

Page 1 of 85

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Login

Summary of	HA 12-6 O 230V, HA 12-6 O	Reg. No.	40051134	
Certificate H	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	
СОР	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	

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
η_{s}	254 %	174 %
Prated	11.35 kW	11.06 kW
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

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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
РТО	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	2363 kWh	3342 kWh

Colder Climate

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

Low temperature	Medium temperature
170 %	128 %
12.16 kW	11.09 kW
_	170 %





SCOP	4.32	3.28
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	6.93 kW	7.06 kW
COP Tj = -7°C	3.72	2.65
Cdh Tj = -7 °C	0.980	0.960
Pdh Tj = +2°C	5.11 kW	4.83 kW
COP Tj = +2°C	5.51	4.20
Cdh Tj = +2 °C	0.960	0.960
Pdh Tj = $+7^{\circ}$ C	5.82 kW	5.62 kW
$COPTj = +7^{\circ}C$	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
РТО	45 W	45 W
PSB	45 W	45 W
PCK	o w	o 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
COP Tj = -15°C (if TOL $<$ -20°C)	2.26	1.81
Cdh Tj = -15 °C	0.990	0.990

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		
195 % 147 %		
12.73 kW 11.81 kW		
4.96 3.75		
4.96		





Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.27 kW	10.45 kW
$COP Tj = -7^{\circ}C$	2.58	2.10
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = $+2$ °C	6.99 kW	6.43 kW
$COPTj = +2^{\circ}C$	5.17	3.73
Cdh Tj = +2 °C	0.970	0.970
Pdh Tj = $+7$ °C	5.81 kW	5.65 kW
$COPTj = +7^{\circ}C$	6.87	5.27
Cdh Tj = +7 °C	0.950	0.960
Pdh Tj = 12°C	6.77 kW	6.58 kW
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
	-	



Page 8 of 85

РТО	45 W	45 W
PSB	45 W	45 W
PCK	o 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

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

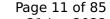
Warmer Climate



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

EN 14825				
Low temperature Medium temperature				
η_{s}	250 %	172 %		
Prated	11.35 kW	11.06 kW		
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		

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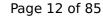


This information was generated by the HP KEYMARK database on 21 Jun 202		
COP Tj = Tbiv	3.23	2.21
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.35 kW	11.06 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.23	2.21
WTOL	70 °C	70 °C
Poff	8 W	8 W
РТО	45 W	45 W
PSB	45 W	45 W
РСК	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2399 kWh	3378 kWh

Colder Climate

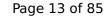
EN 12102-1			
Low temperature Medium temperature			
Sound power level outdoor	58 dB(A)	60 dB(A)	

EN 14825		
	Low temperature	Medium temperature
η_{S}	169 %	128 %
Prated	12.16 kW	11.09 kW





SCOP	4.31	3.28
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	6.93 kW	7.06 kW
COP Tj = -7°C	3.72	2.65
Cdh Tj = -7 °C	0.980	0.960
Pdh Tj = +2°C	5.11 kW	4.83 kW
COP Tj = +2°C	5.51	4.20
Cdh Tj = +2 °C	0.960	0.960
Pdh Tj = +7°C	5.82 kW	5.62 kW
$COP Tj = +7^{\circ}C$	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



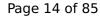


Poff	8 W	8 W
РТО	45 W	45 W
PSB	45 W	45 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	12.16 kW	11.09 kW
Annual energy consumption Qhe	6954 kWh	8339 kWh
Pdh Tj = -15°C (if TOL<-20°C)	9.92	9.04
COP Tj = -15°C (if TOL $<$ -20°C)	2.26	1.81
Cdh Tj = -15 °C	0.990	0.990

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	
194 %	146 %	
12.73 kW	11.81 kW	
4.93	3.74	
	Low temperature 194 % 12.73 kW	





This information was gener	ated by the Hi KETMA	NK database on 21 Juli 2022
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7 °C	11.27 kW	10.45 kW
$COP Tj = -7^{\circ}C$	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 = $+7^{\circ}$ C	5.81 kW	5.65 kW
$COP Tj = +7^{\circ}C$	6.87	5.27
Cdh Tj = +7 °C	0.950	0.960
Pdh Tj = 12°C	6.77 kW	6.58 kW
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
	-	



Page 15 of 85

РТО	45 W	45 W
PSB	45 W	45 W
PCK	o 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



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

COP

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

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

Warmer Climate

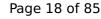
5.38



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}	254 %	173 %
Prated	11.35 kW	11.06 kW
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

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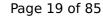


COP Tj = Tbiv	3.23	2.21
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.35 kW	11.06 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.23	2.21
WTOL	70 °C	70 °C
Poff	14 W	14 W
РТО	51 W	51 W
PSB	51 W	51 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2363 kWh	3354 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}	170 %	128 %
Prated	12.16 kW	11.09 kW





SCOP	4.32	3.28
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	6.93 kW	7.06 kW
COP Tj = -7°C	3.72	2.65
Cdh Tj = -7 °C	0.970	0.980
Pdh Tj = $+2$ °C	5.11 kW	4.83 kW
COP Tj = +2°C	5.51	4.20
Cdh Tj = +2 °C	0.950	0.960
Pdh Tj = $+7$ °C	5.82 kW	5.62 kW
$COP Tj = +7^{\circ}C$	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



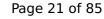


Poff	14 W	14 W
PTO	51 W	51 W
PSB	51 W	51 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	12.16 kW	11.09 kW
Annual energy consumption Qhe	6936 kWh	8334 kWh
Pdh Tj = -15°C (if TOL<-20°C)	9.92	9.04
COP Tj = -15°C (if TOL $<$ -20°C)	2.26	1.81
Cdh Tj = -15 °C	0.990	0.990

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	
195 %	147 %	
12.73 kW	11.81 kW	
4.96	3.75	
	Low temperature 195 % 12.73 kW	





This information was gener	ated by the HI KETMA	NK database on 21 Juli 2022
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	11.27 kW	10.45 kW
$COP Tj = -7^{\circ}C$	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 = $+7^{\circ}$ C	5.81 kW	5.65 kW
$COPTj = +7^{\circ}C$	6.87	5.27
Cdh Tj = +7 °C	0.950	0.960
Pdh Tj = 12°C	6.77 kW	6.58 kW
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
	-	-



Page 22 of 85

РТО	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



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	
СОР	5.24	3.04	

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

Warmer Climate

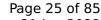




EN 12102-1			
	Low temperature	Medium temperature	
Sound power level outdoor	59 dB(A)	59 dB(A)	

EN 14825			
	Low temperature	Medium temperature	
η_{s}	250 %	170 %	
Prated	11.35 kW	11.06 kW	
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 = $+7^{\circ}$ C	7.41 kW	7.19 kW	
$COP Tj = +7^{\circ}C$	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	

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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
РТО	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	2399 kWh	3417 kWh

Colder Climate

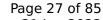
EN 12102-1			
	Low temperature	Medium temperature	
Sound power level outdoor	59 dB(A)	59 dB(A)	

	EN 14825			
Low temperature	Medium temperature			
169 %	128 %			
12.16 kW	11.09 kW			
	169 %			





SCOP	4.31	3.27
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	6.93 kW	7.06 kW
$COP Tj = -7^{\circ}C$	3.72	2.65
Cdh Tj = -7 °C	0.970	0.980
Pdh Tj = +2°C	5.11 kW	4.83 kW
$COP Tj = +2^{\circ}C$	5.51	4.20
Cdh Tj = +2 °C	0.950	0.960
Pdh Tj = $+7$ °C	5.82 kW	5.62 kW
$COPTj = +7^{\circ}C$	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	o w	o 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
COP Tj = -15°C (if TOL $<$ -20°C)	2.26	1.81
Cdh Tj = -15 °C	0.990	0.990

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





This information was gener	ated by the HE KLIMA	NK database on 21 Juli 2022
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7° C	11.27 kW	10.45 kW
$COPTj = -7^{\circ}C$	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 = $+7^{\circ}$ C	5.81 kW	5.65 kW
$COP Tj = +7^{\circ}C$	6.87	5.27
Cdh Tj = +7 °C	0.950	0.960
Pdh Tj = 12°C	6.77 kW	6.58 kW
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
	•	



Page 29 of 85

РТО	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

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

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

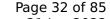
Warmer Climate



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

EN 14825			
	Low temperature	Medium temperature	
η_{s}	245 %	172 %	
Prated	12.02 kW	12.69 kW	
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	

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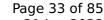


This information was gener	ated by the HP KEYMA	RK database on 21 Jun 2022
COP Tj = Tbiv	3.19	2.05
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	12.02 kW	12.69 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.19	2.05
WTOL	55 °C	55 °C
Poff	8 W	8 W
РТО	45 W	45 W
PSB	45 W	45 W
РСК	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2595 kWh	3867 kWh

Colder Climate

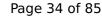
EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	61 dB(A)	61 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_{s}	168 %	125 %
Prated	12.73 kW	12.17 kW





SCOP	4.28	3.20
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	7.04 kW	7.02 kW
COP Tj = -7°C	3.64	2.56
Cdh Tj = -7 °C	0.980	0.980
Pdh Tj = +2°C	5.16 kW	4.80 kW
$COPTj = +2^{\circ}C$	5.33	4.08
Cdh Tj = +2 °C	0.960	0.960
Pdh Tj = +7°C	5.81 kW	5.55 kW
$COP Tj = +7^{\circ}C$	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
	+	





This information was genera	ted by the HP KEYMAF	RK database on 21 Jun 2022	
	8 W	8 W	

Poff	8 W	8 W
PTO	45 W	45 W
PSB	45 W	45 W
PCK	o w	o 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
COP Tj = -15°C (if TOL $<$ -20°C)	2.37	1.76
Cdh Tj = -15 °C	0.990	0.990

Average Climate

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

EN 14825			
	Low temperature	Medium temperature	
η_{s}	187 %	144 %	
Prated	12.69 kW	12.00 kW	
SCOP	4.74	3.66	
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
$COP Tj = -7^{\circ}C$	2.46	2.08
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = $+2$ °C	6.98 kW	6.54 kW
$COPTj = +2^{\circ}C$	4.88	3.68
Cdh Tj = +2 °C	0.970	0.980
Pdh Tj = $+7^{\circ}$ C	5.79 kW	5.43 kW
$COPTj = +7^{\circ}C$	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
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.82 kW	11.05 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.23	1.75
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	55 °C	55 °C
Poff	8 W	8 W



Page 36 of 85

РТО	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 Qhe	5532 kWh	6767 kWh



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

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

Warmer Climate

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

EN 14825		
	Low temperature	Medium temperature
η_{s}	244 %	172 %
Prated	12.02 kW	12.69 kW
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
	'	

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0.00 kW

3878 kWh



COP Tj = Tbiv3.19 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 Supplementary Heater: Type of energy input Electricity Electricity

0.00 kW

2606 kWh

Colder Climate

Supplementary Heater: PSUP

Annual energy consumption Qhe

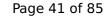
EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	61 dB(A)	61 dB(A)

EN 14825		
Low temperature	Medium temperature	
168 %	125 %	
12.73 kW	12.17 kW	
	168 %	





SCOP	4.27	3.20
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	7.04 kW	7.02 kW
COP Tj = -7°C	3.64	2.56
Cdh Tj = -7 °C	0.970	0.980
Pdh Tj = +2°C	5.16 kW	4.80 kW
COP Tj = +2°C	5.33	4.08
Cdh Tj = +2 °C	0.950	0.960
Pdh Tj = $+7^{\circ}$ C	5.81 kW	5.55 kW
$COP Tj = +7^{\circ}C$	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
РТО	51 W	51 W
PSB	51 W	51 W
PCK	o 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
COP Tj = -15°C (if TOL $<$ -20°C)	2.37	1.76
Cdh Tj = -15 °C	0.990	0.990

Average Climate

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

EN 14825		
Low temperature	Medium temperature	
186 %	143 %	
12.69 kW	12.00 kW	
4.73	3.66	
	Low temperature 186 % 12.69 kW	





This information was gener	ated by the HE KLIMA	NK database on 21 Juli 2022
Tbiv	-7 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7 °C	11.23 kW	10.62 kW
$COP Tj = -7^{\circ}C$	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
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	9.82 kW	11.05 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.23	1.75
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	55 °C	55 °C
Poff	14 W	14 W
	•	



Page 43 of 85

РТО	51 W	51 W
PSB	51 W	51 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	2.87 kW	0.00 kW
Annual energy consumption Qhe	5542 kWh	6776 kWh



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		

Heating

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

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
η_{s}	254 %	175 %
Prated	10.42 kW	10.36 kW
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

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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
РТО	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	2167 kWh	3104 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 temperatur			
η_{s}	172 %	125 %	
Prated	7.61 kW	7.38 kW	





SCOP	4.37	3.21
Tbiv	-20 °C	-20 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7 °C	4.50 kW	4.50 kW
$COP Tj = -7^{\circ}C$	3.79	2.65
Cdh Tj = -7 °C	0.970	0.970
Pdh Tj = $+2$ °C	5.00 kW	4.62 kW
COP Tj = +2°C	5.34	3.96
Cdh Tj = +2 °C	0.960	0.960
Pdh Tj = $+7^{\circ}$ C	5.67 kW	5.47 kW
$COPTj = +7^{\circ}C$	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
РТО	45 W	45 W
PSB	45 W	45 W
PCK	o 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)		
COP Tj = -15 °C (if TOL< -20 °C)		
Cdh Tj = -15 °C		

Average Climate

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

Low temperature	
	Medium temperature
199 %	143 %
8.86 kW	9.09 kW
5.05	3.66
5	.05





This information was gener	ated by the Hi KLIMA	NK database on 21 Juli 2022
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	7.84 kW	8.04 kW
$COPTj = -7^{\circ}C$	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 = $+7^{\circ}$ 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
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
	•	



Page 50 of 85

РТО	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

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

COP

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

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

Warmer Climate

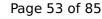
5.27



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}	250 %	173 %
Prated	10.42 kW	10.36 kW
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
$COP Tj = +2^{\circ}C$	3.42	2.32
Cdh Tj = +2 °C	0.99	0.99
Pdh Tj = +7°C	6.71 kW	6.37 kW
$COP Tj = +7^{\circ}C$	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

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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
РТО	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	2204 kWh	3141 kWh

Colder Climate

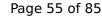
EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	58 dB(A)	60 dB(A)

EN 14825		
Low temperature	Medium temperature	
171 %	125 %	
7.61 kW	7.38 kW	
	Low temperature	





SCOP	4.35	3.20
Tbiv	-20 °C	-20 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	4.50 kW	4.50 kW
$COP Tj = -7^{\circ}C$	3.79	2.65
Cdh Tj = -7 °C	0.970	0.970
Pdh Tj = $+2$ °C	5.00 kW	4.62 kW
COP Tj = +2°C	5.34	3.96
Cdh Tj = +2 °C	0.960	0.960
Pdh Tj = $+7^{\circ}$ C	5.67 kW	5.47 kW
$COPTj = +7^{\circ}C$	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
РТО	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)		
COP Tj = -15°C (if TOL $<$ -20°C)		
Cdh Tj = -15 °C		

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
	-	





		10.00
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
$COP Tj = +2^{\circ}C$	5.06	3.63
Cdh Tj = +2 °C	0.960	0.970
Pdh Tj = $+7^{\circ}$ C	5.65 kW	5.37 kW
$COPTj = +7^{\circ}C$	6.65	4.92
Cdh Tj = +7 °C	0.950	0.960
Pdh Tj = 12°C	6.62 kW	6.30 kW
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
	+	



Page 57 of 85

РТО	45 W	45 W
PSB	45 W	45 W
PCK	o 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



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	

EN 14511-2

Heating

Medium temperature

Low temperature 9.08 kW Heat output 8.13 kW 1.54 kW 2.95 kW El input 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

Warmer 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}	252 %	175 %
Prated	10.42 kW	10.36 kW
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

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	•	
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
РТО	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	2180 kWh	3117 kWh

Colder Climate

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

EN 14825	
Low temperature	Medium temperature
171 %	125 %
7.61 kW	7.38 kW
	Low temperature





SCOP	4.35	3.20
Tbiv	-20 °C	-20 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	4.50 kW	4.50 kW
COP Tj = -7°C	3.79	2.65
Cdh Tj = -7 °C	0.960	0.970
Pdh Tj = $+2$ °C	5.00 kW	4.62 kW
$COPTj = +2^{\circ}C$	5.34	3.96
Cdh Tj = +2 °C	0.950	0.960
Pdh Tj = $+7^{\circ}$ C	5.67 kW	5.47 kW
$COPTj = +7^{\circ}C$	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



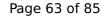


Poff	14 W	14 W
РТО	51 W	51 W
PSB	51 W	51 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	7.61 kW	7.38 kW
Annual energy consumption Qhe	4314 kWh	5692 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15 °C (if TOL< -20 °C)		
Cdh Tj = -15 °C		

Average Climate

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

ow temperature	Medium temperature
199 %	143 %
3.86 kW	9.09 kW
5.05	3.65
5.0	05





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Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	7.84 kW	8.04 kW
$COP Tj = -7^{\circ}C$	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
$COPTj = +7^{\circ}C$	6.65	4.92
Cdh Tj = +7 °C	0.950	0.960
Pdh Tj = 12°C	6.62 kW	6.30 kW
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



Page 64 of 85

РТО	51 W	51 W
PSB	51 W	51 W
PCK	o w	o 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



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

COP

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

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	

Warmer Climate

5.27





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}	245 %	171 %
Prated	10.42 kW	10.36 kW
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 = $+7^{\circ}$ 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

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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
РТО	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	2243 kWh	3180 kWh

Colder Climate

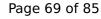
EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	59 dB(A)	59 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_{s}	170 %	124 %
Prated	7.61 kW	7.38 kW
Tracea	7.01 KW	7.50 KW





SCOP	4.32	3.18
Tbiv	-20 °C	-20 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7 °C	4.50 kW	4.50 kW
$COP Tj = -7^{\circ}C$	3.79	2.65
Cdh Tj = -7 °C	0.960	0.970
Pdh Tj = $+2$ °C	5.00 kW	4.62 kW
COP Tj = +2°C	5.34	3.96
Cdh Tj = +2 °C	0.950	0.960
Pdh Tj = $+7^{\circ}$ C	5.67 kW	5.47 kW
$COP Tj = +7^{\circ}C$	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



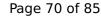


		-
Poff	14 W	14 W
PTO	51 W	51 W
PSB	51 W	51 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	7.61 kW	7.38 kW
Annual energy consumption Qhe	4345 kWh	5723 kWh
Pdh Tj = -15°C (if TOL<-20°C)		
COP Tj = -15°C (if TOL $<$ -20°C)		
Cdh Tj = -15 °C		

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





This information was genera	<u>, </u>	
Tbiv	-10 °C	-10 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	7.84 kW	8.04 kW
$COP Tj = -7^{\circ}C$	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 = $+7^{\circ}$ C	5.65 kW	5.37 kW
$COPTj = +7^{\circ}C$	6.65	4.92
Cdh Tj = +7 °C	0.950	0.960
Pdh Tj = 12°C	6.62 kW	6.30 kW
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
	+	!



Page 71 of 85

РТО	51 W	51 W
PSB	51 W	51 W
PCK	o 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



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
СОР	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

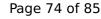
Warmer Climate



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

EN 14825		
	Low temperature	Medium temperature
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 = $+7^{\circ}$ C	7.36 kW	7.20 kW
$COP Tj = +7^{\circ}C$	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
	·	

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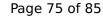


COP Tj = Tbiv	3.26	2.23
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	11.16 kW	11.02 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.26	2.23
WTOL	75 °C	75 °C
Poff	8 W	8 W
РТО	45 W	45 W
PSB	45 W	45 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	0.00 kW
Annual energy consumption Qhe	2303 kWh	3295 kWh

Colder Climate

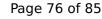
EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	58 dB(A)	60 dB(A)

Low temperature	Medium temperature
168 %	126 %
10.24 kW	10.65 kW
_	168 %





SCOP	4.27	3.24
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7°C	6.34 kW	6.45 kW
$COP Tj = -7^{\circ}C$	3.58	2.58
Cdh Tj = -7 °C	0.990	0.990
Pdh Tj = $+2$ °C	5.00 kW	4.70 kW
$COPTj = +2^{\circ}C$	5.39	4.06
Cdh Tj = +2 °C	0.980	0.980
Pdh Tj = $+7^{\circ}$ C	5.79 kW	5.60 kW
$COP Tj = +7^{\circ}C$	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
РТО	45 W	45 W
PSB	45 W	45 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	10.24 kW	10.65 kW
Annual energy consumption Qhe	5906 kWh	8111 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 outdoor	58 dB(A)	60 dB(A)

EN 14825		
Low temperature	Medium temperature	
200 %	144 %	
9.35 kW	9.66 kW	
5.07	3.67	
	Low temperature 200 % 9.35 kW	





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 = $+7^{\circ}$ C	5.75 kW	5.47 kW
$COPTj = +7^{\circ}C$	6.73	4.94
Cdh Tj = +7 °C	0.98	0.98
Pdh Tj = 12°C	6.67 kW	6.35 kW
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



Page 78 of 85

PSB	45 W	45 W
PCK	o w	o 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



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
СОР	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

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
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

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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
РТО	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	2307 kWh	3299 kWh

Colder Climate

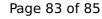
EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	58 dB(A)	60 dB(A)

Low temperature	Medium temperature
168 %	126 %
10.24 kW	10.65 kW
_	168 %





SCOP	4.27	3.24
Tbiv	-15 °C	-15 °C
TOL	-20 °C	-20 °C
Pdh Tj = -7 °C	6.34 kW	6.45 kW
COP Tj = -7°C	3.58	2.58
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 = $+7^{\circ}$ C	5.79 kW	5.60 kW
$COP Tj = +7^{\circ}C$	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
РТО	51 W	51 W
PSB	51 W	51 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	10.24 kW	10.65 kW
Annual energy consumption Qhe	5907 kWh	8112 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 outdoor	58 dB(A)	60 dB(A)

EN 14825		
Low temperature	Medium temperature	
200 %	144 %	
9.35 kW	9.66 kW	
5.06	3.67	
	Low temperature 200 % 9.35 kW	





-10 °C	10.00
	-10 °C
-10 °C	-10 °C
8.09 kW	8.64 kW
3.11	2.12
0.99	0.99
4.90 kW	5.30 kW
4.98	3.62
0.98	0.99
5.75 kW	5.47 kW
6.73	4.94
0.98	0.98
6.67 kW	6.35 kW
8.74	6.50
0.97	0.98
9.35 kW	9.66 kW
2.58	1.92
9.35 kW	9.66 kW
2.58	1.92
75 °C	75 °C
14 W	14 W
51 W	51 W
	8.09 kW 3.11 0.99 4.90 kW 4.98 0.98 5.75 kW 6.73 0.98 6.67 kW 8.74 0.97 9.35 kW 2.58 9.35 kW 2.58



Page 85 of 85

PSB	51 W	51 W
PCK	o 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