

Page 1 of 253

### This information was generated by the HP KEYMARK database on 5 Jul 2022

### Login

Summary of	NIMBUS/ARIANEXT/AEROTOP/ENERGION 120/150 M - Plus/LB	Reg. No.	ICIM-PDC- 000108	
Certificate Holder	Certificate Holder			
Name	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/ARIANEXT/AEROTOP/ENERGION 120/150 M - Plus/LB			
Heat Pump Type	Outdoor Air/Water			
Refrigerant	R32			
Mass of Refrigerant	2.1 kg			
Certification Date	05.07.2022			
Testing basis	Heat Pump KEYMARK rev9			



# **Model: NIMBUS PLUS 120 M NET R32**

Configure model		
Model name NIMBUS PLUS 120 M NET R32		
Application	Heating (medium temp)	
Units	Indoor + Outdoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	Yes	
Cooling mode application (optional)	+7°C/12°C	

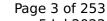
General Data		
Power supply	1x230V 50Hz	

# Heating

EN 14511-2		
Low temperature Medium temperature		Medium temperature
Heat output	12.00 kW	7.67 kW
El input	2.45 kW	2.39 kW
СОР	4.90	3.21

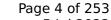
EN 14511-4		
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	
Defrost test	passed	
Starting and operating test	passed	

# Cooling





EN 14511-2		
	+7°C/+12°C	+18°C/+23°C
El input	2.87 kW	
Cooling capacity	9.05	
EER	3.15	2.93





	+7°C/+12°C
Pdesignc	9.05 kW
SEER	5.40
Pdc Tj = 35°C	9.05 kW
EER Tj = 35°C	3.15
Pdc Tj = 30°C	6.86 kW
EER Tj = 30°C	4.72
Cdc Tj = 30 °C	0.99
Pdc Tj = 25°C	4.31 kW
EER Tj = 25°C	6.14
Cdc Tj = 25 °C	0.98
Pdc Tj = 20°C	4.45 kW
EER Tj = 20°C	7.5
Cdc Tj = 20 °C	0.98
Poff	14 W
РТО	14 W
PSB	14 W
PCK	o w
Annual energy consumption Qce	1541 kWh

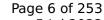
# Warmer Climate



EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	35 dB(A)	35 dB(A)	
Sound power level outdoor	58 dB(A)	58 dB(A)	

CEN heat pump KEYMARK

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.83 kW	6.46 kW
$\eta_{s}$	262 %	178 %
Prated	6.83 kW	6.46 kW
SCOP	6.62	4.51
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	6.83 kW	6.46 kW
COP Tj = +2°C	4.37	2.72
Cdh Tj = +2 °C	0.991	0.994
Pdh Tj = +7°C	4.48 kW	4.39 kW
COP Tj = +7°C	5.96	3.77
Cdh Tj = +7 °C	0.982	0.988
Pdh Tj = 12°C	4.72 kW	4.65 kW
COP Tj = 12°C	8.22	6.02

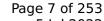




ins mornation has generated by the in item was accordance on a jan 2021			
Cdh Tj = +12 °C	0.976	0.982	
Pdh Tj = Tbiv	6.83 kW	6.46 kW	
COP Tj = Tbiv	4.37	2.72	
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.83 kW	6.46 kW	
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.37	2.72	
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.991	0.994	
WTOL	60 °C	60 °C	
Poff	14 W	14 W	
РТО	14 W	14 W	
PSB	14 W	14 W	
PCK	14 W	14 W	
Supplementary Heater: Type of energy input	Electricity	Electricity	
Supplementary Heater: PSUP	0.00 kW	0.00 kW	
Backup Heater	6.00 kW	6.00 kW	
Annual energy consumption Qhe	1378 kWh	1912 kWh	

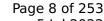
# Colder Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	35 dB(A)	35 dB(A)	
Sound power level outdoor	58 dB(A)	58 dB(A)	





	Low temperature	Medium temperature
Pdesignh	15.33 kW	14.18 kW
$\eta_{s}$	160 %	129 %
Prated	15.33 kW	14.18 kW
SCOP	4.07	3.30
ГЬіν	-7 °C	-7 °C
ГОL	-20 °C	-20 °C
Pdh Tj = -7°C	9.28 kW	8.58 kW
COP Tj = -7°C	3.74	2.94
Cdh Tj = -7 °C	0.995	0.995
Pdh Tj = +2°C	5.68 kW	5.42 kW
COP Tj = +2°C	5.38	4.26
Cdh Tj = +2 °C	0.987	0.989
Pdh Tj = +7°C	4.20 kW	4.09 kW
COP Tj = +7°C	7.39	5.83
Cdh Tj = +7 °C	0.976	0.981
Pdh Tj = 12°C	4.70 kW	4.72 kW
COP Tj = 12°C	8.75	7.21
Cdh Tj = +12 °C	0.975	0.979
Pdh Tj = Tbiv	9.28 kW	8.58 kW





COP Tj = Tbiv	3.74	2.94
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.41 kW	6.75 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.26	1.49
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.995
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	14.53 kW	13.43 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	9289 kWh	10591 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL<-20°C)		
Cdh Tj = -15 °C		

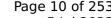
# Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)



### EN 14825

	Low temperature	Medium temperature
Pdesignh	10.84 kW	9.42 kW
$\eta_{s}$	204 %	143 %
Prated	10.84 kW	9.42 kW
SCOP	5.16	3.65
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	9.59 kW	8.33 kW
COP Tj = -7°C	3.42	2.43
Cdh Tj = -7 °C	0.995	0.996
Pdh Tj = +2°C	5.74 kW	5.47 kW
COP Tj = +2°C	5.10	3.33
Cdh Tj = +2 °C	0.988	0.992
Pdh Tj = +7°C	4.16 kW	3.98 kW
COP Tj = +7°C	6.88	5.04
Cdh Tj = +7 °C	0.978	0.983
Pdh Tj = 12°C	4.71 kW	4.75 kW
COP Tj = 12°C	8.66	6.86
Cdh Tj = +12 °C	0.975	0.980
Pdh Tj = Tbiv	9.59 kW	8.33 kW





# $$\operatorname{\textit{Page}}\ 10$ of 253$$ This information was generated by the HP KEYMARK database on 5 Jul 2022

COP Tj = Tbiv	3.42	2.43
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.11 kW	8.68 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.09	2.11
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.996
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.73 kW	0.74 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	4338 kWh	5335 kWh

# **Model: NIMBUS PLUS 150 M NET R32**

Configure model	
Model name	NIMBUS PLUS 150 M NET R32
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	+7°C/12°C

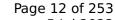
General Data		
Power supply	1x230V 50Hz	

# Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	15.00 kW	9.50 kW
El input	3.19 kW	3.02 kW
СОР	4.70	3.15

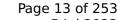
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

# Cooling





EN 14511-2		
	+7°C/+12°C	+18°C/+23°C
El input	3.75 kW	
Cooling capacity	11	
EER	2.93	4.70





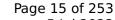
	+7°C/+12°C
Pdesignc	11 kW
SEER	5.22
Pdc Tj = 35°C	11 kW
EER Tj = 35°C	2.93
Pdc Tj = 30°C	8.18 kW
EER Tj = 30°C	4.4
Cdc Tj = 30 °C	0.99
Pdc Tj = 25°C	5.23 kW
EER Tj = 25°C	5.77
Cdc Tj = 25 °C	0.99
Pdc Tj = 20°C	4.5 kW
EER Tj = 20°C	7.53
Cdc Tj = 20 °C	0.98
Poff	14 W
PTO	14 W
PSB	14 W
PCK	0 W
Annual energy consumption Qce	1951 kWh

# Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	8.01 kW	7.50 kW
$\eta_{s}$	258 %	181 %
Prated	8.01 kW	7.50 kW
SCOP	6.53	4.61
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	8.01 kW	7.50 kW
COP Tj = +2°C	4.27	2.77
Cdh Tj = +2 °C	0.993	0.995
Pdh Tj = +7°C	5.33 kW	4.85 kW
COP Tj = +7°C	5.81	3.84
Cdh Tj = +7 °C	0.985	0.989
Pdh Tj = 12°C	4.72 kW	4.61 kW
COP Tj = 12°C	8.10	6.12

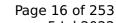




Cdh Tj = +12 °C	0.977	0.982
Pdh Tj = Tbiv	8.01 kW	7.50 kW
COP Tj = Tbiv	4.27	2.77
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.01 kW	7.51 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.27	2.77
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.993	0.982
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	1638 kWh	2172 kWh

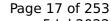
# Colder Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	35 dB(A)	35 dB(A)	
Sound power level outdoor	58 dB(A)	58 dB(A)	





	Low temperature	Medium temperature
Pdesignh	18.17 kW	17.31 kW
$\eta_{s}$	157 %	122 %
Prated	18.17 kW	17.31 kW
SCOP	3.99	3.12
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.48 kW
COP Tj = -7°C	3.57	2.91
Cdh Tj = -7 °C	0.996	0.996
Pdh Tj = +2°C	6.88 kW	6.45 kW
COP Tj = +2°C	5.36	4.22
Cdh Tj = +2 °C	0.989	0.991
Pdh Tj = +7°C	4.43 kW	4.27 kW
COP Tj = +7°C	7.25	5.79
Cdh Tj = +7 °C	0.978	0.982
Pdh Tj = 12°C	4.71 kW	4.60 kW
COP Tj = 12°C	8.53	7.20
Cdh Tj = +12 °C	0.975	0.979
Pdh Tj = Tbiv	11.00 kW	10.48 kW





COP Tj = Tbiv	3.57	2.91
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.74 kW	8.08 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.17	1.48
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.996	0.996
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	17.22 kW	16.40 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	11230 kWh	13042 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL<-20°C)		
Cdh Tj = -15 °C		

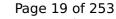
# Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)



### EN 14825

	Low temperature	Medium temperature
Pdesignh	12.48 kW	11.59 kW
$\eta_{s}$	202 %	151 %
Prated	12.48 kW	11.59 kW
SCOP	5.12	3.85
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.04 kW	10.25 kW
COP Tj = -7°C	3.29	2.50
Cdh Tj = -7 °C	0.996	0.997
Pdh Tj = +2°C	6.98 kW	6.50 kW
COP Tj = +2°C	4.92	3.67
Cdh Tj = +2 °C	0.990	0.992
Pdh Tj = +7°C	4.39 kW	3.96 kW
COP Tj = +7°C	6.76	5.04
Cdh Tj = +7 °C	0.979	0.983
Pdh Tj = 12°C	4.71 kW	4.69 kW
COP Tj = 12°C	8.55	6.97
Cdh Tj = +12 °C	0.975	0.980
Pdh Tj = Tbiv	11.04 kW	10.25 kW





COP Tj = Tbiv	3.29	2.50
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.18 kW	10.52 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.00	2.06
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.30 kW	1.07 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	5035 kWh	6217 kWh



# **Model: NIMBUS PLUS 120 M-T NET R32**

Configure model		
Model name	NIMBUS PLUS 120 M-T NET R32	
Application	Heating (medium temp)	
Units	Indoor + Outdoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	Yes	
Cooling mode application (optional)	+7°C/12°C	

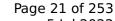
General Data		
Power supply	3x400V 50Hz	

# Heating

EN 14511-2			
	Low temperature	Medium temperature	
Heat output	12.00 kW	7.67 kW	
El input	2.45 kW	2.39 kW	
СОР	4.90	3.21	

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

# Cooling





EN 14511-2		
	+7°C/+12°C	+18°C/+23°C
El input	2.87 kW	
Cooling capacity	9.05	
EER	3.15	2.93





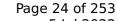
	+7°C/+12°C
Pdesignc	9.05 kW
SEER	5.40
Pdc Tj = 35°C	9.05 kW
EER Tj = 35°C	3.15
Pdc Tj = 30°C	6.86 kW
EER Tj = 30°C	4.72
Cdc Tj = 30 °C	0.99
Pdc Tj = 25°C	4.31 kW
EER Tj = 25°C	6.14
Cdc Tj = 25 °C	0.98
Pdc Tj = 20°C	4.45 kW
EER Tj = 20°C	7.5
Cdc Tj = 20 °C	0.98
Poff	14 W
РТО	14 W
PSB	14 W
PCK	o w
Annual energy consumption Qce	1541 kWh

# Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.83 kW	6.46 kW
$\eta_{s}$	262 %	178 %
Prated	6.83 kW	6.46 kW
SCOP	6.62	4.51
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	6.83 kW	6.46 kW
COP Tj = +2°C	4.37	2.72
Cdh Tj = +2 °C	0.991	0.994
Pdh Tj = +7°C	4.48 kW	4.39 kW
COP Tj = +7°C	5.96	3.77
Cdh Tj = +7 °C	0.982	0.988
Pdh Tj = 12°C	4.72 kW	4.65 kW
COP Tj = 12°C	8.22	6.02

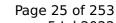




Cdh Tj = +12 °C	0.976	0.982
Pdh Tj = Tbiv	6.83 kW	6.46 kW
COP Tj = Tbiv	4.37	2.72
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.83 kW	6.46 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.37	2.72
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.991	0.994
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	1378 kWh	1912 kWh

# Colder Climate

# EN 12102-1 Low temperature Medium temperature Sound power level indoor 35 dB(A) 35 dB(A) Sound power level outdoor 58 dB(A) 58 dB(A)





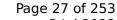
	Low temperature	Medium temperature
Pdesignh	15.33 kW	14.18 kW
$\eta_{s}$	160 %	129 %
Prated	15.33 kW	14.18 kW
SCOP	4.07	3.30
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	9.28 kW	8.58 kW
$COP Tj = -7^{\circ}C$	3.74	2.94
Cdh Tj = -7 °C	0.995	0.995
Pdh Tj = +2°C	5.68 kW	5.42 kW
COP Tj = +2°C	5.38	4.26
Cdh Tj = +2 °C	0.987	0.989
Pdh Tj = $+7^{\circ}$ C	4.20 kW	4.09 kW
$COPTj = +7^{\circ}C$	7.39	5.83
Cdh Tj = +7 °C	0.976	0.981
Pdh Tj = 12°C	4.70 kW	4.72 kW
COP Tj = 12°C	8.75	7.21
Cdh Tj = +12 °C	0.975	0.979
Pdh Tj = Tbiv	9.28 kW	8.58 kW
	•	•



COP Tj = Tbiv	3.74	2.94
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.41 kW	6.75 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.26	1.49
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.995
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	14.53 kW	13.43 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	9289 kWh	10591 kWh

# **Average Climate**

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





	Low temperature	Medium temperature
Pdesignh	10.84 kW	9.42 kW
$\eta_{s}$	204 %	143 %
Prated	10.84 kW	9.42 kW
SCOP	5.16	3.65
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	9.59 kW	8.33 kW
COP Tj = -7°C	3.42	2.43
Cdh Tj = -7 °C	0.995	0.996
Pdh Tj = +2°C	5.74 kW	5.47 kW
COP Tj = +2°C	5.10	3.33
Cdh Tj = +2 °C	0.988	0.992
Pdh Tj = +7°C	4.16 kW	3.98 kW
COP Tj = +7°C	6.88	5.04
Cdh Tj = +7 °C	0.978	0.983
Pdh Tj = 12°C	4.71 kW	4.75 kW
COP Tj = 12°C	8.66	6.86
Cdh Tj = +12 °C	0.975	0.980
Pdh Tj = Tbiv	9.59 kW	8.33 kW
COP Tj = Tbiv	3.42	2.43





	racea by the fit RETH	Arric database on 5 jul 2022
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.11 kW	8.68 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.09	2.11
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.996
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.73 kW	0.74 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	4338 kWh	5335 kWh

# **Model: NIMBUS PLUS 150 M-T NET R32**

Configure model		
Model name	NIMBUS PLUS 150 M-T NET R32	
Application	Heating (medium temp)	
Units	Indoor + Outdoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	Yes	
Cooling mode application (optional)	+7°C/12°C	

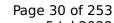
General Data		
Power supply 3x400V 50Hz		

# Heating

EN 14511-2			
	Low temperature	Medium temperature	
Heat output	15.00 kW	9.50 kW	
El input	3.19 kW	3.02 kW	
СОР	4.70	3.15	

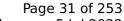
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

# Cooling





EN 14511-2		
	+7°C/+12°C	+18°C/+23°C
El input	3.75 kW	
Cooling capacity	11	
EER	2.93	4.70





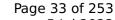
	+7°C/+12°C
Pdesignc	11 kW
SEER	5.22
Pdc Tj = 35°C	11 kW
EER Tj = 35°C	2.93
Pdc Tj = 30°C	8.18 kW
EER Tj = 30°C	4.4
Cdc Tj = 30 °C	0.99
Pdc Tj = 25°C	5.23 kW
EER Tj = 25°C	5.77
Cdc Tj = 25 °C	0.99
Pdc Tj = 20°C	4.5 kW
EER Tj = 20°C	7.53
Cdc Tj = 20 °C	0.98
Poff	14 W
РТО	14 W
PSB	14 W
PCK	0 W
Annual energy consumption Qce	1951 kWh

# Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	8.01 kW	7.50 kW
$\eta_{s}$	258 %	181 %
Prated	8.01 kW	7.50 kW
SCOP	6.53	4.61
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	8.01 kW	7.50 kW
COP Tj = +2°C	4.27	2.77
Cdh Tj = +2 °C	0.993	0.995
Pdh Tj = +7°C	5.33 kW	4.85 kW
COP Tj = +7°C	5.81	3.84
Cdh Tj = +7 °C	0.985	0.989
Pdh Tj = 12°C	4.72 kW	4.61 kW
COP Tj = 12°C	8.10	6.12

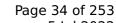




Cdh Tj = +12 °C	0.977	0.982
Pdh Tj = Tbiv	8.01 kW	7.50 kW
COP Tj = Tbiv	4.27	2.77
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.01 kW	7.51 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.27	2.77
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.993	0.982
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	1638 kWh	2172 kWh

# Colder Climate

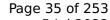
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





### EN 14825

	Low temperature	Medium temperature
Pdesignh	18.17 kW	17.31 kW
$\eta_{s}$	157 %	122 %
Prated	18.17 kW	17.31 kW
SCOP	3.99	3.12
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.48 kW
COP Tj = -7°C	3.57	2.91
Cdh Tj = -7 °C	0.996	0.996
Pdh Tj = +2°C	6.88 kW	6.45 kW
COP Tj = +2°C	5.36	4.22
Cdh Tj = +2 °C	0.989	0.991
Pdh Tj = +7°C	4.43 kW	4.27 kW
COP Tj = +7°C	7.25	5.79
Cdh Tj = +7 °C	0.978	0.982
Pdh Tj = 12°C	4.71 kW	4.60 kW
COP Tj = 12°C	8.53	7.20
Cdh Tj = +12 °C	0.975	0.979
Pdh Tj = Tbiv	11.00 kW	10.48 kW

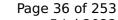




COP Tj = Tbiv	3.57	2.91
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.74 kW	8.08 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.17	1.48
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.996	0.996
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	17.22 kW	16.40 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	11230 kWh	13042 kWh

# **Average Climate**

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





	Low temperature	Medium temperature
Pdesignh	12.48 kW	11.59 kW
$\eta_{s}$	202 %	151 %
Prated	12.48 kW	11.59 kW
SCOP	5.12	3.85
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.04 kW	10.25 kW
COP Tj = -7°C	3.29	2.50
Cdh Tj = -7 °C	0.996	0.997
Pdh Tj = +2°C	6.98 kW	6.50 kW
$COP Tj = +2^{\circ}C$	4.92	3.67
Cdh Tj = +2 °C	0.990	0.992
Pdh Tj = +7°C	4.39 kW	3.96 kW
$COP Tj = +7^{\circ}C$	6.76	5.04
Cdh Tj = +7 °C	0.979	0.983
Pdh Tj = 12°C	4.71 kW	4.69 kW
COP Tj = 12°C	8.55	6.97
Cdh Tj = +12 °C	0.975	0.980
Pdh Tj = Tbiv	11.04 kW	10.25 kW
COP Tj = Tbiv	3.29	2.50



#### Page 37 of 253

## This information was generated by the HP KEYMARK database on 5 Jul 2022

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.18 kW	10.52 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.00	2.06
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.30 kW	1.07 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	5035 kWh	6217 kWh



## **Model: NIMBUS POCKET 120 M NET R32**

Configure model		
Model name NIMBUS POCKET 120 M NET R32		
Application	Heating (medium temp)	
Units	Indoor + Outdoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	Yes	
Cooling mode application (optional)	+7°C/12°C	

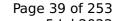
General Data		
Power supply	1x230V 50Hz	

## Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	12.00 kW	7.67 kW
El input	2.45 kW	2.39 kW
СОР	4.90	3.21

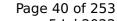
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

# Cooling





EN 14511-2		
	+7°C/+12°C	+18°C/+23°C
El input	2.87 kW	
Cooling capacity	9.05	
EER	3.15	2.93





	+7°C/+12°C
Pdesignc	9.05 kW
SEER	5.40
Pdc Tj = 35°C	9.05 kW
EER Tj = 35°C	3.15
Pdc Tj = 30°C	6.86 kW
EER Tj = 30°C	4.72
Cdc Tj = 30 °C	0.99
Pdc Tj = 25°C	4.31 kW
EER Tj = 25°C	6.14
Cdc Tj = 25 °C	0.98
Pdc Tj = 20°C	4.45 kW
EER Tj = 20°C	7.5
Cdc Tj = 20 °C	0.98
Poff	14 W
РТО	14 W
PSB	14 W
PCK	o w
Annual energy consumption Qce	1541 kWh

## Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.83 kW	6.46 kW
$\eta_{s}$	262 %	178 %
Prated	6.83 kW	6.46 kW
SCOP	6.62	4.51
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	6.83 kW	6.46 kW
COP Tj = +2°C	4.37	2.72
Cdh Tj = +2 °C	0.991	0.994
Pdh Tj = +7°C	4.48 kW	4.39 kW
COP Tj = +7°C	5.96	3.77
Cdh Tj = +7 °C	0.982	0.988
Pdh Tj = 12°C	4.72 kW	4.65 kW
COP Tj = 12°C	8.22	6.02

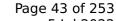




Cdh Tj = +12 °C	0.976	0.982
Pdh Tj = Tbiv	6.83 kW	6.46 kW
COP Tj = Tbiv	4.37	2.72
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.83 kW	6.46 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.37	2.72
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.991	0.994
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	1378 kWh	1912 kWh

## Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





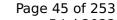
	Low temperature	Medium temperature
Pdesignh	15.33 kW	14.18 kW
$\eta_{s}$	160 %	129 %
Prated	15.33 kW	14.18 kW
SCOP	4.07	3.30
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	9.28 kW	8.58 kW
COP Tj = -7°C	3.74	2.94
Cdh Tj = -7 °C	0.995	0.995
Pdh Tj = +2°C	5.68 kW	5.42 kW
COP Tj = +2°C	5.38	4.26
Cdh Tj = +2 °C	0.987	0.989
Pdh Tj = +7°C	4.20 kW	4.09 kW
COP Tj = +7°C	7.39	5.83
Cdh Tj = +7 °C	0.976	0.981
Pdh Tj = 12°C	4.70 kW	4.72 kW
COP Tj = 12°C	8.75	7.21
Cdh Tj = +12 °C	0.975	0.979
Pdh Tj = Tbiv	9.28 kW	8.58 kW



COP Tj = Tbiv	3.74	2.94
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.41 kW	6.75 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.26	1.49
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.995
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	14.53 kW	13.43 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	9289 kWh	10591 kWh

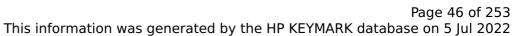
## **Average Climate**

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





	Low temperature	Medium temperature
Pdesignh	10.84 kW	9.42 kW
$\eta_{s}$	204 %	143 %
Prated	10.84 kW	9.42 kW
SCOP	5.16	3.65
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	9.59 kW	8.33 kW
COP Tj = -7°C	3.42	2.43
Cdh Tj = -7 °C	0.995	0.996
Pdh Tj = +2°C	5.74 kW	5.47 kW
COP Tj = +2°C	5.10	3.33
Cdh Tj = +2 °C	0.988	0.992
Pdh Tj = +7°C	4.16 kW	3.98 kW
COP Tj = +7°C	6.88	5.04
Cdh Tj = +7 °C	0.978	0.983
Pdh Tj = 12°C	4.71 kW	4.75 kW
COP Tj = 12°C	8.66	6.86
Cdh Tj = +12 °C	0.975	0.980
Pdh Tj = Tbiv	9.59 kW	8.33 kW
COP Tj = Tbiv	3.42	2.43





This information has generated by the first that database on b just 202		
9.11 kW	8.68 kW	
3.09	2.11	
0.995	0.996	
60 °C	60 °C	
14 W	14 W	
Electricity	Electricity	
1.73 kW	0.74 kW	
6.00 kW	6.00 kW	
4338 kWh	5335 kWh	
	9.11 kW 3.09 0.995 60 °C 14 W 14 W 14 W 14 W 14 W 15 Electricity 1.73 kW 6.00 kW	



## **Model: NIMBUS POCKET 150 M NET R32**

Configure model		
Model name	NIMBUS POCKET 150 M NET R32	
Application	Heating (medium temp)	
Units	Indoor + Outdoor	
Climate Zone Colder Climate + Warmer Climate		
Reversibility	Yes	
Cooling mode application (optional)	+7°C/12°C	

General Data		
Power supply	1x230V 50Hz	

## Heating

EN 14511-2		
Low temperature Medium temperature		Medium temperature
Heat output	15.00 kW	9.50 kW
El input	3.19 kW	3.02 kW
СОР	4.70	3.15

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

# Cooling





EN 14511-2		
	+7°C/+12°C	+18°C/+23°C
El input	3.75 kW	
Cooling capacity	11	
EER	2.93	4.70





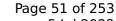
This information was generated by the fit	+7°C/+12°C
Pdesignc	11 kW
SEER	5.22
Pdc Tj = 35°C	11 kW
EER Tj = 35°C	2.93
Pdc Tj = 30°C	8.18 kW
EER Tj = 30°C	4.4
Cdc Tj = 30 °C	0.99
Pdc Tj = 25°C	5.23 kW
EER Tj = 25°C	5.77
Cdc Tj = 25 °C	0.99
Pdc Tj = 20°C	4.5 kW
EER Tj = 20°C	7.53
Cdc Tj = 20 °C	0.98
Poff	14 W
РТО	14 W
PSB	14 W
PCK	o w
Annual energy consumption Qce	1951 kWh

## Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	8.01 kW	7.50 kW
$\eta_{s}$	258 %	181 %
Prated	8.01 kW	7.50 kW
SCOP	6.53	4.61
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	8.01 kW	7.50 kW
COP Tj = +2°C	4.27	2.77
Cdh Tj = +2 °C	0.993	0.995
Pdh Tj = +7°C	5.33 kW	4.85 kW
COP Tj = +7°C	5.81	3.84
Cdh Tj = +7 °C	0.985	0.989
Pdh Tj = 12°C	4.72 kW	4.61 kW
COP Tj = 12°C	8.10	6.12

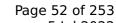




Cdh Tj = +12 °C	0.977	0.982
Pdh Tj = Tbiv	8.01 kW	7.50 kW
COP Tj = Tbiv	4.27	2.77
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.01 kW	7.51 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.27	2.77
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.993	0.982
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	1638 kWh	2172 kWh

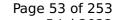
## Colder Climate

# EN 12102-1Low temperatureMedium temperatureSound power level indoor15 dB(A)15 dB(A)Sound power level outdoor58 dB(A)58 dB(A)





	Low temperature	Medium temperature
Pdesignh	18.17 kW	17.31 kW
$\eta_{s}$	157 %	122 %
Prated	18.17 kW	17.31 kW
SCOP	3.99	3.12
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.48 kW
COP Tj = -7°C	3.57	2.91
Cdh Tj = -7 °C	0.996	0.996
Pdh Tj = +2°C	6.88 kW	6.45 kW
COP Tj = +2°C	5.36	4.22
Cdh Tj = +2 °C	0.989	0.991
Pdh Tj = +7°C	4.43 kW	4.27 kW
COP Tj = +7°C	7.25	5.79
Cdh Tj = +7 °C	0.978	0.982
Pdh Tj = 12°C	4.71 kW	4.60 kW
COP Tj = 12°C	8.53	7.20
Cdh Tj = +12 °C	0.975	0.979
Pdh Tj = Tbiv	11.00 kW	10.48 kW

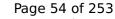




COP Tj = Tbiv	3.57	2.91
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.74 kW	8.08 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.17	1.48
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.996	0.996
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	17.22 kW	16.40 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	11230 kWh	13042 kWh

## **Average Climate**

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





	Low temperature	Medium temperature
Pdesignh	12.48 kW	11.59 kW
$\eta_{S}$	202 %	151 %
Prated	12.48 kW	11.59 kW
SCOP	5.12	3.85
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = $-7$ °C	11.04 kW	10.25 kW
COP Tj = $-7^{\circ}$ C	3.29	2.50
Cdh Tj = -7 °C	0.996	0.997
Pdh Tj = $+2^{\circ}$ C	6.98 kW	6.50 kW
$COP Tj = +2^{\circ}C$	4.92	3.67
Cdh Tj = +2 °C	0.990	0.992
Pdh Tj = $+7^{\circ}$ C	4.39 kW	3.96 kW
$COP Tj = +7^{\circ}C$	6.76	5.04
Cdh Tj = +7 °C	0.979	0.983
Pdh Tj = 12°C	4.71 kW	4.69 kW
COP Tj = 12°C	8.55	6.97
Cdh Tj = +12 °C	0.975	0.980
Pdh Tj = Tbiv	11.04 kW	10.25 kW
COP Tj = Tbiv	3.29	2.50



### Page 55 of 253

## This information was generated by the HP KEYMARK database on 5 Jul 2022

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.18 kW	10.52 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.00	2.06
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.30 kW	1.07 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	5035 kWh	6217 kWh

## **Model: NIMBUS POCKET 120 M-T NET R32**

Configure model		
Model name NIMBUS POCKET 120 M-T NET R32		
Application	Heating (medium temp)	
Units	Indoor + Outdoor	
Climate Zone	nate Zone Colder Climate + Warmer Climate	
Reversibility Yes		
Cooling mode application (optional) +7°C/12°C		

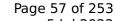
General Data		
Power supply	3x400V 50Hz	

## Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	12.00 kW	7.67 kW
El input	2.45 kW	2.39 kW
СОР	4.90	3.21

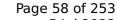
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

# Cooling





EN 14511-2		
	+7°C/+12°C	+18°C/+23°C
El input	2.87 kW	
Cooling capacity	9.05	
EER	3.15	2.93





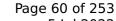
	+7°C/+12°C
Pdesignc	9.05 kW
SEER	5.40
Pdc Tj = 35°C	9.05 kW
EER Tj = 35°C	3.15
Pdc Tj = 30°C	6.86 kW
EER Tj = 30°C	4.72
Cdc Tj = 30 °C	0.99
Pdc Tj = 25°C	4.31 kW
EER Tj = 25°C	6.14
Cdc Tj = 25 °C	0.98
Pdc Tj = 20°C	4.45 kW
EER Tj = 20°C	7.5
Cdc Tj = 20 °C	0.98
Poff	14 W
PTO	14 W
PSB	14 W
PCK	0 W
Annual energy consumption Qce	1541 kWh

## Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.83 kW	6.46 kW
$\eta_{s}$	262 %	178 %
Prated	6.83 kW	6.46 kW
SCOP	6.62	4.51
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	6.83 kW	6.46 kW
COP Tj = +2°C	4.37	2.72
Cdh Tj = +2 °C	0.991	0.994
Pdh Tj = +7°C	4.48 kW	4.39 kW
COP Tj = +7°C	5.96	3.77
Cdh Tj = +7 °C	0.982	0.988
Pdh Tj = 12°C	4.72 kW	4.65 kW
COP Tj = 12°C	8.22	6.02

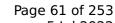




Cdh Tj = +12 °C	0.976	0.982
Pdh Tj = Tbiv	6.83 kW	6.46 kW
COP Tj = Tbiv	4.37	2.72
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.83 kW	6.46 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.37	2.72
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.991	0.994
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	1378 kWh	1912 kWh

## Colder Climate

# EN 12102-1Low temperatureMedium temperatureSound power level indoor15 dB(A)15 dB(A)Sound power level outdoor58 dB(A)58 dB(A)





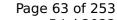
	Low temperature	Medium temperature
Pdesignh	15.33 kW	14.18 kW
$\eta_{s}$	160 %	129 %
Prated	15.33 kW	14.18 kW
SCOP	4.07	3.30
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	9.28 kW	8.58 kW
COP Tj = -7°C	3.74	2.94
Cdh Tj = -7 °C	0.995	0.995
Pdh Tj = +2°C	5.68 kW	5.42 kW
COP Tj = +2°C	5.38	4.26
Cdh Tj = +2 °C	0.987	0.989
Pdh Tj = +7°C	4.20 kW	4.09 kW
COP Tj = +7°C	7.39	5.83
Cdh Tj = +7 °C	0.976	0.981
Pdh Tj = 12°C	4.70 kW	4.72 kW
COP Tj = 12°C	8.75	7.21
Cdh Tj = +12 °C	0.975	0.979
Pdh Tj = Tbiv	9.28 kW	8.58 kW



COP Tj = Tbiv	3.74	2.94
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.41 kW	6.75 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.26	1.49
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.995
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	14.53 kW	13.43 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	9289 kWh	10591 kWh

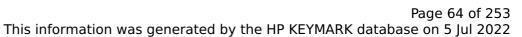
## **Average Climate**

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





	Low temperature	Medium temperature
Pdesignh	10.84 kW	9.42 kW
$\eta_{s}$	204 %	143 %
Prated	10.84 kW	9.42 kW
SCOP	5.16	3.65
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	9.59 kW	8.33 kW
COP Tj = -7°C	3.42	2.43
Cdh Tj = -7 °C	0.995	0.996
Pdh Tj = +2°C	5.74 kW	5.47 kW
COP Tj = +2°C	5.10	3.33
Cdh Tj = +2 °C	0.988	0.992
Pdh Tj = +7°C	4.16 kW	3.98 kW
COP Tj = +7°C	6.88	5.04
Cdh Tj = +7 °C	0.978	0.983
Pdh Tj = 12°C	4.71 kW	4.75 kW
COP Tj = 12°C	8.66	6.86
Cdh Tj = +12 °C	0.975	0.980
Pdh Tj = Tbiv	9.59 kW	8.33 kW
COP Tj = Tbiv	3.42	2.43





	, and database on s jai zoz
9.11 kW	8.68 kW
3.09	2.11
0.995	0.996
60 °C	60 °C
14 W	14 W
Electricity	Electricity
1.73 kW	0.74 kW
6.00 kW	6.00 kW
4338 kWh	5335 kWh
	9.11 kW 3.09 0.995 60 °C 14 W 14 W 14 W 14 W 14 W 15 Electricity 1.73 kW 6.00 kW



# **Model: NIMBUS POCKET 150 M-T NET R32**

Configure model		
Model name	NIMBUS POCKET 150 M-T NET R32	
Application	Heating (medium temp)	
Units	Indoor + Outdoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	Yes	
Cooling mode application (optional)	+7°C/12°C	

General Data		
Power supply	3x400V 50Hz	

## Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	15.00 kW	9.50 kW
El input	3.19 kW	3.02 kW
СОР	4.70	3.15

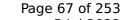
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

# Cooling





EN 14511-2		
	+7°C/+12°C	+18°C/+23°C
El input	3.75 kW	
Cooling capacity	11	
EER	2.93	4.70





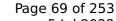
	+7°C/+12°C
Pdesignc	11 kW
SEER	5.22
Pdc Tj = 35°C	11 kW
EER Tj = 35°C	2.93
Pdc Tj = 30°C	8.18 kW
EER Tj = 30°C	4.4
Cdc Tj = 30 °C	0.99
Pdc Tj = 25°C	5.23 kW
EER Tj = 25°C	5.77
Cdc Tj = 25 °C	0.99
Pdc Tj = 20°C	4.5 kW
EER Tj = 20°C	7.53
Cdc Tj = 20 °C	0.98
Poff	14 W
РТО	14 W
PSB	14 W
PCK	0 W
Annual energy consumption Qce	1951 kWh

## Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	8.01 kW	7.50 kW
$\eta_{s}$	258 %	181 %
Prated	8.01 kW	7.50 kW
SCOP	6.53	4.61
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	8.01 kW	7.50 kW
COP Tj = +2°C	4.27	2.77
Cdh Tj = +2 °C	0.993	0.995
Pdh Tj = +7°C	5.33 kW	4.85 kW
COP Tj = +7°C	5.81	3.84
Cdh Tj = +7 °C	0.985	0.989
Pdh Tj = 12°C	4.72 kW	4.61 kW
COP Tj = 12°C	8.10	6.12

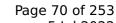




Cdh Tj = +12 °C	0.977	0.982
Pdh Tj = Tbiv	8.01 kW	7.50 kW
COP Tj = Tbiv	4.27	2.77
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.01 kW	7.51 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.27	2.77
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.993	0.982
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	1638 kWh	2172 kWh

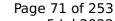
## Colder Climate

# EN 12102-1 Low temperature Medium temperature Sound power level indoor 15 dB(A) 15 dB(A) Sound power level outdoor 58 dB(A) 58 dB(A)





	Low temperature	Medium temperature
Pdesignh	18.17 kW	17.31 kW
$\eta_{s}$	157 %	122 %
Prated	18.17 kW	17.31 kW
SCOP	3.99	3.12
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.48 kW
COP Tj = -7°C	3.57	2.91
Cdh Tj = -7 °C	0.996	0.996
Pdh Tj = +2°C	6.88 kW	6.45 kW
COP Tj = +2°C	5.36	4.22
Cdh Tj = +2 °C	0.989	0.991
Pdh Tj = +7°C	4.43 kW	4.27 kW
COP Tj = +7°C	7.25	5.79
Cdh Tj = +7 °C	0.978	0.982
Pdh Tj = 12°C	4.71 kW	4.60 kW
COP Tj = 12°C	8.53	7.20
Cdh Tj = +12 °C	0.975	0.979
Pdh Tj = Tbiv	11.00 kW	10.48 kW





COP Tj = Tbiv	3.57	2.91
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.74 kW	8.08 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.17	1.48
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.996	0.996
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	17.22 kW	16.40 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	11230 kWh	13042 kWh

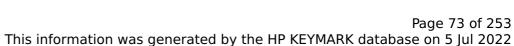
## **Average Climate**

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





	Low temperature	Medium temperature
Pdesignh	12.48 kW	11.59 kW
$\eta_{S}$	202 %	151 %
Prated	12.48 kW	11.59 kW
SCOP	5.12	3.85
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = $-7$ °C	11.04 kW	10.25 kW
$COP Tj = -7^{\circ}C$	3.29	2.50
Cdh Tj = -7 °C	0.996	0.997
Pdh Tj = $+2^{\circ}$ C	6.98 kW	6.50 kW
$COP Tj = +2^{\circ}C$	4.92	3.67
Cdh Tj = +2 °C	0.990	0.992
Pdh Tj = $+7^{\circ}$ C	4.39 kW	3.96 kW
$COPTj = +7^{\circ}C$	6.76	5.04
Cdh Tj = +7 °C	0.979	0.983
Pdh Tj = 12°C	4.71 kW	4.69 kW
COP Tj = 12°C	8.55	6.97
Cdh Tj = +12 °C	0.975	0.980
Pdh Tj = Tbiv	11.04 kW	10.25 kW
COP Tj = Tbiv	3.29	2.50



This information was gene		
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.18 kW	10.52 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.00	2.06
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.30 kW	1.07 kW
Backup Heater	6.00 kW	6.00 kW

5035 kWh

6217 kWh

CEN heat pump KEYMARK

Annual energy consumption Qhe



# **Model: ARIANEXT PLUS 120 M LINK R32**

Configure model		
Model name	ARIANEXT PLUS 120 M LINK R32	
Application	Heating (medium temp)	
Units	Indoor + Outdoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	Yes	
Cooling mode application (optional)	+7°C/12°C	

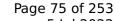
General Data		
Power supply	1x230V 50Hz	

# Heating

EN 14511-2		
Low temperature Medium temperature		Medium temperature
Heat output	12.00 kW	7.67 kW
El input	2.45 kW	2.39 kW
СОР	4.90	3.21

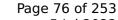
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Shatting on the heat transfer medium now	passeu
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

# Cooling





EN 14511-2		
	+7°C/+12°C	+18°C/+23°C
El input	2.87 kW	
Cooling capacity	9.05	
EER	3.15	2.93





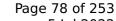
	+7°C/+12°C
Pdesignc	9.05 kW
SEER	5.40
Pdc Tj = 35°C	9.05 kW
EER Tj = 35°C	3.15
Pdc Tj = 30°C	6.86 kW
EER Tj = 30°C	4.72
Cdc Tj = 30 °C	0.99
Pdc Tj = 25°C	4.31 kW
EER Tj = 25°C	6.14
Cdc Tj = 25 °C	0.98
Pdc Tj = 20°C	4.45 kW
EER Tj = 20°C	7.5
Cdc Tj = 20 °C	0.98
Poff	14 W
РТО	14 W
PSB	14 W
PCK	o w
Annual energy consumption Qce	1541 kWh

# Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.83 kW	6.46 kW
$\eta_{s}$	262 %	178 %
Prated	6.83 kW	6.46 kW
SCOP	6.62	4.51
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	6.83 kW	6.46 kW
COP Tj = +2°C	4.37	2.72
Cdh Tj = +2 °C	0.991	0.994
Pdh Tj = +7°C	4.48 kW	4.39 kW
COP Tj = +7°C	5.96	3.77
Cdh Tj = +7 °C	0.982	0.988
Pdh Tj = 12°C	4.72 kW	4.65 kW
COP Tj = 12°C	8.22	6.02

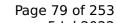




Cdh Tj = +12 °C	0.976	0.982
Pdh Tj = Tbiv	6.83 kW	6.46 kW
COP Tj = Tbiv	4.37	2.72
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.83 kW	6.46 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.37	2.72
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.991	0.994
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	1378 kWh	1912 kWh

## Colder Climate

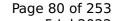
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





### EN 14825

	Low temperature	Medium temperature
Pdesignh	15.33 kW	14.18 kW
$\eta_{s}$	160 %	129 %
Prated	15.33 kW	14.18 kW
SCOP	4.07	3.30
ГЬіν	-7 °C	-7 °C
ГОL	-20 °C	-20 °C
Pdh Tj = -7°C	9.28 kW	8.58 kW
COP Tj = -7°C	3.74	2.94
Cdh Tj = -7 °C	0.995	0.995
Pdh Tj = +2°C	5.68 kW	5.42 kW
COP Tj = +2°C	5.38	4.26
Cdh Tj = +2 °C	0.987	0.989
Pdh Tj = +7°C	4.20 kW	4.09 kW
COP Tj = +7°C	7.39	5.83
Cdh Tj = +7 °C	0.976	0.981
Pdh Tj = 12°C	4.70 kW	4.72 kW
COP Tj = 12°C	8.75	7.21
Cdh Tj = +12 °C	0.975	0.979
Pdh Tj = Tbiv	9.28 kW	8.58 kW

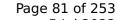




COP Tj = Tbiv	3.74	2.94
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.41 kW	6.75 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.26	1.49
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.995
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	14.53 kW	13.43 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	9289 kWh	10591 kWh

# **Average Climate**

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





	Low temperature	Medium temperature
Pdesignh	10.84 kW	9.42 kW
$\eta_{s}$	204 %	143 %
Prated	10.84 kW	9.42 kW
SCOP	5.16	3.65
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	9.59 kW	8.33 kW
$COP Tj = -7^{\circ}C$	3.42	2.43
Cdh Tj = -7 °C	0.995	0.996
Pdh Tj = $+2^{\circ}$ C	5.74 kW	5.47 kW
COP Tj = +2°C	5.10	3.33
Cdh Tj = +2 °C	0.988	0.992
Pdh Tj = $+7^{\circ}$ C	4.16 kW	3.98 kW
$COP Tj = +7^{\circ}C$	6.88	5.04
Cdh Tj = +7 °C	0.978	0.983
Pdh Tj = 12°C	4.71 kW	4.75 kW
COP Tj = 12°C	8.66	6.86
Cdh Tj = +12 °C	0.975	0.980
Pdh Tj = Tbiv	9.59 kW	8.33 kW
COP Tj = Tbiv	3.42	2.43





This information was gene	Tacea by the Thinkern	Takk database on 5 jul 202.
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.11 kW	8.68 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.09	2.11
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.996
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.73 kW	0.74 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	4338 kWh	5335 kWh

# **Model: ARIANEXT PLUS 120 M-T LINK R32**

Configure model		
Model name	ARIANEXT PLUS 120 M-T LINK R32	
Application	Heating (medium temp)	
Units	Indoor + Outdoor	
Climate Zone Colder Climate + Warmer Climate		
Reversibility Yes		
Cooling mode application (optional)	+7°C/12°C	

General Data		
Power supply	3x400V 50Hz	

# Heating

EN 14511-2		
Low temperature Medium temperature		Medium temperature
Heat output	12.00 kW	7.67 kW
El input	2.45 kW	2.39 kW
СОР	4.90	3.21

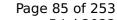
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

# Cooling





EN 14511-2		
	+7°C/+12°C	+18°C/+23°C
El input	2.87 kW	
Cooling capacity	9.05	
EER	3.15	2.93





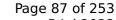
	+7°C/+12°C
Pdesignc	9.05 kW
SEER	5.40
Pdc Tj = 35°C	9.05 kW
EER Tj = 35°C	3.15
Pdc Tj = 30°C	6.86 kW
EER Tj = 30°C	4.72
Cdc Tj = 30 °C	0.99
Pdc Tj = 25°C	4.31 kW
EER Tj = 25°C	6.14
Cdc Tj = 25 °C	0.98
Pdc Tj = 20°C	4.45 kW
EER Tj = 20°C	7.5
Cdc Tj = 20 °C	0.98
Poff	14 W
РТО	14 W
PSB	14 W
PCK	o w
Annual energy consumption Qce	1541 kWh

## Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.83 kW	6.46 kW
$\eta_{s}$	262 %	178 %
Prated	6.83 kW	6.46 kW
SCOP	6.62	4.51
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	6.83 kW	6.46 kW
COP Tj = +2°C	4.37	2.72
Cdh Tj = +2 °C	0.991	0.994
Pdh Tj = +7°C	4.48 kW	4.39 kW
COP Tj = +7°C	5.96	3.77
Cdh Tj = +7 °C	0.982	0.988
Pdh Tj = 12°C	4.72 kW	4.65 kW
COP Tj = 12°C	8.22	6.02

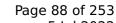




Cdh Tj = +12 °C	0.976	0.982
Pdh Tj = Tbiv	6.83 kW	6.46 kW
COP Tj = Tbiv	4.37	2.72
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.83 kW	6.46 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.37	2.72
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.991	0.994
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	1378 kWh	1912 kWh

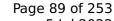
## Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





	Low temperature	Medium temperature
Pdesignh	15.33 kW	14.18 kW
$\eta_{s}$	160 %	129 %
Prated	15.33 kW	14.18 kW
SCOP	4.07	3.30
ГЬіν	-7 °C	-7 °C
ГОL	-20 °C	-20 °C
Pdh Tj = -7°C	9.28 kW	8.58 kW
COP Tj = -7°C	3.74	2.94
Cdh Tj = -7 °C	0.995	0.995
Pdh Tj = +2°C	5.68 kW	5.42 kW
COP Tj = +2°C	5.38	4.26
Cdh Tj = +2 °C	0.987	0.989
Pdh Tj = +7°C	4.20 kW	4.09 kW
COP Tj = +7°C	7.39	5.83
Cdh Tj = +7 °C	0.976	0.981
Pdh Tj = 12°C	4.70 kW	4.72 kW
COP Tj = 12°C	8.75	7.21
Cdh Tj = +12 °C	0.975	0.979
Pdh Tj = Tbiv	9.28 kW	8.58 kW

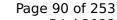




COP Tj = Tbiv	3.74	2.94
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.41 kW	6.75 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.26	1.49
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.995
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	14.53 kW	13.43 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	9289 kWh	10591 kWh

# **Average Climate**

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





	Low temperature	Medium temperature
Pdesignh	10.84 kW	9.42 kW
$\eta_{s}$	204 %	143 %
Prated	10.84 kW	9.42 kW
SCOP	5.16	3.65
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	9.59 kW	8.33 kW
$COP Tj = -7^{\circ}C$	3.42	2.43
Cdh Tj = -7 °C	0.995	0.996
Pdh Tj = $+2^{\circ}$ C	5.74 kW	5.47 kW
COP Tj = +2°C	5.10	3.33
Cdh Tj = +2 °C	0.988	0.992
Pdh Tj = $+7^{\circ}$ C	4.16 kW	3.98 kW
$COP Tj = +7^{\circ}C$	6.88	5.04
Cdh Tj = +7 °C	0.978	0.983
Pdh Tj = 12°C	4.71 kW	4.75 kW
COP Tj = 12°C	8.66	6.86
Cdh Tj = +12 °C	0.975	0.980
Pdh Tj = Tbiv	9.59 kW	8.33 kW
COP Tj = Tbiv	3.42	2.43



### Page 91 of 253

### This information was generated by the HP KEYMARK database on 5 Jul 2022

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.11 kW	8.68 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.09	2.11
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.996
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.73 kW	0.74 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	4338 kWh	5335 kWh



# **Model: ARIANEXT PLUS 150 M LINK R32**

Configure model		
Model name	ARIANEXT PLUS 150 M LINK R32	
Application	Heating (medium temp)	
Units	Indoor + Outdoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	Yes	
Cooling mode application (optional)	+7°C/12°C	

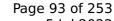
General Data		
Power supply 1x230V 50Hz		

# Heating

EN 14511-2			
Low temperature Medium temperature			
Heat output	15.00 kW	9.50 kW	
El input	3.19 kW	3.02 kW	
СОР	4.70	3.15	

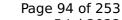
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

# Cooling





EN 14511-2		
	+7°C/+12°C	+18°C/+23°C
El input	3.75 kW	
Cooling capacity	11	
EER	2.93	4.70





	+7°C/+12°C
Pdesignc	11 kW
SEER	5.22
Pdc Tj = 35°C	11 kW
EER Tj = 35°C	2.93
Pdc Tj = 30°C	8.18 kW
EER Tj = 30°C	4.4
Cdc Tj = 30 °C	0.99
Pdc Tj = 25°C	5.23 kW
EER Tj = 25°C	5.77
Cdc Tj = 25 °C	0.99
Pdc Tj = 20°C	4.5 kW
EER Tj = 20°C	7.53
Cdc Tj = 20 °C	0.98
Poff	14 W
PTO	14 W
PSB	14 W
PCK	0 W
Annual energy consumption Qce	1951 kWh

# Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	8.01 kW	7.50 kW
$\eta_{s}$	258 %	181 %
Prated	8.01 kW	7.50 kW
SCOP	6.53	4.61
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	8.01 kW	7.50 kW
COP Tj = +2°C	4.27	2.77
Cdh Tj = +2 °C	0.993	0.995
Pdh Tj = +7°C	5.33 kW	4.85 kW
COP Tj = +7°C	5.81	3.84
Cdh Tj = +7 °C	0.985	0.989
Pdh Tj = 12°C	4.72 kW	4.61 kW
COP Tj = 12°C	8.10	6.12

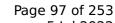




Cdh Tj = +12 °C	0.977	0.982
Pdh Tj = Tbiv	8.01 kW	7.50 kW
COP Tj = Tbiv	4.27	2.77
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.01 kW	7.51 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.27	2.77
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.993	0.982
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	1638 kWh	2172 kWh

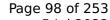
## Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





	Low temperature	Medium temperature
Pdesignh	18.17 kW	17.31 kW
$\eta_{s}$	157 %	122 %
Prated	18.17 kW	17.31 kW
SCOP	3.99	3.12
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.48 kW
COP Tj = -7°C	3.57	2.91
Cdh Tj = -7 °C	0.996	0.996
Pdh Tj = +2°C	6.88 kW	6.45 kW
COP Tj = +2°C	5.36	4.22
Cdh Tj = +2 °C	0.989	0.991
Pdh Tj = +7°C	4.43 kW	4.27 kW
COP Tj = +7°C	7.25	5.79
Cdh Tj = +7 °C	0.978	0.982
Pdh Tj = 12°C	4.71 kW	4.60 kW
COP Tj = 12°C	8.53	7.20
Cdh Tj = +12 °C	0.975	0.979
Pdh Tj = Tbiv	11.00 kW	10.48 kW





COP Tj = Tbiv	3.57	2.91
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.74 kW	8.08 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.17	1.48
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.996	0.996
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	17.22 kW	16.40 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	11230 kWh	13042 kWh

# **Average Climate**

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





	Low temperature	Medium temperature
Pdesignh	12.48 kW	11.59 kW
$\eta_{S}$	202 %	151 %
Prated	12.48 kW	11.59 kW
SCOP	5.12	3.85
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = $-7$ °C	11.04 kW	10.25 kW
COP Tj = $-7^{\circ}$ C	3.29	2.50
Cdh Tj = -7 °C	0.996	0.997
Pdh Tj = $+2^{\circ}$ C	6.98 kW	6.50 kW
$COP Tj = +2^{\circ}C$	4.92	3.67
Cdh Tj = +2 °C	0.990	0.992
Pdh Tj = $+7^{\circ}$ C	4.39 kW	3.96 kW
$COP Tj = +7^{\circ}C$	6.76	5.04
Cdh Tj = +7 °C	0.979	0.983
Pdh Tj = 12°C	4.71 kW	4.69 kW
COP Tj = 12°C	8.55	6.97
Cdh Tj = +12 °C	0.975	0.980
Pdh Tj = Tbiv	11.04 kW	10.25 kW
COP Tj = Tbiv	3.29	2.50



### Page 100 of 253

### This information was generated by the HP KEYMARK database on 5 Jul 2022

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.18 kW	10.52 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.00	2.06
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.30 kW	1.07 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	5035 kWh	6217 kWh

# **Model: ARIANEXT PLUS 150 M-T LINK R32**

Configure model		
Model name	ARIANEXT PLUS 150 M-T LINK R32	
Application	Heating (medium temp)	
Units	Indoor + Outdoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	Yes	
Cooling mode application (optional)	+7°C/12°C	

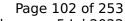
General Data		
Power supply	3x400V 50Hz	

# Heating

EN 14511-2				
Low temperature Medium temperature				
Heat output	15.00 kW	9.50 kW		
El input	3.19 kW	3.02 kW		
СОР	4.70	3.15		

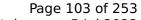
EN 14511-4		
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	
Defrost test	passed	
Starting and operating test	passed	

# Cooling





EN 14511-2		
	+7°C/+12°C	+18°C/+23°C
El input	3.75 kW	
Cooling capacity	11	
EER	2.93	4.70





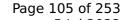
	+7°C/+12°C
Pdesignc	11 kW
SEER	5.22
Pdc Tj = 35°C	11 kW
EER Tj = 35°C	2.93
Pdc Tj = 30°C	8.18 kW
EER Tj = 30°C	4.4
Cdc Tj = 30 °C	0.99
Pdc Tj = 25°C	5.23 kW
EER Tj = 25°C	5.77
Cdc Tj = 25 °C	0.99
Pdc Tj = 20°C	4.5 kW
EER Tj = 20°C	7.53
Cdc Tj = 20 °C	0.98
Poff	14 W
РТО	14 W
PSB	14 W
PCK	0 W
Annual energy consumption Qce	1951 kWh

## Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	8.01 kW	7.50 kW
$\eta_{s}$	258 %	181 %
Prated	8.01 kW	7.50 kW
SCOP	6.53	4.61
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	8.01 kW	7.50 kW
COP Tj = +2°C	4.27	2.77
Cdh Tj = +2 °C	0.993	0.995
Pdh Tj = +7°C	5.33 kW	4.85 kW
COP Tj = +7°C	5.81	3.84
Cdh Tj = +7 °C	0.985	0.989
Pdh Tj = 12°C	4.72 kW	4.61 kW
COP Tj = 12°C	8.10	6.12

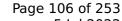




Cdh Tj = +12 °C	0.977	0.982
Pdh Tj = Tbiv	8.01 kW	7.50 kW
COP Tj = Tbiv	4.27	2.77
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.01 kW	7.51 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.27	2.77
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.993	0.982
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	1638 kWh	2172 kWh

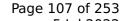
## Colder Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	35 dB(A)	35 dB(A)	
Sound power level outdoor	58 dB(A)	58 dB(A)	





	Low temperature	Medium temperature
Pdesignh	18.17 kW	17.31 kW
$\eta_{s}$	157 %	122 %
Prated	18.17 kW	17.31 kW
SCOP	3.99	3.12
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.48 kW
COP Tj = -7°C	3.57	2.91
Cdh Tj = -7 °C	0.996	0.996
Pdh Tj = +2°C	6.88 kW	6.45 kW
COP Tj = +2°C	5.36	4.22
Cdh Tj = +2 °C	0.989	0.991
Pdh Tj = +7°C	4.43 kW	4.27 kW
COP Tj = +7°C	7.25	5.79
Cdh Tj = +7 °C	0.978	0.982
Pdh Tj = 12°C	4.71 kW	4.60 kW
COP Tj = 12°C	8.53	7.20
Cdh Tj = +12 °C	0.975	0.979
Pdh Tj = Tbiv	11.00 kW	10.48 kW

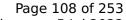




COP Tj = Tbiv	3.57	2.91
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.74 kW	8.08 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.17	1.48
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.996	0.996
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	17.22 kW	16.40 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	11230 kWh	13042 kWh

# **Average Climate**

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	35 dB(A)	35 dB(A)	
Sound power level outdoor	58 dB(A)	58 dB(A)	





	Low temperature	Medium temperature
Pdesignh	12.48 kW	11.59 kW
$\eta_{S}$	202 %	151 %
Prated	12.48 kW	11.59 kW
SCOP	5.12	3.85
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = $-7$ °C	11.04 kW	10.25 kW
COP Tj = $-7^{\circ}$ C	3.29	2.50
Cdh Tj = -7 °C	0.996	0.997
Pdh Tj = $+2^{\circ}$ C	6.98 kW	6.50 kW
$COP Tj = +2^{\circ}C$	4.92	3.67
Cdh Tj = +2 °C	0.990	0.992
Pdh Tj = $+7^{\circ}$ C	4.39 kW	3.96 kW
$COP Tj = +7^{\circ}C$	6.76	5.04
Cdh Tj = +7 °C	0.979	0.983
Pdh Tj = 12°C	4.71 kW	4.69 kW
COP Tj = 12°C	8.55	6.97
Cdh Tj = +12 °C	0.975	0.980
Pdh Tj = Tbiv	11.04 kW	10.25 kW
COP Tj = Tbiv	3.29	2.50



## Page 109 of 253

## This information was generated by the HP KEYMARK database on 5 Jul 2022

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.18 kW	10.52 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.00	2.06
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.30 kW	1.07 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	5035 kWh	6217 kWh

# **Model: ARIANEXT LITE 120 M LINK R32**

Configure model		
Model name ARIANEXT LITE 120 M LINK R32		
Application	Heating (medium temp)	
Units	Indoor + Outdoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	Yes	
Cooling mode application (optional)	+7°C/12°C	

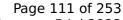
General Data		
Power supply 1x230V 50Hz		

# Heating

EN 14511-2		
Low temperature Medium temperature		
Heat output	12.00 kW	7.67 kW
El input	2.45 kW	2.39 kW
СОР	4.90	3.21

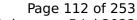
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

# Cooling





EN 14511-2		
	+7°C/+12°C	+18°C/+23°C
El input	2.87 kW	
Cooling capacity	9.05	
EER	3.15	2.93





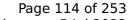
	+7°C/+12°C
Pdesignc	9.05 kW
SEER	5.40
Pdc Tj = 35°C	9.05 kW
EER Tj = 35°C	3.15
Pdc Tj = 30°C	6.86 kW
EER Tj = 30°C	4.72
Cdc Tj = 30 °C	0.99
Pdc Tj = 25°C	4.31 kW
EER Tj = 25°C	6.14
Cdc Tj = 25 °C	0.98
Pdc Tj = 20°C	4.45 kW
EER Tj = 20°C	7.5
Cdc Tj = 20 °C	0.98
Poff	14 W
РТО	14 W
PSB	14 W
PCK	o w
Annual energy consumption Qce	1541 kWh

# Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.83 kW	6.46 kW
$\eta_{s}$	262 %	178 %
Prated	6.83 kW	6.46 kW
SCOP	6.62	4.51
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	6.83 kW	6.46 kW
COP Tj = +2°C	4.37	2.72
Cdh Tj = +2 °C	0.991	0.994
Pdh Tj = +7°C	4.48 kW	4.39 kW
COP Tj = +7°C	5.96	3.77
Cdh Tj = +7 °C	0.982	0.988
Pdh Tj = 12°C	4.72 kW	4.65 kW
COP Tj = 12°C	8.22	6.02

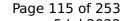




Cdh Tj = +12 °C	0.976	0.982
Pdh Tj = Tbiv	6.83 kW	6.46 kW
COP Tj = Tbiv	4.37	2.72
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.83 kW	6.46 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.37	2.72
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.991	0.994
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	1378 kWh	1912 kWh

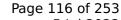
## Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





	Low temperature	Medium temperature
Pdesignh	15.33 kW	14.18 kW
$\eta_{s}$	160 %	129 %
Prated	15.33 kW	14.18 kW
SCOP	4.07	3.30
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	9.28 kW	8.58 kW
COP Tj = -7°C	3.74	2.94
Cdh Tj = -7 °C	0.995	0.995
Pdh Tj = +2°C	5.68 kW	5.42 kW
COP Tj = +2°C	5.38	4.26
Cdh Tj = +2 °C	0.987	0.989
Pdh Tj = +7°C	4.20 kW	4.09 kW
COP Tj = +7°C	7.39	5.83
Cdh Tj = +7 °C	0.976	0.981
Pdh Tj = 12°C	4.70 kW	4.72 kW
COP Tj = 12°C	8.75	7.21
Cdh Tj = +12 °C	0.975	0.979
Pdh Tj = Tbiv	9.28 kW	8.58 kW

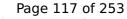




COP Tj = Tbiv	3.74	2.94
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.41 kW	6.75 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.26	1.49
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.995
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	14.53 kW	13.43 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	9289 kWh	10591 kWh

# **Average Climate**

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





	Low temperature	Medium temperature
Pdesignh	10.84 kW	9.42 kW
$\eta_{s}$	204 %	143 %
Prated	10.84 kW	9.42 kW
SCOP	5.16	3.65
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	9.59 kW	8.33 kW
COP Tj = -7°C	3.42	2.43
Cdh Tj = -7 °C	0.995	0.996
Pdh Tj = +2°C	5.74 kW	5.47 kW
COP Tj = +2°C	5.10	3.33
Cdh Tj = +2 °C	0.988	0.992
Pdh Tj = +7°C	4.16 kW	3.98 kW
COP Tj = +7°C	6.88	5.04
Cdh Tj = +7 °C	0.978	0.983
Pdh Tj = 12°C	4.71 kW	4.75 kW
COP Tj = 12°C	8.66	6.86
Cdh Tj = +12 °C	0.975	0.980
Pdh Tj = Tbiv	9.59 kW	8.33 kW
COP Tj = Tbiv	3.42	2.43



Page 118 of 253

## This information was generated by the HP KEYMARK database on 5 Jul 2022

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.11 kW	8.68 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.09	2.11
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.996
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.73 kW	0.74 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	4338 kWh	5335 kWh

# **Model: ARIANEXT LITE 120 M-T LINK R32**

Configure model		
Model name	ARIANEXT LITE 120 M-T LINK R32	
Application	Heating (medium temp)	
Units	Indoor + Outdoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	Yes	
Cooling mode application (optional)	+7°C/12°C	

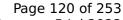
General Data		
Power supply	3x400V 50Hz	

# Heating

EN 14511-2			
	Low temperature	Medium temperature	
Heat output	12.00 kW	7.67 kW	
El input	2.45 kW	2.39 kW	
СОР	4.90	3.21	

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

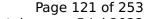
# Cooling





EN 14511-2		
	+7°C/+12°C	+18°C/+23°C
El input	2.87 kW	
Cooling capacity	9.05	
EER	3.15	2.93

## EN 14825





This information was generated by the HP KEYMARK database on 5 Jul 2022 +7°C/+12°C 9.05 kW **Pdesignc SEER** 5.40  $Pdc Tj = 35^{\circ}C$ 9.05 kW EER Tj = 35°C 3.15  $Pdc Tj = 30^{\circ}C$ 6.86 kW 4.72 EER Tj = 30°C Cdc Tj = 30 °C0.99  $Pdc Tj = 25^{\circ}C$ 4.31 kW 6.14 EER Tj = 25°C 0.98 Cdc Tj = 25 °C $Pdc Tj = 20^{\circ}C$ 4.45 kW 7.5 EER Tj = 20°C Cdc Tj = 20 °C0.98 Poff 14 W PTO 14 W **PSB** 14 W **PCK** 0 W

## Warmer Climate

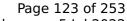
Annual energy consumption Qce

1541 kWh



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.83 kW	6.46 kW
$\eta_{s}$	262 %	178 %
Prated	6.83 kW	6.46 kW
SCOP	6.62	4.51
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	6.83 kW	6.46 kW
COP Tj = +2°C	4.37	2.72
Cdh Tj = +2 °C	0.991	0.994
Pdh Tj = +7°C	4.48 kW	4.39 kW
COP Tj = +7°C	5.96	3.77
Cdh Tj = +7 °C	0.982	0.988
Pdh Tj = 12°C	4.72 kW	4.65 kW
COP Tj = 12°C	8.22	6.02

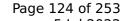




Cdh Tj = +12 °C	0.976	0.982
Pdh Tj = Tbiv	6.83 kW	6.46 kW
COP Tj = Tbiv	4.37	2.72
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.83 kW	6.46 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.37	2.72
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.991	0.994
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	1378 kWh	1912 kWh

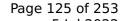
## Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





	Low temperature	Medium temperature
Pdesignh	15.33 kW	14.18 kW
$\eta_{s}$	160 %	129 %
Prated	15.33 kW	14.18 kW
SCOP	4.07	3.30
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	9.28 kW	8.58 kW
$COP Tj = -7^{\circ}C$	3.74	2.94
Cdh Tj = -7 °C	0.995	0.995
Pdh Tj = +2°C	5.68 kW	5.42 kW
COP Tj = +2°C	5.38	4.26
Cdh Tj = +2 °C	0.987	0.989
Pdh Tj = $+7^{\circ}$ C	4.20 kW	4.09 kW
$COPTj = +7^{\circ}C$	7.39	5.83
Cdh Tj = +7 °C	0.976	0.981
Pdh Tj = 12°C	4.70 kW	4.72 kW
COP Tj = 12°C	8.75	7.21
Cdh Tj = +12 °C	0.975	0.979
Pdh Tj = Tbiv	9.28 kW	8.58 kW
	•	•

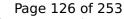




COP Tj = Tbiv	3.74	2.94
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.41 kW	6.75 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.26	1.49
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.995
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	14.53 kW	13.43 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	9289 kWh	10591 kWh

# **Average Climate**

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





	Low temperature	Medium temperature
Pdesignh	10.84 kW	9.42 kW
$\eta_{s}$	204 %	143 %
Prated	10.84 kW	9.42 kW
SCOP	5.16	3.65
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = $-7^{\circ}$ C	9.59 kW	8.33 kW
$COP Tj = -7^{\circ}C$	3.42	2.43
Cdh Tj = -7 °C	0.995	0.996
Pdh Tj = $+2^{\circ}$ C	5.74 kW	5.47 kW
$COP Tj = +2^{\circ}C$	5.10	3.33
Cdh Tj = +2 °C	0.988	0.992
Pdh Tj = $+7^{\circ}$ C	4.16 kW	3.98 kW
$COP Tj = +7^{\circ}C$	6.88	5.04
Cdh Tj = $+7$ °C	0.978	0.983
Pdh Tj = 12°C	4.71 kW	4.75 kW
COP Tj = 12°C	8.66	6.86
Cdh Tj = +12 °C	0.975	0.980
Pdh Tj = Tbiv	9.59 kW	8.33 kW
COP Tj = Tbiv	3.42	2.43
	1	I



Page 127 of 253

## This information was generated by the HP KEYMARK database on 5 Jul 2022

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.11 kW	8.68 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.09	2.11
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.996
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.73 kW	0.74 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	4338 kWh	5335 kWh

# **Model: ARIANEXT LITE 150 M LINK R32**

Configure model		
Model name	ARIANEXT LITE 150 M LINK R32	
Application	Heating (medium temp)	
Units	Indoor + Outdoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	Yes	
Cooling mode application (optional)	+7°C/12°C	

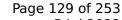
General Data		
Power supply	1x230V 50Hz	

# Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	15.00 kW	9.50 kW
El input	3.19 kW	3.02 kW
СОР	4.70	3.15

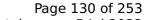
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

# Cooling





EN 14511-2		
	+7°C/+12°C	+18°C/+23°C
El input	3.75 kW	
Cooling capacity	11	
EER	2.93	4.70





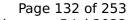
	+7°C/+12°C
Pdesignc	11 kW
SEER	5.22
Pdc Tj = 35°C	11 kW
EER Tj = 35°C	2.93
Pdc Tj = 30°C	8.18 kW
EER Tj = 30°C	4.4
Cdc Tj = 30 °C	0.99
Pdc Tj = 25°C	5.23 kW
EER Tj = 25°C	5.77
Cdc Tj = 25 °C	0.99
Pdc Tj = 20°C	4.5 kW
EER Tj = 20°C	7.53
Cdc Tj = 20 °C	0.98
Poff	14 W
РТО	14 W
PSB	14 W
PCK	0 W
Annual energy consumption Qce	1951 kWh

## Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	8.01 kW	7.50 kW
$\eta_{s}$	258 %	181 %
Prated	8.01 kW	7.50 kW
SCOP	6.53	4.61
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	8.01 kW	7.50 kW
COP Tj = +2°C	4.27	2.77
Cdh Tj = +2 °C	0.993	0.995
Pdh Tj = +7°C	5.33 kW	4.85 kW
COP Tj = +7°C	5.81	3.84
Cdh Tj = +7 °C	0.985	0.989
Pdh Tj = 12°C	4.72 kW	4.61 kW
COP Tj = 12°C	8.10	6.12

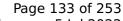




	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
Cdh Tj = +12 °C	0.977	0.982
Pdh Tj = Tbiv	8.01 kW	7.50 kW
COP Tj = Tbiv	4.27	2.77
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.01 kW	7.51 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.27	2.77
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.993	0.982
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	1638 kWh	2172 kWh

## Colder Climate

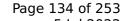
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





## EN 14825

	Low temperature	Medium temperature
Pdesignh	18.17 kW	17.31 kW
$\eta_{s}$	157 %	122 %
Prated	18.17 kW	17.31 kW
SCOP	3.99	3.12
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.48 kW
COP Tj = -7°C	3.57	2.91
Cdh Tj = -7 °C	0.996	0.996
Pdh Tj = +2°C	6.88 kW	6.45 kW
COP Tj = +2°C	5.36	4.22
Cdh Tj = +2 °C	0.989	0.991
Pdh Tj = +7°C	4.43 kW	4.27 kW
COP Tj = +7°C	7.25	5.79
Cdh Tj = +7 °C	0.978	0.982
Pdh Tj = 12°C	4.71 kW	4.60 kW
COP Tj = 12°C	8.53	7.20
Cdh Tj = +12 °C	0.975	0.979
Pdh Tj = Tbiv	11.00 kW	10.48 kW





COP Tj = Tbiv	3.57	2.91
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.74 kW	8.08 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.17	1.48
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.996	0.996
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	17.22 kW	16.40 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	11230 kWh	13042 kWh

# **Average Climate**

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





	Low temperature	Medium temperature
Pdesignh	12.48 kW	11.59 kW
$\eta_{s}$	202 %	151 %
Prated	12.48 kW	11.59 kW
SCOP	5.12	3.85
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.04 kW	10.25 kW
COP Tj = -7°C	3.29	2.50
Cdh Tj = -7 °C	0.996	0.997
Pdh Tj = +2°C	6.98 kW	6.50 kW
COP Tj = +2°C	4.92	3.67
Cdh Tj = +2 °C	0.990	0.992
Pdh Tj = $+7^{\circ}$ C	4.39 kW	3.96 kW
COP Tj = +7°C	6.76	5.04
Cdh Tj = +7 °C	0.979	0.983
Pdh Tj = 12°C	4.71 kW	4.69 kW
COP Tj = 12°C	8.55	6.97
Cdh Tj = +12 °C	0.975	0.980
Pdh Tj = Tbiv	11.04 kW	10.25 kW
COP Tj = Tbiv	3.29	2.50



## Page 136 of 253

## This information was generated by the HP KEYMARK database on 5 Jul 2022

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.18 kW	10.52 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.00	2.06
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.30 kW	1.07 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	5035 kWh	6217 kWh

# **Model: ARIANEXT LITE 150 M-T LINK R32**

Configure model		
Model name	ARIANEXT LITE 150 M-T LINK R32	
Application	Heating (medium temp)	
Units	Indoor + Outdoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	Yes	
Cooling mode application (optional)	+7°C/12°C	

General Data		
Power supply	3x400V 50Hz	

# Heating

EN 14511-2		
Low temperature Medium temperature		
Heat output	15.00 kW	9.50 kW
El input	3.19 kW	3.02 kW
СОР	4.70	3.15

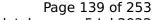
EN 14511-4		
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	
Defrost test	passed	
Starting and operating test	passed	

# Cooling





EN 14511-2		
	+7°C/+12°C	+18°C/+23°C
El input	3.75 kW	
Cooling capacity	11	
EER	2.93	4.70





This information was generated by the HP KEYMARK database on 5 Jul 2022 +7°C/+12°C **Pdesignc** 11 kW **SEER** 5.22  $Pdc Tj = 35^{\circ}C$ 11 kW 2.93 EER Tj = 35°C  $Pdc Tj = 30^{\circ}C$ 8.18 kW EER Tj = 30°C 4.4 Cdc Tj = 30 °C0.99  $Pdc Tj = 25^{\circ}C$ 5.23 kW 5.77 EER Tj = 25°C Cdc Tj = 25 °C0.99  $Pdc Tj = 20^{\circ}C$ 4.5 kW 7.53 EER Tj = 20°C Cdc Tj = 20 °C0.98 Poff 14 W PTO 14 W **PSB** 14 W

## Warmer Climate

Annual energy consumption Qce

**PCK** 

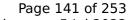
0 W

1951 kWh



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	8.01 kW	7.50 kW
$\eta_{s}$	258 %	181 %
Prated	8.01 kW	7.50 kW
SCOP	6.53	4.61
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	8.01 kW	7.50 kW
COP Tj = +2°C	4.27	2.77
Cdh Tj = +2 °C	0.993	0.995
Pdh Tj = +7°C	5.33 kW	4.85 kW
COP Tj = +7°C	5.81	3.84
Cdh Tj = +7 °C	0.985	0.989
Pdh Tj = 12°C	4.72 kW	4.61 kW
COP Tj = 12°C	8.10	6.12

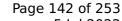




Cdh Tj = +12 °C	0.977	0.982
Pdh Tj = Tbiv	8.01 kW	7.50 kW
COP Tj = Tbiv	4.27	2.77
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.01 kW	7.51 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.27	2.77
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.993	0.982
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	1638 kWh	2172 kWh

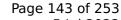
## Colder Climate

# EN 12102-1Low temperatureMedium temperatureSound power level indoor15 dB(A)15 dB(A)Sound power level outdoor58 dB(A)58 dB(A)





	Low temperature	Medium temperature
Pdesignh	18.17 kW	17.31 kW
$\eta_{s}$	157 %	122 %
Prated	18.17 kW	17.31 kW
SCOP	3.99	3.12
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.48 kW
COP Tj = -7°C	3.57	2.91
Cdh Tj = -7 °C	0.996	0.996
Pdh Tj = +2°C	6.88 kW	6.45 kW
COP Tj = +2°C	5.36	4.22
Cdh Tj = +2 °C	0.989	0.991
Pdh Tj = +7°C	4.43 kW	4.27 kW
COP Tj = +7°C	7.25	5.79
Cdh Tj = +7 °C	0.978	0.982
Pdh Tj = 12°C	4.71 kW	4.60 kW
COP Tj = 12°C	8.53	7.20
Cdh Tj = +12 °C	0.975	0.979
Pdh Tj = Tbiv	11.00 kW	10.48 kW

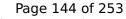




COP Tj = Tbiv	3.57	2.91
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.74 kW	8.08 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.17	1.48
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.996	0.996
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	17.22 kW	16.40 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	11230 kWh	13042 kWh

# **Average Climate**

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





	3 7 -	•
	Low temperature	Medium temperature
Pdesignh	12.48 kW	11.59 kW
$\eta_s$	202 %	151 %
Prated	12.48 kW	11.59 kW
SCOP	5.12	3.85
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.04 kW	10.25 kW
COP Tj = -7°C	3.29	2.50
Cdh Tj = -7 °C	0.996	0.997
Pdh Tj = +2°C	6.98 kW	6.50 kW
COP Tj = +2°C	4.92	3.67
Cdh Tj = +2 °C	0.990	0.992
Pdh Tj = +7°C	4.39 kW	3.96 kW
COP Tj = +7°C	6.76	5.04
Cdh Tj = +7 °C	0.979	0.983
Pdh Tj = 12°C	4.71 kW	4.69 kW
COP Tj = 12°C	8.55	6.97
Cdh Tj = +12 °C	0.975	0.980
Pdh Tj = Tbiv	11.04 kW	10.25 kW
COP Tj = Tbiv	3.29	2.50



### Page 145 of 253

## This information was generated by the HP KEYMARK database on 5 Jul 2022

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.18 kW	10.52 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.00	2.06
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.30 kW	1.07 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	5035 kWh	6217 kWh

# **Model: AEROTOP MONO 12.2 M-RX**

Configure model	
Model name	AEROTOP MONO 12.2 M-RX
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	+7°C/12°C

General Data		
Power supply	1x230V 50Hz	

# Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	12.00 kW	7.67 kW
El input	2.45 kW	2.39 kW
СОР	4.90	3.21

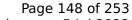
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

# Cooling





EN 14511-2		
	+7°C/+12°C	+18°C/+23°C
El input	2.87 kW	
Cooling capacity	9.05	
EER	3.15	2.93





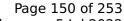
	+7°C/+12°C
Pdesignc	9.05 kW
SEER	5.40
Pdc Tj = 35°C	9.05 kW
EER Tj = 35°C	3.15
Pdc Tj = 30°C	6.86 kW
EER Tj = 30°C	4.72
Cdc Tj = 30 °C	0.99
Pdc Tj = 25°C	4.31 kW
EER Tj = 25°C	6.14
Cdc Tj = 25 °C	0.98
Pdc Tj = 20°C	4.45 kW
EER Tj = 20°C	7.5
Cdc Tj = 20 °C	0.98
Poff	14 W
РТО	14 W
PSB	14 W
PCK	o w
Annual energy consumption Qce	1541 kWh

# Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825			
Low temperature Medium temper			
Pdesignh	6.83 kW	6.46 kW	
$\eta_{s}$	262 %	178 %	
Prated	6.83 kW	6.46 kW	
SCOP	6.62	4.51	
Tbiv	2 °C	2 °C	
TOL	-20 °C	-20 °C	
Pdh Tj = +2°C	6.83 kW	6.46 kW	
COP Tj = +2°C	4.37	2.72	
Cdh Tj = +2 °C	0.991	0.994	
Pdh Tj = +7°C	4.48 kW	4.39 kW	
COP Tj = +7°C	5.96	3.77	
Cdh Tj = +7 °C	0.982	0.988	
Pdh Tj = 12°C	4.72 kW	4.65 kW	
COP Tj = 12°C	8.22	6.02	

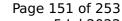




Cdh Tj = +12 °C	0.976	0.982
Pdh Tj = Tbiv	6.83 kW	6.46 kW
COP Tj = Tbiv	4.37	2.72
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.83 kW	6.46 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.37	2.72
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.991	0.994
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	1378 kWh	1912 kWh

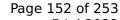
## Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





	Low temperature	Medium temperature
Pdesignh	15.33 kW	14.18 kW
$\eta_{s}$	160 %	129 %
Prated	15.33 kW	14.18 kW
SCOP	4.07	3.30
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	9.28 kW	8.58 kW
COP Tj = -7°C	3.74	2.94
Cdh Tj = -7 °C	0.995	0.995
Pdh Tj = +2°C	5.68 kW	5.42 kW
COP Tj = +2°C	5.38	4.26
Cdh Tj = +2 °C	0.987	0.989
Pdh Tj = +7°C	4.20 kW	4.09 kW
COP Tj = +7°C	7.39	5.83
Cdh Tj = +7 °C	0.976	0.981
Pdh Tj = 12°C	4.70 kW	4.72 kW
COP Tj = 12°C	8.75	7.21
Cdh Tj = +12 °C	0.975	0.979
Pdh Tj = Tbiv	9.28 kW	8.58 kW

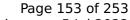




COP Tj = Tbiv	3.74	2.94
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.41 kW	6.75 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.26	1.49
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.995
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	14.53 kW	13.43 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	9289 kWh	10591 kWh

# Average Climate

EN 12102-1		
Low temperature Medium temperature		
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





	3	,
	Low temperature	Medium temperature
Pdesignh	10.84 kW	9.42 kW
$\eta_s$	204 %	143 %
Prated	10.84 kW	9.42 kW
SCOP	5.16	3.65
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	9.59 kW	8.33 kW
COP Tj = -7°C	3.42	2.43
Cdh Tj = -7 °C	0.995	0.996
Pdh Tj = +2°C	5.74 kW	5.47 kW
COP Tj = +2°C	5.10	3.33
Cdh Tj = +2 °C	0.988	0.992
Pdh Tj = +7°C	4.16 kW	3.98 kW
COP Tj = +7°C	6.88	5.04
Cdh Tj = +7 °C	0.978	0.983
Pdh Tj = 12°C	4.71 kW	4.75 kW
COP Tj = 12°C	8.66	6.86
Cdh Tj = +12 °C	0.975	0.980
Pdh Tj = Tbiv	9.59 kW	8.33 kW
COP Tj = Tbiv	3.42	2.43



### Page 154 of 253

## This information was generated by the HP KEYMARK database on 5 Jul 2022

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.11 kW	8.68 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.09	2.11
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.996
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.73 kW	0.74 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	4338 kWh	5335 kWh

# **Model: AEROTOP MONO 12.2 M-R**

Configure model		
Model name	AEROTOP MONO 12.2 M-R	
Application	Heating (medium temp)	
Units	Indoor + Outdoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	Yes	
Cooling mode application (optional)	+7°C/12°C	

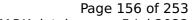
General Data	
Power supply	3x400V 50Hz

# Heating

EN 14511-2		
Low temperature Medium temperature		
Heat output	12.00 kW	7.67 kW
El input	2.45 kW	2.39 kW
СОР	4.90	3.21

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

# Cooling





EN 14511-2		
	+7°C/+12°C	+18°C/+23°C
El input	2.87 kW	
Cooling capacity	9.05	
EER	3.15	2.93





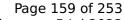
This information was generated by the fit	+7°C/+12°C
Pdesignc	9.05 kW
SEER	5.40
Pdc Tj = 35°C	9.05 kW
EER Tj = 35°C	3.15
Pdc Tj = 30°C	6.86 kW
EER Tj = 30°C	4.72
Cdc Tj = 30 °C	0.99
Pdc Tj = 25°C	4.31 kW
EER Tj = 25°C	6.14
Cdc Tj = 25 °C	0.98
Pdc Tj = 20°C	4.45 kW
EER Tj = 20°C	7.5
Cdc Tj = 20 °C	0.98
Poff	14 W
РТО	14 W
PSB	14 W
PCK	0 W
Annual energy consumption Qce	1541 kWh

# Warmer Climate



EN 12102-1		
Low temperature Medium temperature		
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.83 kW	6.46 kW
$\eta_{s}$	262 %	178 %
Prated	6.83 kW	6.46 kW
SCOP	6.62	4.51
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	6.83 kW	6.46 kW
COP Tj = +2°C	4.37	2.72
Cdh Tj = +2 °C	0.991	0.994
Pdh Tj = +7°C	4.48 kW	4.39 kW
COP Tj = +7°C	5.96	3.77
Cdh Tj = +7 °C	0.982	0.988
Pdh Tj = 12°C	4.72 kW	4.65 kW
COP Tj = 12°C	8.22	6.02
	l	I

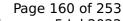




Cdh Tj = +12 °C	0.976	0.982
Pdh Tj = Tbiv	6.83 kW	6.46 kW
COP Tj = Tbiv	4.37	2.72
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.83 kW	6.46 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.37	2.72
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.991	0.994
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	1378 kWh	1912 kWh

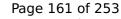
# Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





	Low temperature	Medium temperature
Pdesignh	15.33 kW	14.18 kW
$\eta_{s}$	160 %	129 %
Prated	15.33 kW	14.18 kW
SCOP	4.07	3.30
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	9.28 kW	8.58 kW
COP Tj = -7°C	3.74	2.94
Cdh Tj = -7 °C	0.995	0.995
Pdh Tj = +2°C	5.68 kW	5.42 kW
COP Tj = +2°C	5.38	4.26
Cdh Tj = +2 °C	0.987	0.989
Pdh Tj = +7°C	4.20 kW	4.09 kW
COP Tj = +7°C	7.39	5.83
Cdh Tj = +7 °C	0.976	0.981
Pdh Tj = 12°C	4.70 kW	4.72 kW
COP Tj = 12°C	8.75	7.21
Cdh Tj = +12 °C	0.975	0.979
Pdh Tj = Tbiv	9.28 kW	8.58 kW

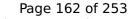




COP Tj = Tbiv	3.74	2.94
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.41 kW	6.75 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.26	1.49
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.995
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	14.53 kW	13.43 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	9289 kWh	10591 kWh

# Average Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





	Low temperature	Medium temperature
Pdesignh	10.84 kW	9.42 kW
$\eta_{s}$	204 %	143 %
Prated	10.84 kW	9.42 kW
SCOP	5.16	3.65
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = $-7^{\circ}$ C	9.59 kW	8.33 kW
$COP Tj = -7^{\circ}C$	3.42	2.43
Cdh Tj = -7 °C	0.995	0.996
Pdh Tj = $+2$ °C	5.74 kW	5.47 kW
$COP Tj = +2^{\circ}C$	5.10	3.33
Cdh Tj = +2 °C	0.988	0.992
Pdh Tj = $+7^{\circ}$ C	4.16 kW	3.98 kW
$COP Tj = +7^{\circ}C$	6.88	5.04
Cdh Tj = $+7$ °C	0.978	0.983
Pdh Tj = 12°C	4.71 kW	4.75 kW
COP Tj = 12°C	8.66	6.86
Cdh Tj = $+12$ °C	0.975	0.980
Pdh Tj = Tbiv	9.59 kW	8.33 kW
COP Tj = Tbiv	3.42	2.43
	1	I



## Page 163 of 253

## This information was generated by the HP KEYMARK database on 5 Jul 2022

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.11 kW	8.68 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.09	2.11
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.996
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.73 kW	0.74 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	4338 kWh	5335 kWh



# **Model: AEROTOP MONO 15.2 M-RX**

Configure model		
Model name	AEROTOP MONO 15.2 M-RX	
Application	Heating (medium temp)	
Units	Indoor + Outdoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	Yes	
Cooling mode application (optional)	+7°C/12°C	

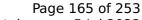
General Data		
Power supply 1x230V 50Hz		

# Heating

EN 14511-2			
Low temperature Medium temperature			
Heat output	15.00 kW	9.50 kW	
El input	3.19 kW	3.02 kW	
СОР	4.70	3.15	

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

# Cooling





EN 14511-2		
	+7°C/+12°C	+18°C/+23°C
El input	3.75 kW	
Cooling capacity	11	
EER	2.93	4.70





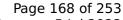
	+7°C/+12°C
Pdesignc	11 kW
SEER	5.22
Pdc Tj = 35°C	11 kW
EER Tj = 35°C	2.93
Pdc Tj = 30°C	8.18 kW
EER Tj = 30°C	4.4
Cdc Tj = 30 °C	0.99
Pdc Tj = 25°C	5.23 kW
EER Tj = 25°C	5.77
Cdc Tj = 25 °C	0.99
Pdc Tj = 20°C	4.5 kW
EER Tj = 20°C	7.53
Cdc Tj = 20 °C	0.98
Poff	14 W
РТО	14 W
PSB	14 W
PCK	o w
Annual energy consumption Qce	1951 kWh

## Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825				
Low temperature Medium tempera				
Pdesignh	8.01 kW	7.50 kW		
$\eta_{s}$	258 %	181 %		
Prated	8.01 kW	7.50 kW		
SCOP	6.53	4.61		
Tbiv	2 °C	2 °C		
TOL	-20 °C	-20 °C		
Pdh Tj = +2°C	8.01 kW	7.50 kW		
COP Tj = +2°C	4.27	2.77		
Cdh Tj = +2 °C	0.993	0.995		
Pdh Tj = +7°C	5.33 kW	4.85 kW		
COP Tj = +7°C	5.81	3.84		
Cdh Tj = +7 °C	0.985	0.989		
Pdh Tj = 12°C	4.72 kW	4.61 kW		
COP Tj = 12°C	8.10	6.12		

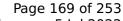




Cdh Tj = +12 °C	0.977	0.982
Pdh Tj = Tbiv	8.01 kW	7.50 kW
COP Tj = Tbiv	4.27	2.77
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.01 kW	7.51 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.27	2.77
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.993	0.982
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	1638 kWh	2172 kWh

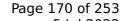
## Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





	Low temperature	Medium temperature
Pdesignh	18.17 kW	17.31 kW
$\eta_{s}$	157 %	122 %
Prated	18.17 kW	17.31 kW
SCOP	3.99	3.12
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.48 kW
COP Tj = -7°C	3.57	2.91
Cdh Tj = -7 °C	0.996	0.996
Pdh Tj = +2°C	6.88 kW	6.45 kW
COP Tj = +2°C	5.36	4.22
Cdh Tj = +2 °C	0.989	0.991
Pdh Tj = +7°C	4.43 kW	4.27 kW
COP Tj = +7°C	7.25	5.79
Cdh Tj = +7 °C	0.978	0.982
Pdh Tj = 12°C	4.71 kW	4.60 kW
COP Tj = 12°C	8.53	7.20
Cdh Tj = +12 °C	0.975	0.979
Pdh Tj = Tbiv	11.00 kW	10.48 kW

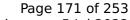




COP Tj = Tbiv	3.57	2.91
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.74 kW	8.08 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.17	1.48
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.996	0.996
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	n/a	n/a
Supplementary Heater: PSUP	17.22 kW	16.40 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	11230 kWh	13042 kWh

## **Average Climate**

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





	Low temperature	Medium temperature
Pdesignh	12.48 kW	11.59 kW
$\eta_{s}$	202 %	151 %
Prated	12.48 kW	11.59 kW
SCOP	5.12	3.85
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.04 kW	10.25 kW
COP Tj = -7°C	3.29	2.50
Cdh Tj = -7 °C	0.996	0.997
Pdh Tj = +2°C	6.98 kW	6.50 kW
COP Tj = +2°C	4.92	3.67
Cdh Tj = +2 °C	0.990	0.992
Pdh Tj = +7°C	4.39 kW	3.96 kW
COP Tj = +7°C	6.76	5.04
Cdh Tj = +7 °C	0.979	0.983
Pdh Tj = 12°C	4.71 kW	4.69 kW
COP Tj = 12°C	8.55	6.97
Cdh Tj = +12 °C	0.975	0.980
Pdh Tj = Tbiv	11.04 kW	10.25 kW
COP Tj = Tbiv	3.29	2.50



### Page 172 of 253

## This information was generated by the HP KEYMARK database on 5 Jul 2022

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.18 kW	10.52 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.00	2.06
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.30 kW	1.07 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	5035 kWh	6217 kWh



# **Model: AEROTOP MONO 15.2 M-R**

Configure model		
Model name	AEROTOP MONO 15.2 M-R	
Application	Heating (medium temp)	
Units	Indoor + Outdoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	Yes	
Cooling mode application (optional)	+7°C/12°C	

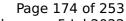
General Data		
Power supply	3x400V 50Hz	

# Heating

EN 14511-2			
Low temperature Medium temperature			
Heat output	15.00 kW	9.50 kW	
El input	3.19 kW	3.02 kW	
СОР	4.70	3.15	

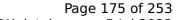
EN 14511-4		
Shutting off the heat transfer medium flow	passed	
Complete power supply failure	passed	
Defrost test	passed	
Starting and operating test	passed	

# Cooling





EN 14511-2		
	+7°C/+12°C	+18°C/+23°C
El input	3.75 kW	
Cooling capacity	11	
EER	2.93	4.70





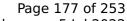
	+7°C/+12°C
Pdesignc	11 kW
SEER	5.22
Pdc Tj = 35°C	11 kW
EER Tj = 35°C	2.93
Pdc Tj = 30°C	8.18 kW
EER Tj = 30°C	4.4
Cdc Tj = 30 °C	0.99
Pdc Tj = 25°C	5.23 kW
EER Tj = 25°C	5.77
Cdc Tj = 25 °C	0.99
Pdc Tj = 20°C	4.5 kW
EER Tj = 20°C	7.53
Cdc Tj = 20 °C	0.98
Poff	14 W
PTO	14 W
PSB	14 W
PCK	o w
Annual energy consumption Qce	1951 kWh

## Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	8.01 kW	7.50 kW
$\eta_{s}$	258 %	181 %
Prated	8.01 kW	7.50 kW
SCOP	6.53	4.61
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	8.01 kW	7.50 kW
COP Tj = +2°C	4.27	2.77
Cdh Tj = +2 °C	0.993	0.995
Pdh Tj = +7°C	5.33 kW	4.85 kW
COP Tj = +7°C	5.81	3.84
Cdh Tj = +7 °C	0.985	0.989
Pdh Tj = 12°C	4.72 kW	4.61 kW
COP Tj = 12°C	8.10	6.12

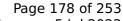




Cdh Tj = +12 °C	0.977	0.982
Pdh Tj = Tbiv	8.01 kW	7.50 kW
COP Tj = Tbiv	4.27	2.77
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.01 kW	7.51 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.27	2.77
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.993	0.982
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	1638 kWh	2172 kWh

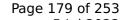
## Colder Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	35 dB(A)	35 dB(A)	
Sound power level outdoor	58 dB(A)	58 dB(A)	





	Low temperature	Medium temperature
Pdesignh	18.17 kW	17.31 kW
$\eta_{s}$	157 %	122 %
Prated	18.17 kW	17.31 kW
SCOP	3.99	3.12
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.48 kW
COP Tj = -7°C	3.57	2.91
Cdh Tj = -7 °C	0.996	0.996
Pdh Tj = +2°C	6.88 kW	6.45 kW
COP Tj = +2°C	5.36	4.22
Cdh Tj = +2 °C	0.989	0.991
Pdh Tj = +7°C	4.43 kW	4.27 kW
COP Tj = +7°C	7.25	5.79
Cdh Tj = +7 °C	0.978	0.982
Pdh Tj = 12°C	4.71 kW	4.60 kW
COP Tj = 12°C	8.53	7.20
Cdh Tj = +12 °C	0.975	0.979
Pdh Tj = Tbiv	11.00 kW	10.48 kW

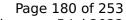




COP Tj = Tbiv	3.57	2.91
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.74 kW	8.08 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.17	1.48
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.996	0.996
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	17.22 kW	16.40 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	11230 kWh	13042 kWh

# Average Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	35 dB(A)	35 dB(A)	
Sound power level outdoor	58 dB(A)	58 dB(A)	





	Low temperature	Medium temperature
Pdesignh	12.48 kW	11.59 kW
$\eta_{S}$	202 %	151 %
Prated	12.48 kW	11.59 kW
SCOP	5.12	3.85
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.04 kW	10.25 kW
COP Tj = -7°C	3.29	2.50
Cdh Tj = -7 °C	0.996	0.997
Pdh Tj = +2°C	6.98 kW	6.50 kW
$COPTj = +2^{\circ}C$	4.92	3.67
Cdh Tj = +2 °C	0.990	0.992
Pdh Tj = +7°C	4.39 kW	3.96 kW
$COPTj = +7^{\circ}C$	6.76	5.04
Cdh Tj = +7 °C	0.979	0.983
Pdh Tj = 12°C	4.71 kW	4.69 kW
COP Tj = 12°C	8.55	6.97
Cdh Tj = +12 °C	0.975	0.980
Pdh Tj = Tbiv	11.04 kW	10.25 kW
COP Tj = Tbiv	3.29	2.50



## Page 181 of 253

## This information was generated by the HP KEYMARK database on 5 Jul 2022

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.18 kW	10.52 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.00	2.06
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.30 kW	1.07 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	5035 kWh	6217 kWh



# **Model: AEROTOP MONO 12.2 M-RXL**

Configure model		
Model name	AEROTOP MONO 12.2 M-RXL	
Application	Heating (medium temp)	
Units	Indoor + Outdoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	Yes	
Cooling mode application (optional)	+7°C/12°C	

General Data		
Power supply	1x230V 50Hz	

# Heating

EN 14511-2		
Low temperature Medium temperature		
Heat output	12.00 kW	7.67 kW
El input	2.45 kW	2.39 kW
СОР	4.90	3.21

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

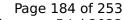
# Cooling





EN 14511-2		
	+7°C/+12°C	+18°C/+23°C
El input	2.87 kW	
Cooling capacity	9.05	
EER	3.15	2.93

# EN 14825





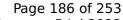
This information was generated by the file	+7°C/+12°C
Pdesignc	9.05 kW
SEER	5.40
Pdc Tj = 35°C	9.05 kW
EER Tj = 35°C	3.15
Pdc Tj = 30°C	6.86 kW
EER Tj = 30°C	4.72
Cdc Tj = 30 °C	0.99
Pdc Tj = 25°C	4.31 kW
EER Tj = 25°C	6.14
Cdc Tj = 25 °C	0.98
Pdc Tj = 20°C	4.45 kW
EER Tj = 20°C	7.5
Cdc Tj = 20 °C	0.98
Poff	14 W
РТО	14 W
PSB	14 W
PCK	0 W
Annual energy consumption Qce	1541 kWh

# Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.83 kW	6.46 kW
$\eta_{s}$	262 %	178 %
Prated	6.83 kW	6.46 kW
SCOP	6.62	4.51
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	6.83 kW	6.46 kW
COP Tj = +2°C	4.37	2.72
Cdh Tj = +2 °C	0.991	0.994
Pdh Tj = +7°C	4.48 kW	4.39 kW
COP Tj = +7°C	5.96	3.77
Cdh Tj = +7 °C	0.982	0.988
Pdh Tj = 12°C	4.72 kW	4.65 kW
COP Tj = 12°C	8.22	6.02
	l	I

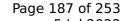




Cdh Tj = +12 °C	0.976	0.982
Pdh Tj = Tbiv	6.83 kW	6.46 kW
COP Tj = Tbiv	4.37	2.72
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.83 kW	6.46 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.37	2.72
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.991	0.994
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	1378 kWh	1912 kWh

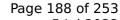
## Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





	Low temperature	Medium temperature
Pdesignh	15.33 kW	14.18 kW
$\eta_{s}$	160 %	129 %
Prated	15.33 kW	14.18 kW
SCOP	4.07	3.30
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	9.28 kW	8.58 kW
COP Tj = -7°C	3.74	2.94
Cdh Tj = -7 °C	0.995	0.995
Pdh Tj = +2°C	5.68 kW	5.42 kW
COP Tj = +2°C	5.38	4.26
Cdh Tj = +2 °C	0.987	0.989
Pdh Tj = +7°C	4.20 kW	4.09 kW
COP Tj = +7°C	7.39	5.83
Cdh Tj = +7 °C	0.976	0.981
Pdh Tj = 12°C	4.70 kW	4.72 kW
COP Tj = 12°C	8.75	7.21
Cdh Tj = +12 °C	0.975	0.979
Pdh Tj = Tbiv	9.28 kW	8.58 kW

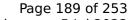




COP Tj = Tbiv	3.74	2.94
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.41 kW	6.75 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.26	1.49
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.995
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	14.53 kW	13.43 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	9289 kWh	10591 kWh

# **Average Climate**

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





	Low temperature	Medium temperature
Pdesignh	10.84 kW	9.42 kW
$\eta_{s}$	204 %	143 %
Prated	10.84 kW	9.42 kW
SCOP	5.16	3.65
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	9.59 kW	8.33 kW
COP Tj = -7°C	3.42	2.43
Cdh Tj = -7 °C	0.995	0.996
Pdh Tj = +2°C	5.74 kW	5.47 kW
COP Tj = +2°C	5.10	3.33
Cdh Tj = +2 °C	0.988	0.992
Pdh Tj = +7°C	4.16 kW	3.98 kW
COP Tj = +7°C	6.88	5.04
Cdh Tj = +7 °C	0.978	0.983
Pdh Tj = 12°C	4.71 kW	4.75 kW
COP Tj = 12°C	8.66	6.86
Cdh Tj = +12 °C	0.975	0.980
Pdh Tj = Tbiv	9.59 kW	8.33 kW
COP Tj = Tbiv	3.42	2.43



## Page 190 of 253

## This information was generated by the HP KEYMARK database on 5 Jul 2022

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.11 kW	8.68 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.09	2.11
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.996
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.73 kW	0.74 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	4338 kWh	5335 kWh



# **Model: AEROTOP MONO 12.2 M-RL**

Configure model	
Model name	AEROTOP MONO 12.2 M-RL
Application	Heating (medium temp)
Units	Indoor + Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	+7°C/12°C

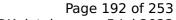
General Data		
Power supply	3x400V 50Hz	

# Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	12.00 kW	7.67 kW
El input	2.45 kW	2.39 kW
СОР	4.90	3.21

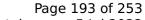
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

# Cooling





EN 14511-2		
	+7°C/+12°C	+18°C/+23°C
El input	2.87 kW	
Cooling capacity	9.05	
EER	3.15	2.93





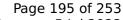
	+7°C/+12°C
Pdesignc	9.05 kW
SEER	5.40
Pdc Tj = 35°C	9.05 kW
EER Tj = 35°C	3.15
Pdc Tj = 30°C	6.86 kW
EER Tj = 30°C	4.72
Cdc Tj = 30 °C	0.99
Pdc Tj = 25°C	4.31 kW
EER Tj = 25°C	6.14
Cdc Tj = 25 °C	0.98
Pdc Tj = 20°C	4.45 kW
EER Tj = 20°C	7.5
Cdc Tj = 20 °C	0.98
Poff	14 W
РТО	14 W
PSB	14 W
PCK	0 W
Annual energy consumption Qce	1541 kWh

# Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.83 kW	6.46 kW
$\eta_{s}$	262 %	178 %
Prated	6.83 kW	6.46 kW
SCOP	6.62	4.51
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	6.83 kW	6.46 kW
COP Tj = +2°C	4.37	2.72
Cdh Tj = +2 °C	0.991	0.994
Pdh Tj = +7°C	4.48 kW	4.39 kW
COP Tj = +7°C	5.96	3.77
Cdh Tj = +7 °C	0.982	0.988
Pdh Tj = 12°C	4.72 kW	4.65 kW
COP Tj = 12°C	8.22	6.02

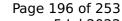




Cdh Tj = +12 °C	0.976	0.982
Pdh Tj = Tbiv	6.83 kW	6.46 kW
COP Tj = Tbiv	4.37	2.72
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.83 kW	6.46 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.37	2.72
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.991	0.994
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	1378 kWh	1912 kWh

## Colder Climate

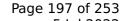
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





## EN 14825

	Low temperature	Medium temperature
Pdesignh	15.33 kW	14.18 kW
$\eta_{s}$	160 %	129 %
Prated	15.33 kW	14.18 kW
SCOP	4.07	3.30
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	9.28 kW	8.58 kW
COP Tj = -7°C	3.74	2.94
Cdh Tj = -7 °C	0.995	0.995
Pdh Tj = +2°C	5.68 kW	5.42 kW
COP Tj = +2°C	5.38	4.26
Cdh Tj = +2 °C	0.987	0.989
Pdh Tj = +7°C	4.20 kW	4.09 kW
COP Tj = +7°C	7.39	5.83
Cdh Tj = +7 °C	0.976	0.981
Pdh Tj = 12°C	4.70 kW	4.72 kW
COP Tj = 12°C	8.75	7.21
Cdh Tj = +12 °C	0.975	0.979
Pdh Tj = Tbiv	9.28 kW	8.58 kW

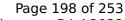




COP Tj = Tbiv	3.74	2.94
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.41 kW	6.75 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.26	1.49
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.995
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	14.53 kW	13.43 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	9289 kWh	10591 kWh

# **Average Climate**

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





	Low temperature	Medium temperature
Pdesignh	10.84 kW	9.42 kW
$\eta_{s}$	204 %	143 %
Prated	10.84 kW	9.42 kW
SCOP	5.16	3.65
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	9.59 kW	8.33 kW
$COP Tj = -7^{\circ}C$	3.42	2.43
Cdh Tj = -7 °C	0.995	0.996
Pdh Tj = $+2^{\circ}$ C	5.74 kW	5.47 kW
COP Tj = +2°C	5.10	3.33
Cdh Tj = +2 °C	0.988	0.992
Pdh Tj = $+7^{\circ}$ C	4.16 kW	3.98 kW
$COP Tj = +7^{\circ}C$	6.88	5.04
Cdh Tj = +7 °C	0.978	0.983
Pdh Tj = 12°C	4.71 kW	4.75 kW
COP Tj = 12°C	8.66	6.86
Cdh Tj = +12 °C	0.975	0.980
Pdh Tj = Tbiv	9.59 kW	8.33 kW
COP Tj = Tbiv	3.42	2.43



Page 199 of 253

## This information was generated by the HP KEYMARK database on 5 Jul 2022

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.11 kW	8.68 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.09	2.11
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.996
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.73 kW	0.74 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	4338 kWh	5335 kWh



# **Model: AEROTOP MONO 15.2 M-RXL**

Configure model		
Model name	AEROTOP MONO 15.2 M-RXL	
Application	Heating (medium temp)	
Units	Indoor + Outdoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	Yes	
Cooling mode application (optional)	+7°C/12°C	

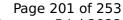
General Data		
Power supply 1x230V 50Hz		

# Heating

EN 14511-2		
Low temperature Medium temperature		
Heat output	15.00 kW	9.50 kW
El input	3.19 kW	3.02 kW
СОР	4.70	3.15

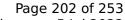
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

# Cooling





EN 14511-2		
	+7°C/+12°C	+18°C/+23°C
El input	3.75 kW	
Cooling capacity	11	
EER	2.93	4.70





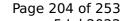
	+7°C/+12°C
Pdesignc	11 kW
SEER	5.22
Pdc Tj = 35°C	11 kW
EER Tj = 35°C	2.93
Pdc Tj = 30°C	8.18 kW
EER Tj = 30°C	4.4
Cdc Tj = 30 °C	0.99
Pdc Tj = 25°C	5.23 kW
EER Tj = 25°C	5.77
Cdc Tj = 25 °C	0.99
Pdc Tj = 20°C	4.5 kW
EER Tj = 20°C	7.53
Cdc Tj = 20 °C	0.98
Poff	14 W
РТО	14 W
PSB	14 W
PCK	o w
Annual energy consumption Qce	1951 kWh

# Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	8.01 kW	7.50 kW
$\eta_{s}$	258 %	181 %
Prated	8.01 kW	7.50 kW
SCOP	6.53	4.61
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	8.01 kW	7.50 kW
COP Tj = +2°C	4.27	2.77
Cdh Tj = +2 °C	0.993	0.995
Pdh Tj = +7°C	5.33 kW	4.85 kW
COP Tj = +7°C	5.81	3.84
Cdh Tj = +7 °C	0.985	0.989
Pdh Tj = 12°C	4.72 kW	4.61 kW
COP Tj = 12°C	8.10	6.12

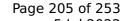




Cdh Tj = +12 °C	0.977	0.982
Pdh Tj = Tbiv	8.01 kW	7.50 kW
COP Tj = Tbiv	4.27	2.77
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.01 kW	7.51 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.27	2.77
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.993	0.982
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	1638 kWh	2172 kWh

## Colder Climate

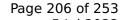
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





## EN 14825

	Low temperature	Medium temperature
Pdesignh	18.17 kW	17.31 kW
$\eta_{s}$	157 %	122 %
Prated	18.17 kW	17.31 kW
SCOP	3.99	3.12
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.48 kW
COP Tj = -7°C	3.57	2.91
Cdh Tj = -7 °C	0.996	0.996
Pdh Tj = $+2$ °C	6.88 kW	6.45 kW
COP Tj = +2°C	5.36	4.22
Cdh Tj = +2 °C	0.989	0.991
Pdh Tj = +7°C	4.43 kW	4.27 kW
$COPTj = +7^{\circ}C$	7.25	5.79
Cdh Tj = +7 °C	0.978	0.982
Pdh Tj = 12°C	4.71 kW	4.60 kW
COP Tj = 12°C	8.53	7.20
Cdh Tj = +12 °C	0.975	0.979
Pdh Tj = Tbiv	11.00 kW	10.48 kW

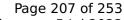




COP Tj = Tbiv	3.57	2.91
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.74 kW	8.08 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.17	1.48
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.996	0.996
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	17.22 kW	16.40 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	11230 kWh	13042 kWh

# **Average Climate**

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





	Low temperature	Medium temperature
Pdesignh	12.48 kW	11.59 kW
$\eta_{s}$	202 %	151 %
Prated	12.48 kW	11.59 kW
SCOP	5.12	3.85
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.04 kW	10.25 kW
COP Tj = -7°C	3.29	2.50
Cdh Tj = -7 °C	0.996	0.997
Pdh Tj = +2°C	6.98 kW	6.50 kW
COP Tj = +2°C	4.92	3.67
Cdh Tj = +2 °C	0.990	0.992
Pdh Tj = $+7^{\circ}$ C	4.39 kW	3.96 kW
COP Tj = +7°C	6.76	5.04
Cdh Tj = +7 °C	0.979	0.983
Pdh Tj = 12°C	4.71 kW	4.69 kW
COP Tj = 12°C	8.55	6.97
Cdh Tj = +12 °C	0.975	0.980
Pdh Tj = Tbiv	11.04 kW	10.25 kW
COP Tj = Tbiv	3.29	2.50



## Page 208 of 253

## This information was generated by the HP KEYMARK database on 5 Jul 2022

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.18 kW	10.52 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.00	2.06
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.30 kW	1.07 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	5035 kWh	6217 kWh

# **Model: AEROTOP MONO 15.2 M-RL**

Configure model		
Model name	AEROTOP MONO 15.2 M-RL	
Application	Heating (medium temp)	
Units	Indoor + Outdoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	Yes	
Cooling mode application (optional)	+7°C/12°C	

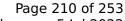
General Data		
Power supply	3x400V 50Hz	

# Heating

EN 14511-2			
	Low temperature	Medium temperature	
Heat output	15.00 kW	9.50 kW	
El input	3.19 kW	3.02 kW	
СОР	4.70	3.15	

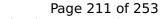
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

# Cooling





EN 14511-2		
	+7°C/+12°C	+18°C/+23°C
El input	3.75 kW	
Cooling capacity	11	
EER	2.93	4.70





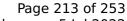
This information was generated by the fit	+7°C/+12°C
Pdesignc	11 kW
SEER	5.22
Pdc Tj = 35°C	11 kW
EER Tj = 35°C	2.93
Pdc Tj = 30°C	8.18 kW
EER Tj = 30°C	4.4
Cdc Tj = 30 °C	0.99
Pdc Tj = 25°C	5.23 kW
EER Tj = 25°C	5.77
Cdc Tj = 25 °C	0.99
Pdc Tj = 20°C	4.5 kW
EER Tj = 20°C	7.53
Cdc Tj = 20 °C	0.98
Poff	14 W
РТО	14 W
PSB	14 W
РСК	0 W
Annual energy consumption Qce	1951 kWh

# Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	8.01 kW	7.50 kW
$\eta_{s}$	258 %	181 %
Prated	8.01 kW	7.50 kW
SCOP	6.53	4.61
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	8.01 kW	7.50 kW
COP Tj = +2°C	4.27	2.77
Cdh Tj = +2 °C	0.993	0.995
Pdh Tj = +7°C	5.33 kW	4.85 kW
COP Tj = +7°C	5.81	3.84
Cdh Tj = +7 °C	0.985	0.989
Pdh Tj = 12°C	4.72 kW	4.61 kW
COP Tj = 12°C	8.10	6.12

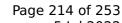




Cdh Tj = +12 °C	0.977	0.982
Pdh Tj = Tbiv	8.01 kW	7.50 kW
COP Tj = Tbiv	4.27	2.77
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.01 kW	7.51 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.27	2.77
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.993	0.982
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	1638 kWh	2172 kWh

# Colder Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	15 dB(A)	15 dB(A)	
Sound power level outdoor	58 dB(A)	58 dB(A)	





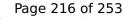
	Low temperature	Medium temperature
Pdesignh	18.17 kW	17.31 kW
$\eta_{s}$	157 %	122 %
Prated	18.17 kW	17.31 kW
SCOP	3.99	3.12
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.48 kW
COP Tj = -7°C	3.57	2.91
Cdh Tj = -7 °C	0.996	0.996
Pdh Tj = +2°C	6.88 kW	6.45 kW
COP Tj = +2°C	5.36	4.22
Cdh Tj = +2 °C	0.989	0.991
Pdh Tj = +7°C	4.43 kW	4.27 kW
COP Tj = +7°C	7.25	5.79
Cdh Tj = +7 °C	0.978	0.982
Pdh Tj = 12°C	4.71 kW	4.60 kW
COP Tj = 12°C	8.53	7.20
Cdh Tj = +12 °C	0.975	0.979
Pdh Tj = Tbiv	11.00 kW	10.48 kW



COP Tj = Tbiv	3.57	2.91
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.74 kW	8.08 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.17	1.48
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.996	0.996
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	17.22 kW	16.40 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	11230 kWh	13042 kWh

# **Average Climate**

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	15 dB(A)	15 dB(A)	
Sound power level outdoor	58 dB(A)	58 dB(A)	





	, -	
	Low temperature	Medium temperature
Pdesignh	12.48 kW	11.59 kW
$\eta_s$	202 %	151 %
Prated	12.48 kW	11.59 kW
SCOP	5.12	3.85
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.04 kW	10.25 kW
COP Tj = -7°C	3.29	2.50
Cdh Tj = -7 °C	0.996	0.997
Pdh Tj = +2°C	6.98 kW	6.50 kW
COP Tj = +2°C	4.92	3.67
Cdh Tj = +2 °C	0.990	0.992
Pdh Tj = $+7^{\circ}$ C	4.39 kW	3.96 kW
COP Tj = +7°C	6.76	5.04
Cdh Tj = +7 °C	0.979	0.983
Pdh Tj = 12°C	4.71 kW	4.69 kW
COP Tj = 12°C	8.55	6.97
Cdh Tj = +12 °C	0.975	0.980
Pdh Tj = Tbiv	11.04 kW	10.25 kW
COP Tj = Tbiv	3.29	2.50



Page 217 of 253

## This information was generated by the HP KEYMARK database on 5 Jul 2022

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.18 kW	10.52 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.00	2.06
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.30 kW	1.07 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	5035 kWh	6217 kWh

# **Model: ENERGION M PLUS 120T**

Configure model		
Model name	ENERGION M PLUS 120T	
Application	Heating (medium temp)	
Units	Indoor + Outdoor	
Climate Zone Colder Climate + Warmer Climate		
Reversibility Yes		
Cooling mode application (optional)	+7°C/12°C	

General Data		
Power supply	3x400V 50Hz	

## Heating

COP

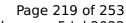
4.90

EN 14511-2		
Low temperature Medium temperature		
Heat output	12.00 kW	7.67 kW
El input	2.45 kW	2.39 kW

3.21

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

# Cooling





EN 14511-2		
	+7°C/+12°C	+18°C/+23°C
El input	2.87 kW	
Cooling capacity	9.05	
EER	3.15	2.93





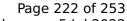
	+7°C/+12°C
Pdesignc	9.05 kW
SEER	5.40
Pdc Tj = 35°C	9.05 kW
EER Tj = 35°C	3.15
Pdc Tj = 30°C	6.86 kW
EER Tj = 30°C	4.72
Cdc Tj = 30 °C	0.99
Pdc Tj = 25°C	4.31 kW
EER Tj = 25°C	6.14
Cdc Tj = 25 °C	0.98
Pdc Tj = 20°C	4.45 kW
EER Tj = 20°C	7.5
Cdc Tj = 20 °C	0.98
Poff	14 W
РТО	14 W
PSB	14 W
PCK	o w
Annual energy consumption Qce	1541 kWh

## Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	6.83 kW	6.46 kW
$\eta_{s}$	262 %	178 %
Prated	6.83 kW	6.46 kW
SCOP	6.62	4.51
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	6.83 kW	6.46 kW
COP Tj = +2°C	4.37	2.72
Cdh Tj = +2 °C	0.991	0.994
Pdh Tj = +7°C	4.48 kW	4.39 kW
COP Tj = +7°C	5.96	3.77
Cdh Tj = +7 °C	0.982	0.988
Pdh Tj = 12°C	4.72 kW	4.65 kW
COP Tj = 12°C	8.22	6.02

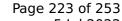




	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
Cdh Tj = +12 °C	0.976	0.982
Pdh Tj = Tbiv	6.83 kW	6.46 kW
COP Tj = Tbiv	4.37	2.72
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.83 kW	6.46 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.37	2.72
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.991	0.994
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	1378 kWh	1912 kWh

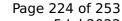
## Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





	Low temperature	Medium temperature
Pdesignh	15.33 kW	14.18 kW
$\eta_{s}$	160 %	129 %
Prated	15.33 kW	14.18 kW
SCOP	4.07	3.30
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	9.28 kW	8.58 kW
COP Tj = -7°C	3.74	2.94
Cdh Tj = -7 °C	0.995	0.995
Pdh Tj = +2°C	5.68 kW	5.42 kW
COP Tj = +2°C	5.38	4.26
Cdh Tj = +2 °C	0.987	0.989
Pdh Tj = +7°C	4.20 kW	4.09 kW
COP Tj = +7°C	7.39	5.83
Cdh Tj = +7 °C	0.976	0.981
Pdh Tj = 12°C	4.70 kW	4.72 kW
COP Tj = 12°C	8.75	7.21
Cdh Tj = +12 °C	0.975	0.979
Pdh Tj = Tbiv	9.28 kW	8.58 kW

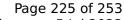




COP Tj = Tbiv	3.74	2.94
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.41 kW	6.75 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.26	1.49
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.995
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	14.53 kW	13.43 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	9289 kWh	10591 kWh

## **Average Climate**

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





	Low temperature	Medium temperature
Pdesignh	10.84 kW	9.42 kW
$\eta_{s}$	204 %	143 %
Prated	10.84 kW	9.42 kW
SCOP	5.16	3.65
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	9.59 kW	8.33 kW
COP Tj = -7°C	3.42	2.43
Cdh Tj = -7 °C	0.995	0.996
Pdh Tj = +2°C	5.74 kW	5.47 kW
COP Tj = +2°C	5.10	3.33
Cdh Tj = +2 °C	0.988	0.992
Pdh Tj = +7°C	4.16 kW	3.98 kW
COP Tj = +7°C	6.88	5.04
Cdh Tj = +7 °C	0.978	0.983
Pdh Tj = 12°C	4.71 kW	4.75 kW
COP Tj = 12°C	8.66	6.86
Cdh Tj = +12 °C	0.975	0.980
Pdh Tj = Tbiv	9.59 kW	8.33 kW
COP Tj = Tbiv	3.42	2.43



## Page 226 of 253

## This information was generated by the HP KEYMARK database on 5 Jul 2022

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.11 kW	8.68 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.09	2.11
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.996
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.73 kW	0.74 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	4338 kWh	5335 kWh



# **Model: ENERGION M PLUS 150T**

Configure model		
Model name	ENERGION M PLUS 150T	
Application	Heating (medium temp)	
Units	Indoor + Outdoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	Yes	
Cooling mode application (optional)	+7°C/12°C	

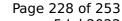
General Data		
Power supply	3x400V 50Hz	

# Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	15.00 kW	9.50 kW
El input	3.19 kW	3.02 kW
СОР	4.70	3.15

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

# Cooling





EN 14511-2		
	+7°C/+12°C	+18°C/+23°C
El input	3.75 kW	
Cooling capacity	11	
EER	2.93	4.70





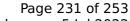
	+7°C/+12°C
Pdesignc	11 kW
SEER	5.22
Pdc Tj = 35°C	11 kW
EER Tj = 35°C	2.93
Pdc Tj = 30°C	8.18 kW
EER Tj = 30°C	4.4
Cdc Tj = 30 °C	0.99
Pdc Tj = 25°C	5.23 kW
EER Tj = 25°C	5.77
Cdc Tj = 25 °C	0.99
Pdc Tj = 20°C	4.5 kW
EER Tj = 20°C	7.53
Cdc Tj = 20 °C	0.98
Poff	14 W
РТО	14 W
PSB	14 W
PCK	o w
Annual energy consumption Qce	1951 kWh

## Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825		
	Low temperature	Medium temperature
Pdesignh	8.01 kW	7.50 kW
$\eta_{s}$	258 %	181 %
Prated	8.01 kW	7.50 kW
SCOP	6.53	4.61
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	8.01 kW	7.50 kW
COP Tj = +2°C	4.27	2.77
Cdh Tj = +2 °C	0.993	0.995
Pdh Tj = +7°C	5.33 kW	4.85 kW
COP Tj = +7°C	5.81	3.84
Cdh Tj = +7 °C	0.985	0.989
Pdh Tj = 12°C	4.72 kW	4.61 kW
COP Tj = 12°C	8.10	6.12

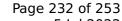




Cdh Tj = +12 °C	0.977	0.982
Pdh Tj = Tbiv	8.01 kW	7.50 kW
COP Tj = Tbiv	4.27	2.77
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.01 kW	7.51 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.27	2.77
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.993	0.982
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	1638 kWh	2172 kWh

## Colder Climate

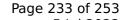
EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





#### EN 14825

	Low temperature	Medium temperature
Pdesignh	18.17 kW	17.31 kW
$\eta_{s}$	157 %	122 %
Prated	18.17 kW	17.31 kW
SCOP	3.99	3.12
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.48 kW
COP Tj = -7°C	3.57	2.91
Cdh Tj = -7 °C	0.996	0.996
Pdh Tj = $+2$ °C	6.88 kW	6.45 kW
COP Tj = +2°C	5.36	4.22
Cdh Tj = +2 °C	0.989	0.991
Pdh Tj = +7°C	4.43 kW	4.27 kW
$COPTj = +7^{\circ}C$	7.25	5.79
Cdh Tj = +7 °C	0.978	0.982
Pdh Tj = 12°C	4.71 kW	4.60 kW
COP Tj = 12°C	8.53	7.20
Cdh Tj = +12 °C	0.975	0.979
Pdh Tj = Tbiv	11.00 kW	10.48 kW

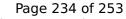




COP Tj = Tbiv	3.57	2.91
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.74 kW	8.08 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.17	1.48
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.996	0.996
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	17.22 kW	16.40 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	11230 kWh	13042 kWh

## **Average Climate**

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	35 dB(A)	35 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





	Low temperature	Medium temperature
Pdesignh	12.48 kW	11.59 kW
$\eta_{s}$	202 %	151 %
Prated	12.48 kW	11.59 kW
SCOP	5.12	3.85
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.04 kW	10.25 kW
COP Tj = -7°C	3.29	2.50
Cdh Tj = -7 °C	0.996	0.997
Pdh Tj = +2°C	6.98 kW	6.50 kW
COP Tj = +2°C	4.92	3.67
Cdh Tj = +2 °C	0.990	0.992
Pdh Tj = +7°C	4.39 kW	3.96 kW
COP Tj = +7°C	6.76	5.04
Cdh Tj = +7 °C	0.979	0.983
Pdh Tj = 12°C	4.71 kW	4.69 kW
COP Tj = 12°C	8.55	6.97
Cdh Tj = +12 °C	0.975	0.980
Pdh Tj = Tbiv	11.04 kW	10.25 kW
COP Tj = Tbiv	3.29	2.50



Page 235 of 253

## This information was generated by the HP KEYMARK database on 5 Jul 2022

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.18 kW	10.52 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.00	2.06
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.30 kW	1.07 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	5035 kWh	6217 kWh

# **Model: ENERGION M LIGHT 120T**

Configure model		
Model name	ENERGION M LIGHT 120T	
Application	Heating (medium temp)	
Units	Indoor + Outdoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	Yes	
Cooling mode application (optional)	+7°C/12°C	

General Data		
Power supply 3x400V 50Hz		

# Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	12.00 kW	7.67 kW
El input	2.45 kW	2.39 kW
СОР	4.90	3.21

EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

# Cooling





EN 14511-2		
	+7°C/+12°C	+18°C/+23°C
El input	2.87 kW	
Cooling capacity	9.05	
EER	3.15	2.93

ΕN	14	182	25
----	----	-----	----





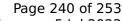
	+7°C/+12°C
Pdesignc	9.05 kW
SEER	5.40
Pdc Tj = 35°C	9.05 kW
EER Tj = 35°C	3.15
Pdc Tj = 30°C	6.86 kW
EER Tj = 30°C	4.72
Cdc Tj = 30 °C	0.99
Pdc Tj = 25°C	4.31 kW
EER Tj = 25°C	6.14
Cdc Tj = 25 °C	0.98
Pdc Tj = 20°C	4.45 kW
EER Tj = 20°C	7.5
Cdc Tj = 20 °C	0.98
Poff	14 W
РТО	14 W
PSB	14 W
PCK	o w
Annual energy consumption Qce	1541 kWh

## Warmer Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)

EN 14825				
Low temperature Medium temperatu				
Pdesignh	6.83 kW	6.46 kW		
$\eta_{s}$	262 %	178 %		
Prated	6.83 kW	6.46 kW		
SCOP	6.62	4.51		
Tbiv	2 °C	2 °C		
TOL	-20 °C	-20 °C		
Pdh Tj = +2°C	6.83 kW	6.46 kW		
COP Tj = +2°C	4.37	2.72		
Cdh Tj = +2 °C	0.991	0.994		
Pdh Tj = +7°C	4.48 kW	4.39 kW		
COP Tj = +7°C	5.96	3.77		
Cdh Tj = +7 °C	0.982	0.988		
Pdh Tj = 12°C	4.72 kW	4.65 kW		
COP Tj = 12°C	8.22	6.02		

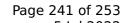




Cdh Tj = +12 °C	0.976	0.982
Pdh Tj = Tbiv	6.83 kW	6.46 kW
COP Tj = Tbiv	4.37	2.72
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	6.83 kW	6.46 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.37	2.72
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.991	0.994
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	1378 kWh	1912 kWh

## Colder Climate

# EN 12102-1 Low temperature Medium temperature Sound power level indoor 15 dB(A) 15 dB(A) Sound power level outdoor 58 dB(A) 58 dB(A)





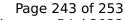
	Low temperature	Medium temperature
Pdesignh	15.33 kW	14.18 kW
$\eta_{s}$	160 %	129 %
Prated	15.33 kW	14.18 kW
SCOP	4.07	3.30
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	9.28 kW	8.58 kW
COP Tj = -7°C	3.74	2.94
Cdh Tj = -7 °C	0.995	0.995
Pdh Tj = +2°C	5.68 kW	5.42 kW
COP Tj = +2°C	5.38	4.26
Cdh Tj = +2 °C	0.987	0.989
Pdh Tj = +7°C	4.20 kW	4.09 kW
COP Tj = +7°C	7.39	5.83
Cdh Tj = +7 °C	0.976	0.981
Pdh Tj = 12°C	4.70 kW	4.72 kW
COP Tj = 12°C	8.75	7.21
Cdh Tj = +12 °C	0.975	0.979
Pdh Tj = Tbiv	9.28 kW	8.58 kW



COP Tj = Tbiv	3.74	2.94
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.41 kW	6.75 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.26	1.49
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.995
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	14.53 kW	13.43 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	9289 kWh	10591 kWh

## **Average Climate**

EN 12102-1		
	Low temperature	Medium temperature
Sound power level indoor	15 dB(A)	15 dB(A)
Sound power level outdoor	58 dB(A)	58 dB(A)





	Low temperature	Medium temperature
Pdesignh	10.84 kW	9.42 kW
$\eta_{s}$	204 %	143 %
Prated	10.84 kW	9.42 kW
SCOP	5.16	3.65
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	9.59 kW	8.33 kW
$COP Tj = -7^{\circ}C$	3.42	2.43
Cdh Tj = -7 °C	0.995	0.996
Pdh Tj = +2°C	5.74 kW	5.47 kW
COP Tj = +2°C	5.10	3.33
Cdh Tj = +2 °C	0.988	0.992
Pdh Tj = $+7^{\circ}$ C	4.16 kW	3.98 kW
$COP Tj = +7^{\circ}C$	6.88	5.04
Cdh Tj = +7 °C	0.978	0.983
Pdh Tj = 12°C	4.71 kW	4.75 kW
COP Tj = 12°C	8.66	6.86
Cdh Tj = +12 °C	0.975	0.980
Pdh Tj = Tbiv	9.59 kW	8.33 kW
COP Tj = Tbiv	3.42	2.43



## Page 244 of 253

## This information was generated by the HP KEYMARK database on 5 Jul 2022

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.11 kW	8.68 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.09	2.11
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.995	0.996
WTOL	60 °C	60 °C
Poff	14 W	14 W
PTO	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.73 kW	0.74 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	4338 kWh	5335 kWh



# **Model: ENERGION M LIGHT 150T**

Configure model		
Model name	ENERGION M LIGHT 150T	
Application	Heating (medium temp)	
Units	Indoor + Outdoor	
Climate Zone	Colder Climate + Warmer Climate	
Reversibility	Yes	
Cooling mode application (optional)	+7°C/12°C	

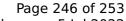
General Data		
Power supply	3x400V 50Hz	

# Heating

EN 14511-2			
	Low temperature	Medium temperature	
Heat output	15.00 kW	9.50 kW	
El input	3.19 kW	3.02 kW	
СОР	4.70	3.15	

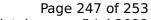
EN 14511-4	
Shutting off the heat transfer medium flow	passed
Complete power supply failure	passed
Defrost test	passed
Starting and operating test	passed

# Cooling





EN 14511-2		
	+7°C/+12°C	+18°C/+23°C
El input	3.75 kW	
Cooling capacity	11	
EER	2.93	4.70





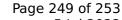
	+7°C/+12°C
Pdesignc	11 kW
SEER	5.22
Pdc Tj = 35°C	11 kW
EER Tj = 35°C	2.93
Pdc Tj = 30°C	8.18 kW
EER Tj = 30°C	4.4
Cdc Tj = 30 °C	0.99
Pdc Tj = 25°C	5.23 kW
EER Tj = 25°C	5.77
Cdc Tj = 25 °C	0.99
Pdc Tj = 20°C	4.5 kW
EER Tj = 20°C	7.53
Cdc Tj = 20 °C	0.98
Poff	14 W
PTO	14 W
PSB	14 W
РСК	o w
Annual energy consumption Qce	1951 kWh

## Warmer Climate



EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	15 dB(A)	15 dB(A)	
Sound power level outdoor	58 dB(A)	58 dB(A)	

EN 14825		
	Low temperature	Medium temperature
Pdesignh	8.01 kW	7.50 kW
$\eta_{s}$	258 %	181 %
Prated	8.01 kW	7.50 kW
SCOP	6.53	4.61
Tbiv	2 °C	2 °C
TOL	-20 °C	-20 °C
Pdh Tj = +2°C	8.01 kW	7.50 kW
COP Tj = +2°C	4.27	2.77
Cdh Tj = +2 °C	0.993	0.995
Pdh Tj = +7°C	5.33 kW	4.85 kW
COP Tj = +7°C	5.81	3.84
Cdh Tj = +7 °C	0.985	0.989
Pdh Tj = 12°C	4.72 kW	4.61 kW
COP Tj = 12°C	8.10	6.12

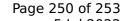




Cdh Tj = +12 °C	0.977	0.982
Pdh Tj = Tbiv	8.01 kW	7.50 kW
COP Tj = Tbiv	4.27	2.77
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.01 kW	7.51 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	4.27	2.77
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.993	0.982
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	1638 kWh	2172 kWh

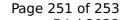
## Colder Climate

# EN 12102-1Low temperatureMedium temperatureSound power level indoor15 dB(A)15 dB(A)Sound power level outdoor58 dB(A)58 dB(A)





	Low temperature	Medium temperature
Pdesignh	18.17 kW	17.31 kW
$\eta_{s}$	157 %	122 %
Prated	18.17 kW	17.31 kW
SCOP	3.99	3.12
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	11.00 kW	10.48 kW
COP Tj = -7°C	3.57	2.91
Cdh Tj = -7 °C	0.996	0.996
Pdh Tj = +2°C	6.88 kW	6.45 kW
COP Tj = +2°C	5.36	4.22
Cdh Tj = +2 °C	0.989	0.991
Pdh Tj = +7°C	4.43 kW	4.27 kW
$COP Tj = +7^{\circ}C$	7.25	5.79
Cdh Tj = +7 °C	0.978	0.982
Pdh Tj = 12°C	4.71 kW	4.60 kW
COP Tj = 12°C	8.53	7.20
Cdh Tj = +12 °C	0.975	0.979
Pdh Tj = Tbiv	11.00 kW	10.48 kW

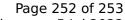




COP Tj = Tbiv	3.57	2.91
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.74 kW	8.08 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.17	1.48
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.996	0.996
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	17.22 kW	16.40 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	11230 kWh	13042 kWh

## **Average Climate**

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level indoor	15 dB(A)	15 dB(A)	
Sound power level outdoor	58 dB(A)	58 dB(A)	





	Low temperatur	e Medium temperature
Pdesignh	12.48 kW	11.59 kW
$\eta_{S}$	202 %	151 %
Prated	12.48 kW	11.59 kW
SCOP	5.12	3.85
Tbiv	-7 °C	-7 °C
TOL	-20 °C	-20 °C
Pdh Tj = $-7^{\circ}$ C	11.04 kW	10.25 kW
$COP Tj = -7^{\circ}C$	3.29	2.50
Cdh Tj = -7 °C	0.996	0.997
Pdh Tj = $+2$ °C	6.98 kW	6.50 kW
COP Tj = +2°C	4.92	3.67
Cdh Tj = +2 °C	0.990	0.992
Pdh Tj = $+7^{\circ}$ C	4.39 kW	3.96 kW
$COP Tj = +7^{\circ}C$	6.76	5.04
Cdh Tj = +7 °C	0.979	0.983
Pdh Tj = 12°C	4.71 kW	4.69 kW
COP Tj = 12°C	8.55	6.97
Cdh Tj = +12 °C	0.975	0.980
Pdh Tj = Tbiv	11.04 kW	10.25 kW
COP Tj = Tbiv	3.29	2.50



## Page 253 of 253

## This information was generated by the HP KEYMARK database on 5 Jul 2022

Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.18 kW	10.52 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.00	2.06
WTOL	60 °C	60 °C
Poff	14 W	14 W
РТО	14 W	14 W
PSB	14 W	14 W
PCK	14 W	14 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.30 kW	1.07 kW
Backup Heater	6.00 kW	6.00 kW
Annual energy consumption Qhe	5035 kWh	6217 kWh