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#### This information was generated by the HP KEYMARK database on 18 Mar 2022

#### <u>Login</u>

Summary of	Aquantia MO PRO Mono HP	Reg. No.	041-K009-11
Certificate Holder	'	· ·	
Name	Frigicoll		
Address	Blasco de Garay, 4 6	Zip	08960
City	Sant Just Desvern	Country	Spain
Certification Body	BRE Global Limited		
Subtype title	Aquantia MO PRO Mono HP		
Heat Pump Type	Outdoor Air/Water		
Refrigerant	R32		
Mass of Refrigerant	5 kg		
Certification Date	31.03.2021		
Testing basis	HP Keymark Scheme Rules Rev 08		

## Model: KHP-MO 18 DTR2

Configure model		
Model name	KHP-MO 18 DTR2	
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	18.32 kW	18.10 kW		
El input	3.96 kW	6.63 kW		
СОР	4.63	2.73		

## Average Climate



EN 12102-1		
Low temperature Medium temperature		
Sound power level outdoor	71 dB(A)	71 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	181 %	125 %
Prated	17.99 kW	17.67 kW
SCOP	4.60	3.21
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	15.90 kW	15.61 kW
COP Tj = -7°C	2.85	1.72
Cdh Tj = -7 °C	0.900	0.900
Pdh Tj = +2°C	9.66 kW	9.59 kW
COP Tj = +2°C	4.59	3.32
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	6.56 kW	6.37 kW
$COP Tj = +7^{\circ}C$	5.99	4.48
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	3.76 kW	3.57 kW

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COP Tj = 12°C	7.08	5.27
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	15.90 kW	15.61 kW
COP Tj = Tbiv	2.85	1.72
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	17.99 kW	15.00 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.49	1.17
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	60 °C	60 °C
Poff	18 W	18 W
РТО	96 W	96 W
PSB	18 W	18 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.00 kW	2.64 kW
Annual energy consumption Qhe	8086 kWh	11375 kWh

## Warmer Climate

EN 12102-1		
Low temperature Medium temperature		
Sound power level outdoor	71 dB(A)	71 dB(A)

#### EN 14825



	Low temperature	Medium temperature
$\eta_{s}$	226 %	157 %
Prated	17.67 kW	18.07 kW
SCOP	5.74	4.00
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	17.67 kW	18.07 kW
COP Tj = +2°C	3.53	2.12
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	11.36 kW	11.62 kW
$COPTj = +7^{\circ}C$	5.16	3.49
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	5.45 kW	5.35 kW
COP Tj = 12°C	7.01	5.09
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	11.36 kW	11.62 kW
COP Tj = Tbiv	5.16	3.49
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	17.67 kW	18.07 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.53	2.12
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		

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WTOL	60 °C	60 °C
Poff	18 W	18 W
РТО	96 W	96 W
PSB	18 W	18 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	4116 kWh	6041 kWh

### Colder Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level outdoor	71 dB(A)	71 dB(A)	

EN 14825			
Low temperature Medium temperature			
$\eta_{s}$	146 %	97 %	
Prated	17.76 k	tW 18.38 kW	
SCOP	3.73	2.50	
Tbiv	-15 °C	-7 °C	
TOL	-22 °C	-15 °C	
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Pdh Tj = -7°C	11.21 kW	11.13 kW
COP Tj = -7°C	3.09	1.98
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	6.64 kW	6.65 kW
COP Tj = +2°C	4.50	3.44
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	4.77 kW	4.66 kW
$COP Tj = +7^{\circ}C$	5.85	4.35
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	3.95 kW	3.74 kW
COP Tj = 12°C	7.18	5.68
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	14.49 kW	11.13 kW
COP Tj = Tbiv	2.42	1.98
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.14 kW	13.56 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.67	1.21
WTOL	60 °C	60 °C
Poff	20 W	20 W
РТО	96 W	96 W
PSB	18 W	18 W
РСК	o w	0 W



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Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.62 kW	18.38 kW
Annual energy consumption Qhe	11740 kWh	18156 kWh
Pdh Tj = -15°C (if TOL<-20°C)	14.49	13.56
COP Tj = -15°C (if TOL $<$ -20°C)	2.42	1.21
Cdh Tj = -15 °C	0.90	0.90



## Model: KHP-MO 22 DTR2

Configure model		
Model name	KHP-MO 22 DTR2	
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	22.30 kW	22.10 kW
El input	5.13 kW	8.33 kW
СОР	4.35	2.65

## Average Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	73 dB(A)	73 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	178 %	126 %
Prated	22.31 kW	22.43 kW
SCOP	4.53	3.22
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	19.72 kW	19.82 kW
COP Tj = -7°C	2.74	1.74
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	12.03 kW	11.89 kW
COP Tj = +2°C	4.41	3.32
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	8.00 kW	7.97 kW
COP Tj = +7°C	6.29	4.66
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	3.79 kW	3.60 kW

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Cdh Tj = +12 °C       0.90       0.90         Pdh Tj = Tbiv       19.72 kW       19.82 kW         COP Tj = Tbiv       2.74       1.74         Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh       20.33 kW       13.81 kW         COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh       2.35       1.08         WTOL       60 °C       60 °C         Poff       18 W       18 W         PTO       96 W       96 W         PSB       18 W       18 W         PCK       0 W       0 W         Supplementary Heater: Type of energy input       Electricity       Electricity         Supplementary Heater: PSUP       1.97 kW       8.60 kW			
Pdh Tj = Tbiv       19.72 kW       19.82 kW         COP Tj = Tbiv       2.74       1.74         Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	COP Tj = 12°C	7.14	5.32
COP Tj = Tbiv       2.74       1.74         Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	Pdh Tj = Tbiv	19.72 kW	19.82 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	COP Tj = Tbiv	2.74	1.74
WTOL  60 °C  60 °C  18 W  18 W  PTO  96 W  96 W  PSB  18 W  18 W  18 W  PCK  0 W  0 W  Supplementary Heater: Type of energy input  Electricity  Electricity  Supplementary Heater: PSUP  1.97 kW  8.60 kW	Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	20.33 kW	13.81 kW
Poff 18 W 18 W  PTO 96 W 96 W  PSB 18 W 18 W  PCK 0 W 0 W  Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 1.97 kW 8.60 kW	COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.35	1.08
PTO 96 W 96 W  PSB 18 W 18 W  PCK 0 W 0 W  Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 1.97 kW 8.60 kW	WTOL	60 °C	60 °C
PSB 18 W 18 W  PCK 0 W 0 W  Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 1.97 kW 8.60 kW	Poff	18 W	18 W
PCK 0 W 0 W  Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 1.97 kW 8.60 kW	РТО	96 W	96 W
Supplementary Heater: Type of energy input Electricity Electricity  Supplementary Heater: PSUP 1.97 kW 8.60 kW	PSB	18 W	18 W
Supplementary Heater: PSUP 1.97 kW 8.60 kW	PCK	o w	0 W
	Supplementary Heater: Type of energy input	Electricity	Electricity
Annual energy consumption Qhe 10180 kWh 14390 kWh	Supplementary Heater: PSUP	1.97 kW	8.60 kW
	Annual energy consumption Qhe	10180 kWh	14390 kWh

## Warmer Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	73 dB(A)	73 dB(A)

EN 1482	25	
	Low temperature	Medium temperature





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$\eta_{s}$	234 %	161 %
Prated	21.90 kW	22.01 kW
SCOP	5.85	4.09
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	21.81 kW	22.01 kW
COP Tj = +2°C	3.31	2.12
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = +7°C	14.08 kW	14.15 kW
$COPTj = +7^{\circ}C$	5.20	3.50
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	6.44 kW	6.38 kW
COP Tj = 12°C	7.50	5.34
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	14.08 kW	14.15 kW
COP Tj = Tbiv	5.20	3.50
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	21.81 kW	22.01 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.31	2.12
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	60 °C	60 °C



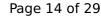


Poff	18 W	18 W
РТО	96 W	96 W
PSB	18 W	18 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.09 kW	0.00 kW
Annual energy consumption Qhe	4945 kWh	7180 kWh

### Colder Climate

EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	73 dB(A)	73 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	146 %	102 %
Prated	21.40 kW	22.36 kW
SCOP	3.72	2.62
Tbiv	-15 °C	-7 °C
TOL	-22 °C	-15 °C
Pdh Tj = -7°C	13.30 kW	13.53 kW
	-	





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COP Tj = -7°C	3.12	2.07
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = $+2$ °C	8.25 kW	8.61 kW
COP Tj = +2°C	4.42	3.70
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = $+7^{\circ}$ C	5.45 kW	5.21 kW
$COPTj = +7^{\circ}C$	5.87	4.49
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	3.98 kW	3.74 kW
COP Tj = 12°C	7.19	5.76
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	17.46 kW	13.53 kW
COP Tj = Tbiv	2.36	2.07
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.27 kW	13.78 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.69	1.24
WTOL	60 °C	60 °C
Poff	20 W	20 W
РТО	96 W	96 W
PSB	18 W	18 W
РСК	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity



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Supplementary Heater: PSUP	8.13 kW	22.36 kW
Annual energy consumption Qhe	14179 kWh	21067 kWh
Pdh Tj = -15°C (if TOL<-20°C)	17.46	13.78
COP Tj = -15°C (if TOL $<$ -20°C)	2.36	1.24
Cdh Tj = -15 °C	0.90	0.90



## Model: KHP-MO 26 DTR2

Configure model		
Model name	KHP-MO 26 DTR2	
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	26.30 kW	26.06 kW
El input	6.50 kW	10.72 kW
СОР	4.05	2.43

## Average Climate



EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	75 dB(A)	75 dB(A)

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	177 %	123 %
Prated	25.04 kW	26.15 kW
SCOP	4.50	3.14
Tbiv	-7 °C	-6 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	22.12 kW	20.64 kW
COP Tj = -7°C	2.57	1.69
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	13.76 kW	14.26 kW
COP Tj = +2°C	4.44	3.12
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	9.36 kW	9.29 kW
COP Tj = +7°C	6.52	4.74
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	4.09 kW	3.89 kW

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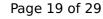


COP Tj = 12°C	7.35	5.48
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	22.12 kW	22.11 kW
COP Tj = Tbiv	2.57	1.88
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	20.33 kW	13.86 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.35	1.08
WTOL	60 °C	60 °C
Poff	18 W	18 W
РТО	96 W	96 W
PSB	18 W	18 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.68 kW	12.28 kW
Annual energy consumption Qhe	11489 kWh	17204 kWh

## Warmer Climate

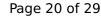
EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	75 dB(A)	75 dB(A)

EN 14825		
	Low temperature	Medium temperature





This information was genera	-	
$\eta_{s}$	231 %	168 %
Prated	26.08 kW	26.22 kW
SCOP	5.85	4.26
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	25.50 kW	26.22 kW
$COP Tj = +2^{\circ}C$	3.00	1.99
Cdh Tj = +2 °C	0.900	0.900
Pdh Tj = $+7^{\circ}$ C	16.77 kW	16.86 kW
$COP Tj = +7^{\circ}C$	5.02	3.47
Cdh Tj = +7 °C	0.900	0.900
Pdh Tj = 12°C	7.65 kW	7.58 kW
COP Tj = 12°C	7.78	5.94
Cdh Tj = +12 °C	0.900	0.900
Pdh Tj = Tbiv	16.77 kW	16.86 kW
COP Tj = Tbiv	5.02	3.47
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	25.50 kW	26.22 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.00	1.99
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
WTOL	60 °C	60 °C



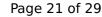


Poff	18 W	18 W
PTO	96 W	96 W
PSB	18 W	18 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	0.58 kW	0.00 kW
Annual energy consumption Qhe	5959 kWh	8218 kWh

### Colder Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level outdoor	75 dB(A)	75 dB(A)	

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	143 %	101 %
Prated	25.75 kW	26.27 kW
SCOP	3.64	2.59
Tbiv	-12 °C	-7 °C
TOL	-22 °C	-15 °C
Pdh Tj = -7°C	15.91 kW	15.90 kW





This information was genera	acca by the in Reimin	in database on 10 mai 2022
COP Tj = -7°C	3.10	2.10
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	10.10 kW	10.17 kW
COP Tj = +2°C	4.45	3.58
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = $+7^{\circ}$ C	6.30 kW	6.52 kW
$COP Tj = +7^{\circ}C$	6.06	4.99
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	4.03 kW	3.63 kW
COP Tj = 12°C	7.13	5.68
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	18.97 kW	15.90 kW
COP Tj = Tbiv	2.36	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.07 kW	13.37 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.67	1.20
WTOL	60 °C	60 °C
Poff	20 W	20 W
РТО	96 W	96 W
PSB	18 W	18 W
РСК	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity



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Supplementary Heater: PSUP	12.68 kW	26.27 kW
Annual energy consumption Qhe	17421 kWh	24967 kWh
Pdh Tj = -15°C (if TOL<-20°C)	18.95	13.37
COP Tj = -15°C (if TOL $<$ -20°C)	2.27	1.20
Cdh Tj = -15 °C	0.90	0.90



## Model: KHP-MO 30 DTR2

Configure model		
Model name	KHP-MO 30 DTR2	
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	29.93 kW	29.68 kW	
El input	8.02 kW	12.97 kW	
СОР	3.73	2.29	

## Average Climate



EN 12102-1			
	Low temperature	Medium temperature	
Sound power level outdoor	77 dB(A)	77 dB(A)	

EN 14825		
	Low temperature	Medium temperature
$\eta_{s}$	165 %	123 %
Prated	29.18 kW	29.69 kW
SCOP	4.19	3.14
Tbiv	-5 °C	-5 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	21.90 kW	20.11 kW
COP Tj = -7°C	2.54	1.63
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	16.16 kW	16.49 kW
COP Tj = +2°C	4.16	3.09
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	10.64 kW	10.50 kW
COP Tj = +7°C	6.38	4.75
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	4.54 kW	4.64 kW

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COP Tj = 12°C	7.72	5.91
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	23.51 kW	23.97 kW
COP Tj = Tbiv	2.71	2.02
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	20.37 kW	13.82 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.35	1.07
WTOL	60 °C	60 °C
Poff	18 W	18 W
РТО	96 W	96 W
PSB	18 W	18 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	8.75 kW	15.86 kW
Annual energy consumption Qhe	14165 kWh	19316.17 kWh

### Warmer Climate

EN 12102-1				
	Low temperature	Medium temperature		
Sound power level outdoor	77 dB(A)	77 dB(A)		

EN 14825		
	Low temperature	Medium temperature





This information was genera	,	
$\eta_{s}$	213 %	163 %
Prated	30.44 kW	29.73 kW
SCOP	5.39	4.15
Tbiv	7 °C	7 °C
TOL	2 °C	2 °C
Pdh Tj = +2°C	26.29 kW	26.41 kW
COP Tj = +2°C	2.94	1.99
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	19.57 kW	19.11 kW
$COP Tj = +7^{\circ}C$	4.75	3.37
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	8.90 kW	8.92 kW
COP Tj = 12°C	7.53	6.09
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	19.57 kW	19.11 kW
COP Tj = Tbiv	4.75	3.37
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	26.29 kW	26.41 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.94	1.99
WTOL	60 °C	60 °C
Poff	18 W	18 W





РТО	96 W	96 W
PSB	18 W	18 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.15 kW	3.32 kW
Annual energy consumption Qhe	7540 kWh	9580 kWh

### Colder Climate

EN 12102-1			
	Low temperature	Medium temperature	
Sound power level outdoor	77 dB(A)	77 dB(A)	

EN 14825			
	Low	v temperature	Medium temperature
$\eta_{S}$	138	%	100 %
Prated	29.1	13 kW	30.41 kW
SCOP	3.52	2	2.56
Tbiv	-10	°C	-7 °C
TOL	-22	°C	-15 °C
Pdh Tj = -7°C	18.4	49 kW	18.40 kW
COP Tj = -7°C	3.07	7	2.10





This information was genera		
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = +2°C	11.88 kW	11.22 kW
COP Tj = +2°C	4.42	3.51
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = +7°C	7.53 kW	7.42 kW
$COP Tj = +7^{\circ}C$	6.15	5.18
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	4.11 kW	3.64 kW
COP Tj = 12°C	6.87	5.73
Cdh Tj = +12 °C	0.90	0.90
Pdh Tj = Tbiv	19.93 kW	18.40 kW
COP Tj = Tbiv	2.44	2.10
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	13.17 kW	13.06 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	1.67	1.18
WTOL	60 °C	60 °C
Poff	18 W	18 W
РТО	96 W	96 W
PSB	18 W	18 W
РСК	0 W	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	15.96 kW	30.41 kW
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Annual energy consumption Qhe	20390 kWh	29238 kWh
Pdh Tj = -15°C (if TOL<-20°C)	18.61	13.06
COP Tj = -15°C (if TOL $<$ -20°C)	2.24	1.18
Cdh Tj = -15 °C	0.90	0.90