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Summary of	HA 12-6 O 230V, HA 12-6 O	Reg. No.	40051134
Certificate Holder			
Name	Saunier Duval Brand Group		
Address		Zip	
City		Country	Germany
Certification Body	VDE Prüf- und Zertifizierungsinstitut GmbH		
Subtype title	HA 12-6 O 230V, HA 12-6 O		
Heat Pump Type	Outdoor Air/Water		
Refrigerant	R290		
Mass of Refrigerant	1.3 kg		
Certification Date	25.03.2022		
Testing basis	DIN EN 14511-1:2019-07; EN 14511-1:2018, DIN EN 14511-2:2019-07; EN 14511-2:2018, DIN EN 14511-3:2019-07; EN 14511-3:2018, DIN EN 14511-4:2019-07; EN 14511-4:2018, DIN EN 14825:2019-07; EN 14825:2018, DIN EN 12102-1:2018-02; EN 12102-1:2017		

Model: HA 12-6 O 230V

Configure model	
Model name	HA 12-6 O 230V
Application	Heating (medium temp)
Units	Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	8.54 kW	9.13 kW
El input	1.58 kW	2.92 kW
COP	5.38	3.11

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

Average Climate

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EN 12102-1

	Low temperature	Medium temperature
Sound power level outdoor	58 dB(A)	60 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	195 %	147 %
Prated	12.73 kW	11.81 kW
SCOP	4.96	3.75
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.27 kW	10.45 kW
COP Tj = -7°C	2.58	2.10
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	6.99 kW	6.43 kW
COP Tj = +2°C	5.17	3.73
Cdh Tj = +2 °C	0.970	0.970
Pdh Tj = +7°C	5.81 kW	5.65 kW
COP Tj = +7°C	6.87	5.27
Cdh Tj = +7 °C	0.950	0.960
Pdh Tj = 12°C	6.77 kW	6.58 kW

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COP Tj = 12°C	8.66	6.64
Cdh Tj = +12 °C	0.950	0.960
Pdh Tj = Tbiv	11.27 kW	10.45 kW
COP Tj = Tbiv	2.58	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.85 kW	9.83 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.29	1.87
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	70 °C	70 °C
Poff	8 W	8 W
PTO	45 W	45 W
PSB	45 W	45 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.89 kW	1.98 kW
Annual energy consumption Qhe	5305 kWh	6501 kWh

Warmer Climate

EN 14825		
	Low temperature	Medium temperature
η_s	254 %	174 %
Prated	11.35 kW	11.06 kW

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SCOP	6.41	4.42
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	11.35 kW	11.06 kW
COP Tj = +2°C	3.23	2.21
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	7.41 kW	7.19 kW
COP Tj = +7°C	5.97	3.82
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	6.63 kW	6.33 kW
COP Tj = 12°C	8.20	5.97
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	11.35 kW	11.06 kW
COP Tj = Tbiv	3.23	2.21
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.35 kW	11.06 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.23	2.21
WTOL	70 °C	70 °C
Poff	8 W	8 W
PTO	45 W	45 W
PSB	45 W	45 W
PCK	0 W	0 W

This information was generated by the HP KEYMARK database on 29 Mar 2022

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	2363 kWh	3342 kWh

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	58 dB(A)	60 dB(A)

Colder Climate

EN 14825		
	Low temperature	Medium temperature
η_s	170 %	128 %
Prated	12.16 kW	11.09 kW
SCOP	4.32	3.28
T _{biv}	-15 °C	-15 °C
TOL	-20 °C	-20 °C
P _{dh} T _j = -7°C	6.93 kW	7.06 kW
COP T _j = -7°C	3.72	2.65
C _{dh} T _j = -7 °C	0.980	0.960
P _{dh} T _j = +2°C	5.11 kW	4.83 kW
COP T _j = +2°C	5.51	4.20

This information was generated by the HP KEYMARK database on 29 Mar 2022

Cdh Tj = +2 °C	0.960	0.960
Pdh Tj = +7°C	5.82 kW	5.62 kW
COP Tj = +7°C	7.14	5.61
Cdh Tj = +7 °C	0.950	0.960
Pdh Tj = 12°C	6.69 kW	6.55 kW
COP Tj = 12°C	8.51	6.95
Cdh Tj = +12 °C	0.950	0.960
Pdh Tj = Tbiv	9.92 kW	9.04 kW
COP Tj = Tbiv	2.26	1.81
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.71 kW	7.73 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.03	1.50
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	70 °C	70 °C
Poff	8 W	8 W
PTO	45 W	45 W
PSB	45 W	45 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	12.16 kW	11.09 kW
Annual energy consumption Qhe	6936 kWh	8321 kWh
Pdh Tj = -15°C (if TOL<-20°C)	9.92	9.04

This information was generated by the HP KEYMARK database on 29 Mar 2022

COP Tj = -15°C (if TOL<-20°C)	2.26	1.81
Cdh Tj = -15 °C	0.990	0.990

EN 12102-1

	Low temperature	Medium temperature
Sound power level outdoor	58 dB(A)	60 dB(A)

Model: HA 12-6 O 230V B2

Configure model	
Model name	HA 12-6 O 230V B2
Application	Heating (medium temp)
Units	Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	8.54 kW	9.13 kW
El input	1.58 kW	2.92 kW
COP	5.38	3.11

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

Average Climate

EN 12102-1

	Low temperature	Medium temperature
Sound power level outdoor	58 dB(A)	60 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	194 %	146 %
Prated	12.73 kW	11.81 kW
SCOP	4.93	3.74
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.27 kW	10.45 kW
COP Tj = -7°C	2.58	2.10
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	6.99 kW	6.43 kW
COP Tj = +2°C	5.17	3.73
Cdh Tj = +2 °C	0.970	0.970
Pdh Tj = +7°C	5.81 kW	5.65 kW
COP Tj = +7°C	6.87	5.27
Cdh Tj = +7 °C	0.950	0.960
Pdh Tj = 12°C	6.77 kW	6.58 kW

This information was generated by the HP KEYMARK database on 29 Mar 2022

COP Tj = 12°C	8.66	6.64
Cdh Tj = +12 °C	0.950	0.960
Pdh Tj = Tbiv	11.27 kW	10.45 kW
COP Tj = Tbiv	2.58	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.85 kW	9.83 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.29	1.87
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	70 °C	70 °C
Poff	8 W	8 W
PTO	45 W	45 W
PSB	45 W	45 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.89 kW	1.98 kW
Annual energy consumption Qhe	5335 kWh	6532 kWh

Warmer Climate

EN 14825		
	Low temperature	Medium temperature
η_s	250 %	172 %
Prated	11.35 kW	11.06 kW

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SCOP	6.32	4.38
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	11.35 kW	11.06 kW
COP Tj = +2°C	3.23	2.21
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	7.41 kW	7.19 kW
COP Tj = +7°C	5.97	3.82
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	6.63 kW	6.33 kW
COP Tj = 12°C	8.20	5.97
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	11.35 kW	11.06 kW
COP Tj = Tbiv	3.23	2.21
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.35 kW	11.06 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.23	2.21
WTOL	70 °C	70 °C
Poff	8 W	8 W
PTO	45 W	45 W
PSB	45 W	45 W
PCK	0 W	0 W

This information was generated by the HP KEYMARK database on 29 Mar 2022

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	2399 kWh	3378 kWh

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	58 dB(A)	60 dB(A)

Colder Climate

EN 14825		
	Low temperature	Medium temperature
η_s	169 %	128 %
Prated	12.16 kW	11.09 kW
SCOP	4.31	3.28
T _{biv}	-15 °C	-15 °C
TOL	-20 °C	-20 °C
P _{dh} T _j = -7°C	6.93 kW	7.06 kW
COP T _j = -7°C	3.72	2.65
C _{dh} T _j = -7 °C	0.980	0.960
P _{dh} T _j = +2°C	5.11 kW	4.83 kW
COP T _j = +2°C	5.51	4.20

This information was generated by the HP KEYMARK database on 29 Mar 2022

Cdh Tj = +2 °C	0.960	0.960
Pdh Tj = +7°C	5.82 kW	5.62 kW
COP Tj = +7°C	7.14	5.61
Cdh Tj = +7 °C	0.950	0.960
Pdh Tj = 12°C	6.69 kW	6.55 kW
COP Tj = 12°C	8.51	6.95
Cdh Tj = +12 °C	0.950	0.960
Pdh Tj = Tbiv	9.92 kW	9.04 kW
COP Tj = Tbiv	2.26	1.81
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.71 kW	7.73 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.03	1.50
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	70 °C	70 °C
Poff	8 W	8 W
PTO	45 W	45 W
PSB	45 W	45 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	12.16 kW	11.09 kW
Annual energy consumption Qhe	6954 kWh	8339 kWh
Pdh Tj = -15°C (if TOL<-20°C)	9.92	9.04

This information was generated by the HP KEYMARK database on 29 Mar 2022

COP Tj = -15°C (if TOL<-20°C)	2.26	1.81
Cdh Tj = -15 °C	0.990	0.990

EN 12102-1

	Low temperature	Medium temperature
Sound power level outdoor	58 dB(A)	60 dB(A)

Model: HA 12-6 O

Configure model	
Model name	HA 12-6 O
Application	Heating (medium temp)
Units	Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	8.54 kW	9.13 kW
El input	1.58 kW	2.92 kW
COP	5.38	3.11

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

Average Climate

This information was generated by the HP KEYMARK database on 29 Mar 2022

EN 12102-1

	Low temperature	Medium temperature
Sound power level outdoor	58 dB(A)	60 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	195 %	147 %
Prated	12.73 kW	11.81 kW
SCOP	4.96	3.75
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.27 kW	10.45 kW
COP Tj = -7°C	2.58	2.10
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	6.99 kW	6.43 kW
COP Tj = +2°C	5.17	3.73
Cdh Tj = +2 °C	0.960	0.970
Pdh Tj = +7°C	5.81 kW	5.65 kW
COP Tj = +7°C	6.87	5.27
Cdh Tj = +7 °C	0.950	0.960
Pdh Tj = 12°C	6.77 kW	6.58 kW

This information was generated by the HP KEYMARK database on 29 Mar 2022

COP Tj = 12°C	8.66	6.64
Cdh Tj = +12 °C	0.940	0.950
Pdh Tj = Tbiv	11.27 kW	10.45 kW
COP Tj = Tbiv	2.58	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.85 kW	9.83 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.29	1.87
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	70 °C	70 °C
Poff	14 W	14 W
PTO	51 W	51 W
PSB	51 W	51 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.89 kW	1.98 kW
Annual energy consumption Qhe	5313 kWh	6511 kWh

Warmer Climate

EN 14825		
	Low temperature	Medium temperature
η_s	254 %	173 %
Prated	11.35 kW	11.06 kW

This information was generated by the HP KEYMARK database on 29 Mar 2022

SCOP	6.41	4.42
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	11.35 kW	11.06 kW
COP Tj = +2°C	3.23	2.21
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	7.41 kW	7.19 kW
COP Tj = +7°C	5.97	3.82
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	6.63 kW	6.33 kW
COP Tj = 12°C	8.20	5.97
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	11.35 kW	11.06 kW
COP Tj = Tbiv	3.23	2.21
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.35 kW	11.06 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.23	2.21
WTOL	70 °C	70 °C
Poff	14 W	14 W
PTO	51 W	51 W
PSB	51 W	51 W
PCK	0 W	0 W

This information was generated by the HP KEYMARK database on 29 Mar 2022

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	2363 kWh	3354 kWh

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	58 dB(A)	60 dB(A)

Colder Climate

EN 14825		
	Low temperature	Medium temperature
η_s	170 %	128 %
Prated	12.16 kW	11.09 kW
SCOP	4.32	3.28
T _{biv}	-15 °C	-15 °C
TOL	-20 °C	-20 °C
P _{dh} T _j = -7°C	6.93 kW	7.06 kW
COP T _j = -7°C	3.72	2.65
C _{dh} T _j = -7 °C	0.970	0.980
P _{dh} T _j = +2°C	5.11 kW	4.83 kW
COP T _j = +2°C	5.51	4.20

This information was generated by the HP KEYMARK database on 29 Mar 2022

Cdh Tj = +2 °C	0.950	0.960
Pdh Tj = +7°C	5.82 kW	5.62 kW
COP Tj = +7°C	7.14	5.61
Cdh Tj = +7 °C	0.940	0.950
Pdh Tj = 12°C	6.69 kW	6.55 kW
COP Tj = 12°C	8.51	6.95
Cdh Tj = +12 °C	0.940	0.950
Pdh Tj = Tbiv	9.92 kW	9.04 kW
COP Tj = Tbiv	2.26	1.81
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.71 kW	7.73 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.03	1.50
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	70 °C	70 °C
Poff	14 W	14 W
PTO	51 W	51 W
PSB	51 W	51 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	12.16 kW	11.09 kW
Annual energy consumption Qhe	6936 kWh	8334 kWh
Pdh Tj = -15°C (if TOL<-20°C)	9.92	9.04

This information was generated by the HP KEYMARK database on 29 Mar 2022

COP T _j = -15°C (if TOL<-20°C)	2.26	1.81
Cdh T _j = -15 °C	0.990	0.990

EN 12102-1

	Low temperature	Medium temperature
Sound power level outdoor	58 dB(A)	60 dB(A)

Model: HA 12-6 O B2

Configure model	
Model name	HA 12-6 O B2
Application	Heating (medium temp)
Units	Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	8.44 kW	8.93 kW
El input	1.60 kW	2.93 kW
COP	5.24	3.04

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

Average Climate

EN 12102-1

	Low temperature	Medium temperature
Sound power level outdoor	59 dB(A)	59 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	193 %	146 %
Prated	12.73 kW	11.81 kW
SCOP	4.90	3.72
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.27 kW	10.45 kW
COP Tj = -7°C	2.58	2.10
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	6.99 kW	6.43 kW
COP Tj = +2°C	5.17	3.73
Cdh Tj = +2 °C	0.960	0.970
Pdh Tj = +7°C	5.81 kW	5.65 kW
COP Tj = +7°C	6.87	5.27
Cdh Tj = +7 °C	0.950	0.960
Pdh Tj = 12°C	6.77 kW	6.58 kW

This information was generated by the HP KEYMARK database on 29 Mar 2022

COP Tj = 12°C	8.66	6.64
Cdh Tj = +12 °C	0.940	0.950
Pdh Tj = Tbiv	11.27 kW	10.45 kW
COP Tj = Tbiv	2.58	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.85 kW	9.83 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.29	1.87
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	70 °C	70 °C
Poff	14 W	14 W
PTO	51 W	51 W
PSB	51 W	51 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.89 kW	1.98 kW
Annual energy consumption Qhe	5366 kWh	6563 kWh

Warmer Climate

EN 14825		
	Low temperature	Medium temperature
η_s	250 %	170 %
Prated	11.35 kW	11.06 kW

This information was generated by the HP KEYMARK database on 29 Mar 2022

SCOP	6.32	4.33
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	11.35 kW	11.06 kW
COP Tj = +2°C	3.23	2.21
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	7.41 kW	7.19 kW
COP Tj = +7°C	5.97	3.82
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	6.63 kW	6.33 kW
COP Tj = 12°C	8.20	5.97
Cdh Tj = +12 °C	0.94	0.95
Pdh Tj = Tbiv	11.35 kW	11.06 kW
COP Tj = Tbiv	3.23	2.21
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.35 kW	11.06 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.23	2.21
WTOL	70 °C	70 °C
Poff	14 W	14 W
PTO	51 W	51 W
PSB	51 W	51 W
PCK	0 W	0 W

This information was generated by the HP KEYMARK database on 29 Mar 2022

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	2399 kWh	3417 kWh

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	59 dB(A)	59 dB(A)

Colder Climate

EN 14825		
	Low temperature	Medium temperature
η_s	169 %	128 %
Prated	12.16 kW	11.09 kW
SCOP	4.31	3.27
T _{biv}	-15 °C	-15 °C
TOL	-20 °C	-20 °C
P _{dh} T _j = -7°C	6.93 kW	7.06 kW
COP T _j = -7°C	3.72	2.65
C _{dh} T _j = -7 °C	0.970	0.980
P _{dh} T _j = +2°C	5.11 kW	4.83 kW
COP T _j = +2°C	5.51	4.20

This information was generated by the HP KEYMARK database on 29 Mar 2022

Cdh Tj = +2 °C	0.950	0.960
Pdh Tj = +7°C	5.82 kW	5.62 kW
COP Tj = +7°C	7.14	5.61
Cdh Tj = +7 °C	0.940	0.950
Pdh Tj = 12°C	6.69 kW	6.55 kW
COP Tj = 12°C	8.51	6.95
Cdh Tj = +12 °C	0.950	0.960
Pdh Tj = Tbiv	9.92 kW	9.04 kW
COP Tj = Tbiv	2.26	1.81
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.71 kW	7.73 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.03	1.50
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	70 °C	70 °C
Poff	14 W	14 W
PTO	51 W	51 W
PSB	51 W	51 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	12.16 kW	11.09 kW
Annual energy consumption Qhe	6954 kWh	8365 kWh
Pdh Tj = -15°C (if TOL<-20°C)	9.92	9.04

This information was generated by the HP KEYMARK database on 29 Mar 2022

COP Tj = -15°C (if TOL<-20°C)	2.26	1.81
Cdh Tj = -15 °C	0.990	0.990

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	59 dB(A)	59 dB(A)

Model: HA 15-6 O 230V B3

Configure model	
Model name	HA 15-6 O 230V B3
Application	Heating (medium temp)
Units	Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

Heating

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

EN 14511-2		
	Low temperature	Medium temperature
Heat output	14.29 kW	14.16 kW
El input	3.29 kW	5.06 kW
COP	4.33	2.79

Average Climate

This information was generated by the HP KEYMARK database on 29 Mar 2022

EN 14825

	Low temperature	Medium temperature
η_s	187 %	144 %
Prated	12.69 kW	12.00 kW
SCOP	4.74	3.66
Tbiv	-7 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.23 kW	10.62 kW
COP Tj = -7°C	2.46	2.08
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	6.98 kW	6.54 kW
COP Tj = +2°C	4.88	3.68
Cdh Tj = +2 °C	0.970	0.980
Pdh Tj = +7°C	5.79 kW	5.43 kW
COP Tj = +7°C	6.54	4.91
Cdh Tj = +7 °C	0.950	0.960
Pdh Tj = 12°C	6.65 kW	6.31 kW
COP Tj = 12°C	9.06	6.32
Cdh Tj = +12 °C	0.940	0.960
Pdh Tj = Tbiv	11.23 kW	11.05 kW
COP Tj = Tbiv	2.46	1.75

This information was generated by the HP KEYMARK database on 29 Mar 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	9.82 kW	11.05 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	2.23	1.75
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$		
WTOL	55 °C	55 °C
Poff	8 W	8 W
PTO	45 W	45 W
PSB	45 W	45 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.87 kW	0.00 kW
Annual energy consumption Q_{he}	5532 kWh	6767 kWh

EN 12102-1

	Low temperature	Medium temperature
Sound power level outdoor	61 dB(A)	61 dB(A)

Warmer Climate

EN 14825

	Low temperature	Medium temperature
η_s	245 %	172 %
Prated	12.02 kW	12.69 kW

This information was generated by the HP KEYMARK database on 29 Mar 2022

SCOP	6.19	4.38
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	12.02 kW	12.69 kW
COP Tj = +2°C	3.19	2.05
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	7.55 kW	7.46 kW
COP Tj = +7°C	5.70	3.87
Cdh Tj = +7 °C	0.97	0.98
Pdh Tj = 12°C	6.64 kW	6.19 kW
COP Tj = 12°C	7.90	5.77
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	12.02 kW	12.69 kW
COP Tj = Tbiv	3.19	2.05
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.02 kW	12.69 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.19	2.05
WTOL	55 °C	55 °C
Poff	8 W	8 W
PTO	45 W	45 W
PSB	45 W	45 W
PCK	0 W	0 W

This information was generated by the HP KEYMARK database on 29 Mar 2022

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	2595 kWh	3867 kWh

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	61 dB(A)	61 dB(A)

Colder Climate

EN 14825		
	Low temperature	Medium temperature
η_s	168 %	125 %
Prated	12.73 kW	12.17 kW
SCOP	4.28	3.20
T _{biv}	-15 °C	-15 °C
TOL	-20 °C	-20 °C
P _{dh} T _j = -7°C	7.04 kW	7.02 kW
COP T _j = -7°C	3.64	2.56
C _{dh} T _j = -7 °C	0.980	0.980
P _{dh} T _j = +2°C	5.16 kW	4.80 kW
COP T _j = +2°C	5.33	4.08

This information was generated by the HP KEYMARK database on 29 Mar 2022

Cdh Tj = +2 °C	0.960	0.960
Pdh Tj = +7°C	5.81 kW	5.55 kW
COP Tj = +7°C	7.45	5.43
Cdh Tj = +7 °C	0.950	0.960
Pdh Tj = 12°C	6.66 kW	6.42 kW
COP Tj = 12°C	9.04	6.82
Cdh Tj = +12 °C	0.940	0.960
Pdh Tj = Tbiv	10.38 kW	9.93 kW
COP Tj = Tbiv	2.37	1.76
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.93 kW	8.65 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.00	1.46
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	55 °C	55 °C
Poff	8 W	8 W
PTO	45 W	45 W
PSB	45 W	45 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	12.73 kW	12.17 kW
Annual energy consumption Qhe	7330 kWh	9377 kWh
Pdh Tj = -15°C (if TOL<-20°C)	10.38	9.93

This information was generated by the HP KEYMARK database on 29 Mar 2022

COP T _j = -15°C (if TOL<-20°C)	2.37	1.76
Cdh T _j = -15 °C	0.990	0.990

EN 12102-1

	Low temperature	Medium temperature
Sound power level outdoor	61 dB(A)	61 dB(A)

Model: HA 15-6 O B3

Configure model	
Model name	HA 15-6 O B3
Application	Heating (medium temp)
Units	Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data	
Power supply	3x400V 50Hz

Heating

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

EN 14511-2		
	Low temperature	Medium temperature
Heat output	14.29 kW	14.16 kW
El input	3.29 kW	5.06 kW
COP	4.33	2.79

Average Climate

This information was generated by the HP KEYMARK database on 29 Mar 2022

EN 14825

	Low temperature	Medium temperature
η_s	186 %	143 %
Prated	12.69 kW	12.00 kW
SCOP	4.73	3.66
Tbiv	-7 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.23 kW	10.62 kW
COP Tj = -7°C	2.46	2.08
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	6.98 kW	6.54 kW
COP Tj = +2°C	4.88	3.68
Cdh Tj = +2 °C	0.970	0.970
Pdh Tj = +7°C	5.79 kW	5.43 kW
COP Tj = +7°C	6.54	4.91
Cdh Tj = +7 °C	0.950	0.960
Pdh Tj = 12°C	6.65 kW	6.31 kW
COP Tj = 12°C	9.06	6.32
Cdh Tj = +12 °C	0.940	0.950
Pdh Tj = Tbiv	11.23 kW	11.05 kW
COP Tj = Tbiv	2.46	1.75

This information was generated by the HP KEYMARK database on 29 Mar 2022

$P_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$	9.82 kW	11.05 kW
$COP T_j = TOL$ or $COP T_j = T_{designh}$ if $TOL < T_{designh}$	2.23	1.75
$C_{dh} T_j = TOL$ or $P_{dh} T_j = T_{designh}$ if $TOL < T_{designh}$		
WTOL	55 °C	55 °C
Poff	14 W	14 W
PTO	51 W	51 W
PSB	51 W	51 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.87 kW	0.00 kW
Annual energy consumption Q_{he}	5542 kWh	6776 kWh

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	61 dB(A)	61 dB(A)

Warmer Climate

EN 14825		
	Low temperature	Medium temperature
η_s	244 %	172 %
Prated	12.02 kW	12.69 kW

This information was generated by the HP KEYMARK database on 29 Mar 2022

SCOP	6.16	4.37
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	12.02 kW	12.69 kW
COP Tj = +2°C	3.19	2.05
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	7.55 kW	7.46 kW
COP Tj = +7°C	5.70	3.87
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	6.64 kW	6.19 kW
COP Tj = 12°C	7.90	5.77
Cdh Tj = +12 °C	0.94	0.96
Pdh Tj = Tbiv	12.02 kW	12.69 kW
COP Tj = Tbiv	3.19	2.05
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.02 kW	12.69 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.19	2.05
WTOL	55 °C	55 °C
Poff	14 W	14 W
PTO	51 W	51 W
PSB	51 W	51 W
PCK	0 W	0 W

This information was generated by the HP KEYMARK database on 29 Mar 2022

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	2606 kWh	3878 kWh

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	61 dB(A)	61 dB(A)

Colder Climate

EN 14825		
	Low temperature	Medium temperature
η_s	168 %	125 %
Prated	12.73 kW	12.17 kW
SCOP	4.27	3.20
T _{biv}	-15 °C	-15 °C
TOL	-20 °C	-20 °C
P _{dh} T _j = -7°C	7.04 kW	7.02 kW
COP T _j = -7°C	3.64	2.56
C _{dh} T _j = -7 °C	0.970	0.980
P _{dh} T _j = +2°C	5.16 kW	4.80 kW
COP T _j = +2°C	5.33	4.08

This information was generated by the HP KEYMARK database on 29 Mar 2022

Cdh Tj = +2 °C	0.950	0.960
Pdh Tj = +7°C	5.81 kW	5.55 kW
COP Tj = +7°C	7.45	5.43
Cdh Tj = +7 °C	0.940	0.950
Pdh Tj = 12°C	6.66 kW	6.42 kW
COP Tj = 12°C	9.04	6.82
Cdh Tj = +12 °C	0.940	0.950
Pdh Tj = Tbiv	10.38 kW	9.93 kW
COP Tj = Tbiv	2.37	1.76
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.93 kW	8.65 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.00	1.46
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	55 °C	55 °C
Poff	14 W	14 W
PTO	51 W	51 W
PSB	51 W	51 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	12.73 kW	12.17 kW
Annual energy consumption Qhe	7341 kWh	9386 kWh
Pdh Tj = -15°C (if TOL<-20°C)	10.38	9.93

This information was generated by the HP KEYMARK database on 29 Mar 2022

COP T _j = -15°C (if TOL<-20°C)	2.37	1.76
Cdh T _j = -15 °C	0.990	0.990

EN 12102-1

	Low temperature	Medium temperature
Sound power level outdoor	61 dB(A)	61 dB(A)

Model: HA 10-6 O 230V

Configure model

Model name	HA 10-6 O 230V
Application	Heating (medium temp)
Units	Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data

Power supply	1x230V 50Hz
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Heating

EN 14511-2

	Low temperature	Medium temperature
Heat output	8.13 kW	9.08 kW
El input	1.54 kW	2.95 kW
COP	5.27	3.08

EN 14511-4

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

Average Climate

This information was generated by the HP KEYMARK database on 29 Mar 2022

EN 12102-1

	Low temperature	Medium temperature
Sound power level outdoor	58 dB(A)	60 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	199 %	143 %
Prated	8.86 kW	9.09 kW
SCOP	5.05	3.66
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	7.84 kW	8.04 kW
COP Tj = -7°C	3.21	2.20
Cdh Tj = -7 °C	0.980	0.990
Pdh Tj = +2°C	4.92 kW	4.77 kW
COP Tj = +2°C	5.06	3.63
Cdh Tj = +2 °C	0.960	0.970
Pdh Tj = +7°C	5.65 kW	5.37 kW
COP Tj = +7°C	6.65	4.92
Cdh Tj = +7 °C	0.950	0.960
Pdh Tj = 12°C	6.62 kW	6.30 kW

This information was generated by the HP KEYMARK database on 29 Mar 2022

COP Tj = 12°C	8.41	6.34
Cdh Tj = +12 °C	0.950	0.960
Pdh Tj = Tbiv	8.93 kW	9.03 kW
COP Tj = Tbiv	2.58	1.87
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.93 kW	9.03 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.58	1.87
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	0.990	
WTOL	55 °C	55 °C
Poff	8 W	8 W
PTO	45 W	45 W
PSB	45 W	45 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	3623 kWh	5135 kWh

Warmer Climate

EN 14825		
	Low temperature	Medium temperature
η_s	254 %	175 %
Prated	10.42 kW	10.36 kW

This information was generated by the HP KEYMARK database on 29 Mar 2022

SCOP	6.42	4.46
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	10.42 kW	10.36 kW
COP Tj = +2°C	3.42	2.32
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	6.71 kW	6.37 kW
COP Tj = +7°C	6.07	3.95
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	6.58 kW	6.20 kW
COP Tj = 12°C	8.09	5.85
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	10.42 kW	10.36 kW
COP Tj = Tbiv	3.42	2.32
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.42 kW	10.36 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.42	2.32
WTOL	55 °C	55 °C
Poff	8 W	8 W
PTO	45 W	45 W
PSB	45 W	45 W
PCK	0 W	0 W

This information was generated by the HP KEYMARK database on 29 Mar 2022

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	2167 kWh	3104 kWh

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	58 dB(A)	60 dB(A)

Colder Climate

EN 14825		
	Low temperature	Medium temperature
η_s	172 %	125 %
Prated	7.61 kW	7.38 kW
SCOP	4.37	3.21
T _{biv}	-20 °C	-20 °C
TOL	-20 °C	-20 °C
P _{dh} T _j = -7°C	4.50 kW	4.50 kW
COP T _j = -7°C	3.79	2.65
C _{dh} T _j = -7 °C	0.970	0.970
P _{dh} T _j = +2°C	5.00 kW	4.62 kW
COP T _j = +2°C	5.34	3.96

This information was generated by the HP KEYMARK database on 29 Mar 2022

Cdh Tj = +2 °C	0.960	0.960
Pdh Tj = +7°C	5.67 kW	5.47 kW
COP Tj = +7°C	6.89	5.34
Cdh Tj = +7 °C	0.950	0.960
Pdh Tj = 12°C	6.60 kW	6.38 kW
COP Tj = 12°C	8.30	6.70
Cdh Tj = +12 °C	0.950	0.960
Pdh Tj = Tbiv	7.21 kW	6.99 kW
COP Tj = Tbiv	2.14	1.53
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.21 kW	6.99 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.14	1.53
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	55 °C	55 °C
Poff	8 W	8 W
PTO	45 W	45 W
PSB	45 W	45 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	7.61 kW	7.38 kW
Annual energy consumption Qhe	4296 kWh	5673 kWh
Pdh Tj = -15°C (if TOL<-20°C)		

This information was generated by the HP KEYMARK database on 29 Mar 2022

COP Tj = -15°C (if TOL<-20°C)		
Cdh Tj = -15 °C		

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	58 dB(A)	60 dB(A)

Model: HA 10-6 O 230V B2

Configure model	
Model name	HA 10-6 O 230V B2
Application	Heating (medium temp)
Units	Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	8.13 kW	9.08 kW
El input	1.54 kW	2.95 kW
COP	5.27	3.08

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

Average Climate

EN 12102-1

	Low temperature	Medium temperature
Sound power level outdoor	58 dB(A)	60 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	197 %	142 %
Prated	8.86 kW	9.09 kW
SCOP	5.01	3.64
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	7.84 kW	8.04 kW
COP Tj = -7°C	3.21	2.20
Cdh Tj = -7 °C	0.980	0.990
Pdh Tj = +2°C	4.92 kW	4.77 kW
COP Tj = +2°C	5.06	3.63
Cdh Tj = +2 °C	0.960	0.970
Pdh Tj = +7°C	5.65 kW	5.37 kW
COP Tj = +7°C	6.65	4.92
Cdh Tj = +7 °C	0.950	0.960
Pdh Tj = 12°C	6.62 kW	6.30 kW

This information was generated by the HP KEYMARK database on 29 Mar 2022

COP Tj = 12°C	8.41	6.34
Cdh Tj = +12 °C	0.950	0.960
Pdh Tj = Tbiv	8.93 kW	9.03 kW
COP Tj = Tbiv	2.58	1.87
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.93 kW	9.03 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.58	1.87
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	55 °C	55 °C
Poff	8 W	8 W
PTO	45 W	45 W
PSB	45 W	45 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	3653 kWh	5165 kWh

Warmer Climate

EN 14825		
	Low temperature	Medium temperature
η_s	250 %	173 %
Prated	10.42 kW	10.36 kW

This information was generated by the HP KEYMARK database on 29 Mar 2022

SCOP	6.32	4.41
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	10.42 kW	10.36 kW
COP Tj = +2°C	3.42	2.32
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	6.71 kW	6.37 kW
COP Tj = +7°C	6.07	3.95
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	6.58 kW	6.20 kW
COP Tj = 12°C	8.09	5.85
Cdh Tj = +12 °C	0.95	0.96
Pdh Tj = Tbiv	10.42 kW	10.36 kW
COP Tj = Tbiv	3.42	2.32
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.42 kW	10.36 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.42	2.32
WTOL	55 °C	55 °C
Poff	8 W	8 W
PTO	45 W	45 W
PSB	45 W	45 W
PCK	0 W	0 W

This information was generated by the HP KEYMARK database on 29 Mar 2022

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	2204 kWh	3141 kWh

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	58 dB(A)	60 dB(A)

Colder Climate

EN 14825		
	Low temperature	Medium temperature
η_s	171 %	125 %
Prated	7.61 kW	7.38 kW
SCOP	4.35	3.20
T _{biv}	-20 °C	-20 °C
TOL	-20 °C	-20 °C
P _{dh} T _j = -7°C	4.50 kW	4.50 kW
COP T _j = -7°C	3.79	2.65
C _{dh} T _j = -7 °C	0.970	0.970
P _{dh} T _j = +2°C	5.00 kW	4.62 kW
COP T _j = +2°C	5.34	3.96

This information was generated by the HP KEYMARK database on 29 Mar 2022

Cdh Tj = +2 °C	0.960	0.960
Pdh Tj = +7°C	5.67 kW	5.47 kW
COP Tj = +7°C	6.89	5.34
Cdh Tj = +7 °C	0.950	0.960
Pdh Tj = 12°C	6.60 kW	6.38 kW
COP Tj = 12°C	8.30	6.70
Cdh Tj = +12 °C	0.950	0.960
Pdh Tj = Tbiv	7.21 kW	6.99 kW
COP Tj = Tbiv	2.14	1.53
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.21 kW	6.99 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.14	1.53
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	55 °C	55 °C
Poff	8 W	8 W
PTO	45 W	45 W
PSB	45 W	45 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	7.61 kW	7.38 kW
Annual energy consumption Qhe	4314 kWh	5691 kWh
Pdh Tj = -15°C (if TOL<-20°C)		

This information was generated by the HP KEYMARK database on 29 Mar 2022

COP Tj = -15°C (if TOL<-20°C)		
Cdh Tj = -15 °C		

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	58 dB(A)	60 dB(A)

Model: HA 10-6 O

Configure model	
Model name	HA 10-6 O
Application	Heating (medium temp)
Units	Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	8.13 kW	9.08 kW
El input	1.54 kW	2.95 kW
COP	5.27	3.08

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

Average Climate

EN 12102-1

	Low temperature	Medium temperature
Sound power level outdoor	59 dB(A)	59 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	199 %	143 %
Prated	8.86 kW	9.09 kW
SCOP	5.05	3.65
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	7.84 kW	8.04 kW
COP Tj = -7°C	3.21	2.20
Cdh Tj = -7 °C	0.980	0.990
Pdh Tj = +2°C	4.92 kW	4.77 kW
COP Tj = +2°C	5.06	3.63
Cdh Tj = +2 °C	0.950	0.960
Pdh Tj = +7°C	5.65 kW	5.37 kW
COP Tj = +7°C	6.65	4.92
Cdh Tj = +7 °C	0.950	0.960
Pdh Tj = 12°C	6.62 kW	6.30 kW

This information was generated by the HP KEYMARK database on 29 Mar 2022

COP Tj = 12°C	8.41	6.34
Cdh Tj = +12 °C	0.940	0.950
Pdh Tj = Tbiv	8.93 kW	9.03 kW
COP Tj = Tbiv	2.58	1.87
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.93 kW	9.03 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.58	1.87
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	55 °C	55 °C
Poff	14 W	14 W
PTO	51 W	51 W
PSB	51 W	51 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	3634 kWh	5146 kWh

Warmer Climate

EN 14825		
	Low temperature	Medium temperature
η_s	252 %	175 %
Prated	10.42 kW	10.36 kW

This information was generated by the HP KEYMARK database on 29 Mar 2022

SCOP	6.39	4.44
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	10.42 kW	10.36 kW
COP Tj = +2°C	3.42	2.32
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	6.71 kW	6.37 kW
COP Tj = +7°C	6.07	3.95
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	6.58 kW	6.20 kW
COP Tj = 12°C	8.09	5.85
Cdh Tj = +12 °C	0.94	0.96
Pdh Tj = Tbiv	10.42 kW	10.36 kW
COP Tj = Tbiv	3.42	2.32
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.42 kW	10.36 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.42	2.32
WTOL	55 °C	55 °C
Poff	14 W	14 W
PTO	51 W	51 W
PSB	51 W	51 W
PCK	0 W	0 W

This information was generated by the HP KEYMARK database on 29 Mar 2022

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	2180 kWh	3117 kWh

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	59 dB(A)	59 dB(A)

Colder Climate

EN 14825		
	Low temperature	Medium temperature
η_s	171 %	125 %
Prated	7.61 kW	7.38 kW
SCOP	4.35	3.20
T _{biv}	-20 °C	-20 °C
TOL	-20 °C	-20 °C
P _{dh} T _j = -7°C	4.50 kW	4.50 kW
COP T _j = -7°C	3.79	2.65
C _{dh} T _j = -7 °C	0.960	0.970
P _{dh} T _j = +2°C	5.00 kW	4.62 kW
COP T _j = +2°C	5.34	3.96

This information was generated by the HP KEYMARK database on 29 Mar 2022

Cdh Tj = +2 °C	0.950	0.960
Pdh Tj = +7°C	5.67 kW	5.47 kW
COP Tj = +7°C	6.89	5.34
Cdh Tj = +7 °C	0.940	0.950
Pdh Tj = 12°C	6.60 kW	6.38 kW
COP Tj = 12°C	8.30	6.70
Cdh Tj = +12 °C	0.940	0.950
Pdh Tj = Tbiv	7.21 kW	6.99 kW
COP Tj = Tbiv	2.14	1.53
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.21 kW	6.99 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.14	1.53
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	55 °C	55 °C
Poff	14 W	14 W
PTO	51 W	51 W
PSB	51 W	51 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	7.61 kW	7.38 kW
Annual energy consumption Qhe	4314 kWh	5692 kWh
Pdh Tj = -15°C (if TOL<-20°C)		

This information was generated by the HP KEYMARK database on 29 Mar 2022

COP Tj = -15°C (if TOL<-20°C)		
Cdh Tj = -15 °C		

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	59 dB(A)	59 dB(A)

Model: HA 10-6 O B2

Configure model	
Model name	HA 10-6 O B2
Application	Heating (medium temp)
Units	Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	No
Cooling mode application (optional)	n/a

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	8.13 kW	9.08 kW
El input	1.54 kW	2.95 kW
COP	5.27	3.08

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

Average Climate

EN 12102-1

	Low temperature	Medium temperature
Sound power level outdoor	59 dB(A)	59 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	196 %	141 %
Prated	8.86 kW	9.09 kW
SCOP	4.97	3.61
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	7.84 kW	8.04 kW
COP Tj = -7°C	3.21	2.20
Cdh Tj = -7 °C	0.980	0.990
Pdh Tj = +2°C	4.92 kW	4.77 kW
COP Tj = +2°C	5.06	3.63
Cdh Tj = +2 °C	0.950	0.960
Pdh Tj = +7°C	5.65 kW	5.37 kW
COP Tj = +7°C	6.65	4.92
Cdh Tj = +7 °C	0.950	0.960
Pdh Tj = 12°C	6.62 kW	6.30 kW

This information was generated by the HP KEYMARK database on 29 Mar 2022

COP Tj = 12°C	8.41	6.34
Cdh Tj = +12 °C	0.940	0.950
Pdh Tj = Tbiv	8.93 kW	9.03 kW
COP Tj = Tbiv	2.58	1.87
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	8.93 kW	9.03 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.58	1.87
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	55 °C	55 °C
Poff	14 W	14 W
PTO	51 W	51 W
PSB	51 W	51 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	3686 kWh	5199 kWh

Warmer Climate

EN 14825		
	Low temperature	Medium temperature
η_s	245 %	171 %
Prated	10.42 kW	10.36 kW

This information was generated by the HP KEYMARK database on 29 Mar 2022

SCOP	6.21	4.35
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	10.42 kW	10.36 kW
COP Tj = +2°C	3.42	2.32
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	6.71 kW	6.37 kW
COP Tj = +7°C	6.07	3.95
Cdh Tj = +7 °C	0.96	0.97
Pdh Tj = 12°C	6.58 kW	6.20 kW
COP Tj = 12°C	8.09	5.85
Cdh Tj = +12 °C	0.94	0.96
Pdh Tj = Tbiv	10.42 kW	10.36 kW
COP Tj = Tbiv	3.42	2.32
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	10.42 kW	10.36 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.42	2.32
WTOL	55 °C	55 °C
Poff	14 W	14 W
PTO	51 W	51 W
PSB	51 W	51 W
PCK	0 W	0 W

This information was generated by the HP KEYMARK database on 29 Mar 2022

Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	2243 kWh	3180 kWh

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	59 dB(A)	59 dB(A)

Colder Climate

EN 14825		
	Low temperature	Medium temperature
η_s	170 %	124 %
Prated	7.61 kW	7.38 kW
SCOP	4.32	3.18
T _{biv}	-20 °C	-20 °C
TOL	-20 °C	-20 °C
P _{dh} T _j = -7°C	4.50 kW	4.50 kW
COP T _j = -7°C	3.79	2.65
C _{dh} T _j = -7 °C	0.960	0.970
P _{dh} T _j = +2°C	5.00 kW	4.62 kW
COP T _j = +2°C	5.34	3.96

This information was generated by the HP KEYMARK database on 29 Mar 2022

Cdh Tj = +2 °C	0.950	0.960
Pdh Tj = +7°C	5.67 kW	5.47 kW
COP Tj = +7°C	6.89	5.34
Cdh Tj = +7 °C	0.940	0.950
Pdh Tj = 12°C	6.60 kW	6.38 kW
COP Tj = 12°C	8.30	6.70
Cdh Tj = +12 °C	0.940	0.950
Pdh Tj = Tbiv	7.21 kW	6.99 kW
COP Tj = Tbiv	2.14	1.53
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.21 kW	6.99 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.14	1.53
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	55 °C	55 °C
Poff	14 W	14 W
PTO	51 W	51 W
PSB	51 W	51 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	7.61 kW	7.38 kW
Annual energy consumption Qhe	4345 kWh	5723 kWh
Pdh Tj = -15°C (if TOL<-20°C)		

This information was generated by the HP KEYMARK database on 29 Mar 2022

COP Tj = -15°C (if TOL<-20°C)		
Cdh Tj = -15 °C		

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	59 dB(A)	59 dB(A)

Model: HA 12-6 O 230V B3

Configure model	
Model name	HA 12-6 O 230V B3
Application	Heating (medium temp)
Units	Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data	
Power supply	1x230V 50Hz

Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	11.60 kW	13.15 kW
El input	2.46 kW	4.55 kW
COP	4.71	2.89

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

Average Climate

EN 12102-1

	Low temperature	Medium temperature
Sound power level outdoor	58 dB(A)	60 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	200 %	144 %
Prated	9.35 kW	9.66 kW
SCOP	5.07	3.67
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.09 kW	8.64 kW
COP Tj = -7°C	3.11	2.12
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.90 kW	5.30 kW
COP Tj = +2°C	4.98	3.62
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	5.75 kW	5.47 kW
COP Tj = +7°C	6.73	4.94
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	6.67 kW	6.35 kW

This information was generated by the HP KEYMARK database on 29 Mar 2022

COP Tj = 12°C	8.74	6.50
Cdh Tj = +12 °C	0.97	0.98
Pdh Tj = Tbiv	9.35 kW	9.66 kW
COP Tj = Tbiv	2.58	1.92
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.35 kW	9.66 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.58	1.92
WTOL	75 °C	75 °C
Poff	8 W	8 W
PTO	45 W	45 W
PSB	45 W	45 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	3812 kWh	5437 kWh

Warmer Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	58 dB(A)	60 dB(A)

EN 14825		
	Low temperature	Medium temperature

This information was generated by the HP KEYMARK database on 29 Mar 2022

η_s	256 %	176 %
Prated	11.16 kW	11.02 kW
SCOP	6.48	4.47
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	11.16 kW	11.02 kW
COP Tj = +2°C	3.26	2.23
Cdh Tj = +2 °C	0.99	1.00
Pdh Tj = +7°C	7.36 kW	7.20 kW
COP Tj = +7°C	5.90	3.84
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12°C	6.53 kW	6.25 kW
COP Tj = 12°C	8.26	5.95
Cdh Tj = +12 °C	0.97	0.98
Pdh Tj = Tbiv	11.16 kW	11.02 kW
COP Tj = Tbiv	3.26	2.23
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.16 kW	11.02 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.26	2.23
WTOL	75 °C	75 °C
Poff	8 W	8 W

This information was generated by the HP KEYMARK database on 29 Mar 2022

PTO	45 W	45 W
PSB	45 W	45 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	2303 kWh	3295 kWh

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	58 dB(A)	60 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	168 %	126 %
Prated	10.24 kW	10.65 kW
SCOP	4.27	3.24
T _{biv}	-15 °C	-15 °C
TOL	-20 °C	-20 °C
P _{dh} T _j = -7°C	6.34 kW	6.45 kW
COP T _j = -7°C	3.58	2.58

This information was generated by the HP KEYMARK database on 29 Mar 2022

Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	5.00 kW	4.70 kW
COP Tj = +2°C	5.39	4.06
Cdh Tj = +2 °C	0.980	0.980
Pdh Tj = +7°C	5.79 kW	5.60 kW
COP Tj = +7°C	7.02	5.45
Cdh Tj = +7 °C	0.970	0.980
Pdh Tj = 12°C	6.67 kW	6.47 kW
COP Tj = 12°C	8.74	7.14
Cdh Tj = +12 °C	0.970	0.980
Pdh Tj = Tbiv	8.35 kW	8.68 kW
COP Tj = Tbiv	2.41	1.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.20 kW	7.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.06	1.48
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	75 °C	75 °C
Poff	8 W	8 W
PTO	45 W	45 W
PSB	45 W	45 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity

This information was generated by the HP KEYMARK database on 29 Mar 2022

Supplementary Heater: PSUP	10.24 kW	10.65 kW
Annual energy consumption Q_{he}	5906 kWh	8111 kWh
$P_{dh} T_j = -15^{\circ}\text{C}$ (if $TOL < -20^{\circ}\text{C}$)		
$COP T_j = -15^{\circ}\text{C}$ (if $TOL < -20^{\circ}\text{C}$)		
$C_{dh} T_j = -15^{\circ}\text{C}$		

Model: HA 12-6 O B3

Configure model	
Model name	HA 12-6 O B3
Application	Heating (medium temp)
Units	Outdoor
Climate Zone	Colder Climate + Warmer Climate
Reversibility	Yes
Cooling mode application (optional)	n/a

General Data	
Power supply	3x400V 50Hz

Heating

EN 14511-2		
	Low temperature	Medium temperature
Heat output	11.60 kW	13.15 kW
El input	2.46 kW	4.55 kW
COP	4.71	2.89

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

Average Climate

EN 12102-1

	Low temperature	Medium temperature
Sound power level outdoor	58 dB(A)	60 dB(A)

EN 14825

	Low temperature	Medium temperature
η_s	200 %	144 %
Prated	9.35 kW	9.66 kW
SCOP	5.06	3.67
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	8.09 kW	8.64 kW
COP Tj = -7°C	3.11	2.12
Cdh Tj = -7 °C	0.99	0.99
Pdh Tj = +2°C	4.90 kW	5.30 kW
COP Tj = +2°C	4.98	3.62
Cdh Tj = +2 °C	0.98	0.99
Pdh Tj = +7°C	5.75 kW	5.47 kW
COP Tj = +7°C	6.73	4.94
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	6.67 kW	6.35 kW

This information was generated by the HP KEYMARK database on 29 Mar 2022

COP Tj = 12°C	8.74	6.50
Cdh Tj = +12 °C	0.97	0.98
Pdh Tj = Tbiv	9.35 kW	9.66 kW
COP Tj = Tbiv	2.58	1.92
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.35 kW	9.66 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.58	1.92
WTOL	75 °C	75 °C
Poff	14 W	14 W
PTO	51 W	51 W
PSB	51 W	51 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	3813 kWh	5438 kWh

Warmer Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	58 dB(A)	60 dB(A)

EN 14825		
	Low temperature	Medium temperature

This information was generated by the HP KEYMARK database on 29 Mar 2022

η_s	255 %	175 %
Prated	11.16 kW	11.02 kW
SCOP	6.46	4.46
Tbiv	2 °C	2 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	11.16 kW	11.02 kW
COP Tj = +2°C	3.26	2.23
Cdh Tj = +2 °C	0.99	1.00
Pdh Tj = +7°C	7.36 kW	7.20 kW
COP Tj = +7°C	5.90	3.84
Cdh Tj = +7 °C	0.98	0.99
Pdh Tj = 12°C	6.53 kW	6.25 kW
COP Tj = 12°C	8.26	5.95
Cdh Tj = +12 °C	0.97	0.98
Pdh Tj = Tbiv	11.16 kW	11.02 kW
COP Tj = Tbiv	3.26	2.23
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.16 kW	11.02 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.26	2.23
WTOL	75 °C	75 °C
Poff	14 W	14 W

This information was generated by the HP KEYMARK database on 29 Mar 2022

PTO	51 W	51 W
PSB	51 W	51 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Q _{he}	2307 kWh	3299 kWh

Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	58 dB(A)	60 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_s	168 %	126 %
Prated	10.24 kW	10.65 kW
SCOP	4.27	3.24
T _{biv}	-15 °C	-15 °C
TOL	-20 °C	-20 °C
P _{dh} T _j = -7°C	6.34 kW	6.45 kW
COP T _j = -7°C	3.58	2.58

This information was generated by the HP KEYMARK database on 29 Mar 2022

Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = +2°C	5.00 kW	4.70 kW
COP Tj = +2°C	5.39	4.06
Cdh Tj = +2 °C	0.980	0.980
Pdh Tj = +7°C	5.79 kW	5.60 kW
COP Tj = +7°C	7.02	5.45
Cdh Tj = +7 °C	0.970	0.980
Pdh Tj = 12°C	6.67 kW	6.47 kW
COP Tj = 12°C	8.74	7.14
Cdh Tj = +12 °C	0.970	0.980
Pdh Tj = Tbiv	8.35 kW	8.68 kW
COP Tj = Tbiv	2.41	1.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	7.20 kW	7.10 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.06	1.48
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	75 °C	75 °C
Poff	14 W	14 W
PTO	51 W	51 W
PSB	51 W	51 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity

This information was generated by the HP KEYMARK database on 29 Mar 2022

Supplementary Heater: PSUP	10.24 kW	10.65 kW
Annual energy consumption Q_{he}	5907 kWh	8112 kWh
$P_{dh} T_j = -15^{\circ}\text{C}$ (if $TOL < -20^{\circ}\text{C}$)		
$COP T_j = -15^{\circ}\text{C}$ (if $TOL < -20^{\circ}\text{C}$)		
$C_{dh} T_j = -15^{\circ}\text{C}$		