35	5.86
$P_{dh} T_j = T_{biv}$	7.96 kW	7.45 kW
$COP T_j = T_{biv}$	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW



This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Domestic Hot Water (DHW)

## Warmer Climate

<b>EN 16147</b>	
Declared load profile	XXL
Efficiency $\eta_{DHW}$	132 %
COP	3.30
Heating up time	01:34 h:min
Standby power input	48.0 W
Reference hot water temperature	54.2 °C
Mixed water at 40°C	430 l

## Colder Climate

<b>EN 16147</b>	
Declared load profile	XXL
Efficiency $\eta_{DHW}$	97 %
COP	2.43
Heating up time	02:15 h:min
Standby power input	63.0 W
Reference hot water temperature	53.4 °C
Mixed water at 40°C	422 l

## Average Climate

<b>EN 16147</b>	
Declared load profile	XXL
Efficiency $\eta_{DHW}$	122 %
COP	3.06
Heating up time	01:52 h:min
Standby power input	53.0 W
Reference hot water temperature	54.5 °C
Mixed water at 40°C	434 l

## Model: NIMBUS COMPACT 110 M NET

Configure model	
Model name	NIMBUS COMPACT 110 M NET
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
P <sub>rated</sub>	7.96 kW	7.45 kW
SCOP	6.21	4.10
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>dh</sub> T <sub>j</sub> = +2°C	7.96 kW	7.45 kW
COP T <sub>j</sub> = +2°C	4.07	2.38
P <sub>dh</sub> T <sub>j</sub> = +7°C	5.36 kW	5.05 kW
COP T <sub>j</sub> = +7°C	5.51	3.47
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.40 kW	4.15 kW
COP T <sub>j</sub> = 12°C	8.35	5.86
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	7.96 kW	7.45 kW
COP T <sub>j</sub> = T <sub>biv</sub>	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW



This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Domestic Hot Water (DHW)

## Warmer Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	111 %
COP	2.70
Heating up time	01:16 h:min
Standby power input	39.0 W
Reference hot water temperature	53.2 °C
Mixed water at 40°C	248 l

## Colder Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	89 %
COP	2.15
Heating up time	01:49 h:min
Standby power input	57.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	250 l

## Average Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	106 %
COP	2.56
Heating up time	01:28 h:min
Standby power input	52.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	251 l

## Model: NIMBUS FLEX 110 M NET

Configure model	
Model name	NIMBUS FLEX 110 M NET
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
$P_{designh}$	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
$P_{rated}$	7.96 kW	7.45 kW
SCOP	6.21	4.10
$T_{biv}$	2 °C	2 °C
TOL	2 °C	2 °C
$P_{dh} T_j = +2^{\circ}C$	7.96 kW	7.45 kW
$COP T_j = +2^{\circ}C$	4.07	2.38
$P_{dh} T_j = +7^{\circ}C$	5.36 kW	5.05 kW
$COP T_j = +7^{\circ}C$	5.51	3.47
$P_{dh} T_j = 12^{\circ}C$	4.40 kW	4.15 kW
$COP T_j = 12^{\circ}C$	8.35	5.86
$P_{dh} T_j = T_{biv}$	7.96 kW	7.45 kW
$COP T_j = T_{biv}$	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW



This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
η <sub>s</sub>	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Domestic Hot Water (DHW)

## Warmer Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	111 %
COP	2.70
Heating up time	01:16 h:min
Standby power input	39.0 W
Reference hot water temperature	53.2 °C
Mixed water at 40°C	248 l

## Colder Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	89 %
COP	2.15
Heating up time	01:49 h:min
Standby power input	57.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	250 l

## Average Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	106 %
COP	2.56
Heating up time	01:28 h:min
Standby power input	52.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	251 l

## Model: NIMBUS FLEX 110 M - 300 NET

Configure model	
Model name	NIMBUS FLEX 110 M - 300 NET
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
P <sub>rated</sub>	7.96 kW	7.45 kW
SCOP	6.21	4.10
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>dh</sub> T <sub>j</sub> = +2°C	7.96 kW	7.45 kW
COP T <sub>j</sub> = +2°C	4.07	2.38
P <sub>dh</sub> T <sub>j</sub> = +7°C	5.36 kW	5.05 kW
COP T <sub>j</sub> = +7°C	5.51	3.47
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.40 kW	4.15 kW
COP T <sub>j</sub> = 12°C	8.35	5.86
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	7.96 kW	7.45 kW
COP T <sub>j</sub> = T <sub>biv</sub>	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW



This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Domestic Hot Water (DHW)

## Warmer Climate

<b>EN 16147</b>	
Declared load profile	XXL
Efficiency $\eta_{DHW}$	132 %
COP	3.30
Heating up time	01:34 h:min
Standby power input	48.0 W
Reference hot water temperature	54.2 °C
Mixed water at 40°C	430 l

## Colder Climate

<b>EN 16147</b>	
Declared load profile	XXL
Efficiency $\eta_{DHW}$	97 %
COP	2.43
Heating up time	02:15 h:min
Standby power input	63.0 W
Reference hot water temperature	53.4 °C
Mixed water at 40°C	422 l

## Average Climate

<b>EN 16147</b>	
Declared load profile	XXL
Efficiency $\eta_{DHW}$	122 %
COP	3.06
Heating up time	01:52 h:min
Standby power input	53.0 W
Reference hot water temperature	54.5 °C
Mixed water at 40°C	434 l

## Model: ARIANEXT COMPACT 110 M

Configure model	
Model name	ARIANEXT COMPACT 110 M
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	n/a
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Average Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW
COP T <sub>j</sub> = -7°C	3.19	2.31
P <sub>dh</sub> T <sub>j</sub> = +2°C	6.77 kW	6.23 kW
COP T <sub>j</sub> = +2°C	4.61	3.42
P <sub>dh</sub> T <sub>j</sub> = +7°C	4.35 kW	4.00 kW
COP T <sub>j</sub> = +7°C	6.16	3.80
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.41 kW	4.07 kW
COP T <sub>j</sub> = 12°C	8.45	5.63

This information was generated by the HP KEYMARK database on 7 Jul 2022

Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Domestic Hot Water (DHW)

### Average Climate



<b>EN 16147</b>	
Declared load profile	L
Efficiency $\eta_{DHW}$	127 %
COP	3.01
Heating up time	00:47 h:min
Standby power input	38.0 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	247 l

## Model: ARIANEXT FLEX 110 M

Configure model	
Model name	ARIANEXT FLEX 110 M
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	n/a
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Average Climate

This information was generated by the HP KEYMARK database on 7 Jul 2022

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW
COP T <sub>j</sub> = -7°C	3.19	2.31
P <sub>dh</sub> T <sub>j</sub> = +2°C	6.77 kW	6.23 kW
COP T <sub>j</sub> = +2°C	4.61	3.42
P <sub>dh</sub> T <sub>j</sub> = +7°C	4.35 kW	4.00 kW
COP T <sub>j</sub> = +7°C	6.16	3.80
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.41 kW	4.07 kW
COP T <sub>j</sub> = 12°C	8.45	5.63

This information was generated by the HP KEYMARK database on 7 Jul 2022

Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Domestic Hot Water (DHW)

### Average Climate

This information was generated by the HP KEYMARK database on 7 Jul 2022

<b>EN 16147</b>	
Declared load profile	L
Efficiency $\eta_{DHW}$	127 %
COP	3.01
Heating up time	00:47 h:min
Standby power input	38.0 W
Reference hot water temperature	52.5 °C
Mixed water at 40°C	247 l

## Model: ARIANEXT FLEX 110 M - 300

Configure model	
Model name	ARIANEXT FLEX 110 M - 300
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	n/a
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Average Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW
COP T <sub>j</sub> = -7°C	3.19	2.31
P <sub>dh</sub> T <sub>j</sub> = +2°C	6.77 kW	6.23 kW
COP T <sub>j</sub> = +2°C	4.61	3.42
P <sub>dh</sub> T <sub>j</sub> = +7°C	4.35 kW	4.00 kW
COP T <sub>j</sub> = +7°C	6.16	3.80
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.41 kW	4.07 kW
COP T <sub>j</sub> = 12°C	8.45	5.63

This information was generated by the HP KEYMARK database on 7 Jul 2022

Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Domestic Hot Water (DHW)

### Average Climate



<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	131 %
COP	3.10
Heating up time	01:52 h:min
Standby power input	61.0 W
Reference hot water temperature	54.4 °C
Mixed water at 40°C	434 l

# Model: ENERGION M PLUS 11

Configure model	
Model name	ENERGION M PLUS 11
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

## Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

## Warmer Climate

This information was generated by the HP KEYMARK database on 7 Jul 2022

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
$P_{designh}$	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
$P_{rated}$	7.96 kW	7.45 kW
SCOP	6.21	4.10
$T_{biv}$	2 °C	2 °C
TOL	2 °C	2 °C
$P_{dh} T_j = +2^{\circ}C$	7.96 kW	7.45 kW
$COP T_j = +2^{\circ}C$	4.07	2.38
$P_{dh} T_j = +7^{\circ}C$	5.36 kW	5.05 kW
$COP T_j = +7^{\circ}C$	5.51	3.47
$P_{dh} T_j = 12^{\circ}C$	4.40 kW	4.15 kW
$COP T_j = 12^{\circ}C$	8.35	5.86
$P_{dh} T_j = T_{biv}$	7.96 kW	7.45 kW
$COP T_j = T_{biv}$	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Model: ENERGION M PLUS 11 T

Configure model	
Model name	ENERGION M PLUS 11 T
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Warmer Climate



### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
P <sub>rated</sub>	7.96 kW	7.45 kW
SCOP	6.21	4.10
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>dh</sub> T <sub>j</sub> = +2°C	7.96 kW	7.45 kW
COP T <sub>j</sub> = +2°C	4.07	2.38
P <sub>dh</sub> T <sub>j</sub> = +7°C	5.36 kW	5.05 kW
COP T <sub>j</sub> = +7°C	5.51	3.47
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.40 kW	4.15 kW
COP T <sub>j</sub> = 12°C	8.35	5.86
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	7.96 kW	7.45 kW
COP T <sub>j</sub> = T <sub>biv</sub>	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Model: ENERGION M LIGHT 11

Configure model	
Model name	ENERGION M LIGHT 11
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Warmer Climate

This information was generated by the HP KEYMARK database on 7 Jul 2022

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
P <sub>rated</sub>	7.96 kW	7.45 kW
SCOP	6.21	4.10
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>dh</sub> T <sub>j</sub> = +2°C	7.96 kW	7.45 kW
COP T <sub>j</sub> = +2°C	4.07	2.38
P <sub>dh</sub> T <sub>j</sub> = +7°C	5.36 kW	5.05 kW
COP T <sub>j</sub> = +7°C	5.51	3.47
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.40 kW	4.15 kW
COP T <sub>j</sub> = 12°C	8.35	5.86
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	7.96 kW	7.45 kW
COP T <sub>j</sub> = T <sub>biv</sub>	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW



This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

# Model: ENERGION M LIGHT 11 T

Configure model	
Model name	ENERGION M LIGHT 11 T
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

## Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

## Warmer Climate

This information was generated by the HP KEYMARK database on 7 Jul 2022

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
$P_{designh}$	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
$P_{rated}$	7.96 kW	7.45 kW
SCOP	6.21	4.10
$T_{biv}$	2 °C	2 °C
TOL	2 °C	2 °C
$P_{dh} T_j = +2^{\circ}C$	7.96 kW	7.45 kW
$COP T_j = +2^{\circ}C$	4.07	2.38
$P_{dh} T_j = +7^{\circ}C$	5.36 kW	5.05 kW
$COP T_j = +7^{\circ}C$	5.51	3.47
$P_{dh} T_j = 12^{\circ}C$	4.40 kW	4.15 kW
$COP T_j = 12^{\circ}C$	8.35	5.86
$P_{dh} T_j = T_{biv}$	7.96 kW	7.45 kW
$COP T_j = T_{biv}$	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW



This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Model: ENERGION M FLEX 11 180 e

Configure model	
Model name	ENERGION M FLEX 11 180 e
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Warmer Climate

This information was generated by the HP KEYMARK database on 7 Jul 2022

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
P <sub>rated</sub>	7.96 kW	7.45 kW
SCOP	6.21	4.10
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>dh</sub> T <sub>j</sub> = +2°C	7.96 kW	7.45 kW
COP T <sub>j</sub> = +2°C	4.07	2.38
P <sub>dh</sub> T <sub>j</sub> = +7°C	5.36 kW	5.05 kW
COP T <sub>j</sub> = +7°C	5.51	3.47
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.40 kW	4.15 kW
COP T <sub>j</sub> = 12°C	8.35	5.86
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	7.96 kW	7.45 kW
COP T <sub>j</sub> = T <sub>biv</sub>	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Domestic Hot Water (DHW)

## Warmer Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	111 %
COP	2.70
Heating up time	01:16 h:min
Standby power input	39.0 W
Reference hot water temperature	53.2 °C
Mixed water at 40°C	248 l

## Colder Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	89 %
COP	2.15
Heating up time	01:49 h:min
Standby power input	57.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	250 l

## Average Climate



<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	106 %
COP	2.56
Heating up time	01:28 h:min
Standby power input	52.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	251 l

## Model: ENERGION M FLEX 11 T 180 e

Configure model	
Model name	ENERGION M FLEX 11 T 180 e
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
$P_{designh}$	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
$P_{rated}$	7.96 kW	7.45 kW
SCOP	6.21	4.10
$T_{biv}$	2 °C	2 °C
TOL	2 °C	2 °C
$P_{dh} T_j = +2^{\circ}C$	7.96 kW	7.45 kW
$COP T_j = +2^{\circ}C$	4.07	2.38
$P_{dh} T_j = +7^{\circ}C$	5.36 kW	5.05 kW
$COP T_j = +7^{\circ}C$	5.51	3.47
$P_{dh} T_j = 12^{\circ}C$	4.40 kW	4.15 kW
$COP T_j = 12^{\circ}C$	8.35	5.86
$P_{dh} T_j = T_{biv}$	7.96 kW	7.45 kW
$COP T_j = T_{biv}$	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Domestic Hot Water (DHW)

## Warmer Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	111 %
COP	2.70
Heating up time	01:16 h:min
Standby power input	39.0 W
Reference hot water temperature	53.2 °C
Mixed water at 40°C	248 l

## Colder Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	89 %
COP	2.15
Heating up time	01:49 h:min
Standby power input	57.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	250 l

## Average Climate



This information was generated by the HP KEYMARK database on 7 Jul 2022

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	106 %
COP	2.56
Heating up time	01:28 h:min
Standby power input	52.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	251 l

## Model: ENERGION M FLEX 11 300 e

Configure model	
Model name	ENERGION M FLEX 11 300 e
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
$P_{designh}$	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
$P_{rated}$	7.96 kW	7.45 kW
SCOP	6.21	4.10
$T_{biv}$	2 °C	2 °C
TOL	2 °C	2 °C
$P_{dh} T_j = +2^{\circ}\text{C}$	7.96 kW	7.45 kW
$COP T_j = +2^{\circ}\text{C}$	4.07	2.38
$P_{dh} T_j = +7^{\circ}\text{C}$	5.36 kW	5.05 kW
$COP T_j = +7^{\circ}\text{C}$	5.51	3.47
$P_{dh} T_j = 12^{\circ}\text{C}$	4.40 kW	4.15 kW
$COP T_j = 12^{\circ}\text{C}$	8.35	5.86
$P_{dh} T_j = T_{biv}$	7.96 kW	7.45 kW
$COP T_j = T_{biv}$	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
η <sub>s</sub>	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Domestic Hot Water (DHW)

## Warmer Climate

<b>EN 16147</b>	
Declared load profile	XXL
Efficiency $\eta_{DHW}$	132 %
COP	3.30
Heating up time	01:34 h:min
Standby power input	48.0 W
Reference hot water temperature	54.2 °C
Mixed water at 40°C	430 l

## Colder Climate

<b>EN 16147</b>	
Declared load profile	XXL
Efficiency $\eta_{DHW}$	97 %
COP	2.43
Heating up time	02:15 h:min
Standby power input	63.0 W
Reference hot water temperature	53.4 °C
Mixed water at 40°C	422 l

## Average Climate



This information was generated by the HP KEYMARK database on 7 Jul 2022

<b>EN 16147</b>	
Declared load profile	XXL
Efficiency $\eta_{DHW}$	122 %
COP	3.06
Heating up time	01:52 h:min
Standby power input	53.0 W
Reference hot water temperature	54.5 °C
Mixed water at 40°C	434 l

## Model: ENERGION M FLEX 11 T 300 e

Configure model	
Model name	ENERGION M FLEX 11 T 300 e
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
P <sub>rated</sub>	7.96 kW	7.45 kW
SCOP	6.21	4.10
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>dh</sub> T <sub>j</sub> = +2°C	7.96 kW	7.45 kW
COP T <sub>j</sub> = +2°C	4.07	2.38
P <sub>dh</sub> T <sub>j</sub> = +7°C	5.36 kW	5.05 kW
COP T <sub>j</sub> = +7°C	5.51	3.47
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.40 kW	4.15 kW
COP T <sub>j</sub> = 12°C	8.35	5.86
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	7.96 kW	7.45 kW
COP T <sub>j</sub> = T <sub>biv</sub>	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Domestic Hot Water (DHW)

## Warmer Climate

<b>EN 16147</b>	
Declared load profile	XXL
Efficiency $\eta_{DHW}$	132 %
COP	3.30
Heating up time	01:34 h:min
Standby power input	48.0 W
Reference hot water temperature	54.2 °C
Mixed water at 40°C	430 l

## Colder Climate

<b>EN 16147</b>	
Declared load profile	XXL
Efficiency $\eta_{DHW}$	97 %
COP	2.43
Heating up time	02:15 h:min
Standby power input	63.0 W
Reference hot water temperature	53.4 °C
Mixed water at 40°C	422 l

## Average Climate



<b>EN 16147</b>	
Declared load profile	XXL
Efficiency $\eta_{DHW}$	122 %
COP	3.06
Heating up time	01:52 h:min
Standby power input	53.0 W
Reference hot water temperature	54.5 °C
Mixed water at 40°C	434 l

## Model: ENERGION M COMPACT 11

Configure model	
Model name	ENERGION M COMPACT 11
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
P <sub>rated</sub>	7.96 kW	7.45 kW
SCOP	6.21	4.10
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>dh</sub> T <sub>j</sub> = +2°C	7.96 kW	7.45 kW
COP T <sub>j</sub> = +2°C	4.07	2.38
P <sub>dh</sub> T <sub>j</sub> = +7°C	5.36 kW	5.05 kW
COP T <sub>j</sub> = +7°C	5.51	3.47
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.40 kW	4.15 kW
COP T <sub>j</sub> = 12°C	8.35	5.86
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	7.96 kW	7.45 kW
COP T <sub>j</sub> = T <sub>biv</sub>	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Domestic Hot Water (DHW)

## Warmer Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	111 %
COP	2.70
Heating up time	01:16 h:min
Standby power input	39.0 W
Reference hot water temperature	53.2 °C
Mixed water at 40°C	248 l

## Colder Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	89 %
COP	2.15
Heating up time	01:49 h:min
Standby power input	57.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	250 l

## Average Climate



<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	106 %
COP	2.56
Heating up time	01:28 h:min
Standby power input	52.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	251 l

# Model: ENERGION M COMPACT 11 T

Configure model	
Model name	ENERGION M COMPACT 11 T
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

## Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

## Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
$P_{designh}$	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
$P_{rated}$	7.96 kW	7.45 kW
SCOP	6.21	4.10
$T_{biv}$	2 °C	2 °C
TOL	2 °C	2 °C
$P_{dh} T_j = +2^{\circ}C$	7.96 kW	7.45 kW
$COP T_j = +2^{\circ}C$	4.07	2.38
$P_{dh} T_j = +7^{\circ}C$	5.36 kW	5.05 kW
$COP T_j = +7^{\circ}C$	5.51	3.47
$P_{dh} T_j = 12^{\circ}C$	4.40 kW	4.15 kW
$COP T_j = 12^{\circ}C$	8.35	5.86
$P_{dh} T_j = T_{biv}$	7.96 kW	7.45 kW
$COP T_j = T_{biv}$	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Domestic Hot Water (DHW)

## Warmer Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	111 %
COP	2.70
Heating up time	01:16 h:min
Standby power input	39.0 W
Reference hot water temperature	53.2 °C
Mixed water at 40°C	248 l

## Colder Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	89 %
COP	2.15
Heating up time	01:49 h:min
Standby power input	57.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	250 l

## Average Climate



This information was generated by the HP KEYMARK database on 7 Jul 2022

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	106 %
COP	2.56
Heating up time	01:28 h:min
Standby power input	52.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	251 l

## Model: ENERGION M HYBRIDall 11

Configure model	
Model name	ENERGION M HYBRIDall 11
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
$P_{designh}$	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
$P_{rated}$	7.96 kW	7.45 kW
SCOP	6.21	4.10
$T_{biv}$	2 °C	2 °C
TOL	2 °C	2 °C
$P_{dh} T_j = +2^{\circ}C$	7.96 kW	7.45 kW
$COP T_j = +2^{\circ}C$	4.07	2.38
$P_{dh} T_j = +7^{\circ}C$	5.36 kW	5.05 kW
$COP T_j = +7^{\circ}C$	5.51	3.47
$P_{dh} T_j = 12^{\circ}C$	4.40 kW	4.15 kW
$COP T_j = 12^{\circ}C$	8.35	5.86
$P_{dh} T_j = T_{biv}$	7.96 kW	7.45 kW
$COP T_j = T_{biv}$	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	8.45 kW	12.05 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Model: ENERGION M HYBRIDaII 11 T

Configure model	
Model name	ENERGION M HYBRIDaII 11 T
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Warmer Climate



### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
$P_{designh}$	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
$P_{rated}$	7.96 kW	7.45 kW
SCOP	6.21	4.10
$T_{biv}$	2 °C	2 °C
TOL	2 °C	2 °C
$P_{dh} T_j = +2^{\circ}C$	7.96 kW	7.45 kW
$COP T_j = +2^{\circ}C$	4.07	2.38
$P_{dh} T_j = +7^{\circ}C$	5.36 kW	5.05 kW
$COP T_j = +7^{\circ}C$	5.51	3.47
$P_{dh} T_j = 12^{\circ}C$	4.40 kW	4.15 kW
$COP T_j = 12^{\circ}C$	8.35	5.86
$P_{dh} T_j = T_{biv}$	7.96 kW	7.45 kW
$COP T_j = T_{biv}$	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	8.45 kW	12.05 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

# Model: ATAG p ENERGION M HYBRIDzone 11

Configure model	
Model name	ATAG p ENERGION M HYBRIDzone 11
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

## Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

## Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
P <sub>rated</sub>	7.96 kW	7.45 kW
SCOP	6.21	4.10
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>dh</sub> T <sub>j</sub> = +2°C	7.96 kW	7.45 kW
COP T <sub>j</sub> = +2°C	4.07	2.38
P <sub>dh</sub> T <sub>j</sub> = +7°C	5.36 kW	5.05 kW
COP T <sub>j</sub> = +7°C	5.51	3.47
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.40 kW	4.15 kW
COP T <sub>j</sub> = 12°C	8.35	5.86
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	7.96 kW	7.45 kW
COP T <sub>j</sub> = T <sub>biv</sub>	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW



This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	8.45 kW	12.05 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

# Model: ATAG p ENERGION M HYBRIDzone 11 T

Configure model	
Model name	ATAG p ENERGION M HYBRIDzone 11 T
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

## Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

## Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
$P_{designh}$	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
$P_{rated}$	7.96 kW	7.45 kW
SCOP	6.21	4.10
$T_{biv}$	2 °C	2 °C
TOL	2 °C	2 °C
$P_{dh} T_j = +2^{\circ}\text{C}$	7.96 kW	7.45 kW
$COP T_j = +2^{\circ}\text{C}$	4.07	2.38
$P_{dh} T_j = +7^{\circ}\text{C}$	5.36 kW	5.05 kW
$COP T_j = +7^{\circ}\text{C}$	5.51	3.47
$P_{dh} T_j = 12^{\circ}\text{C}$	4.40 kW	4.15 kW
$COP T_j = 12^{\circ}\text{C}$	8.35	5.86
$P_{dh} T_j = T_{biv}$	7.96 kW	7.45 kW
$COP T_j = T_{biv}$	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	8.45 kW	12.05 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW



This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

# Model: ATAG i ENERGION M HYBRIDzone 11

Configure model	
Model name	ATAG i ENERGION M HYBRIDzone 11
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

## Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

## Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
P <sub>rated</sub>	7.96 kW	7.45 kW
SCOP	6.21	4.10
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>dh</sub> T <sub>j</sub> = +2°C	7.96 kW	7.45 kW
COP T <sub>j</sub> = +2°C	4.07	2.38
P <sub>dh</sub> T <sub>j</sub> = +7°C	5.36 kW	5.05 kW
COP T <sub>j</sub> = +7°C	5.51	3.47
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.40 kW	4.15 kW
COP T <sub>j</sub> = 12°C	8.35	5.86
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	7.96 kW	7.45 kW
COP T <sub>j</sub> = T <sub>biv</sub>	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	8.45 kW	12.05 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

# Model: ATAG i ENERGION M HYBRIDzone 11 T

Configure model	
Model name	ATAG i ENERGION M HYBRIDzone 11 T
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

## Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

## Warmer Climate



### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
$P_{designh}$	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
$P_{rated}$	7.96 kW	7.45 kW
SCOP	6.21	4.10
$T_{biv}$	2 °C	2 °C
TOL	2 °C	2 °C
$P_{dh} T_j = +2^{\circ}C$	7.96 kW	7.45 kW
$COP T_j = +2^{\circ}C$	4.07	2.38
$P_{dh} T_j = +7^{\circ}C$	5.36 kW	5.05 kW
$COP T_j = +7^{\circ}C$	5.51	3.47
$P_{dh} T_j = 12^{\circ}C$	4.40 kW	4.15 kW
$COP T_j = 12^{\circ}C$	8.35	5.86
$P_{dh} T_j = T_{biv}$	7.96 kW	7.45 kW
$COP T_j = T_{biv}$	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	8.45 kW	12.05 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Model: NIMBUS M HYBRID 11 NET

Configure model	
Model name	NIMBUS M HYBRID 11 NET
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
P <sub>rated</sub>	7.96 kW	7.45 kW
SCOP	6.21	4.10
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>dh</sub> T <sub>j</sub> = +2°C	7.96 kW	7.45 kW
COP T <sub>j</sub> = +2°C	4.07	2.38
P <sub>dh</sub> T <sub>j</sub> = +7°C	5.36 kW	5.05 kW
COP T <sub>j</sub> = +7°C	5.51	3.47
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.40 kW	4.15 kW
COP T <sub>j</sub> = 12°C	8.35	5.86
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	7.96 kW	7.45 kW
COP T <sub>j</sub> = T <sub>biv</sub>	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW



This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Model: NIMBUS M HYBRID 11 T NET

Configure model	
Model name	NIMBUS M HYBRID 11 T NET
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
$P_{designh}$	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
$P_{rated}$	7.96 kW	7.45 kW
SCOP	6.21	4.10
$T_{biv}$	2 °C	2 °C
TOL	2 °C	2 °C
$P_{dh} T_j = +2^{\circ}C$	7.96 kW	7.45 kW
$COP T_j = +2^{\circ}C$	4.07	2.38
$P_{dh} T_j = +7^{\circ}C$	5.36 kW	5.05 kW
$COP T_j = +7^{\circ}C$	5.51	3.47
$P_{dh} T_j = 12^{\circ}C$	4.40 kW	4.15 kW
$COP T_j = 12^{\circ}C$	8.35	5.86
$P_{dh} T_j = T_{biv}$	7.96 kW	7.45 kW
$COP T_j = T_{biv}$	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW



This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

# Model: NIMBUS M HYBRID FLEX 11 NET

Configure model	
Model name	NIMBUS M HYBRID FLEX 11 NET
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

## Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

## Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
P <sub>rated</sub>	7.96 kW	7.45 kW
SCOP	6.21	4.10
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>dh</sub> T <sub>j</sub> = +2°C	7.96 kW	7.45 kW
COP T <sub>j</sub> = +2°C	4.07	2.38
P <sub>dh</sub> T <sub>j</sub> = +7°C	5.36 kW	5.05 kW
COP T <sub>j</sub> = +7°C	5.51	3.47
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.40 kW	4.15 kW
COP T <sub>j</sub> = 12°C	8.35	5.86
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	7.96 kW	7.45 kW
COP T <sub>j</sub> = T <sub>biv</sub>	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
η <sub>s</sub>	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Domestic Hot Water (DHW)

## Warmer Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	111 %
COP	2.70
Heating up time	01:16 h:min
Standby power input	39.0 W
Reference hot water temperature	53.2 °C
Mixed water at 40°C	248 l

## Colder Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	89 %
COP	2.15
Heating up time	01:49 h:min
Standby power input	57.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	250 l

## Average Climate



<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	106 %
COP	2.56
Heating up time	01:28 h:min
Standby power input	52.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	251 l

# Model: NIMBUS M HYBRID FLEX 11 T NET

Configure model	
Model name	NIMBUS M HYBRID FLEX 11 T NET
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

## Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

## Warmer Climate

This information was generated by the HP KEYMARK database on 7 Jul 2022

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
P <sub>rated</sub>	7.96 kW	7.45 kW
SCOP	6.21	4.10
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>dh</sub> T <sub>j</sub> = +2°C	7.96 kW	7.45 kW
COP T <sub>j</sub> = +2°C	4.07	2.38
P <sub>dh</sub> T <sub>j</sub> = +7°C	5.36 kW	5.05 kW
COP T <sub>j</sub> = +7°C	5.51	3.47
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.40 kW	4.15 kW
COP T <sub>j</sub> = 12°C	8.35	5.86
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	7.96 kW	7.45 kW
COP T <sub>j</sub> = T <sub>biv</sub>	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Domestic Hot Water (DHW)

## Warmer Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	111 %
COP	2.70
Heating up time	01:16 h:min
Standby power input	39.0 W
Reference hot water temperature	53.2 °C
Mixed water at 40°C	248 l

## Colder Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	89 %
COP	2.15
Heating up time	01:49 h:min
Standby power input	57.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	250 l

## Average Climate



<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	106 %
COP	2.56
Heating up time	01:28 h:min
Standby power input	52.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	251 l

# Model: NIMBUS M HYBRID UNIVERSAL 11 NET

Configure model	
Model name	NIMBUS M HYBRID UNIVERSAL 11 NET
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

## Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

## Warmer Climate

This information was generated by the HP KEYMARK database on 7 Jul 2022

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
$P_{designh}$	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
$P_{rated}$	7.96 kW	7.45 kW
SCOP	6.21	4.10
$T_{biv}$	2 °C	2 °C
TOL	2 °C	2 °C
$P_{dh} T_j = +2^{\circ}C$	7.96 kW	7.45 kW
$COP T_j = +2^{\circ}C$	4.07	2.38
$P_{dh} T_j = +7^{\circ}C$	5.36 kW	5.05 kW
$COP T_j = +7^{\circ}C$	5.51	3.47
$P_{dh} T_j = 12^{\circ}C$	4.40 kW	4.15 kW
$COP T_j = 12^{\circ}C$	8.35	5.86
$P_{dh} T_j = T_{biv}$	7.96 kW	7.45 kW
$COP T_j = T_{biv}$	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

# Model: NIMBUS M HYBRID UNIVERSAL 11 T NET

Configure model	
Model name	NIMBUS M HYBRID UNIVERSAL 11 T NET
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

## Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

## Warmer Climate



### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
$P_{designh}$	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
$P_{rated}$	7.96 kW	7.45 kW
SCOP	6.21	4.10
$T_{biv}$	2 °C	2 °C
TOL	2 °C	2 °C
$P_{dh} T_j = +2^{\circ}C$	7.96 kW	7.45 kW
$COP T_j = +2^{\circ}C$	4.07	2.38
$P_{dh} T_j = +7^{\circ}C$	5.36 kW	5.05 kW
$COP T_j = +7^{\circ}C$	5.51	3.47
$P_{dh} T_j = 12^{\circ}C$	4.40 kW	4.15 kW
$COP T_j = 12^{\circ}C$	8.35	5.86
$P_{dh} T_j = T_{biv}$	7.96 kW	7.45 kW
$COP T_j = T_{biv}$	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Model: ARIANEXT M HYBRID 11 LINK

Configure model	
Model name	ARIANEXT M HYBRID 11 LINK
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
P <sub>rated</sub>	7.96 kW	7.45 kW
SCOP	6.21	4.10
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>dh</sub> T <sub>j</sub> = +2°C	7.96 kW	7.45 kW
COP T <sub>j</sub> = +2°C	4.07	2.38
P <sub>dh</sub> T <sub>j</sub> = +7°C	5.36 kW	5.05 kW
COP T <sub>j</sub> = +7°C	5.51	3.47
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.40 kW	4.15 kW
COP T <sub>j</sub> = 12°C	8.35	5.86
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	7.96 kW	7.45 kW
COP T <sub>j</sub> = T <sub>biv</sub>	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW



This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Model: ARIANEXT M HYBRID 11 T LINK

Configure model	
Model name	ARIANEXT M HYBRID 11 T LINK
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Warmer Climate

This information was generated by the HP KEYMARK database on 7 Jul 2022

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
P <sub>rated</sub>	7.96 kW	7.45 kW
SCOP	6.21	4.10
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>dh</sub> T <sub>j</sub> = +2°C	7.96 kW	7.45 kW
COP T <sub>j</sub> = +2°C	4.07	2.38
P <sub>dh</sub> T <sub>j</sub> = +7°C	5.36 kW	5.05 kW
COP T <sub>j</sub> = +7°C	5.51	3.47
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.40 kW	4.15 kW
COP T <sub>j</sub> = 12°C	8.35	5.86
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	7.96 kW	7.45 kW
COP T <sub>j</sub> = T <sub>biv</sub>	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW



This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

# Model: ARIANEXT M HYBRID FLEX 11 LINK

Configure model	
Model name	ARIANEXT M HYBRID FLEX 11 LINK
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

## Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

## Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
P <sub>rated</sub>	7.96 kW	7.45 kW
SCOP	6.21	4.10
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>dh</sub> T <sub>j</sub> = +2°C	7.96 kW	7.45 kW
COP T <sub>j</sub> = +2°C	4.07	2.38
P <sub>dh</sub> T <sub>j</sub> = +7°C	5.36 kW	5.05 kW
COP T <sub>j</sub> = +7°C	5.51	3.47
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.40 kW	4.15 kW
COP T <sub>j</sub> = 12°C	8.35	5.86
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	7.96 kW	7.45 kW
COP T <sub>j</sub> = T <sub>biv</sub>	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Domestic Hot Water (DHW)

## Warmer Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	111 %
COP	2.70
Heating up time	01:16 h:min
Standby power input	39.0 W
Reference hot water temperature	53.2 °C
Mixed water at 40°C	248 l

## Colder Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	89 %
COP	2.15
Heating up time	01:49 h:min
Standby power input	57.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	250 l

## Average Climate



<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	106 %
COP	2.56
Heating up time	01:28 h:min
Standby power input	52.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	251 l

# Model: ARIANEXT M HYBRID FLEX 11 T LINK

Configure model	
Model name	ARIANEXT M HYBRID FLEX 11 T LINK
Application	Heating + DHW + low temp
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

## Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

## Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
P <sub>rated</sub>	7.96 kW	7.45 kW
SCOP	6.21	4.10
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>dh</sub> T <sub>j</sub> = +2°C	7.96 kW	7.45 kW
COP T <sub>j</sub> = +2°C	4.07	2.38
P <sub>dh</sub> T <sub>j</sub> = +7°C	5.36 kW	5.05 kW
COP T <sub>j</sub> = +7°C	5.51	3.47
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.40 kW	4.15 kW
COP T <sub>j</sub> = 12°C	8.35	5.86
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	7.96 kW	7.45 kW
COP T <sub>j</sub> = T <sub>biv</sub>	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Domestic Hot Water (DHW)

## Warmer Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	111 %
COP	2.70
Heating up time	01:16 h:min
Standby power input	39.0 W
Reference hot water temperature	53.2 °C
Mixed water at 40°C	248 l

## Colder Climate

<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	89 %
COP	2.15
Heating up time	01:49 h:min
Standby power input	57.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	250 l

## Average Climate



<b>EN 16147</b>	
Declared load profile	XL
Efficiency $\eta_{DHW}$	106 %
COP	2.56
Heating up time	01:28 h:min
Standby power input	52.0 W
Reference hot water temperature	53.6 °C
Mixed water at 40°C	251 l

# Model: ARIANEXT M HYBRID UNIVERSAL 11 LINK

Configure model	
Model name	ARIANEXT M HYBRID UNIVERSAL 11 LINK
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

## Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

## Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
P <sub>rated</sub>	7.96 kW	7.45 kW
SCOP	6.21	4.10
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>dh</sub> T <sub>j</sub> = +2°C	7.96 kW	7.45 kW
COP T <sub>j</sub> = +2°C	4.07	2.38
P <sub>dh</sub> T <sub>j</sub> = +7°C	5.36 kW	5.05 kW
COP T <sub>j</sub> = +7°C	5.51	3.47
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.40 kW	4.15 kW
COP T <sub>j</sub> = 12°C	8.35	5.86
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	7.96 kW	7.45 kW
COP T <sub>j</sub> = T <sub>biv</sub>	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
η <sub>s</sub>	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

# Model: ARIANEXT M HYBRID UNIVERSAL 11 T LINK

Configure model	
Model name	ARIANEXT M HYBRID UNIVERSAL 11 T LINK
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

## Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00



## Warmer Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
P <sub>rated</sub>	7.96 kW	7.45 kW
SCOP	6.21	4.10
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>dh</sub> T <sub>j</sub> = +2°C	7.96 kW	7.45 kW
COP T <sub>j</sub> = +2°C	4.07	2.38
P <sub>dh</sub> T <sub>j</sub> = +7°C	5.36 kW	5.05 kW
COP T <sub>j</sub> = +7°C	5.51	3.47
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.40 kW	4.15 kW
COP T <sub>j</sub> = 12°C	8.35	5.86
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	7.96 kW	7.45 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP $T_j = T_{biv}$	4.07	2.38
$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
COP $T_j = TOL$ or COP $T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>

This information was generated by the HP KEYMARK database on 7 Jul 2022

P <sub>designh</sub>	18.17 kW	17.24 kW
$\eta_s$	150 %	113 %
P <sub>rated</sub>	18.17 kW	17.24 kW
SCOP	3.82	2.91
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-20 °C	-20 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.00 kW	10.44 kW
COP T <sub>j</sub> = -7°C	3.46	2.73
P <sub>dh</sub> T <sub>j</sub> = +2°C	6.70 kW	6.35 kW
COP T <sub>j</sub> = +2°C	3.46	3.83
P <sub>dh</sub> T <sub>j</sub> = +7°C	4.39 kW	4.19 kW
COP T <sub>j</sub> = +7°C	6.60	5.06
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.41 kW	4.27 kW
COP T <sub>j</sub> = 12°C	8.45	7.06
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	11.00 kW	10.44 kW
COP T <sub>j</sub> = T <sub>biv</sub>	3.46	2.73
P <sub>dh</sub> T <sub>j</sub> = TOL or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	8.76 kW	4.29 kW
COP T <sub>j</sub> = TOL or COP T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	2.20	0.92
C <sub>dh</sub> T <sub>j</sub> = TOL or P <sub>dh</sub> T <sub>j</sub> = T <sub>designh</sub> if TOL < T <sub>designh</sub>	0.90	0.90
WTOL	60 °C	60 °C
P <sub>off</sub>	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
Prated	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C

This information was generated by the HP KEYMARK database on 7 Jul 2022

Pdh Tj = -7°C	11.11 kW	10.22 kW
COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

# Model: AEROTOP HYBRID MINI EVO 11

Configure model	
Model name	AEROTOP HYBRID MINI EVO 11
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

## Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

## Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
P <sub>rated</sub>	7.96 kW	7.45 kW
SCOP	6.21	4.10
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>dh</sub> T <sub>j</sub> = +2°C	7.96 kW	7.45 kW
COP T <sub>j</sub> = +2°C	4.07	2.38
P <sub>dh</sub> T <sub>j</sub> = +7°C	5.36 kW	5.05 kW
COP T <sub>j</sub> = +7°C	5.51	3.47
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.40 kW	4.15 kW
COP T <sub>j</sub> = 12°C	8.35	5.86
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	7.96 kW	7.45 kW
COP T <sub>j</sub> = T <sub>biv</sub>	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW



This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
η <sub>s</sub>	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

# Model: AEROTOP HYBRID UNIVERSAL 11

Configure model	
Model name	AEROTOP HYBRID UNIVERSAL 11
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

## Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

## Warmer Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	7.96 kW	7.45 kW
$\eta_s$	245 %	161 %
P <sub>rated</sub>	7.96 kW	7.45 kW
SCOP	6.21	4.10
T <sub>biv</sub>	2 °C	2 °C
TOL	2 °C	2 °C
P <sub>dh</sub> T <sub>j</sub> = +2°C	7.96 kW	7.45 kW
COP T <sub>j</sub> = +2°C	4.07	2.38
P <sub>dh</sub> T <sub>j</sub> = +7°C	5.36 kW	5.05 kW
COP T <sub>j</sub> = +7°C	5.51	3.47
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.40 kW	4.15 kW
COP T <sub>j</sub> = 12°C	8.35	5.86
P <sub>dh</sub> T <sub>j</sub> = T <sub>biv</sub>	7.96 kW	7.45 kW
COP T <sub>j</sub> = T <sub>biv</sub>	4.07	2.38

This information was generated by the HP KEYMARK database on 7 Jul 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	7.96 kW	7.45 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	4.07	2.38
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption $Q_{he}$	1714 kWh	2425 kWh

## Colder Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
$P_{designh}$	18.17 kW	17.24 kW

This information was generated by the HP KEYMARK database on 7 Jul 2022

$\eta_s$	150 %	113 %
Prated	18.17 kW	17.24 kW
SCOP	3.82	2.91
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.44 kW
COP Tj = -7°C	3.46	2.73
Pdh Tj = +2°C	6.70 kW	6.35 kW
COP Tj = +2°C	3.46	3.83
Pdh Tj = +7°C	4.39 kW	4.19 kW
COP Tj = +7°C	6.60	5.06
Pdh Tj = 12°C	4.41 kW	4.27 kW
COP Tj = 12°C	8.45	7.06
Pdh Tj = Tbiv	11.00 kW	10.44 kW
COP Tj = Tbiv	3.46	2.73
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.76 kW	4.29 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.20	0.92
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W

This information was generated by the HP KEYMARK database on 7 Jul 2022

PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	6.00 kW	6.00 kW
Annual energy consumption Q <sub>he</sub>	11736 kWh	14608 kWh

## Average Climate

<b>EN 12102-1</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

<b>EN 14825</b>		
	<b>Low temperature</b>	<b>Medium temperature</b>
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW



This information was generated by the HP KEYMARK database on 7 Jul 2022

COP Tj = -7°C	3.19	2.31
Pdh Tj = +2°C	6.77 kW	6.23 kW
COP Tj = +2°C	4.61	3.42
Pdh Tj = +7°C	4.35 kW	4.00 kW
COP Tj = +7°C	6.16	3.80
Pdh Tj = 12°C	4.41 kW	4.07 kW
COP Tj = 12°C	8.45	5.63
Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.51 kW	0.08 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Model: NIMBUS M FLEX IN 11 NET

Configure model	
Model name	NIMBUS M FLEX IN 11 NET
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	n/a
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Average Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	0 dB(A)	0 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW
COP T <sub>j</sub> = -7°C	3.19	2.31
P <sub>dh</sub> T <sub>j</sub> = +2°C	6.77 kW	6.23 kW
COP T <sub>j</sub> = +2°C	4.61	3.42
P <sub>dh</sub> T <sub>j</sub> = +7°C	4.35 kW	4.00 kW
COP T <sub>j</sub> = +7°C	6.16	3.80
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.41 kW	4.07 kW
COP T <sub>j</sub> = 12°C	8.45	5.63

This information was generated by the HP KEYMARK database on 7 Jul 2022

Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.50 kW	0.10 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Model: NIMBUS M FLEX IN 11 T NET

Configure model	
Model name	NIMBUS M FLEX IN 11 T NET
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	n/a
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Average Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	0 dB(A)	0 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW
COP T <sub>j</sub> = -7°C	3.19	2.31
P <sub>dh</sub> T <sub>j</sub> = +2°C	6.77 kW	6.23 kW
COP T <sub>j</sub> = +2°C	4.61	3.42
P <sub>dh</sub> T <sub>j</sub> = +7°C	4.35 kW	4.00 kW
COP T <sub>j</sub> = +7°C	6.16	3.80
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.41 kW	4.07 kW
COP T <sub>j</sub> = 12°C	8.45	5.63

This information was generated by the HP KEYMARK database on 7 Jul 2022

Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.50 kW	0.10 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Model: ARIANEXT M FLEX IN 11 LINK

Configure model	
Model name	ARIANEXT M FLEX IN 11 LINK
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	n/a
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Average Climate



### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	0 dB(A)	0 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW
COP T <sub>j</sub> = -7°C	3.19	2.31
P <sub>dh</sub> T <sub>j</sub> = +2°C	6.77 kW	6.23 kW
COP T <sub>j</sub> = +2°C	4.61	3.42
P <sub>dh</sub> T <sub>j</sub> = +7°C	4.35 kW	4.00 kW
COP T <sub>j</sub> = +7°C	6.16	3.80
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.41 kW	4.07 kW
COP T <sub>j</sub> = 12°C	8.45	5.63

This information was generated by the HP KEYMARK database on 7 Jul 2022

Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.50 kW	0.10 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

## Model: ARIANEXT M FLEX IN 11 T LINK

Configure model	
Model name	ARIANEXT M FLEX IN 11 T LINK
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	n/a
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

### Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

### Average Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	0 dB(A)	0 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW
COP T <sub>j</sub> = -7°C	3.19	2.31
P <sub>dh</sub> T <sub>j</sub> = +2°C	6.77 kW	6.23 kW
COP T <sub>j</sub> = +2°C	4.61	3.42
P <sub>dh</sub> T <sub>j</sub> = +7°C	4.35 kW	4.00 kW
COP T <sub>j</sub> = +7°C	6.16	3.80
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.41 kW	4.07 kW
COP T <sub>j</sub> = 12°C	8.45	5.63

This information was generated by the HP KEYMARK database on 7 Jul 2022

Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.50 kW	0.10 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh

# Model: AEROTOP MONO BUILT-IN 11M-CRX

Configure model	
Model name	AEROTOP MONO BUILT-IN 11M-CRX
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	n/a
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

## Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

## Average Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	0 dB(A)	0 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
SCOP	4.80	3.38
T <sub>biv</sub>	-7 °C	-7 °C
TOL	-10 °C	-10 °C
P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW
COP T <sub>j</sub> = -7°C	3.19	2.31
P <sub>dh</sub> T <sub>j</sub> = +2°C	6.77 kW	6.23 kW
COP T <sub>j</sub> = +2°C	4.61	3.42
P <sub>dh</sub> T <sub>j</sub> = +7°C	4.35 kW	4.00 kW
COP T <sub>j</sub> = +7°C	6.16	3.80
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.41 kW	4.07 kW
COP T <sub>j</sub> = 12°C	8.45	5.63

This information was generated by the HP KEYMARK database on 7 Jul 2022

Pdh Tj = Tbiv	11.11 kW	10.22 kW
COP Tj = Tbiv	3.19	2.31
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.05 kW	11.47 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.50 kW	0.10 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh



# Model: AEROTOP MONO BUILT-IN 11M-CR

Configure model	
Model name	AEROTOP MONO BUILT-IN 11M-CR
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	n/a
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x230V 50Hz

## Heating

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
Defrost test	passed

EN 14511-2		
	Low temperature	Medium temperature
Heat output	10.40 kW	9.45 kW
El input	2.08 kW	3.15 kW
COP	5.00	3.00

## Average Climate

### EN 12102-1

	Low temperature	Medium temperature
Sound power level indoor	0 dB(A)	0 dB(A)
Sound power level outdoor	63 dB(A)	63 dB(A)

### EN 14825

	Low temperature	Medium temperature
P <sub>designh</sub>	12.56 kW	11.55 kW
$\eta_s$	189 %	132 %
P <sub>rated</sub>	12.56 kW	11.55 kW
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P <sub>dh</sub> T <sub>j</sub> = -7°C	11.11 kW	10.22 kW
COP T <sub>j</sub> = -7°C	3.19	2.31
P <sub>dh</sub> T <sub>j</sub> = +2°C	6.77 kW	6.23 kW
COP T <sub>j</sub> = +2°C	4.61	3.42
P <sub>dh</sub> T <sub>j</sub> = +7°C	4.35 kW	4.00 kW
COP T <sub>j</sub> = +7°C	6.16	3.80
P <sub>dh</sub> T <sub>j</sub> = 12°C	4.41 kW	4.07 kW
COP T <sub>j</sub> = 12°C	8.45	5.63

This information was generated by the HP KEYMARK database on 7 Jul 2022

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COP Tj = Tbiv	3.19	2.31
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COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.80	2.05
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.90	0.90
WTOL	60 °C	60 °C
Poff	20 W	20 W
PTO	20 W	20 W
PSB	20 W	20 W
PCK	20 W	20 W
Supplementary Heater: Type of energy input	Gas	Gas
Supplementary Heater: PSUP	0.50 kW	0.10 kW
Annual energy consumption Qhe	5411 kWh	7070 kWh