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Summary of	WSAN-YMi 91-141	Reg. No.	041-K008-01
Certificate Holder		'	
Name	Clivet s.p.a.		
Address	Via camp lonc 25 c.ap.	Zip	I-32032
City	z.i. Villapaiera - Feltre (BL)	Country	Italy
Certification Body	BRE Global Limited		
Subtype title	WSAN-YMi 91-141		
Heat Pump Type	Outdoor Air/Water		
Refrigerant	R32		
Mass of Refrigerant	5 kg		
Certification Date	18.12.2020		
Testing basis	HP Keymark Scheme Rules Rev 08		

Model: WSAN-YMi 91

Configure model			
Model name	WSAN-YMi 91		
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	18.32 kW	18.10 kW		
El input	3.96 kW	6.63 kW		
СОР	4.63	2.73		

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	71 dB(A)	71 dB(A)	

EN 14825				
	Low temperature	Medium temperature		
η_{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		
COP Tj = +7°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		

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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 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 0.00 kW 0.00 kW Annual energy consumption Qhe 4116 kWh 6041 kWh			
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh 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 0.00 kW	COP Tj = Tbiv	5.16	3.49
Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh WTOL 60 °C 60 °C 70	Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	17.67 kW	18.07 kW
WTOL 60 °C 60 °C 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 0.00 kW 0 °C 60 °C 60 °C 18 W 96 W 96 W 96 W 18 W 0 W 0 W	COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	3.53	2.12
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 0.00 kW 0.00 kW	Cdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh		
PTO 96 W 96 W PSB 18 W 18 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 0.00 kW 0.00 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 0.00 kW 0.00 kW	Poff	18 W	18 W
PCK 0 W 0 W Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 0.00 kW 0.00 kW	РТО	96 W	96 W
Supplementary Heater: Type of energy input Electricity Electricity Supplementary Heater: PSUP 0.00 kW 0.00 kW	PSB	18 W	18 W
Supplementary Heater: PSUP 0.00 kW 0.00 kW	PCK	0 W	0 W
	Supplementary Heater: Type of energy input	Electricity	Electricity
Annual energy consumption Qhe 4116 kWh 6041 kWh	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
η_{S}	146 %	97 %





	-	10.20 kW
Prated	17.76 kW	18.38 kW
SCOP	3.73	2.50
Tbiv	-15 °C	-7 °C
TOL	-22 °C	-15 °C
Pdh Tj = -7°C	11.21 kW	11.13 kW
$COP Tj = -7^{\circ}C$	3.09	1.98
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = $+2$ °C	6.64 kW	6.65 kW
$COPTj = +2^{\circ}C$	4.50	3.44
Cdh Tj = +2 °C	0.90	0.90
Pdh Tj = $+7^{\circ}$ C	4.77 kW	4.66 kW
$COPTj = +7^{\circ}C$	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
PTO	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	4.62 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

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
η_{s}	181 %	125 %
Prated	17.99 kW	17.67 kW
SCOP	4.60	3.21





This information was genera	, , , , , , , , , , , , , , , , , , , 	
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	15.90 kW	15.61 kW
$COPTj = -7^{\circ}C$	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 = $+7^{\circ}$ 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
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
	+	•



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РТО	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	0.00 kW	2.64 kW
Annual energy consumption Qhe	8086 kWh	11375 kWh



Model: WSAN-YMi 101

Configure model		
Model name	WSAN-YMi 101	
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	22.30 kW	22.10 kW	
El input	5.13 kW	8.33 kW	
СОР	4.35	2.65	

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	73 dB(A)	73 dB(A)	

EN 14825		
	Low temperature	Medium temperature
η_{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
COP Tj = +7°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

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5.20	3.50
21.81 kW	22.01 kW
3.31	2.12
60 °C	60 °C
18 W	18 W
96 W	96 W
18 W	18 W
o w	0 W
Electricity	Electricity
0.09 kW	0.00 kW
4945 kWh	7180 kWh
	21.81 kW 3.31 60 °C 18 W 96 W 18 W 0 W Electricity 0.09 kW

Colder Climate

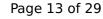
EN 12102-1			
Low temperature Medium temperature			
Sound power level outdoor	73 dB(A)	73 dB(A)	

EN 14825		
	Low temperature	Medium temperature
η_{s}	146 %	102 %





	<u> </u>	NK database on 23 juli 202.
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
$COPTj = -7^{\circ}C$	3.12	2.07
Cdh Tj = -7 °C	0.90	0.90
Pdh Tj = $+2$ °C	8.25 kW	8.61 kW
$COPTj = +2^{\circ}C$	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
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
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

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	
178 %	126 %	
22.31 kW	22.43 kW	
4.53	3.22	
	Low temperature 178 % 22.31 kW	





3		ii iii aatabase on 25 jan 202
Tbiv	-7 °C	-7 °C
TOL	-10 °C	-10 °C
Pdh Tj = -7°C	19.72 kW	19.82 kW
$COP Tj = -7^{\circ}C$	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 = $+7^{\circ}$ C	8.00 kW	7.97 kW
$COPTj = +7^{\circ}C$	6.29	4.66
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	3.79 kW	3.60 kW
COP Tj = 12°C	7.14	5.32
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
РТО	96 W	96 W



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PSB	18 W	18 W
PCK	o w	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	1.97 kW	8.60 kW
Annual energy consumption Qhe	10180 kWh	14390 kWh



Model: WSAN-YMi 121

Configure model		
Model name WSAN-YMi 121		
Application	Heating (medium temp)	
Units	Outdoor	
Climate Zone Colder Climate + Warmer Climate		
Reversibility	Yes	
Cooling mode application (optional)	n/a	

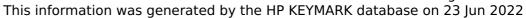
General Data		
Power supply 3x400V 50Hz		

Heating

EN 14511-2		
Low temperature Medium temperature		
Heat output	26.30 kW	26.06 kW
El input	6.50 kW	10.72 kW
СОР	4.05	2.43

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	75 dB(A)	75 dB(A)	

EN 14825		
	Low temperature	Medium temperature
η_{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

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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	o 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

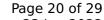
EN 12102-1		
	Low temperature	Medium temperature
Sound power level outdoor	75 dB(A)	75 dB(A)

EN 14825		
	Low temperature	Medium temperature
η_{S}	143 %	101 %





This information was generated by the HF KLIMAKK database on 25 Juli 2022			
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	
$COPTj = -7^{\circ}C$	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	
$COPTj = +7^{\circ}C$	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	
	•		



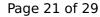


Poff	20 W	20 W
PTO	96 W	96 W
PSB	18 W	18 W
PCK	o w	o w
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	12.68 kW	26.27 kW
Annual energy consumption Qhe	17421 kWh	24967 kWh
Pdh Tj = -15°C (if TOL<-20°C)	18.95	13.37
COP Tj = -15°C (if TOL $<$ -20°C)	2.27	1.20
Cdh Tj = -15 °C	0.90	0.90

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	
177 %	123 %	
25.04 kW	26.15 kW	
4.50	3.14	
	Low temperature 177 % 25.04 kW	





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
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
	-	•



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PSB	18 W	18 W
PCK	0 W	0 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

Model: WSAN-YMi 141

Configure model		
Model name	WSAN-YMi 141	
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	29.93 kW	29.68 kW		
El input	8.02 kW	12.97 kW		
СОР	3.73	2.29		

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	77 dB(A)	77 dB(A)	

EN 14825			
	Low temperature	Medium temperature	
η_{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 = $+7^{\circ}$ 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	

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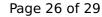


COP Tj = Tbiv	4.75	3.37
Pdh Tj = TOL or Pdh Tj = Tdesignh if TOL < Tdesignh	26.29 kW	26.41 kW
COP Tj = TOL or COP Tj = Tdesignh if TOL < Tdesignh	2.94	1.99
WTOL	60 °C	60 °C
Poff	18 W	18 W
РТО	96 W	96 W
PSB	18 W	18 W
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	4.15 kW	3.32 kW
Annual energy consumption Qhe	7540 kWh	9580 kWh

Colder Climate

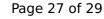
EN 12102-1			
	Low temperature	Medium temperature	
Sound power level outdoor	77 dB(A)	77 dB(A)	

	EN 14825		
Low temperature	Medium temperature		
138 %	100 %		
29.13 kW	30.41 kW		
_	138 %		





SCOP	3.52	2.56
Tbiv	-10 °C	-7 °C
TOL	-22 °C	-15 °C
Pdh Tj = -7°C	18.49 kW	18.40 kW
COP Tj = -7°C	3.07	2.10
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 = $+7^{\circ}$ 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
PCK	0 W	0 W
Supplementary Heater: Type of energy input	Electricity	Electricity
Supplementary Heater: PSUP	15.96 kW	30.41 kW
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

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
η_{s}	165 %	123 %
Prated	29.18 kW	29.69 kW
SCOP	4.19	3.14
Tbiv	-5 °C	-5 °C





I his information was gener	acca by the Hi KETMA	ink database on 25 juli 202.
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
$COPTj = +7^{\circ}C$	6.38	4.75
Cdh Tj = +7 °C	0.90	0.90
Pdh Tj = 12°C	4.54 kW	4.64 kW
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



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PCK	0 W	0 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